TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT,

AND GENERAL SUPPORT MAINTENANCE MANUAL

INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS

(INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS)

ORDER WIRE INTERCOMMUNICATION TERMINATION

UNITS TA-918(V)( )/FSC, ORDER WIRE INTER-

COMMUNICATION TERMINATION UNITS TA-930(V)( )/ FSC, EXPRESS-LINK-LOCAL ORDER WIRE UNIT

TA-928/FSC, EXPRESS-LINK-LOCAL ORDER WIRE UNIT

TA-923/FSC, LINK ORDER WIRE UNIT TA-925/FSC,

REMOTE LINK ORDER WIRE UNIT TA-924/FSC, LOCAL ORDER WIRE UNIT 41010-97, CONFERENCE BRIDGES,

TELEPHONE TA-920(V)( )/FSC, AND JACK AND LAMP

PANEL JLP-1

HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 1975

WARNING

DANGEROUS VOLTAGE

DEATH or SERIOUS INJURY may result from accidental contact with 115 volts ac or -48 volts dc power present in the equipment.

WARNING

TRICHLOROETHANE

The fumes of tricholoroethane used for cleaning purposes are toxic. Provide through ventilation whenever used. Do not use an open flame. Trichloroethane is not flammable, but exposure of fumes to open flame converts the fumes to highly toxic, dangerous gases.

TECHNICAL MANUAL

No. 11-5805-647-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 22 April 1975

Operator's, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools Lists

(Including Depot Maintenance Repair Parts and Special Tools)

ORDER WIRE INTERCOMMUNICATION TERMINATION

UNITS TA-918(V) ( );/ FSC,

ORDER WIRE INTERCOMMUNICATION TERMINATION

UNITS TA-930(V) ( ) / FSC,

EXPRESS-LINK-LOCAL ORDER WIRE UNIT TA-928 / FSC,

EXPRESS-LINK-LOCAL ORDER WIRE UNIT TA-923./ FSC,

LINK ORDER WIRE UNIT TA-925/ FSC,

REMOTE LINK ORDER WIRE UNIT TA-924./ FSC,

LOCAL ORDER WIRE UNIT 41010-97,

CONFERENCE BRIDGES, TELEPHONE TA-920(V) ( ) / FSC,

AND JACK AND LAMP PANEL JLP-1

Current as of 31 October 1974

LIST OF ILLUSTRATIONS

Number	Title	Page

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual contains information and instructions for installation, operation, and maintenance of orderwire equipment (fig. 1-1 through 1-7). The maintenance coverage includes on-site and off-site maintenance as authorized by the maintenance allocation chart (MAC) (app C).

b. The components of orderwire equipment are listed in paragraph 1-7 by official nomenclature/item name and assigned common name. The common name will be used in test throughout this manual.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to the latest issue of DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

1-3. Maintenance Forms and Records

a. Report of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/AFR 7113/MCO P4030.29A, and DSAR 4145.8.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33/AFM 75-18/MCO P4610.19A, and DSAR 4500.15.

d. Reporting of Equipment Manual Improvements. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications and Blank Forms and forwarded direct to Commander, US Army Electronics Command, ATTN: AMSEL-MA-CT, Fort Monmouth, NJ 07703.

1-4. Administrative Storage

For procedures, forms and records, and inspections required during administrative storage of this equipment, refer to TM 740-90-1.

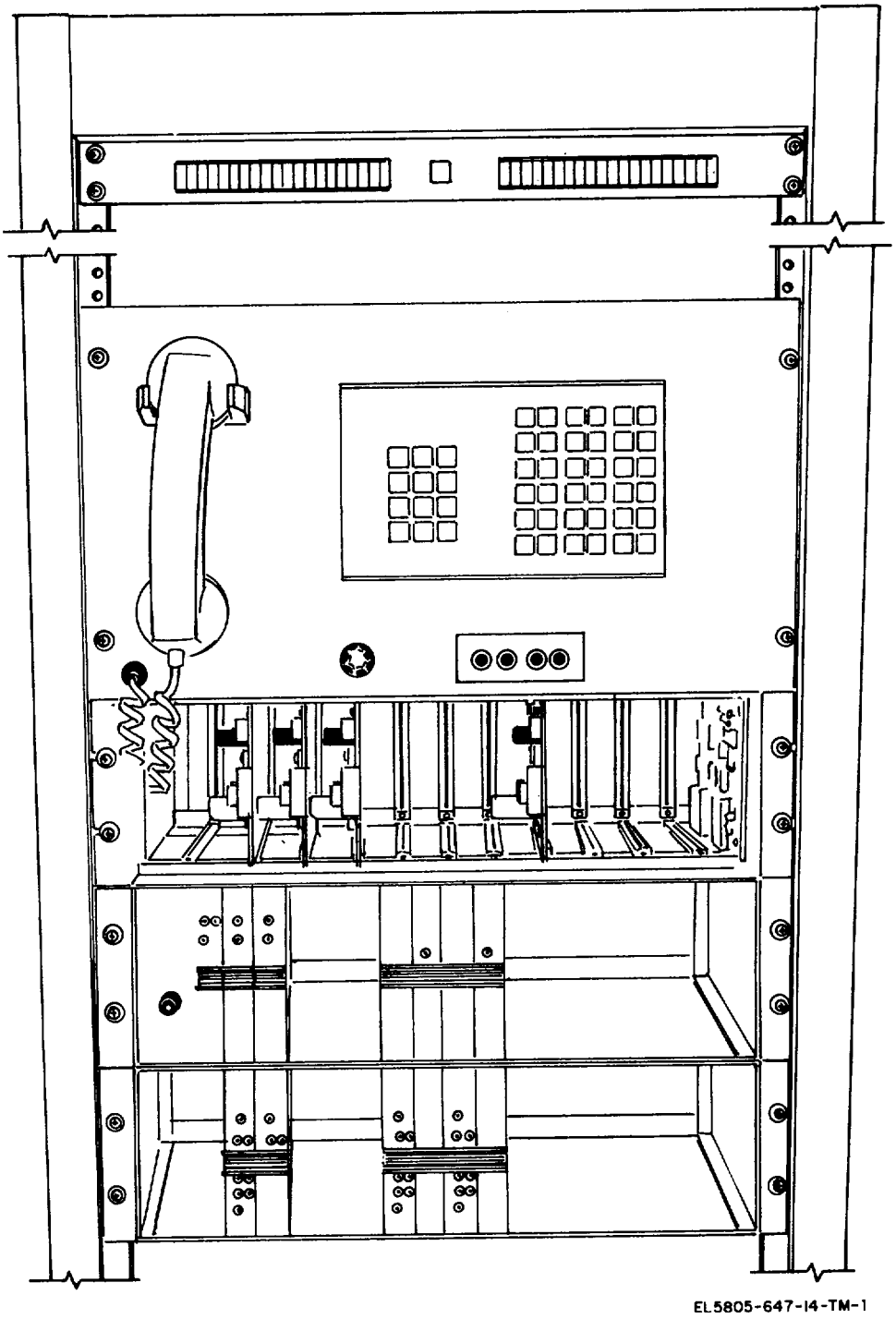


Figure 1-1. Remote Link Order Wire Unit TA-924/FSC and Order Wire-Intercommunication Termination Unit TA-918(V)/FSC.

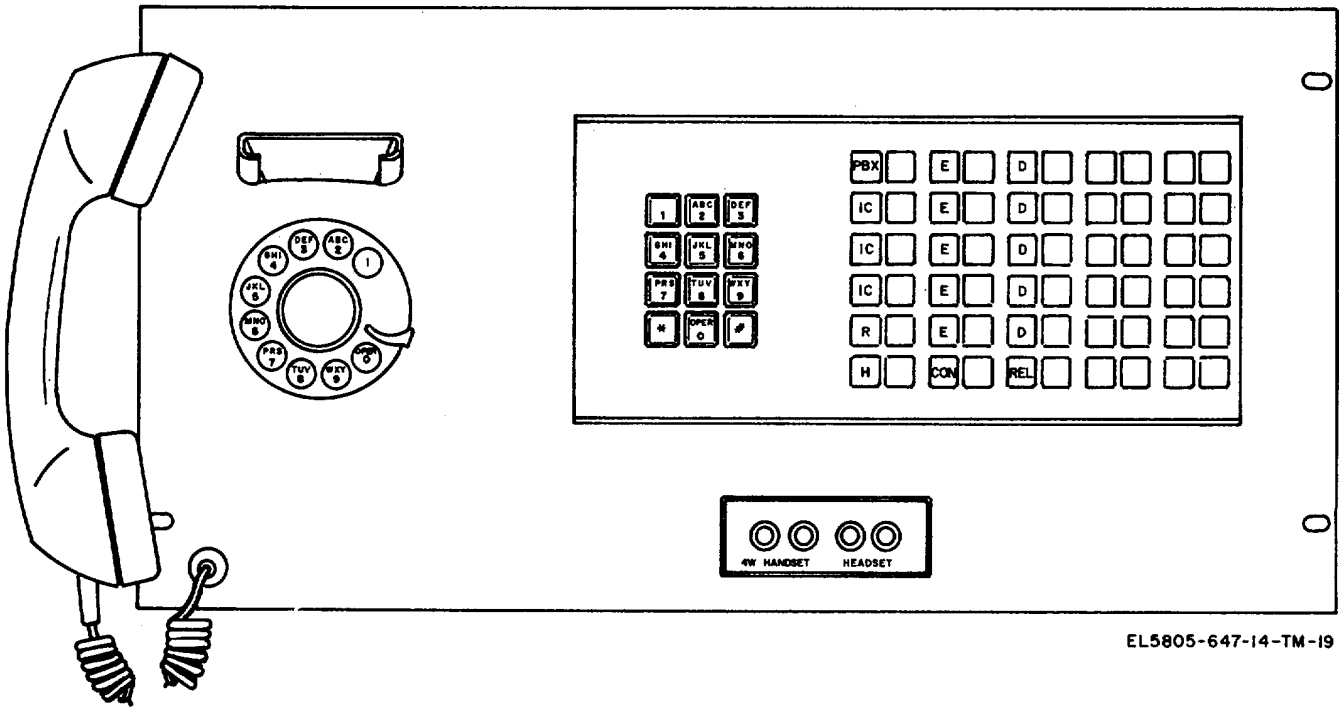


Figure 1-2. Express-Link-Local Order Wire Unit TA-923/FSC.

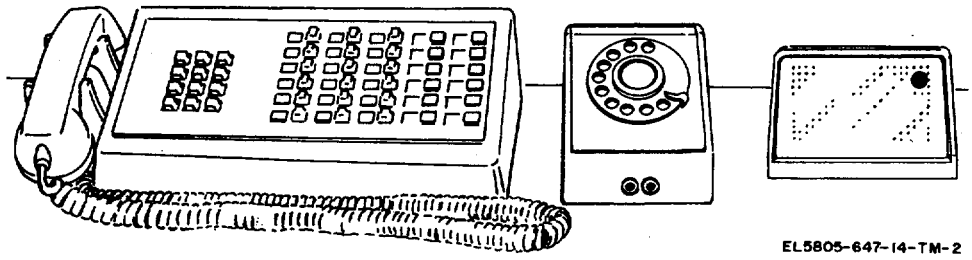


Figure 1-3. Express-Link-Local Order Wire Unit TA-928/FSC.

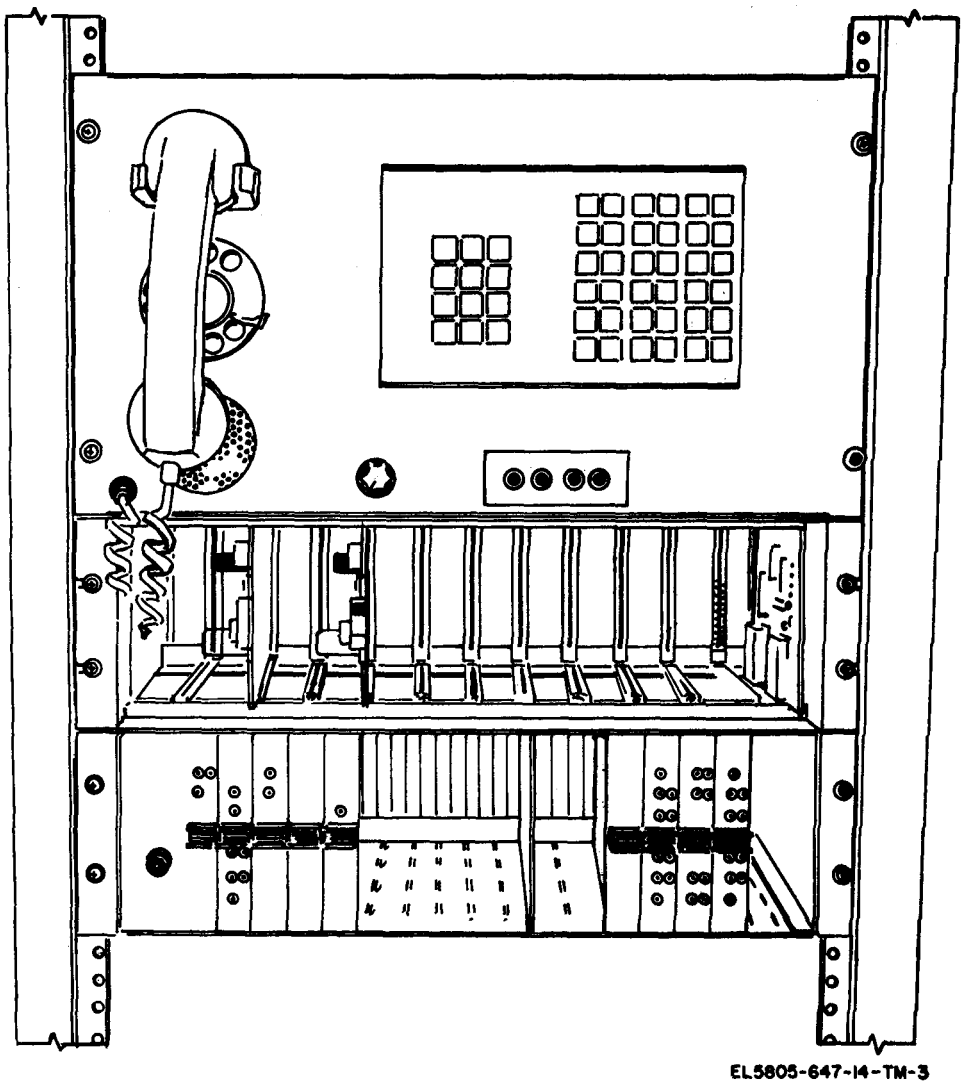


Figure 1-4. Link Order Wire Unit TA-925/ FSC and Order Wire-Intercommunication Terminal Unit TA-930(V) /FSC.

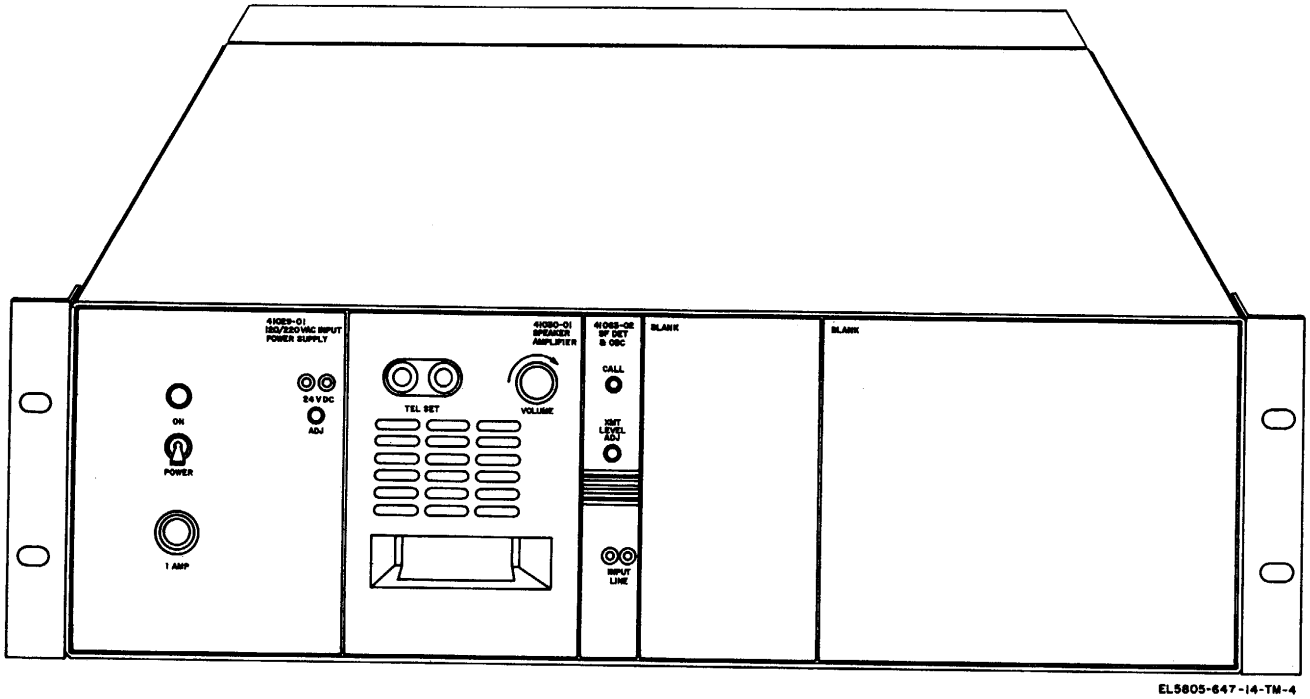


Figure 1-5. Local Orderwire Unit 41010-97.

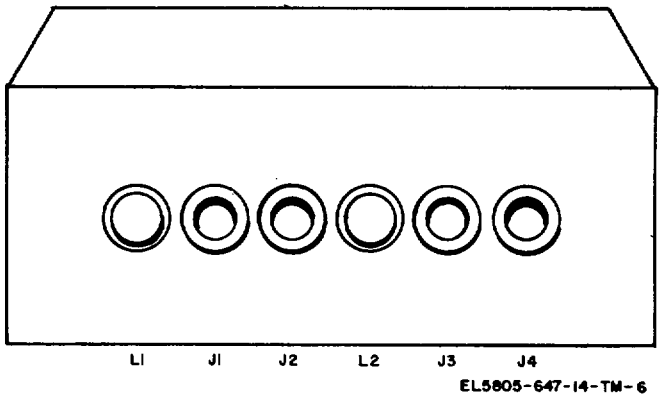


Figure 1-6. Jack and Lamp Panel, JLP-1.

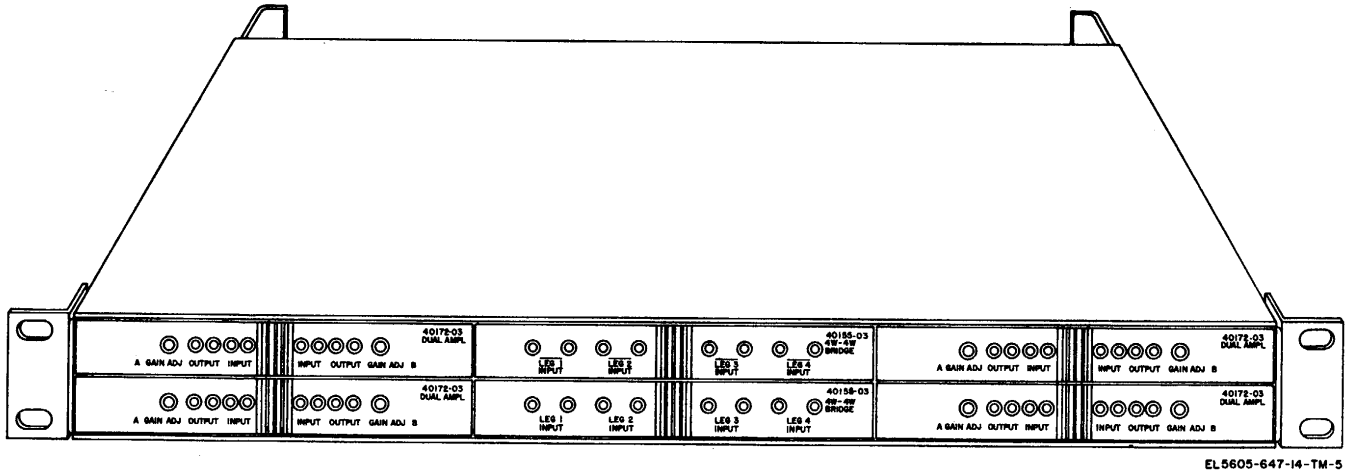


Figure 1-7. Conference Bridge Telephone TA-920(V)l/FSC and TA-920(V)2/FSC.

Section II. DESCRIPTION AND DATA1-5. Purpose and Use

1-5. a. *General.* The orderwire equipment works in conjunction with various radio and landline transmission media to provide voice orderwire circuits for the exclusive use of technical control and maintenance personnel. The major functions of the voice orderwires are to provide the technical control facilities (TCF's) and patch and test facilities (PTF's) with the necessary voice communications to:

(1) Restore, activate, change, and deactivate communication links, supergroups, trunks, channels, and circuits.

(2) Allow effective supervision of subordinate PTF's.

(3) Satisfy communications requirements for:

(a) Quality control.
(b) Fault isolation.
(c) Maintenance coordination.
(d) Circuit and system control.
(e) Effective and timely interchange of information or instructions with users of the Defense Communications Service (DCS).

b. System Application. There are several configurations of orderwire equipment included in this manual as follows:

(1) Orderwire equipment at nodal stations provides voice circuits with dual-tone multiple frequency (DTMF) signaling, for Express Orderwire (EOW) networks, and Link Orderwire (LOW) networks. In addition, the nodal station equipment provides for further access and control to local orderwire central office (CO) line circuitry and station intercoms. Figure 1-8 shows in block diagram form the nodal station equipment interconnected to typical orderwire multiplex and local orderwire equipment's. The EOW circuits at nodal stations may be further interconnected to other stations on a party-line basis through the use of a 4w/4w bridge and amplifier (commonly known as a junction bridge assembly), or through-connected by means of a conference circuit. The components and dimensions chart in paragraph 1-7 lists the equipment types used at nodal stations.

(2) Figure 1-9 shows, m block diagram form, typical link orderwire equipment comprising an LOW facility. Typically, a link orderwire (LOW) facility is employed at adjacent radio stations, to provide a 4-wire voice circuit over the interconnecting radio circuits (links). DTMF signaling is used with a 2-digit station address code. The LOW equipment also provides access of local orderwire circuits, as well as a CO telephone line circuit and the station intercom. When equipped with a junction bridge assembly, party line interconnections between station links are possible.

(3) Local orderwire terminals may be connected as shown in figure 1-9. These terminals are provided at certain facilities to provide a means of local communication. They may also be configured to access distant orderwire terminals over radio links.

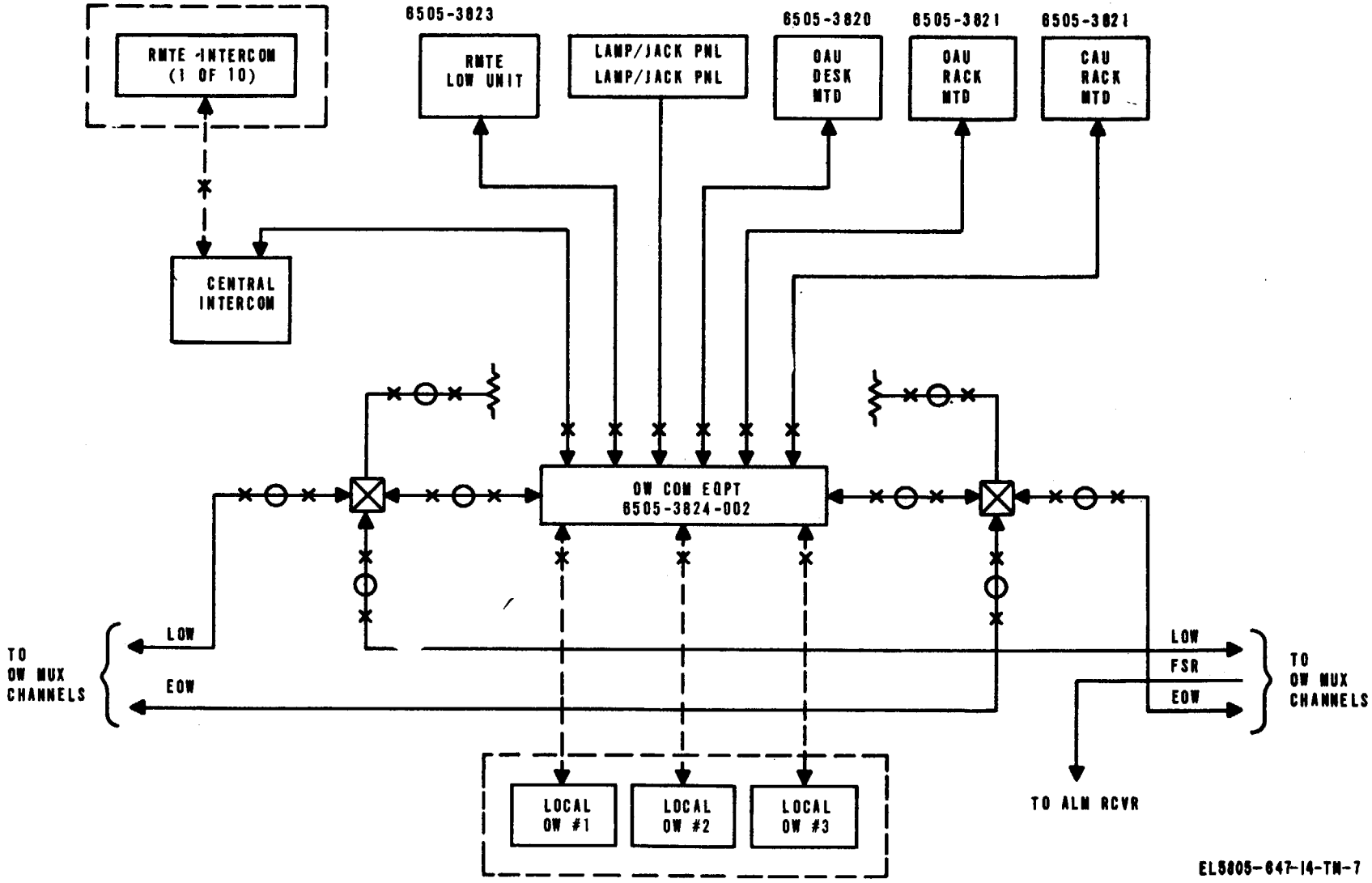


Figure 1-8. Typical, orderwire/intercom EOW station equipment arrangement, block diagram.

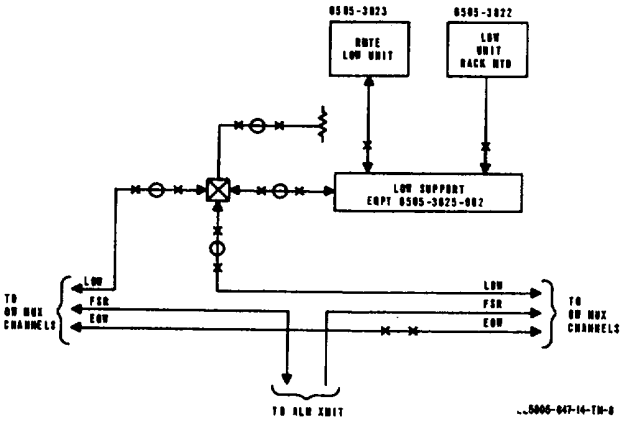


Figure 1-9. Typical, orderwire/intercom LOW station, block diagram

1-6. Technical Characteristics

a. Order Wire Intercommunication Termination Unit TA-918 (V)/FSC.

Number of DTMF circuits 1 to 5*
Number of ringdown circuits 1 to 5*
Number of C. O. telephone circuits 1
Number of intercom circuits 3
Voice frequency range 300 to 2,800 Hz
Supervisory signal frequency 3,250 16 Hz over a 0-50° C. temp. range
Supervisory signal transmit level Adjustable 0 dbm to -20 dbm
Supervisory signal receive level -6 to -26 dbm
DTMF tones Standard CCITT tone
DTMF receive level (single tone) +10 dbm to -20 dbm
DTMF receiver bandwidth (single tone) Nominal 2% of tone frequency 4.wire input & output impedance 600 ohms
4-wire input level (test tone) 0 to -10 dbm**
4-wire output level (test tone) . 0 to --10 dbm**
2-wire impedance 600 ohms
2-wire level 0 to -10 dbm**
E & M (ringdown) signaling frequency 3,250 Hz
E & M (ringdown) signaling transmit level O dbm to -25 dbm (see operator's access unit)
E & M (ringdown) signaling receive level -6 dbm to --26 dbm
E & M Iringdown) detection level . 2.5.
Conference capability 2 circuits with no degradation
Input power -42 VDC to -56 VDC, 2-5A (depending on quantity of access units)

*Basic equipment is capable of 1-CO line circuit, 5-DTMF circuits plus 5-E & M (ringdown) circuits. Stations initially equipped with a lesser quantity of circuits may be expanded to the full complement in unit increments, in accordance with expansion chart of chapter 2.

**In the adjustment of system levels, the distant terminal must be considered to assure a reasonable singing margin.

b. Order Wire-Intercommunication Termination Unit TA-930(V)/FSC.

Number of DTMF circuits 1 or 2*
Number of ringdown circuits 1 or 2*
Number of C. O. telephone circuits 1
Number of intercom circuits 1
Voice frequency range . 300 to 2,800 Hz
Supervisory signal frequency 3,250 ±16 Hz over 0-50° C. temp. range
Supervisory signal transmit level Adjustable 0 dbm to -20 dbm
Supervisory signal receive level -5 dbm to -26 dbm
Supervisory signal detector bandwidth 2.5
DTMF tones Standard CCITT tone
DTMF receive level (single tone) + 10 dbm to -20 dbm DTMF receiver bandwidth (single tone)
Nominal 2% of tone frequency
4-wire input & output impedance 600 ohms
4-wire input level (test tone) 0 to 10 dbm**
4-wire output level (test tone) 0 to --10 dbm**
2-wire impedance 600 ohms
2-wire level 0 to -10 dbm**
E & M (ringdown) signaling frequency 3,250 Hz
E & M (ringdown) signaling transmit level0 0 dbm to -26 dbm (see operator's access unit)
E & M (ringdown) signaling receive level 6 dbm to --26 dbm
E & M (ringdown) detection bandwidth 2.5 ,
Input power -42 vdc to -56 vdc 2.5A max.

*Basic equipment is capable of 1-CO line circuit, 2-DTMF circuits plus 2 E & M (ringdown) circuits. Stations initially equipped with a lesser quantity of circuits may be expanded to the full complement in unit increments, in accordance with expansion chart of chapter 2.

**In the adjustment of system levels, the distant terminal must be considered to assure a reasonable singing margin.

c. Order Wire Unit Express-Link-Local TA928/FSC and TA-923/FSC.

Number of line circuits (combined DTM. ringdown, telephone, and intercom) . Initially equipped for 14 expandable to 26)
2-wire impedance 600 ohm bal

Voice send level	-12 VU
DTMF frequency	Standard CCITT
DTMF level (at 2-wire output)	-6 ± 3 dbm
SF signaling frequency	Factory set at 3,250 F (16) Hz over 0° to 50° C. temp range
SF signaling level	Adjustable 0 dbm to -26 dbm (at 2-wire output) (normally set at -10 dbm)
Input power	48 vdc (supplied from Order Wire-Intercommunication Termination Unit TA-918(V)/FSC equipment)

d. Order Wire, Link TA-925/FSC

Number of line circuit (combined DTMF, ringdown, telephone, and intercom)	Initially equipped for 10 lexpandable to 16)
2-wire impedance	600 ohm BAL
Voice send level	-12 VU
DTMF frequency	Standard CCITT
DTMF level	-6 :' 3 dbm
SF signaling frequency	factory at 3250 t (16) HI over a 00-500 C temp range
SF signaling level	Adjustable 0 dbm to -26 dbm (at 2-wire output) normally set at -10 dbm
Power input	48V (supplied from Order Wire-Intercommunication Termination Unit TA-930(V)/FSC equipment)

e. Order Wire, Remote Link TA-924/FSC

Number of line circuits (combined DTMF and intercom) .	Initially equipped for 10. (expandable to 16)
2-wire impedance	600 ohm bal
Voice send level	-12 VU (Referred to 0 dbm)
DTMF frequency	Standard CCITT
DTMF level (at 2-wire output)	(-6 + 3 dbm)
Power input	-48V Isupplied from Order Wire Intercommunication
Termination	Unit TA-918(V)/FSC)

f. Local Orderwire Terminal, 41010-97

Number of line circuits	1
4-wire input impedance	600 or 150 ohms, ±10% bal
4-wire output impedance	600 or 150 ohms, 10 % bal
Transmit line level	+ 7 dbm to -40 dbm normally set for - 10 VU on voice peaks
Receive line level	+ 10 dbm to --45 dbm
Voice frequency range	300 to 3,000 Hz
MON speaker output	1 watt with 0 dbm input
E & M (ringdown) signal freq.	3,250 Hz :-16 Hz over 00-500 C. temp range
E & M (ringdown) transmit level	0 to -26 dbm normally set at -10 dbm
E & M (ringdown) receive level	-6 to -26 dbm
E & M (ringdown) detection bandwidth	2.5%
Optional 4w/4w bridge and amplifier module provides three additional input and output ports:	
Transhybrid loss between a given input and output	Greater than 60 dB
Bridge input/output impedance each port	600 ohms
Bridge input level	0 to + 7 dbm
Bridge output level	+2 to --16 dbm
Input power	120 or 220 vac, single phase, 47 to 63 Hz, 96 volt-amperes

1-7. Items Comprising an Operable Equipment

The components of the link orderwire (LOW). stations and express orderwire (EOW) station are listed in the following chart. The chart includes dimensions, weight, and Federal stock number

Federal stock number	Item and common name	Dimensions (In.)			Weight (lb)	Figure
		Height	Depth	Width		
5805-269-0027	Order Wire. Express-Link-Local TA-923/FSC (rack-mounted operator's access unit) consisting of:	10 1/2	7 1/4	19		
	Call Director Assembly (6506-3836)					
	Panel Assembly (GB11672)	10 1/2	5	19		
	Handset (NC1800-03GAR15T4)					
	Headset (1574-5)					
5805-269-0321	Order Wire Unit, Remote Link TA-924/FSC (remote LOW unit) consisting of:	10 1/2	7 1/4	19		
	Call Director Assembly (6505-3839)					
	Panel Assembly (GB11671)	10 1/2	9	19		
	Handset (NC1800-03G3AR05T4)					
	Headset (1574-5)					
5805-269-0320	Order Wire, Link TA-925/FSC (link orderwire unit) consisting of:	10 1/2	9 1/4	19		
	Call Director Assembly (6505-3838)					
	Panel Assembly (GB11670)	10 1/2	9	19		
	Handset (NC1800-03G3AR05T4)					
	Headset (1574-5)					
5805-269-0323	Order Wire Unit, Express-Link-Local TA-928/FSC (Desk-mounted operator's access unit) consisting of:					
	Call Director Assembly (6505-3837)					
	Rotary Dial Mounting (GB11767)	4	5 1/4	4 1/2		
	Speaker Assembly (6505-3828)					
	Handset (NC1800-03G3AR15T4)					
	Headset (1574-5)					
	Orderwire Intercommunication Termination Unit, TA-918(V)1/FSC through TA-918(V)8/FSC (common equipment) consisting of:	5 1/4	10 1/2	19		
	Fuse Panel, SB-3751/FSC (12734-1)	1 3/4	6	19		
	PC Card Rack Assembly (LCC9740)	5 1/4	10 1/2	19		
	Common Equipment Shelf (41010-96)	5 1/4	10 1/2	19		
	Orderwire Intercommunication Termination Unit, TA-930(V)1/FSC and TA-930(V)2/FSC consisting of:	5 1/4	10 1//2	19		
	Fuse Panel, SB-3751/FSC (12734-1)	1 3/4	6	19		
	PC Card Rack Assembly (LCC9740)	5 1/4	10 1/2	19		
	Common Equipment Shelf (41010-96)	5 1/4	10 1/2	19		
	Conference Bridge Telephone, TA-920(V)1/FSC (40110-98) (bridge and amplifier assembly) consisting of:	1 3/4	10 1/4	19		
5895-173-7028	Dual Amplifier (40172-03)	7/8	9-5/8	6		
5895-173-7022	4 Way-4 Wire Bridge (4015503)	7/8	9-5/8	6		
	Conference Bridge Telephone, TA-920(V)2/FSC (40110-99) (bridge and amplifier assembly) consisting of:	1 3/4	10 1/4	19		
5895-173-7028	Dual Amplifier (40172-03)	7/8	9-5/8	6		
5895-173-7022	4 Way-4 Wire Bridge (40155-03)	7/8	9-5/8	6		
	Local Orderwire (41010-97) consisting of:	5 1/4	10 1/4	19		
	Power Supply (41029-01)	5 1/8	9-5/8	4		
	Speaker Amplifier (41030-01)	5 1/8	9-5/8	3/2		
	SF Detector and Oscillator (41063-02)	5 1/8	9-5/8	7/8		
	Panel Assembly CB2 (9740CB2)	2 1/2	3/16	36		
	Panel Assembly CB1 (9740CB1)	2 1/2	3/16	36		
	Jack and Lamp Panel (EFE803101)	1	4	4		

1-8. Description

a. Order Wire Intercommunication Termination Unit TA-918(V)/FSC (fig. 1-1). Order Wire Intercommunication Termination Unit TA918(V)/FSC, commonly referred to as common equipment, is used at nodal stations to interconnect EOW, LOW, and local orderwire circuits. The common equipment circuitry is packaged in modular form so that it can be expanded to greater capacity by adding individual plug-in modules (refer to common equipment expansion chart in chapter 2). The common equipment can accommodate a maximum of 10 orderwire circuits (five DTMF and five E and M ringdown) and one CO telephone line circuit. The equipment consists basically of two common equipment shelves (with plug-in modules and a dc power supply), a pc card assembly (with plug-in cards), and certain electrical components mounted at the rear of the rack.

(1) *Common equipment shelves*. The common equipment shelves provide housing and interwiring of the dc/dc power supply and the other plug-in modules specified in paragraph 1-7. All external connections are made at wire-wrap terminals on connectors at the rear of the shelves (fig. 5-9).

(2) *PC card assembly*. The PC card assembly provides housing and interwiring for up to 11 line cards and an interrupter assembly. One line card is associated with each connected communication circuit (orderwire and CO telephone line) to control certain signaling functions. The interrupter assembly is common to all communication circuits; this circuit provides required flashing or interrupting indicator signals. All external connections to the PC card assembly are made at terminal boards located on the rear of the equipment (fig. 5-9).

(3) *Rear-mounted components* (fig. 5-9). Battery feed filter inductors and plug-in conference relays are mounted behind the common equipment shelves. Likewise, the component boards containing miscellaneous circuit components along with terminal strip TB1 are mounted behind the shelves.

b. Fuse Panel SB-3751/FSC (fig. 1-1). The fuse panel is mounted at the top of the cabinet and provides the distribution of the --48-volt station battery used in the common equipment circuitry and other equipment within the cabinet. Up to 40 fused distribution circuits are provided and an indicator is provided to indicate blown fuses.

c. Order Wire-Intercommunication Termination Unit TA-930(V)/FSC(fig. 1-4). Order Wire-Intercommunication Termination Unit TA930(V)/FSC, commonly referred to as the LOW support equipment, is similar to the common equipment, except that the LOW support equipment includes only one common equipment shelf and plug-in conference relays are not mounted behind the unit. The LOW support equipment is used only at the link orderwire sites and provides for two DTMF and two E&M ringdown, one PBX, and one intercom.

d. Express-Link-Local Order Wire Units TA923/FSC and TA-928/FSC (fig. 1-2 and 1-3). Express-Link-Local Order Wire Unit TA923/FSC, commonly referred to as the rack, mounted operator's access unit (OAU). and Express Link Order Wire Unit TA-928/FSC, commonly referred to as the desk-mounted operator's access unit, are functionally identical. The rack-mounted operator's access unit basically consists of a call director, a rotary dial, and a handset. Jacks are provided for connecting external headsets or handsets, as required. The desk-mounted operator's access unit consists of three separate physical assemblies: a call director with handset, a rotary dial, and a speaker amplifier unit. All assemblies are interconnected so that they form a single functional unit. The call director of either unit is initially equipped with a DTMF keyset and three rows of six selector keys to provide a minimum of 14 circuits as well as hold, ring, and conferencing functions. By the addition of more selector keys (rows 4 and 5), expansion to 26 circuits is possible.

e. Remote Link Order Wire Unit TA-924/FSC (fig. 1-1). Remote Link Order Wire Unit TA924/FSC, commonly referred to as the remote LOW unit, is similar to the 19-inch rack-mounted operator's access unit, except it is equipped with one row of selector keys to provide for four circuits, and to provide the ring and hold functions. The PABX line and local orderwire access is not required. An 18 button call director is used with inherent expansion capability of 2 additional rows of push buttons for additional lines. A monitor loudspeaker, with volume control and ON-OFF switch is provided, along with the headset and 4W handset jacks and a DTMF keyset. A rotary dial is not provided.

f. Link Order Wire Unit TA-925/FSC (fig. 14). Link Order Wire Unit TA-925/FSC, commonly referred to as the link orderwire unit, is similar to the 19-inch rack-mounted operator's access unit, except that it is equipped with two rows of selector keys for accessing two local

orderwire, one intercom circuit, one PBX line, and two DTMF orderwires. The call director also include switches for the hold and ring function. The link orderwire unit includes the handset with cradle hookswitch, the headset and 4W handset jacks, monitor loudspeaker with volume and ON-OFF controls, and the DTMF and rotary dial.

g. Local Orderwire Unit 41010-97 (fig. 1-5). The local orderwire panel is a self-contained, 19inch rack mounted unit which consists of a speaker amplifier, a power supply, and an SF detector and oscillator. The speaker amplifier contains a jack for connecting a handset as well as the cradle switch to hold this handset. A speaker with volume control is also provided on the speaker amplifier.

h. Jack and Lamp Panel, JLP-1 (fig. 1-6). The jack and lamp panel consists of jacks to permit access to the 4-wire send and receive lines, and lamps to provide visual indication of an incoming call. No aural alarm is provided for incoming calls. A set of jacks and a separate lamp are provided for each of two LOW circuits. The jack and lamp panel is wired to the station main frame where it is cross-connected to desired circuits served by the common equipment. The jack and lamp panel is normally mounted on the end cabinet in a row of multiplex equipment.

i. Conference Bridge Telephone TA920(V)1/FSC and TA-920(V)2/FSC (fig. 1-7). The conference bridge telephone, commonly called the bridge and amplifier assembly, is mounted in a 19-inch rack. The TA-920(V)1/FSC, part number 40110-99, is configured with one (1) four-way/four-wire (4W/4W) resistive hybrid bridge module and two (2) dual amplifier modules. The TA-920(V)2/FSC, part number 40110-98 is configured with two (2) 4W/4W bridges and four (4) dual amplifiers. Both configurations are identical electrically; the difference being only in quantity of modules. The total assembly in each case permits interfacing of each bridge leg on a 600 ohm, 4-wire line at a 0 dBm send and receive level.

CHAPTER 2
INSTALLATION

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Siting Instructions

The orderwire/intercom equipment is located in accordance with each approved station floor plan and equipment layout drawing.

2-2. Packaging Data

The orderwire/intercom assemblies are contained in single, commercial grade, cardboard cartons with adequate packing and waterproof barrier material to protect the equipment for reasonable handling care and exposure to the elements.

2-3. Unpacking Instructions

a. Place the packed equipment in the area where the equipment will be installed.
b. Carefully open the container and remove the equipment.

CAUTION

Be careful in unpacking and handling the equipment. If damaged, the equipment may be rendered useless and a complete overhaul may be required.

2-4. Checking Unpacked Equipment

a. Inspect the equipment for damage that may have occurred during shipment. If the equipment has been damaged, fill out and forward DD Form 6 (para 1-3 b).
b. Check to see that the equipment is complete as listed on the packing slip. If a packing slip is not available, check the equipment against the items listed in paragraph 1-7. Report all discrepancies in accordance with TM 38-750. The equipment should be placed in service even though a minor assembly or part that does not affect proper functioning is missing.
c. Check to see whether the equipment has been modified. If the equipment has been modified, the MWO number will appear on the front panel near the nomenclature plate. Check also to see whether all MWO's current at the time the equipment is placed in use have been applied.

NOTE

Current MWO's applicable to the equipment are listed in DA Pam 310-7.

d. Check the latest issue of DA Pam 310-4 (never more than 1 year old) and its latest changes (never more than 6 months old) to see whether you have the latest editions of all applicable maintenance literature.

Section II. INSTALLATION INSTRUCTIONS

2-5. Tolls, Test Equipment, and Material Required

For installation of the equipment, use appropriate items listed in appendix B, wire wrap tool, crimping tool type C, wire wrap bit, wire wrap sleeve and materials as follows: 1N4003 diodes; 1300 ohms ± 5 %, 1-watt resistors: 1200ohm - 5 %, 2-watt resistors; screws, MPH 6-32X 5/8 inches; and washer, flat round #6 screws.

2-6. Installation Procedures

a. Orderwire/Intercom Common Equipment. The orderwire/intercom common equipment (EOW site only, shown in fig. 2-1) and the link orderwire support equipment (LOW sites only, shown in fig. 2-2) are prewired within the shelves. The rack shelves are wire-wrapped to the internal cable harness which is wired to cabinet-mounted terminal block TB1 and, thus, should only require additional wiring following a major repair or for telephone circuit expansion purposes. Refer to appendix D for wiring harness connection information for the common equipment and the LOW support equipment.
(1) External connections. For external VF and control connections to TB1, refer to the station cable running list and wiring information.

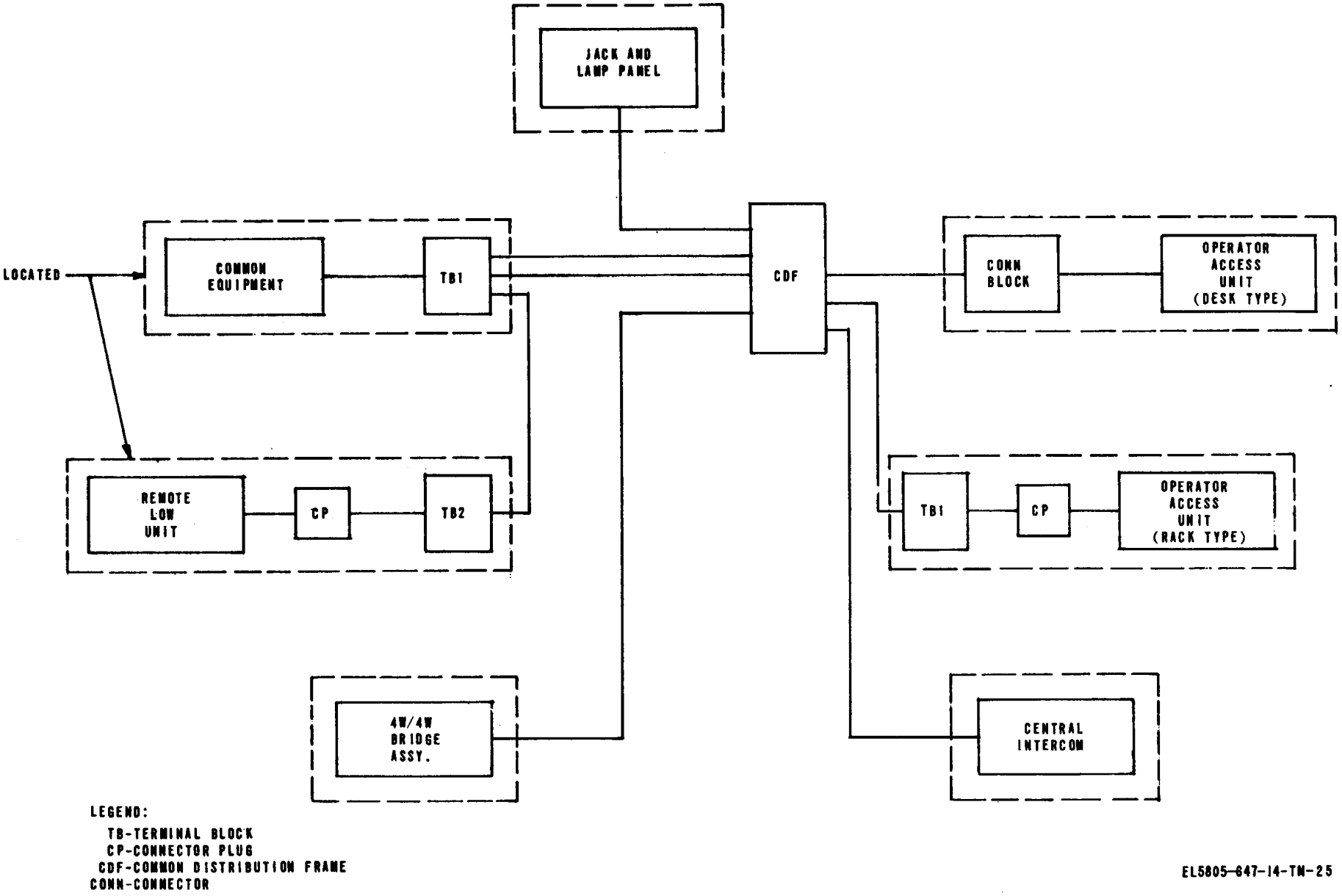


Figure 2-1. EOW site installation procedures pictorial identification.

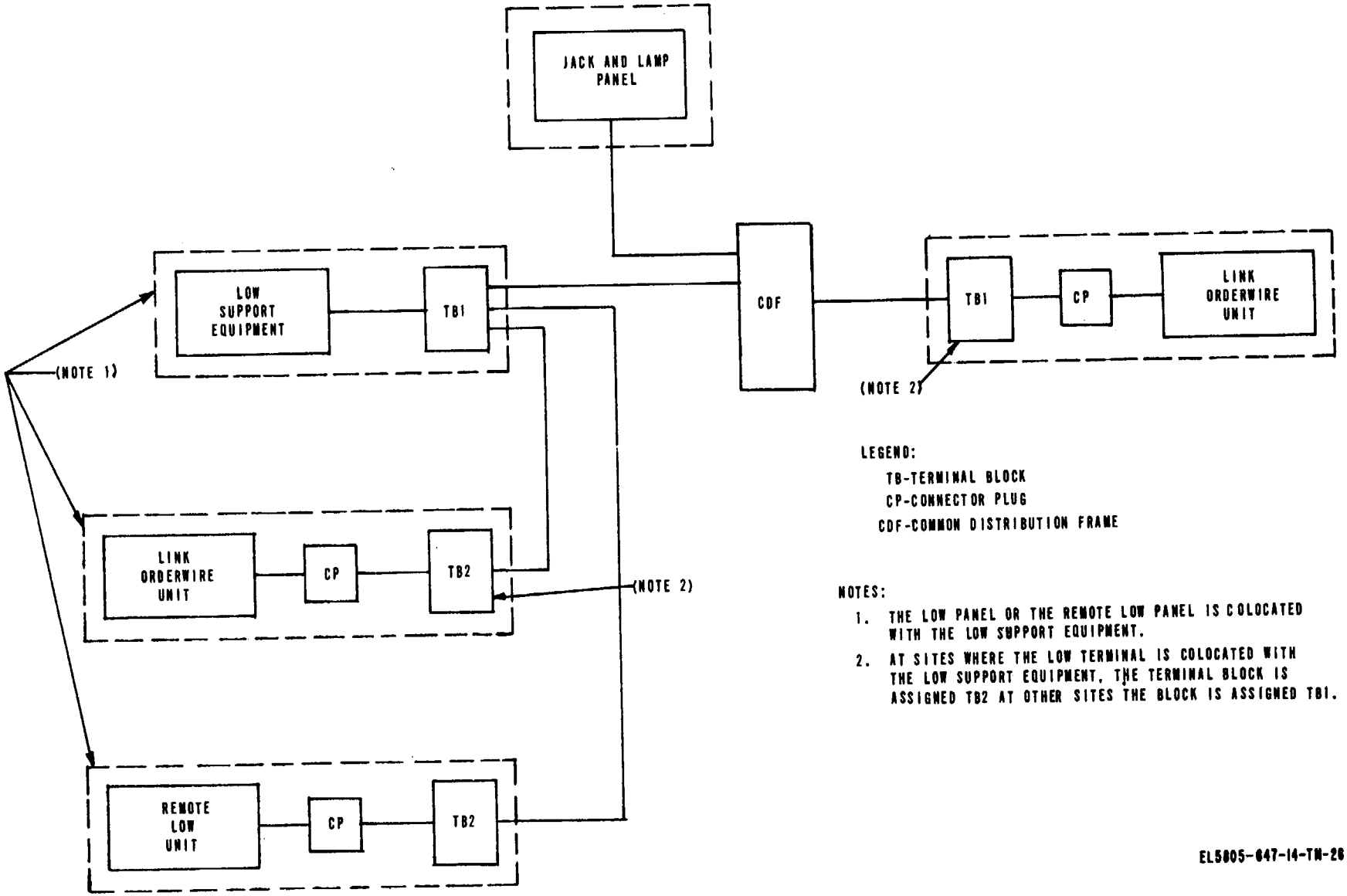


Figure 2-2. LOW site installation procedures pictorial identification.

(2) *Power connections*. For external power connections to the fuse panel, refer to site power distribution drawing and/or site cable running list. Refer to figure 2-3 for required dc power distribution within the common equipment shelf.

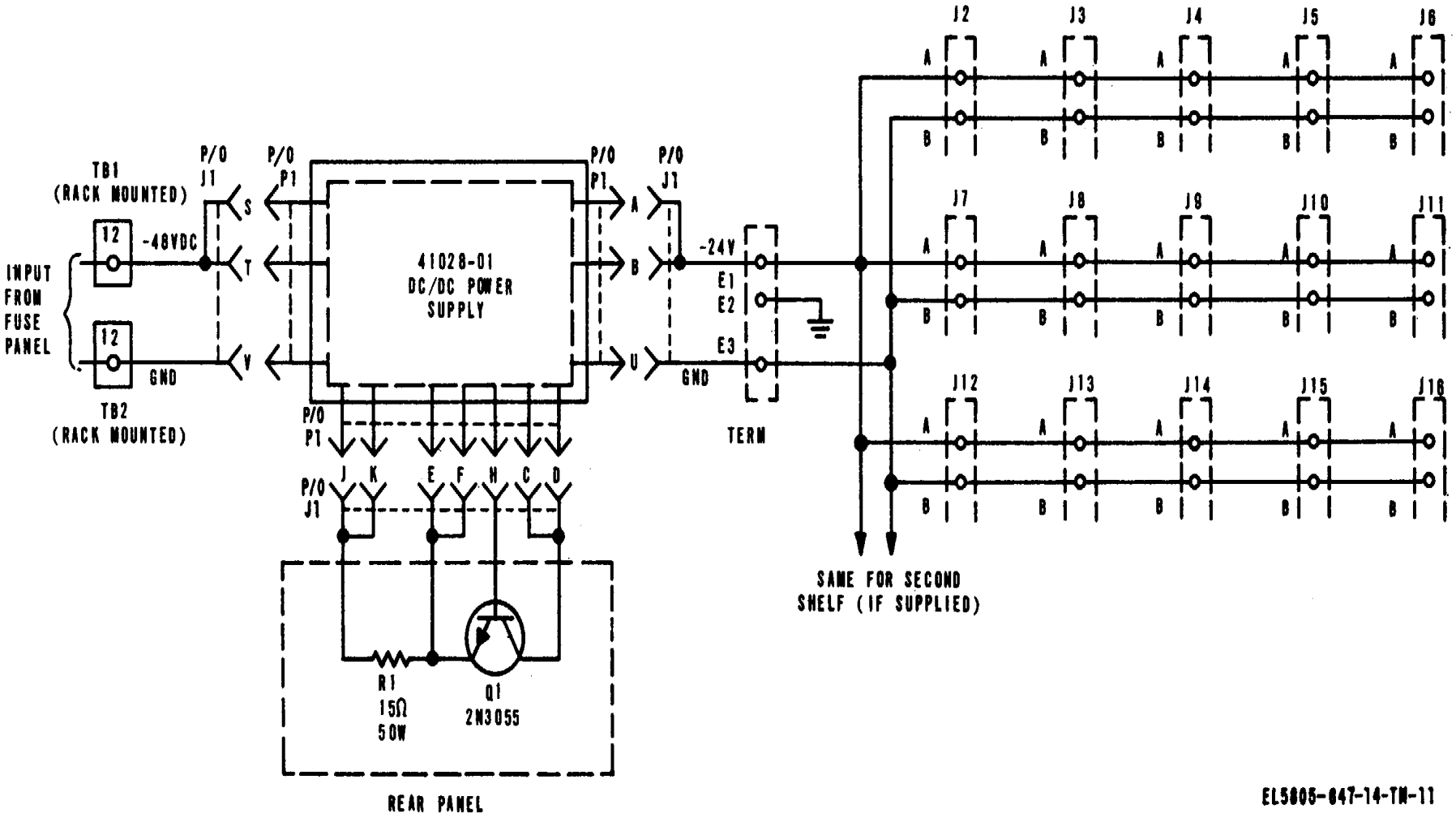


Figure 2-3. Common equipment shelves, dc/dc power supply distribution.

(3) *Module and PC card location*. Refer to connector assignment charts below in conjunction with figure 2-4 for correct module and PC card installation within their respective shelves.

(4) *Connector assignment chart for common equipment modules and PC cards*.

Item No.	Location		Description	Part No.
	Shelf	Conn		
1	SH3	J1-J11	Line card	LC401-4
2	SH3	J12	Interrupter	INT-9740
3	SH2	J2-6	SF detector & oscillator	41063-02
4	SH2	J7, 9. 11, 13 and 15	DTMF tone receiver	40452-01
5	SH2	J8, 10, 12, 14 and 16	Digit decoder	40451-04
6	SH2	J1	DC/DC power supply	41028-01
7	SH1	J2-6	4W/2W hybrid module with 2.7 kHz low pass filter	49008-02
8	SH1	J7, 9, 11, 13 and 15	4W/2W hybrid module .	49008-01
9	SH1	J8, 10, 12, 14 and 16	SF detector	41063-01

(5) Connector assignment chart for LOW support equipment modules.

Item No.	Location		Description	Part No.
	Shelf	Conn		
1	SH2	J1-J5	Line card	LC401-4
2	SH2	J12	Interrupter	INT-9740
3	SH1	J2 & 6	4W/2W hybrid module with 2.7 kHz low pass filter	49008-02
4	SH1	J3 & 7	SF detector & oscillator	41063-02
5	SH1	J4 & 8	DTMF tone receiver	40452-01
6	SH1	J5 & 9	Digit decoder	40451-04
7	SH1	J10 & 12	4W/2W hybrid module	49008-01
8	SH1	J11 & 13	SF detector	41063-01
9	SH1	J14 & 16	Dual amplifier	40472-03
10	SH1	J15	4W/4W bridge (party line)	40455-03
11	SH1	J1	DC/DC power supply	41028-01

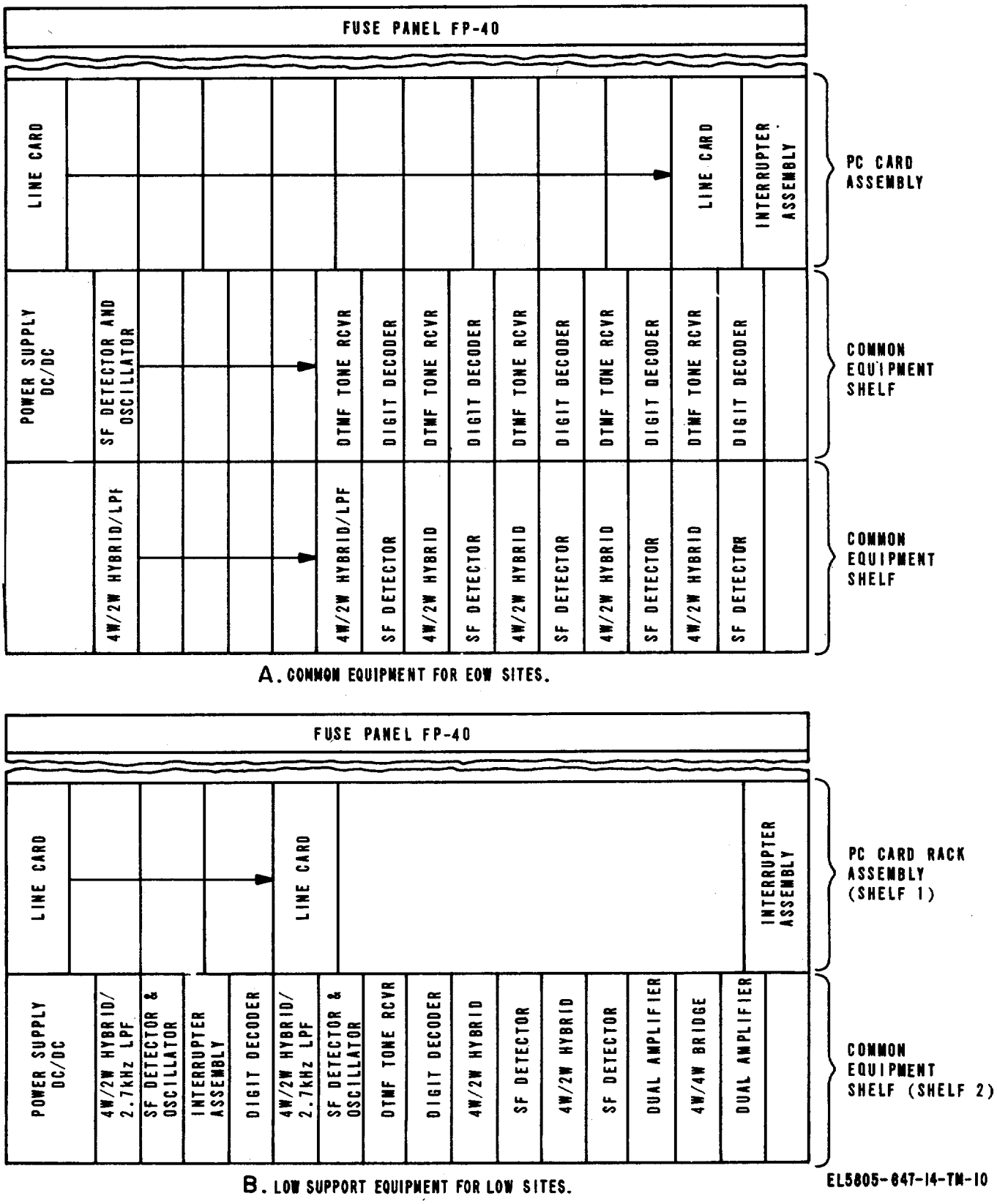


Figure 2-4. Module locations within the Order Wire Intercommunication Termination Units TA-918(V)/FSC and TA-930(V)/PSC.

b. Desk-Mounted Operator Access Unit. Refer to figures 2-1 and FO-1 in conjunction with the following installation procedure. Installation information for the operator's access unit is general in nature and is applicable to sites with a desk-mounted type.

(1) *Interconnection.* The call director, the speaker, and the rotary dial are interconnected in accordance with figure FO-1.

(2) *External connection.* The desk unit is supplied with a line cord and connectors through which all external connections are made. For external VF and control connections to the connectors and connector block, refer to the cord connection chart below, figure 2-5, and the station cable running list. Mount the connector block on the side or rear of the desk or table.

(3) *Express Link Local Order Wire Unit TA-928/FSC.*

Cord connector	*Connector block color*
J1	Blue
J2	Red
J3	Green
J4	Yellow
J5	Black

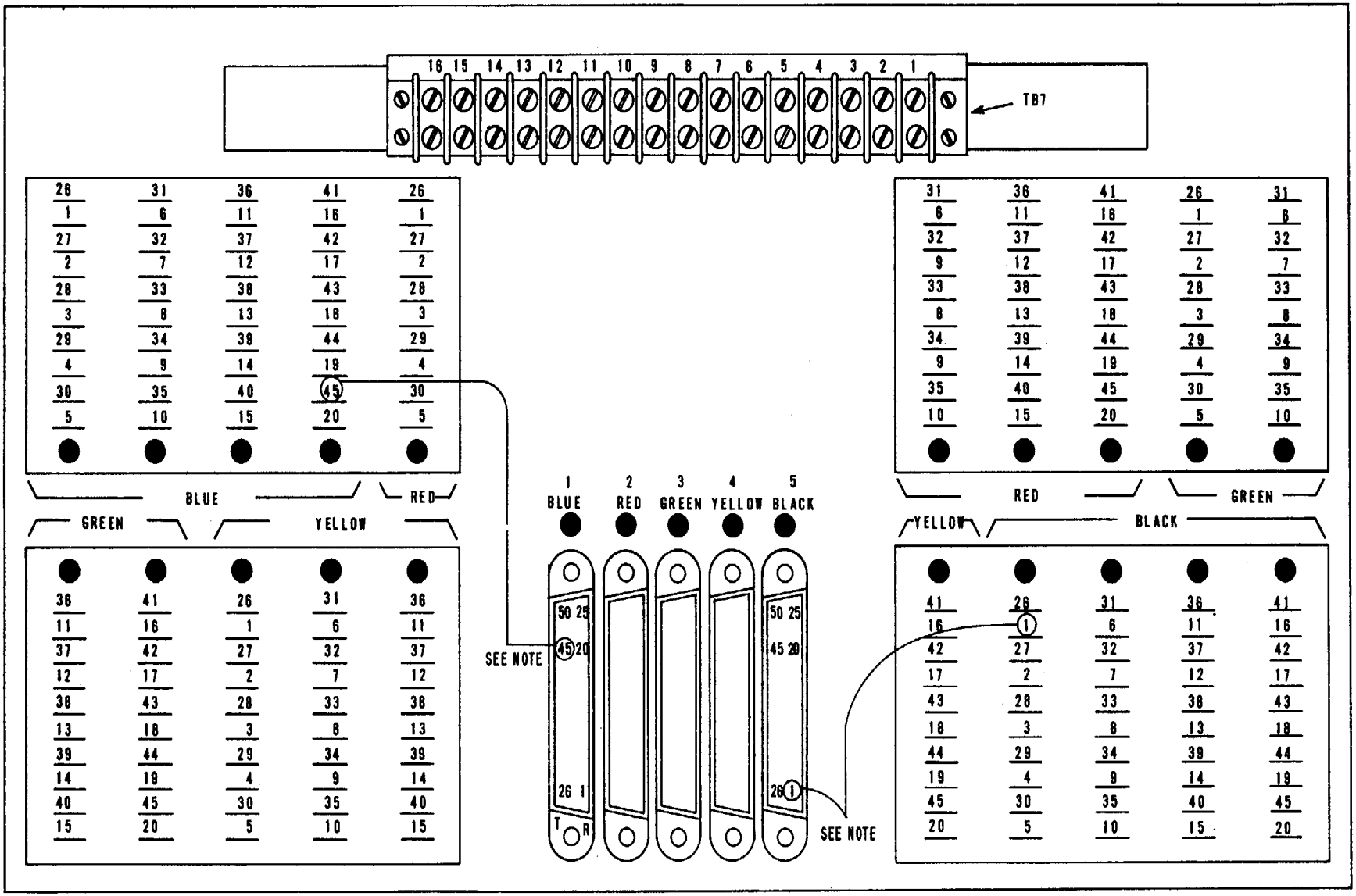


Figure 2-5. Express-Link-Local Order Wire Unit TA-928/FSC, connector block.

c. Rack-Mounted Operator's Access Unit. Refer to figures 2-1 and FO-3 in conjunction with the following installation procedure.

(1) *Interconnection.* The terminal block (TB1) component mounting and installation procedure is as follows:

(a) Connect the 10-foot line cord (SE25CX10) to terminal block TB1, in accordance with the cord connection chart ((3) below) and figure 2-6. Connect to the bottom side of the block. Each cord is identified by stencilling J1, J2, and J3 on the appropriate connectors. All unused wires are to be insulated and tied back.

(b) Mount the components, diodes, and resistors listed in paragraph 2-5, and the straps on the bottom of the terminal block in accordance with figure 2-6; use #24 awg white wire for straps. (Bare wire may be used on adjacent terminal straps.)

(c) Remove the mounting brackets supplied with the terminal block. Mount TB1 on the left side (rear view) of the mounting bar (VH1). Use screws and washers listed in paragraph 25 as required for mounting the block. Install the mounting bar on the cabinet rear vertical angles, to the rear of the operator's access panel, using panel mounting hardware. The top of the terminal block shall be even with the top of the panel. The terminals on the block shall face the rear of the cabinet.

(d) Coil up the excess cable, and lace to the cabinet rear vertical angle. Mate the like-numbered connectors associated with the panel and the terminal block. (The connector numbers are marked on the cord boot of the cord associated with the panel.)

(2) *External connection.*

(a) For external VF and control connections to the terminal block, refer to the station cable running list.

(b) For external power connections to the terminal block,-refer to the site power distribution drawing and/or site cable running list. Connect row J of TB1 to the 48 Vdc return as shown in figure 2-6.

(3) *Express-Link-Local Order Wire Unit TA-923/FSC.*

Item No.	From cord	To terminal block	Wire color	Function	
1	J1-28	TB1-1J	W-G	LG	
2	J1-1	TB1-1H	BL-W	R	
3	J1-26	TB1-1G	W-BL	T	LINE 1
4	J1-3	TB1-1F	G-W	L	
5	J1-27	TB1-1E	W-O	A	
6	J1-2	TB1-1A	O-W	A1	
7	J1-31	TB1-2J	R-BL	LG	
8	J1-4	TB1-2H	BR-W	R	
9	J1-29	TB1-2G	W-BR	T	LINE 2
10	J1-6	TB1-2E	BL-R	L	
11	J1-30	TB1-2E	W-SL	A	
12	J1-34	TB1-3J	R-BR	LG	
13	J1-7	TB1-3H	O-R	R	
14	J1-32	TB1-3G	R-O	T	
15	J1-9	TB1-3F	BR-R	L	LINE 3
16	J1-33	TB1-3E	R-G	A	
17	J1-37	TB1-4J	BK-O	LG	
18	J1-10	TB1-4H	SL-R	R	
19	J1-35	TB1-4G	R-SL	T	LINE 4
20	J1-12	TB1-4F	O-BK	L	
21	J1-36	TB1-4E	BK-BL	A	
22	J1-19	TB1-15A	BR-Y	SG	
23	J1-39	TB1-9A	BK-BR	RK	
24	J1-44	TB1-8A	Y-BR	—	
25	J1-20	TB1-14A	SL-Y	R1	
26	J1-45	TB1-5A	Y-SL	B1	
27	J2-28	TB1-5J	W-G	LG	
28	J2-1	TB1-5H	BL-W	R	
29	J2-26	TB1-5G	W-BL	T	LINE 5
30	J2-3	TB1-5F	G-W	L	
31	J2-27	TB1-5E	W-O	A	
32	J2-31	TB1-6J	R-BL	LG	
33	J2-4	TB1-6H	BR-W	R	
34	J2-29	TB1-6G	W-BR	T	LINE 6
35	J2-6	TB1-6F	BL-R	L	
36	J2-30	TB1-6E	W-SL	A	
37	J2-34	TB1-7J	R-BR	LG	
38	J2-7	TB1-7H	O-R	R	
39	J2-32	TB1-7G	R-O	T	LINE 7
40	J2-9	TB1-7F	BR-R	L	
41	J2-33	TB1-7E	R-G	A	
42	J2-37	TB1-8J	BK-O	LG	
43	J2-10	TB1-8H	SL-R	R	
44	J2-35	TB1-8G	R-SL	T	LINE 8
45	J2-12	TB1-8F	O-BK	L	
46	J2-36	TB1-8E	BK-BL	A	
47	J2-40	TB1-9J	BK-SL	LG	
48	J2-13	TB1-9H	G-BK	R	
49	J2-38	TB1-9G	BK-G	T	LINE 9
50	J2-15	TB1-9F	SL-BK	L	
51	J2-39	TB1-9E	BK-BR	A	
52	J2-19	TB1-12A	BR-Y	X	(CONF OP)
53	J2-20	TB1-7A	SL-Y	C	(-CONF)
54	J2-45	TB1-11A	Y-SL	SG	(CONF REL
55	J3-28	TB1-10J	W-G	LG	
56	J3-1	TB1-10H	BL-W	R	
57	J3-26	TB1-10G	W-BL	T	LINE 10
58	J3-3	TB1-10F	G-W	L	
59	J3-27	TB1-10E	W-O	A	
60	J3-31	TB1-11J	R-BL	LG	
61	J3-4	TB1-11H	BR-W	R	
62	J3-29	TB1-11G	W-BR	T	LINE 11
63	J3-6	TB1-11F	BL-R	L	
64	J2-30	TB1-11E	W-SL	A	

Item No.	From cord	To terminal block	Wire color	Function	
65	J3-34	TB1-12J	R-BR	LG	
66	J3-7	TB1-12H	O-R	R	LINE 12
67	J3-32	TB1-12G	R-O	T	
68	J3-9	TB1-12F	BR-R	L	
69	J3-33	TB1-12E	R-G	A	
70	J3-37	TB1-13J	BK-O	LG	
71	J3-10	TB1-13H	SL-R	R	
72	J3-35	TB1-13G	R-SL	T	LINE 13
73	J3-12	TB1-13F	O-BK	L	
74	J3-36	TB1-13E	BK-BL	A	
75	J3-40	TB1-14J	BK-SL	LG	
76	J3-13	TB1-14H	G-BK	R	
77	J3-38	TB1-14G	BK-G	T	LINE 14
78	J3-15	TB1-14F	SL-BK	L	
79	J3-39	TB1-14E	BK-BR	A	
80	J1-16	TB1-16A	BL-Y		
81	J1-41	TB1-17A	Y-BL		SF OSC
82	J1-13	TB1-18A	G-BK		
83	J1-38	TB1-19A	BK-G		RING KEY

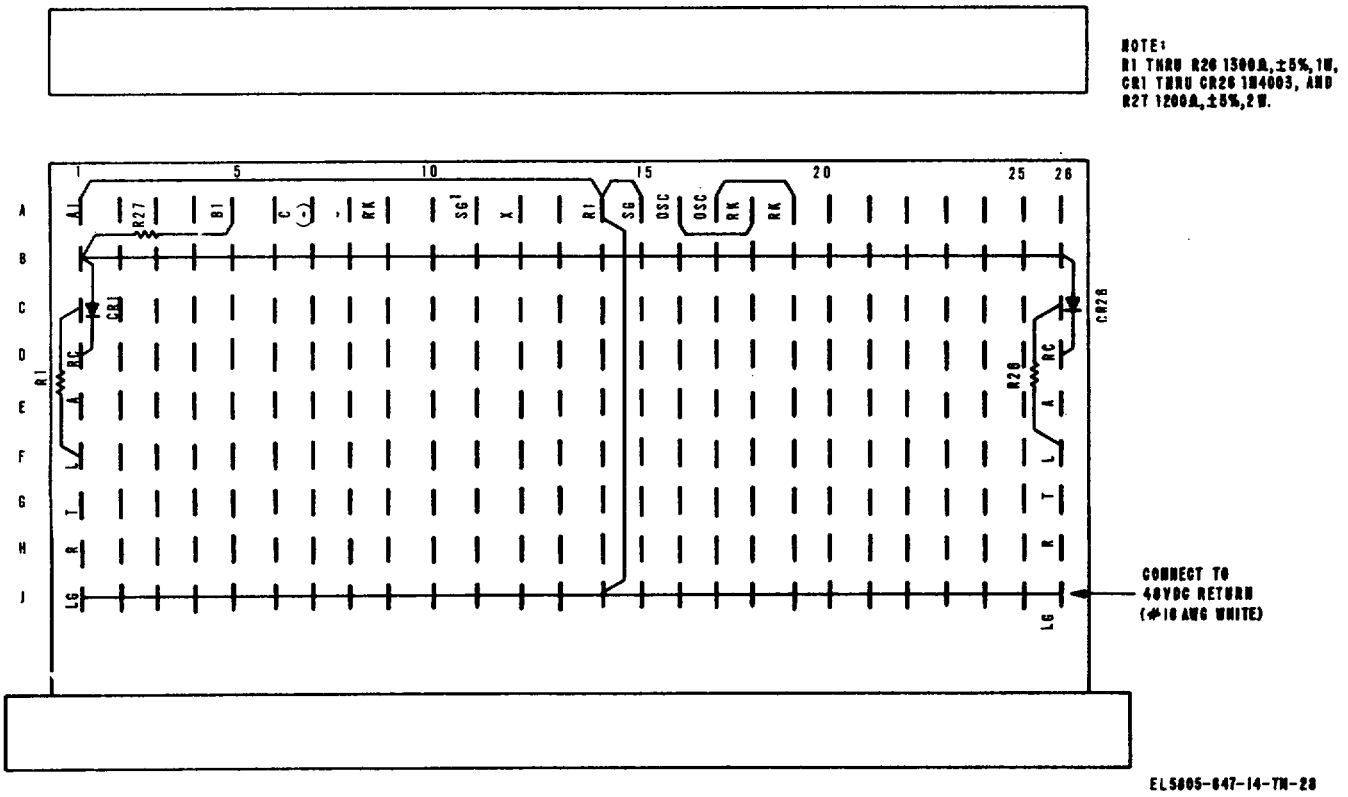


Figure 2-6. Express-Link-Local Order Wire Unit TA-923/FSC, terminal block, TB1 (bottom view from rear).

d. Link Orderwire Unit TA-925/FSC. Refer to figures 2-2 and FO-4 in conjunction with the following installation procedure.

(1) *Interconnection*. Terminal block component mounting and installation as follows: (a) Connect the 10-foot line cord (SE?5CS10) to the terminal block, TB1/TB2, (1301229) in accordance with the cord connection chart ((3) below) and figure 2-7.

NOTE

When the LOW terminal is collocated with the LOW support equipment, the terminal block is designated TB2; when the terminal is in any other location, the block is designated TB1. Connect to the bottom side of the block. Each cord is to be identified by stencilling J1 and J2 on the appropriate connectors. All unused wires are to be insulated and tied-back.

(b) Install the straps on the terminal block in accordance with figure 2-7 using #24 awg solid white wire. (Bare wire may be used on adjacent terminals.)

(c) Mount the components, listed in paragraph 2-5, and the straps on the bottom side of TB1/TB2 in accordance with figure 2-7.

(d) Remove the mounting brackets supplied with the terminal block. Mount TB2 on the right side (rear view) of the mounting bar associated with the LOW support equipment.

Mount TB1 on the left side (rear view) of the mounting bar (VH-1). Use screws and washers listed in paragraph 2-5 for mounting the block. Install the mounting bar and TB1 on the cabinet rear vertical angles, to the rear of the LOW panel, using panel mounting hardware. The top of the terminal block shall be even with the top of the panel. The terminals on the block shall face the rear of the cabinet.

(e) Coil up the excess cable, and lace to the cabinet rear vertical angle. Mate the likenumbered connectors associated with the panel and the terminal block. (The connector numbers are marked on the cord boot of the cord associated with the panel.)

(2) *Terminal external connection*.

(a) Interconnect the LOW support equipment with the LOW terminal (TB2) by performing the wiring operations listed in wiring to LOW support equipment chart and dc power wiring to LOW support equipment.

(b) For external VF and control connections to the terminal block (TB1), refer to the station cable running list.

(c) For external power connections to terminal block (TB1), refer to site power distribution drawing and/or site cable running list. Connect row J of TB1/TB2 to the 48 Vdc return as shown in figure 2-7.

(3) *Link orderwire unit cord connection to TB1/TB2 chart*.

Item No.	From cord	To terminal block	Wire color	Function	
1	J1-28	TB1/TB2-1J	W-G	LG	
2	J1-1	TB1/TB2-1H	BL-W	R	
3	J1-26	TB1/TB2-1G	W-BL	T	LINE 1
4	J1-3	TB1/TB2-1F	G-W	L	
5	J1-27	TB1/TB2-1E	W-O	A	
6	J1-2	TB1/TB2-1C	O-W	A1	
7	J1-31	TB1/TB2-2J	R-BL	LG	
8	J1-4	TB1/TB2-2H	BR-W	R	
9	J1-29	TB1/TB2-2G	W-BR	T	LINE 2
10	J1-6	TB1/TB2-2F	BL-R	L	
11	J1-30	TB1/TB2-2E	W-SL	A	
12	J1-34	TB1/TB2-3J	R-BR	LG	
13	J1-7	TB1/TB2-3H	O-R	R	
14	J1-32	TB1/TB2-3G	R-O	T	
15	J1-9	TB1/TB2-3F	BR-R	L	LINE 3
16	J1-33	TB1/TB2-3E	R-G	A	
17	J1-37	TB1/TB2-4J	BK-O	LG	
18	J1-10	TB1/TB2-4H	SL-R	R	
19	J1-35	TB1/TB2-4G	R-SL	T	LINE 4
20	J1-12	TB1/TB2-4F	O-BK	L	
21	J1-36	TB1/TB2-4E	BK-BL	A	
22	J1-19	TB1/TB2-11H	BR-Y	SG	
23	J1-39	TB1/TB2-11D	BK-BR	RK	
24	J1-44	TB1/TB2-11C	Y-BR	(-)	
25	J1-20	TB1/TB2-11G	SL-Y	R1	
26	J1-45	TB1/TB2-11A	Y-SL	B1	
27	J2-28	TB1/TB2-5J	W-G	LG	
28	J2-1	TB1/TB2-5H	BL-W	R	
29	J2-26	TB1-/TB2-5G	W-BL	T	LINE 5
30	J2-3	TB1/TB2-5F	G-W	L	
31	J2-27	TB1/TB2-5E	W-O	A	
32	J2-31	TB1/TB2-6J	R-BL	LG	
33	J2-4	TB1/TB2-6H	BR-W	R	
34	J2-29	TB1/TB2-6G	W-BR	T	LINE 6
35	J2-6	TB1/TB2-6F	BL-R	L	
36	J2-30	TB1/TB2-6E	W-SL	A	
37	J2-34	TB1/TB2-7J	R-BR	LG	
38	J2-7	TB1/TB2-7H	O-R	R	
39	J2-32	TB1/TB2-7G	R-O	T	LINE 7
40	J2-9	TB1/TB2-7F	BR-R	L	
41	J2-33	TB1/TB2-7E	R-G	A	
42	J2-37	TB1/TB2-8J	BK-O	LG	
43	J2-10	TB1/TB2-8H	SL-R	R	
44	J2-35	TB1/TB2-8G	R-SL	T	LINE 8
45	J2-12	TB1/TB2-8F	O-BK	L	
46	J2-36	TB1/TB2-8E	BK-BL	A	
47	J2-40	TB1/TB2-9J	BK-SL	LG	
48	J2-13	TB1/TB2-9H	G-BK	R	
49	J2-38	TB1/TB2-9G	BK-G	T	LINE 9
50	J2-15	TB1/TB2-9F	SL-BK	L	
51	J2-39	TB1/TB2-9E	BK-BR	A	
52	J2-43	TB1/TB2-10J	Y-G	LG	
53	J2-16	TB1/TB2-10H	BL-Y	R	
54	J2-41	TB1/TB2-10G	Y-BL	T	LINE 10
55	J2-18	TB1/TB2-10F	G-Y	L	
56	J2-42	TB1/TB2-10E	Y-O	A	
57	J1-16	TB1/TB2-12A	BL-Y		SF
58	J1-41	TB1/TB2-13A	Y-BL		OSC
59	J1-13	TB1/TB2-14A	G-BK		RING
60	J1-38	TB1/TB2-15A	BK-G		KEY

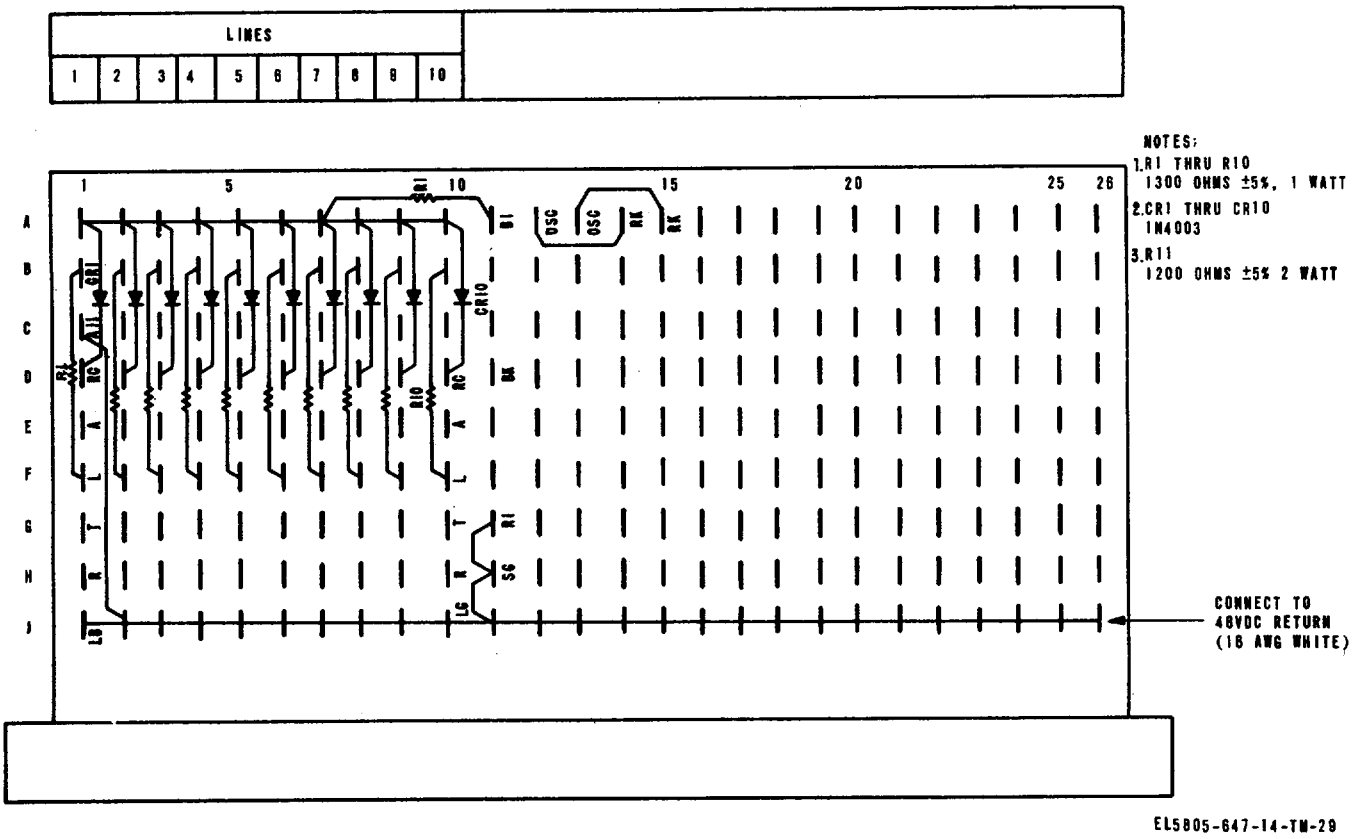


Figure 2-7. Link Orderwire Unit TA-925/FSC terminal blocks TB1/TB2 (bottom view from rear).

(4) Link orderwire unit wiring to LOW support equipment.

No.	From TB-2*	To LOW support equip. TB-1	Cable	Function
1	1G, 1H	10A, 10B	#24 twisted pair	LINE 1 PBX)
2	2G, 2H	6A, 6B	#24 twisted pair	2 (E & M)
3	3G, 3H	6C, 6D	#24 twisted pair	3 (E & M)
4	4G, 4H	8A, 8B	#24 twisted pair	4 (IC)
5	5G, 5H	3A, 3B	#24 twisted pair	5 (DTMF)
6	6G, 6H	3C, 3D	#24 twisted pair	6 (DTMF)
7	1E	16E	#24 white	1A
8	2E	13E	#24 white	2A
9	3E	14E	#24 white	3A
10	4E	15E	#24 white	4A
11	5E	11E	#24 white	5A
12	6E	12E	#24 white	6A
13	1B	16A	#24 black	1 Lamp
14	2B	13A	#24 black	2 Lamp
15	3B	14A	#24 black	3 Lamp
16	4B	15A	#24 black	4 Lamp
17	5B	11A	#24 black	5 Lamp
18	6B	12A	#24 black	6 Lamp
19	1D	16G	#24 black	1 RC
20	2D	13G	#24 black	2 RC
21	3D	14G	#24 black	3 RC
22	4D	15G	#24 black	4 RC
23	5D	11G	#24 black	5 RC
24	6D	12G	#24 black	6 RC

*See Note 2 of figure 2-2.

(5) DC power wiring to LOW support equipment.

No	From fuse panel	To TB-2	Calbe	Funxtion
1	TB1-6	TB2-5D	#24 black	IC RING
2	TB3-38	TB2-5C	#24 black	AMP (-)

e. Remote Link Orderwire Unit TA-924/FSC. Refer to figures 2-1 and/or 2-2 and FO-5 in conjunction with the following installation procedure:

(1) Interconnection terminal block (TB-2) installation.

(a) Connect the 10-foot line cord (SE25CX) to the terminal block, TB2 (130-729), in accordance with cord connection chart (3) below) and figure 2-8. The terminal block is assigned as TB2 due to its final location with the common equipment or the low support equipment. Connect to the bottom side of the block as mounted in the cabinet. All unused wires are to be insulated and tied back. The cord is to be identified by stenciling J1 on the connector.

(b) Install straps on the terminal block in accordance with figure 2-8 using #24 awg solid white wire. (Bare wire may be used on adjacent terminals.)

(c) Mount the resistors and diodes listed in paragraph 2-5 on the terminal block in accordance with figure 2-8.

(d) Remove the mounting brackets supplied with the terminal block. Mount TB2 on the right side (rear view} of the terminal block mounting bar associated with the common equipment or the LOW support equipment. Use screws and washers listed in paragraph 2-5 for mounting the block.

(e) Coil up the excess cable and lace to the cabinet rear vertical angle. Mate the connectors associated with the panel and the terminal block.

(2) Terminal block (TB-2) external connection.

(a) At common equipment sites, interconnect the common equipment with the remote LOW terminal by performing the wiring operations listed in charts for wiring to common equipment and DC power wiring to common equipment.

(b) At LOW sites, interconnect the LOW support equipment with the remote LOW terminal by performing the wiring operations listed in charts for wiring to LOW support equipment and DC power wiring to LOW support equipment.

(3) Remote link orderwire unit cord connection to TB2.

Item No.	From cord	To terminal block	Wire color	Function	
1	J1-28	TB2-1J	W-G	LG	
2	J1-1	TB2-1H	BL-W	R	
3	J1-26	TB2-1G	W-BL	T	LINE 1
4	J1-3	TB2-1F	G-W	L	
5	J1-27	TB2-1E	W-O	A	
6	J1-2	TB2-1C	O-W	A1	
7	J1-31	TB2-2J	R-BL	LG	
8	J1-4	TB2-2H	BR-W	R	
9	J1-29	TB2-2G	W-BR	T	LINE 2
10	J1-6	TB2-2F	BL-R	L	
11	J1-30	TB2-2E	W-SL	A	
12	J1-34	TB2-3J	R-BR	LG	
13	J1-7	TB2-3H	O-R	R	
14	J1-32	TB2-3G	R-O	T	LINE 3
15	J1-9	TB2-3F	BR-R	L	
16	J1-33	TB2-3E	R-G	A	
17	J1-37	TB2-4J	BK-O	LG	
18	J1-10	TB2-4H	SLR	R	
19	J1-35	TB2-4G	R-SL	T	LINE 4
20	J1-12	TB2-4F	O-BK	L	
21	J1-36	TB2-4E	BK-BL	A	
22	J1-19	TB2-5H	BR-Y	SG	
23	J1-39	TB2-5D	BK-BR	RK	
24	J1-44	TB2-5C	Y-BR	(-)	
25	J1-20	TB2-5G	SL-Y	R1	
26	J1-45	TB2-5A	Y-SL	B1	

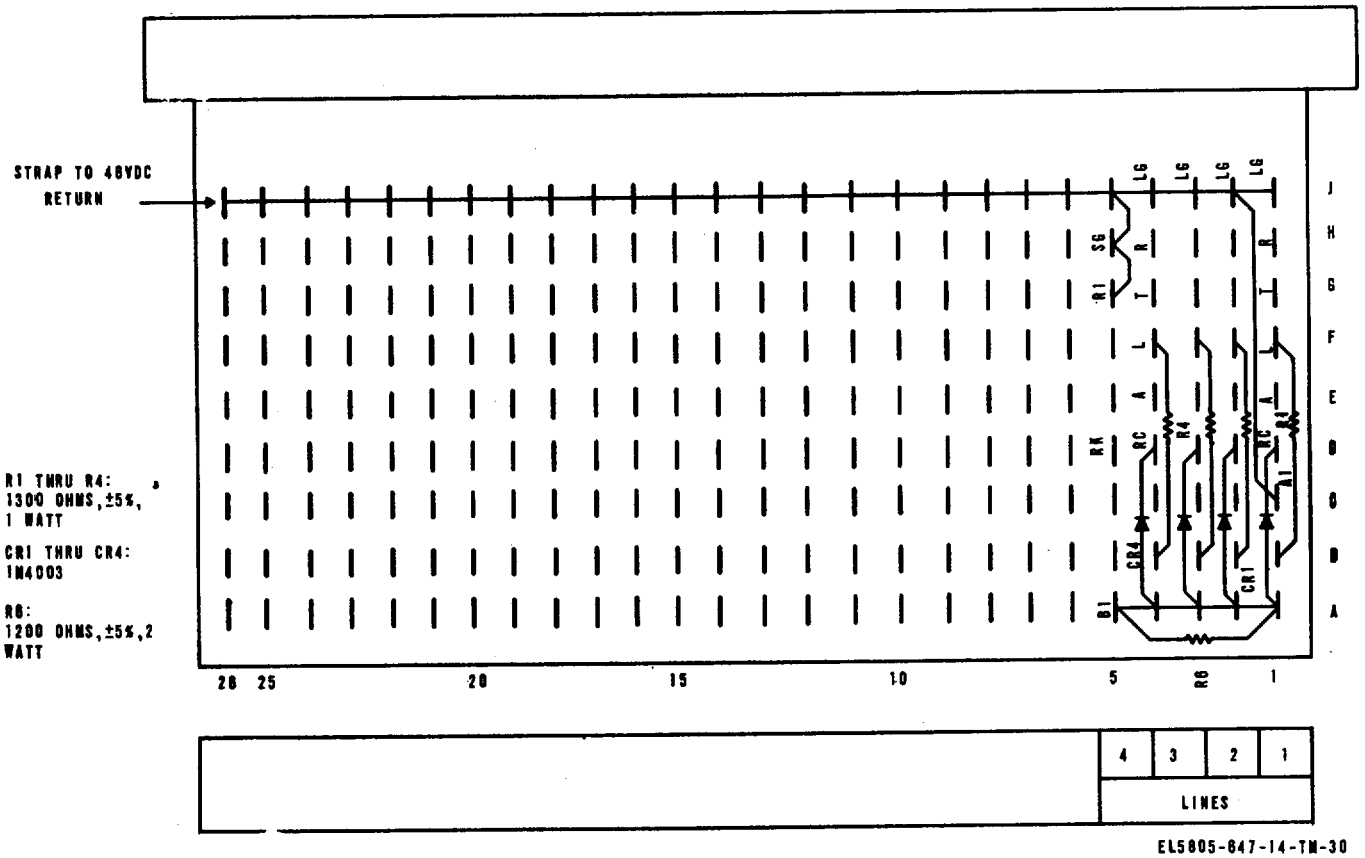


Figure 2-8. Remote Link Orderwire Unit TA-924/FSC, terminal block TB2 (bottom view from rear).

(4) *Remote link orderwire unit wiring to common equipment.*

No.	From TB-2	To common equipment shelf TB-1	Cable	Function
1	1G, 1H	4C, 4D	#24 twisted pair	LINE 1 (DTMF)
2	2G, 2H	4E, 4F	#24 twisted pair	2 (DTMF)
3	4G, 4H	11A, 11B	#24 twisted pair	4 (IC)
4	1E	13E	#24 white	1 A
5	2E	14E	#24 white	2 A
6	4E	23E	#24 white	4 A
7	1B	13A	#24 black	1 Lamp
8	2B	14A	#24 black	2 Lamp
9	4B	23A	#24 black	4 Lamp
10	1D	13G	#24 black	1 RC
11	2D	14G	#24 black	2 RC
12	4D	23G	#24 black	LINE 4 RC

(5) *Dc power wiring to common equipment.*

No.	From fuse panel	To TB-2	Cable	Function
1	TB1-12	TB2-5D	#24 black	IC RING
2	TB3-38	TB2-5C	#24 black	AMP (-)

(6) *Remote link orderwire unit wiring to LOW support equipment.*

No.	From TB-2	To LOW support equipment TB-1	Cable	Function
1	1G, 1H	3A, 3B	#24 twisted pair	LINE 1 (DTMF)
2	2G, 2H	3C, 3D	#24 twisted pair	2 (DTMF)
3	4G, 4H	8A, 8B	#24 twisted pair	4 (IC)
4	1E	11E	#24 white	1 A
5	2E	12E	#24 white	2 A
6	4E	15E	#24 white	4 A
7	1B	11A	#24 black	1 Lamp
8	2B	12A	#24 black	2 Lamp
9	4B	15A	#24 black	4 Lamp
10	1D	11G	#24 black	1 RC
11	2D	12G	#24 black	2 RC
12	4D	15G	#24 black	4 RC

(7) *Dc power wiring to LOW support equipment.*

No	From fuse panel	To TB-2	Calbe	Funxtion
1	TB1-6	TB2-5D	#24 black	IC RING
2	TB3-38	TB2-5C	#24 black	AMP (-)

f. Local Orderwire Unit, 41010-97 Installation. The local orderwire shelf is provided for all in. terminal connections including the optional modules (40472-03 dual amplifier and 40455-03 4W/4W bridge). External connections are made to the rear terminals shown on-figure 2-9. Refer to figure FO-6, wiring diagram, for interconnection layout.

(1) Without the optional modules inserted, the input and outputs are connected to the shelf as follows:

(a) 600-ohm input-TB1 pins 1 and 3.
(b) 150-ohm input-TB1 pins 2 and 3.
(c) 600-ohm output-TB1 pins 4 and 6.
(d) 150-ohm output-TB1 pins 5 and 6.

(2) When the 40472-03 dual amplifier modules and the 40455-03 4W/4W bridge module are installed, the #1 Input connection is not used; the input to the speaker amplifier is derived from the 40472-03 module inserted in J4. A combination of other inputs and outputs can be utilized.

NOTE

When the 40455-03 bridge module is installed, IT IS NECESSARY TO TERMINATE ALL UNUSED INPUTS AND OUTPUTS WITH 600 OHMS.

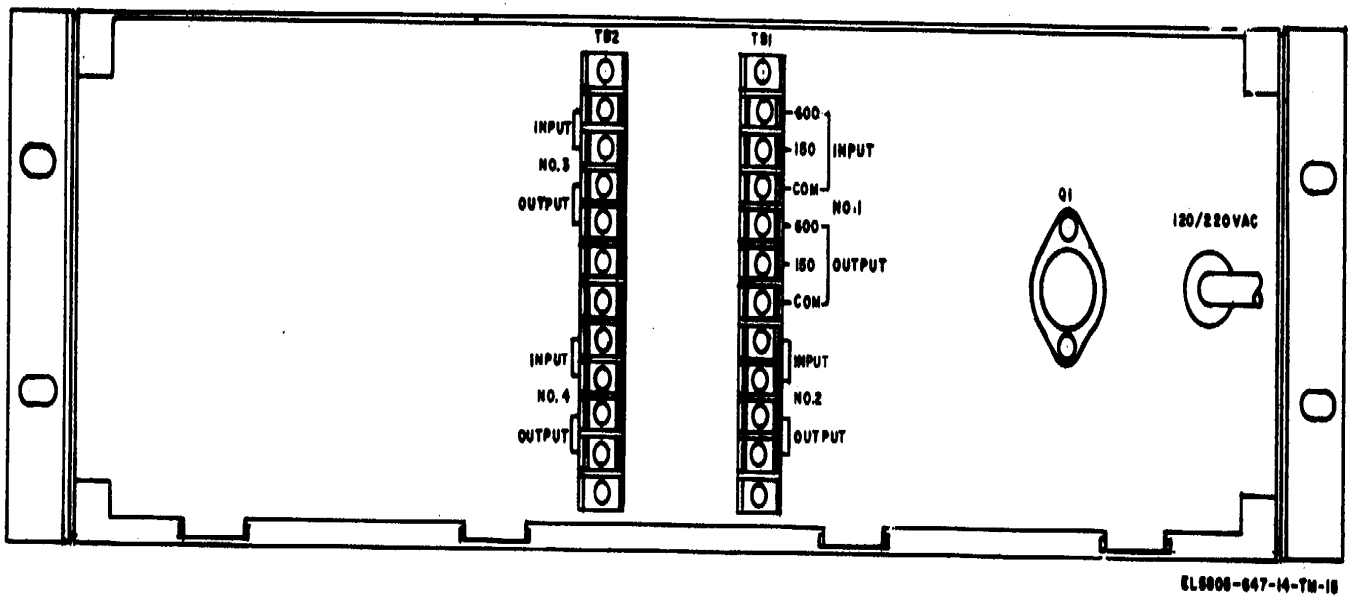


Figure 2-9. Local Orderwire Unit 41010-97, connection terminals (rear).

*g. 4W/4W Bridge and Amplifier Assembly 40110-98 (*Commonly Called Bridge Assembly). The following procedure provides detail information required to install the 4-way/4-wire bridge assembly at all EOW sites equipped with a 4W/4W bridge assembly.

(1) Panel interconnection.

(a) Connect the bridge assembly to the power supply mounted on shelf 2 of the common equipment, in accordance with the bridge assembly DC power wiring chart ((3) below). Refer to figure 2-10 for terminal point locations on rear mounted terminal strips.

(b) For the VF connections to the assembly refer to the applicable station cable running list.

(2) Plug-in module installation. Install the plug-in in accordance with each sites requirement and in accordance with the plug-in module connector assignment chart ((4) below) and figure FO-7, wiring' diagram.

(3) Bridge assembly DC power wiring.

From bridge assembly	To common equipment SH2	Color (* 24 awg)
TB1-3	J1-A	Black
TB1-1	J1-U	White

(4) Plug-in module connector assignment for the bridge assembly.

Bridge circuit no	4W / 4W bridge PWB	Dual Amp PWB
No. 1	J3	J1 & J5
No. 2	J4	J2 & J6

h. Jack and Lamp Panel, JLP1 Installation (fig. 210). Prior to mounting the jack and lamp panel, perform the strapping operations on the barrier strips TB(1) and TB(2).

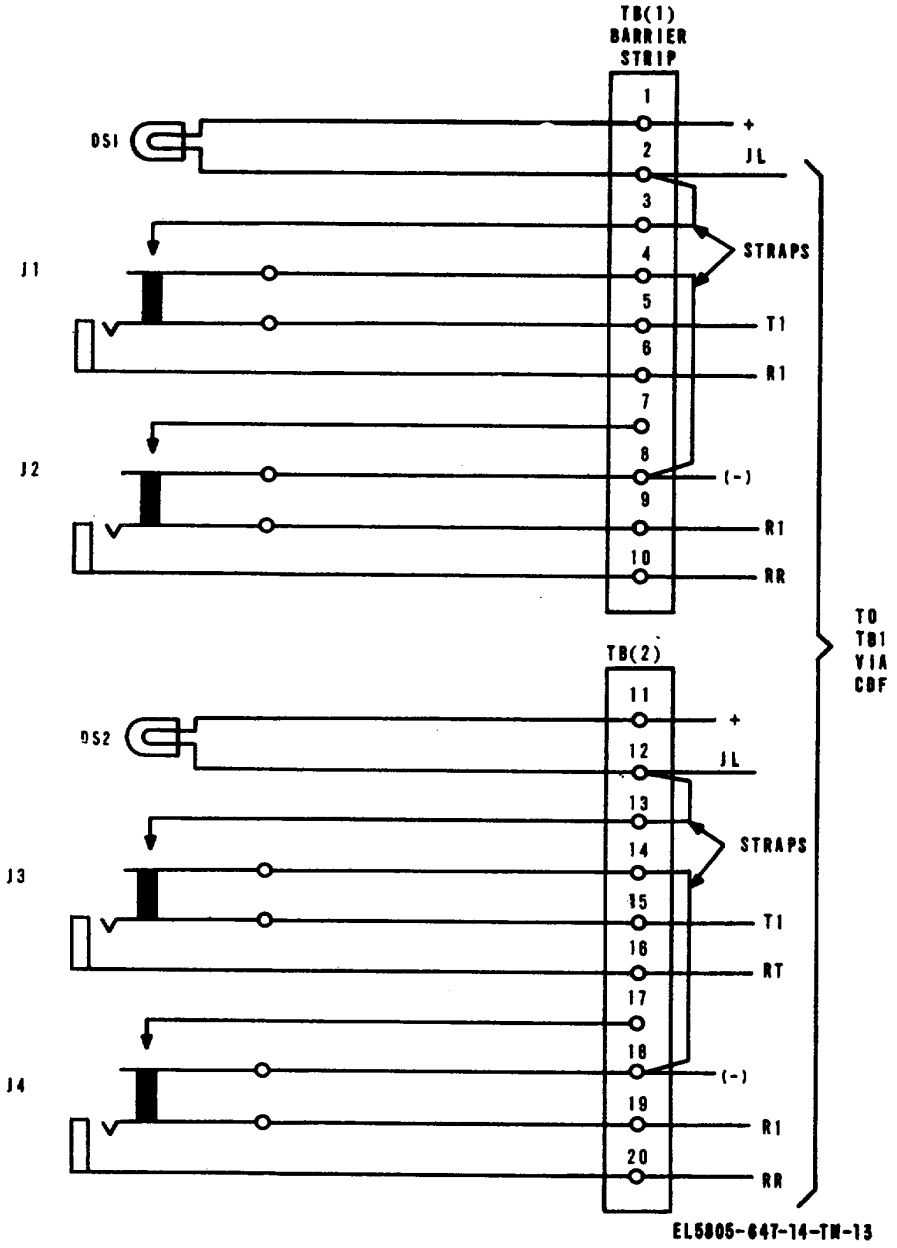


Figure 2-10. Jack and Lamp and Lamp Panel JLP-1, strapping connections.

i. Expansion.

(1) *General.* At sites requiring less than the full orderwire capabilities, the common equipment is installed with only the quantity of modules required to satisfy the orderwire circuit requirements. Expansion to full capability is accomplished by the addition of components listed in k below (expansion chart). An expansion of up to 10 orderwire circuits (5 DTMF and 5 ringdown) can be accomplished by inserting the required modules and performing the necessary connections and strapping options to the common equipment involved.

(2) Expansion chart. The expansion chart in k below provides the unit equipment requirement based on orderwire circuit expansion. Refer to figures 2-11 and 2-12 for identification and physical location of connection points on the cabinet mounted terminal blocks (TB1) for strapping requirements. The following paragraphs provide strapping option information and installation information for those components affected by expansion of the equipment capability.

j. Strapping Requirements. The following subparagraphs provide strapping requirements to be performed prior to component installation.

(1) Common equipment terminal block TB1 strapping option(fig. 2-11). A strapping option is provided for receiving an incoming audible ring on the desk mounted operator's access unit. A distant end station can only initiate an audible ring to the desk unit when the associated ring control (RC) terminal point on TB1 of the common equipment is strapped to the negative side of the associated diode which is mounted on TB1. Physical location of each ring control point and its associated diode is shown in figure 2-11.

(2) 4-Way/4-wire bridge, 40155/40455-03 strapping option (fig. FO-16). Strapping option of the attenuators on the 4W/4W bridge are given below.

Pad	Strapping for pad in	Strapping for pad out
Leg 1	E11 to E12 & E14 to E15	E11 to E14 & E13 to E16
Leg 2	E2 to E4 & E3 to E5	E2 to E3 & E7 to E8
Leg 3	E17 to E18 & E20 to E21	E17 to E20 & E19 to E22
Leg 4	E28 to E30 & E29 to E31	E35 to E26 & E30 to E31

NOTE

TWO STRAPS ARE REQUIRED TO MAKE THE CORRECT CONNECTION WHETHER THE PAD IS "IN" OR "OUT". As an example: to connect the Leg 3 pad "in" the circuit, strap E17 to E18 and E20 to E21.

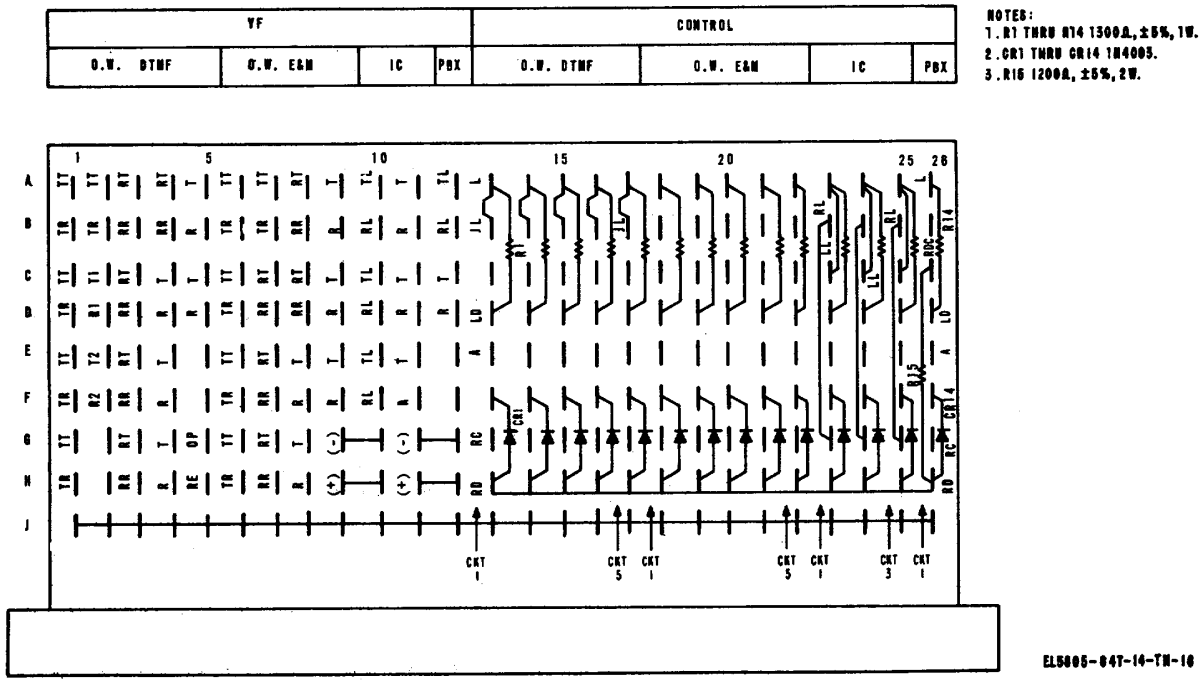


Figure 2-11. Typical terminal block TBI, EOW sites, bottom view from rear.

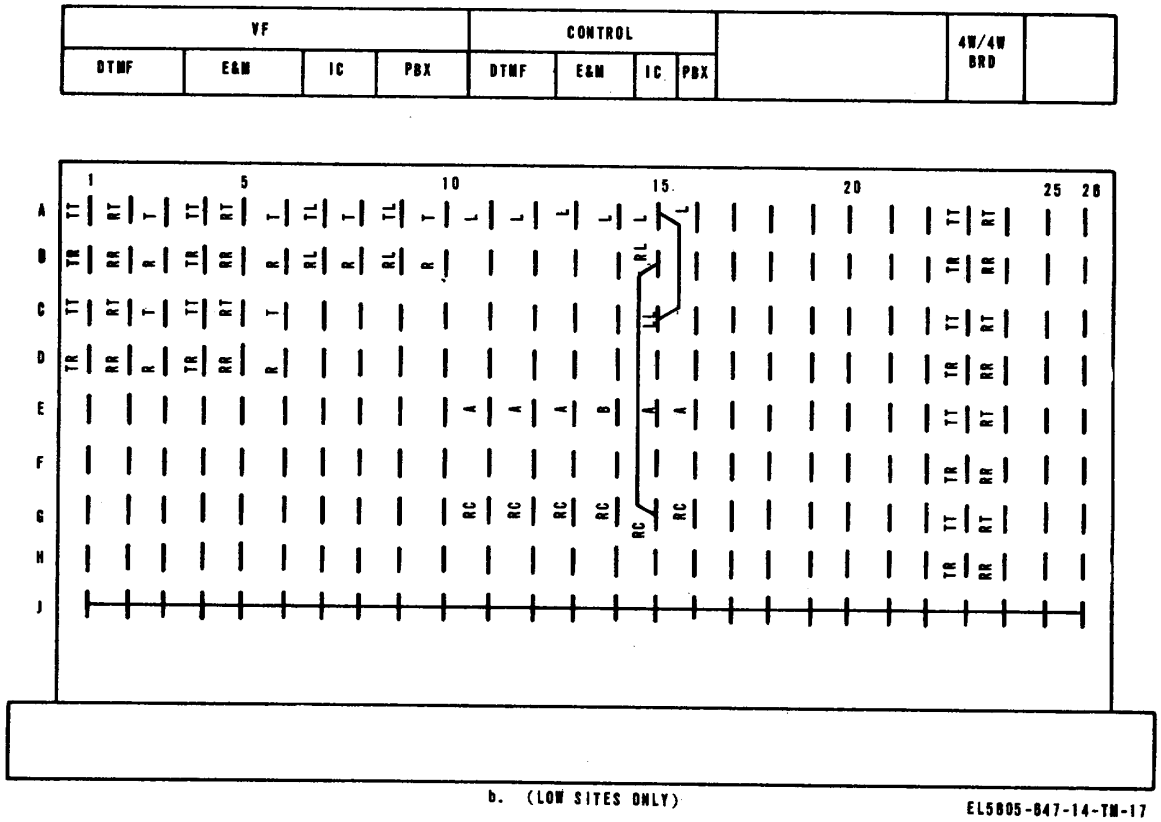


Figure 2-12. Typical terminal block TB1, LOW sites, bottom view from rear.

(3) Line card LC AC ring strapping option (fig. 59). The following is a list of terminal board jumper wire requirements to provide AC ring excitation sensing. Terminal boards TB1 and TB2 are mounted on the rear of PC Card Assembly LCC9740.

TB1	Purpose
E1 to 11	AC ring into line card #1
E2 to 12	AC ring into line card #2
E3 to 13	AC ring into line card #3
E4 to 14	AC ring into line card #4
E5 to 15	AC ring into line card #5
E6 to 16	AC ring into line card #6
E7 to 17	AC ring into line card #7
E8 to 18	AC ring into line card #8
E9 to 19	AC ring into line card #9
E10 to 110	AC ring into line card #10
E1 to 11	AC ring into line card #11
H10 to G10	Provide interrupted ring excitation from INT9740 to all line cards

(4) Digit Decoder 40451-04, strapping option (fig. 21, app B). The dc output from each of the seven tone detectors in the tone receiver module is connected to the strappable terminals within the digit decoder module. The tone pair options for the first digit are strappable from E17 to either E14, E15 or E16 for the high tone, and from E18 to either E10, Ell, E12 or E13 for the low tones. Likewise, the tone pairs for the second digit are strappable from E8 to either E5, E6, and E7 for the high tones, and from E9 to either El, E2, E3 or E4 for the low tones. Refer to chart below for specific frequencies associated with each of the dialing digits. Remove the digit decoder from the shelf and strap the board for the system assigned two-digit address (refer to fig. 21, app B, and fig. FO-13 physical location of strapping terminals). Reinstall the decoders.

Digit	Frequency in Hz	
	Lo tone	Hi tone
1	697	1209
2	697	1336
3	697	1477
4	770	1209
5	770	1336
6	770	1477
7	852	1209
8	852	1336
9	852	1477
0	941	1336

(5) Conference relay assembly (CRA) installation. The mounting bar for the conference relays is prewired to accommodate circuit expansion. All that is necessary for adding relays is to plug the relay in the relay sockets located on the mounting bar. See the expansion chart (k below) for unit quantity per circuit.

(6) Inductor assembly (LA) mounting procedure for telephone expansion. Mount additional inductors (T61130) on the inductor mounting bars in accordance with figure 213 and the expansion chart requirements (k below) using identical type mounting hardware supporting previously mounted inductor assemblies. For example, if the applicable site is expanded by two DTMF circuits and/or by two E&M circuits, mount inductors L1, L2, L6 and L7 in the appropriate locations on the mounting bars.

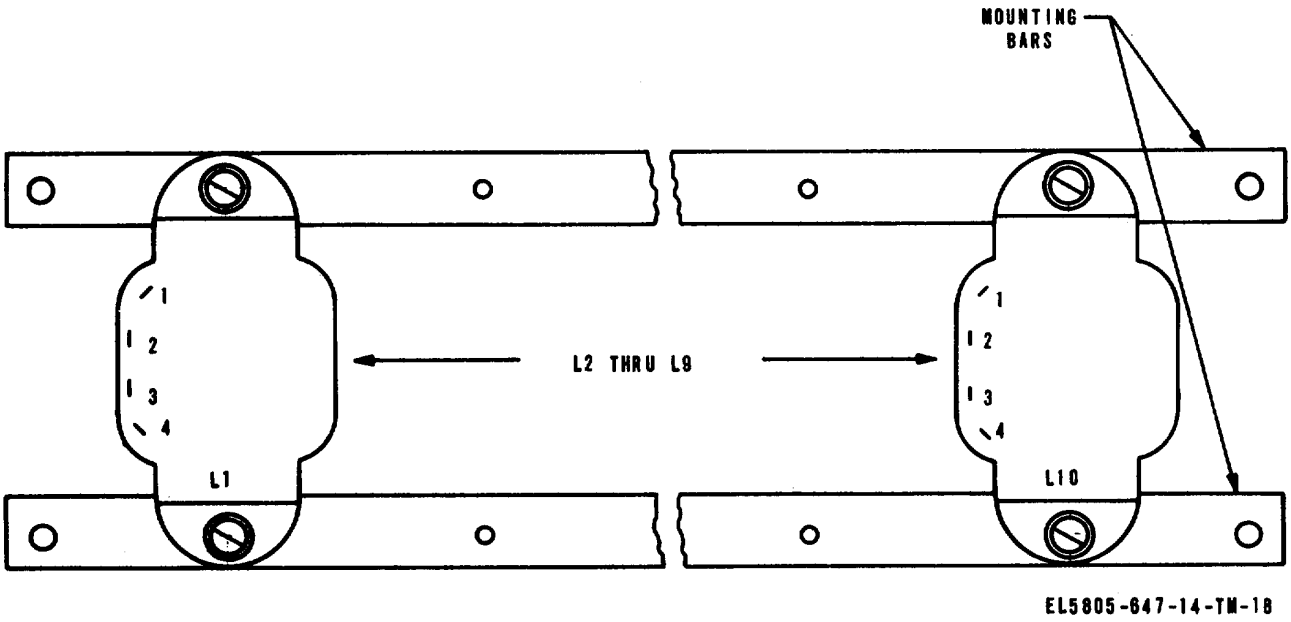


Figure 2-13. Inductor assembly (LA), mounting tor expansion.

k. Common Equipment Expansion Chart.

Item No.	Mfg.	Part No.	Description	UNIT QUANTITY OF EQUIPMENT/COMPONENT/MODULES REQUIRED												
				Basic equipment	Line ckt (PBX)	DTMF CIRCUIT NUMBER					E&M CIRCUIT NUMBER					Fully equipped assembly
						1	2	3	4	5	1	2	3	4	5	
1	GRM	FP-40	Fuse panel	1	-	-	-	-	-	-	-	-	-	-		1
2	Teltronies	LCC-9740	PC card rack assembly	1	-	-	-	-	-	-	-	-	-	-		1
3	Teltronies	LC4014	Line card	-	1	1	1	1	1	1	1	1	1	1	1	11
4	Teltronies	INT-9740	Interrupter assembly	1	-	-	-	-	-	-	-	-	-	-	-	1
5	Raven	41010	Common equipment shelf	2	-	-	-	-	-	-	-	-	-	-	-	2
6	Raven	40452-01	DTMF tone receiver	-	1	1	1	1	1	1	-	-	-	-	-	5
7	Raven	40451-04	Digit decoder	-	1	1	1	1	1	1		-	-	-	-	5
8	Raven	41063-02	SF detector & oscillator	-	1	1	1	1	1	1	-	-	-	-	-	5
9	Raven	49008-01	4W/2W hybrid module	-	1	-	-	-	-	-	1	1	1	1	1	5
10	Raven	49008-02	4W/2W hybrid module with 2.7 kHz LP filter	-	-	1	1	1	1	1	-	-	-	-	-	5
11	Raven	41063-01	SF detector	-	-	-	-	-	-	-	1	1	1	1	1	5
12	Raven	41028-01	DC/DC power supply	1	-	-	-	-	-	-	-	-	-	-	-	5
13	MWI	ER7700	Cabinet, equipment	1	-	-	-	-	-	-	-	-	-	-	-	1
14	Ceccola	VH-1	Mounting bar, terminal block	1	-	-	-	-	-	-	-	-	-	-	-	1
15	Cook	130-1229	Terminal block	1	-	-	-	-	-	-	-	-	-	-	-	1
16	Ceccola	Mounting bar, inductor/relay assy. and inductory assy		4	-	-	-	-	-	-	-	-	-	-	-	4
17	Thordarson Meissner	T61130	Inductor, dual winding	-	-	2	2	1	1	1	1	1	1	1	1	13
18	Stromberg Carlson	702009-167	Relay, line pick-up	3	-	-	-	-	-	-	-	-	-	-	-	3
19	Automatic Electric	RY-98	Mounting Strip, Relay	1	-	-	-	-	-	-	-	-	-	-	-	1
20	Automatic Electric	RM-28B	Relay, Magnetic latch ERM	-	1	1	1	1	1	1	1	1	1	1	1	11
21	Automatic Electric	TT-37	Socket, relay (EIN)	11	-	-	-	-	-	-	-	-	-	-	-	11
22	Automatic Electric	RV-49	Cover, relay (EIN)	-	1	1	1	1	1	1	1	1	1	1	1	11
23	EFE	9740-CB1	Component board assy., CB1	2	-	-	-	-	-	-	-	-	-	-	-	2
24	EFE	9740-CB2	Component board assy., CB2	1	-	-	-	-	-	-	-	-	-	-	-	1
25	Philco-Ford	6505-3826	Equipment wiring harness	1	-	-	-	-	-	-	-	-	-	-	-	1
26	Ceccola	VH-2	Mounting strip relay	3	-	-	-	-	-	-	-	-	-	-	-	3

NOTE: Basic quantity provides for 3 station intercom circuits.

2-7. Initial Check and Adjustment of Equipment

a. General. After installation of the equipment at a given station, check each plug-in module for proper insertion, and check any condition that may constitute any safety hazard.

b. Dual Amplifier Modules 40472-03. Perform initial system alignment as follows on the link orderwire support equipment at LOW sites.

(1) Using the test equipment setup shown in figure 2-14, set the oscillator for the following: 1kHz frequency (dial accuracy), 600-ohm impedance and 0-dbm level (set with the voltmeter terminated into 600 ohms).

(2) Set the voltmeter of the test set for an input of bridging impedance and 0-db level.

(3) Sequentially connect the test set oscillator and the voltmeter to dual amplifier jack locations as directed by the dual amplifier check and adjustment chart (g below).

(4) Adjust the respective A GAIN ADJ and B GAIN ADJ for specified level indicated on right-hand column of the adjustment chart.

c. Dual Amplifier Modules 40172-03. Perform initial system alignment as follows on the common equipment located at the express orderwire (EOW) sites.

(1) Using the test setup shown in figure 2-14 set the oscillator portion for the following: 1-kHz frequency (dial accuracy), for 600-ohm impedance and a 0-dbm level (adjust with the voltmeter bridging the oscillator's output).

(2) Set the voltmeter portion of the test set for 600-ohm impedance and a 0-dbm level.

(3) Sequentially connect the test set oscillator cables and the voltmeter cables to the 4W /4W bridge legs and the dual amplifier legs as specified by the dual amplifier check and adjustment chart (g below).

(4) Adjust the respective A GAIN ADJ and B GAIN ADJ for specified level indicated on right-hand column of the adjustment chart.

d. 2W/4W Hybrid Module.

(1) General. The following adjustment procedure is applicable to both 2W/4W modules (49008-01) and (49008-02) used in common equipment at EOW sites and link support equipment used at LOW sites.

(a) It is assumed that the 4-wire send and receive legs are terminated into respective circuit load impedance's of 600 ohms. In the following adjustment procedure, the amplifiers will be adjusted for unit gain (zero loss) from-the 2 wire port to the 4 wire transmit and receive ports. It may be desired to decrease the transmit gain and correspondingly increase the receive gain, in order to lower the fixed DTMF tone level (a nominal 6 dbm on the 2-wire line). (For example, if a -13 dbm is desired for the DTMF single tone level, a 7 db may be set in the 4 wire transmit leg. At the distant station, the amplifier in the receive leg can be adjusted to overcome the 7-db loss and provide a unity gain path.) (b) It is important that the order wire system transmission level be preestablished at all stations, and that the adjustment of the 2W/4W hybrids does not result in a system gain, which, in turn, would result in a decrease of the singing margin on the round-trip path. It may be desired to operate at a loss of 3 to 10 db on poor quality land line circuits to increase the singing margin.

(c) A 2W/4W hybrid adjusted for a 7-db transmit loss, 7-db receive gain is permissible to interconnect with other systems which operate at unity transmit and receive gain. (A 7-db transmit loss and 7-db receive gain results in unity gain within the 2W/4W termination at the station.)

(2) 2W output adjust. The 2 wire output of the 2W/4W hybrid is determined by the gain of the 4 wire receive amplifier. If unity gain is desired, the amplifier is adjusted to compensate for the 6-db loss in the resistive hybrid. For the initial adjustment, on DTMF circuits it is recommended that the 4W receive path be broken at the multiplex equipment or station patch field, in order to remove the 3,250-Hz supervisory tone which might result from another station on the party line circuit being off-hook. Make certain the line to the hybrid is terminated. Also make certain that all operator units at the local site are on-hook. Proceed as follows and refer to the test set up in figure 2-15.

(a) Set the oscillator output impedance of the telephone test set to 600 ohms.

(b) Set the oscillator to 1 kHz and the level to minimum.

(c) Connect the oscillator cable to TP3 and 4 of the 2W/4W hybrid.

(d) Set the voltmeter impedance to BRG and connect the meter cable across the oscillator output (connected to TP3 and 4). Set meter to 10-db range.

(e) Adjust oscillator for a 0-245V rms reading.

(f) Remove meter from TP3 and 4 and connect to TP1 and 2. Adjust the 2W OUTPUT ADJUST for 10 dbm for unity gain within the hybrid (-3 dbm for the 7-db gain example).

(g) Remove test equipment.

(3) 4W output adjust. The 4-wire output in the transmit leg is determined by the gain of the 4

wire transmit amplifier. If unity gain is desired, the amplifier is adjusted to compensate for the 6db loss through the resistive hybrid. Make certain the 4 wire transmit line is terminated in its circuit impedance (600 ohms) and that the operator panels are all on-hook. Proceed as follows and refer to the test setup in figure 2-15.

(a) Set the oscillator output impedance of the telephone test to 600 ohms.

(b) Set the oscillator to 1 kHz and the level to minimum.

(c) Connect the oscillator output to the 600-ohm input of the bridging transformer.

(d) Connect the 10K-output of the bridging transformer to TP1 and 2.

(e) Set the voltmeter impedance to BRG and connect the meter across the 10K output of the bridging transformer (also connected to TP1 and 2).

(f) Adjust the oscillator for a --10-dbm reading across the TP1 and 2.

(g) Remove the voltmeter from the bridging transformer and connect to TP5 and 6.

(h) Adjust the 4W OUTPUT ADJUST for 10 dbm for unity gain within the hybrid (--17dbm for the 7 db loss example).

(i) Remove test equipment.

e. SF Oscillator and Detector Module (Common or LOW Support Equipment). The SF detector is factory set for operation on a minimum signal of --20 dbm and requires no further adjustment. The SF oscillator portion should be adjusted for the desired system level (normally -15 dbm). Adjustment of the 2W/4W hybrid shall be accomplished prior to adjustment of the SF oscillator. Refer to figure 2-16 and proceed as follows for adjustment of the SF oscillator.

(1) Set the voltmeter portion of the telephone test set to BRG and connect it to pins J and H of the rear connector for the SF oscillator and detector module.

(2) Depress the CALL button on the front panel, and adjust R71 front panel control for a reading of --15 dbm. Release CALL button and remove test equipment.

f. SF Oscillator (Desk and Rack-Mounted Operator Access Units, Link Order Wire Unit). Perform initial adjustment of the SF oscillator within the call director of the operator's access units or link order wire unit. This is accomplished as follows:

(1) Connect test equipment as shown in figure 2-17. Connect alligator clips of test cable to applicable terminals as indicated.

(2) Lift handset from unit under adjustment.

(3) Depress RING key on unit under adjustment. Insure that ac voltmeter indicates 10 dbm + 2 db. Insure that frequency counter indicates 3,250 Hz + 5 Hz.

NOTE

Access to desk-mounted operator access unit level adjustment (R15) is gained through access hole located in lower front section of call director. Access to frequency adjustment (L1) is gained by removing cover on call director. Access to both controls of rack-mounted units is gained by unfastening unit from rack, supporting it with wires or rope, and then pivoting the rear mounting panel slightly outward by removing two lower screws.

(4) Adjust R15 on SF oscillator for an indication of --10 dbm on ac voltmeter.

(5) Adjust L1 on SF oscillator for an indication of 3,250 Hz on frequency counter.

(6) Disconnect all test equipment and restore unit-under-adjustment to its normal operational status.

g. Dual Amplifier Check and Adjustment Chart (EOW and LOW Sites).

Step	Connect oscillator to	Leg	Voltmeter connection	Leg #	Adjustment (if necessary)	Location	Level Required
1	Jack for leg 1 receive	1 receive	Leg 2 send jack	2 send	Dual amp--R3(A)	J14	0 dBm+ 0.1 db
2	Jack for leg 1 receive	1 receive	Leg 3 send jack	3 send	Dual amp--R19(B)	J16	0 dBm + 0.1 dB
3	Jack for leg 1 receive	1 receive	Leg 4 send jack	4 send	Dual amp-R3(A)	J16	0 dBm+ 0.1 dB
4	Jack for leg 2 receive	2 receive	Leg 1 send jack	1 send	Dual amp--R19(B)	314	0 dBm + 0.1 dB

NOTE

Location J14 and J16, refer to the module position within the equipment shelf.

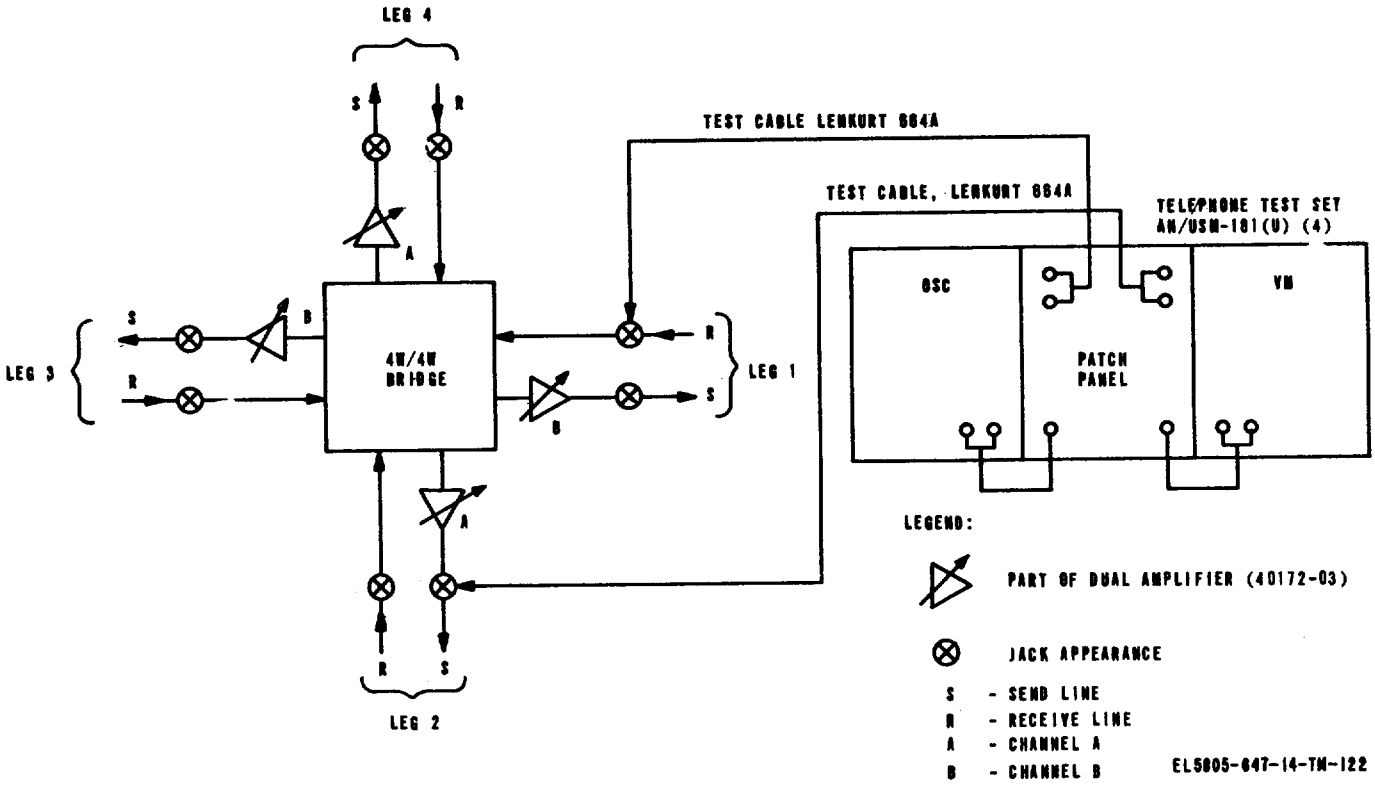


Figure 2-14. Dual amplifier, 40472-03/40172-03, test setup diagram.

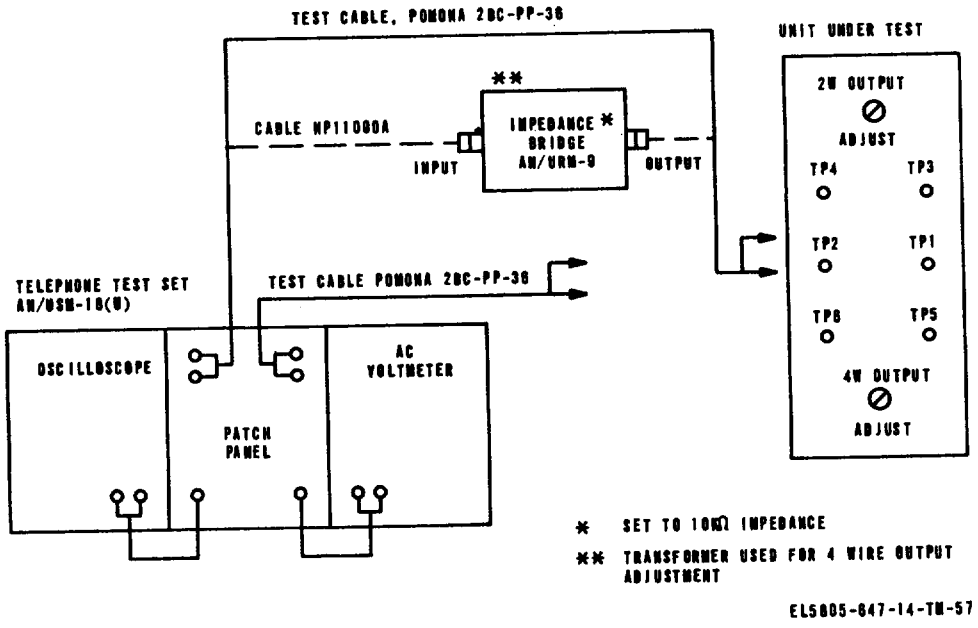


Figure 2-15. 2W/4W hybrid, 49008-02, test setup diagram.

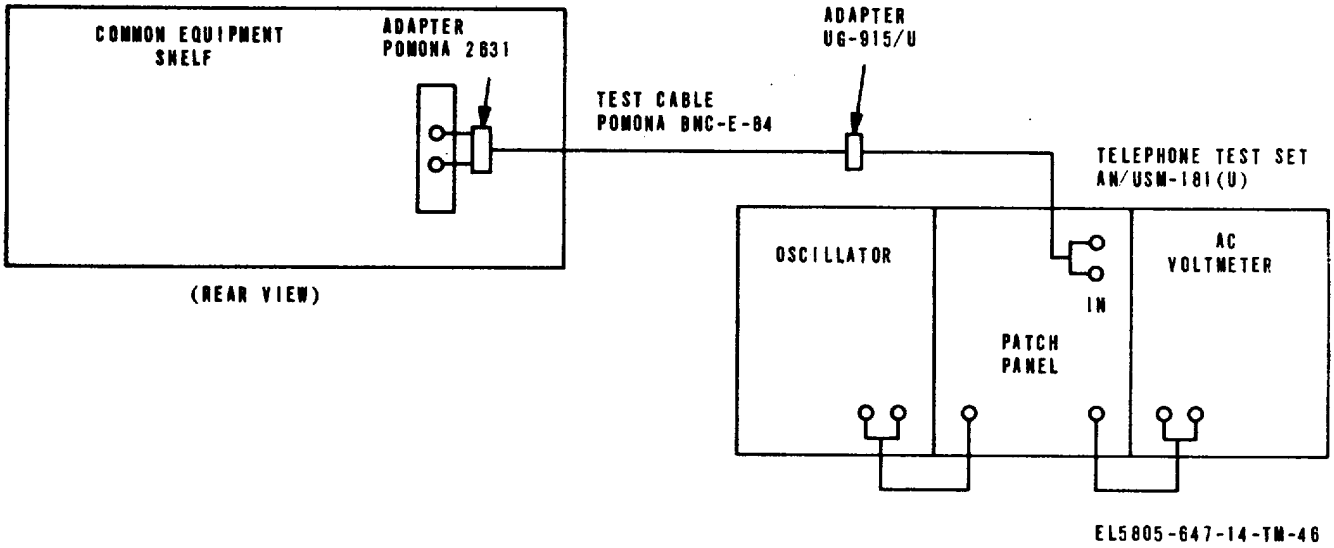


Figure 2-16. SF detector and oscillator, 41063-02, test setup diagram

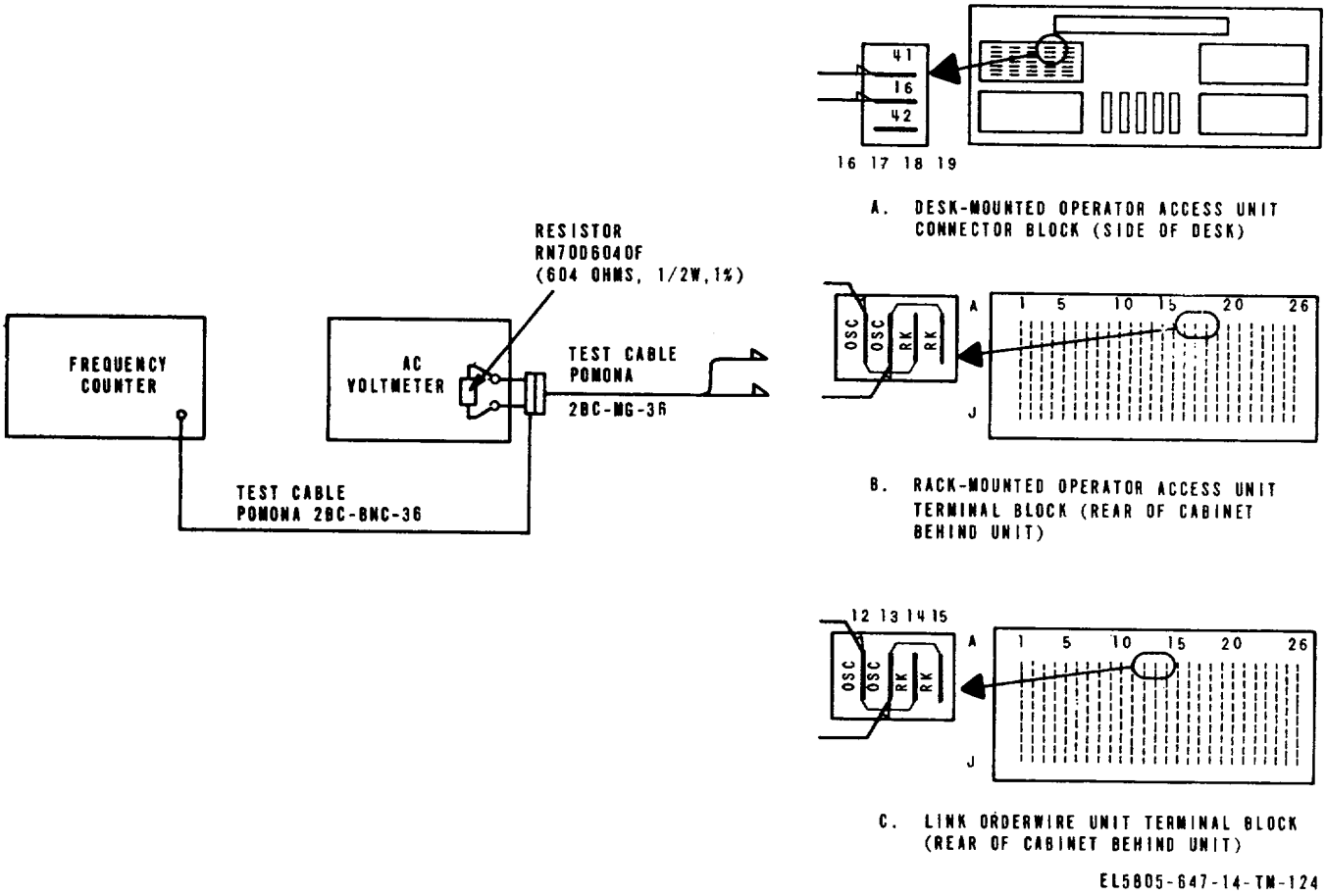


Figure 2-17. SF oscillator 49009-01, test setup diagram.

CHAPTER 3

OPERATION

Section I. OPERATOR'S CONTROLS AND INDICATORS

3-1. General

This section describes the function of each operator's control and indicator on the front panels of the orderwire/intercom equipment.

3-2. Controls and Indicators

a. Operator's Access Units (Desk Type and Rack Type) (fig .3-1 and fig. 3-2).

Controls and indicators	Function
PBX select key	When depressed, it connects the call director circuitry to the PBX or C. O. line circuit.
PBX switch lamp indicator	Assumes four states of illumination: Steady state for indicating busy from supervision from distant end. Flashing-for indicating incoming call or off-hook recall. Rapid Flashing-for indicating a conference condition. Winking-for indicating call on hold.
IC select keys/lamp indicators	When depressed, connect the call director circuitry to the assigned intercom circuit. Associated indicator lamp lights steady to indicate line is busy.
E select keys	When depressed, connect the call director circuitry to the assigned local circuit.
E switch lamp indicators	Assumes four states of illumination: Steady state for indicating busy from supervision from distant end. Flashing-for indicating incoming call or off-hook recall. Rapid Flashing-for indicating a conference condition. Winking-for indicating call on hold.
CON key	When depressed, it places a selected line in conference. Associated indicator is not used.
REL key	When depressed, it releases the selected line from the conference condition. Associated indicator is not used.
D select keys	When depressed, connect the call director circuitry to the assigned DTMF circuit
D switch lamp indicators	Assumes four states of illumination: Steady state for indicating busy condition. Flashing-for indicating incoming call or off-hook recall. Rapid flashing-for indicating conference condition. Winking-for indicating call in hold.
R key	When depressed, it initiates a ringdown signal on the selected local orderwire or intercom circuit. Associated indicator is not used.
H key	When depressed, it places the selected line in the hold condition (except for intercom). Associated indicator is not used.
Rotary Dial	Provides means of sending dial pulse signals on the 2-wire PBX line.
Pushbutton DTMF dial	Provides means of dialing on a 2-digit DTMF party-line circuit.
VOLUME switch (desk type only)	Provides means of turning on speaker and adjusting the volume level.
HEADSET jack	Provides jack-in capability for stand card 4-wire headset.
4W HANDSET jack	Not connected.
Hookswitch	When operated (by removal of handset), enables use of handset and mutes speaker.
Handset	Provides earphone and microphone for use by operator during communication.
Speaker	When turned on, reproduces incoming audio signal.

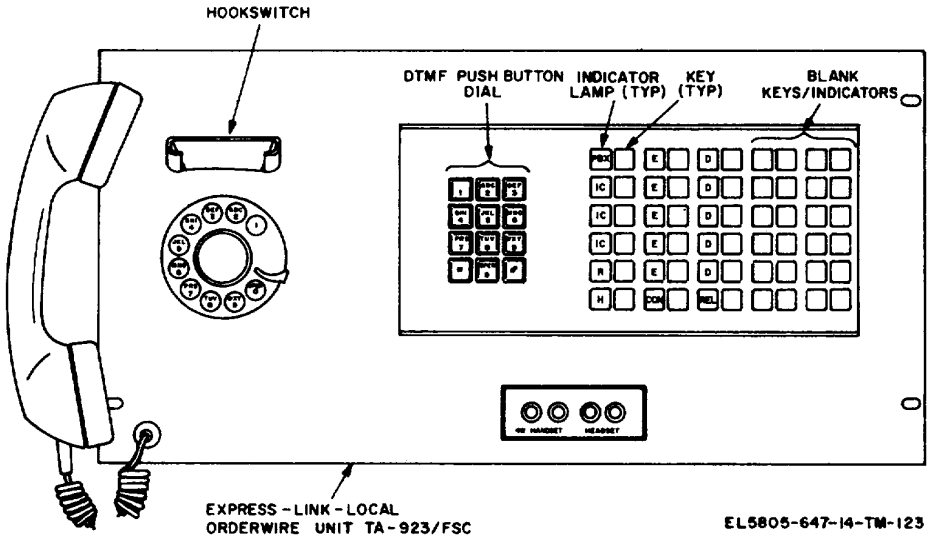


Figure 3-1. Express-Link Local Orderwire Unit TA-923/FSC, controls and indicators (front view).

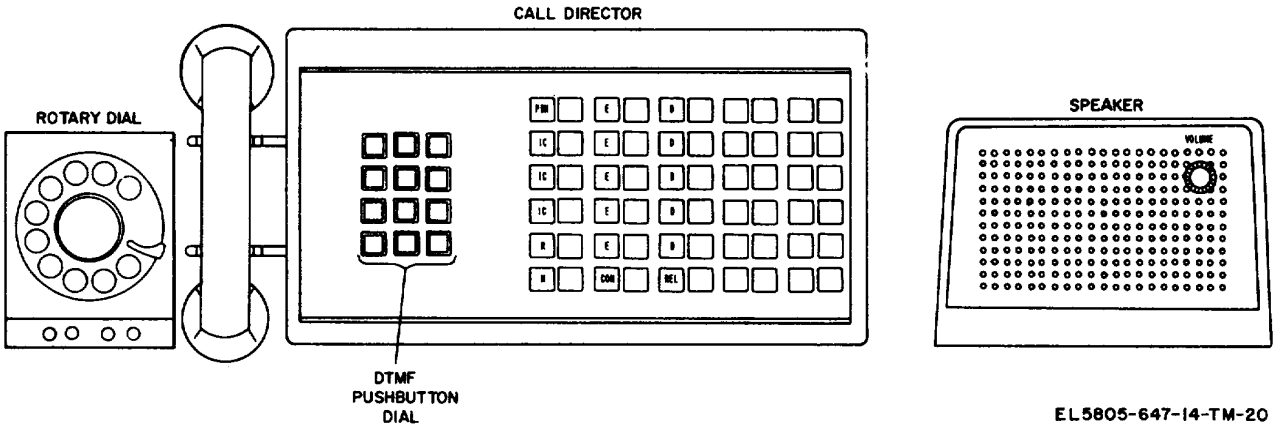


Figure 3-2. Express-Link Local Orderwire Unit TA-928/FSC, controls and indicators (front view).

b. Link Orderwire Unit (fig. 3-3).

Controls and indicators	Function
PBX select key	When depressed, it connects the call director circuitry to the PBX or C. O. line circuit.
PBX switch lamp indicators	Assumes three states of illumination: Steady state for indicating busy from supervision from distant end. Flashing state for indicating incoming call or off-hook recall. Winking state for indicating call on hold.
IC select key/lamp indicator	When depressed, it connects the call director circuitry to the assigned intercom circuit. Associated indicator lamp lights steady to indicate line is busy.
E select keys	When depressed, connect the call director circuitry to the assigned local orderwire circuit.
E switch lamp indicators	Assumes three states of illumination: Steady state for indicating busy from supervision from distant end. Flashing state for indicating incoming call or off-hook recall. Winking state for indicating call on hold.
D select keys	When depressed, connect the call director circuitry to the assigned DTMF circuit.
D switch lamp indicator	Assumes three states of illumination: Steady state for indicating busy from supervision from distant end. Flashing state for indicating incoming call or off-hook recall. Winking state for indicating call in hold.
R key	When depressed, it initiates a ringdown signal on the selected local orderwire or intercom circuit. Associated indicator is not used.
H key	When depressed, it places the selected line in the hold condition (except for intercom). Associated indicator is not used.
Rotary dial	Provides means of dial pulse signals on the 2-wire PBX or C. O. telephone circuit.
Pushbutton DTMF dial	Provides means of dialing on a 2-digit DTMF party-line circuit.
4w HANDSET jacks	For manual patch of the handset into a four-wire telephone circuit Jacks are not wired.
HEADSET jacks	Provides jack-in capability for standard 4-wire headset.
Switch and volume control	Provides means of turning on loudspeaker and adjusting the volume level.
Hookswitch	When operated (by removal of handset), enables use of handset and mutes speaker.
Handset	Provides earphone and microphone for use by operator during communication.
Speaker	When turned on, reproduces incoming audio signal.

c. Remote Link Orderwire Unit (fig. 3-4).

Controls and indicators	Function
D select keys	When depressed, connect the call director circuitry to the assigned DTMF circuit.
D switch lamp indicators	Assumes three states of illumination: Steady state for indicating busy from supervision from distant end. Flashing-for indicating incoming call or off-hook recall. Winking-for indicating call on hold.
IC line key/lamp indicator	When depressed, it connects the call director circuitry to the station intercom circuit. Associated indicator lights ready to indicate line is busy.
R key	When depressed, it initiates a ringdown signal on the selected intercom line. Associated indicator is not used.
H key	When depressed, it places the selected line in the hold condition (except for intercom). Associated indicator is not used.
Pushbutton DTMF dial	Provides means of dialing on a 2-digit DTMF party-line circuit.
4w HANDSET jacks	For manual patch of the handset into a four-wire telephone circuit. Jacks are not wired.
HEADSET jacks	Provides jack-in capability for standard 4-wire headset.
Switch and volume control	Provides means of turning on loudspeaker and adjusting the volume level.
Hookswitch	When operated (by removal of handset), enables use of handset and mutes speaker.
Handset	Provides earphone and microphone for use by operator during communication.
Speaker	When turned on, reproduces incoming audio signal.

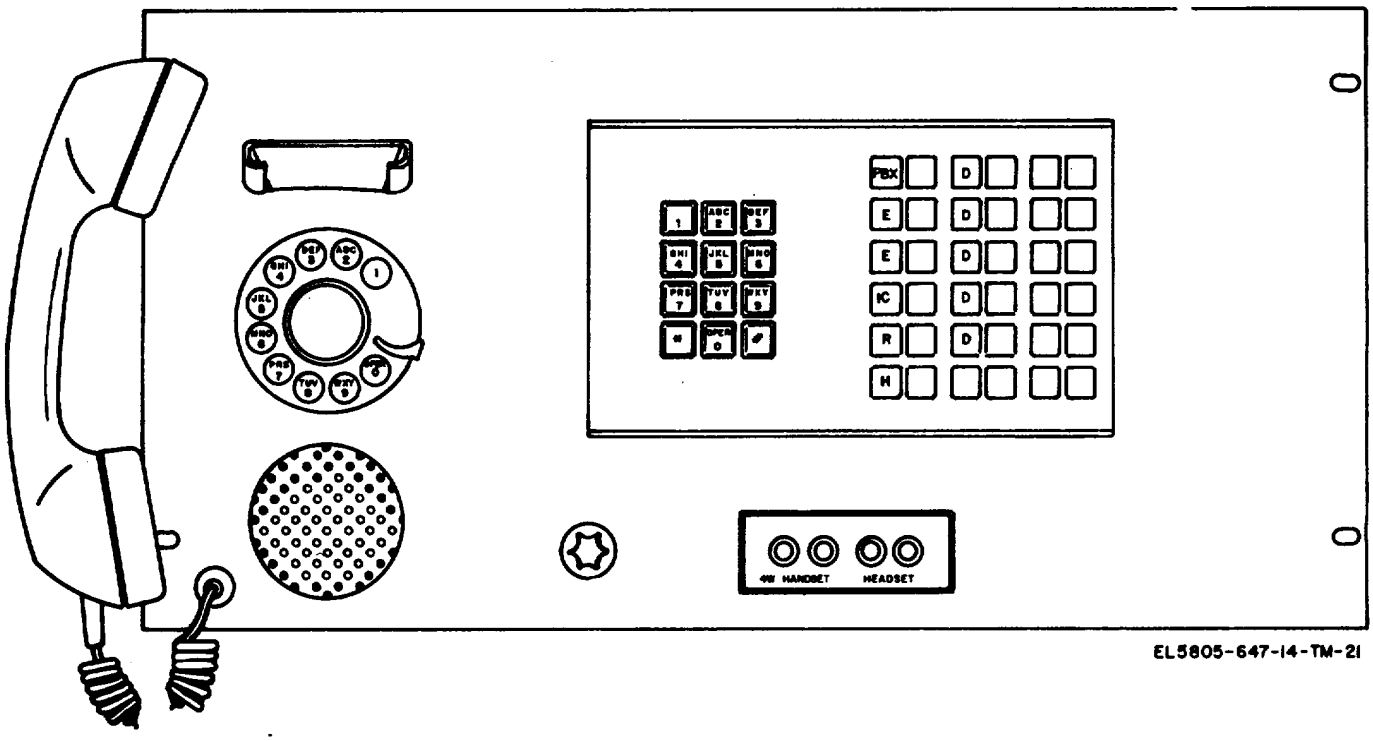


Figure 3-3. Link orderwire Unit TA-925/FSC (front view).

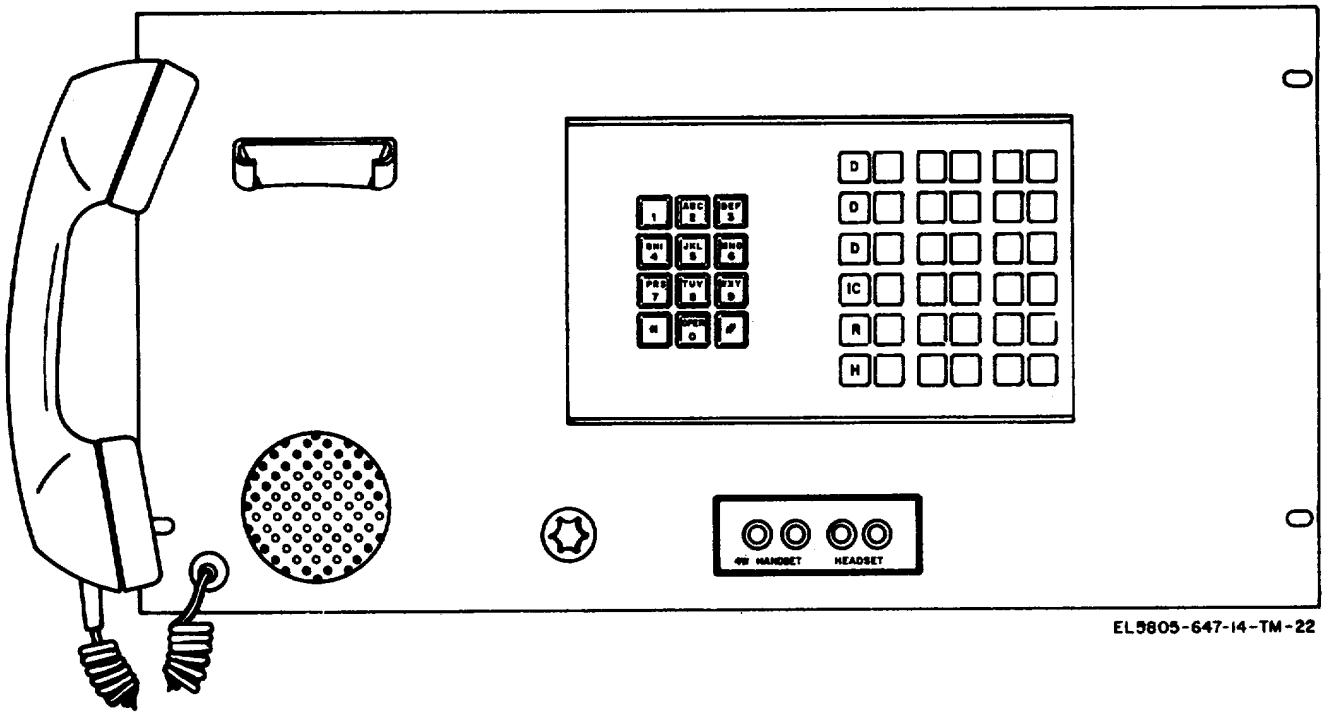


Figure 3-4. Remote Link Orderwire Unit TA-924/FSC (front view).

d. Local Orderwire Unit 41010-97 (fig. 35, app B).

Controls, indicators, and jacks	*Function*
SF Detector and Oscillator 41063-02:	
XMT LEVEL ADJ	Provides for the adjustment of the SF oscillator (3250 Hz) output (max 0 dbm to --20 dbm)
CALL button	When depressed, ring signal (3,250 Hz) is initiated to distant end station
Speaker Amplifier, 41030-01:	
VOLUME control	Provides means of adjusting volume level.
Alert indicator	When illuminated, indicates an incoming call is present.
TEL SET jacks	Provides for handset or headset plug
Hookswitch	When operated (by removal of handset), enables use of handset.
Speaker	Reproduces incoming audio signal.
Power Supply 120/220-vac input, 41029-01:	
POWER switch	Controls application of input ac power to power supply.
POWER ON lamp	Indicator illuminates when power is ON.
24 volt DC ADJ	Provides means of adjusting output voltage of power supply to 24 volts dc.
24 VDC jacks	Provide means of monitoring output voltage of power supply.

e. Jack and Lamp Panel (fig. 3-6).

Control and indicators	*Function*
L1 indicator lamp	Lights to indicate incoming call to the order-wire set that is wired to adjacent jacks.
J 1 jack	Permits access of the 4-wire send or receive lines.
J2 jack	Permits access of the 4-wire send or receive lines.
L2 indicator lamp	Lights to indicate incoming call to the order-wire set that is wired to adjacent jacks.
33 jack	Permits access of the 4-wire send or receive lines.
J4 jack	Permits access of the 4-wire send or receive lines.

f. Bridge and Amplifier Assembly 40110-98 (fig. 32, app B).

Controls, indicators, and jacks	*Function*
Dual Amplifier, 40172-03:	
A GAIN ADJ control	Provides means of adjusting output level of channel A.
A OUTPUT jacks	Provides means of monitoring channel A output signal.
A INPUT jacks	Provides means of monitoring channel A input signal.
B INPUT jacks	Provides means of monitoring channel B input signal.
B OUTPUT jacks	Provides means of monitoring channel B output signal.
B GAIN ADJ control	Provides means of adjusting output level of channel B.
4W-4W Bridge, 40155-03:	
LEG 1 INPUT jacks	Provides means of monitoring input level to leg 1.
LEG 2 INPUT jacks	Provides means of monitoring input level of leg 2.
LEG 3 INPUT jacks	Provides means of monitoring input level of leg 3.
LEG 4 INPUT jacks	Provides means of monitoring input level of leg 4.

g. Common Equipment Shelf (fig. 3-5).

Controls, indicators, and jacks	*Function*
48 VDC Input Power Supply, 41028-01:	
POWER switch	Controls application of input dc power.
24 VDC jacks	Provides means of monitoring output of power supply.
24 VDC ADJ control	Provides means of adjusting output voltage of power supply.
4W/2W Hybrid with Low Pass Filter, 49008-02:	
2W OUTPUT ADJUST control	Provides means of adjusting signal level of 2-wire output.'
4W INPUT jacks	Provides means of monitoring input signal on 4-wire side of hybrid.
2W LINE jacks	Provides means of monitoring input and output signals on 2-wire side of hybrid.
4W OUTPUT jacks	Provide means of monitoring output signal on 4-wire side of hybrid.
4W OUTPUT ADJUST control	Provides means of adjusting signal level of 4-wire output.
SF Detector and Oscillator, 41063-02:	
CALL button	When depressed, ring signal (3,250 Hz) is initiated to distant end station.
XMT LEVEL ADJ control	Provides means of adjusting output level of SF oscillator.
Digit Decoder, 40451-04 RING TIME ADJUST control	Provides means of adjusting repetition rate of ring signal.
Dual Amplifier, 40472-03:	
A GAIN ADJ control	Provides means of adjusting output level of channel A.
A OUTPUT jacks	Provides means of monitoring channel A output signal.
A INPUT jacks	Provides means of monitoring channel A input signal.
B INPUT jacks	Provides means of monitoring channel B input signal.
B OUTPUT jacks	Provides means of monitoring channel B output signal.
B GAIN ADJ control	Provides means of adjusting output level of channel B.
4W-4W Bridge, 40455-03:	
LEG 1 INPUT jacks	Provides means of monitoring input level to leg 1.
LEG 2 INPUT jacks	Provides means of monitoring input level of leg 2.
LEG 3 INPUT jacks	Provides means of monitoring input level of leg 3.
LEG 4 INPUT jacks	Provides means of monitoring input level of leg 4.

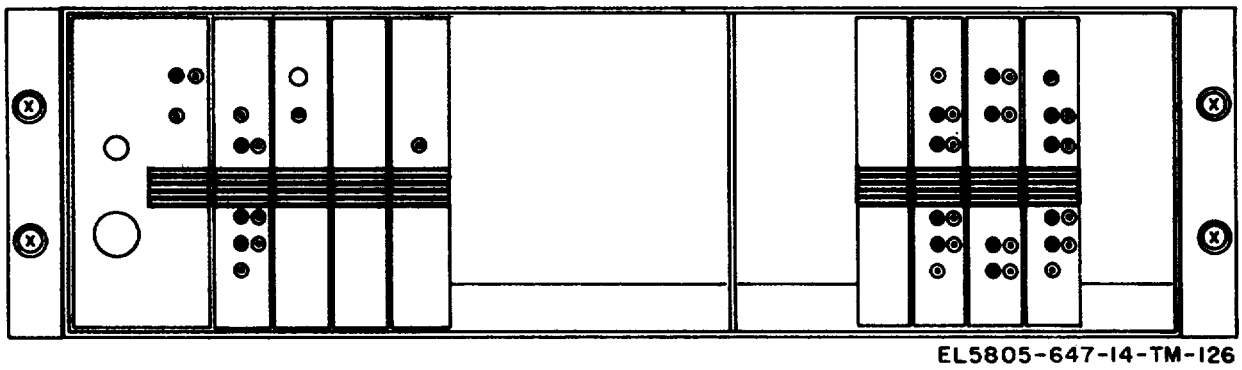


Figure 3-5. Common equipment.

Section II. OPERATION UNDER USUAL CONDITIONS

3-3. Preoperational Checks

Before starting the equipment, it is advisable to check that the properly assigned PC cards and plug-in modules are installed and securely in place as shown in figure 2-4. Also check that in-terconnection wiring is properly terminated. Insure that all pushbuttons on the orderwire call directors are unlatched (in their normal out position).

3-4. Starting Procedure

The orderwire/intercom common equipment and the LOW support equipment are started by applying 48-vdc from the power supply source located at the station.

3-5. Operating Procedure

a. General. The orderwire/intercom common equipment and the LOW support equipment assemblies are designed for continuous operation with minimum operator intervention. The following subparagraphs provide a step-by-step call and answer procedure for each orderwire call direct panel associated with the common equipment and the LOW support equipment.

b. Operation of Operator's Access Unit (Desk or Rack) (fig. 3-1 and 3-2).

(1) *Making DTMF call.*

(a) The handset is taken off-hook and the appropriate D line key is depressed.

(b) Associated key lamp is illuminated in the steady state.

(c) Dial the associated two-digit number of party being called on the pushbutton dial.

(d) Wait for distant end party to answer.

(2) *Receiving DTMF call.*

(a) On incoming DTMF signals, a flashing indication is present on the D line key associated with party initiating the call and the interrupted audible alarm sounds.

(b) Take handset off-hook; flashing indicator changes to steady state.

(c) Conversation can now commence.

(3) *Initiating E&M ringdown (land line only).*

(a) Pick up handset and push E line key associated with distant end station to be called.

(b) The associated key lamp is illuminated in the steady state.

(c) Depress ringdown key R. A 3,250-Hz S. F. oscillator ring signal is heard in receiver.

(4) *Receiving E&M ringdown from a local orderwire.*

(a) On an incoming E&M ringdown signal, a flashing indication is present on the E line key associated with the calling party, and the audible alarm sounds.

(b) After picking up the handset (off-hook), the flashing indicator changes to steady state and the alarm stops.

(c) Conversation can now commence.

(5) *Making a PBX call.*

(a) Pick up handset and depress PBX line key.

(b) After dial tone is heard, dial seven-digit number of party to be called with the rotary dial.

(c) The ringing signal at distant end can be heard in receiver.

(6) *Receiving a PBX call.*

(a) On incoming PBX call signals a flashing indication is produced at the PBX key and an audible alarm is sounded.

(b) After the handset is picked up (off-hook), the flashing indication changes to a steady state and the audible alarm stops.

(c) Conversation may now commence.

(7) *Intercom call and answer function.*

(a) Initiating an Intercom call requires only to pick up the handset (off-hook) and depress the IC line key of party to be called and depress the ringdown R key.

(b) An incoming ring from distant end intercom, produces a steady (off-hook) light and an audible alarm for the duration of the incoming ring.

(c) Go off-hook and depress the illuminated IC line key. Conversation can now commence.

(8) *Hold function.*

(a) An incoming caller can be placed on hold by depressing the associate line key and then depressing the H key.

(b) The line key lamp will now indicate that the party is in hold by a winking light. Taking a party from the hold position is accomplished by simply depressing the winking line key of the held line. The hold function is not applicable to the intercom circuits.

(9) *Conference function.*

(a) Two or more incoming callers are placed in conference by sequentially depressing a caller line key then depressing the CON key and so on.

(b) Releasing a party from conference is accomplished by simply depressing line key of the party to be released and at the same time depressing the REL key.

c. Operation of Link Orderwire Unit and Remote Link Orderwire Unit (fig. 3-3 and 3-4). Operation of both the link orderwire and the remote link orderwire units are essentially identical to that outlined in b above for the operator's access units, except no provisions are provided for conference services.

d. Operation of Local Orderwire Unit.

(1) *Initiating an outgoing call to distant end station.*

(a) Take handset off-hook.

(b) Depress the call button for distant signaling.

(2) *Receiving incoming call at local orderwire unit.*

(a) The incoming E&M signal produces a lamp key illumination and an audible alarm over the loud speaker. The lamp key remains illuminated for the duration of the incoming ring signal.

(b) By picking up the handset (go off-hook) the lamp key is extinguished and the speaker alarm is stopped.

(c) Conversation can commence.

CHAPTER 4

FUNCTIONING OF EQUIPMENT

4-1. General

a. The following paragraphs provide circuit description of the orderwire/intercom system. The basic description for the orderwire/intercom system is first given on a station block diagram level, followed by a typical operational sequence description, which is supported by the individual module circuit diagram description, with references made where applicable.

b. The block diagrams (fig. 4-1 and 4-2) and the schematic diagrams (fig. FO-1 through FO-20) are to be used in conjunction with the functional descriptions to aid in obtaining a basic understanding circuitry of the orderwire/intercom system.

4-2. Block Diagram Description (fig. 4-1 and fig. 4-2).

There are two basic site configurations of the orderwire/intercom system: the express orderwire (EOW) and the link orderwire LOW.

a. Express Orderwire Sites (fig. 4-1). The common equipment at the express orderwire sites is complemented by the operator access units and remote link orderwire unit, local orderwire units and at certain sites, intercom equipment.

(1) SF detector and oscillator. On DTMF circuits, the SF detector provides a means of detecting the 3,250-Hz busy supervisory signal on the 4-wire receive line. The SF oscillator portion provides a 3,250-Hz supervisory signal on the 4-wire send lines. The SF oscillator is con-trolled from the line card.

(2) Second SF detector. A second SF detector is provided within the common equipment shelf for detecting E&M ringdown signals originating from a local orderwire unit.

(3) DTMF tone receiver. The tone receiver has a high impedance input which bridges the 4-wire receive line to detect the dual tone multifrequency signals on the party line circuit. Narrow band filters transform the detected tones into DC levels for their application to the digit decoder.

(4) Digit decoder. The digit decoder is used to detect a valid 2-digit code assigned to the station. The digit decoder accepts two out of seven detected DC signals from the tone receiver (for each digit), if they are present for at least 40 m seconds. The solid-state logic within the digit decoder actuates an output relay which, in turn, completes the ring control signal to the line card.

(5) Line card, LC401-4. The line card provides necessary switching and control to interconnect the audible and visual outputs from the interrupter to the appropriate operator access units or orderwire units (remote or link, depending on whether they are located at EOW or LOW sites). On DTMF circuits, the LC-401-4 line card detects the dc tone control signals from the digit decoder, and initiates the appropriate switching control for visual and audible indication. On local orderwire (ringdown) circuits, the line card circuits detect the ring control signal from the SF detector connected to the 4W REC E&M line circuit and initiates appropriate visual and audible indication. On a PBX or base telephone circuit, the line card accepts standard 20-Hz ring signals from the line and performs the alarm indications and control functions required.

(6) Interrupter, INT9740. The INT9740 interrupter is shared by all line circuits and provides lamp flash (LF) signals for indication of an incoming call, lamp wink (LW) signals for an indication of a call or hold, a rapid conference lamp flash signals for an indication of a call in conference, and it provides interrupted ring signals for audible indications of an incoming call.

(7) 4W/2W hybrid. Incoming and outgoing VF - signals on the VF circuits (T&R circuits) are applied to the 4W/2W hybrid circuit. The 4W/2W hybrid circuit interfaces the 4-wire line (4 REC) to the 2-wire receive circuits of the line card; conversely, the 4W/2W also interfaces the 2W SEND circuit to the 4-wire line (4W SEND).

(8) Conference relay. Any orderwire circuit may be interconnected or switched to any other orderwire or to the PBX circuit through the use of the associated conference relays and a common conference bus.

(9) Bridge and amplifier shelf assembly. The bridge and amplifier assembly is composed of a shelf, a 4W/4W bridge 40455-03, and two dual amplifiers 40472-03. The bridge and amplifier assembly is used to provide a three-direction path

for a party-line DTMF circuit along with a drop at the common equipment. All four 4-wire send and receive ports of the assembly are normally connected to the station equal level patch field to permit conferencing of party line circuits as required. The assembly is independent from the common equipment except for 24-volt dc input power.

(10) Jack and lamp panel, JLP-1. The jack and lamp panel provides for access to two link orderwire circuits with limited operation. The jack and lamp panel is primarily used as an ex-tension of the operator's access unit in the multiplex equipment area. The jack and alarm panel permits a call which originates or is answered from an operator's access unit to be remoted to the multiplex equipment area when the operators handset is plugged into it. See figure 2-10 for strapping.

(11) Local orderwire unit (fig. 4-2). The local orderwire unit provides a means of local ringdown communication. The local orderwire unit consists of the following modules mounted in a 19-inch shelf.

(a) SF detector and oscillator 41063-02. This module provides a circuit to detect any E&M ringdown signal received from a distant station unit. An oscillator circuit provides a means of initiating E&M ringdown signaling to distant stations.

(b) *Speaker amplifier 41030-01*. This module provides the input and output interface for voice signals. A speaker is included for reproducing incoming audio. A handset connection is provided to allow normal two-way communication by an operator.

(c) *120-vac input power supply*. This module provides --24-volt dc power for use by the speaker amplifier and SF detector and oscillator modules.

b. Link Orderwire Site (LOW) (fig. 4-3). The link orderwire support equipment at LOW sites is complemented by the link orderwire units, local orderwire units and at certain sites intercom equipment. The equipment configuration is basically identical to that for the express orderwire equipment configuration except that the link orderwire sites are limited to a lesser quantity of circuits and include the 4 way/4 wire bridge and dual amplifier modules vertically mounted in the support equipment shelf. The 4-wire send and receive legs are normally connected to the station equal level patch field.

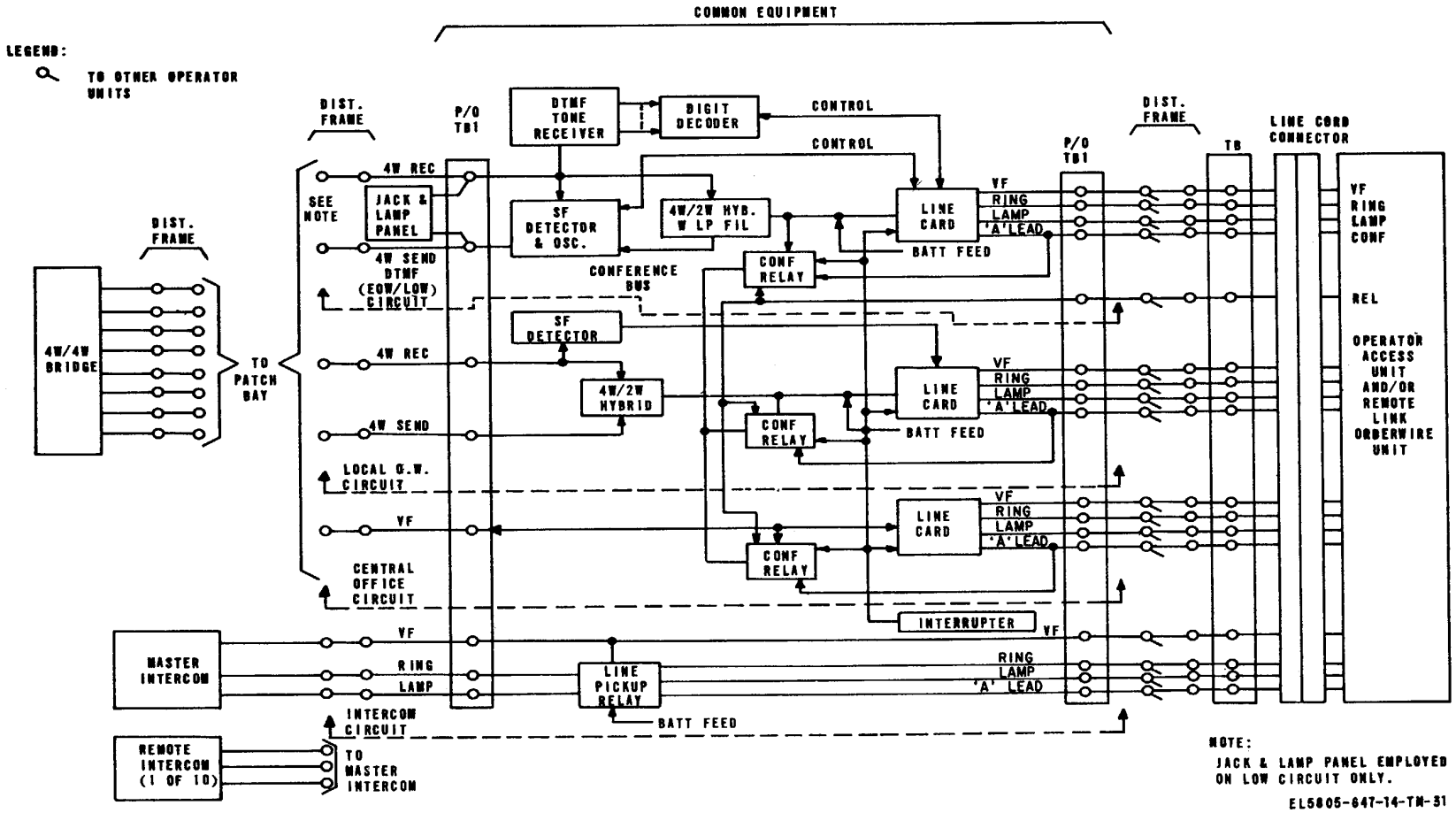


Figure 4-1. Oderwire-Intercommunication Termination Unit TA-918(V)/FSC (EOW site), block diagram

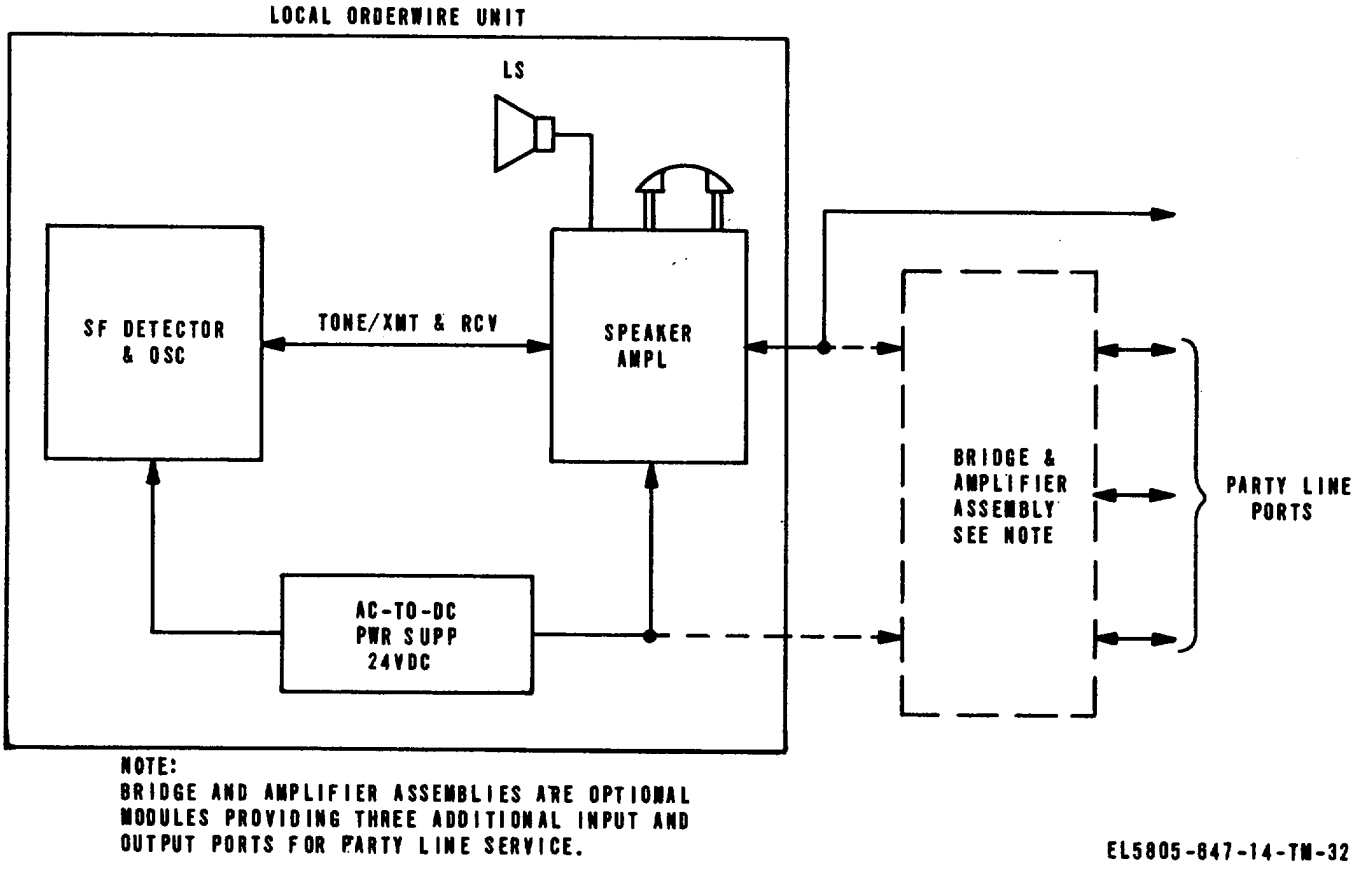


Figure 4-2. Local Orderwire Unit 41010.97, simplified block diagram.

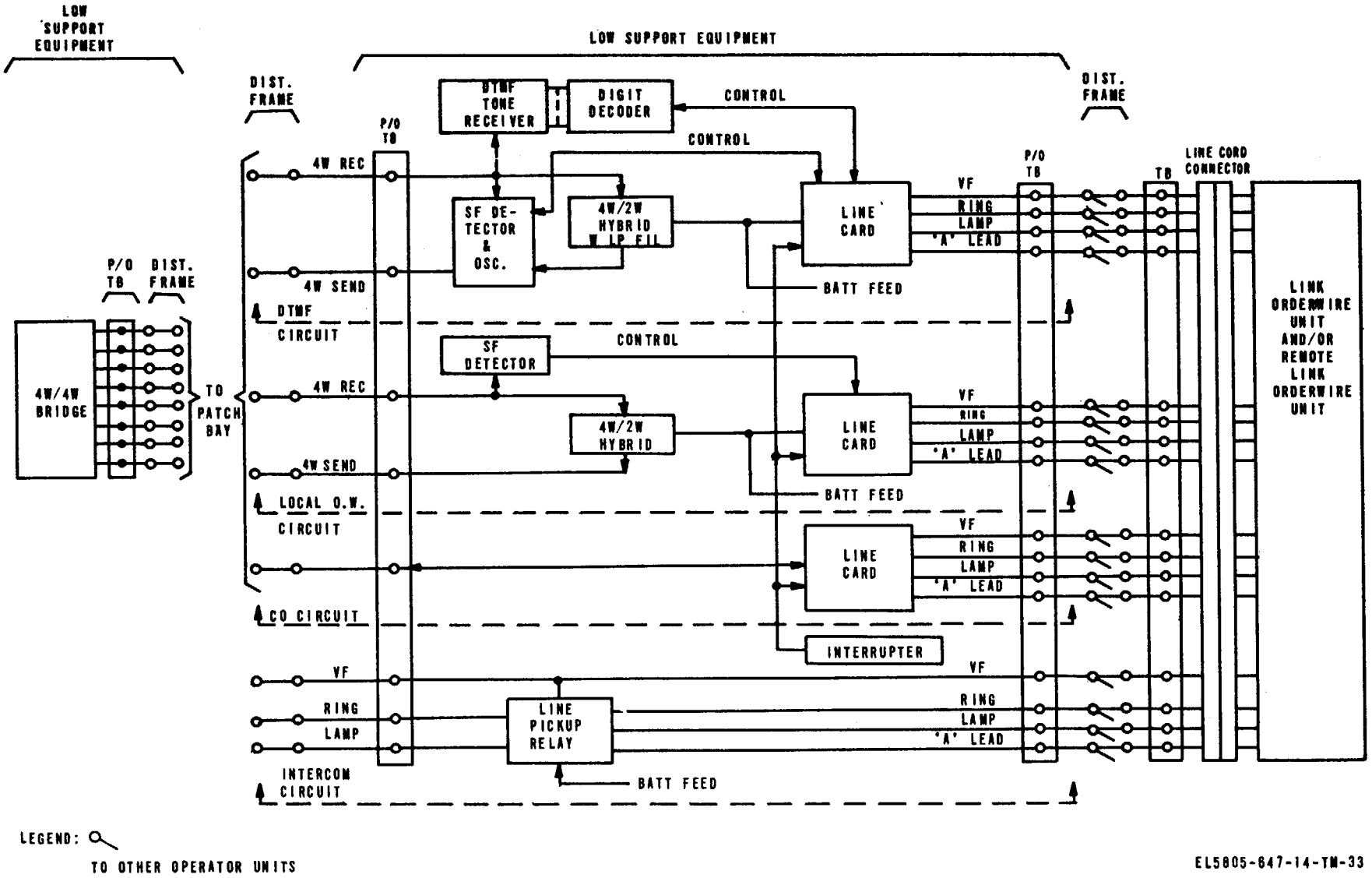


Figure 4-3. Orderwire Intercommunication Termination Unit TA-930(V)/FSC (LOW site), block diagram.

4-3. Operational Sequence Description

The following subparagraphs describe the operational sequence of the orderwire/intercom configuration.

a. DTMF Circuit (fig. FO-8 and fig. FO-9). The basic off-hook, call, and answer functions on a DTMF circuit, as shown in figure FO-8, are discussed in (1) and (2) below. Detailed functioning of each module is contained in paragraphs 4-5, 4-6, and 4-7. The operation of the hold functions and conference circuitry is discussed in paragraphs 4-5 a (5) and 4-5 b (7).

NOTE

The EOW and LOW DTMF circuits shown on figures FO-8 ① and FO-9 ① are identical. The LOW DTMF circuit shown on figure FO-9 ① is identical, except that the conference circuitry is omitted.

(1) *Receive circuitry* (fig. FO-8). Incoming signals are applied to the RT and RR terminals of TB1 in the common equipment and thence to the paralleled SF detector, 4W/2W hybrid and DTMF receiver. The following assumes a logical sequence of signals (supervision, DTMF tones and voice) transmitted from the distant station.

(a) When any party-line operator goes off-hook at a distant station, a 3,250-Hz busy supervision tone is transmitted for the duration he has selected the circuit. The incoming 3,250 Hz signal is detected in the SF detector to operate its associated relay. This applies a -48-Vdc lamp voltage from pin H of the line card, through K1 pin 14 and 15, contacts N and M of the SF detector, contacts 4 and 5 of the conference relay, contacts E and D of the digit decoder to the L (lamp) lead in the operator's access unit. The line lamp will illuminate in a steady state for the duration of these circuit conditions.

(b) If the distant operator dials a 2-digit number, the DTMF tones will be detected by the DTMF receiver bridged across the 4-wire receive line. The DC outputs of the DTMF receiver are applied to the digit decoder. Assuming that a valid 2-digit code is received, the digit decoder relay will operate, applying --48 vdc through pins H and J to the line card. The associated DC ring detector and logic circuits in the line card will operate K 1. An interrupted lamp flash (LF) signal from the common interrupter is applied through 11 and 12 of K2, 6 and 7 of K1 in the line card to the L (lamp) lead causing the local operators steady busy light to start flashing. An interrupted ring voltage is also applied to the audible alarm in the operator's access unit from the RN bus, contacts 9 and 10 of K1, 8 and 9 of K2 to the RC pin of TB1 finally to-the audible alarm. (Refer to paragraph 4-7 for a detailed discussion of the common equipment modules associated with the receive path.)

(c) When the local operator goes off-hook to answer the call, line card relay K2 is energized by the A lead and K1 will deenergize, the digit decoder is reset, the alarm stops, and the line lamp again goes to a steady busy indication. In addition, the idle line termination relay in the 4W/2W hybrid is energized.

(d) After the call is established, received speech signals are passed through the 4W/2W hybrid to the operator's access unit via the T&R leads. The 3,250-Hz supervision tone is blocked from the 4W/2W hybrid by the low pass filter within that unit.

(2) *Transmit circuitry*. Assuming the call is to be originated locally and no one is on the party line, but the party line is off-hook, the 3,250-Hz signal will be absent.

(a) When the local operator goes off-hook on a selected line, the A lead is grounded at the operator's unit and causes line card relay K2 to operate. This causes a -48-vdc voltage to be applied from H&F of the digit decoder, through 1&2 of the conference relay, 15 and 16 of line card relay K2, S and T of the SF detector, to the SF oscillator. This causes the SF oscillator to be keyed on and results in a --15-dbm, 3,250-Hz busy, supervision tone to be transmitted. (The SF detector relay prevents busy tone from being generated by more than one station at a time on a circuit.)

(b) When the operator dials a 2-digit number, the DTMF tones from the tone-pad are impressed across the T&R leads, to the 4W/2W hybrid, SF DET & OSC module transformer, to the TT & TR leads of the common equipment.

(c) Speech signals are likewise generated in the handset of the operator's access unit and applied to the T&R leads of the 2 wire line and then to the 4W/2W hybrid in the common equipment. The 48-vdc battery feed is applied to the operator's access unit through inductor assembly LA in the common equipment. A blocking capacitor isolates the talk battery from the 4W/2W hybrid.

b. E&M Circuit (fig. FO-9). The basic call and answer functions on an E&M ringdown circuit, as shown in figure FO-9, are discussed in (1) and (2) below. Detailed functioning of each module is contained in paragraphs 4-5, 4-6, and 4-7. The

operation of the hold functions and conference circuitry is discussed in paragraphs 4-5a (5) and 4-5 c.

NOTE

The E&M circuits shown on figure FO-9 ① is identical to that shown on figure FO-9②, except that the conference circuitry is omitted.

(1) *Receive circuitry*. Incoming signals are applied to the RT and RR terminals of TB1 in the common equipment and thence to the paralleled SF detector and 4W/2W hybrid module. The following assumes. a logical sequence of events on an incoming call.

(a) When the distant station initiates a call, 3,250 Hz is applied to the SF detector and causes the associated relay to operate for the duration of the ring. A - 48 vdc voltage is applied through pins R&S of the SF detector to the line card signal control circuitry. The associated DC ring detector and logic circuits cause K1 to operate and complete the paths for the interrupted audible (RN) and visual (LF) signals from the interrupter to the operator's unit, causing the line lamp to flash and the audible alarm to sound.

(b) When the local operator goes off-hook to answer the call, line card relay K2 is energized by the A lead, and K1 will deenergize, again breaking the path from RN and LF interrupter buses. With K2 operated, a -48-vdc voltage is applied from contacts 1 and 2 of the conference relay to the L (lamp) lead and provides a steady off-hook lamp busy indication at all paralleled operator's access units. This same voltage operates the idle line termination relay in the 4W/2W hybrid.

(c) After the call is established, receive signals are passed through the 4W/2W hybrid to the operator's access unit via the T&R leads.

(2) *Transmit circuitry.*

(a) When the local operator goes off-hook on a selected line, the A lead is grounded at the operator's access unit and causes line card relay K2 to operate, and enables the 2-wire path to the 4W/2W hybrid. With the path enabled, operation of the ring key in the operator's access unit, keys the SF oscillator which applies a 3,250-Hz ringdown signal to the distant local orderwire station.

(b) After the call is answered, transmit speech signals generated in the operator's hand-set are applied to the T&R leads of the 2-wire line and then to the 4W/2W hybrid in the common equipment. The 48-Vdc battery feed is applied to the operator's access unit through inductor assembly LA in the common equipment. A blocking capacitor isolates the talk battery from the 4W/2W hybrid.

c. *PBX Circuit* (fig. FO-8). The PBX or central office (CO) base telephone circuit terminates in the common equipment on a 2-wire basis. The basic call and answer functions of the PBX or CO line circuit are discussed in (1) and (2) below. Detailed functioning of the line-card, hold circuitry, and conference circuitry is discussed in paragraphs 4-5, 4-5a(5), and 4-5c respectively. An inductor assembly KLA is associated with the conference circuitry for the PBX circuit and functions to complete the DC path on the 2-wire loop when in the conference condition. This permits the operator to set up a conference on any two circuits and then himself go on-hook without dropping the line pickup relay at the central office.

NOTE

PBX circuits shown on figures FO-8 ② and FO-9 ② are identical, except that the conference capability is omitted on FO-9 ② circuitry.

(1) *Receive circuitry*. On an incoming call, a 80- to 120-vac 20-Hz ringing voltage from the central office is impressed on the 2-wire line and is detected by the line card circuitry to cause K1 to operate. This completes the path for interrupted audible (RN) and visual (LF) signals from the interrupter to the operator's unit causing the line lamp to flash and the audible alarm to sound. When the local operator goes off-hook, line card relay K2 is energized by the A lead, and K1 will deenergize, again breaking the path from RN and LF interrupter buses. With K2 operated, a --48 vdc voltage is applied from contacts 1 and 2 of the conference relay to the L (lamp lead) and provides the steady off-hook lamp busy indication. Receive speech signals are applied to the operator's access unit on the T&R leads.

(2) *Transmit circuitry*. When the operator goes off-hook, he will hear the normal dial tone and proceed to dial pulse the distant party through the central office equipment. Line battery is furnished the handset from the central office over the T&R leads.

d. Local Orderwire Unit, 41010-97 (fig. 4-4).

(1) *Incoming call*. An incoming E&M ringdown to the local orderwire on the 4W REC lines is detected by the S.F. detector portion of the S.F. detector and oscillator module. (See paragraph 4-6a for detail circuit explanation of the S.F. detector.) Subsequent closure of the relay contacts associated with the S.F. detector extends ground to the CALL Alert oscillator,

which places a variable pitch alarm on the loud speaker (LS1), and illuminates the alert lamp. By going off hook, the hook switch completes the audio receive amplifier to the handset receiver. The hook switch also completes -- 48-volt dc battery voltage to the handset transmitter.

(2) Outgoing call. When the handset is taken off-hook, sidetone is provided in the handset receiver by the sidetone amplifier. Depression of the call button activates the S.F. oscillator which place a 3,250-Hz ring frequency on the 4-wire output via the transmit amplifier and the unbalanced to balance transformer. All audio signals from the handset transmitter are amplified by the audio transmit amplifier located in send circuits of the orderwire.

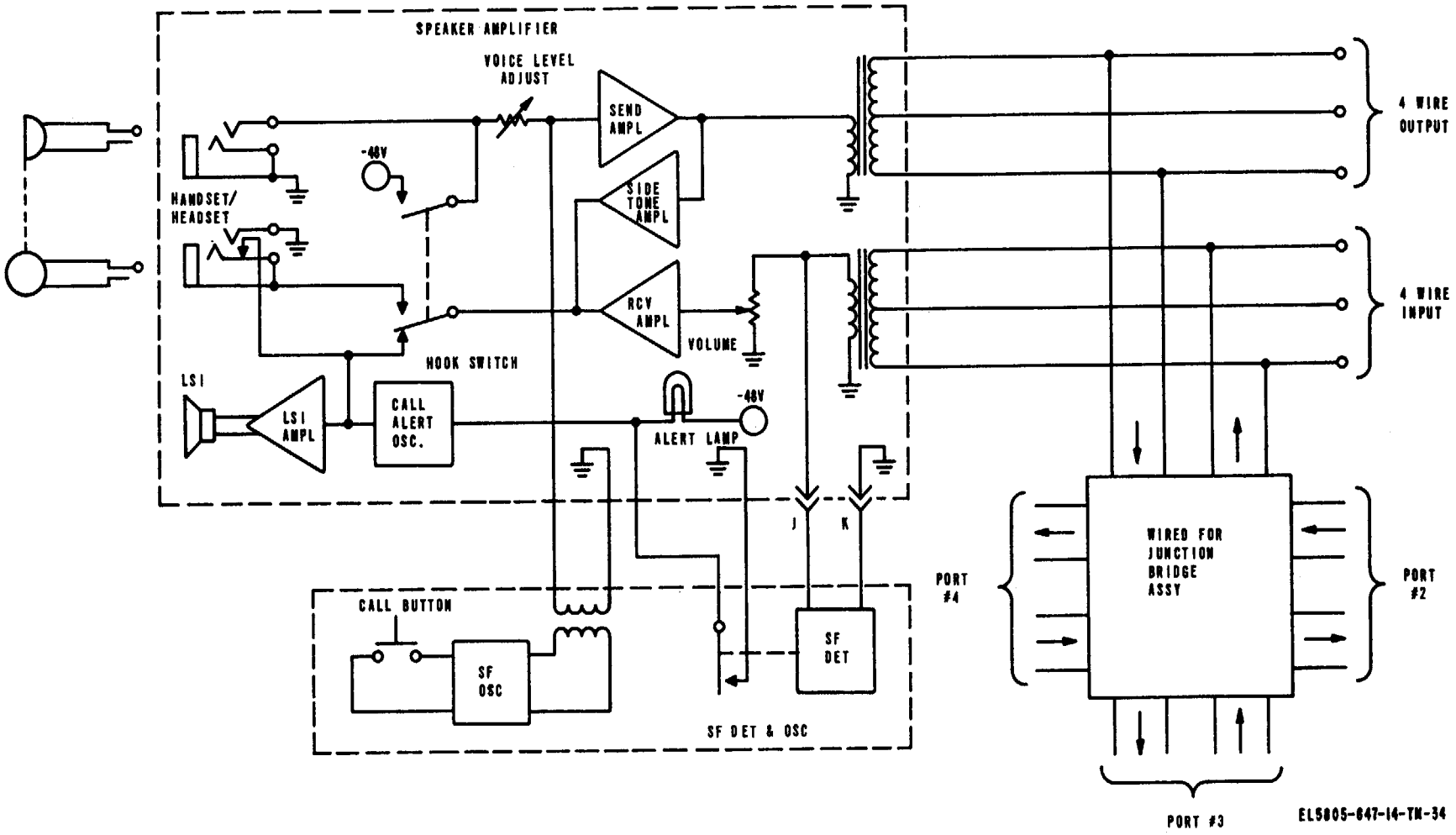


Figure 4-4. Local Orderwire Unit 41010-97, functional block diagram.

4-4. Operator's Access and Orderwire Panels, Functional Description

a. Desk Type Operator's Access Unit (fig. FO-1). The orderwire unit consist of a call director, an S.F. oscillator, a speaker amplifier, a rotary dial, a sonalert, and a handset.

(1) *Call director.* As described earlier the call director is comprised of the pushbutton keys for line selection and signal control. Each of these line select keys when depressed, complete the V.F. circuits (T&R) to the telephone network and the control signal circuits (A-lead) to the common equipment or LOW support equipment circuits. The line selector keys D representing DTMF orderwire circuit selection is used in conjunction with a DTMF pushbutton dial. The pushbuttons numbered 1 through 0 provide a means of dialing a two-digit party at a distant end station.

(a) *Pushbutton dial assembly* (fig. FO-1 ②). The two-digit pushbutton dial assembly includes two tuning coils and two capacitors. The tuning coils have several taps-each tap representing a frequency tuned circuit associated with a dial digit when it connects to its associated capacitor. Depressing a pushbutton rotates a horizontal crank and a vertical crank. In the early part of the downstroke, each crank operates a specific spring contact to connect a tuning capacitor to a specific coil tap which represent a specific frequency. During the downstroke of horizontal crank contact causes the common switch to operate. The vertical (column) cranks operate switches connected to the high band coil, and the horizontal (row) cranks operate switches connected to the low band coils. The common switch is mechanically linked to each pushbutton dial switch. The common switch performs the following function.

1. Attenuates the side tone in the telephone receiver to a comfortable level.

2. Applies power to transistor.

3. Opens the transmitter circuit.

4. Initiates the signal

(b) *Network* (fig. FO-1 ②). The following circuit description for the network circuit is applicable to all the network assemblies associated with the call director of the orderwire/intercom.

1. Equalization. Equalization is provided by varistors V1 and V2. Shunt varistors V1 and V2 effect resistance changes inversely to the current flowing through them and, thus, produce increased losses in short loops and yet having negligible effect in long loops.

2. Transmission. The received speech currents pass via windings TA1, TB, and TA2, each of which produces an additive voltage in winding TC. The received currents also produce a voltage across the 68-ohm resistor that opposes and is almost equal to that produced by the induced voltages in winding TC. There is, therefore, very little power loss in the resistor and varistor and maximum power in the receiver. The low impedance of the transmitter is matched to the loop by the turns ratio of winding TB to winding TA1 and TA2.

3. Sidetone balancing. The current variations due to the transmitter are in opposite phase in windings TA and TB. The induced voltages in winding TC are also in opposite phase and the resultant voltage is opposed by the voltage produced across the 68-ohm resistor. The net effect is that very small signals are produced in the receiver due to transmitter current changes and sidetone is very low. Also, as there is little power loss in the receiver, maximum transmitting levels are attained. Both varistors contribute to this condition by automatically compensating for various loop conditions to provide close matching of the loop impedance and the balancing network impedance with the transmitter circuit.

4. Radiofrequency filtering. Filtering is provided to suppress high frequency signal components of the dial pulses which might otherwise be radiated from the telephone line and cause local interference with broadcast radio reception.

(2) *S.F. oscillator 490096* (fig. FO-2). A 3,250-Hz supervisory signal is placed on the V.F. circuits on depressing of the R switch on the call director. The R switch completes a operating voltage of -48 vdc to a S.F. oscillator unit. The unit contains three sections: an oscillator, a gate, and an amplifier. The S.F. oscillator contains a regulated power supply which consists of R1, C1, VR1, and VR2. The current drawn by the unit passes through resistor R1, causing a voltage drop. VR1 and VR2 operate as shunt zeners, drawing the required current through R1 to maintain the specified operating voltage. Capacitor C1 filters the voltage and assures a low impedance power supply. Inductor L1, capacitors C3 and C4 comprise a parallel tank circuit which is tuned to the desired output frequency. Signals from the tap of the coil pass through R7 to the base of transistor Q2 where they are amplified. The amplified signals are taken from the collector of Q2 and pass through capacitor C2 to the base of Q1. These signals are again amplified and taken from the collector of Q1, through resistor R5 and

back to the tap of the inductor. Therefore, we have in-phase feedback which causes the oscillation. The signals from the tank circuit then are taken via resistor R8 to the base of Q4. Transistor Q4 operates as a current amplifier and its input signals are present across resistor R15. Transistor Q3 is normally "on" and shunts the signals from the base of Q4 to ground. However, under conditions of signalizing, Q3 is biased "off" through the action of resistor R13 or switch S1. Resistor R15 is the level adjust and the signals pass through the wiper of R15, through capacitor C5 to the base of transistor Q5. Q5 amplifies the signals and they are taken from its collector directly to the base of Q6. Transistor Q6 amplifies the signals. Signals are taken from the collector of Q6 and are passed to the primary of transformer T1. The secondary of T1 is connected to the telephone handset. In the output amplifier, there is a feedback loop. Feedback is taken from the collector of transistor Q6 through resistor R20 to the emitter of transistor Q5. This serves to lower the output impedance of the stage and lower the quiescent current.

(3) *Speaker amplifier 6505-3828 applicable to desk set only* (fig. 4-5). Receive signals enter the speaker amplifier via pins 1 and 2 and primary of T1 with a 2-kilohm impedance. Input signals are transformed to secondary winding of T1 for balance audio input to the amplifier circuitry. Q1 and Q2 and their related components constitute a direct coupled amplifier. R6 and C2 decouple Q1 bias network from the +48 dc source, similarly R8 and C3 decouple Q2 bias network from the --48-dc source. R10 (the volume control) adjusts the input signal level to Q1. Voltage regulation is provided by zener diode CR2 and ripple filtering is provided by C5, C6, and R9. T2 transformer provides the proper impedance matching between the speaker and the Q2 collector audio output.

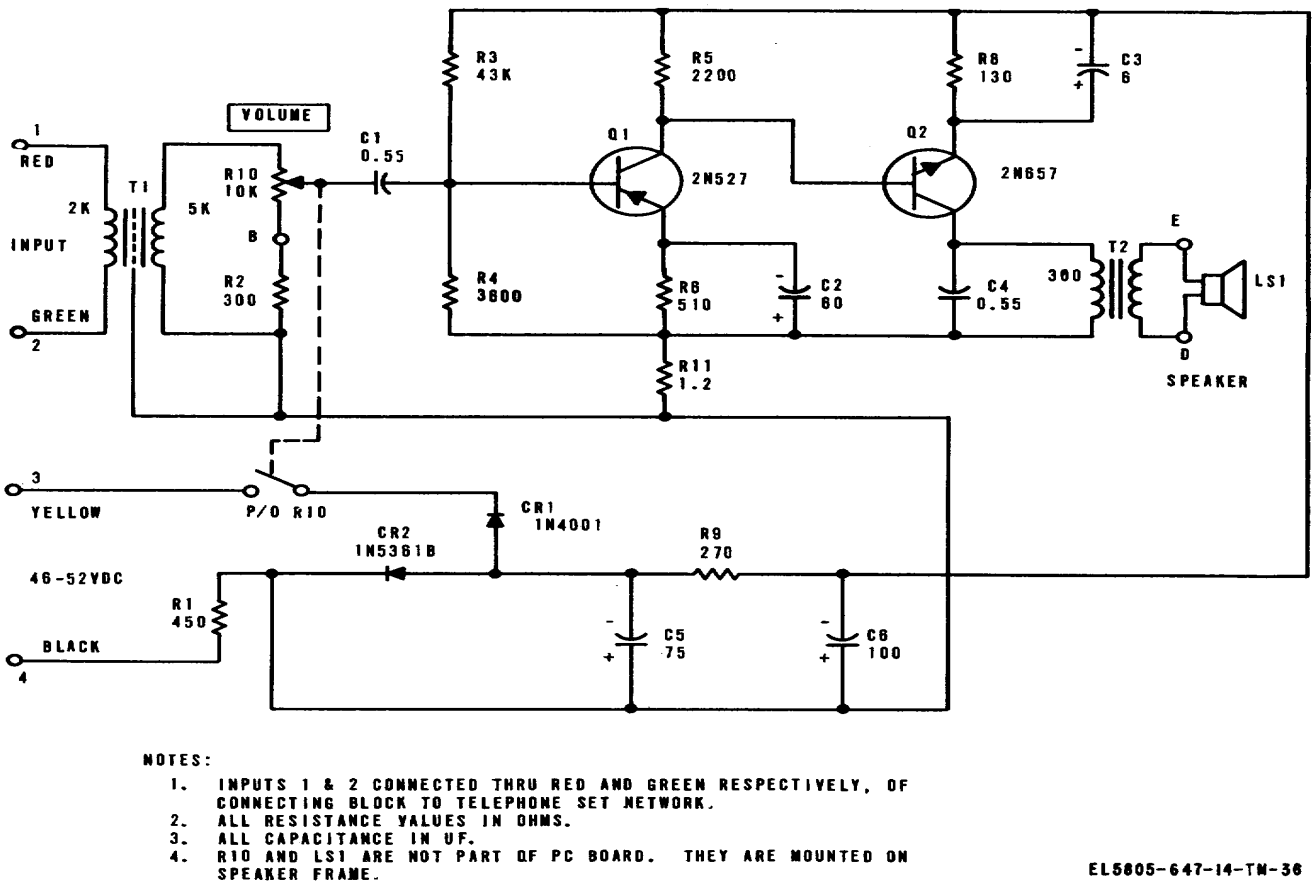


Figure 4-5. Speaker Amplifier Unit 6505-3828, schematic diagram.

b. Rack-Mounted Operator Access Unit (fig. FO-3). The rack-mounted operator's access unit is functionally identical to the desk type, except the rack-mounted operator's access unit is not furnished with a loud speaker. Thus, the circuit explanation provided for desk operator's access unit is also applicable to the rack type operator's access unit.

c. Link Orderwire Unit and Remote Link Order Unit (fig. FO-4 and FO-5).

(1) *General.* These units are both functionally identical to the desk type, except for the loud speaker amplifier circuit. Detailed circuit description of the loud speaker applicable to the link orderwire unit and the remote link orderwire unit is provided in (2) below.

(2) *Power amplifier type TLC-410* (fig. FO-10).

(a) The amplifier module is a self-contained, solid-state, plug-in unit connected through an 11-pin plug. Four transistors are used. Fixed bias is employed with capacitive coupling to the driver stage, and transformer coupling to the input and output stage.

(b) The driver stage is a PNP common-emitter connected stage with selectable input impedances provided by windings on T1. Pins 1 and 2 on TB-1 provide a 12,000-ohm input im-

pedance. The 8-ohm balanced output of the amplifier appears across pins 3 and 4 of the 11 pin plug. Monitor jacks J 1 and J2 are provided on the front panel of the module for checking the output without removing the cover. The input is ad-justable through variable gain control R1, which can be adjusted externally and locked in place.

(c) The 48-volt dc station supply is connected through pins 8 and 9. Pin 8 is the negative terminal and pin 9 is the positive terminal. Protective diode CR2 is connected in series with the positive lead so that the power circuit will be opened if the polarity is reversed; polarity must be correct to provide forward bias for the units to operate. Hence, reversal of polarity will not damage the transistors.

(d) Feedback is provided in the output stage to produce a 2-watt output with low distortion and high stability. The feedback is controlled through output from winding sec 2 on output transformer T3, and controlled by diode CR3 and transistor Q4. Diode CR1 prevents overdriving and peak limiting. Thermal stabilization is also provided to produce maximum output and prevent runaway. Output transistors are NPN type.

(e) An overall gain of 33 db is provided and, with an input of 0 dbm, a full 2-watt output can be obtained with less than 4-percent distortion of 1,000 Hz. A minimum idling current of 10 ma is used at 48V; maximum drain is 105 ma.

4-5. PC Card Rack Assembly LCC9740, Functional Description

(fig. 4-6)

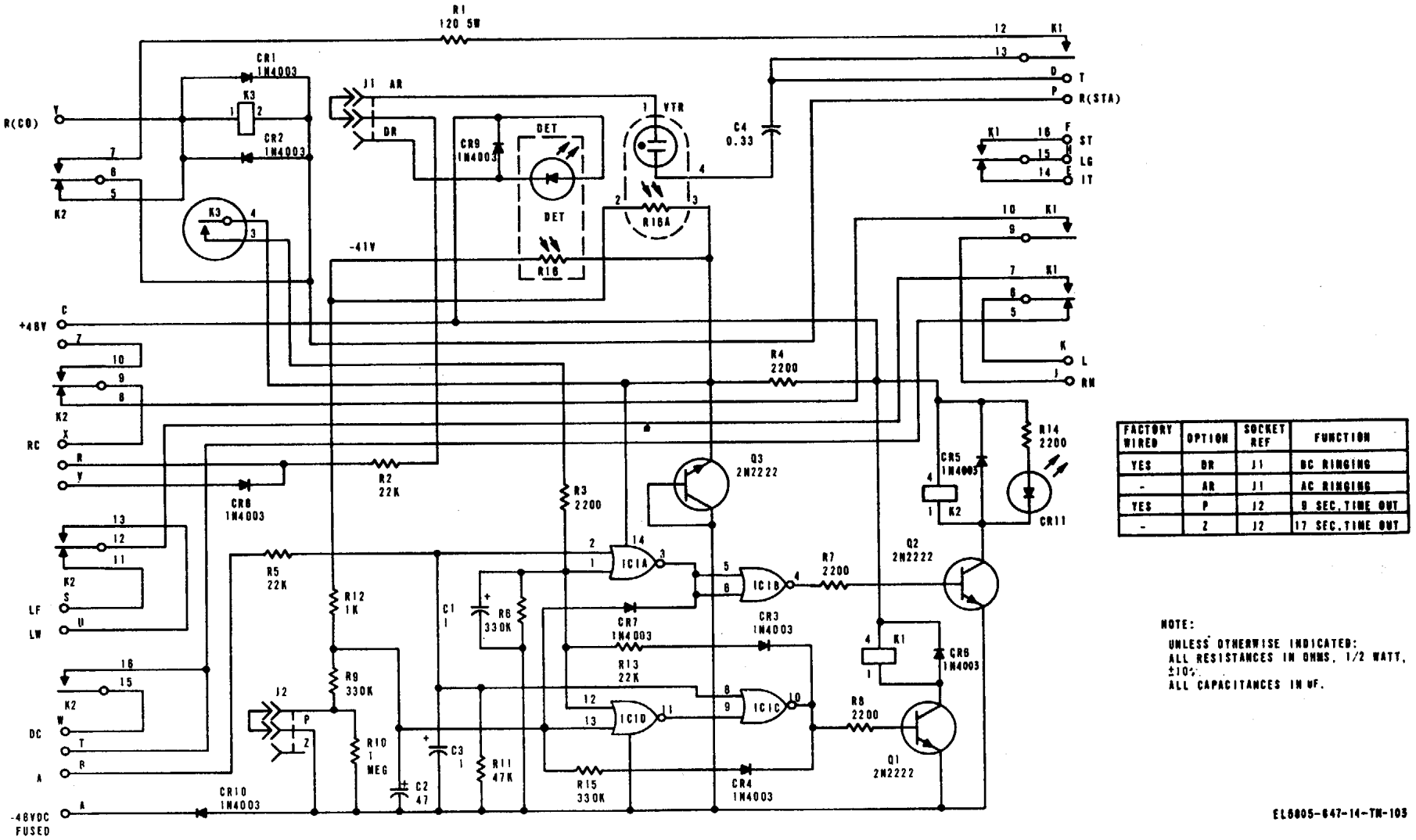
a. Line Card Circuit Function.

(1) *Incoming call-PBX ring*. (fig. 4-7). Incoming 110-vac ring signal is detected directly from the PBX telephone line pair shown in bold lines. J1 program jumper on the LC-401-4 line card is placed in the AR position. The ring signal passes through capacitor C4 through VTR through J 1 jumper, then through R2 current limit resistors to card pin R. From card pin R the ring signal passes through the LCC9740 harness to the interconnect terminal block and back from in-terconnect terminal block to card pin Y and from card pin Y to the RING side of the PBX line. The detector (a neon type lamp) illuminates photo sensitive resistor (R16A) within the VTR pack-age, causing the resistor to change from a "dark" resistance of 10 megohms to a "light" resistance of approximately 2K ohms. The neon illuminates on each half cycle of the incoming AC ring signal. One side of the photo sensitive resistor is tied to Q3 emitter which is biased at approximately +7 volts positive with respect to -48 vdc. The other side of the photo sensitive resistor is connected to R12 and then to capacitor C2 and R9. Current through the photo sensitive resistor (indicated by heavy line) causes C2 to charge to a voltage approximately equal to the voltage appearing on Q3 emitter. When voltage across C2 reaches approximately 50 % of the voltage at Q3 emitter, IC gate #1D detects this voltage level as a logic 1 instead of a logic 0 at ID pin 13. The integrated circuit logic gates are defined as NOR gates, indicating that if either input of a gate section is positive (logic level 1) the gate output is 0 (logic level 0).The logic 1 at ID pin 13 causes ID pin 11 to be logic 0. If the telephone instrument is on hook, IC input pin 8 is at logic 0. IC output pin 10 is, therefore, at logic 1 and Q1 is caused to conduct thus energizing K1 relay. Energization of K1 causes the interrupter lamp flash (LF) input to the line card on card pin S to be connected through relay contacts 11 and 12 through relay K1 contacts 6 and 7 to card output pin K and to the appropriate line indicator lamp (L). Also, the interrupter RING (RN) input to the line card on card pin J is connected through relay K1 contacts 9 and 10 to relay K2 contacts 8 and 9 to card pin X and then to the local ringer. K1 relay contacts 14, 15, and 16 provide a single pole double throw output for future optional flexibility.

(2) *DC incoming call DTMF on E&M* (fig. 4-8). The incoming ring control signal is applied to the line card pins R with card pin D positive. The LC-401-4 card connector J1 is programed to the DR option. The incoming -DC signal is im-pressed on pin R of the LC-401-4. It passes through R2 to jumper bridge J1 to DET to card pin C. The DET is a light emitting diode coupled to a photo sensitive resistor R16. Current through the LED causes the resistance of the photo sensitive resistor changes from 10 megohms to 2K ohms. R16 is connected in parallel with R16A and its function is similar.

(3) *Time-out of ring-up circuit* (fig. 4-7 and 4-8). The potential across C2 before a ring is detected is determined by the voltage divider ratio composed of R12 +R16/R9 +R12 +R16, or R12 +R16/R9 +R10 +R12 +R16 depending upon the time out option desired. The potential is also dependent upon the voltage of Q3 emitter with respect to Q3 collector since it regulates the overall voltage applied to the voltage divider. Voltage across C2 is typically one-tenth volt prior to ring detection. It increases to ninety-five percent of Q3 voltage during a typical ring cycle.

Resistor R12 is used to slow the charge rate of C2 to preclude false triggering due to line transients detected by VTR. When the ringing stops, C2 discharges across R9 or R9 in series with R10. The effect of R16 when central office ringing stops is negligible since its resistance is 30 times greater than R9. The effect of IC1 pin 13 is also negligible since it is 107 times higher resistance than R9. C2 discharges to its one-tenth volt, illustrative value, original idle state. At the 50 % voltage level, IC input pin 13 interprets the capacitor discharge as a change in logic state from a 1 to a 0 and 1C1 returns K1 to a nonconducting idle state by removing base drive from Q1. The time constant of R9 and C2 is typically such that time out occurs in 6 to 10 seconds. The time constant of R9 plus R10 and C2 is typically such that time out occurs in 20 to 120 seconds. Time out can be programed with connector J2, position P for short time, position Z for long time. There is no electrical connection, of any type, between the T, R telephone circuit paths and the key system control electronics. This condition greatly reduces the possibility of lightning transients on telephone lines from causing key system component failure due to surge voltages.



FACTORY WIRED	OPTION	SOCKET REF	FUNCTION
YES	DR	J1	DC RINGING
-	AR	J1	AC RINGING
YES	P	J2	9 SEC. TIME OUT
-	Z	J2	17 SEC. TIME OUT

NOTE:
UNLESS OTHERWISE INDICATED:
ALL RESISTANCES IN OHMS, 1/2 WATT, ±10%.
ALL CAPACITANCES IN uF.

EL5805-647-14-TM-105

Figure 4-6. Line card LCC9740, schematic diagram.

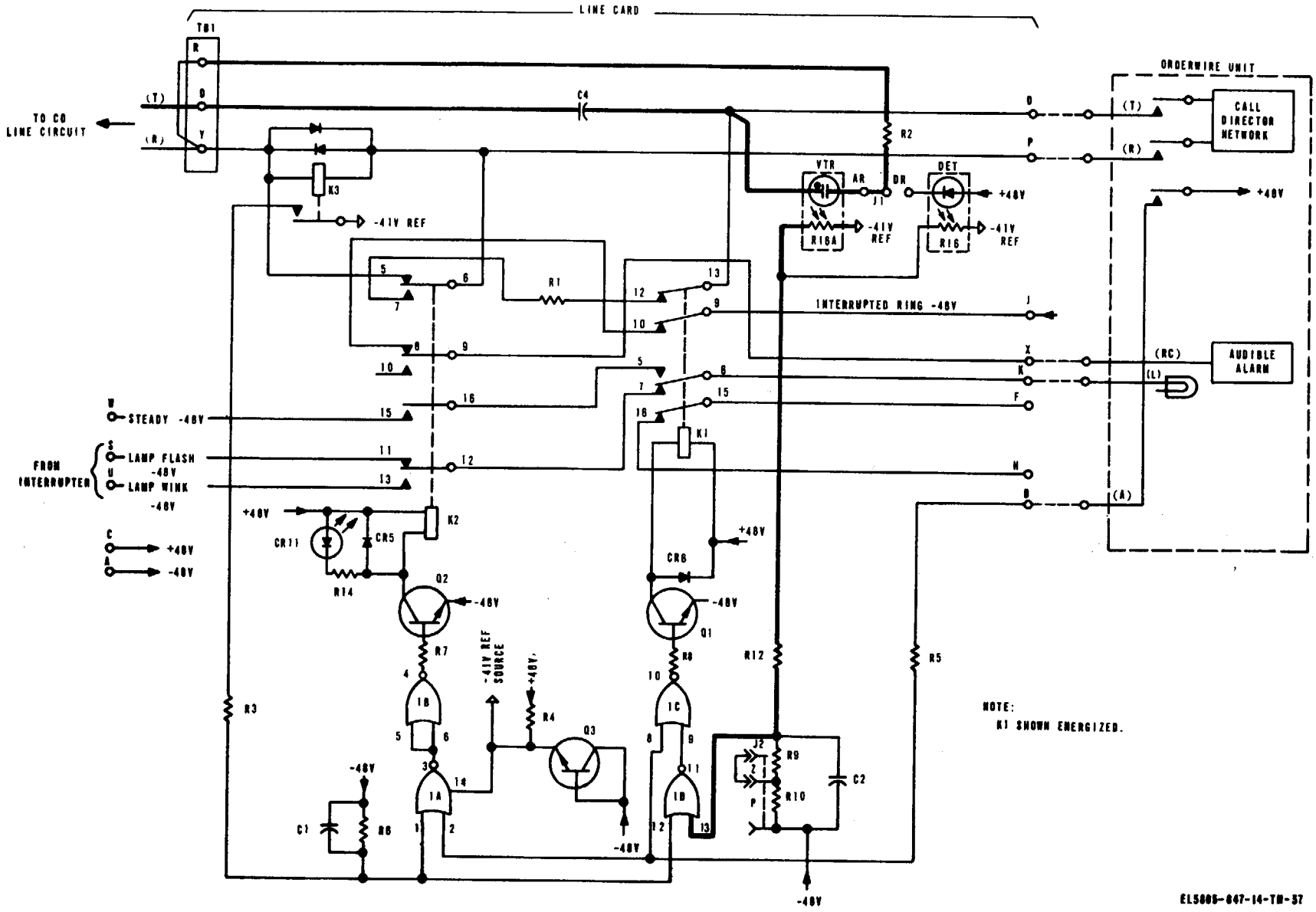


Figure 4-7. Incoming ring on PBX Line, functional diagram.

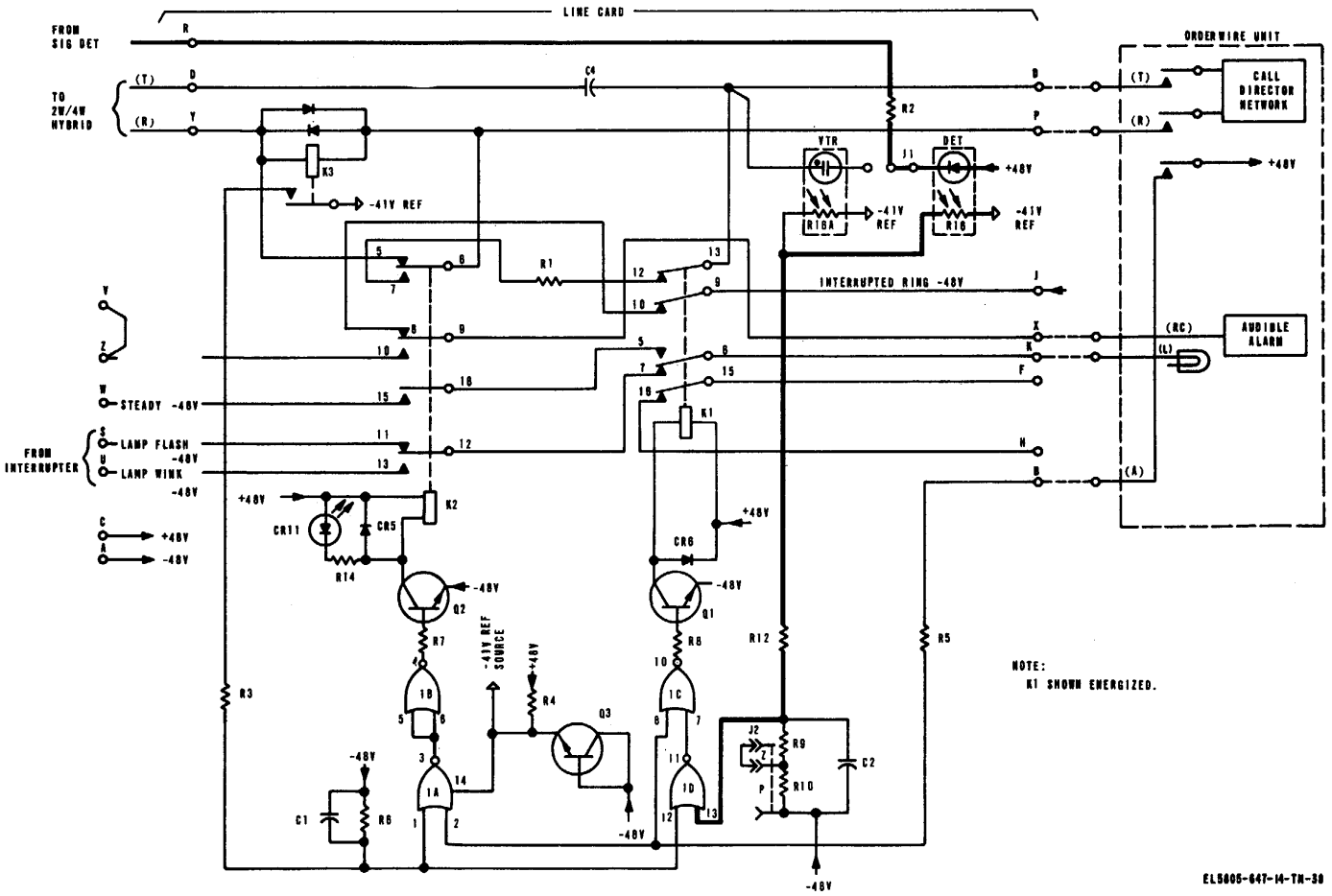


Figure 4-8. DTMF and E & M incoming ring, functional diagram.

(4) *Answering an incoming call and making an outgoing call* (fig. 4-9). By picking up the handset and pushing the appropriate line key, A-lead at card pin B is then tied to ground causing the integrated circuit pins 2 and 8 to detect the logic 1 level. 1A output pin 3 changes to a logic 0 and to output pin 4 changes to a logic 1. Q2 conducts and the light emitting diode lamp LED and relay K2 are energized. IC output pin 10 changes to a logic 0 state. Q1 stops conducting and K1 is deenergized. When K2 is energized, contacts 5 and 6 open the short circuit across relay K3 coil, allowing K3 to become energized by the telephone line loop current. K3 make contacts close, causing a logic 1 input at IA and ID pins 1 and 12. This causes IA and ID output pins 3 and 11 to assume a logic 0 state, Q2 conducts, K2 is energized. Now the conduction of Q1 is dependent upon the logic state of IC input pin 8 since IC input pin 9 is at a logic 0 level. Energization of relay K2 causes the Local Ring excitation to be removed by opening contacts 8 and 9 of K2. Interrupter lamp wink LW input to line card pin U is now connected through K2 contacts 12 and 13 to K1 relay contact 7. Since K1 has deenergized, (LW) signals stop at this point. Minus 48V DC enters the line card at card pin W and is connected through K2 contacts 15 and 16 to K1 contacts 5 and 6 to card pin K and then to the appropriate line indicator lamp. This provides a steady ON lamp indication as long as 48V DC is applied to card connector W.

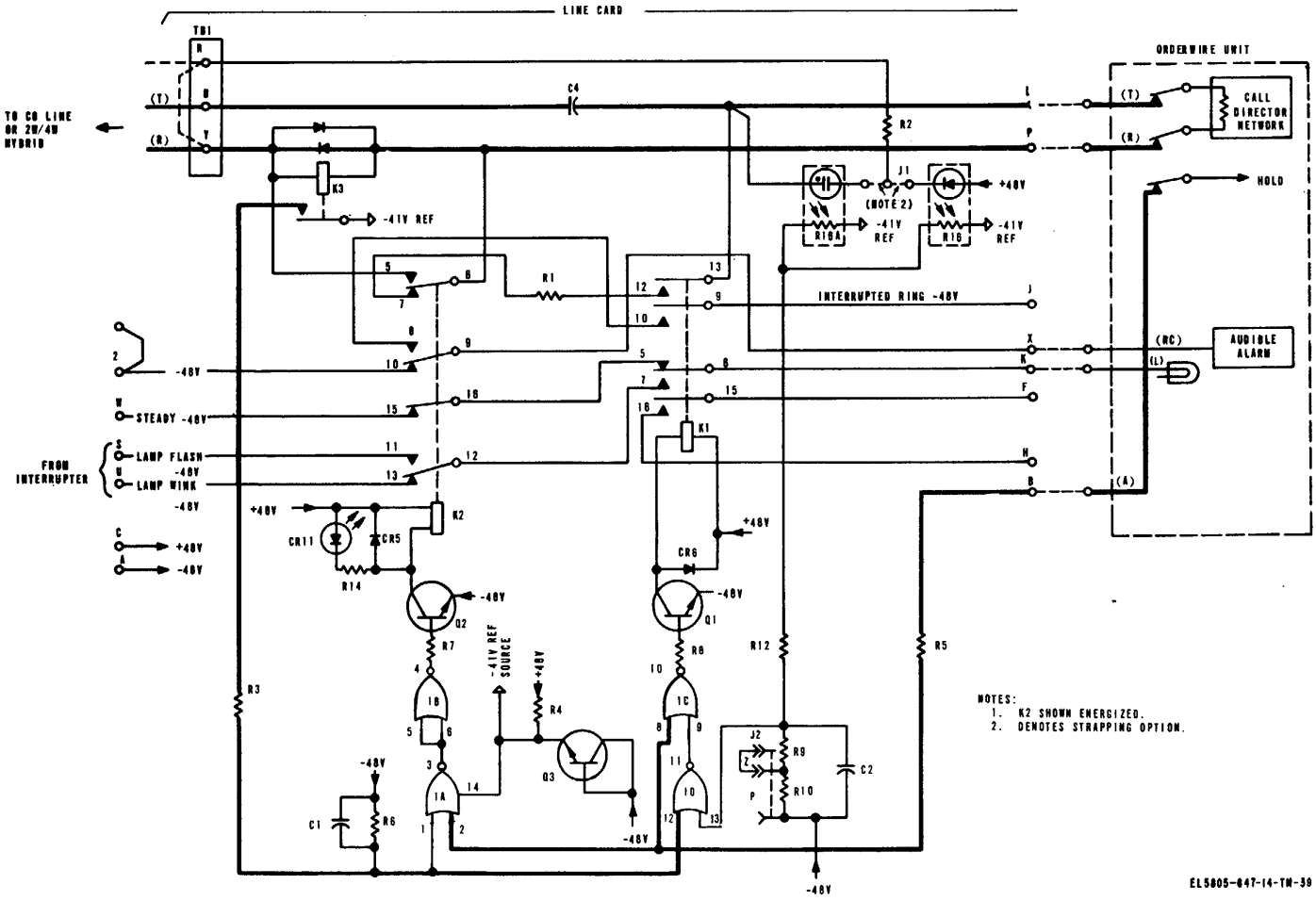


Figure 4-9. Call answered functional diagram.

(5) *Holding circuit (*fig. 4-10).

(a) Holding circuit operation takes place when the hold key break contact opens ground which was extended to line card input pin B. While the hold key is in a depressed condition, the line pickup key is still depressed and Tip, Ring line current continues to flow through relay K3 and the subset. With K3 energized, K2 is held energized regardless of the status of card pin B input. When card in B input drops to a logic 0 level, Q1 conducts, energizing K1. With K1 energized, the line holding bridge resistor R1 is connected from the top line through contacts 12 and 13 of K1, through R1, through contacts 6 and 7 of K2, through K3 coil to the ring side of the line. With R1 across tip and ring, the hold key may be released. Releasing the hold key mechanically disengages the line pickup key. This action removes the subset from the phone line. The line will remain in this hold condition until card pin B is connected to +48V DC, such as when a station connects to the line or until the line is opened at the central office. In the hold condition, K1 K2, and K3 are energized. (LW) from the interrupter enters the line card at car pin U. (LW) is connected through K2 contacts 12 and 13 to K1 contacts 6 and 7 then to card pin K and to the appropriate line indicator lamp.

(b) At the central office on PBX the line circuit is released from the connecting switching equipment by a momentary interruption of telephone line current. This causes relay K3 to release. IC inputs 1 and 12 become logic 0 levels and with IC inputs 2, 8, and 13 at logic 0 level K2 releases and K1 releases, restoring the circuit to its idle state. The line interruption time required to release K3 is independent of the electromechanical characteristics of K3, but is a function of the time constant of R6 and C1. The time constant is set so that unwanted line transients, noise spikes, line reversal, and lightning are not misinterpreted as an open circuit line.

(c) Any station of the key telephone system that seizes a held line by operating the associated pickup key with its handset off-hook causes relay K1 to become deenergized, removing holding bridge resistor R1 from across the line by release of contacts 12 and 13 of K1. Uninterrupted station lamp excitation is provided through line K, contacts 5 and 6 of K1, make contacts 15 and 16 of K2 to card pin W.

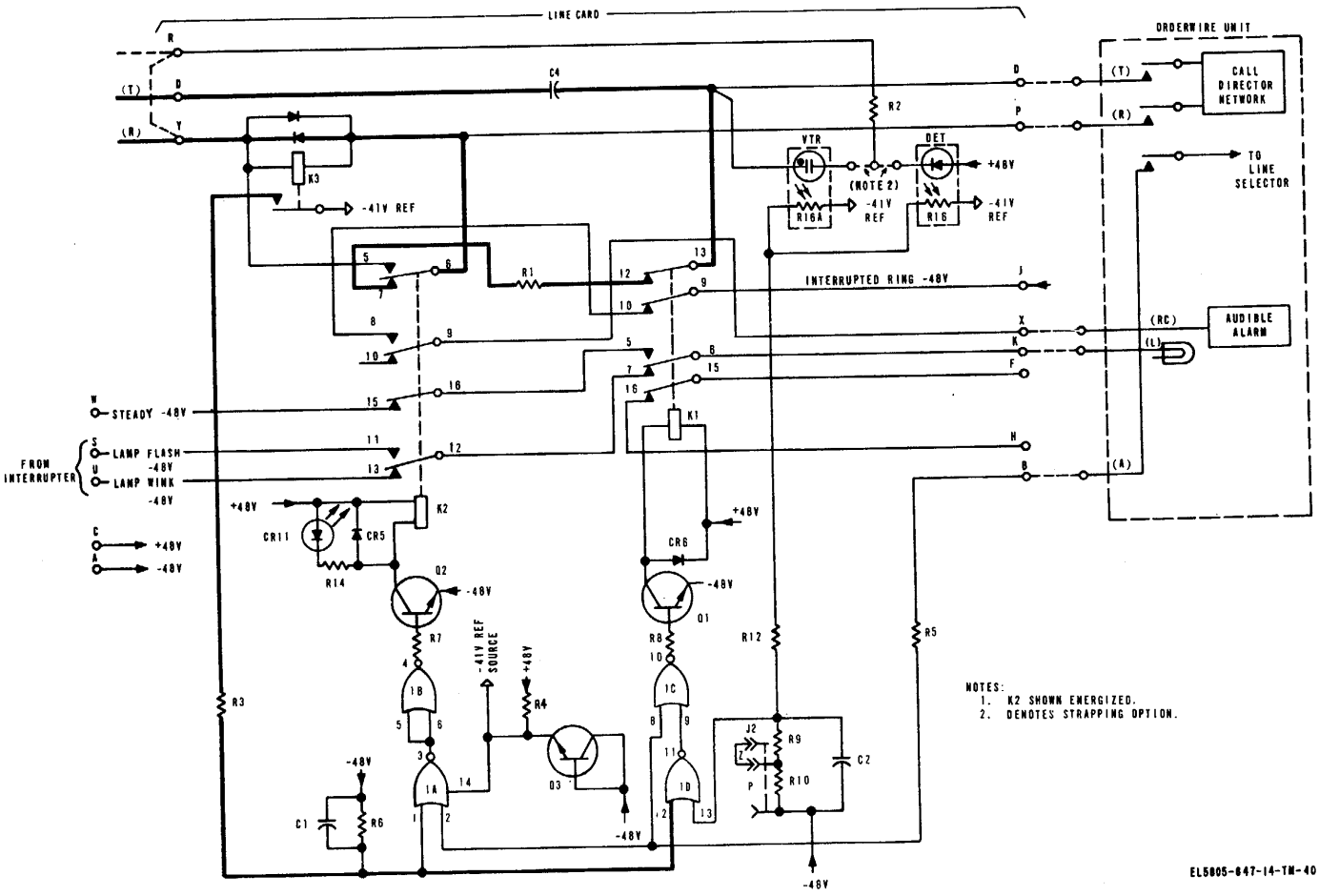


Figure 4-10. Call on hold functional diagram.

b. Interrupter Circuit Function (fig. 4-11 and 4-12). Audible and visual indications are accomplished by means of Interrupter, INT 9740. The interrupter functional circuit operation is as follows:

(1) Interrupted local ring excitation is provided on pin Z. This consists of an alternating ON/OFF switching transistor with switching characteristics defined in timing diagram. Transistor Q3 is capable of switching ring loads up to 500 milliamps DC.

(2) Lamp flash (LF) is provided on pins T and U to indicate an incoming call and is capable of switching lamp loads of up to 5 amps, in a sequence defined by the timing diagram.

(3) Lamp wink (LW) is provided on pins X and Y to indicate when a call is on hold and is capable of switching lamp loads of up to 5 amps in a sequence defined by the timing diagram.

(4) Conference flash (CF) is provided on pins R and S to indicate when a call has been put on conference and is capable of switching lamp loads of up to 5 amps in a sequence defined by the timing diagram.

(5) Timing is provided by an oscillator comprised of two gate-sections of IC1. Timing is preset such that the oscillator runs at 10 pulses per second as determined by C1 and R1. The oscillator is enabled whenever card pin E (ST) is connected to minus 48V DC. The output of the timing oscillator (IC1 pin 3) drives IC3 pin 14 providing a clock input to IC3. It also connects to CR11 cathode for the purpose of providing a warble effect to the local audible ring device. IC3 counts the positive going oscillator pulses and provides a decimal output on 10 lines. Output time interval #0 and #5, IC3 pin 3 and 1, respectively, drive IC1 so that IC1 pin 10 goes to 0 volt during time intervals 0 and 5. IC1 pin 10 drives transistor Q8 through current limit resistor R4. When IC1 pin 10 is at 0 volt, Q8 is turned OFF and Q9 is turned OFF, causing card pins X and Y to be effectively an open circuit. This R7 provides Q8 transistor collector current limiting. Q8 and Q9 are ON during all other time intervals providing the ON intervals for Lamp Wink.

(6) IC3 pins 1, 2, 6, 7, and 11 are ORed together with diodes CR2, 3, 4, 5, and 6 providing base drive to transistor Q6 through R5. R6 provides a leakage path to guarantee that Q6 turns OFF during each alternate time interval. Q6 drives Q7 which, in turn, provides CF output on pins R and S of the card. R 8 provides collector current limiting for transistor Q6. This circuit output changes state with each oscillator cycle. IC3 pin 12 drives Q10 through resistor R12. Q10 collector controls Q4 which, in turn, drives Q3, providing lamp flash output on card pin T and U. R9 provides Q4 collector current limiting. R11 provides Q10 collector current limiting and Q4 base drive.

(7) IC3 pin 4 provides a count output to IC2 pin 3 input. IC2 contains two identical flip-flop circuits wired as a two stage binary counter. Pin 3 input positive going transition signals are counted. IC2 output pins 1 and 12 are AND in IC1. IC1 pin 11 output drives Q2 through R13. Q2 drives Q3. Q3 output provides 500 milliamps switching capability on card pin Z for driving the local ringing device. R10 provides Q2 collector current limit. R13 provides Q2 base current. IC3 pin 15, IC2, pin 6 and 8, and IC1 pin 1 are reset lines and will disable all INT9740 signal outputs when in a logic 1 state. IC3 pin 16, IC2 pin 14 and IC1 pin 14 are plus power terminals foy their respective IC circuits. IC3 pin 8, IC2 pin 7, IC1 pin 7 are negative power terminals for their respective IC circuits. IC3 pin 13, IC2 pins 4, 7, and 10 are connected to negative power lines to enable the integrated circuits to function in their required mode of operation.

(8) Zener diode CR1 is a 54V zener. It provides circuit protection to the INT9740. Transistor Q1 is connected so that its emitter provides a zener diode voltage of approximately 7 volts. R2 provides current path from 48V power to drive all logic circuitry on the INT9740 card. Capacitor C2 provides ripple filtering and pulse signal bypass for the logic input power. Dioded CR7, 8, 9 and 10 provided reverse voltage protection for the signal output transistors. LED is a solid-state light provided to indicate when the 5-amp power fuse has blown. R3 provides the necessary current limit to illuminate the LED at the proper level.

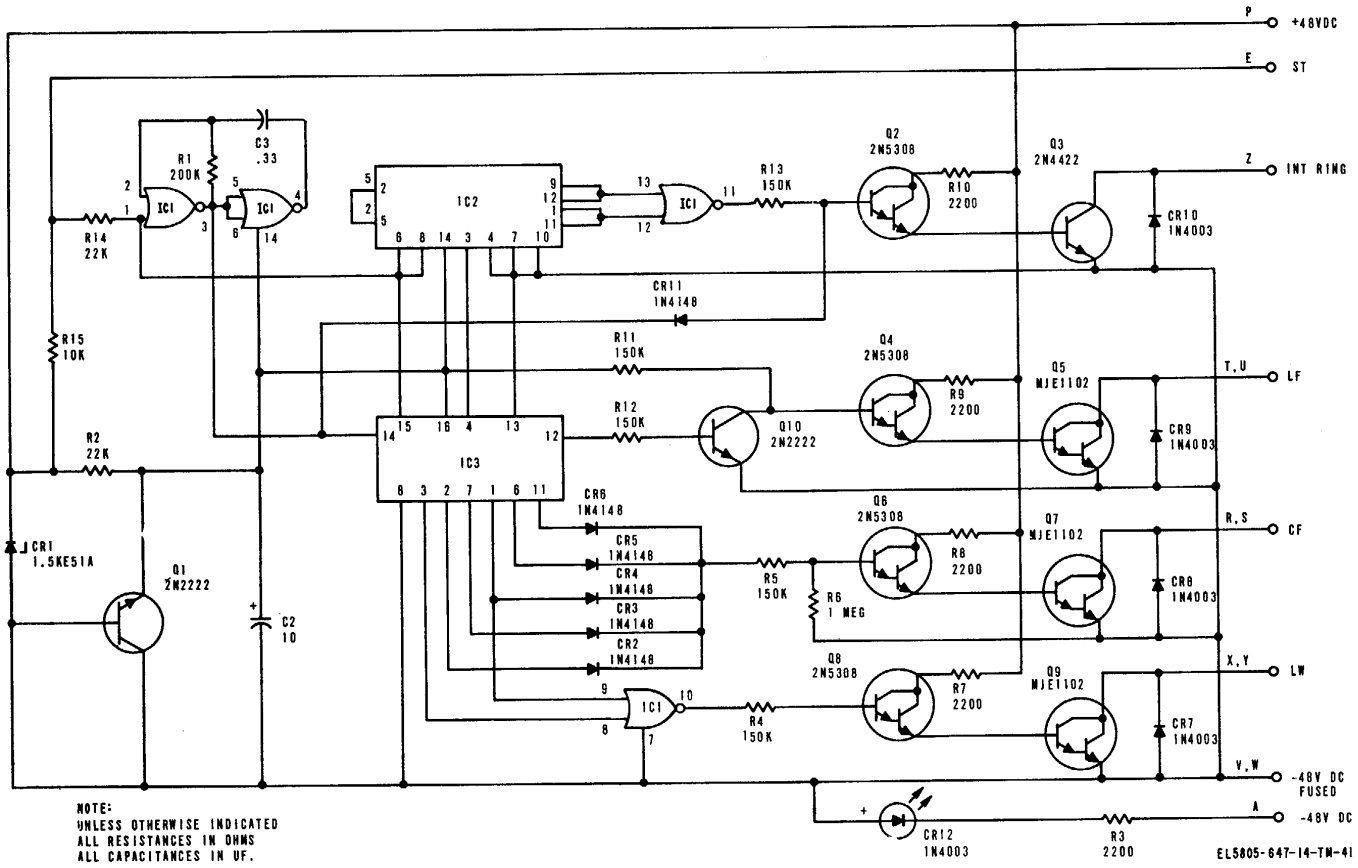


Figure 4-11. Interrupter INT-9740, schematic diagram.

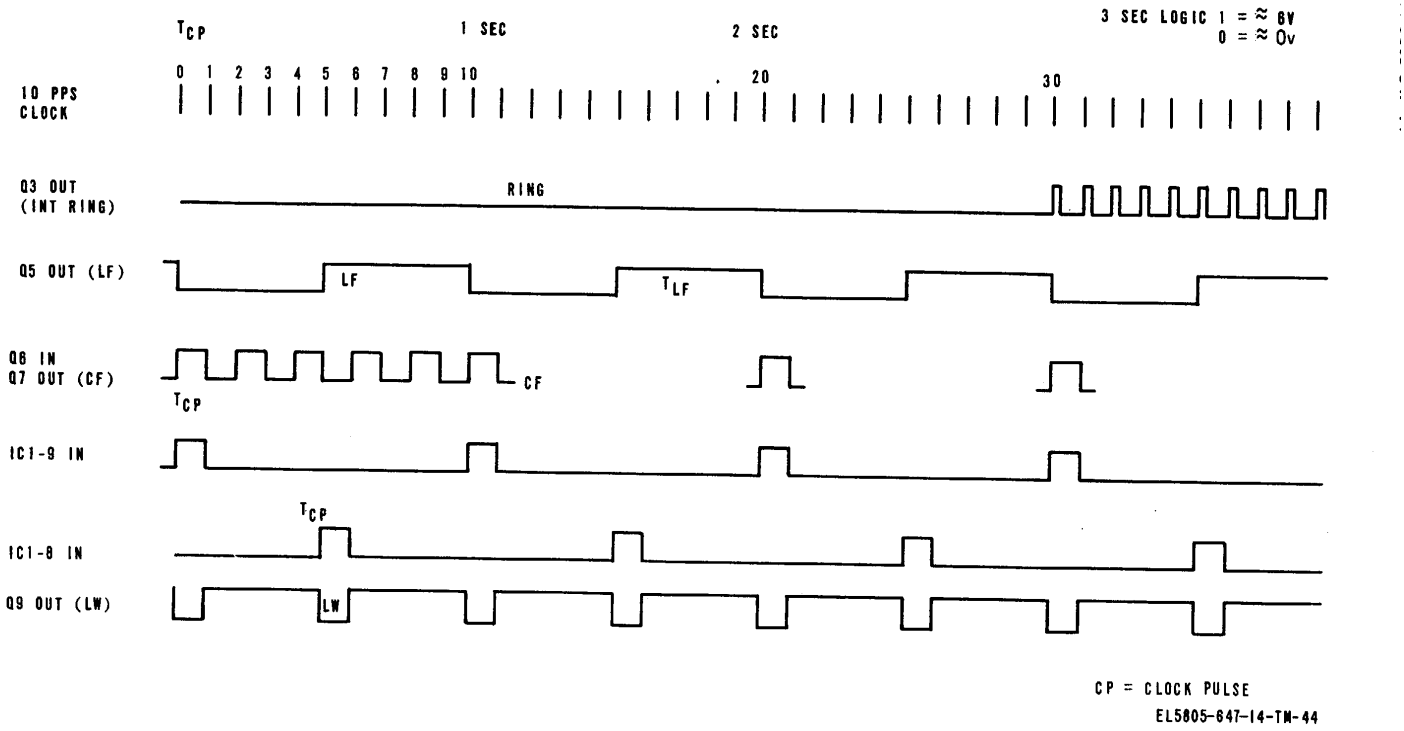


Figure 4-12. Interrupter INT-9740, timing diagram.

c. Conference Circuit Function (fig. 4-13). Conferencing of two or more circuits is accomplished on a 2-wire basis. Any orderwire circuit may be interconnecting or switched to any other orderwire or to the PBX circuit through the use of associated conference relays and a common conference bus. The intercom circuits are not provided in the conferencing capability.

(1) The conference relays K1 through K11 (depending on the number of circuits equipped) are miniature impulse latching relays that use remnant (residual) magnetism of the core for latching. Referring to figure FO-8 (D), the T&R leads of the two wire lines are connected to the conference bus through the left-hand contacts 2, 3, 5, and 6, respectively. The left-hand contacts 1, 2, and 3 function to transfer the-control voltage on a circuit for the idle line termination relay in the 4W/2W hybrid circuit and S.F. oscillator when in a conference condition. Left-hand contacts 4, 5, and 6 transfer the negative line lamp voltage from a steady to the interrupted conference flash (CF) bus.

(2) Each conference relay, K1 through K11, is identical. K1 (used for the PBX circuit) is discussed as typical. The relay is bistable. When the operate winding is pulsed, the special alloy core retains sufficient magnetism to hold the armature operated indefinitely without coil energization. Pulsing of the operate winding occurs from momentary depressing of the conference key in the operator's access unit, as shown in figure 4-13.

(3) Conference release is accomplished as follows: With line key position 1, row 1 selected at the operator's access unit and the handset offhook, the momentary operation of the CONF REL key applies +48 vdc to one side of K1 release winding, through isolation diode D1, selector key, hold key, diode switch, conference key break contact, CONF REL key, to the signal ground (SG).

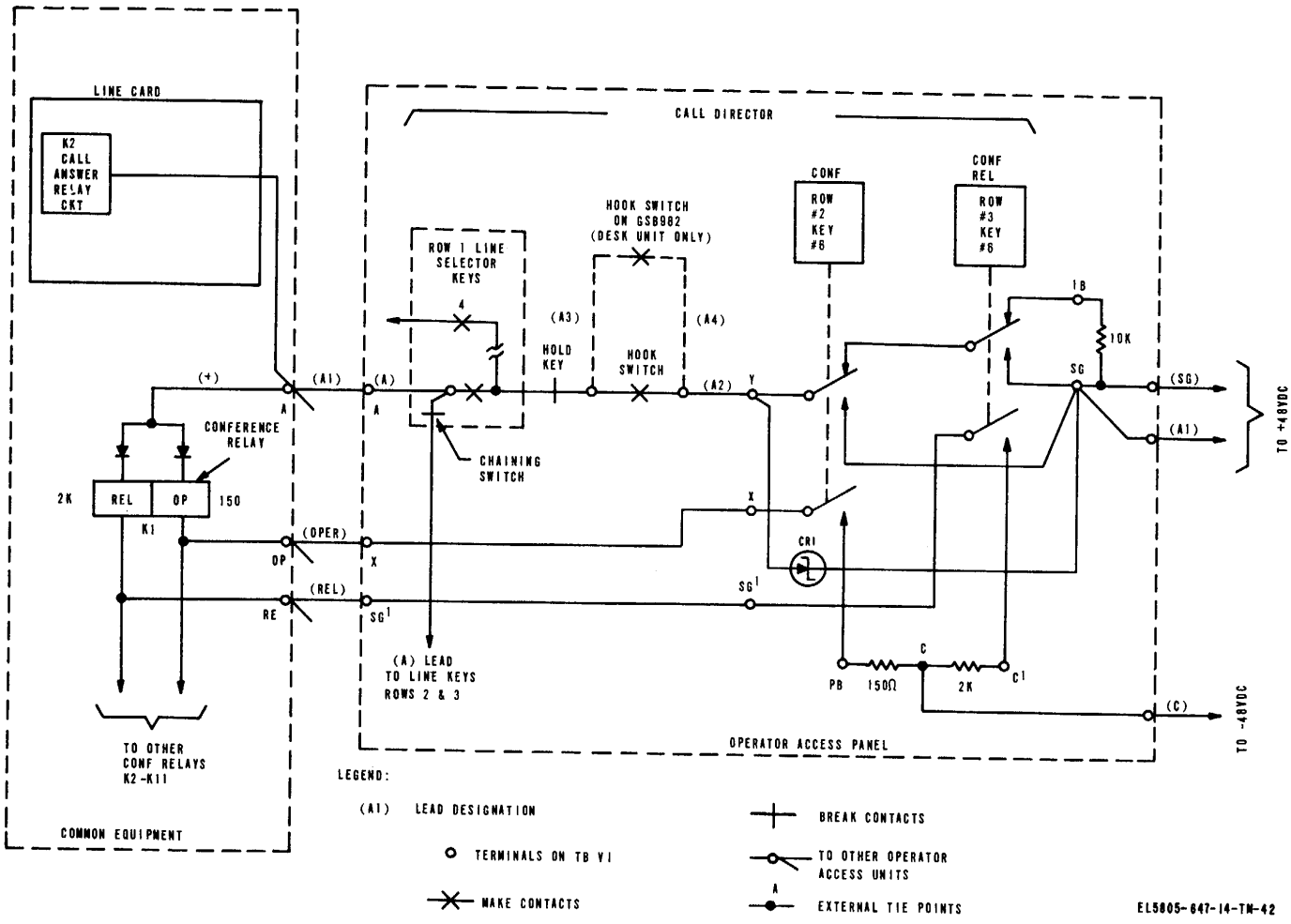


Figure 4-13. Conference functional diagram.

4-6. Common Equipment Shelf 41010-96, Functional Description

a. S.F. Detectorand Oscillator 41063-02 (fig. FO-11). All input signals, supervisory or voice frequency, enter the SF detector module on pins L and K. These signals are presented to the primary of transformer T1 and transferred to the secondary. The signals are then presented to transistor Q1 (common emitter amplifier).

(1) The 3,250-Hz supervisory signal voltage is developed across C4 and presented to the base of Q2. Transistor Q2 is an emitter follower and serves as a driver for the high pass filter (L1, L2, C5, and C12). This filter keeps voice frequency signals out of the supervisory signaling path. The supervisory signals are amplified by transistors Q3 and Q4. Q5, Q6, Q7, and Q8 provide a constant level output for the tone detector. During the positive half cycle of the incoming signal, transistor Q6 is biased "on" through CR1, R21, and C16. When Q6 is "on", it also turns Q7 "on". During the negative half cycle of the incoming signal, transistor Q6 is biased "on" through CR1, R21, and C16. When Q6 is "on", it also turns Q7 "on". During the negative half cycle of the incoming signal, Q5 is turned "on" through CR2, C17, and R19. Transistor Q5 turns Q8 "on", so the wave form at the collector Q8 is a square wave at the incoming frequency whose amplitude is constant. The square wave at the collector of transistor Q8 goes through C34 and the parallel combination of R40 and R41 to the tone detector. The tone detector responds to the frequency which is determined by C22, C23, and L4.

(2) The action of the tone detector is such that the voltage across C24 will be 0 volt with no signal in, and 4 to 6 volts when a signal of the correct frequency is present. The voltage at the plus end of C24 will turn Q16 "on" when the correct signaling frequency tone is present. Q16, in turn, drives the output of relay K1. Transistors Q15 and Q16 and Q16 being a set, reset flip-flop (such that when either transistor is "on", it is latched) will remain "on" until an external signal is sent to turn it "off". Normally, Q15 is "on" by being continually reset by Q14 which is gated "on" or "off" by Q13. The signaling tone present at Q13 which is biased "on", prevents Q14 from resetting the flip-flop. When no signaling is present, Q13 is "off" and Q14 continually resets or turns Q15 "on". The rate at which Q14 turns Q15 "on" is determined by the setting of R48 and whether terminals E5 and E6 are strapped.

(3) Incoming voice signals are presented to the base of Q1. From the collector of Q1 signals go through R30 and C13 and through C18, L3, and C19 to the base of transistor Q9. R30 and C13 form a low pass filter. The band reject filter, C18 and L3, which is tuned to the supervisory frequency (3,250 Hz) prevents the supervisory frequency from being amplified by transistor Q9. Transistor Q9 then amplifies the voice frequency input signals which are applied to the transistor Q10 which is an ac signal detector. When no voice is present, the voltage across C21 is zero. When voice is present, the voltage across C21 will vary between 12 and 24 volts. This voltage across C21 causes current to flow through resistors R36 and R37 to turn Q11 "on". When Q11 turns "on", it discharges C24 through R39 and prevents any signaling tone from turning on the relay. Had signal tone been present first, transistor Q16 turns "on" and through CR3 prevents Q11 from being turned "on". Therefore, a priority system has been set up; whichever signal is present first (whether voice or supervisory), it will control; i.e., if we have voice present first, we cannot receive signaling tones to actuate the relay; if we have signaling first, voice signals will not cause the relay to fall out.

(4) Transistors Q17 and Q19 form an amplifier with a zero degree phase-shift. Both the input and output of the amplifier are connected together and to the parallel tank circuit (L6, C28, and C29). Under normal conditions, the tank circuit will oscillate; oscillation is prevented when Q18 is turned "on". This causes the collector of Q19 to be shorted out to the -24 vdc, preventing gain in that stage, hence oscillation. When switch S1 is closed, transistor Q18 is turned "off" allowing the oscillator to function normally. Also, when pin F is at -48 vdc, this biases Q18 "off" and again allows the oscillator to function normally. The signal is sampled from the L3 network via R69 to the base of Q20. Transistor Q20 (common collector or emitter follower) serves as an impedance lowering stage. The output signal is taken from the wiper of R71 which serves as a level adjust. Transistor Q21 serves as a power amplifier and drives the output transformer T2 via C32. The secondary windings of T2 are set up to either drive two 600-ohm lines, or to serve as a summing point for voice and tone signals.

b. DTMF Tone Receiver 40452-01 (fig. 4-14 and FO-12). The input signals from the 4W REC LINE pins C and D and are coupled by high impedance transformer T1 to the base of input amplifier transistor Q19, the input amplifier (common emitter) provides isolation, gain and a low impedance drive source for the filters. The

signals from Q19 are fed to the filters, which have adjustable controls to set the minimum input level for a detectable output. The low pass filter has a cutoff frequency of 940 Hz and passes only the four lower DTMF tones. The cutoff frequency of the high pass filter is 1,200 Hz and passes the three high DTMF tones. Transistor Q18 and associated circuitry, which form the high pass filter with a cutoff frequency of 1,200 Hz, passes only the three highest frequency tones. The cutoff frequency of the Low Pass filter, Q17, is 940 Hz enabling it to pass only the four lower frequency tones. The signals are then passed to the amplifier. The amplifier input signal is developed across resistor R45 and passes through capacitor C1 to the base of transistor Q1. Q1 and Q2 are voltage amplifiers. Transistors Q3 and Q4 are driven "on" during the positive and negative cycle, respectively, excursions of the signal at the collector of Q2. This sets and resets the flip-flop (Q5 and Q6), producing a square wave whose frequency is equal to that of the incoming signal, but whose amplitude is constant. The flip-flop output is amplified by the complementary pair, Q7 and Q8, which drive the tone detectors.

(1) The tone detectors convert the presence or absence of their particular tone into a corresponding dc level. The detected tones are resistively summed and sent to the tone summing output. As shown in figure 4-14, transistors Q20 and Q21 are the detector transistors for the 697-Hz tone. The input signal is received from the amplifier limited through resistor R59. The receipt of a signal of the proper frequency causes regeneration due to the positive feedback of R60. The emitter current of Q20 is filtered by C24 to provide a dc input level to Q21. Therefore, Q21 is "off" when no tone is present and "on" when the tone detector receives a signal of the correct frequency. The operation of the other tone detectors is identical to that of the 697-Hz circuit.

(2) Resistors R101 through R107 form the tone summing network whose output is a complex waveform consisting of the sum of the detected frequencies. The tone summing output (decoded tone pair) is applied to transistor Q17 of the digit decoder.

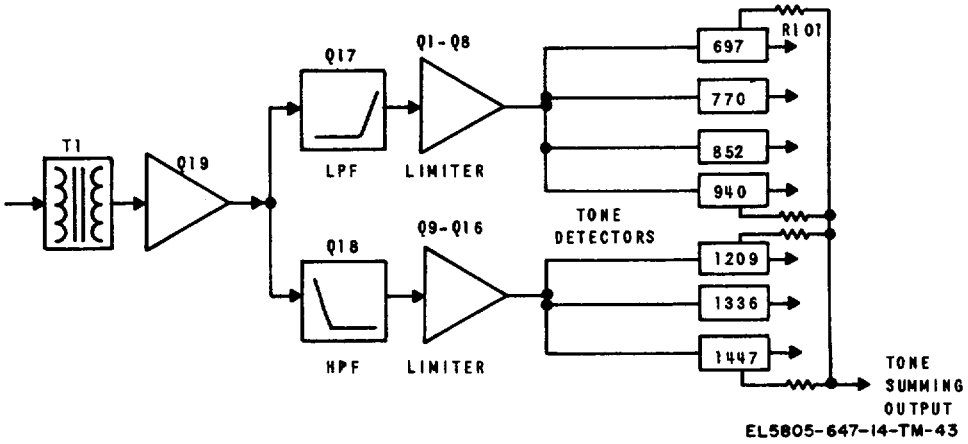


Figure 4-14. DTMF tone receiver 40452-02, simplified block diagram.

c. Digit Decoder 40451-04 (fig. FO-13). The dc outputs from each of the seven tone detectors in the tone receiver module are connected to the strappable terminals within the digit decoder module. The tone pair options for the first digit are strappable from E17 to either E14, E15, E16 for the high tone, and from E18 to either E10, Ell, E12, or E13 for the low tones. Likewise, the tone pairs for the second digit are strappable from E8 to either E5, E6, or E7 for the high tones, and from E9 to either El, E2, E3, or E4 for the low tones.

(1) A flip-flop and gate circuit is associated with each digit (Q17, Q18, and Q19 for the first digit, and Q14, Q15, and Q16 for the second digit). Assuming a quiescent state, and that the decoder is strapped for 2 digit dialing (E19 and E20), Q20 and K1 will be turned off by the conducting states of Q16 and Q19 through diodes CR24 and CR25, respectively.

(2) Q17 is normally conducting and CR22 is forward-biased, causing the junction of R60, C6 to be low. When the proper tone pair is received, Q17 will turn off and allow C6 to charge through

R60 and R61. Also, when Q17 turns off, CR20 will be reverse-biased turning Q9 "on" and disabling the reset timer Q3.

(3) C6 will remain charged for the duration of the tones associated with the first digit. When the first digit tone pair disappears, Q17 will again turn "on", causing a negative pulse to be coupled from C6 through CR23 and R67 to the base of Q19, turning off Q19 and causing the Q18, Q19 flip-flop to set. When Q19 turns off, CR25 becomes reversed-biased, but Q20 remains turned "off" by CR24, Q16.

(4) When the first digit tone pair disappears and Q17 turns back on, Q9 will turn off enabling the reset timer circuitry to operate. Assuming the second digit tone pair arrives before the reset timer times out, the following will occur. Q14 will turn off during the receipt of the second tone pair. Q9 will turn "on" through CR11, disabling the reset timer circuit. When Q9 turns "on", it turns Q10 "off" enabling the parity delay on the second digit. The parity delay is determined by the charge time of R36 and C4, reference the PUT circuit description. After the parity delay, transistor Q11 fires, turning Q12 "on" and Q13 "off" for a short period of time. During this time, C5 charges through R47 and R48.

(5) When transistor Q13 turns back "on", a negative pulse is coupled to the base of transistor Q16 through diode CR16 and resistor R54, turning it "off" and setting flip-flop Q15 and Q16. Diode CR24 is now reversed-biased. Since CR24 and CR25 are both reversed-biased after receipt of the second digit, Q20 will conduct and K1 will actuate. After the second digit tone pair is removed, Q14 will again conduct, causing Q9 to turn "off". When Q9 turns "off", relaxation oscillator Q3 is enabled. After a time period determined by C1, R8 and R9, transistor Q3 will fire. This causes Q6 to conduct momentarily. The conduction of transistor Q6 causes Q16 and Q19 to turn "on", resulting in the fall-out of the Digit Accept Relay, K1. This time period is controlled by the setting of CALL TIME ADJUST CONTROL R9.

(6) If the tone pair for the second digit are transmitted before the first digit tone pair (we reverse order) Q19 will be on and will forward bias CR14 so that C5 cannot charge when Q13 is turned "off", thereby preventing the Q15, Q16 flip-flop from setting.

(7) Upon receipt of the 94]-Hz and 1,209-Hz tone pair, Q7 turns "off". This tone pair undergoes the same parity check as do all tones. At the end of the parity check, Q8 turns "on" and, in turn, Q18 and Q15 turns "on". This action reverse biases diodes CR24 and CR251 allowing transistor Q20 to actuate the relay. When the 941Hz and 1,477-Hz tones are decoded, transistor Q1 turns "off". After the parity check, Q2 turns Q19 and Q16 "on", releasing the Digit Accept Relay. The ALL Reset function is not applicable to the operation of the orderwire system.

d. 4W/2W Hybrid 49008-01 and 49008-02 (fig. FO-14 and FO-15). The 4W/2W hybrid module provides the conversion function with amplification from the 4-wire input to the 2-wire line and from the 2-wire line to the 4-wire output. The Low Pass Filter between the 4-wire input and the 2-wire line deletes the signaling tone frequency in the 49008-01 module.

(1) VF signals at the 4-wire input terminals are amplified and passed through the Low Pass Filter and presented to a resistive 4-wire/'2-wire hybrid. In the opposite direction, the 2-wire line goes through the 4-wire/2-wire converter, to an amplifier (with an adjustable input level), and passed through a transformer to the 4-wire output line. Signals presented to the 4-wire input line (pins E and by pass through transformer T2 and are impressed across resistors R18 and R19 which determine the 600-ohm input impedance. R18, a variable resistor, determines the input level of the amplifier. The signal is developed across the wiper of R18, passes through capacitor C8, and presented to the base of transistor Q4. The selected value resistor (R17) is used to bias the entire amplifier. Diode CR3 is a temperature compensating device to assure that the dc levels in the amplifier are constant regardless of temperature changes. Transistor Q4 acts as an amplifier and the signal is derived from the collector and presented to the base of transistor Q3. Q3 amplifies the signal and presents it to the base of Q2. Transistor Q2 again amplifies the signal. Feedback is derived from the emitter of Q2 and fed to the emitter of transistor Q4 via resistor R6. Resistor R7 and capacitor C4 also contribute to the feedback network and serve to roll off the high frequencies of the amplifier, thereby limiting the amplifier's high frequency response, Capacitor C2, which is in parallel with the collector load of transistor Q2, also serves to roll off the high frequencies and lowers any high frequency noise. The signal from the collector of transistor Q2 passes through capacitor C1 and resistor R29 to the low pass filter. This three section LC type filter has a cutoff frequency of 2,700 Hz. Resistor R28 provides a dc ground for the filter. The signal leaving the filter passes

through capacitor C11 and is presented to the base of transistor Q5. Transistor Q5 operates as a common emitter amplifier stage. The amplified signal passes through capacitor C10 to the primary of transformer T1. The secondary of T1 is coupled to one-half of the 4W/2W resistive hybrid (R2, R3, and R4). These resistors form the hybrid network and pass signals received from the secondary of T1 to the 2-wire line with a 6-db loss. Resistor R1 serves to terminate the 4W/2W resistive network when there is no load on the 2wire line. This prevents crosstalk under mismatched impedance conditions.

(2) Signals coming in the 4-wire input and destined for the 2-wire line, leave the module on pins J and K. Signals generated by a source connected to the 2-wire line arrive via pins J and K and may be monitored at test points TP1 and TP2. These signals are presented to the 4W/2W hybrid (R2, R3, and R4) and passed on to the primary of transformer T3. The signals are coupled to the secondary of T3 and are impressed across resistors R30 and R31. From the wiper of resistor R31, the signals pass through capacitor C26 to the base of transistor Q6. The selected value resistor (32) is used to bias the entire amplifier (Q6, Q7, and Q8). Diode CR4 is a temperature compensating device for the amplifier. Signals present on the base of Q6 are amplified and passed on to the base of Q7. Q7 amplifies the signal and feeds it to the base of transistor Q8. Feedback is derived from the emitter of Q8 and is fed back to the emitter of Q6 via resistor R41: Capacitor C31 and resistor R42 serve to cut down the frequency response of the amplifier. The collector of Q8 is bypassed by capacitor C32 to minimize high frequency noise. The signals from the collector of Q8 pass through capacitor C33 to the primary of transformer T4. These signals are coupled to the secondary of T4 and presented to the 4-wire output line via pins M and N. Pin S is connected to an external source which determines the state of the 2-wire terminating resistor R1. In normal operation, pin S is "open" and Q1 is "on" (being forward-biased through R21 and CR2). When pin S is connected to -48 vdc, Q1 turns "off" releasing the relay K1. This is normally accomplished when a telephone that is connected to the 2-wire line goes "off-hook". When the telephone goes back "onhook", pin S is "open", Q1 turns "on" actuating relay K1. K1 contacts are closed and connect R1 across the 2-wire line.

e. 4 Way/4 Wire bridge 40155/40455-03 (fig. FO-16). The module contains strappable pads (refer to chapter 2 for strapping option information) and a bridge for the purpose of terminating up to four-wire lines.

(1) Any input is connected to three other outputs through resistors, which produce a 15-db insertion loss. Because of the bridge configuration, the signal on the input leg does not go to its own output.

NOTE

All legs of the bridge work in an identical manner; therefore, the following discussion will be limited to Leg 1 only.

(2) A signal is applied to LEG 1 IN, pins L and K. The signal is presented to a 9-db pad, which may be bypassed if no attenuation is desired. If the pad is strapped into the circuit there will be a 24-db attenuation from the input to any of the other three outputs. (The pad is not used in these orderwire applications.) The 4W/4W bridge receives the signals from the pad (if strapped in) and attenuates them by 15 db, and transfers them to the OUT terminals of legs 2, 3, and 4. Located in the send portion of each leg is a dual amplifier circuit to compensate for transmit losses. Further discussion of the amplifier is discussed in f below for dual amplifier modules 40172 and 40472-03.

NOTE

The 40155-03 4 way/4wire bridge is not mounted within the common equipment shelf; it is located within bridge and amplifier shelf assembly 40110-98.

f. Dual Amplifier 40172/40472-03 (fig. FO-17). The dual amplifier module functions as two independent amplifiers on a single printed circuit board. Input and output levels can be monitored by the use of available test points for each amplifier. The power supply leads are decoupled to provide a maximum power supply rejection level. Both amplifiers function in an identical manner and are electrically the same.

NOTE

Dual amplifier plug-in module 40172-03 is not mounted in the common equipment shelf; it is located within bridge and amplifier shelf 40110-98.

(1) A signal is applied to the module at the input pins and coupled across a transformer. A variable resistor is provided in order to adjust the input to the 3-stage, direct-coupled amplifier. The output of the amplifier is fed to a second transformer and coupled through to the output pins to a 600-ohm external load.

NOTE

Since both the "A" and "B" amplifiers are

electrically and functionally identical, the discussion below will cover only the "A" amplifier.

(2) The input signal is applied to pins H and J on the module. Input level can be monitored at TP1 and TP2. The signal is then applied across the primary of transformer T1 and coupled to the secondary. The secondary of T1 feeds resistors R2 and R3 (which are in parallel). These resistors form the terminating impedance for the transformer. R3 provides a variable input level to the amplifier itself. The amplifier input signal is developed across the portion of R3 (between the wiper and ground) and passes through C2 to the base of transistor Q1. Capacitor C3 serves to decouple the base bias current of Q1. Resistor R4 (selected value) is in parallel with resistor R7 and serves to bias the amplifier correctly. Diode CR1 is a temperature compensating device to assure that the correct dc levels in the amplifier are constant regardless of the temperature changes. Transistor Q1 is the initial input amplifier and drives Q2 directly. Capacitor C5 bypasses the emitter to Q1, giving a high ac gain but a low dc gain. The emitter of Q2 is bypassed by capacitor C6 for low dc gain and high ac gain. Transistor Q2 amplifies the signal and feeds it directly to the base of Q3 (the output amplifier). Feedback is obtained from the emitter of Q3 and is fed back to the emitter of the input amplifier Q1 via the combination of R13, C7 and R14. Resistor R13 determines the broadband gain of the amplifier while capacitor C7 and resistor R14 serve to roll off the gain of the amplifier at high frequencies. The collector of Q3 is bypassed by capacitor C8, eliminating high frequency noise in the output stage. The output signal passes through capacitor C9 to the primary of transformer T2. The secondary of T2 is coupled via pins C and D to an external 600-ohm load. The -24-vdc operating voltage for this amplifier is applied to pin A and fed across resistor R1 (the power supply decoupling resistor). Capacitor C1 filters the power supply voltage and provides low impedance power for the total amplifier.

g. Dc-Dc Power Supply 41028-01 (fig. FO-18). The module contains a series regulator, a foldback current limited, and monitoring, control, and protective devices.

(1) Input current is applied to pins S and T and passes through the PC board to terminal E2, through fuse Fl and switch S1 to terminal E.From El, it passes back out the board on pins J and K to resistor R1 (shelf) and transistor Q1 (shelf) to pins C and Current then passes through R2 to pins A and B. Resistors R9, R10, and Rll provide a voltage divider sampling network. This sampling voltage, which is a fraction of the output voltage, is presented to the emitter of transistor Q4. Transistor Q4 operates as a grounded base stage and amplifies the signal. The signal output is then taken from the collector of Q4 and applied to the base of transistor Q2. Transistor Q2 amplifies the signal and presents it to the base of Q1. Transistor Q1 then drives Q1 (shelf). When the output voltage rises, Q1 (shelf) turns "off" and lowers the output voltage to the original value.

(2) The zener diode (VR1) is the voltage reference for the regulator. Resistors R6 and R7 constitute a voltage divider and provide the proper bias voltage for transistor Q4. Resistor R10 (adjustable) is used to set the output voltage of the regulator board. Resistor R2 is a current sampling resistor. When the voltage across R2 reaches a predetermined value (at greater than 1.5A output current) transistor Q3 will turn "on", causing Q1 to turn "off". Q1, in turn, turns Q1 (shelf) "off". The voltage required to turn Q3 on is less when the output is short-circuited than it is when the output is functioning normally. Therefore, we have foldback current limiting; i.e, short circuited output current is less than normal operating current. Capacitor C1 bypasses the collector to base of transistor Q2 at high frequencies preventing oscillation. Resistor R12 limits the current to the test points, preventing accidental shorting out of the regulator output. Fl protects the external power source. S1 is the "on/off" switch. DS1 is illuminated by the output voltage and will not be illuminated if the output is short circuited. The output voltage may be monitored at TP1 and TP2.

4-7. Local Orderwire Unit, 41010-97, Functional Description

a. Speaker Amplifier 41030-01 (fig. FO-19). The microphone is connected to J1. Microphone current comes from "A" to terminal El, through the contacts of switch S1 (which are closed when off-hook), through resistor R1, Terminal E2, out microphone J1, Terminal E4 and through "B" to ground. Talking into the microphone changes its impedance and these audio signal variations are taken through R2 and R3, through capacitor C1 through the emitter the transistor Q2. Transistor Q2 functions as a common base amplifier. The signals are taken from the collector of Q2 and presented directly to the base of Q1, and at the emitter of Q1 we see the amplified signal. Resistor R12 serves to terminate the secondary of transformer T1 or drive the secondary of T1 in its

characteristic impedance. Signal flow is through R12 to C4 to the primary of T1. Capacitor C5 acts to filter out high frequency noise. Signals from the secondary of T1 pass through pins C and E for the 600-ohm output, or through pins D and E for the 150-ohm output. Both outputs are balanced. The signaling tone is presented to pin F and ground. Resistor R5 serves to provide a 600-ohm input impedance. Signals go from the junction of R5 and pin F through R6 and C2 to the emitter of Q2 (where they follow the same path as do the voice signals). The signals coming into the module arrive via pins M and P for 600-ohm balanced input, or pins N and P for 150-ohm balanced input. Signals are coupled across transformer T2 and are derived at across R21.

The same signals now may be taken off pin K and ground for external sampling. The signals are presented to terminal E9 and pass through resistor R43 (VOLUME CONTROL) to terminal E8 and to ground. The wiper of R43 samples part of the input signals and presents this portion to terminal E6, through C7, to the base of transistor Q3. Transistor Q3 is used as a buffer stage for the VOLUME CONTROL. Output signals are taken from the emitter of Q3 and pass through resistor R16 to a summing point. Transistor Q4 is a sidetone amplifier. It samples the transmitted signals through R11 and C8. The sidetone signals are taken from the emitter and pass through R17 to the common summing point. The summed signals of the sidetone and receive signals pass through capacitor C6 to terminal E7. The signal present at terminal E7 may go either to the handset earpiece or to the speaker power amplifier, depending on the external conditions. If the handset is plugged in and is off-hook, switch S1 will be in the position as shown on the schematic. Signals will pass through switch S1 to the handset jack J1 to terminal E3, through resistor R4 to point "A" (-24 vdc). If the handset is on-hook, S1 will be in the lower position and signals will go from terminal E7 to terminal E12 and to the input of the speaker power amplifier. If the handset is not plugged in, the signals will pass from terminal E7, through the normally open contacts of S1, to the lower section of the handset jack through the normally closed connection of the handset jack and back down to terminal E12 to the input of the speaker power amplifier.

(1) The speaker power amplifier consists of a common emitter gain stage (Q9) and two emitter followers operating in a class AB mode. Input signals from terminal E12 are developed across R32 and presented to the base of Q9. These signals are amplified by Q9 and are seen on its collector. The signals are then presented to transistors Q7 and Q8. Transistors Q7 and Q5 operate as a Darlington pair while Q8 and Q6 operate as the gain stage. Diodes CR1, CR2, and CR3 are temperature compensating devices for the amplifier and bias it correctly. Capacitor C11 provides shunting at high frequencies and lowers the gain of the amplifier. The current will be amplified by the two output pairs and will be seen at the junction of R22, C10, and Q6. Feedback from the output is derived across R25 and C13 and is fed back to the input; C14 serves to roll off the high frequency gain of the amplifier. The output of the amplifier passes through capacitor C10 to terminal E14, through the loudspeaker, and back to terminal E13 to ground.

(2) The alert call circuit is a modulated injunction stage. Transistors Q10 and Q11, the two injunction relaxation oscillators, will operate when pin S is connected to ground.

Simultaneously, ALERT LAMP DS1 will light.

Capacitor C16 charges through R37 until it reaches the firing point of transistor Q10, which is approximately six-tenths of the supply voltage.

At this time, the transistor "fires", causing C16 to discharge through it and across R35. The rate at which the charging and discharging occurs determines the basic frequency as heard in the speaker. At the same time C16 charges and discharges, Q11 provides a means of charging and discharging capacitor C17. This is done at a much spower rate than that of Q10 and C16. This action produces the frequency modulated signal seen at the emitter of Q10. The signal from the emitter of Q10 passes through resistor R34 and capacitor C15 to the speaker power amplifier. The signal is amplified and is heard through the speaker.

b. Power Supply, 41029-01 (fig. FO-20) The module front panel contains a fuse, power switch, indicator lamp, and test points (for monitoring the output voltage). A split-winding primary transformer is used in the module to achieve the 120/220-vac input capability. The use of a bridge rectifier with a capacitive input filter converts the ac to a usable dc voltage. The module uses a feedback type regulator for voltage regulation and incorporates a foldback current limiting feature to limit the maximum output current.

(1) When 120 vac is used as the input voltage, it is applied to pins L and N; passes through the module to terminal E20 of the voltage regulator board. From terminal E20, the voltage goes through the power switch (S1) and the fuse (F1) to the power transformer (T1). The two

sections on the primary are connected in parallel for 120-vac operation. See Note 1, figure FO-20.

(2) For 220-vac operation, terminals E15 and E17 are jumpered. The 220-vac input voltage is applied to pins L and N and pins K and P and passes through the module to terminal E20 of the voltage regulator board and on through the switch and fuse to the transformer. The two sections on the primary of the power transformer (T1) are connected in series for 220-vac operation.

(3) The secondary of the power transformer (T1) is connected to terminals E1l and E8 on the rectifier board (1410-1990). The rectifier board contains bridge rectifier CR1 through CR4 and makes connections to the filter capacitor, (C5). CR1 through CR4 rectify the incoming sinewave from the secondary of T1 and present a full wave rectified ac signal to the filter capacitor. C5 filters the signal and its outputs are taken from terminals E3 and E6 of the rectifier board and presented to terminals E10 (-) and E9 (+) on the voltage regulator (1410-1202). The minus lead from the filter capacitor is tied to terminal E10 which is connected to the emitter of Q5 (the external series pass transistor). Base current of Q5 reenters the regulator board via pin H to the collector of transistor Q1. The collector of the external transistor (Q5) is connected to pins C and D. It can be seen that the unregulated input power arriving at terminal E10 will become a regulated output at pins A and B. Resistors R9, R10, and Rll provide a voltage divider sampling network. This sampling voltage is presented to the emitter of transistor Q4. Transistor Q4 operates as a grounded base stage and amplifies the signal. The signal output is taken from the collector of Q4 and applied to the base of transistor Q2. Transistor Q2 amplifies the signal and presents it to the base of Q1. Transistor Q1 then drives Q5. The zener diode (VR1) is the voltage reference for the regulator. Resistors R6 and R7 constitute a voltage divider and provide the proper bias voltage for transistor Q4. Resistor R10 (adjustable) is used to set the output voltage of the regulator board. Resistor R2 is a current sampling resistor. When the voltage across R2 reaches a predetermined value (approximately 7.6A output current), transistor Q3 will turn "on", causing Q1 to turn "off". Q1, in turn, turns Q1 (shelf) "off". The voltage required to turn Q3 on is less when the output is short-circuited than it is when the output is normally functioning; therefore, we have foldback current limiting; i.e., short-circuited output current is less than normal operating current. Capacitor C1 bypasses the collector to base of transistor Q1 at high frequencies, preventing high frequency oscillation. Resistor R12 limits the current to the test points, preventing accidental shorting out of the regulator.

CHAPTER 5

ON-SITE MAINTENANCE

5-1. Scope of On-Site Maintenance

a. This chapter contains instructions for performing preventive and corrective maintenance operations and associated testing procedures. If the performance of authorized corrective maintenance procedures does not result in a serviceable equipment, off-site maintenance is required.

b. On-site maintenance includes:

(1) Preventive maintenance checks and services (para 5-3).

(2) Fault isolation to a defective assembly (para 5-4 and 5-5).

(3) Adjustment and alignment procedures for the overall Orderwire/Intercom facility (para 5-6).

(4) Removal and replacement procedures for defective assemblies (para 5-7).

5-2. Tools, Test Equipment, and Materials Required

a. The tools and test equipment required for on-site maintenance are listed in the maintenance allocation chart (app C).

b. The materials required for on-site maintenance are listed below:

(1) Lint-free cloth.

(2) Brush, paint, 1/2-inch width.

(3) Trichloroethane.

5-3. Preventive Maintenance

a. General. Preventive maintenance is the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, prevent breakdowns, and ensure maximum operational capability. Preventive maintenance includes the inspection, testing, and replacement of assemblies and sub-assemblies that inspection and tests indicate would probably fail before the next scheduled periodic service.

b. Preventive Maintenance Checks and Services Periods. The preventive maintenance checks and services for the equipment are given in e, f, and below. These checks and services must be performed during the specified periods. Records and reports of the preventive maintenance checks and services must be made in accordance with requirements set forth in TM 38-750.

c. Cleaning.

WARNING

Dangerous electrical potentials and currents are present within the equipment and associated station cables. Before cleaning any internal areas, remove input power. Failure to comply with this warning could result in injury or DEATH

(1) The exterior and interior surfaces of the equipment should be free of dust, dirt, grease, and fungus.

(2) Access to the interior of the cabinets is made by removing rear cover on each cabinet.

CAUTION

Use extreme care not to disturb component lead dress or cause damage to components within the cabinet. Do not apply excessive pressure to any wiring harness or assembly mounted with the cabinet.

(3) Using a vacuum cleaner equipped with a plastic cleaning head and extension hose, carefully remove any accumulated dust and dirt from the cabinet interior.

WARNING

The funes of trichloroethane are toxic. Provide thorough ventilation whenever used. DO NOT use near an open flame. Trichloroethane is not flammable, but exposure of the fumes to an open flame converts the fumes to highly toxic, dangerous gases.

(4) Use a dry, clean, lint-free cloth or brush to remove persistent dust or dirt. If necessary, moisten cloth with trichloroethane. After cleaning, wipe dry with a clean cloth.

WARNING

Compressed air is dangerous and can cause serious bodily harm. It can also cause mechanical damage to the equipment. Do not use compressed air to dry parts where cleaning compound has been used.

(5) Dry compressed air (not to exceed 60 pounds per square inch) may be used to remove dirt and dust from inaccessible places.

(6) Clean the display panel and pushbuttons, using a soft, clean cloth. If dirt is difficult to

remove, dampen the cloth with water Mild soap may be used

d. Refinishing. Remove rust and corrosion from metal surfaces Refer to the applicable cleaning and refinishing practices specified in TB 746-10.

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without affecting operation; make the complete checks and services when the equipment can be shut down.

e. Weekly Preventive Maintenance Checks and Services. Perform the following weekly checks.

Sequence No	*Item*	*Procedure*	*References*
1	Cabinet condition	Clean exterior surfaces of cabinet	Para 5-3c
2	External wiring	Inspect external wiring at terminals for tightness.	None.
3	Modules	Inspect seating of all modules	None.

f. Monthly Preventive Maintenance Checks and Services. In addition to the weekly checks, perform the following monthly checks.

Sequence No	*Item*	*Procedure*	*References*
1	Cabinet condition (exterior surfaces)	Examine cabinet exterior surface for corrosion or need for refinishing.	
2	Interior of cabinets	Clean interior of cabinets. Touch up paint as	Para 5-3c and 5-3d. required.
3	Publications	Check to see that all publications are complete, serviceable, and current.	DA Pam 310-4.
4	Modifications	Check DA Pam 310-7 to determine if new applicable MWO's. must be applied immediately. All normal MWO's must be scheduled.	TM 38-750 and DA Pam 310-7
5	Spare parts	Check all on-site spare parts for general condition and method for storage There should be no evidence of overstock, and all shortages must be on valid requisitions.	
6	Operation	Perform system operational test	Para 5-5b.

5-4. Corrective Maintenance

a. General. On-site corrective maintenance consists of those activities that can be accomplished by on-site personnel to restore a defective equipment to normal service. This activity normally includes localization of the fault to the module or PC card and then repair of the equipment by replacement of a module or pc card or through adjustment.

b. Maintenance Procedure. Procedures are provided in paragraph 5-5 that enable testing of all functions of the equipment. If any function cannot be satisfactorily performed, corrective action procedures are provided.

5-5. Operational Test and Troubleshooting

a. General. The operational tests outlined in the chart below are designed to verify acceptable operation of the equipment. If the normal indication specified is not observed, perform the corrective action given in the last column.

b. Operational Test Procedures. Perform the operational checks given in the chart below in the order listed.

c. Operational Test and Troubleshooting Procedure.

Step No.	*Test*	*Test procedure*	*Normal indication*	*Corrective Action*
1	DTMF circuit operation	a. Request that a distant station calls. Place handset on hook.	a. Incoming call causes appliable lamp to flash and audible indicator to sound.	a. Troubleshoot as follows: DTMF indicator (1) If indicator lamp does not flash. replace indicator lamp. If this does not correct problem, replace interrupter card. (2) If audible indicator does not sound, replace audible indicator. If this does not correct problem. replace interrupter card. (3) If both visual and audible indicators do not operate, alternately replace following cards until fault is corrected (replace original card if fault has not been corrected with substitution for that card): (a) Interrupter card. (b) Line card. (c) Digit decoder card. (d) DTMF tone receiver card. (e) S. F. detector and oscillator card.
		b. Remove handset and initiate conversation with distant station.	b. Sidetone is audible and normal two-way conversation can be main-. tained.	b. Troubleshoot as follows: (1) If sidetone cannot be heard, check for dc power (approx 2 to 4 volts) across resistors associated with circuit under test (refer to A, fig. 5-9 and FO-8). If normal reading is not obtained, check applicable inductors and resistors. If normal reading is obtained, check handset receiver and replace if necessary. (2) If normal two-way conversation cannot be maintained and external equipment is not at fault, alternately replace following components until fault is corrected (replace original part if that part is not at fault): (a) S. F. detector and oscillator card (transmit problem only). (b) 4W/2W hybrid card. (c) Orderwire set hookswitch. (d) Orderwire set call director network. (e) Orderwire set handset.

Step No.	Test	Test procedure	Normal indication	Corrective Action
2	E & M circuit operation (not applicable to local orderwire unit). indicator to sound.	a. Request a call from distant station. Place handset on-hook.	a. Incoming call causes applicable E& M indicator lamp. to light and audible	a Troubleshoot as follows: (1) If indicator lamp does not light, replace indicator lamp. If this does not correct problem, replace interrupter card. (2) If audible indicator does not sound, replace audible alarm. If this does not correct problem, replace interrupter card. (3) If both visual and audible indicators do not operate, alternately replace following cards until fault has been corrected (replace original card if that part is not at fault): (a) Interruptor card. (b) Line card. (c) S. F. detector and oscillator card.
		b. Remove handset and initiate conversation with distant station.	b. Sidetone is audible and normal two-way con-Versation can be maintained.	b. Troubleshoot as follows: (1) If sidetone cannot be heard, check applicable resistors and indicators in battery circuit. Replace any defective part. If parts are not defective, check receiver in handset and replace if necessary. (2) If normal two-way conversation cannot be maintained and external equipment is not at fault, alternately replace following components until fault is corrected (replace original part if that part is not at fault): (a) 4W/2W hybrid card. (b) Orderwire set hookswitch. (c) Orderwire set call director network. (d) Orderwire set handset.
3	PBX circuit operation distant station. Place handset on hook.	a. Request a call from	a. Incoming call causes applicable PBX indicator lamp to flash and audible indicator to sound.	a. Troubleshoot as follows: (1) If indicator lamp does not flash, replace indicator lamp. If this does not correct problem, replace interrupter card. (2) If audible indicator does not sound, replace audible alarm. (3) If both visual and audible indicator do not operate, alternately replace interrupter card and line card. (Replace original card that is not at fault.)

See footnote at end of paragraph.

Step No.	Test	Test procedure	Normal indication	Corrective Action
		b. Remove handset from hookswitch and initiate conversation with distant station.	b. Sidetone is audible and normal two-way conversation can be maintrained.	b. Troubleshoot as follows: (1) If sidetone cannot be heard, check applicable resistors and indicators in battery circuit. Replace any defective part. If parts are not defective, check receiver in handset and replace if necessary. (2) If normal two-way conversation cannot be maintained, and external equipment is not at fault, alternately replace following parts until fault has been corrected (replace original part if that part is not at fault): (a) Orderwire set handset. (b) Orderwire set hookswitch. (c) Orderwire set call director network.
4	Hold circuit operation	a. Call distant station and request a return call. Place handset on-hook. Upon receiving incoming call indication, remove handset from hookswitch. Depress applicable line key and then depress hold key.	a. Applicable line indicator winks to indicate hold status of call.	a. Replace applicable line indicator lamp. If this does not correct fault, replace interrupter card.
		b. Depress and release winking line indicator key.	b. Call on hold is released and conversation can commence.	b. Replace line and associated with circuit under test.
5	Conference circuit operationa.	Call two or more distant stations and request return call From each. handset on-hook. Upon receiving each incoming call indication, remove handset from hookswitch, depress applicable line key and then depress conference switch.	a. Flashing indicator on each line indicator that is in conference. Place	a. Troubleshoot as follows: (1) If a particular line indicator lamp does not flash, replace lamp. (2) If each line indicator lamp does not flash, replace interrupter card. If fault is not corrected, replace conference switch assembly.
		b. Converse over con ference circuit	b. All parties in conference circuit can take part in two-way communication.	b. Replace conference relay (fig 5-10) applicable to any circuit that cannot enter conference.

Step No.	Test	Test procedure	Normal indication	Corrective Action
6	Jack and lamp panel operation	a. Using an orderwirn unit that is wired to a remote jack and lamp panel, request a call from a distant station. Place handset on-hook.	a. Applicable lamp on jack and lamp panel flashes to indicate incoming call.	a. Replace indicator lamp. If fault is not corrected, fault probably is with interunit wiring to jack and lamp panel.
		b. Insert headset plug into applicable jacks on jack and lamp panel.	b. Normal. two-way conversation can take place.	b. Check applicable resistors and indicators in battery circuit. Replace any defective part. If parts are not defective, fault is with headset or with external wiring to or undernier set.

5-6. Alignment and Adjustment Procedures

a. Test Equipment. The test equipment which may be required for alignment and adjustment of certain assemblies during their operation within the system and after servicing of the unit is listed below. For specific model and type information refer to the maintenance allocation chart (MAC) (app C).

(1) Telephone test set.

(2) Multimeter.

b. Dc-Dc Power Supply 41028-1 Output' Voltage Adjust and Check.

(1) Using multimeter 210, connect its common test lead to common test point (black test jack) of power supply and its positive lead to the positive test point (white test jack).

(2) Note the indication on the multimeter.

(3) Adjust for meter indication of -24vdc + 0.3-vdc output voltage.

(4) Disconnect test equipment.

c. Dual Amplifier Modules 40472-03 and/or 40172-03 Adjustment. Refer to paragraph 2-7 for alignment and adjustment of the respective dual amplifiers.

d. 2W/4W Hybrid Module Adjustment. Refer to paragraph 2-7 for alignment and adjustment of the 2W/4W hybrid module.

e. SF Oscillator and Detector Modules. Refer to paragraph 2-7 for alignment and adjustment of the SF oscillator and detector modules.

5-7. Removal and Replacement Procedures

The following subparagraphs provide information for removal and replacement of those assemblies and subassemblies which are to be repaired onsite or which are to be removed on-site and sent off-site for repair.

a. Removal and Replacement of Modules. Removal and replacement procedures for the common equipment shelf and the PC card shelf are the same as those provided in paragraph 2-6.

NOTE

The removal and replacement procedures in *c* through *l* below are applicable to both the desk type and rack-mounted access orderwire units unless stated otherwise.

b. Station Number Card Removal and Replacement.

(1) Remove bezel and faceplate (c below).

(2) Slide paper facemat out of bezel.

(3) Remove old station number card and slide new card into place.

(4) Reassemble paper facemat, faceplate, and bezel, and replace on phone (c below).

c. Faceplate and Mat Removal and Replacement (Desk Set). Use the following procedure to fit a new mat or faceplate. (See figure 5-1 for parts identification.)

NOTE

Removal and replacement of bezel for the desk telephone is applicable to the rack-mounted units also.

(1) Remove bezel, facemat, and faceplate by prying the bezel out from the top of the housing with fingertip pressure. Raise the bezel until it clears the dial and key buttons, then lift away from the telephone with an upward motion to disengage the lower clips of the bezel from the housing. Use care in removing the bezel to avoid marring the housing.

(2) Slide the faceplate and mat out of the bezel.

(3) Slide the new faceplate and mat into the bezel and align the cutouts in the mat with those in the faceplate and bezel.

(4) Insert bezel clips into the slots at the bottom of the housing, then swing the bezel down

to engage the top spring clips in the slots at the top of the housing.

(5) Press top edge of bezel to engage spring, clips.

(6) If the bezel does not seat properly, or is loose, check clips on the bezel and reform as necessary.

d. Desk Set Housing Removal and Replacement.

(1) *Removal.*

(a) Remove bezel (c above).

(b) Loosen the two housing securing screws at rear of telephone (fig. 5-2).

(c) Raise rear of housing until clear of securing screws, then disengage clips from the slots on the front of the telephone base and lift off housing.

(2) *Replacement.*

NOTE

When replacing housing, check that cords exit through the proper openings and are not pinched between housing and base.

(a) Hook housing clips into slots located at the front of the telephone base.

(b) Slide housing in and down over the telephone until housing slots fit over the housing securing screws.

(c) Tighten the securing screws.

(d) Replace bezel (c above).

e. Call Director Mounting Panel Removal and Replacement (Rack-Type Only).

(1) Removal of the rack-mounted link orderwire unit or the rack-mounted remote orderwire unit from the station cabinet is accomplished by removing the four front panel retaining screws.

(a) Removal of the retaining screws permits the rack-mounted unit to be easily lifted out of the cabinet.

(b) To prevent front panel damage while removing or installing a component on the rear of the call director, make sure the mounting panel is face down on foam or a soft surface.

(c) Remove the two angle brackets from the mounting panel.

(d) The call director may now be turned over to clear the mounting panel. If extensive work is required on the call director, the wiring between the mounting panel and the call director should be disconnected at the respective spade lug terminals.

(2) Replacement of the call director on the mounting panel is a reverse procedure, with the following added instructions.

(a) As call director is returned to mounting panel, properly dress and position interconnecting harness leads and reconnect if required.

(b) Install angle bracket on one side but do not tighten screws.

(c) Turn assembly on end (top side up) and insure that the key strip assemblies and blank strips are properly seated in the mounting panel cutout. Slightly reposition call director if necessary.

(d) Install the second angle bracket. (Pressure must be exerted on the base of the call director.)

(e) Reinstall the faceplate and bezel on the front of the unit.

(f) After inspection of assembly for proper alignment, tighten screws on both rear angle brackets. Pressure should be maintained on the plastic faceplate while securing angle brackets in order to prevent excessive bowing of the faceplate.

(g) If the dial assembly has been loosened during disassembly, it should be tightened after dial alignment.

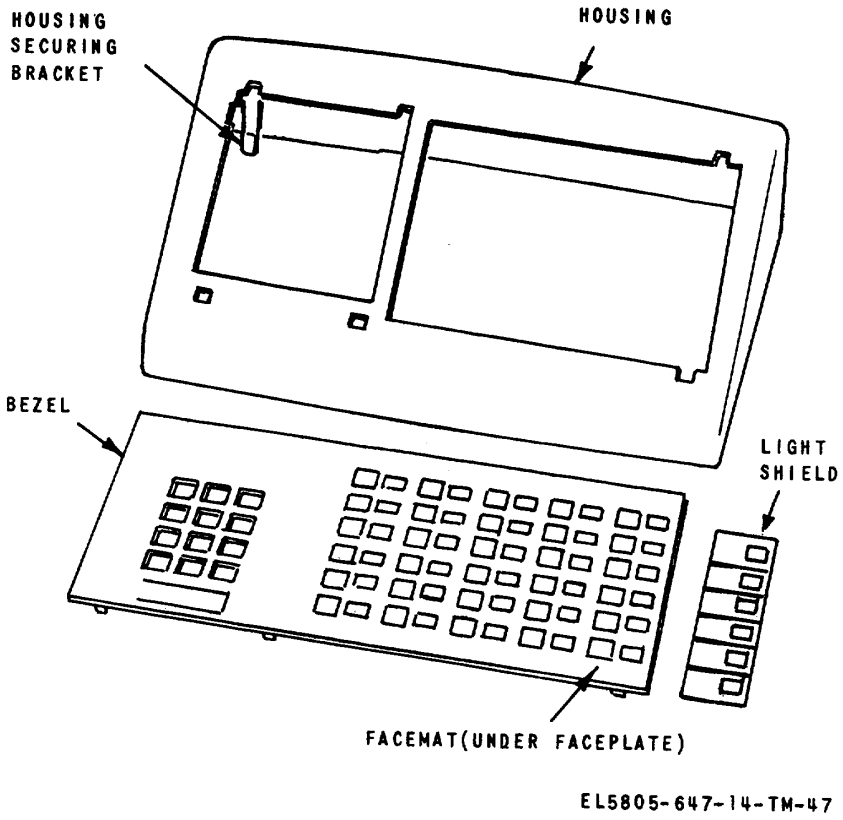


Figure 5-1. Deck set telephone, housing and faceplate details.

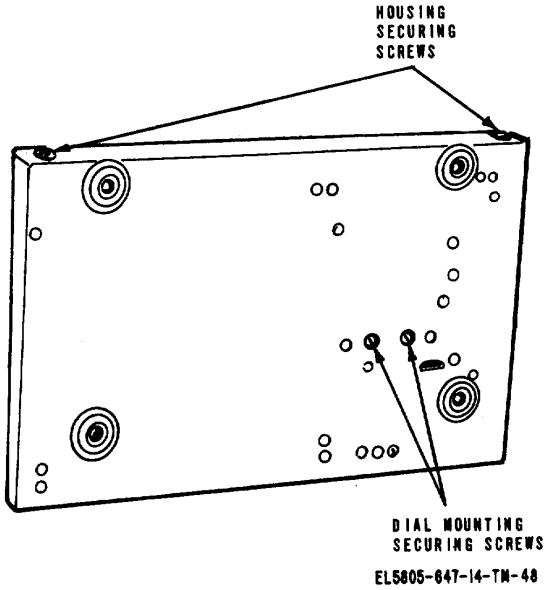


Figure 5-2. Typical telephone baseplate, mounting details

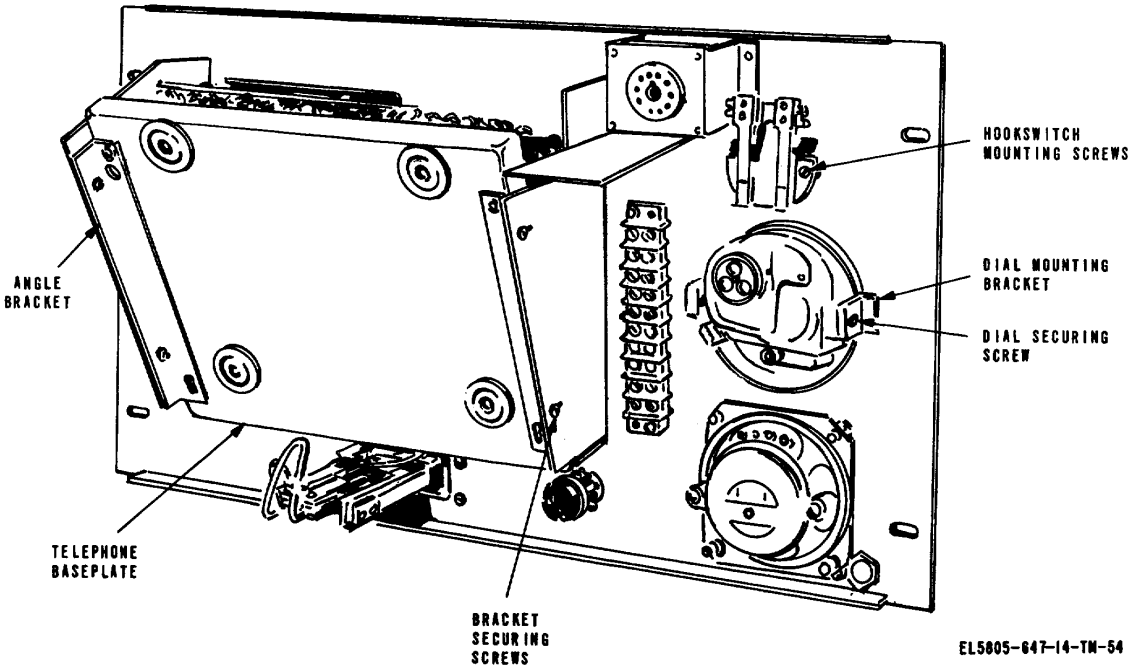


Figure 5-3. Rack mounted call director, frame and parts location (rear view).

f. Hookswitch Replacement.

(1) Desk-type orderwire unit.

(a) Remove housing (d above).

(b) Remove cord clamp (fig. 5-4).

(c) Loosen key frame locking screws (fig. 5-5) and lift key frame.

NOTE

Be careful not to lose the spacing washers behind the screws.

(d) Remove the two terminal board securing screws.

(e) Lift terminal board away from hookswitch.

(f) Remove hookswitch restoring spring (fig. 5-6).

NOTE

Take care not to lose brass washer from end of pivot bar.

(g) Remove hookswitch pivot bar by pushing on rounded end and allowing fiat end to drop to the lower part of its mounting hole.

(h) Remove hookswitch by disengaging the nylon spring lifter from the hookswitch springs and turning the nylon lifter sideways in hookswitch frame.

(i) Install new hookswitch by reversing above procedure.

(2) Rack-mounted orderwire units.

(a) Remove housing.

(b) Remove hookswitch restoring spring.

(c) Remove hookswitch assembly mounting screws and remove hookswitch assembly from mounting panel (fig. 5-3).

(d) Install new hookswitch by reversing the above procedure.

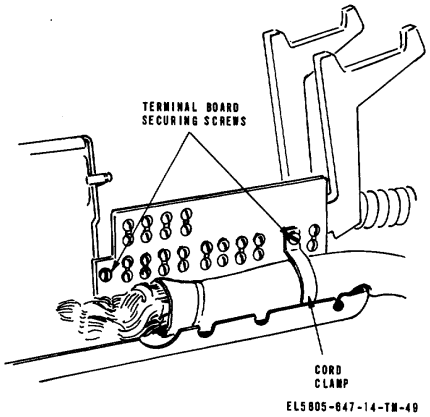


Figure 5-4. Express-Link-Local-Order Wire Unit TA-923/FSC, terminal board and line cord mountings

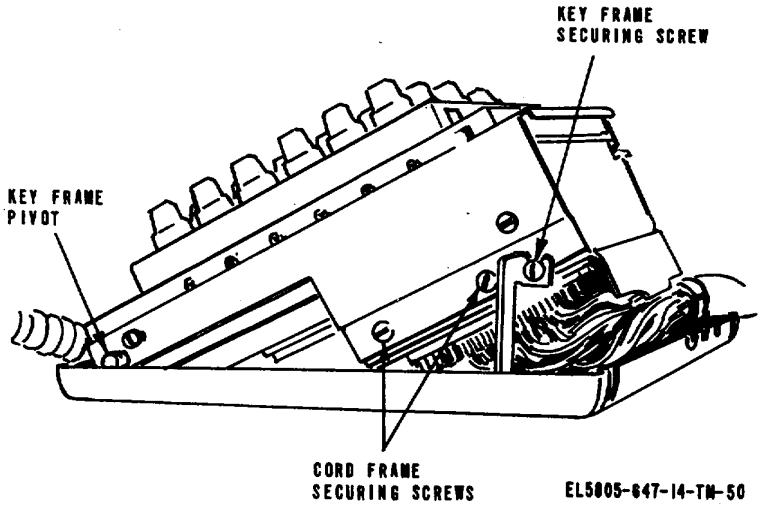


Figure 5-5. Typical frame securing screws, parts location.

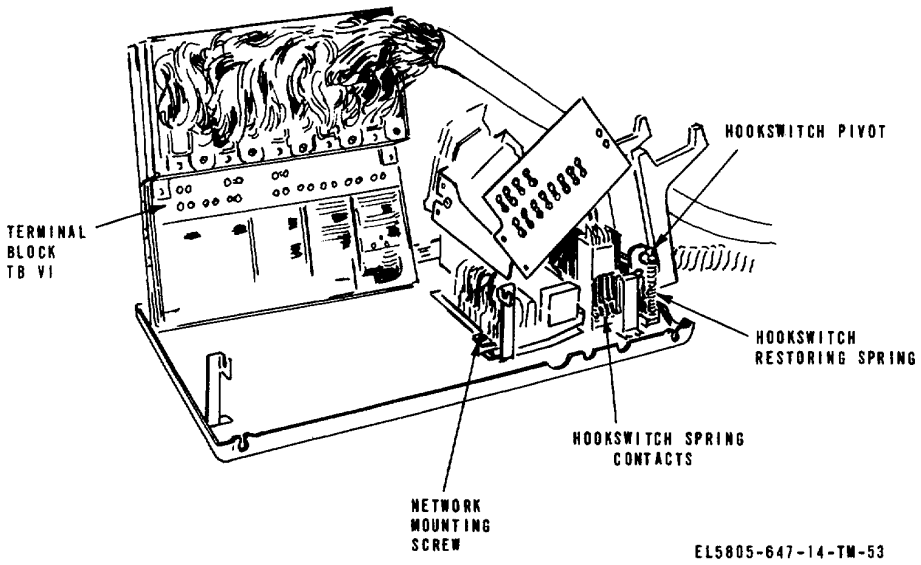


Figure 5-6. Express-Link-Local-Order Wire Unit TA-923/FSC, key frame and hookswitch details and parts location.

g. Lamp Removal and Replacement.

NOTE

Do not use metal tool to remove lamp or adjust lamp springs.

(1) Remove bezel (c above).

(2) Remove light shield (fig. 5-1).

(3) Inset tip of an orange stick beneath plastic end of lamp and pry lamp out of socket (fig. 5-7 and 5-8).

(4) Clean the metal contact surfaces of new lamp and check tension and alignment of lamp springs.

(5) Insert new lamp with glass end towards key button and metal contact surfaces against lamp springs.

(6) Replace bezel (c above).

h. Handset Cord Removal and Replacement.

(1) Remove housing. (Refer to and e above for the rack-mounted unit and desk type units, respectively.)

(2) Remove dial. (Refer to i below for the DTMF dial and the rotary dial).

(3) Disconnect old handset cord leads from the network.

(4) Install new handset cord by reversing above procedure.

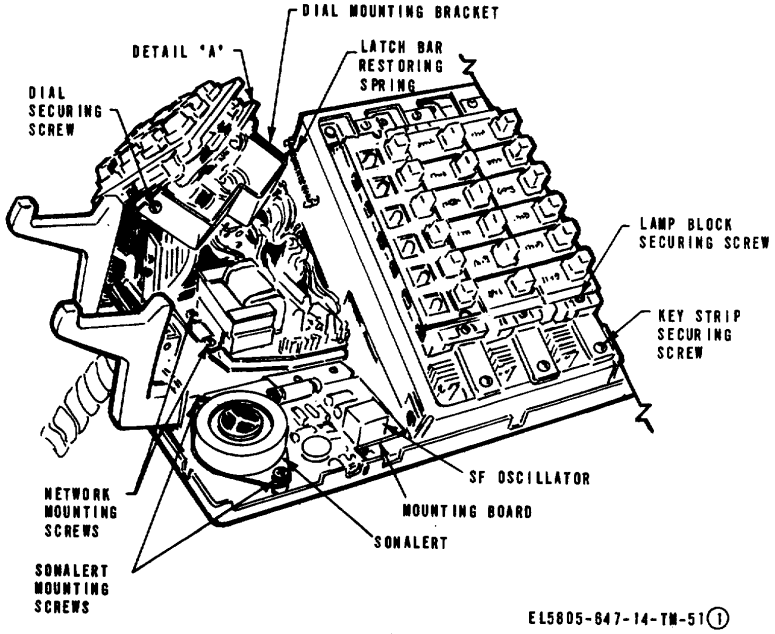


Figure 5-7 (1). 30 button key frame, component mounting (sheet 1 of 2).

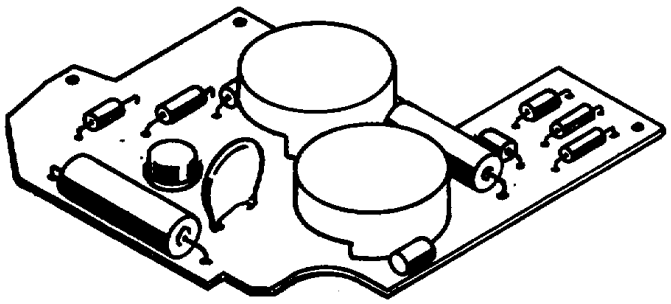


Figure 5-7 (2). 30 button key frame, component mounting, (sheet 2 of 2).

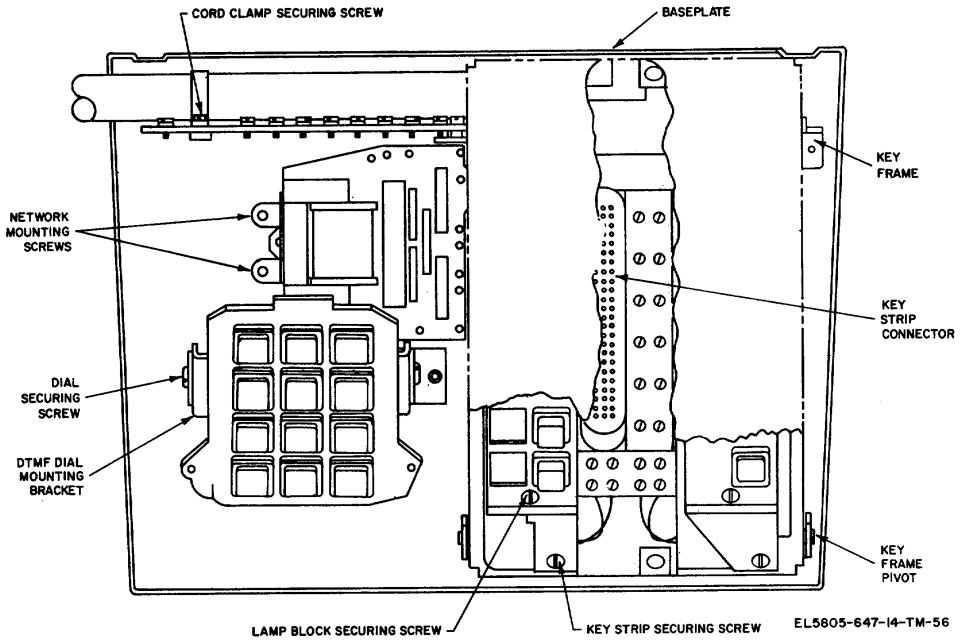


Figure 5-8. 18 button key frame, component mounting

i. Dial Removal and Replacement.

(1) *DTMF pushbutton dial.*

(a) Remove housing (d and e above).

(b) Disconnect the dial leads.

(c) Tip the telephone to expose the underside of the baseplate.

(d) Hold the dial with one hand, and remove the dial mounting-bracket screws from the baseplate.

(e) Lift out the dial complete with mounting bracket (fig. 5-7 and 5-8).

(f) Loosen the two screws holding the dial to the bracket and remove the dial.

(g) Install new dial by reversing the above procedure.

(2) *Rotary dial.*

(a) Remove entire panel from rack (e above).

(b) Loosen the two screws holding the dial to the brackets and remove the dial (fig. 5-3).

j. SF Oscillator/Sonalert Removal and Assembly From Telephone Panel Call Directors.

(1) *Removal.*

(a) Unsolder blue lead (BL) from terminal E3.

(b) Unsolder yellow-brown-brown (Y-BR) lead from terminal E2.

(c) Unsolder white-yellow wire from terminal El.

(d) Remove slate-yellow (SL-Y) lead from positive (+) lug of sonalert.

(e) Unsolder violet-orange lead from negative (-) lug of a sonalert.

(f) Remove the sonalert from the mounting board (fig. 5-7).

(2) *Replacement.* Perform reversal of removal procedure for replacement of SF Oscillator/Sonalert assembly.

k. Key Strip Removal and Replacement.

(1) Remove housing (d and e above).

(2) Loosen both captive screws holding key strip to the mounting frame. (fig. 3).

(3) Grasp both ends of key strip and pull key strip from connector socket.

(4) Move key strip towards top of frame until front end clears mounting frame.

(5) Lift front end of key strip up and forward to remove.

NOTE

Remove latch-bar return spring and pin (fig. 3) from replacement key strip (if fitted) before installing key strip in mounting space.

(6) Lower top end of replacement key strip into mounting space.

(7) Move key strip towards top of frame until front end of key strip clears mounting frame then push front end down into place.

(8) Push key strip connector firmly into socket.

(9) Tighten both key strip securing screws.

(10) Replace housing (d and e above).

(11) Random test the buttons for proper locking and releasing operation.

NOTE

Figure 5-8 shows a removed key strip from a rack-type telephone unit.

l. Network Assembly Removal and Replacement.

(1) Remove housing (d and e above).

(2) Disconnect all leads on the old network assembly.

(3) Remove two network mounting screws and loosen the third mounting screw. (Refer to figures 5-6 and 5-7 for desk type, and figure 5-8 for rack type.)

(4) Remove old network.

(5) Install new network by reversing the above procedure. Connect network leads as shown in figures FO-1 through FO-4.

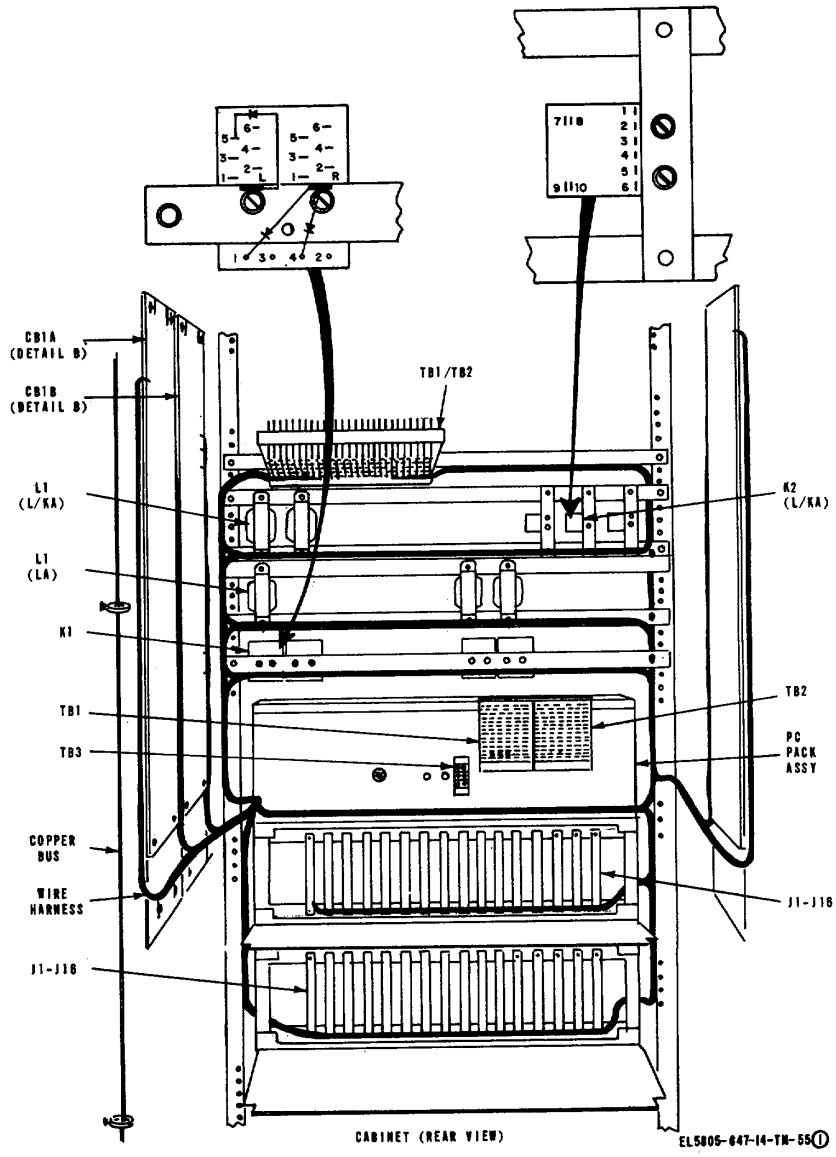


Figure 5-9. Typical equipment cabinet, subassembly parts location.

CHAPTER 6

OFF-SITE MAINTENANCE

6-1. Scope of Off-Site Maintenance

This chapter contains performance tests and troubleshooting information for the printedcircuit cards used in the orderwire equipments. Similar information also is included for the speaker amplifier unit. Performance test standards are provided for some nonrepairable items to determine whether or not these items are serviceable; items in this category include tone dial assembly, TLC 410 amplifier, rotary dial, key assembly and telephone network. Where applicable, alignment and adjustment procedures also are given.

6-2. Tools and Test Equipment Required

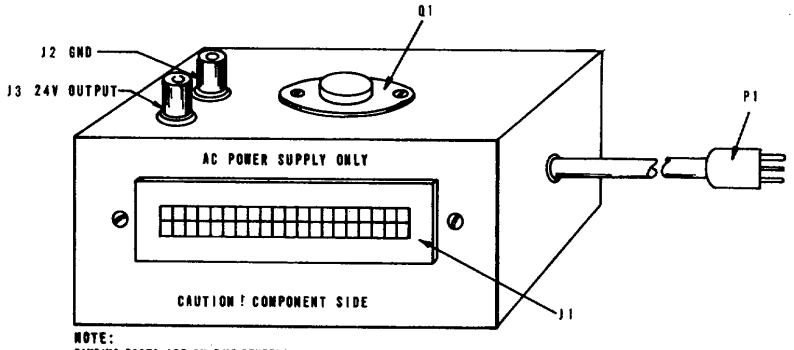
Refer to appendix C, Maintenance Allocation Chart, for a listing of all tools, test equipment, and materials required for off-site maintenance.

6-3. Test and Module Adapters Required

a. General. The following test and module adapters are required for offsite maintenance.

b. Module Adapter QR-9848-7. Module Adapter QR-9848-7 is required when testing the TLC 410 Amplifier in accordance with the procedures given in paragraph 6-18. This module adapter is an 11-pin receptacle (Amphenol 78Sll) with 3-foot leads attached to each terminal. The other end of each lead has an 0.080-inch diameter phone tip attached.

c. Test/Adapter QR-9848-9. Test Adapter QR9848-9 is required when testing and troubleshooting Power Supply 41029-01 in accordance with the procedures given in paragraph 6-14. A pictorial diagram of this test adapter is shown in figure 6-1 and a schematic diagram is shown in figure 6-2.



PARTS/LIST

REF.DES	QTY	NOMENCLATURE	MANUFACTURER	P/N
P1	1	POWER CABLE	BELDEN	17236S
	1	MINI BOX		CU3A
J1	1	CONNECTOR	AMPHENOL	143-018-01
Q1	1	TRANSISTOR	RCA	2N3055
	1	STRAIN RELIEF	RICHCO	R5
	1	TRANSISTOR COVER		
J2	1	BINDING POST (BLK)	HH SMITH	HH (BLACK)
J3	1	BINDING POST (RED)	HH SMITH	HH (RED)
	LOT	MISC HARDWARE		

EL5805-647-14-TM-77

Figure 6-1. Test Adapter QR-9848-9, pictorial diagram.

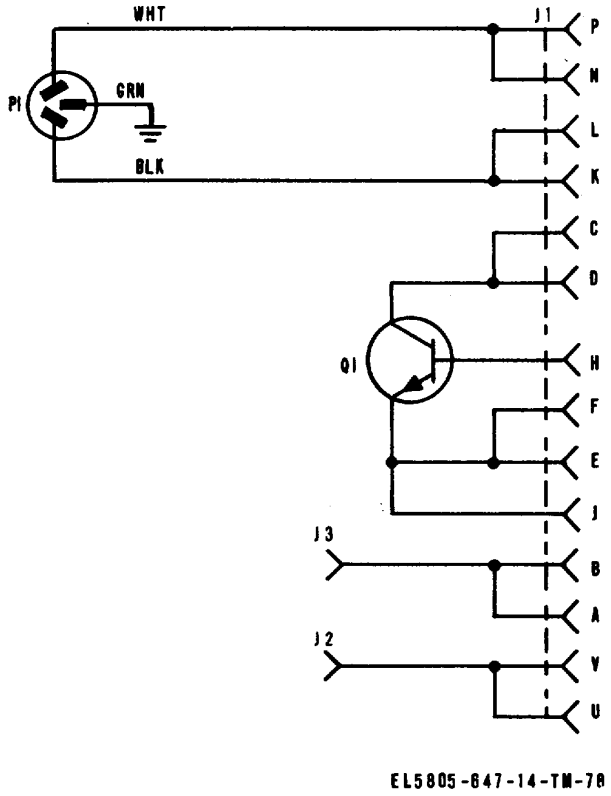
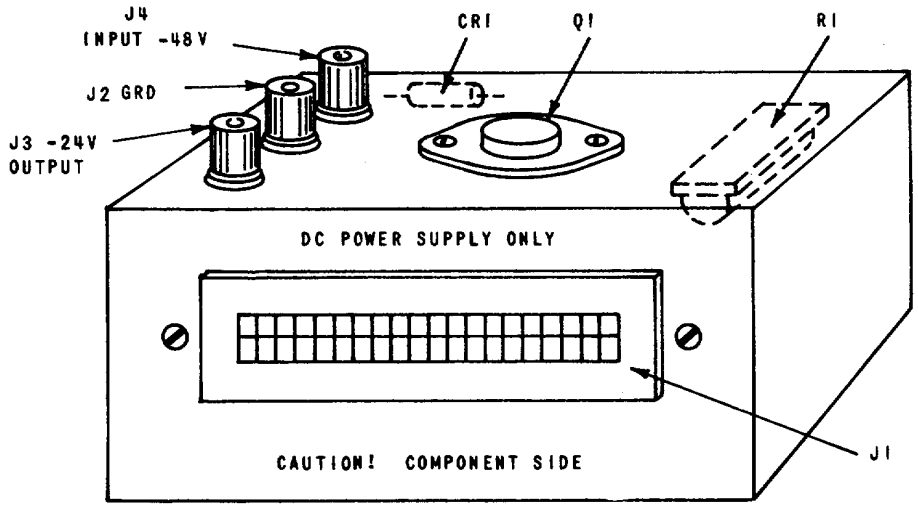


Figure 6-2. Test Adapter QR-9848-9, schematic diagram.

d. Module Adapter 9848-10. Module Adapter 9848-10 is required when testing and troubleshooting printed-circuit plug-in cards in accordance with the procedures given in paragraphs 6-5 through 6-12. This module adapter is an 18-pin receptacle (Amphenol 143018-01) with 3-foot leads attached to each terminal. The other end of each lead has an 0.080inch phone tip attached.

e. Test Adapter QR-9848-17. Test Adapter QR-9848-17 is required when testing and troubleshooting Power Supply 41028-01 in accordance with the procedures given in paragraph 6-13. A pictorial diagram of this test adapter is shown in figure 6-3 and a schematic diagram is shown in figure 6-4.



NOTE:
BINDING POSTS ARE ON 3/4" CENTERS.

PARTS/LIST

REF DES	QTY	NOMENCLATURE	MANUFACTURER	P/N
	1	MINIBOX	BUD	CU-341
J1	1	CONNECTOR	AMPHENOL	143-018-01
Q1	1	TRANSISTOR	RCA	2N3055
R1	1	RESISTOR	DALE	
CR1	1	DIODE		1N4002
	1	TRANSISTOR COVER		
J2	1	BINDING POST (BK)	HH SMITH	MP1(BLACK)
J3	1	BINDING POST (RD)	HH SMITH	MM (RED)
J4	1	BINDING POST (YLW)	HH SMITH	MM(YELLOW)

EL5805-647-14-TM-79

Figure 6-3. Test Adapter QR-9848-17, pictorial diagram.

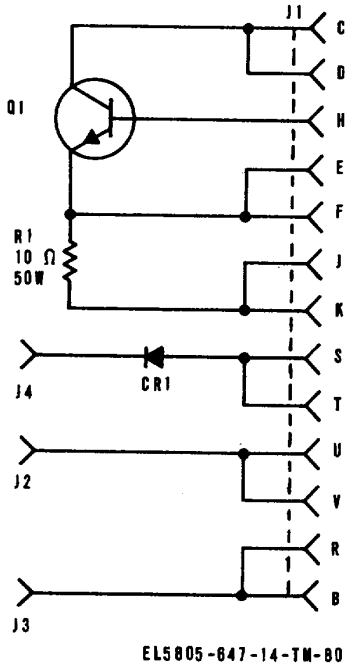


Figure 6-4. Test Adapter QR-9848-17, schematic diagram.

f. Test Adapter QR-9886. Test Adapter QR9885 is required when testing and troubleshooting Line Card LC-401-4 and Interrupter Card INT9740 in accordance with procedures given in paragraphs 6-15 and 6-16, respectively. A pictorial diagram of this test adapter is shown in figure 6-5 and a schematic diagram is shown in figure 6-6.

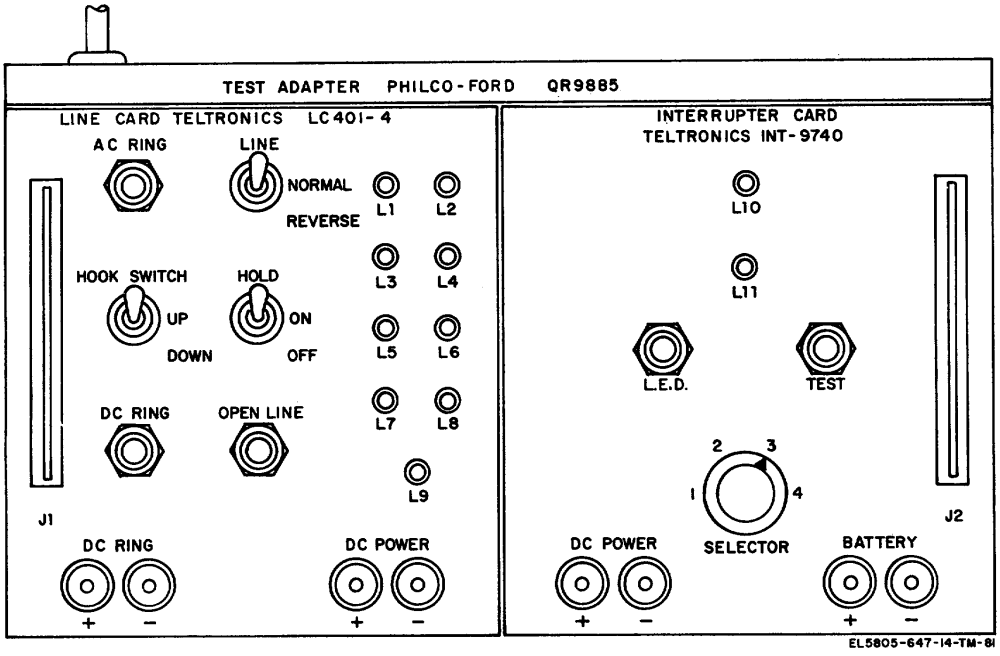


Figure 6-5. Test Adapter QR-986, pictorial diagram.

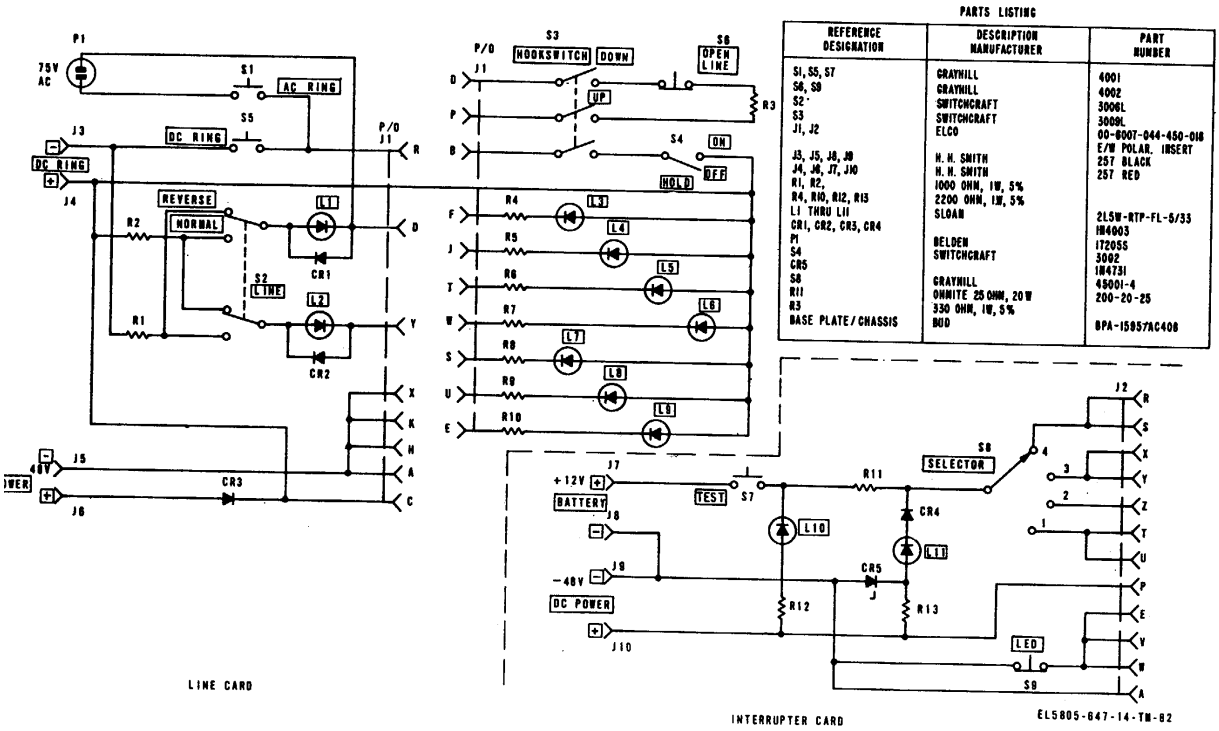


Figure 6-6. Test Adapter QR-9885, schematic diagram.

64. S. F. Oscillator 490094)1

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the S. F. oscillator. Alignment procedure for selection of R12 also is included. The schematic diagram for the S. F. oscillator is shown in figure FO-2 and the parts location diagram is shown in figure 6-7.

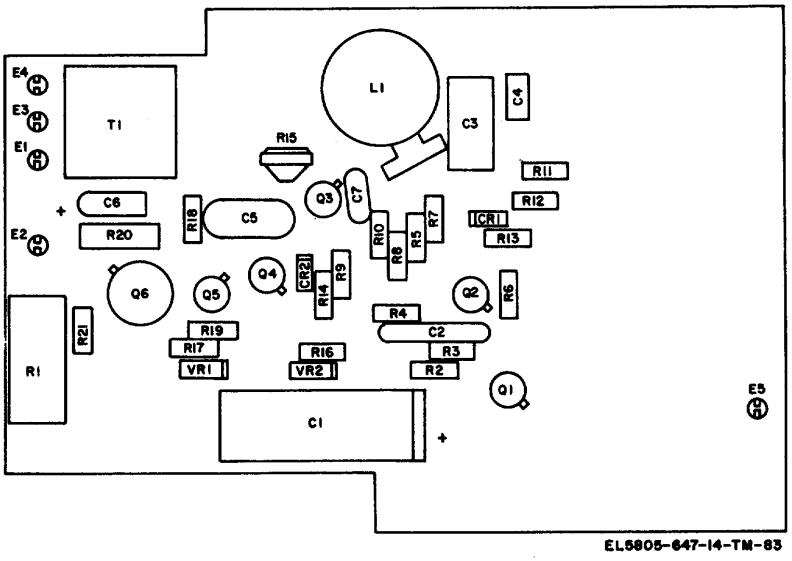


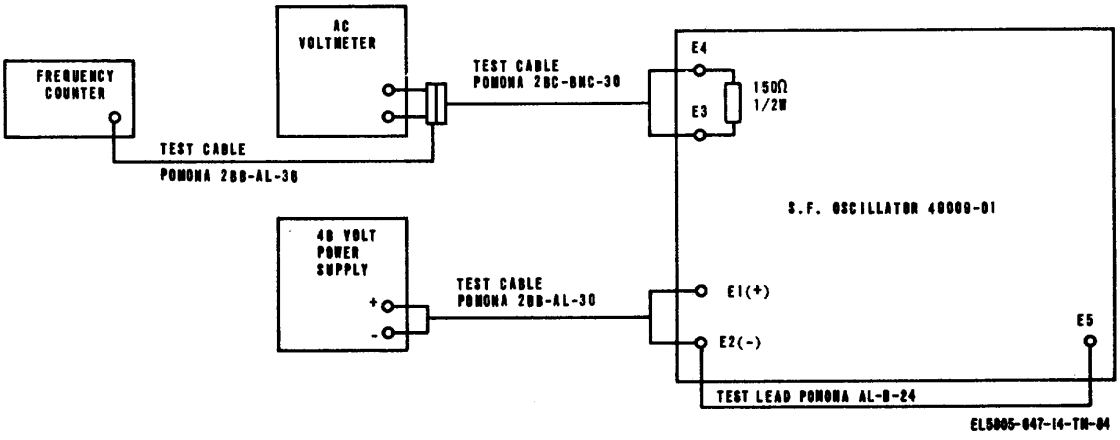
Figure 6-7. S. F. Oscillator 490009-01, parts location diagram.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Connect the equipment as shown in figure 6-8. Tack solder the resistor to the terminals.

(2) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(3) Adjust the output of the power supply for 48 vdc.



c. Performance Test and Troubleshooting Chars.

Step	*Test procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures (b above).		
2	Adjust R15 to its maximum clockwise position and then observe ac voltmeter.	0.92 vac minimum	If voltage is normal proceed to next step: otherwise. proceed to step (7).
3	Observe frequency counter	3250 :- 5 Hz	If frequency is normal, proceed to next step: otherwise. adjust L1. If normal indication can not be obtained, proceed to step (7).
4	Connect vtvm (15-vdc range) across the ends of R15, and then alternately connect and disconnect jumper cable between terminals E2 and ES.	Difference in voltage observed during both conditions is less than 0.1 vdc.	If difference voltage is normal. proceed to next step: otherwise. replace R12 in accordance with the procedure given in d below.
5	Remove jumper cable connected between terminals E2 and E5. Q3 and associated parts.	AC voltmeter indicates zero volt. step; otherwise, check and replace	If indication is normal, proceed to next
6	Replace jumper cable between terminals E2 and E5. Connect an additional terminals serving ac voltmeter.	Ac voltmeter decreases 3.5 t 0.2 db. 150-ohm resistor across E3 and E4 while ob-	If indication is normal, remove additional 150-ohm resistor and adjust R15 for 0.11 vrms on the ac voltmeter; test is complete. If indication is not normal. check and replace Q5, Q6 and associated parts.
7	Connect dc voltmeter across C1; observe polarity on capacitor.	--24 :t 4.8 vdc	If indication is normal, proceed to next step; otherwise, check and replace R1, C1 VR1, and VR2.
8	Connect oscilloscope probe to center tap of LI. Connect ground lead of oscilloscope to terminal El.	Sine wave, 3,250 t 5 Hz at 1.7 V pp minimum	If indication is abnormal check and replace Q1, Q2 and associated parts.

d. S. F. Oscillator Adjustment.

(1) Connect test equipment to S. F. oscillator printed-circuit card as shown in figure 6-8.

(2) Set potentiometer R15 to maximum clockwise position.

(3) Observe that ac voltmeter indicates 0.92 volt or greater. If it does not, troubleshooting is necessary; refer to b above.

(4) Adjust L1 for an indication of 3,250 + 5 Hz on frequency counter.

(5) Connect a vtvm (15-volt dc scale) across R15.

(6) Observe indication on vtvm and record.

(7) Disconnect jumper that is connected between terminals E2 and E5 and then observe indication on vtvm and record.

(8) If difference in indications obtained in steps (6) and (7) above is less than 0.1 vdc, proceed to step (14); otherwise, replace R12 as directed in steps (9) through (13).

(9) Turn off power supply and remove R12. Connect leads from resistance decade across R11 and then turn on power supply.

(10) Select a resistance value on resistance decade.

(11) Connect a jumper between terminals E2 and E5. Each time step (10) is repeated in the sequence, select a different resistance value.

(12) Repeat steps (6) through (8), (10) and (11) above until the voltage difference is less than 0.1 vdc. Each time step (10) is repeated in the sequence, select a different resistance value. When voltage difference is less than 0.1 vdc as required in step (8), proceed to step (13).

(13) Disconnect the resistance decade. Install a resistor whose value is closest to the final value selected on resistance decade in R12 position. After R12 is installed, repeat steps (6) through (8) above to verify proper selection of R12.

(14) Connect jumper between terminals E2 and E5 and then adjust R15 for 0.11 volt on ac voltmeter.

(15) Turn off and then disconnect test equipment.

6-5. Speaker Amplifier Assembly 41030-01

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the speaker amplifier. Adjustment procedure for selection of R32 also is included.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure: (1) Connect the test equipment as shown in figure 6-9.

(2) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(3) Adjust the output of the power supply for 24 vdc.

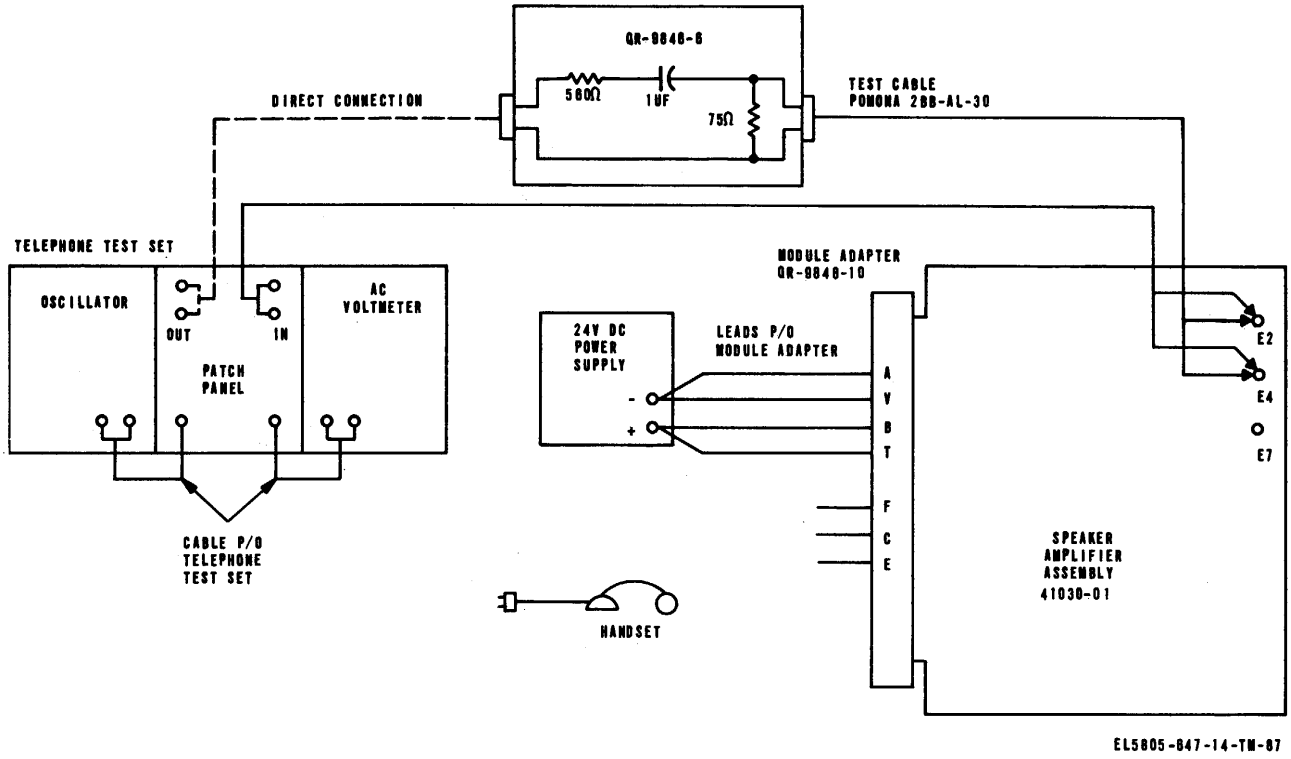


Figure 6-9. Speaker Amplifier Assembly 4103O01, test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set output impedance of oscillator for 600 ohms.		
3	Set input impedance of ac voltmeter for bridging.		
4	Set frequency of oscillator for 1000 Hz.		
5	Adjust output level of oscillator for 0.077 vrms.		
6	Set input impedance of ac voltmeter for 600 ohms and change alligator clips of ac voltmeter cable from terminals E2 and E4 to leads C and E of module adapter QR-9848-10. If necessary, adjust R2 to obtain performance standard.	Ac voltmeter indicates -20 ' 3 dbm.	If performance standard is normal, proceed to next step; otherwise, disconnect adapter QR-9848-6 and then proceed to step 11.
7	Change alligator clips of ac voltmeter cable from leads C and E to terminals E7 and E4. Set input impedance of ac voltmeter for bridging.	Ac voltmeter indicates -35 ' 3 dbm.	If performance standard is normal, proceed to next step; otherwise, check and replace Q4 and associated parts.
8	Disconnect adapter QR-9848-6 and connect oscillator to terminals F and B (ground lead). Set oscillator for 1000 Hz and output level of 0 dbm. Change alligator clips of ac voltmeter cable from terminals E7 and E4 to leads C and E of module adapter QR-9848-10. Set input impedance of ac voltmeter for 600 ohms.	Ac voltmeter indicates at least -3 dbm.	If performance standard is normal, proceed to next step; otherwise, check and replace R5, R6, and C2.
9	Increase output level of oscillator to obtain 0 dbm on ac voltmeter. Vary oscillator frequency from 300 to 3000 Hz while observing ac voltmeter.	Ac voltmeter remains within +1 and --1 dbm.	If performance standard is normal, proceed to next step; otherwise, check and replace C2, C4, and C5.
10	Set oscillator frequency to 1,000 Hz and output level to 0 dbm. Connect 600-ohm resistor across terminals C and E of module adapter QR-9848-10 while observing ac voltmeter.	Ac voltmeter indication decreases 3.5 - 0.2 db from level obtained in step 8.	if performance standard is normal, disconnect 600-ohm resistor and oscillator and then proceed to next step; otherwise, check and replace Q1, Q2, and associated parts.
11	Connect handset to J1 and change alligator clips of ac voltmeter cable from leads C and E to across R8, but connect 1 Af capacitor in series with voltmeter lead. Set input impedance of ac voltmeter to bridging. Insure hookswitch is in off-hook position. Blow into transmitter of handset while observing ac voltmeter.	Ac voltmeter indicates at least 0.03 vrms.	If performance standard is normal, proceed to next step; otherwise, check and replace R1, R2, R3, R42, C1, R8, and C9.
12	Change alligator clips of ac voltmeter cable and capacitor from across R8 to across R9. Blow into transmitter of handset while observing ac voltmeter.	Ac voltmeter indicates at least 0.4 vrms.	If performance standard is normal, proceed to next step; otherwise, check and replace Q1, Q2, and associated parts.
13	Change alligator clips of ac voltmeter cable from across R9 to leads C and E of module adapter QR-9848-10. Set input impedance of ac voltmeter for 600 ohms. Blow into transmitter of handset while observing ac voltmeter.	Ac voltmeter indicates between --10 and 0 dbm.	If performance standard is normal, transmitter section of amplifier is functioning properly, proceed to step 14 to test receiver section. If performance standard is abnormal. check and replace R12, C4. C5, and T1.
14	Change alligator clips of ac voltmeter cable from leads C and D to terminals E8 and E9.		

Step	Test Procedure	Performance standard	Corrective action
15	Change alligator clips of oscillator cable from leads F and B to leads M and P of module adapter QR-9848-10.		
16	Set frequency of oscillator for 1,000 Hz and output level of oscillator for 0 dbm.		
17	Set input impedance of ac voltmeter for bridging.	Ac voltmeter indicates at least 0.616 vrms.	If performance standard is normal, proceed to next step; otherwise, check and replace T2 and R21.
18	Change alligator clips of ac voltmeter cable from terminals E8 and E9 to across R15 but connect 1 Sf capacitor inseries with voltmeter cable. Set VOLUME control R43 to maximum clockwise position.	Ac voltmeter indicates at least 0.62 vrms.	If performance standard is normal, proceed to next step; otherwise, check and replace R43, Q3, and associated parts.
19	Plug in handset. Insure hookswitch is in off-hook position. Rotate VOLUME control.	1,000-Hz tone is heard in earpiece. Level of tone varies as VOLUME control is rotated.	If performance standard is normal, proceed to next step: otherwise, check and replace C6, hookswitch, J1, and R4.
20	Change alligator clips of ac voltmeter cable from across R15 to terminals E13 and E14. Remove handset. Insure hookswitch is in on-hook position. Rotate VOLUME control but leave VOLUME control in maximum clockwise position when observing voltmeter indication.	1,000-Hz tone is heard in speaker. Level of tone varies as VOLUME control is rotated. Ac voltmeter indicates between 2.8 and 3.2 vrms.	If performance standard is normal, proceed to next step; otherwise, check and replace Q5 through Q9 and associated parts. If no defective parts can be located, substitute new value resistor for R32 as described in d below.
21	Place hookswitch in off-hook position and repeat step 20.	Same as step 20	If performance standard is normal, disconnect test equipment and proceed to next step; otherwise, check and replace hookswitch and J1.
22	Connect a jumper wire between terminals S and U.	ALERT lamp lights and modulated tone is heard from speaker.	If performance standard is normal, receiver section of amplifier is functioning properly. If tone is normal but ALERT lamp does not light, replace lamp. If tone is not normal, check and replace Q10, Q11 and associated parts.

d. Selection of Resistor R32.

(1) Remove R32 and substitute a resistance decade in its place.

(2) Connect the power supply to the speaker amplifier as shown in figure 6-9.

(3) Connect oscillator to leads M and P of module adapter QR-9848-10.

(4) Set output impedance of Oscillator for 600 ohms.

(5) Adjust oscillator for an output of 1000 Hz at 0 dbm.

(6) Set VOLUME control R43 to maximum clockwise position.

(7) Connect ac voltmeter to terminals E13 and E14.

(8) Set input impedance of ac voltmeter for bridging.

(9) Adjust resistance decade to obtain an indication of 2.8 vrms or greater on ac voltmeter.

(10) Turn off power supply and disconnect resistance decade.

(11) Install a resistor whose value is closest to final value selected on resistance decade in R32 position. After R32 is installed, turn on power supply and verify that voltmeter indicates 2.8 vrms or greater.

(12) Turn off power supply and disconnect equipment.

6-6. S.F. Detector 41063-01 and S.F. Detector and Oscillator 41063-02

a. General. Because the circuitry of the S.F. Detector 41063-01 is identical to the detector portion of S.F. Detector and Oscillator 41063-02,

most of the following maintenance information is applicable to both printed-circuit cards; only the oscillator procedure (h below) is applicable exclusively to the 41063-62 card. To insure the S.F. detector circuit is functioning properly, the performance tests and alignment procedures given in b through g below should be performed in the sequence presented. If the specified standards are not obtained for any step and a corrective action is not given within the procedure, use standard troubleshooting techniques to isolate the defective part within the affected area. As an aid in troubleshooting, voltage, both ac and dc, and resistance values are given on the schematic diagram, figure FO-10. Similarly, to insure the oscillator circuit on the 41063-02 card is functioning properly, perform the S.F. oscillator performance test and alignment procedure given in h below. If specified standards are not obtained, use standard troubleshooting techniques. Voltage and resistance values of this circuit are also included on the schematic diagram in figure FO-10. Alignment of the S.F. detector should not be required unless associated frequency determining elements have been replaced, and the module cannot meet the performance tests given in c and e below.

b. S.F. Detector Alignment.

(1) Connect test equipment as shown in figure 6-10. Adjust power supply to provide 24 volts.

(2) Set oscillator of telephone test set for frequency of 1,752 Hz, an output impedance of 600 ohms, and an output level of - 10 dbm.

(3) Set ac voltmeter of telephone test set for bridging input impedance.

(4) Adjust R4 to its maximum counterclockwise position.

(5) Tune L1 for a minimum indication on ac voltmeter.

(6) Change ac voltmeter from junction of C5 and C9 to junction of C9 and C11. Leave other alligator clip connected to lead V of module adapter.

(7) Adjust frequency of oscillator for an indication of 2,466 Hz on frequency counter.

(8) Tune L2 for a minimum indication on ac voltmeter.

(9) Change ac voltmeter from junction of C9 and C11 to collector of Q9. Leave other alligator clip connected to lead V of module adapter.

(10) Adjust frequency of oscillator for an indication of 3,250 Hz on frequency counter.

(11) Change output level of oscillator to --20 dbm.

(12) Tune L3 for minimum indication on ac voltmeter.

(13) Tune L4 for maximum indication on multimeter. Decrease output level of oscillator as necessary to make peak easier to distinguish.

(14) Turn off and disconnect test equipment.

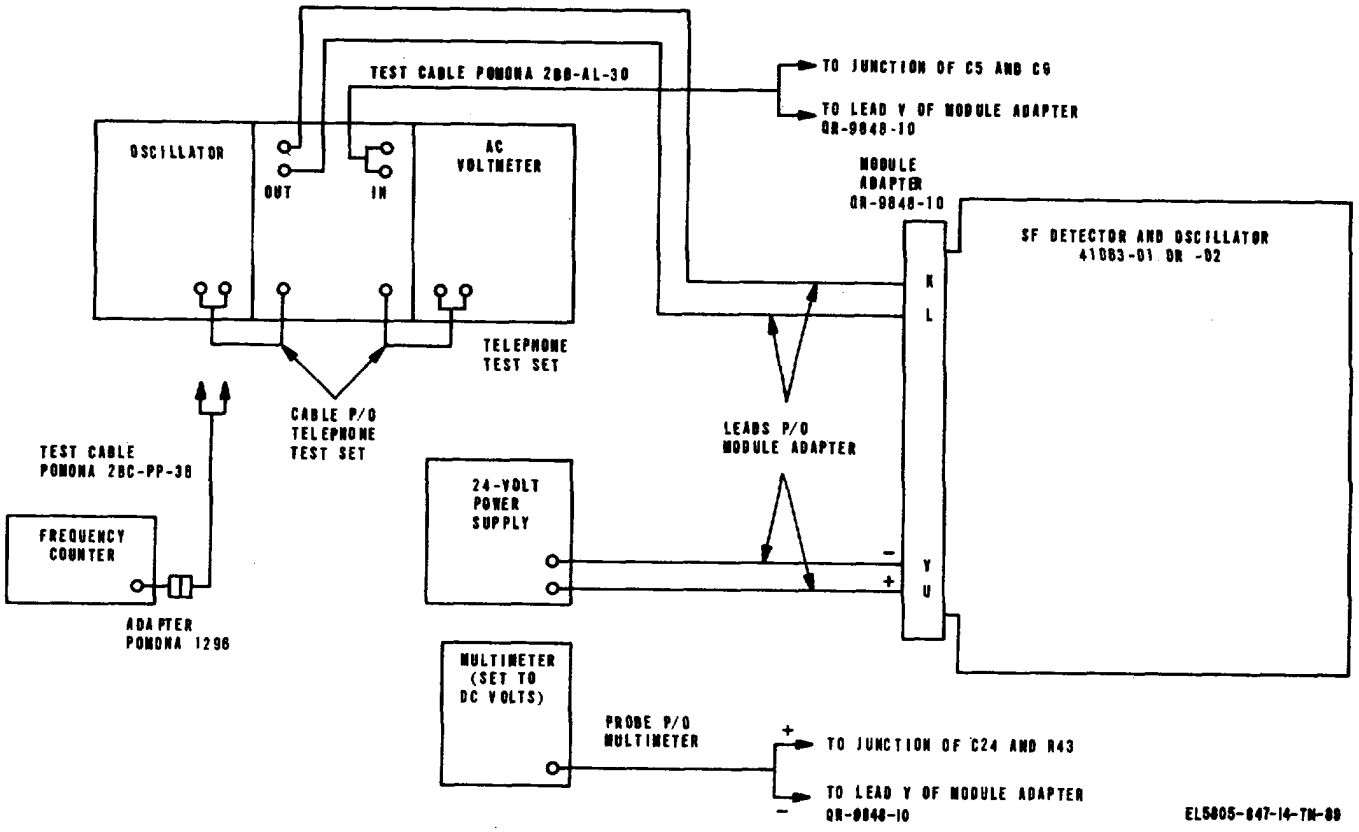


Figure 6-10. S. F. detector initial test setup diagram.

c. S.F. Detector Bandwidth Performance Test.

(1) Connect test equipment as shown in figure 6-11. Adjust power supply to provide 24 volts.

(2) Set oscillator of telephone test set for frequency of 3,140 Hz, an output impedance of 600 ohms, and an output level of 0 dbm. Multimeter, set to ohms, should indicate infinity (relay K1 is not energized) if not, decrease frequency of oscillator until multimeter indicates infinity.

(3) Very slowly increase frequency of oscillator until multimeter indicates zero ohm (relay K1 is energized). Frequency of oscillator must be between 3,169 and 3,201 Hz.

(4) Adjust frequency of oscillator for 3,360 Hz. Multimeter should indicate infinity; if not, increase frequency of oscillator until multimeter indicates infinity.

(5) Very slowly decrease frequency of oscillator until multimeter indicates zero ohm. Frequency of oscillator must be between 3,298 and 3,331 Hz.

(6) Set oscillator for frequency of 3,140 Hz and an output level of -26 dbm. Multimeter should indicate infinity; if not, decrease frequency of oscillator until multimeter indicates infinity.

(7) Very slowly increase frequency of oscillator until multimeter indicates zero ohm. Frequency of oscillator must be between 3,168 and 3,201 Hz.

(8) Adjust frequency of oscillator for an indication of 3,360 Hz. Multimeter should indicate infinity; if not, increase frequency until multimeter indicates infinity.

(9) Very slowly decrease frequency of oscillator until multimeter indicates zero ohm.
Frequency of oscillator must be between 3,298 and 3,331 Hz.

(10) Turn off and disconnect test equipment.

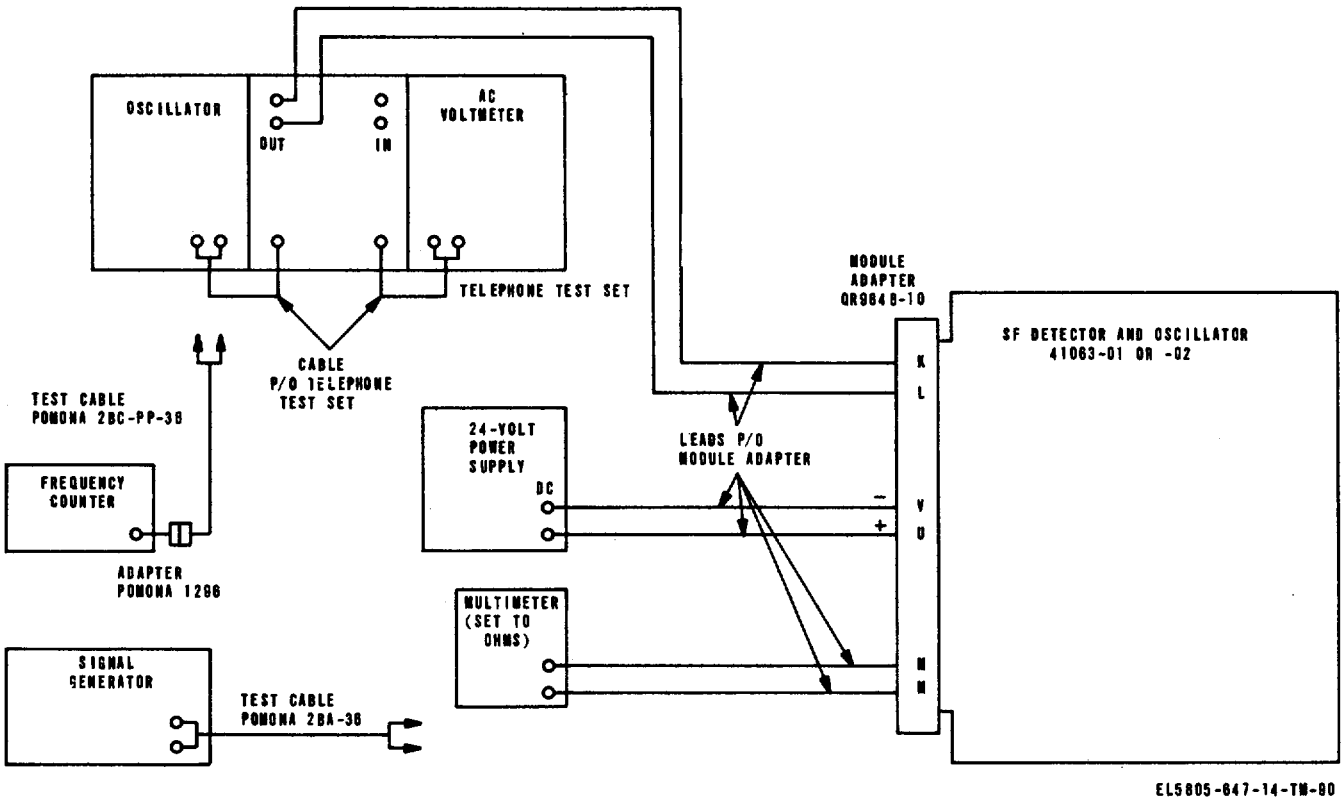


Figure 6-11. S. F. detector performance test, setup diagram.

a. Selection of Resistor R40.

(1) Connect test equipment as shown in figure 6-11. Adjust power supply to provide 24 volts.

(2) Set oscillator of telephone test set for frequency of 3,200 Hz, an output impedance of 600 ohms, and an output level of --10 dbm.

(3) Decrease frequency of oscillator until multimeter indicates infinity (relay K1 is deenergized).

(4) Very slowly, in 5-Hz steps, increase frequency of oscillator until multimeter indicates zero ohm (relay K1 is energized). Frequency of oscillator must be 3,185 Hz; if not, select a new value for R40 as follows.

(5) Remove resistor R40.

(6) Connect resistance decade, adjusted to 300K ohms, across terminals E3 and E4.

('7) Adjust frequency of oscillator for 3,185 Hz.

(8) Adjust resistance decade until multimeter indicates zero ohm.

(9) Remove resistance decade and install a resistor whose value is as close as possible to setting of resistance decade.

(10) Repeat steps (2) through (4) above to verify proper selection of resistor.

(11) Turn off and disconnect test equipment.

e. S.F. Detector Voice Inhibit Performance Test. This test, in steps (1) through (4), insures that if voice signals are present on the line before a signaling tone is received, relay K1 will not energize even though the correct signaling tone is received and, in steps (5) through (8), insures that voice signals will not deenergize the relay while a signaling tone is being received.

(1) Connect test equipment as shown in figure 6-11. Adjust power supply to provide 24 volts.

(2) Set oscillator of telephone test set for frequency of 1,000 Hz, an output impedance of 600 ohms, and an output level of -20 dbm.

Observe that multimeter indicates infinity (relay K1 is deenergized)

(3) Set signal generator for frequency of 3,250 Hz and an output level of 0 dbm. Use ac voltmeter, part of telephone test set, to set output level.

(4) Connect signal generator to leads K and

L of module adapter QR-9848-10. Observe that multimeter continues to indicate infinity.

(5) Disconnect signal generator output cable from lead K. Observe that multimeter continues to indicate infinity.

(6) Disconnect oscillator output cable from lead K and reconnect signal generator output cable to lead K. Observe that multimeter indicates zero ohm (relay K1 is energized).

(7) Reconnect oscillator output cable to lead K and vary the frequency of the oscillator from 300 to 2,500 Hz. Observe that multimeter indicates zero ohm over the entire frequency range.

(8) Turn off and disconnect test equipment.

f. S.F. Detector Relay Time Out Adjustment.

The relay time out period can be adjusted to any value between 0. and 7 seconds depending on system requirements. In this system, a time out of 3 + 0.5 seconds is desired. If, in the following procedure, the proper time out cannot be achieved within the range of potentiometer R48, a jumper can be added or deleted between terminals E5 and E6 to alter the frequency range of potentiometer R48. The adjustment is as follows.

(1) Connect a 24-volt dc power supply to module adapter QR-9848-10 as shown in figure 611.

(2) Connect an oscilloscope to junction of R49, CR4 and cathode of Q14; connect ground lead of oscilloscope to lead U of module adapter.

(3) Adjust potentiometer R48 until pulses on oscilloscope are 3 + 0.5 seconds apart.

(4) Turn off and disconnect test equipment.

g. S.F. Detector Minimum Signal Adjustment.

(1) Connect test equipment as shown in figure 6-11, but do not connect the multimeter.

Adjust power supply to provide 24 volts.

(2) Connect an oscilloscope to collector of Q8; connect ground lead to oscilloscope to lead U of module adapter QR-9848-10.

(3) Set oscillator of telephone test set for frequency of 3,250 Hz, an output impedance of 600 ohms, and an output level of -20 dbm.

(4) From its maximum counterclockwise position, rotate potentiometer R4 until a stable square wave is displayed on the oscilloscope. The square wave will have a frequency of 3,250 Hz.

(5) Turn off and disconnect test equipment.

h. S.F. Oscillator Performance Test and Alignment Procedure.

(1) Connect test equipment as shown in figure 6-12. Adjust power supply to provide 24 volts.

(2) Rotate potentiometer R71 to its maximum clockwise position.

(3) Depress switch S1. Ac vtvm should indicate a minimum of 0 dbm and the frequency counter should indicate 3,250 + 5 Hz.

(4) If frequency is not within tolerance, tune L4.

(5) Turn off and disconnect test equipment.

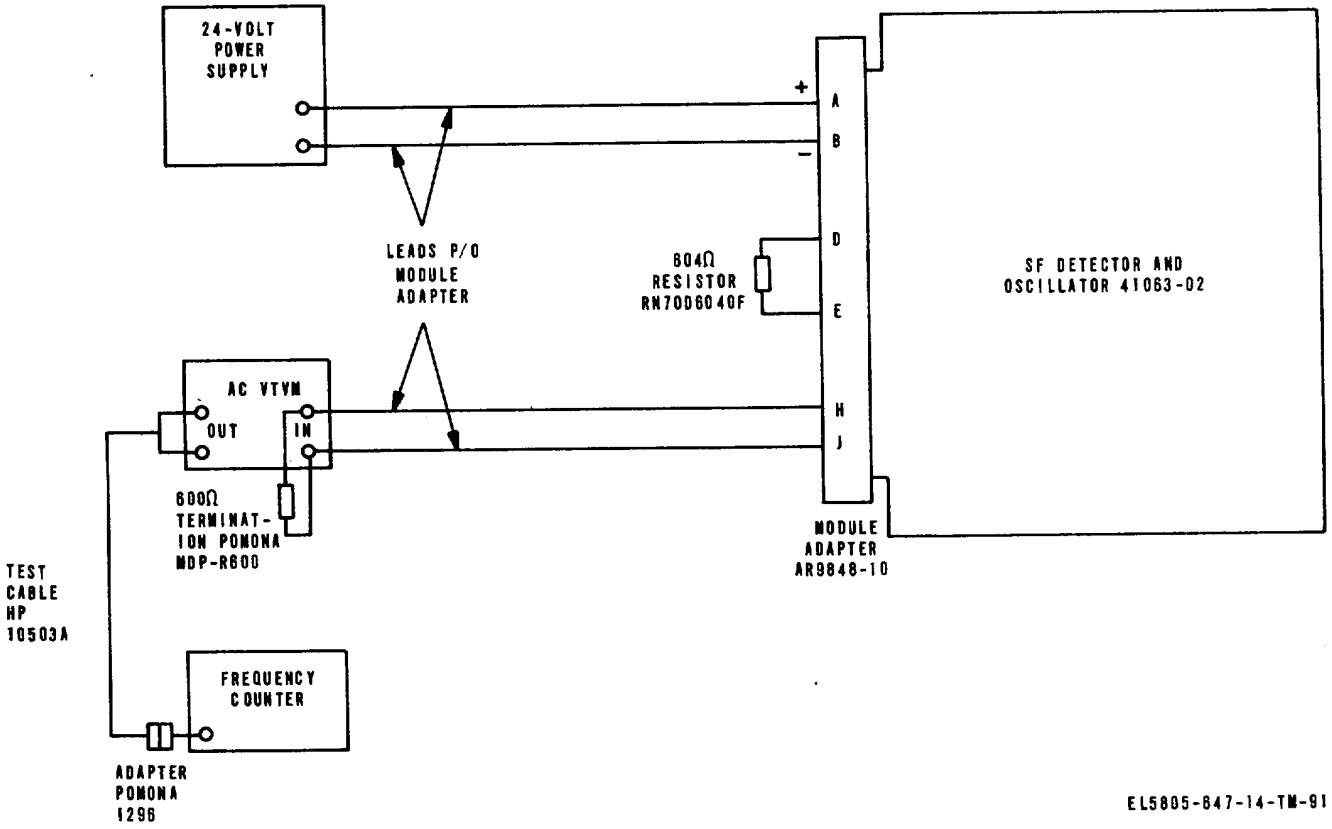


Figure 6-12. S. F. oscillator alignment, initial test setup diagram.

6-7. Tone Receiver 40452-01

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the tone receiver. Alignment procedure for the tone receiver is included within the chart. The schematic diagram for the tone receiver is shown in figure FO-12.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below) perform the following procedure:

(1) Connect the test equipment as shown in figure 6-13.

(2) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(3) Adjust the output of the power supply for 24 vdc.

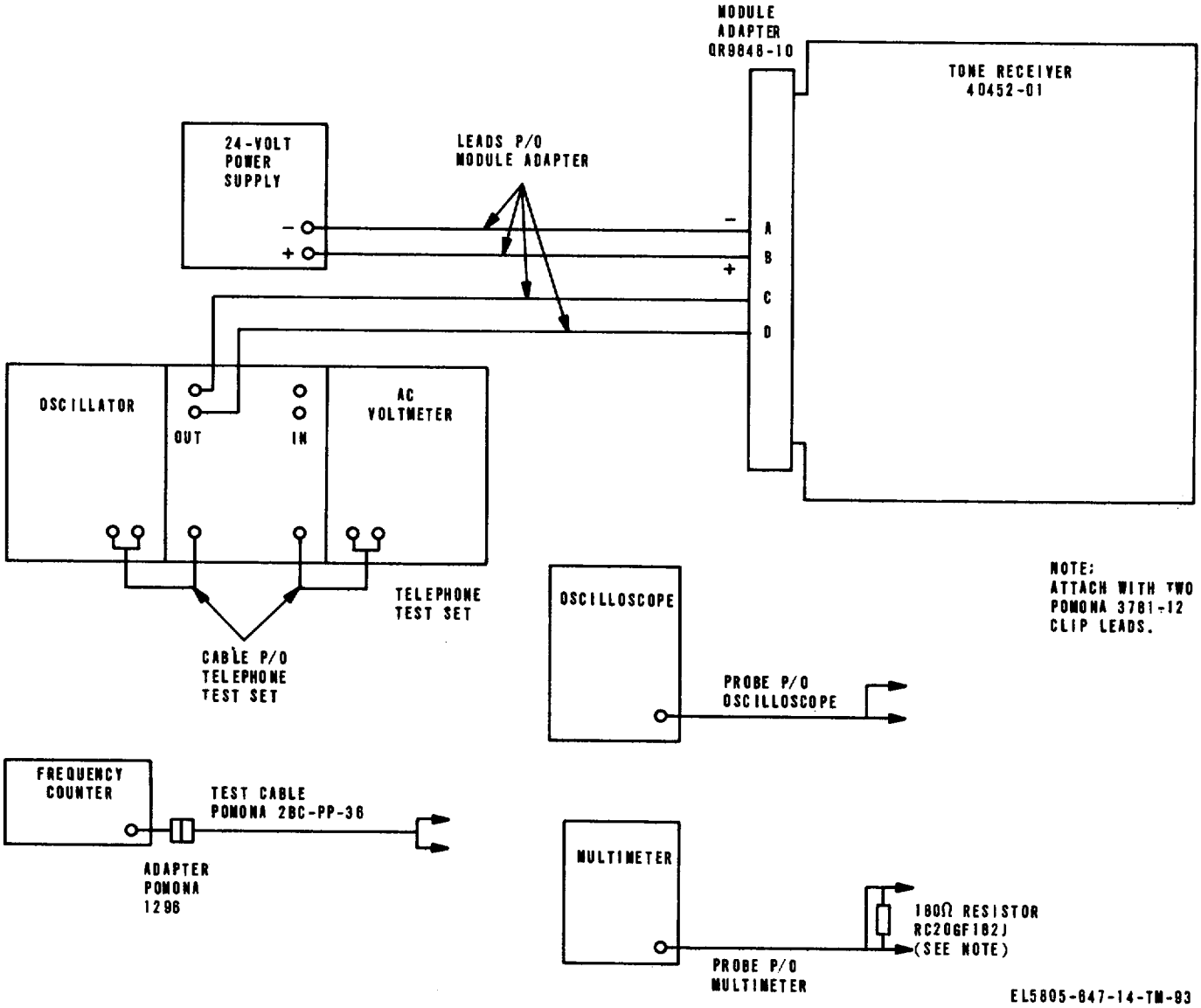


Figure 6-13. Tone Receiver 40452-01, initial test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set oscillator of telephone test set for frequency of 941 Hz, an output impedance of 600 ohms, and an output level of -20 dbm.		
3	Connect common lead of oscilloscope probe to lead B of module adapter and probe to collector of Q19.	Waveform displayed on oscilloscope is undistorted sinewave.	Check and replace T1, Q19, and associated parts.
4	Increase output level of oscillator to + 10 dbm.	Same as above	Same as above.
5	Change probe of oscilloscope to collector of Q9. Adjust L8 minimum amplitude on oscilloscope.	Waveform displayed on oscilloscope is for undistorted sinewave of minimum amplitude.	If performance standard is normal, proceed to step 7; otherwise, proceed to step 6.
6	Change probe of oscilloscope to emitter of Q18. Adjust L8 for minimum amplitude on oscilloscope.	Same as step	If performance standard is normal, check and replace Q9 and associated parts; otherwise, check and replace Q18 and associated parts.
7	Set oscillator frequency to 1,209 Hz. Change probe of oscilloscope to positive side of C14.	Waveform displayed on oscilloscope is a square wave.	Check and replace Q10 through Q16 and associated parts.
8	Change probe of oscilloscope to collector of Q1. Adjust L9 for minimum amplitude on oscilloscope.	Waveform displayed on oscilloscope is undistorted sinewave of minimum amplitude.	If performance standard is normal, proceed to step 10; otherwise, proceed to step 9.
9	Change probe of oscilloscope to emitter of Q17. Adjust L9 for minimum amplitude on oscilloscope.	Same as step	If performance standard is normal, check and replace Q1 and associated parts; otherwise, check and replace Q17 and associated parts
10	Set oscillator frequency to 941 Hz. Change probe of oscilloscope to positive side of C7.	Waveform displayed on oscilloscope is a square wave.	Check and replace Q2 through Q8 and associated parts.
11a	Change oscillator of telephone test set for frequncy of 697 Hz and an output level of -20 dbm.		
11b	Connect positive lead of multimeter (set for dc volts) to lead B of module adapter. Connect negative lead of multimeter to lead V of module adapter.	Multimeter indicates -22 $\pm$ 2 vdc	Adjust L1 until multimeter indicates maximum negative voltage. If performance standard can not be obtained, check and replace Q20, Q21, and associated parts.
11c	Decrease frequency of oscillator until multimeter indicates -10 vdc.	Frequency is between 680 and 687 Hz.	Readjust LI to obtain performance standards of steps lib, c, and d. If performance standards can not be obtained, check and replace Q20, Q21, and associated parts.
11d	Increase frequency of oscillator to 697 Hz and then continue increasing frequency until multimeter indicates --10 vdc.	Frequency is between 707 and 714 Hz.	Same as above.
12a	Change oscillator of telephone test set for frequency of 770 Hz.		
12b	Change negative lead of multimeter to lead U of module adapter.	Multimeter indicates -22 + 2 vdc.	Adjust L2 until multimeter indicates maximum negative voltage. If performance standard can not be obtained, check and replace Q22, Q23. and associated parts.
12c	Decrease frequency of oscillator until multimeter indicates --10 vdc.	Frequency is between 751 and 757 Hz.	Readjust L2 to obtain performance standards of steps 12b, c, and d. If performance standards can not be obtained, check and replace Q22, Q23. and associated parts.

Step	Test Procedure	Performance standard	Corrective action
12d	Increase frequency of oscillator to 770 Hz and then continue increasing frequency until multimeter indicates --10 vdc.	Frequency is between 782 and 789 Hz.	Same as above.
13a	Change oscillator of telephone test set to frequency of 852 Hz.		
13b	Change negative lead of multimeter to lead T of module adapter.	Multimeter indicates -22 +- 2 vdc.	Adjust L3 until multimeter indicates maximum negative voltage. If performance standard can not be obtained, check and replace Q24, Q25, and associated parts.
13c	Decrease frequency to oscillator until multimeter indicates --10 vdc.	Frequency is between 831 and 839 Hz.	Readjust L3 to obtain performance standards of steps 136, c, and d. If performance standards can not be obtained, check and replace Q24, Q25, and associated parts.
13d	Increase frequency of oscillator to 852 Hz and then continue increasing frequency until multimeter indicates -10 vdc.	Frequency is between 865 and 873 Hz.	Same as above.
14a	Change oscillator of telephone test set to frequency of 941 Hz.		
14b	Change negative lead of multimeter to lead S of module adapter.	Multimeter indicates -22 ' 2 vdc	Adjust L4 until multimeter indicates maximum negative voltage. If performance standard can not be obtained, check and replace Q26, Q27, and associated parts.
14c	Decrease frequency of oscillator until multimeter indicates --10 vdc.	Frequency is between 918 and 927 Hz.	Readjust L4 to obtain performance standards of steps 14b, c, and d. If performance standards can not be obtained, check and replace Q26, Q27, and associated parts.
14d	Increase frequency of oscillator to 941 Hz and then continue increasing frequency until multimeter indicates -10 vdc.	Frequency is between 955 and 965 Hz.	Same as above.
15a	Change oscillator of telephone test set to frequency of 1,209 Hz.		
15b	Change negative lead of multimeter to lead R of module adapter.	Multimeter indicates -22 - 2 vdc.	Adjust L5 until multimeter indicates maximum negative voltage. If performance standard can not be obtained, check and replace Q28, Q29, and associated parts.
15c	Decrease frequency of oscillator until multimeter indicates - 10 vdc.	Frequency is between 1179 and 1191 Hz.	Readjust L5 to obtain performance standards of steps 15b, c, and d. If performance standards can not be obtained, check and replace Q29 and associated parts.
15d	Increase frequency of oscillator to 1,209 Hz and then continue increasing frequency until multimeter indicates - 10 vdc.	Frequency is between 1,227 and 1,239 Hz.	Same as above.
16a	Change oscillator of telephone test set to frequency of 1,336 Hz.		
16b	Change negative lead of multimeter to lead P of module adapter.	Multimeter indicates -22 + 2 vdc.	Adjust L6 until multimeter indicates maximum negative voltage. If performance standard can not be obtained, check and replace Q30, Q31, and associated parts.
16c	Decrease frequency of oscillator until multimeter indicates --10 vdc.	Frequency is between 1303 and 1316 Hz.	Readjust L6 to obtain performance standards of step 16b, c, and d. If performance standards can not be obtained, check and replace Q30, Q31, and associated parts.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
16d	Increase frequency of oscillator to 1336 Hz and then continue increasing frequency until multimeter indicates --10 vdc.	Frequency is between 1,356 and 1,369 Hz.	Same as above.
17a	Change oscillator of telephone test set to frequency of 1.447 Hz.		
17b	Change negative lead of multimeter to lead N of module adapter.	Multimeter indicates --22 -. 2 vdc.	Adjust L7 until multimeter indicates maximum negative voltage. If performance standard can not be obtained, check and replace Q32, Q33. and associated parts.
17c	Decrease frequency df oscillator until multimeter indicates -10 vdc.	Frequency is between 1,440 and 1,455 Hz.	Readjust L7 to obtain performance standards of steps 17b, c, and d. If performance standards can not be obtained, check and replace Q32. Q33, and associated parts.
17d	Increase frequency of oscillator to 1447 Hz and then continue increasing frequency until multimeter indicates -10 vdc.	Frequency is between 1,499 and 1,514 Hz.	Same as above.
18	Turn off and disconnect test equipment.		

6-8. Digit Decoder 40451-04

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the digit decoder. Ring time adjustment procedure is also included. The schematic diagram for the digit decoder is shown in figure FO-13.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following precedure:

(1) Connect the test equipment, jumpers and resistors as shown in figure 6-14. Tack solder resistors and jumpers to terminals.

(2) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(3) Set multimeter connected to leads C and D of module adapter to low ohms scale; set the other multimeter to measure dc voltage.

(4) Adjust the output of the 24-volt power supply for 24 vdc.

(5) Adjust the output of the 48-volt power supply for 48 vdc.

(6) Set RING TIME ADJ potentiometer R8 to its maximum clockwise position.

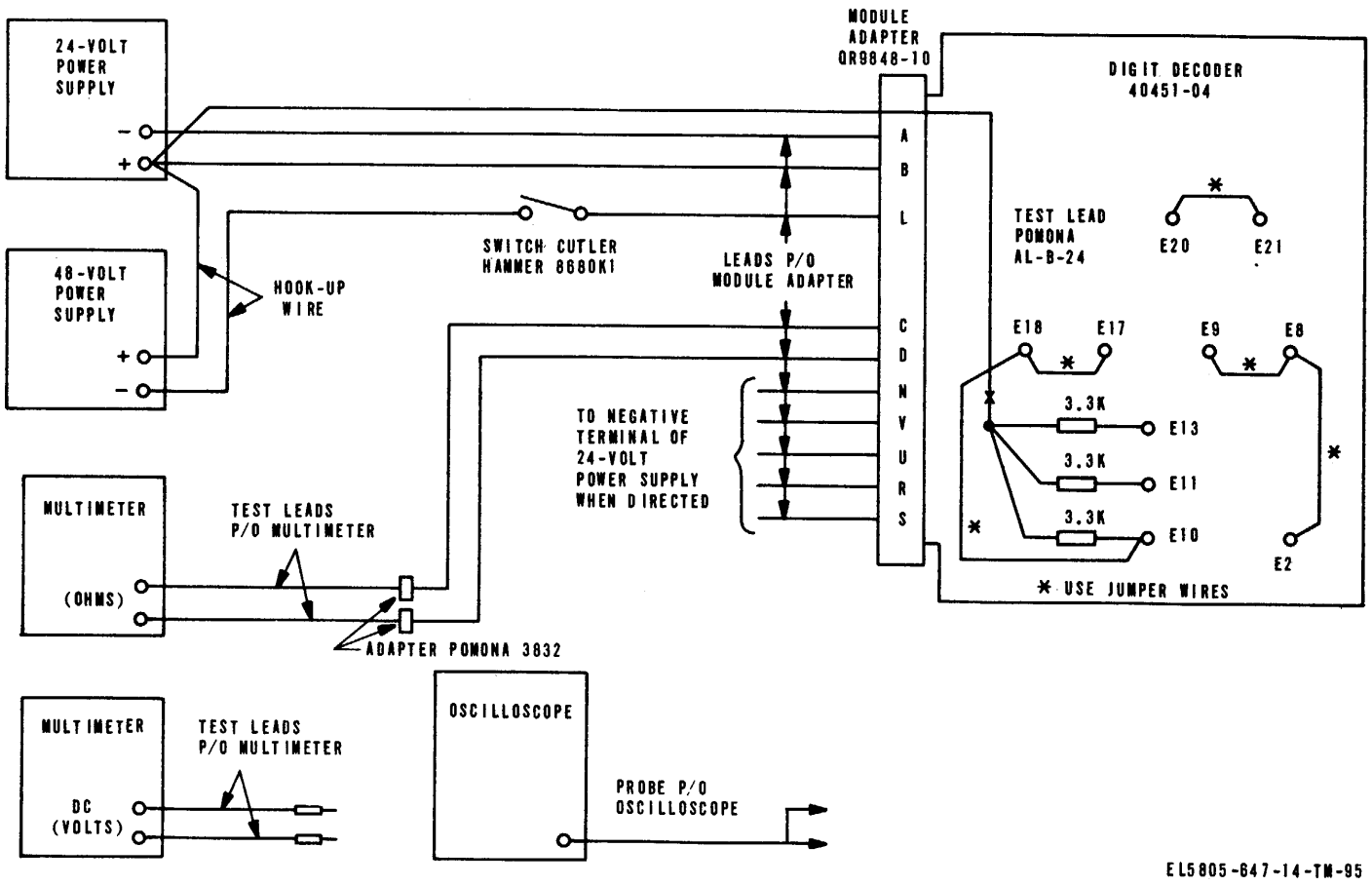


Figure 6-14. Digit Decoder 40451-04, initial test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above. Insure switch in test setup is open.	Multimeter indicates infinity (relay K1 is deenergized).	If performance standard is normal, proceed to next step; otherwise, proceed to step 12. After malfunction is correct, restart test procedure.
2	Simultaneously and momentarily touch leads S and R of the module adapter to negative terminal of 24-volt power supply.	Multimeter indicates zero ohm when leads touch power supply terminal. Six to ten seconds later, multimeter indicates infinity.	If performance standard is normal, proceed to step 15. If multimeter does not indicate zero ohm, proceed to next step. If multimeter does not indicate infinity 6 to 10 seconds after it indicates zero ohm, proceed to step 12.
3	Connect leads S and R of module adapter to negative terminal of 24-volt power supply. Connect multimeter between collector of Q7 and positive terminal of 24-volt power supply.	Multimeter indicates zero vdc.	If performance is normal, leave leads S and R connected and proceed to next step; otherwise, check and replace Q7 and associated parts.
4	Connect multimeter between collector Q9 and positive terminal of 24-volt power supply.	Multimeter indicates -20 to -24 vdc.	If performance standard is normal, leave leads Send R connected and proceed to next step; otherwise, check and replace CR6, Q9, and associated parts.
5	Connect multimeter between collector of Q10 and positive terminal of 24-volt power supply.	Multimeter indicates zero vdc	If performance standard is normal, leave leads S and R connected and proceed to next step; otherwise, check and replace Q10 and associated parts.
6	Connect oscilloscope between collector of Q12 and positive terminal of 24-volt power supply.	Display on oscilloscope is negative going pulses approximately 30 to 40 msec apart. Amplitude of pulses is between 20 and 24 volts.	If performance standard is normal, leave leads S and R connected and proceed to next step; otherwise, check and replace CR10, Q11, Q12, and associated parts.
7	Connect oscilloscope between collector of Q13 and positive terminal of 24-volt power supply.	Pulses on oscilloscope are same as in step 6, except they are positive-going.	If performance standard is normal, leave leads S and R connected and proceed to next step; otherwise, check and replace Q13 and associated parts.
8	Connect oscilloscope between collector of Q8 and positive terminal of 24-volt power supply.	Pulses on oscilloscope are same as in step 6.	If performance standard is normal, leave leads S and R connected and proceed to next step; otherwise, check and replace CR7, Q8, and associated parts.
9	Connect multimeter between collector of Q16 and positive terminal of 24-volt power supply.	Multimeter indicates -10 to -12 vdc.	If performance standard is normal, leave leads S and R connected and proceed to next step; otherwise, check and replace CR15, Q15, Q16, and associated parts.
10	Connect multimeter between collector of Q19 and positive terminal of 24. volt power supply.	Multimeter indicates -10 to -12 vdc.	If performance standard is normal, leave leads S and R connected and proceed to next step; otherwise, check and replace CR19, Q18, Q19, and associated parts.
11	Connect multimeter between collector of Q20 and positive terminal of 24-volt power supply.	Multimeter indicates -20 to -- 24 vdc.	If performance standard is normal, check and replace K1: otherwise, check and replace Q20 and associated parts. After this step, repeat step 2.

Step	Test Procedure	Performance standard	Corrective action
12	Connect oscilloscope between collector of Q6 and positive terminal of power supply. Simultaneously and momentarily touch leads S and R to negative terminal of 24-volt power supply.	NOTE Time period can be estimated by counting 1,001, 1,002, etc. Within 6 to 10 seconds after S and R leads are removed from power supply, oscilloscope displays negative-going pulse with amplitude of 20 to 24 volts and width between 0.2 and 0.8 msec.	If performance standard is normal, proceed to next step: otherwise, check and replace Q3. Q4. Q6, and associated parts.
13	Connect multimeter between collector of Q16 and positive terminal of 24-volt power supply.	Multimeter indicates -20 to -24 vdc.	If performance standard is normal, proceed to next step: otherwise, check and replace CR18, Q15, Q16, and associated parts.
14	Connect multimeter between collector of Q20 and positive terminal of 24-volt power supply.	Multimeter indicates zero vdc.	If performance standard is normal, check and replace K1; otherwise, check and replace CR24, CR25, Q20, and associated parts. After this step, repeat step 2.
15	Simultaneously and momentarily touch leads S and R of the module adapter to negative terminal of 24-volt power supply. Multimeter indicates zero ohm. Within 2 seconds of the ohmmeter indication, simultaneously and momentarily touch leads S and N of the module adapter to negative terminal of 24-volt power supply.	Zero-ohm indication on multimeter returns to infinity indication immediately after leads S and N are connected to power supply.	If performance standard' is normal, proceed to next step: otherwise, check and replace Q1, Q2, and associated parts.
16	Momentarily touch lead V of module adapter to negative terminal of 24-volt power supply and immediately after (2 seconds or less) touch lead U of module adapter to negative terminal of 24-volt power supply.	Multimeter indicates zero ohm, and then, after 6 to 10 seconds, multimeter indicates infinity.	If performance standard is normal, proceed to step 20; otherwise, proceed to next step.
17	Connect multimeter between collector of Q17 and positive terminal of 24-volt power supply. While observing multimeter, touch lead V of module adapter to negative terminal of 24-volt power supply.	Multimeter indicates zero volt when lead is connected and -24 vdc when lead is not connected.	If performance standard is normal, proceed to next step; otherwise, check and replace Q17 and associated parts.
18	Connect multimeter between collector of Q19 and positive terminal of 24-volt power supply. Momentarily touch lead V of module adapter to negative terminal of 24-volt power supply.	Multimeter indicates --10 to --12 vdc immediately after lead is removed from power supply.	If performance standard is normal, proceed with next step; otherwise, check and replace CR22, R60, R61, C6, CR23, and R67.
19	Connect multimeter between collector of Q14 and positive terminal of 24-volt power supply. While observing multimeter, touch lead U of module adapter to negative terminal of 24-volt power supply.	Multimeter indicates zero volt when lead is connected and -24 vdc when lead is not connected.	If performance standard is normal, check and replace CR13, CR14, R47, C5, R48, CR16, and R54; otherwise, check and replace Q14 and associated parts. After this step, repeat step 16.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
20	Perform following steps sequentially and with no more than 2 or 3 seconds elapsed time between steps.		
	a. Momentarily touch lead V of module adapter to negative terminal of 24-volt power supply.	a. Multimeter indication remains at infinity. check and replace CR24.	a. If performance standard is normal, proceed to next step: otherwise,
	b. Momentarily touch lead U of module adapter to negative terminal of 24-volt power supply.	b. Multimeter indicates zero ohm	b. If performance standard is normal, proceed to next step: otherwise, return to step 16.
	c. Close switch connected to lead L of module adapter.	c. Multimeter indicates infinity immediately after switch is closed. If multimeter indicates infinity 6 to 10 seconds after switch is closed, performance standard is abnormal.	c. If performance standard is normal, proceed to next step; otherwise, check and replace Q4. Q5, and associated parts.
21	Adjust ring time potentiometer in accordance with instruction in d below, and then disconnect test equipment and jumpers.		

d. Ring Time Adjustment Procedure.

(1) If test setup for performance test and troubleshooting procedure (c above) is connected, proceed to step (2); otherwise, make the following connections:

(a) Connect 24-volt power supply and the multimeter to module adapter as shown in figure 6-14.

(b) Connect three 3.3K resistors to the printed-circuit card as shown in figure 6-14.

NOTE

In step (2) below, when leads S and R of the module adapter touch the power supply terminal, the multimeter will indicate zero ohm and then, within 10 seconds, the multimeter indication will return to infinity.

(2) Simultaneously and momentarily touch leads S and R of module adapter to negative terminal of 24-volt power supply and estimate the time between the zero-ohm indication and the infinity indication on the multimeter. The time period can be estimated by counting one thousand and one, one thousand and two, and so on up to one thousand and ten for 10 seconds.

(3) Adjust R8 and then repeat step (2) above until the time period between the zero-ohm indication and infinity indication is between 3 and 4 seconds.

6-9. 4-Way/ 4-Wire Bridge 40155-03 and 4045503

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting both models of the 4way/4-wire bridge. The schematic diagram for both models of the bridge is shown in figure FO-7.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Connect straps on circuit card as follows to include pads in circuits.

(a) Leg 1-Ell to E12 and E14 to E15.
(b) Leg 2-E2 to E4 andd E3 to E5.
(c) Leg 3-E17 to E18 and E20 to E21.
(d) Leg 4-E28 to E30 and E29 to E31.

(2) Connect test equipment as shown in figure 6-15.

(3) Turn on test equipment.

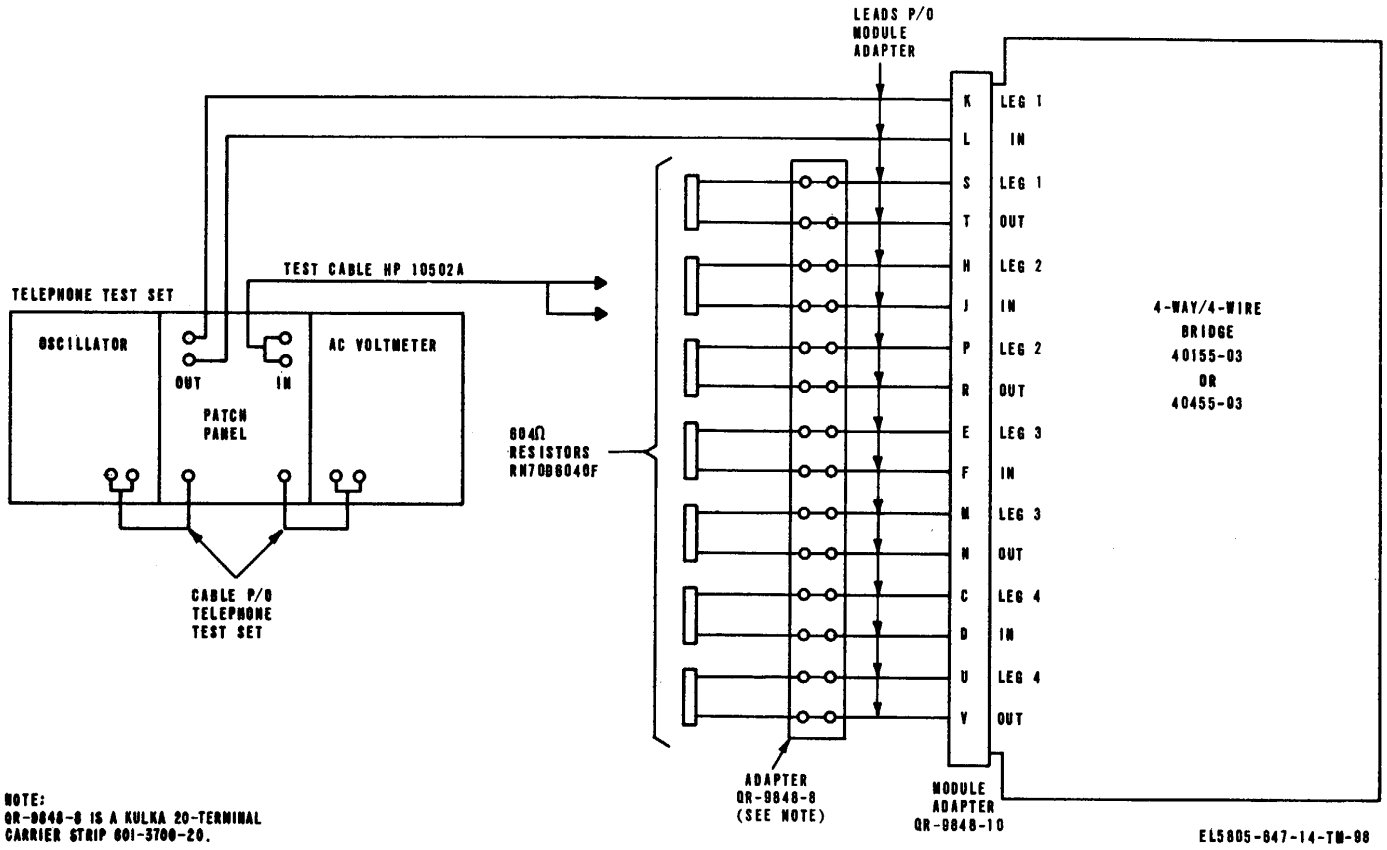


Figure 6-15. 4-Way/4-Wire Bridge 40165-03 and 40455-03, initial test setup diagram.

c. Performance and Test Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set oscillator of telephone test set for frequency of 1,000 Hz, an output impedance of 600 ohms, and an output level of 0 dbm.		
3	Set ac voltmeter of telephone test set for bridging impedance.		
4	Connect test cable from ac voltmeter to leads P and R of module adapter.	Ac voltmeter indicates -24 0.5 dbm.	If performance standard is normal, proceed to step 6: otherwise, proceed to step 5.
5	Connect test cable from ac voltmeter to terminals E14 and E16.	Ac voltmeter indicates -9 + 0.5 dbm.	If performance standard is normal, check and replace resistors R7 and R8; otherwise, check and replace resistors R21 through R24.
6	Connect test cable from ac voltmeter to leads M and N of module adapter.	Ac voltmeter indicates -24 - 0.5 dbm.	If performance standard is normal, proceed to next step; otherwise, check and replace resistors R26 and R29.
7	Connect test cable from ac voltmeter to leads U and V of module adapter.	Ac voltmeter indicates -24 ’ 0.5 dbm.	If performance standard is normal, proceed to next step; otherwise, check and replace resistors R31 and R36.
8	Connect test cable from ac voltmeter to leads S and T of module adapter.	Ac voltmeter indicates a value more negative than -69 dbm.	If performance standard is normal, proceed to next step; it not, there is a malfunction but continue testing. If cause of malfunction is not found by end of test, check for high-resistance shorts on circuit card.
9	Connect leads H and J of module adapter to oscillator and connect leads previously connected to oscillator to 604-ohm resistor. Connect test cable from ac voltmeter to leads S and T of module adapter.	Ac voltmeter indicates -24 0.5 dbm.	If performance standard is normal, proceed to step 11: otherwise, proceed to step 10.
10	Connect test cable from ac voltmeter to terminals E3 and E8.	Ac voltmeter indicates -9 t 0.5 dbm	If performance standard is normal, check and replace resistors R12 and R14: otherwise, check and replace resistors R1 through R4.
11	Connect test cable from ac voltmeter to leads M and N of module adapter.	Ac voltmeter indicates -24 - 0.5 dbm,	If performance standard is normal, proceed to next step; otherwise check and replace resistors R25 and R28.
12	Connect test cable from ac voltmeter to leads U and V of module adapter.	Ac voltmeter indicates -24 0.5 dbm.	If performance standard is normal, check and replace resistors R32 and RP35.
13	Connect test cable from ac voltmeter to leads P and R of module adapter.	Ac voltmeter indicates a value more negative than -69 dbm.	If performance standard is normal, proceed to next step: if not, there is a malfunction but continue testing. If cause of malfunction is not found by end of test, check for high-resistance shorts on circuit card.
14	Connect leads E and F of module adapter to oscillator and connect leads previously connected to oscillator to 604-ohm resistor. Connect test cable from ac voltmeter to leads S and T of module adapter.	Ac voltmeter indicates -24 t 0.5 dbm.	If performance standard is normal, proceed to step 16: otherwise, proceed to step 15.
15	Connect test cable from ac voltmeter to terminals E17 and E19.	Ac voltmeter indicates -9 t 0.5 dbm.	If performance standard is normal. check and replace resistors R11 and R15 otherwise, check and replace resistors R17 through R20.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
16	Connect test cable from ac voltmeter to leads P and R of module adapter.	Ac voltmeter indicates -24 + 0.5 dbm.	If performance standard is normal, proceed to next step: otherwise, check and replace resistors R5 and R10.
17	Connect test cable from ac voltmeter to leads U and V of module adapter.	Ac voltmeter indicates --24 t 0.5 dbm.	If performance standard is normal, proceed to next step: otherwise, check and replace resistors R33 and R34.
18	Connect test cable from ac voltmeter to leads M and N of module adapter.	Ac voltmeter indicates less than -69 dbm.	If performance standard is normal, proceed to next step: it not, there is a malfunction but continue testing. If cause of malfunction is not found by end of test. check for high-resistance shorts on circuit card.
19	Connect leads C and D of module adapter to oscillator and connect leads previously connected to oscillator to 604-ohm resistor. Connect test cable from ac volt. meter to leads S and T of module adapter.	Ac voltmeter indicates -24 + 0.5 dbm.	If performance standard is normal, proceed to step 21: otherwise, proceed to step 20.
20	Connect test cable from ac voltmeter to terminals E25 and E30.	Ac voltmeter indicates -9 +- 0.5 dbm.	If performance standard is normal, check and replace resistors R13 and R16: otherwise, check and replace resistors R37 through R40.
21	Connect test cable from ac voltmeter to leads P and R of module adapter.	Ac voltmeter indicates -24 - 0.5 dbm.	If performance standard is normal, proceed to next step; otherwise, check and replace resistors R6 and R9.
22	Connect test cable from ac voltmeter to leads M and N of module adapter.	Ac voltmeter indicates -24 - 0.5 dbm.	If performance standard is normal, proceed to next step; otherwise, check and replace resistors R27 and R30.
23	Connect test cable from ac voltmeter to lead U and V of module adapter.	Ac voltmeter indicates less than -69 dbm.	Check for high-resistance short on circuit card.
24	Disconnect test equipment and remove straps.		

6-10. 4-Wire/ 2-Wire Hybrid with Low-Pass Filter 490084)1

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the 4-wire/2-wire hybrid. Also included are procedures for adjustment of the low-pass filter, selection of bias resistor R17 and selection of bias resistor R32. The schematic diagram for the 4-wire/2-wire hybrid with low-pass filter is shown in figure FO15.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Connect the test equipment as shown in figure 6-16.

(2) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(3) Adjust the output of the 24-volt power supply for 24 vdc.

(4) Adjust the output of the 48-volt power supply for vdc.

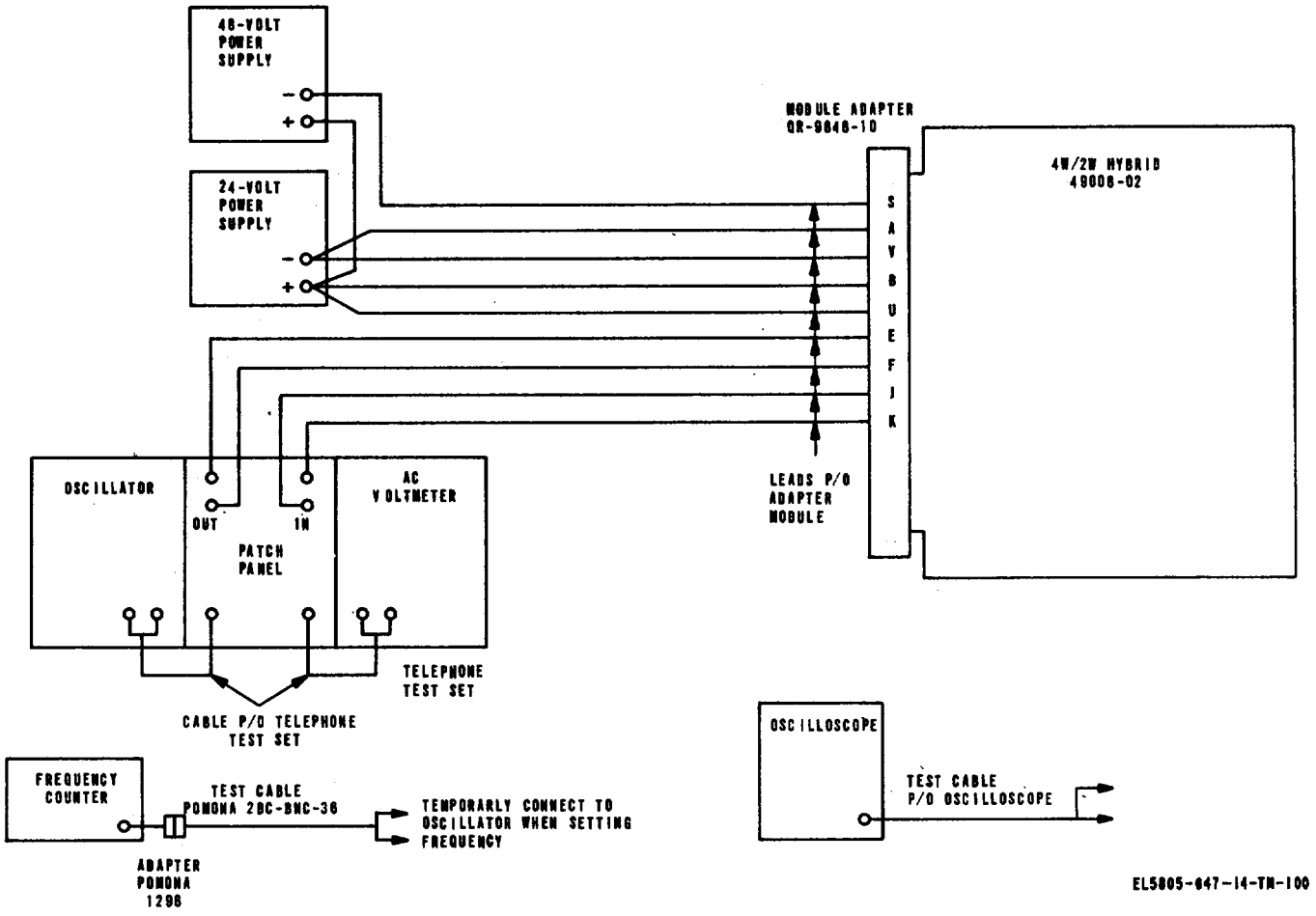


Figure 6-16. 4-Wire/2-Wire Hybrid with Low-Pass Filter 49008-01, initial test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set oscillator of telephone test set for frequency of 1,000 Hz and output impedance of 600 ohms.		
3	Set ac voltmeter of telephone test set for input impedance of 600 ohms.		
4	Set 2W OUTPUT ADJ potentiometer R18 to its maximum clockwise position.		
5	Connect oscilloscope between collector of Q2 and lead B of module adapter.		
6	Adjust output level of oscillator until slight clipping of the sinewave appears on oscilloscope. If sinewave cannot be obtained, proceed directly to step 8.	Clipping on positive and negative half cycles of sinewave are symmetrical.	If performance standard is normal, proceed to next step; otherwise, replace R17 in accordance with instructions in e below.
7	Adjust oscillator output level until ac voltmeter indicates 0 dbm.	Output level of oscillator is less than --18 dbm.	If performance standard is normal, proceed to step 12; otherwise proceed to next step.
8	Adjust oscillator output level for --15 dbm. Adjust 2W OUTPUT ADJ potentiometer R18 to obtain 0-dbm indication on ac voltmeter. Connect oscilloscope between collector of Q4 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.014 V p-p	If performance standard is normal, proceed to next step; otherwise, check and replace T2, Q4 and associated parts and then repeat step 7.
9	Connect oscilloscope between collector of Q3 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.8 V p-p.	If performance standard is normal, proceed to next step; otherwise, check and replace Q3 and associated parts and then repeat step 7.
10	Connect oscilloscope between collector of Q2 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 4.2 V p-p.	If performance standard is normal, proceed to next step; otherwise, check and replace Q2 and associate parts and then repeat step 7.
11	Connect oscilloscope between collector of Q5 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 5.3 V p-p.	If performance standard is normal, check and replace R1 through R4 and T1: otherwise, check and replace Q5 and associated parts. Also check adjustment of low pass filter (d below). After corrective action, repeat step 7.
12	Disconnect lead S of module adapter from 48-volt power supply and observe ac voltmeter. After observing ac voltmeter; replace lead S to deenergize K1.	Indication on ac voltmeter decreases approximately 3.5 db when lead S is disconnected.	If performance standard is normal, proceed to next step; otherwise, check and replace R1, K1, Q1 and associated parts.
13a	Check bandwidth of input amplifier as follows:		
13b	Adjust oscillator for 1000 Hz and output level of - 18 dbm.		
13c	Adjust 2W OUTPUT ADJ potentiometer R18 for an indication of 0 dbm on ac voltmeter.		
13d	Vary frequency of oscillator from 0.3 to 2.4 kHz.	Ac voltmeter indicates 0 : 1 dbm.	If performance standards for steps 13d. e. f. and g are normal, proceed to next step; otherwise, check and replace frequency determining parts such as capacitors C1 through Cll. Also check filter adjustment Id below). If necessary, L2 can be readjusted to obtain performance standard for 2.7 kHz and 3,250 Hz.
13e	Set frequency of oscillator to 2.7 kHz	Ac voltmeter indicates between 0 and -3 dbm.	
13f	Set frequency of oscillator to 3250 Hz	Ac voltmeter indicates less than -42 dbm.	
13g	Set frequency of oscillator to 5.4 kHz	Ac voltmeter indicates less than -50 dbm.	

Step	Test Procedure	Performance standard	Corrective action
14	Check noise level by turning off oscillator but do not disconnect the oscillator from module adapter.	Ac voltmeter indicates less than -60 dbm.	If performance standard is normal, proceed to next step; otherwise, use standard troubleshooting techniques to locate source of excessive noise.
15	Disconnect module adapter leads from ac voltmeter and oscillator. Connect leads J and K of module adapter to oscillator and leads M ad N of module adapter to ac voltmeter.		
16	Turn on oscillator and set for a frequency of 1,000 Hz.		
17	Set 4W OUTPUT ADJ potentiometer R31 fully clockwise.		
18	Connect oscilloscope between collector of Q8 and lead B of module adapter.		
19	Adjust output level of oscillator until slight clipping of the sinewave appears on oscilloscope. If sinewave cannot be obtained, proceed directly to step 21.	Clipping on positive and negative half cycles of the sinewave are symmetrical.	If performance standard is normal, proceed to next step; otherwise, replace R32 in accordance with instructions in f below.
20	Adjust output level of oscillator until ac voltmeter indicates + 10 dbm.	Output level of oscillator is less than -8 dbm.	If performance standard is normal, proceed to step 24; proceed to next step.
21	Adjust oscillator output level for -8 dbm. Connect oscilloscope between collector of Q6 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.01 V p-p. If necessary, adjust 4W OUTPUT ADJ potentiometer R31.	If performance standard is normal, proceed to next step; otherwise, check and replace R2, R3, R4, T3, Q6 and associated parts and then repeat step 20.
22	Connect oscillator between collector of Q7 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.8 V p-p.	If performance standard is normal, proceed to next step; otherwise, check and replace Q7 and associated parts and then repeat step 20.
23	Connect oscilloscope between collector of Q8 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 2.6 V p-p.	If performance standard is normal, check and replace C33 and T4; otherwise, check and replace Q8 and associated parts. After corrective action, repeat step 20.
24a	Check bandwidth of output amplifier as follows:		
24b	Adjust oscillator for 1,000 Hz and output level of --15 dbm.		
24c	Adjust 4W OUTPUT ADJ potentiometer R31 for an indication of 0 dbm on ac voltmeter.		
24d	Set frequency of oscillator to 300 Hz	Ac voltmeter indicates 0 - 1 dbm.	If performance standards for steps 24d1 and 24e are normal, proceed to next step; otherwise, check and replace frequency determining parts such as capacitors C26 through C33.
24e	Vary frequency of oscillator from 0.5 to 3.5 kHz.	Ac voltmeter indicates O t 0.5 dbm.	
25	Check noise level by disconnecting leads J, K, and S of the module adapter from the test equipment.	Ac voltmeter indicates less than -60 dbm.	If performance standard is normal, proceed to next step: otherwise, use standard troubleshooting techniques to locate source of excessive noise.
26	Turn off and then disconnect test equipment.		

d. Low-Pass Filter Adjustment.

(1) Connect the telephone test set, the 24-volt power supply, and the 48-volt power supply to the module adapter (and printed-circuit card) as shown in figure 6-16.

(2) Set the ac voltmeter for an input impedance of 600 ohms.

(3) Set the oscillator for an output impedance of 600 ohms and, a frequency of 1,000 Hz; then adjust the output level to obtain a 0-dbm indication on the ac voltmeter. Do not change the output level of the oscillator during steps (4), (5), and (6) below. When setting frequency of the oscillator, the frequency counter can be temporarily connected to the oscillator output terminals.

(4) Set the oscillator to a frequency of 6,594 Hz and adjust L3 for minimum indication on the ac voltmeter. Minimum indication should be less than --50 dbm.

(5) Set the oscillator to a frequency of 3,390 Hz and adjust L2 for minimum indication on the ac voltmeter. Minimum indication should be less than -50 dbm.

(6) Set the oscillator to a frequency of 4,038 Hz and adjust L1 for minimum indication on the ac voltmeter. Minimum indication should be less than -50 dbm.

(7) Turn off and then disconnect test equipment.

e. Selection of Bias Resistor R17.

(1) Remove R17 from the printed-circuit card.

(2) Connect resistance decade, set to 100K ohms, to terminals E3 and E4.

(3) Connect oscillator of the telephone test set and the 24-volt power supply to the module adapter (and printed-circuit card) as shown in figure 6-16.

(4) Connect the oscilloscope between the collector of Q2 and lead B of the module adapter.

(5) -Set the oscillator for an output impedance to 600 ohms and a frequency of 1,000 Hz; then adjust the output level until the waveform displayed on the oscilloscope is slightly clipped.

(6) Adjust the resistance decade and the output level of the oscillator until clipping is symmetrical.

(7) Turn off the 24-volt power supply and select a resistor whose value is as close as possible to the value determined by the resistance decade. Solder the resistor between terminals E3 and E4.

(8) Turn of the 24-volt power supply and recheck the waveform on the oscilloscope for symmetrical clipping.

(9) Turn off and then disconnect test equipment.

f. Selection of Bias Resistor R32.

(1) Remove R32 from the printed-circuit card.

(2) Connect resistance decade, set to 100K ohms, to terminals E7 and E8.

(3) Connect 24-volt power supply and 48- volt power supply to the module adapter (and printed-circuit card) as shown in figure 6-16.

(4) Connect leads J and K of the module adapter to the oscillator output terminals and connect leads M and N of the module adapter to a 600-ohm terminating resistor.

(5) Set the oscillator for an output impedance of 600 ohms and a frequency of 1,000 Hz.

(6) Connect the oscilloscope between the collector of Q8 and lead B of the module adapter.

(7) Adjust the output level of the oscillator until the waveform displayed on the oscilloscope is slightly clipped and then adjust the resistance decade and the output level of the oscillator until the clipping is symmetrical.

(8) Turn off the 24-volt power supply and select a resistor whose value is as close as possible to the value determined by the resistance decade. Solder the resistor between terminals E7 and ES.

(9) Turn on the 24-volt power supply and recheck the waveform on the oscilloscope for symmetrical clipping.

(10) Turn off and then disconnect the test equipment.

6-11. 4-Wire/ 2-Wire Hybrid 49008-02

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the 4-wire/2-wire hybrid. Also included are procedures for the selection of bias resistors R17 and R26. The schematic diagram for the 4-wire/2-wire hybrid is shown in figure FO-14.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Connect the test equipment as shown in figure 6-17.

(2) Turn on all test equipment and allow for a warm-up period as recommended in the technical manual for each test equipment.

(3) Adjust the output of the 24-volt power supply for 24 vdc.

(4) Adjust the output of the 48-volt power supply for 48 vdc.

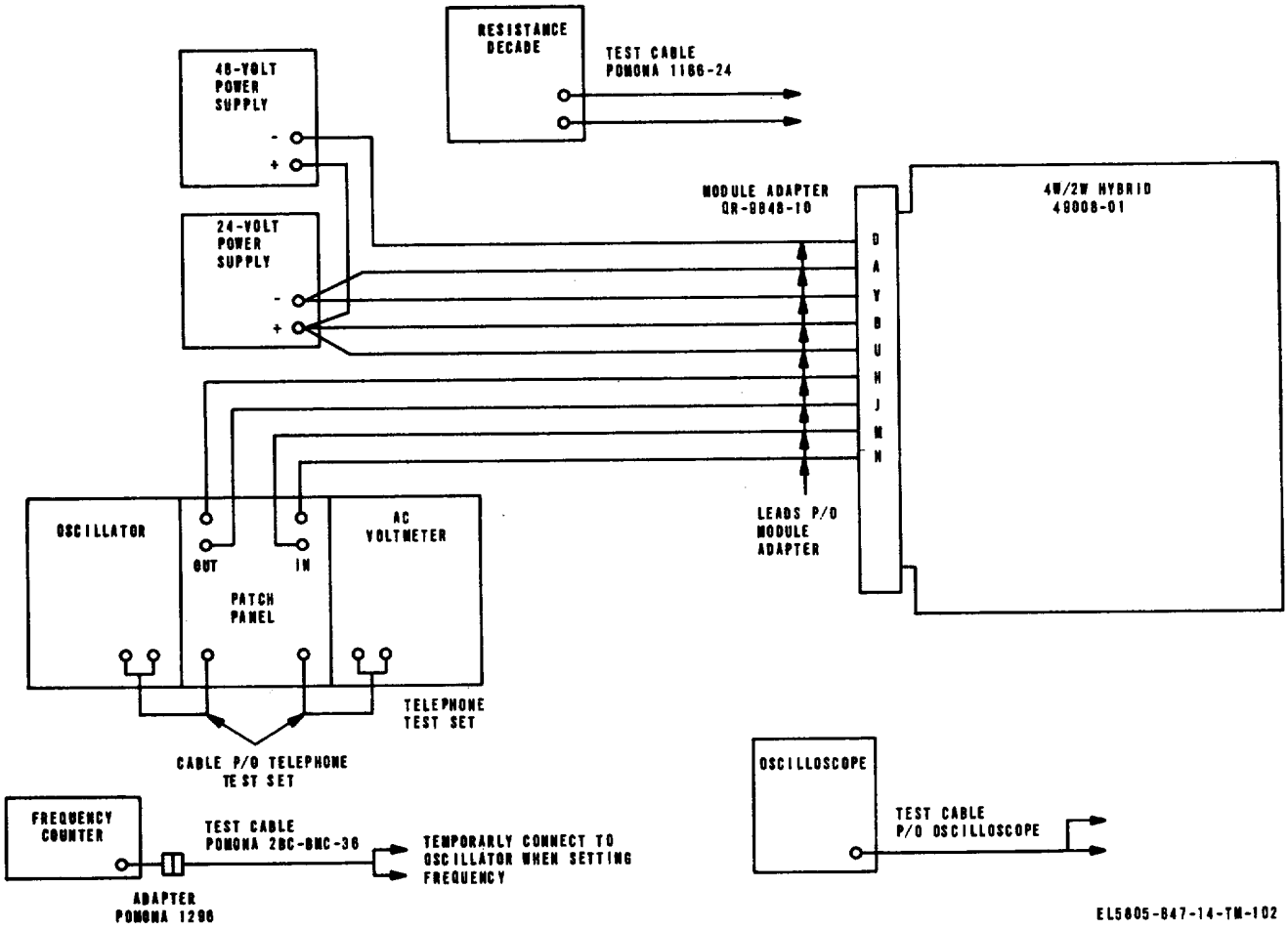


Figure 6-17. 4-Wire/2-Wire Hybrid 49U'082-, initial test setup lagrm.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set oscillator, part of telephone test set, for frequncy of 1,000 Hz and output impedance of 600 ohms.		
3	Set ac voltmeter, part of telephone test set, for input impedance of 600 ohms.		
4	Set 2W OUTPUT ADJ potentiometer R18 to its maximum clockwise position.		
5	Connect oscilloscope between collector of Q2 and lead B of module adapter.		
6	Adjust output level of oscillator until slight clipping of the sinewave appears on oscilloscope. If sinewave cannot be obtained, proceed directly to step 8.	Clipping on positive and negative half cycles of sinewave are symmetrical.	If performance standard is normal, proceed to next step; otherwise, replace R17 in accordance with instructions in d below.
7	Adjust oscillator output level until ac voltmeter indicates 0 dbm.	Output level of oscillator is less than --18 dbm.	If performance standard is normal, proceed to step 11; otherwise, proceed to next step.
8	Adjust oscillator output level for --15 dbm. Adjust 2W OUTPUT ADJ potentiometer R18 to obtain 0-dbm indication on ac voltmeter. Connect oscilloscope between collector of Q4 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.025 V p p.	If performance standard is normal, proceed to next step; otherwise, check and replace T2, Q4, and associated parts and then repeat step 7.
9	Connect oscilloscope between collector of Q3 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 1.9 V p-p.	If performance standard is normal, proceed to next step; otherwise, check and replace Q3 and associated parts and then repeat step 7.
10	Connect oscilloscope between colllector of Q2 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 5.2 V p-p.	If performance standard is normal, check and replace R2, R3, R4, and T1: otherwise, check and replace Q2 and associated parts. After corrective action, repeat step 7.
11	Disconnect lead D of module adapter from 48-volt power supply and observe ac voltmeter. After observing ac voltmeter, replace lead D to negative terminal of 48-volt power supply.	Indication on ac voltmeter decreases approximately 3.5 dB when lead D is disconnected.	If performance standard is normal, proceed to next step; otherwise, check and replace R1, K1, Q1 and associated parts.
12a	Check bandwidth of input amplifier as follows:		
12b	Adjust oscillator for 1.000 Hz and output level of --15 dbm.		
12c	Adjust 2W OUTPUT ADJ potentiometer R18 for an indication of 0 dbm on ac voltmeter.		
12d	Set frequency of oscillator to 300 Hz.	Ac voltmeter indicates 0 + 1 dbm.	If performance standards for steps 12d, e, and f are normal, proceed to next step; otherwise, check and replace frequency determining parts such as capacitors C1 through C9.
12e	Set frequency of oscillator to 400 Hz.	Ac voltmeter indicates 0 + 0.7 dbm.	
12f	Vary frequency of oscillator from 0.5 to 3.5 kHz.	Ac voltmeter indicates 0 + 0.5 dbm.	
13	Check noise level by turning off oscillator but do not disconnect oscillator from module adapter.	Ac voltmeter indicates less than -60 dbm.	If performance standard is normal, proceed to next step; otherwise, use standard troubleshooting techniques to locate source of noise.
14	Disconnect module adapter leads from ac voltmeter and oscillator. Connect leads M and N of module adapter to oscillator and leads S and T of module adapter to ac voltmeter.		

Step	Test Procedure	Performance standard	Corrective action
15	Turn on oscillator and set for a frequency of 1,000 Hz.		
16	Set 4W OUTPUT ADJ potentiometer R25 fully clockwise.		
17	Connect oscilloscope between collector of Q7 and lead B of module adpater.		
18	Adjust output level of oscillator until slight clipping of the sinewave appears on oscilloscope. If sinewave cannot be obtained, proceed directly to step 20.	Clipping on positive and negative half cycles of sinewave are symmetrical. instructions in e below.	If performance standard is normal, proceed to next step; otherwise, replace R26 in accordance with
19	Adjust output level of oscillator until ac voltmeter indicates +10 dbm.	Output level of oscillator is less than -8 dbm.	If performance standard is normal, proceed to step 23; otherwise, proceed to next step.
20	Adjust oscillator ourtut level for -8 dbm. Connect oscilloscope between collector of Q5 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.01 V p-p. If necessary, adjust 4W OUTPUT ADJ potentiometer R25 to obtain 0.01 V p-p.	If performance standard is normal, proceed to next step; otherwise, check and replace R2, R3, R4, T3, Q5 and associated parts and then repeat step 19.
21	Connect oscillator between collector of Q6 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.8 V p-p.	If performance standard is normal, proceed to next step; otherwise, check and replace Q6 and associated parts and then repeat step 19.
22	Connect oscilloscope between collector of Q7 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 2.6 V p-p.	If performance standard is normal, check and replace C17 and T4; otherwise, check and replace Q7 and associated parts. After corrective action, repeat step 19.
23a	Check bandwidth of output amplifier as follows:		
23b	Adjust oscillator for 1,000 Hz and output level of --15 dbm.		
23c	Adjust 4W OUTPUT ADJ potentiometer R25 for indication of 0 dbm on ac voltmeter.		
23d	Set frequency of oscillator to 300 Hz.	Ac voltmeter indicates 0 +: 1 dbm.	If performance standards for steps 23d, e, and f are normal, proceed to next step; otherwise, check and replace frequency determining parts such as capacitors C10 through C17.
23e	Set frequnecy of oscillator to 400 Hz.	Ac voltmeter indicates 0 t 0.7 dbm.	
23f	Vary frequency of oscillator from 0.5 to 3.5 kHz.	Ac voltmeter indicates 0 : 0.5 dbm.	
24	Check noise level by disconnecting leads M, N, and D of the module adapter from the test equipment.	Ac voltmeter indicates less than -60 dbm.	If performance standard is normal, proceed to next step; otherwise, use Standard troubleshooting techniques to locate source of excessive noise.
25	Turn off and then disconnect test equipment.		

d. Selection of Bias Resistor R17.

(1) Remove R17 from the printed-circuit card.

(2) Connect resistance decade, set to 100K ohms, to terminals E3 and E4.

(3) Connect the oscillator, part of the telephone test set, and the 24-volt power supply to the module adapter (and printed-circuit card) as shown in figure 6-17.

(4) Connect the oscilloscope between the collector of Q2 and lead B of the module adapter.

(5) Set the oscillator for an output impedance of 600 ohms and a frequency of 1,000 Hz, and then adjust the output level of the oscillator until the waveform displayed on the oscilloscope is slightly clipped.

(6) Adjust the resistance decade and the output level of the oscillator until clipping on the positive and negative half cycles of the waveform are symmetrical.

(7) Turn off the 24-volt power supply and select a resistor whose value is as close as possible

to the value determined by the resistance decade. Solder the resistor between terminals E3 and E4.

(8) Turn on the 24-volt power supply and recheck the waveform. If clipping is not symmetrical, repeat the procedure.

(9) Turn off and then disconnect the test equipment.

e. Selection of Bias Resistor R26.

(1) Remove R26 from the printed-circuit card.

(2) Connect resistance decade, set to 100K ohms, to terminals E7 and E8.

(3) Connect 24-volt power supply and 48-volt power supply to the module adapter (and printed-circuit card) as shown in figure 6-17.

(4) Connect leads M and N of the module adapter to the oscillator output terminals and connect leads S and T of the module adapter to a 600-ohm terminating resistor.

(5) Connect the oscilloscope between the collector of Q7 and lead B of the module adapter.

(6) Set the oscillator for an output impedance of 600 ohms and a frequency of 1,000 Hz, and then adjust the output level of the oscillator until the waveform displayed on the oscilloscope is slightly clipped.

(7) Adjust the resistance decade and the output level of the oscillator until clipping on the positive and negative half cycles of the waveform are symmetrical.

(8) Turn off the 24-volt power supply and select a resistor whose value is as close as possible to the value determined by the resistance decade. Solder the resistor between terminals E7 and E8.

(9) Turn of the 24-volt power supply and recheck the waveform. If clipping is not symmetrical, repeat the procedure.

(10) Turn off and then disconnect the test equipment.

6-12. Dual Amplifier 40172-03 and 40472-03

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the 40172-03 and 40472-03 dual amplifiers. Also included are procedures for the selection of bias resistor R4 in amplifier No. 1 and bias resistor R20 in amplifier No. 2. The schematic diagram for both models of the dual amplifier is shown in figure FO-17.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Connect the test equipment as shown in figure 6-18.

(2) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(3) Adjust the output of the 24-volt power supply for 24 vdc.

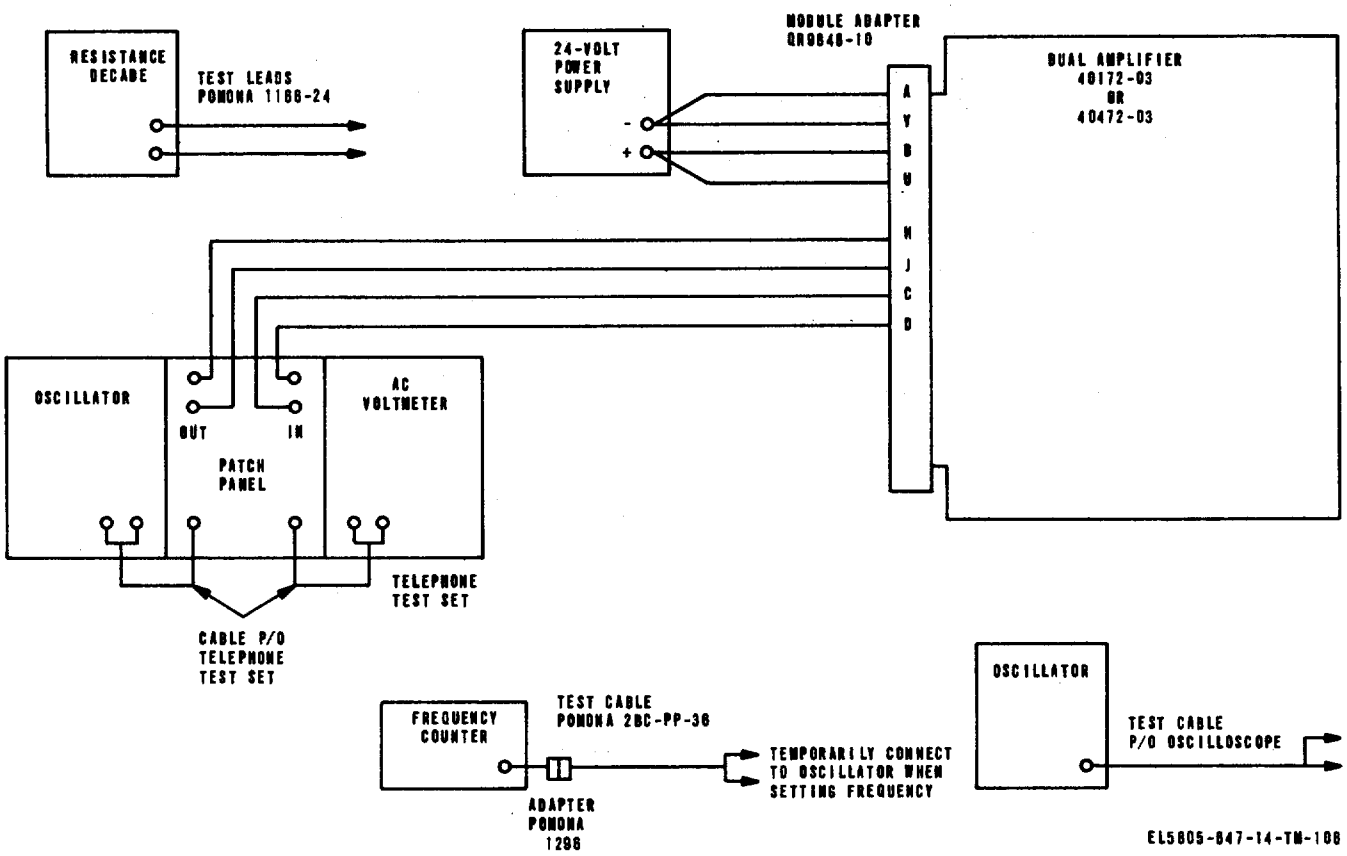


Figure 6-18. Dual Amplifier 40172-08 and 40472-03, initial test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set oscillator, part of telephone test set, for frequency of 1,000 Hz and output impedance of 600 ohms.		
3	Set ac voltmeter part of telephone test set, for input impedance of 600 ohms.		
	NOTE **Steps 4 through 12 are applicable only to amplifier No. 1 and steps 13 through 23 are applicable only to amplifier No. 2.**		
4	Set potentiometer R3 fully clockwise.		
5	Connect oscilloscope between collector of Q3 and lead B of module adapter.		
6	Adjust output level of oscillator until slight clipping of the sinewave appears on oscilloscope. If sinewave cannot be obtained, proceed directly to step 8.	Clipping on positive and negative half cycles of sinewave are symmetrical.	If performance standard is normal, proceed to next step; otherwise, replace R4 in accordance with instructions in d below.
7	Adjust oscillator output level until ac voltmeter indicates 0 dbm.	Output level of oscillator is less than -20 dbm.	If performance standard is normal, proceed to step 11; otherwise, proceed to next step.

Step	Test Procedure	Performance standard	Corrective action
8	Adjust oscillator output level for --16 dbm: Adjust potentiometer R3 to obtain 0-dbm indication on ac voltmeter. Connect oscilloscope between collector of Q1 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.01 V p. p.	If performance standard is normal, proceed to next step; otherwise, check and replace T1, Q1, and associated parts and then repeat step 7.
9	Connect oscilloscope between collector of Q2 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.9 V p.p.	If performance standard is normal, proceed to next step; otherwise, check and replace Q2 and associated parts and then repeat step 7.
10	Connect oscilloscope between collector of Q3 and lead B of module adapter.	Sinewave on oscilloscope has amplitude of approximately 2.5 V p-p.	If performance standard is normal, check and replace C9 and T2; otherwise, check and replace Q3 and associated parts. After corrective action, repeat step 7.
11a	Check bandwidth of amplifier No. 1 as follows:		
11b	Adjust oscillator for 1,000 Hz and output level of -20 dbm.		
11c	Adjust potentiometer R3 for an indication of 0 dbm on ac voltmeter.		
11d	Set frequency of oscillator to 200 Hz.	Ac voltmeter indicates 0 t 2 dbm.	If performance standards for steps 11d through 11i are normal, proceed to next step; otherwise, check and replace frequency determining parts such as capacitors C2 through C9.
11e	Set frequency of oscillator to 300 Hz;	Ac voltmeter indicates O -: 1 dbm.	
11f	Set frequency of oscillator to 400 Hz.	Ac voltmeter indicates 0 t 0.7 dbm.	
11g	Vary frequency of oscillator from 0.5 to 3.5 kHz.	Ac voltmeter indicates O 0.5 dbm.	
11h	Set frequency of oscillator to 8 kHz.	Ac voltmeter indicates 0 - 1 dbm.	
11	Set frequency of oscillator to 12 kHz.	Ac voltmeter indicates 0 t 2 dbm.	
12	Check noise level of amplifier No. 1 by turning off oscillator but do not disconnect oscillator from module adapter.	Ac voltmeter indicates less than -60 dbm.	If performance standard is normal, proceed to next step; otherwise, use standard troubleshooting techniques to locate source of noise.
13	Disconnect module adapter leads from ac voltmeter and oscillator. Connect leads M and N of module adapter to oscillator and leads S and T of module adapter to ac voltmeter.		
14	Turn on oscillator and set for a frequency of 1,000 Hz.		
15	Set potentiometer R19 fully clockwise.		
16	Connect oscilloscope between collector of Q6 and lead U of module adapter.		
17	Adjust output level of oscillator until slight clipping of the sinewave appears on oscilloscope. If sinewave cannot be obtained, proceed directly to step 19.	Clipping on positive and negative half cycles of sinewave are symmetrical.	If performance standard is normal, proceed to next step; otherwise, replace R20 in accordance with instructions in e below.
18	Adjust oscillator output level until ac voltmeter indicates 0 dbm.	Output' level of oscillator is less than -20 dbm.	If performance standard is normal, proceed to step 22; otherwise, proceed to next step.
19	Adjust oscillator output level for --16 dbm. Adjust potentiometer R19 to obtain 0-dbm indication on ac voltmeter. Connect oscilloscope between collector of Q4 and lead U of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.01 V p-p.	If performance. standard is normal, proceed to next step; otherwise, check and replace T3, Q4, and associated parts and then repeat step 18.
20	Connect oscilloscope between collector of Q5 and lead U of module adapter.	Sinewave on oscilloscope has amplitude of approximately 0.9 V p-p.	If performance standard is normal, Proceed to next step; otherwise, check and replace Q5 and associated parts and then repeat step 18.
21	Connect oscilloscope between collector of Q6 and lead U of module adapter.	Sinewave on oscilloscope has amplitude of approximately 2.5 V p-p.	If performance standard is normal, check and replace C18 and T4; otherwise, check and replace Q6 and associated parts. After corrective action, repeat step 18.

Step	Test Procedure	Performance standard	Corrective action
22a	Check bandwidth of amplifier No. 2 as follows:		
22b	Adjust oscillator for 1000 Hz and output level of -20 dbm.		
22c	Adjust potentiometer R19 for an indication of 0 dbm on ac voltmeter.		
22d	Set frequency of oscillator to 200 Hz.	Ac voltmeter indicates 0 ' 2 dbm.	If performance standards for steps 22d through 22i are normal, proceed to next step; otherwise, check and replace frequency determining parts such as capacitors C11 through C18.
22e	Set frequency of oscillator to 300 Hz.	Ac voltmeter indicates 0 :- 1 dbm.	
22f	Set frequency of oscillator to 400 Hz.	Ac voltmeter indicates 0 :- 0.7 dbm.	
22g	Vary frequency of oscillator from 0.5 to 3.5 kHz.	Ac voltmeter indicates O : 0.5 dbm.	
22h	Set frequency of oscillator to 8 kHz.	Ac voltmeter indicates 0 +- 1 dbm.	
22i	Set frequency of oscillator to 12 kHz.	Ac voltmeter indicates 0 :- 2 dbm.	
23	Check noise level of amplifier No. 2 by turning off oscillator but do not disconnect oscillator from module adapter.	Ac voltmeter indicates less than -60 dbm.	If performance standard is normal, proceed to next step; otherwise, use standard troubleshooting techniques to locate source of noise.
24	Turn off and then disconnect test equipment.		

d. Selection of Bias Resistor R4.

(1) Remove R4 from the printed-circuit card.

(2) Connect resistance decade, set to 100K, to terminals E1 and E2.

(3) Connect the 24-volt power supply to the module adapter (and printed-circuit' card) as shown in figure 6-18.

(4) Connect leads H and J of the module adapter to oscillator output terminals and connect leads C and D of the module adapter to a 600-ohm terminating resistor.

(5) Set the oscillator for an output impedance of 600 ohms and a frequency of 1,000 Hz.

(6) Connect an oscilloscope between the collector of Q3 and lead B of the module adapter.

(7) Adjust the output level of the oscillator until the waveform displayed on the oscilloscope is slightly clipped.

(8) Adjust the resistance decade and the output level of the oscillator until clipping on the positive and negative half cycles of the waveform is symmetrical.

(9) Turn off the 24-volt power supply and select a resistor whose value is as close as possible o the value determined by the resistance decade. older the resistor between terminals E1and E2.

(10) Turn on the 24-volt power supply and recheck the waveform. If clipping is not symmetrical, repeat the procedure.

(11) Turn off and then disconnect the test equipment.

e. Selection of Bias Resistor R20.

(1) Remove R20 from the printed-circuit card.

(2) Connect resistance decade, set to 100K, to terminals E3 and E4.

(3) Connect the 24-volt power supply to the module adapter (and printed-circuit card) as shown in figure 6-18.

(4) Connect leads M. and N of the module adapter to the oscillator output terminals and connect leads S and T of the module adapter to a 600-ohm terminating resistor.

(5) Set the oscillator for an output impedance of 600 ohms and a frequency of 1,000 Hz.

(6) Connect an oscilloscope between the collector of Q6 and lead U of the module adapter.

(7) Adjust the output level of the oscillator until the waveform displayed on the oscilloscope is slightly clipped.

(8) Adjust the resistance decade and the output level of the oscillator until clipping on the positive and negative half cycles of the waveform is symmetrical.

(9) Turn off the 24-volt power supply and select a resistor whose value is as close as possible to the value determined by the resistance decade. Solder the resistor between terminals E3 and E4.

(10) Turn on the 24-volt power supply and recheck the waveform. If clipping is not symmetrical, repeat the procedure.

(11) Turn off and then disconnect the test equipment.

6-13. Power Supply 41U0z-U1

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the power supply. The schematic diagram for the power supply is shown in figure FO-18.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Connect the test equipment as shown in figure 6-19.

(2) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(3) Set the POWER switch on the power supply to the off (down) position.

(4) Adjust the output of the 48-volt power supply for 48 vdc.

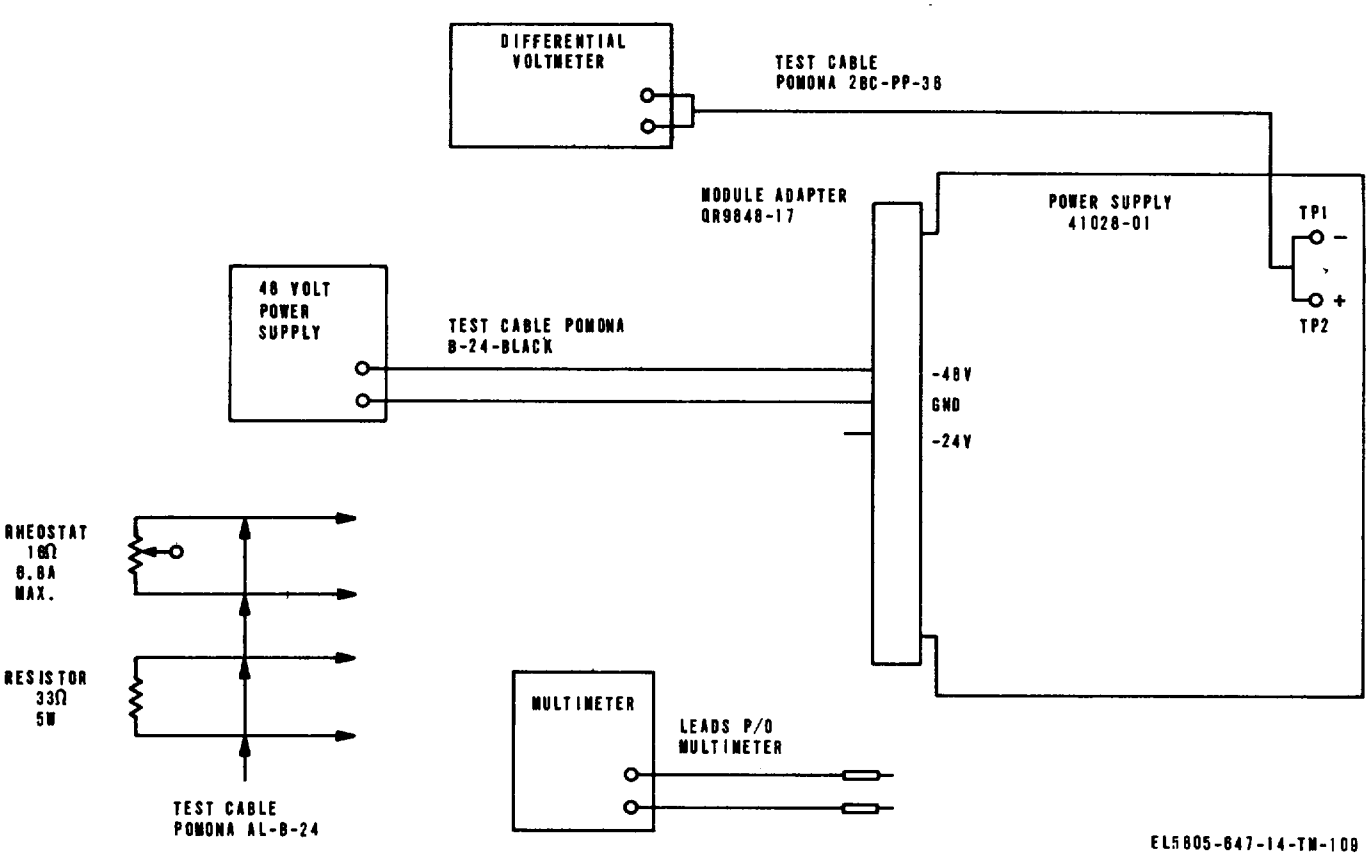


Figure 6-19. Power Supply 41028-01, initial test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set POWER switch on the power supply on ON position.	ON indicator DS1 lights and differential voltmeter indicates approximately 24 vdc.	If performance standard is normal, proceed to step 5. If voltage is normal but DS1 is not lit, replace DS1. If voltage is not normal, proceed to next step.
3	Connect positive lead of multimeter to pin V and touch negative lead to pin J.	Multimeter indicates 48 vdc.....	If performance standard is normal, proceed to next step; otherwise, check and replace F1 and S1. If replacement fuse burns out, check and replace C5 and C6.
4	Touch negative lead of multimeter to pin C.	Multimeter indicates approximately 25 vdc.	If performance standard is normal,. check and replace R2; otherwise, check C4 for a short circuit. If C4 is good, check dc voltages indicated on schematic diagram (fig. FO-17) to isolate the malfunctioning part; insure there is 10 vdc across VR1.

5	Set POWER switch on power supply to off (down) position. Connect 16-ohm rheostat between -24 V and GND terminals of module adapter. Set POWER switch to ON position.	Differential voltmeter indicates 24.0 vdc.	If performance standard is normal, proceed to next step: otherwise, adjust R10 (marked ADJ on front panel) to obtain 24.0 volts.
6	While observing differential voltmeter. adjust 48-volt power supply from -44 vdc to --56 vdc and then to -48 vdc.	Differential voltmeter does not vary more than + 0.7 V from 24.0 vdc.	If performance standard is normal, Proceed to next step; otherwise, check dc voltages indicated on schematic diagram (fig. FO-18) to isolate defective part.
7	Set POWER switch on power supply to off (down) position. Connect 33-ohm load resistor in parallel with rheostat. Set POWER switch to ON position.	Differential voltmeter indicates less than -22 vdc.	If performance standard is normal, Proceed to next step: otherwise, check and replace Q1, Q3 and associated parts.
8	Set POWER switch on power supply to off (down) position. Connect a jumper cable across the rheostat. Set POWER switch to ON position.	Differential voltmeter indicates 0 volt and fuse F1 does not burn out. associated parts.	If performance standard is normal, Proceed to next step: otherwise, Check and replace Q1, Q3 and
9	Connect multimeter across resistor R2.	Multimeter indicates less than 1 vdc.	If performance standard is nbrmal, proceed to next step: otherwise, check and replace R2. Q1, Q3 and associated parts.
10	Set POWER switch on power supply off (down) position. Disconnect 33-ohm load resistor and jumper cable. Set POWER switch to ON position.	Differential voltmeter indicates 24 t 0.7 vdc.	If performance standard is normal, Proceed to next step: otherwise, Check and replace Q1, Q3 and associated parts.
11	Turn off and then disconnect test equipment.		

6-14. Power Supply 41029-01

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the power supply. The schematic diagram for the power supply is shown in figure FO-20.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Insure terminal E13 is strapped to terminal E15 and terminal E17 is strapped to terminal E19.

(2) Connect the test equipment as shown in figure 6-20.

(3) Turn on all test equipment and allow for a warmup period as recommended in the technical manual for each test equipment.

(4) Set the POWER switch on the power supply to the off (down) position.

(5) Adjust the autotransformer to provide 120 vac.

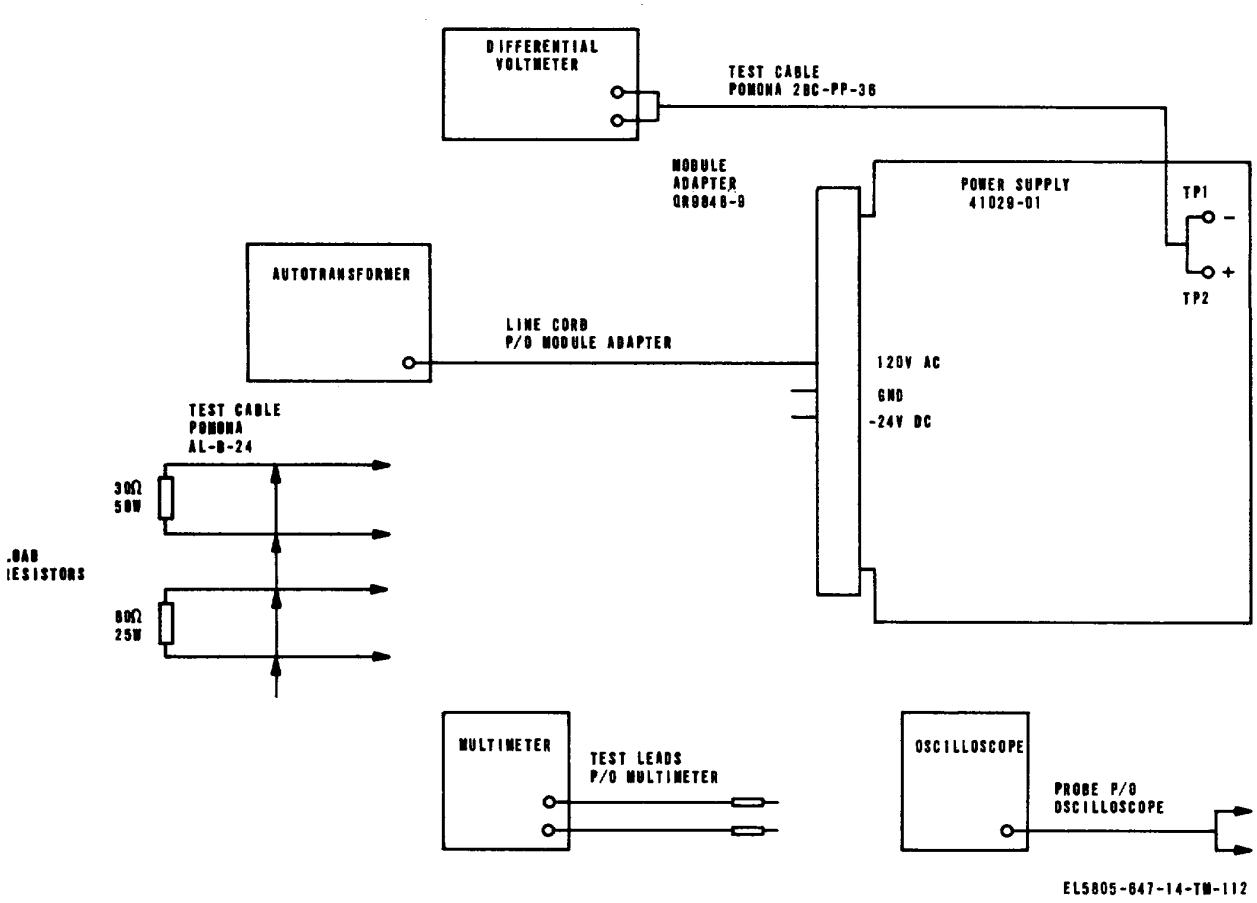


Figure 6-20. Power supply 41029-01, initial test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedures given in b above.		
2	Set POWER switch on the power supply to ON position.	ON indicator DS1 lights and differential voltmeter indicates approximately 24 vdc.	If performance standard is normal, proceed to step 6. If voltage is normal but DS1 is not lit, replace DS1. If voltage is not normal, proceed to next step.
3	Connect multimeter between terminals E13 and E19.	Multimeter indicates 120 vac.	If performance standard is normal, proceed to next step; otherwise, check and replace F1 and S1. If replacement fuse burns out, check and replace T1., CR1, and C5.
4	Connect positive lead of multimeter to terminal E9 and negative lead of multimeter to terminal E10.	Multimeter indicates approximately 31 vdc.	If performance standard is normal, proceed to next step; otherwise, check and replace T1, CR1, and C5.
5	Connect positive lead of multimeter to pin V and negative lead of multimeter to pin C.	Multimeter indicates approximately 24.3 vdc.	If performance standard is normal, check and replace R2: otherwise, check C4 for a short circuit. If C4 is good, check dc voltages indicated on schematic diagram (fig. FO-20). to isolate the malfunctioning part.

6	Set POWER switch on power supply to off (down) position. Connect 30-ohm load resistor between GND and -24 vdc terminals of the module adapter. Set POWER switch to ON position.	Differential voltmeter indicates 24.0 vdc.	If performance standard is normal, proceed to next step; otherwise, adjust R10 (marked ADJ on front panel) to obtain 24.0 volts.
7	Connect oscilloscope between TP1 and TP2.	Ripple voltage as displayed on the oscilloscope is less than 50 mv p-p.	If performance standard is normal, proceed to next step; otherwise, check and replace C4 and C5.
8	While observing differential voltmeter and oscilloscope, vary autotrans-former from 132 vac to 108 vac and then back to 120 vac.	Differential voltmeter does not vary more than t 0.7 V from 24.0 vdc nor does the ripple voltage, displayed on oscilloscope exceed 50 mv p-p.	If performance standard is normal, proceed to next step; otherwise, check dc voltages indicated on schematic diagram (fig. FO-20) to isolate defective part.
9	Set POWER switch on power supply to off (down) position. Connect 60-ohm load resistor in parallel with 30-ohm load resistor. Set POWER switch to ON position.	Differential voltmeter indicates less than -22 vdc.	If performance standard is normal, proceed to next step; otherwise, check and replace Q1, Q3, and associated parts.
10	Set POWER switch on power supply to off (down) position. Connect a jumper cable across resistors. Set POWER ON position.	Differential voltmeter indicates 0 volt and fuse F1 does not burn out. the load switch to	If performance standard is normal, proceed to next step; otherwise, check and replace Q1, Q3 and associated parts.
11	Connect multimeter across resistor R2.....	Multimeter indicates less than 1 vdc. proceed to next step;	If performance standard is normal, otherwise, check and replace Q1, Q3 and associated parts.
12	Set POWER switch on power supply to off (down) position. Disconnect 60-om load resistor and jumper cable. Set POWER switch to ON position.	Differential voltmeter indicates 24 t 0.7 vdc.	If performance standard is normal, proceed to next step; otherwise, check and replace Q1, Q3 and associated parts.
13	Turn off and then disconnect test equipment.		

6-15. Line Card Assembly LCC 9740

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the line card assembly. The schematic diagram for the line card assembly is shown in figure 46.

b. Preliminary Procedure. Before performing the performance test and troubleshooting chart (c below), perform the following procedure.

(1) Connect the test equipment as shown in figure 6-2f.

(2) Adjust the output of power supply No. 1 to 48 vdc.

(3) Adjust the output of power supply No. 2 to 48 vdc.

(4) Adjust the output of the autotransformer for 75 vac.

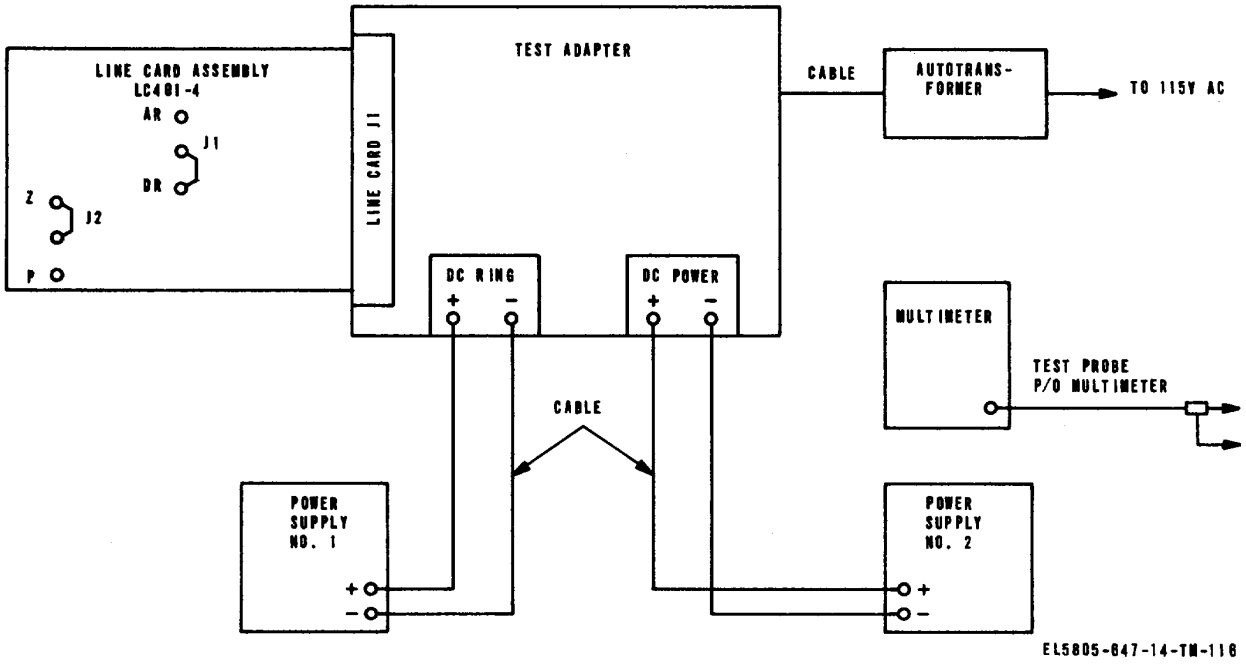


Figure 6-21. Line card assembly LCC9740, test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedure given in b above.		
2	On line card assembly, check for jumpers and if not already connected, place jumper across J1 terminals DR and place jumper across J2 terminals Z.		
3	Insert the line card assembly to be tested into receptacle J1 of the test adapter.		
4	Set test adapter switches to simulate idle function as follows: a. LINE switch to NORMAL position. b. HOOK SWITCH to DOWN position. c. HOLD switch to ON position.	Indicators L5 and L9 should be illuminated. Proceed with step 5.	Proceed with step 5.
5	Set HOOK SWITCH of test adapter to UP position to simulate answer (off hook) function.	Indicators LI, L5, L6, and L9 should be illuminated. Also, indicator lamp LED on line card assembly should be illuminated. Proceed to step 9.	If correct indicator lamp indications are not obtained in steps 4 and 5, proceed with step 6.
6	Connect multimeter probe to Q3 emitter; connect common lead to Q3 base. Measure voltage.	6 to 10 vdc. Proceed with step 7....	If voltage not present, R4 is open. If voltage incorrect value, Q3 is defective.
7	Connect multimeter probe to Q2 base; connect common lead to Q2 emitter. Measure voltage.	Approximately 6 vdc. Line card assembly LED should be illuminated.	If voltage correct, trouble is in Q2 or K2 relay coil. If LED not illuminated check for open R14 or defective LED. IF Q2 base voltage is zero, either R3 or R7 is open, IC1A or IC1B is defective, or K3 relay (with CR1, CR2) is defective.
8	Connect multimeter probe to IC1A pin 1: connect common lead to IC1D pin 7. Measure voltage.	Approximately 6 vdc	If voltage not present, R3 is open or K3 relay not operating. If voltage is low, R6 or C1 defective.

9	Set HOOK SWITCH of test adapter to DOWN position to simulate hang up (on hook) function.	Indicators L5 and L9 should be illuminated. Proceed with step 10.	None required.
10	Depress DC RING switch on test adapter for one second. then release.	Indicators L3. L4, and L7 should be illuminated and remain illuminated for from 20 to 100 seconds after switch is released, Proceed with step 14.	NOTE **Make certain that jumper on line card assembly J1 is in place on DR terminals.** **If correct indicator lamp indications are not obtained, proceed with step 11.**
11	Connect multimeter probe to Q1 base: connect common lead to Q1 emitter. Measure voltage while depressing DC RING switch on test adapter.	Approximately 6 Vdc while DC RING switch depressed: remains at 6 vdc for 20 to 100 seconds after switch is released, then drops to zero dc.	If voltage indications are correct; Q1, K1 relay, or CR6 is defective. If voltage indications are not correct, proceed with step 12.
12	Connect multimeter probe to ICID pin 13 connect common lead to IC1D pin 7. Measure voltage while depressing DC RING switch on test adapter.	Voltage measured rises to approximately 7 vdc maximum: voltage starts to decrease after switch is released. When voltage decreases to approximately 3 vdc, relay K1 should be deenergized.	If voltage indications are correct, R8 is open, IC1C or IC1D is defective, R13 or CR3 is defective, or R15 or CR4 is defective. If voltage indications are not correct,.CR7, C2, R9 and R10, R12, or R16 are defective. Proceed with step 13.
13	Connect multimeter probe to J1 terminals DR jumper: connect common lead to line card assembly terminal C. Measure voltage while depressing DC RING switch on test adapter.	Approximately --1.2 vdc while DC RING switch depressed: returns to zero dc when switch is released.	If voltage indications are correct, DET or CR9 is defective. If voltage not present, R22 is open.
14	Set HOOK SWITCH of test adapter to UP position to simulate answer (off hook) function.	Indicators L1, L5, L6, and L9 should be illuminated. Also, indicator lamp LED on line card assembly should be illuminated. Proceed with step 15.	None required.
15	Set HOLD switch of test adapter to OFF position to simulate hold function, then depress OPEN LINE switch for 1 second and release.	Indicators L1, L3, and L8 should be illuminated. Also, indicator lamp LED on line card assembly should be illuminated Proceed with step 16.	If indicator L3 not illuminated, check contacts 15 and 16 of relay K1. If indicator L8 'not illuminated, check contacts 12 and 13 of relay K2.
16	Set LINE switch of test adapter to REVERSE position.	Indicators L2, L3, and L8 should be illuminated. Also, indicator lamp LED on line card assembly should be illuminated. Proceed with step 17.	Same as step 15 above.
17	Set LINE switch of test adapter to NORMAL position and set HOLD switch to ON position to simulate answer function.	Indicators L1, L5, L6, and L9 should be illuminated. Also, indicator lamp LED on line card assembly should be illuminated. Proceed with step 18.	None required.
18	Remove line card assembly from receptacle Ji of test adapter. Change jumper at J1 terminals from DR to AR. Insert line card assembly into receptacle J1 of test adapter.	None. Proceed with step 19.	
19	Set HOOK SWITCH of test adapter to DOWN position to simulate idle (on hook) function. Depress AC RING switch on test adapter for 1 second, then release.	Indicators L3, L4, and L7 should be illuminated and remain illuminated for from 20 to 100 seconds after switch is relased. Proceed with step 20.	**NOTE** **Make certain that jumper on card assembly J1 is in place on AR terminals. If correct indicator Lamp indications are not obtained, C4 is open, VTR is defective, or R16A is defective.**
20	Depress AC RING switch on test adapter for 1 second, then release and set HOOK SWITCH position to simulate answer hook) function.	Indicators L3, L4, and L7 should be illuminated until HOOK SWITCH to UP is set to UP position; at this time (off indicators L3, L4, and L7 should no longer be illuminated and indicators L1, L5, L6, and L9 should be illuminated. Also, indicator lamp LED on line card assembly should be illuminated. Proceed with step 21.	If indicators L3, L4, and L7 are not extinguished immediately when HOOK SWITCH is set to UP position, CR7 is defective.

21	Set HOOK SWITCH of test adapter to DOWN position to simulate idle (on hook) function.	Indicators L5 and L9 should be illuminated. Proceed with step 22.	None required.
22	Remove line card assembly from receptacle J1 of test adapter. Change jumper at Ji terminals from AR to DR. Insert line card assembly into receptacle J1 of test adapter.	None. Proceed with step 23.	
23	Readjust power supply No. 2 to 40 vdc.	None. Proceed with step 24.	
24	Repeat procedures given in steps 4 through 22 above.	Same as in corresponding steps. (Proceed with step 25).	
25	Readjust power supply No. 2 to 46 vdc.	None. Proceed with step 26.	
26	Repeat procedures given in steps 4 through 22 above.	Same as in corresponding steps.	
27	Remove line card assembly 1from receptacle Ji of test adapter. Tests are completed. Disconnect test equipment.		

6-16. Interrupter Card Assembly INT-9740

a. General. This paragraph includes preliminary procedure and chart for performance testing and troubleshooting the interrupter card assembly. The schematic diagram for the interrupter card assembly is shown in figure 4-11.

b. Preliminary Procedure. Before performing the performance test and troubleshooting chart (c below), perform the following procedure:

(1) Connect the test equipment as shown in figure 6-22.

(2) Adjust the output of power supply no. 1 to 48 vdc.

(3) Adjust the output of power supply no. 2 to 12 vdc.

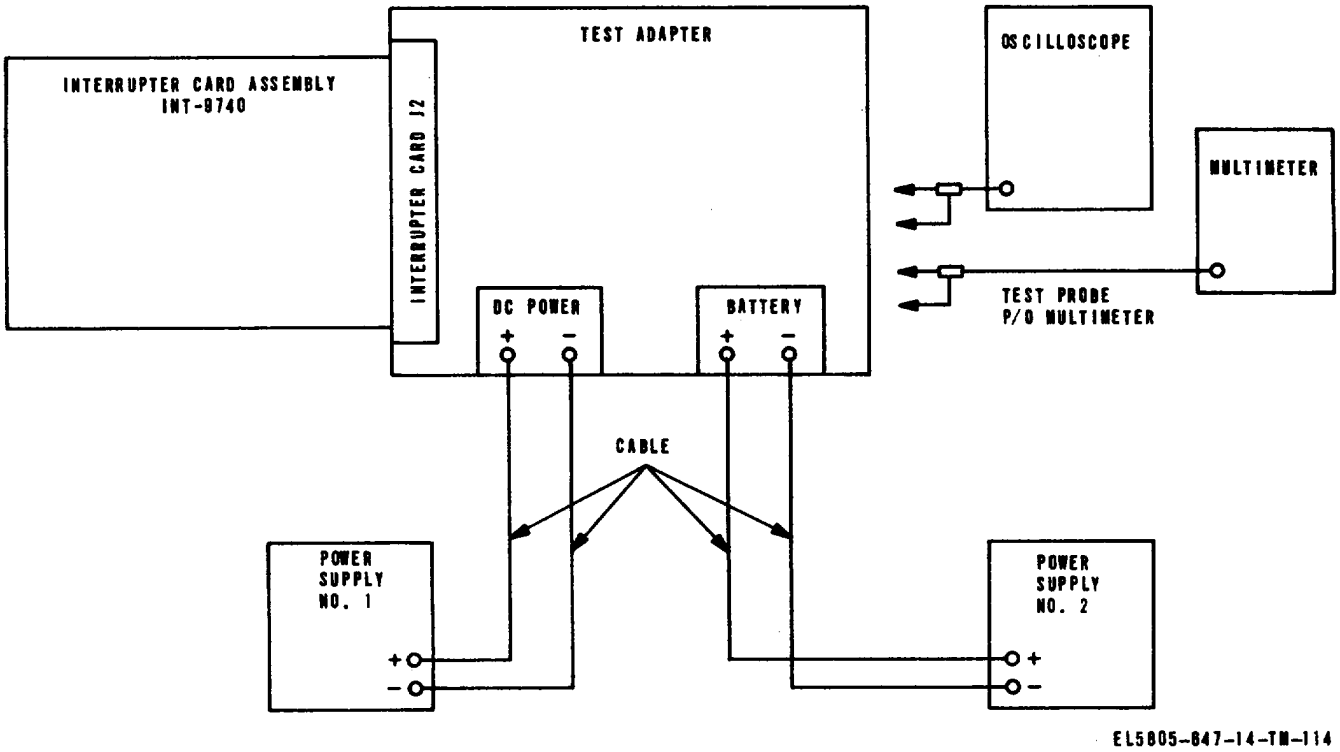


Figure 6-22. Interrupter Card Assembly INT-9740, test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	*Test Procedure*	*Performance standard*	*Corrective action*
1	Perform preliminary procedure given in b above.		
2	Insert the interrupter card assembly to be tested into receptacle J2 of the test adapter.		
3	Depress LED pushbutton on test adapter.	LED on interrupter card assembly should be illuminated.	If LED is not illuminated, check voltage drop across LED and, if greater than 1.5 vdc, the LED is defective and should be replaced. If voltage drop is 0 vdc, check for open R3.
4	Set SELECTOR switch of test adapter to position 1 (lamp flash).	Indicators L10 and L11 should both be flashing on for 0.5 second and off for 0.5 second. Proceed with step 5.	Proceed with step 5.
5	Depress TEST pushbutton.....	Indicator L10 should be on steady and indicator L11 should flash on for 0.5 second and off for 0.5 second. Proceed with step 9.	If performance standard not obtained in steps 4 and 5, proceed with step 6.
6	Connect oscilloscope vertical input to IC1 pin 3; connect oscilloscope ground clip to card pin V. Observe waveform.	Waveform observed should be approximately a square wave between 6 and 10-volt amplitude. The Oscillatory period should be 0.1 second : 20 percent. Proceed with step 7.	If waveform not present at timing oscillator, check the following: a. Measure 6 to 10 vdc between Q1 emitter (+) and collector (-). If no voltage, check for open R22, shorted C2, or defective CR1. If voltage is high, Q1 is defective. b. Measure 0 vdc at ICI pin 1. If voltage is present, check for open lead to card terminal E; if voltage is zero, check for defective R1, C1, or IC1, or open R14, R15.
7	Connect oscilloscope vertical input to Q10 base; connect oscilloscope ground clip to card pin V. Observe waveform.	Waveform observed should be a square wave 0.5-second duration between transitions.	If waveform not present, R12 is open or IC3 is defective. If waveform is present, proceed with step 8.
8	Connect oscilloscope vertical input to Q5 base; connect oscilloscope ground clip to card pin V. Observe waveform.	Same as step 7	If waveform not present, Q10 and R11 or Q4 and R9 are defective. If waveform is present, Q5 or CR9 is defective.
9	Set SELECTOR switch of test adapter to position 2 (internal ring).	Indicators L10 and L11 should both be flashing for a i-second interval every 3 seconds. Proceed with step 10.	Proceed with step 10.
10	Depress TEST pushbutton	Indicator L10 should be on steady and indicator L11 should flash rapidly for a i-second interval every 3 seconds. Proceed with step 13.	If performance standard not obtained in steps 9 and 10, proceed with step 11.
11	Connect oscilloscope vertical input to IC1 pin 11; connect oscilloscope ground clip to card pin V. Observe waveform.	Waveform observed should be a 1-second duration pulse occurring every 3 seconds. Proceed with step 12.	If waveform not present at ICI pin 11, check the following: a. Check for square wave ap-Proximately 2-second duration between transitions measured at IC1 pin 13. If waveform not present, IC2 is defective. b. Check for square wave ap-proximately 1-second duration between transitions measured at IC1 pin 12. If waveform not present, IC2 is defective. c. If waveform present in a and b. above. then ICI is defective.

12	Connect oscilloscope vertical input to Q3 base: connect oscilloscope ground clip to card pin V. Observe waveform.	Waveform observed should be a series of short pulses lasting for 1 second and occuring every 3 seconds.	If waveform not present, R13 open, or Q2 and R10 defective. If waveform is present, Q3 or CR10 is defective.
13	Set SELECTOR switch of test adapter to position 3 (lamp wink).	Indicators L10 and L11 should both he on for 0.4 second and wink off for 0.1 second. Proceed with step 14.	Proceed with step 14.
14	Depress TEST pushbutton	Indicator L10 should be on steady and indicator L1 should be on for 0.4 second, and wink off for 0.1 second. Proceed with step 17.	If performance standard not obtained in steps 13 and 14. proceed with step 15.
15	Connect oscilloscope vertical input to IC1 pin 10: connect oscilloscope ground clip to card pin V. Observe waveform.	Waveform observed should be a 0.1-second duration pulse occurring every 0.4 second. Proceed with step 16.	If waveform not present at IC1 pin 10, check the following: a. Check for 0.1-second duration Pulse approximately 1 second between pulses measured at IC1 pin 9. If waveform not present, IC3 or CR4 is defective. b. Check for 0.1-second duration pulse approx 1 second between pulses measured at IC1 pin 8. If waveform not present, IC3 is defective. c. If waveform present in a and b. above, then IC1 is defective.
16	Connect oscilloscope vertical input to Q9 base, connect oscilloscope ground clip to card pin V. Observe waveform.	Waveform observed should be a series of 0.1 second pulses occurring every 0.4 second.	If waveform is not present, R4 open, or Q8 and R7 defective. If waveform is present, Q9 or CR7 is defective.
17	Set SELECTOR switch of test adapter to position 4 (conference flash).	Indicators L10 and L11 should both be flashing continuously ap-proximately 0.1 second on and 0.1 second off. Proceed with step 18.	Proceed with step 18.
18	Depress TEST pushbutton	Indicator L10 should be on steady and indicator L11 should be flashing continuously ap-proximately 0.1 second on and 0.1 second off. Proceed with step 21.	If performance standard not obtained in steps 17 and 18, proceed with step 19.
19	Connect oscilloscope vertical input to Q6 base; connect oscilloscope ground clip to card pin V. Observe waveform.	Waveform observed should be a square wave 0.1-second duration between transitions.	If waveform not present, R6 is open, one or more diodes CR2 through CR6 is defective, or IC3 is defective. If waveform is present, proceed with step 20.
20	Connect oscilloscope vertical input to Q7 base, connect oscilloscope ground clip to card pin V. Observe waveform.	Same as step 19	If .waveform not present, Q6, R6, or R8 defective. If waveform is present, Q7 and CR8 is defective.
21	Adjust output of power supply No. 1 to 40 vdc and repeat steps 4 through 18 above, as required.	Same as corresponding steps above. Proceed with step 22.	
22	Adjust output of power supply No. 1 to 5b vdc and repeat steps 4 through 18 above, as required.	Same as corresponding steps above.	
23	Remove interrupter card assembly from receptacle J2 of test adapter. Tests are completed.) Disconnect test equipment.		

6-17. Tone Dial Assembly SC-35C3A

a. General. Tone Dial Assembly SC-35C3A is nonrepairable; however, to determine whether or not the assembly is functioning properly, perform the following performance test.

b. Performance Test.

(1) Connect the test equipment as shown in figure 6-23.

(2) Set the power supply for 10 vdc.

(3) Hold one of the digit pushbuttons

depressed and adjust the power supply until the multimeter indicates 20 milliamperes. When power supply is adjusted, release pushbutton.

(4) Simultaneously depress and hold the two digit pushbuttons specified in the chart below. The frequency counter and the ac vtvm must indicate within the ranges specified for each pair of digit pushbuttons. In addition, the difference between the highest and the lowest dbm indication must be less than 2 dbm.

Digit pushbuttons	Frequency range (Hz)	Ac vtvm range (dbm)
1 and 3	695.0 to 699.0	--0.1 to -5.1
4 and 6	767.7 to 772.3	0 to -5.0
7 and 9	849.5 to 854.5	+0.3 to -4.7
* and II	938.2 to 943.8	+0.4 to -4.6
1 and 4	1205.4 to 1212.6	+ 1.1 to-3.9
2 and 5	1332.0 to 1340.0	+1.2 to -3.8
3 and 6	1472.6 to 1481.4	+1.3 to -3.7

(5) Turn off and disconnect the test equipment.

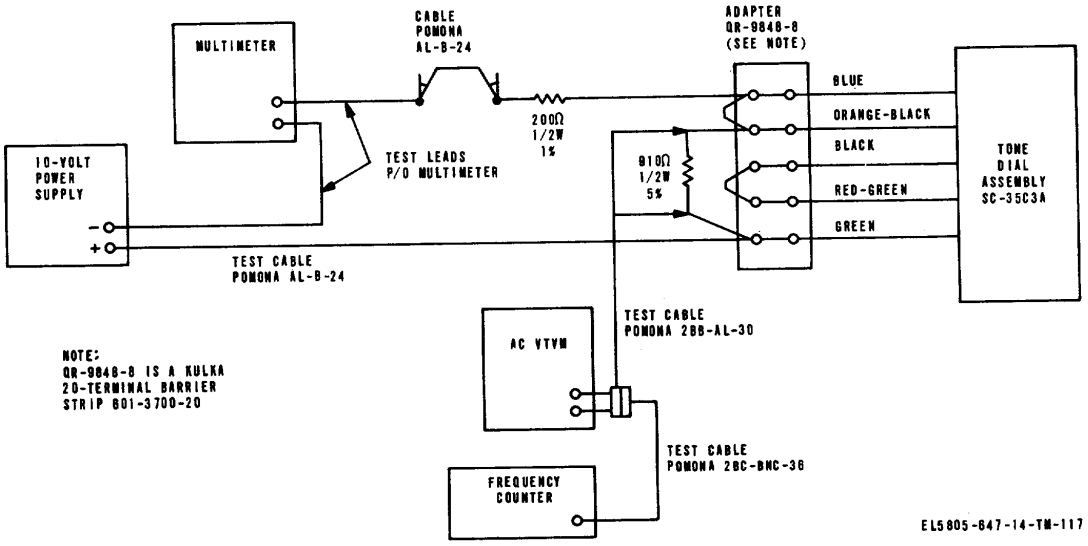


Figure 6-23. Tone Dial Assembly SC-35C3A, performance test setup diagram.

6-18. Amplifier TLC-410

a. General. Amplifier TLC-410 (fig. FO-10} is non repairable; however, to determine whether or not the amplifier is functioning properly, perform the following performance test:

b. Performance Test.

(1) Connect the test equipment as shown in figure 6-24.

(2) Adjust the power supply for 48 vdc.

(3) Adjust the signal generator for an output of 1, 000 Hz at 3.64 vrms. The ac vtvm must indicate 4.0 vrms. If necessary, adjust GAIN _control R1 on the amplifier to provide the required indication on the ac vtvm.

(4) Without changing the output level of the signal generator, vary the frequency between 200 and 8, 000 Hz. The ac vtvm must remain within ± 2 db of the 4.0-vrms output level obtained at 1000 Hz.

(5) Turn off and disconnect the test equipment.

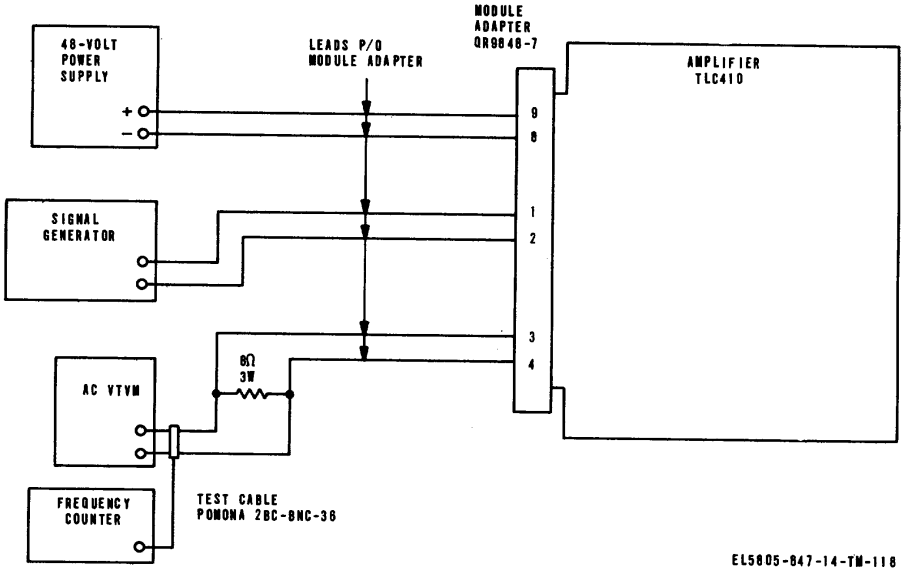


Figure 6-24. Amplifier TLC-410 performance test setup diagram .

6-19. Speaker Amplifier Unit 65053828

a. General. This paragraph provides preliminary procedures and a chart for performance testing and troubleshooting the speaker amplifier unit. The schematic diagram of the speaker amplifier unit is shown in figure 4-5 and the parts location diagram is shown in figure 6-25.

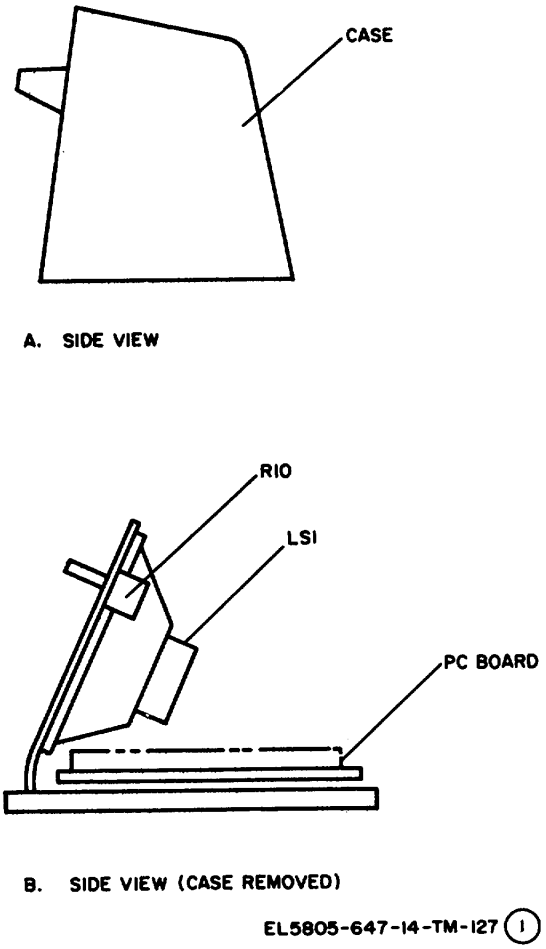


Figure 6-25. Speaker Amplifier Unit 6505-3828, parts location diagram.

b. Preliminary Procedure. Before following the instructions in the performance test and troubleshooting chart (c below), perform the following steps:

(1) Remove speaker case by removing the case mounting screws.

(2) Connect test equipment as shown in figure 6-26.

(3) Turn on test equipment and allow ample warm-up time.

(4) Adjust power supply fur 48 vdc.

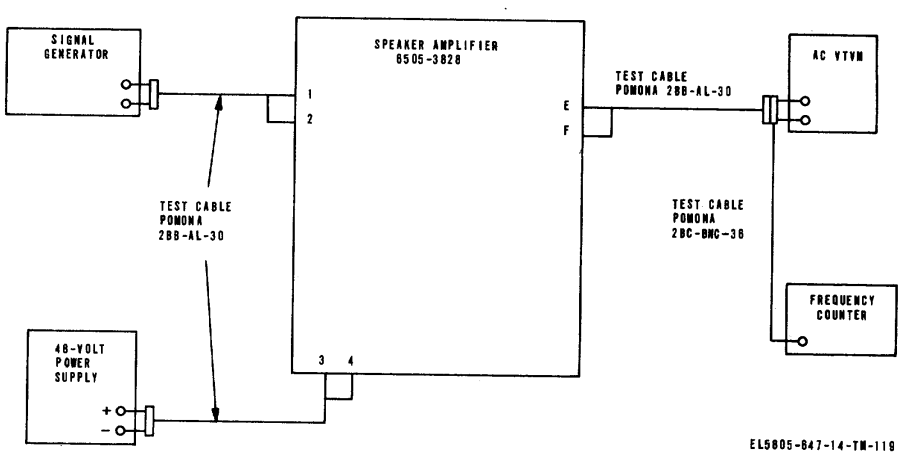


Figure 6-26. Speaker Amplifier Unit 65065-3828, initial test setup diagram.

c. Performance Test and Troubleshooting Chart.

Step	Test Procedure	Performance standard	Corrective action
1	Perform preliminary procedure given in b above.		
2	Set signal generator for frequency of 1, 000 Hz and a level of 30 mv (-28.2 dbm/600 ohm).		
3	Operate VOLUME control on unit under test until performance standard is obtained	1, 000 Hz indication on frequency counter and 1.6V (6.6 dbm) indication on ac voltmeter (tone audible over speaker) C6 If 242 volts is not measured, check R1, CR1, CR2, R9, C5, and C6 in the PC card as well as R10 on the speaker frame. Replace defective part. If 24 ' 2 volts is measured, check T1, T2, Q1Q2 and associated circuit parts. Replace part.	If performance standard is normal, proceed to next step If performance standard cannot be obtained, measure dc voltage across
4a	Check frequency response of speaker amplifier as follows:		
4b	Adjust signal generator for 300 Hz with a level of 27 m vrms (-29.2 dbm/600 ohm). If necessary, adjust VOLUME control to obtain performance standard	Ac voltmeter indicates 1.88vrms (7.6 dbm/600 ohms) to next step; otherwise, check and replace frequency determining components such as capacitors C1 through C4 as well as Q1 and Q2.	If performance standards for step 4b through 4h are normal, proceed
4c	Set signal generator frequency to 500 Hz and level to 28 m vrms (-28.7 db)m).	Ac voltmeter indicates 2.05 vrms (8.5 dbm)	
4d	Set signal generators frequency to 700 Hz. and level to 29 mvrms (-28.5 dbm).	Ac voltmeter indicates 1.93 vrms (7.9 dbm)	
4e	Set signal generator frequency to 1.000 Hz and level to 30 m vrms (-28.2 dbm).	Ac voltmeter indicates 1.6 vrms (6.6. dbm).	

4*f*	Set signal generator frequency to 2.000 Hz and level to 30 m vrms (-28.2 dbm).	Ac voltmeter indicates 0.98 vrms 12.1 dbm
4*g*	Set signal generator frequency to 3.500 Hz and level to 30 mvrms (-28.2 dbm).	Ac voltmeter indicates 0.56 vrms (-2.8 dbm)
4*h*	Set signal generator frequency to 5.000 Hz and level to 30 mvrrns (-28.2 dbm).	Ac voltmeter indicates 0.39 vrms (-5.6 dbm(
5	Turn off and then disconnect test equipment	

6-20. Rotary Dial GB982

a. General. Rotary Dial GB982 is nonrepairable; however, to determine whether or not the rotary dial is functioning properly, perform the following performance test:

b. Performance Test.

(1) Connect the test equipment as shown in figure 6-27.

(2) Adjust the power supply for 10 vdc.

(3) Adjust the trigger control of the oscilloscope so that the sweep starts at the beginning of the first break pulse from the dial and adjust the time base so that the tenth pulse from the dial occurs just before the end of the horizontal sweep period.

(4) Dial digit 0; repeat as necessary. From the oscilloscope, calculate the rate of the pulses. The pulse rate must be between 9 and 11 pulses per second.

(5) Dial a digit to provide a pulses train on the oscilloscope; repeat as necessary. Adjust the time base of the oscilloscope so that the pulse break period can conveniently be measured. The pulse break period must be 65.5 t 4 percent of one pulse duration.

(6) Turn off and disconnect the test equipment.

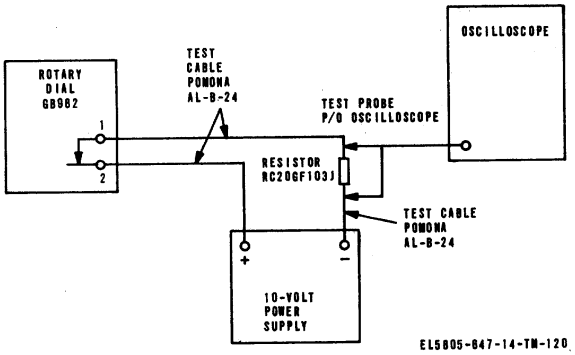


Figure 6-27. Rotary Dial GB982, performance-test setup diagram.

6-21. Key Assembly 703016-509, 703016-510, and 703016-11

a. General. Key assemblies are nonrepairable; however, to determine whether or not the key assemblies are functioning properly, perform the following performance test:

b. Performance Test.

(1) Use schematic diagram of the appropriate key assembly which is included in figure FO-1, FO-3, FO-4, or FO-5 to identify the pin numbers associated with each set of contacts and each lamp.

(2) In turn, depress each key and measure continuity across each set of contacts with a multimeter. Verify results of test with appropriate schematic diagram.

(3) Using the multimeter, measure the resistance across each lamp. The resistance must be 157 + 25 ohms.

6-22. Network Assembly QNB3A4

a. General. Network Assembly QNB3A4 is nonrepairable; however, to determine whether or not the network is functioning properly, perform the following performance test.

b. Performance Test. In turn, connect the test leads of the impedance bridge between the terminals specified in the first column of the following chart. Insure that the observed indication is within the limits specified in the performance standard column; otherwise, the network assembly is defective. The third, column gives the part of the network that is tested.

Terminals	*Performance standard*	*Part tested*
F and RR .	0.10 to 0.185 μfd	Filter capacitor
A and K	0.38 to 0.52μfd	Ringer capacitor
C and R	Greater than 4700 ohms	V1 and filter resistor
B and C	35.1 to 42.9 ohms	TA2 winding and resistor
R and GN	74.3 to 90.7 ohms .	TC winding and resistor
R and RR	12.1 to 14.9 ohms	TA1 winding
C and junction of network capacitors	28.8 and 35.2 ohms	TA2 and TB windings
B and junction of network capacitors	33.3.and 40.7 ohms	TB winding and resistor
R and junction of network capacitors	Greater than 1600 ohms	V2
NOTE		
For next step, remove connections from network capacitors to V2 and TB winding.		
R and junction of network capacitors	2.4 to 3.0 μ/fd	Network capacitors

CHAPTER 7

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

7-1. Repackaging

Repackaging of the equipment for shipment or limited storage normally will be performed at a repackaging facility or by a repackaging team. Should emergency packaging be required, select the materials from those listed in SB 38-100, Preservation, Packaging, and Packing Materials, Supplies, and Equipment used by the Army. Package the equipment in accordance with the original packaging, so far as possible, with the available materials.

7-2. Authority for Demolition

Demolition of the equipment will be accomplished only upon order of the commander. Use the destruction procedures outlined in paragraph 7-3 to prevent further use of the equipment.

7-3. Methods of Destruction

Destruction of equipment, spare parts, and manuals to prevent capture or abandonment to the enemy is accomplished by using tools, equipment, and explosives normally available. Priority should be given to the destruction of all plug-in circuit cards. Cabling, connectors and hardware should then be destroyed as time permits.

a. Smash. Smash all printed circuit cards.

b. Cut. Cut all cables and wiring.

WARNING

Be extremely careful when handling explosives and incendiary devices. Use these items only when the need is urgent.

c. Burn. Burn printed circuit cards, wiring diagrams, and technical manuals.

d. Bend. Bend panels, hardware, and the equipment assembly.

e. Explode. Use explosives if necessary.

f. Dispose. Bury or scatter the destroyed parts in slit trenches or foxholes, or throw them into streams.

7-4. Reporting

Report all destruction of equipment in accordance with established priorities and through established command channels.

APPENDIX A

REFERENCES

The following publications contain information applicable to the operation and maintenance of the equipment.

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	U.S. Army Equipment Index of Modification Work Orders.
SB 38-100	Preservation, Packaging, Packing and Marking Materials, Supplies and Equipment Used by the Army.
TB SIG 222	Solder and Soldering.
TB SIG 355-1	Depot Inspection Standard for Repaired Signal Equipment.
TB SIG 355-2	Depot Inspection Standard for Refinishing Repaired Signal Equipment.
TB SIG 355-3	Depot Inspection Standard for Moisture and Fungus Resistant Treatment.
TB 746-10	Field Instructions for Painting and Preserving Electronics Command Equipment.
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 740-90-1	Administrative Storage of Equipment.

APPENDIX B

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LISTS (INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS)

Section I. INTRODUCTION

B-1. Scope

This manual lists repair parts required for the performance of organizational, direct support, general support, and depot maintenance of Order Wire Intercommunication Termination Units TA918 (V) ( )/FSC, Order Wire Intercommunication Termination Units TA-930(V) ( )/FSC, Express Link-Local Order Wire Unit TA-928/FSC, Express-Link-Local Order Wire Unit TA923/FSC, Link Order Wire Unit TA-925/FSC, Remote Link Order Wire Unit TA-924/FSC, Local Order Wire Unit 41010-97, Conference Bridges, Telephone TA-920(V) ( )/FSC, and Jack and Lamp Panel JLP-1.

B-2. General

This Basic Issue Items, Items Troop Installed or Authorized, Repair Parts, and Special Tools List is divided into the following sections:

a. Basic Issue Items List-Section II. Not applicable.

b. Items Troop Installed or Authorized List Section III. Not applicable.

c. Organizational Maintenance Repair Parts List-Sections IV, IX, XIV, XIX, XXIV, XXIX, XXXIV, XXXIX, and XLVII. A list of repair parts authorized at the organizational level for the performance of maintenance. The list also includes parts which must be removed for the replacement of the authorized parts. Parts lists are composed of functional groups in ascending numerical sequence.

d. Special Tools List-Sections V, X, XV, XX, XXV, XXX, XXXV, XL, and XLVIII. Not applicable.

e. Repair Parts for Direct Support, General Support, and Depot Maintenance-Sections VI, XI, XVI, XXI, XXVI, XXXI, XXXVI, XLI, XLIV, and XLIX. A list of repair parts authorized at the direct support, general support, and depot levels for the performance of maintenance. The list also includes parts which must be removed for the replacement of the authorized parts. Parts lists are composed of functional groups in ascending numerical sequence.

f. Special Tools List-Sections VII, XII, XVII, XXII, XXVII, XXXII, XXXVII, XLII, XLV, and L. Not applicable.

g. Federal Stock Number and Reference Number Index-Sections VIII, XIII, XVIII, XXIII, XXVIII, XXXIII, XXXVIII, XLIII, XLVI, and LI. A list, in ascending numerical sequence, of all Federal stock numbers appearing in the listings, followed by a list, in alphanumeric sequence, of all reference numbers appearing in the listings. Federal stock numbers and reference numbers are cross-referenced to each illustration figure and item number appearance.

B-3. Explanation of Columns

The following provides an explanation of columns found in the tabular listings.

a. Source, Maintenance, and Recoverability Codes (SMR).

(1) *Source code.* Source codes are assigned to support item to indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

Code	*Definition*
PA	-Item procured and stocked for anticipated or known usage.
PB	-Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply systems.
PC	-Item procured and stocked and which otherwise would be coded PA except that it is deteriorative in nature.
PD	-Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfittings. Not subject to automatic replenishment.
PE	-Support equipment procured and stocked for initial issue or out-fitting to specified maintenance repair activities.
PF	-Support' equipment which will not be stocked but which will be centrally procured on demand.
PG	-Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities, would prove uneconomical to reproduce at a later time.
KD -	An item of depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair.
KF	-An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.
KB	-Item included in both a depot overhaul/repair kit and a maintenance kit.
MO	-Item to be manufactured or fabricated at organizational level.
MF	-Item to be manufactured or fabricated at direct support maintenance level.
MH	-Item to be manufactured or fabricated at general support maintenance level.
MD	-Item to be manufactured or fabricated at depot maintenance level.
AO	-Item to be assembled at organizational level.
AF	-Item to be assembled at direct support maintenance level.
AH -	-Item to be assembled at general support maintenance level.
AD	-Item to be assembled at depot maintenance level.
XA	-Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	-Item is not procured or stocked. If not available through salvage requisition.
XD	-Support item that is not stocked. When required, item will be procured through normal supply channels.

NOTE

Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded XA, Xd, and aircraft support items as restricted by AR 700-42.

(2) *Maintenance code.* Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position indicates the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position indicates one of the following levels of maintenance.

Code	*Application/ Explanation*
C	-Crew or operator maintenance performed within organizational maintenance.
O	-Support item is removed, replaced, used at the organizational level.
I	-Support item is removed, replaced, used by the direct support element of integrated direct support maintenance.
F	-Support item is removed, replaced, used at the direct support level.
H	-Support item is removed, replaced, used at the general support level.
D	-Support items that are removed, replaced, used at depot, mobile depot, specialized repair activity only.

NOTE

Codes "I" and "F" will be considered the same by direct support units.

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions).

This position will contain one of the following maintenance codes:

Code *Application/ Explanation*

O -The lowest maintenance level capable of complete repair of the support item is the organizational level.

F -The lowest maintenance level capable of complete repair of the support item is direct support level.

H -The lowest maintenance level capable of complete repair of the support item is general support level.

D -The lowest maintenance level capable of complete repair of the support item is the depot level, performed by Lexington Army Depot.

L -Repair restricted to designated specialized repair activity.

Z -Nonreparable. No repair is authorized.

B -No repair is authorized. The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of this item.

(3) *Recoverability code.* Recoverability codes are assigned to support items to indicate the dispostion action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Recoverability

Code *Definition*

Z -Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position three.

O -Reparable Item. When uneconomically reparable, condemn and dispose at organizational level.

F -Reparable item. When uneconomically reparable, condemn and dispose at the direct support level.

H -Reparable item. When uneconomically reparable, condemn and dispose at the general support level.

D -Reparable item. When beyond lower level repair capability return to depot.
Condemnation and disposal not authorized below depot level.

L -Reparable item. Repair, condemnation, and disposal not authorized below depot/specialized repair activity level.

A -Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manual/directive for specific instructions.

b. Federal Stock Number. Indicates the Federal stock number assigned to the item.

NOTE

For requisitioning purposes, the Federal stock number must be converted to the National stock number by adding "-00-" after the Federal stock classification (FSC) code (first four digits). For example, FSN 6625-553-0142 converts to NSN 6625-00-553-0142.

c. Description. Indicates the Federal item name and a minimum description required to identify the item. The last line indicates the reference number, followed by the applicable Federal Supply Code for Manufacturer (FSCM) in parentheses. The FSCM is used as an element in item identification to designate manufacturer or distributor or Government agency, etc., and is identified in SB 708-42.

d. Unit of Measure (U/M). Indicates the standard or basic quantity by which the listed item is used in performing the actual maintenance function. This measure is expressed by a two character alphabetic abbreviation, e.g., ea., in., pr, etc. When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

e. Quantity Incorporated in Unit. Indicates the quantity of the item used in the breakout shown on the illustration figure which is prepared for a functional group, sub-functional group, or an assembly.

f. 15-Day Organizational Maintenance Allowances.

(1) The repair parts indicated by an asterisk in the allowance columns represent those authorized for use at the organizational category, and will be requisitioned on an "as required" basis, until stockage is based on demand in accordance with AR 710-2.

(2) Major Army commanders authorized to approve reduction in the range of support items authorized for use in units within their commands. Recommendations for increase in range of items authorized for use will be forwarded to Commander, US Army Electronics Command, ATTN: AMSEL-MA-C, Fort Monmouth, NY 07703.

g. 30-Day DS/ GS Maintenance Allowances.

The repair parts indicated by asterisk entries in separate allowance columns for DS and GS represent those authorized for use at that category of maintenance to be requisitioned on an "as required" basis, until stockage is based on demand in accordance with AR 710-2.

h. 1-Year Allowances Per 100 Equipment/Contingency Planning Purposes. Column intentionally left blank.

i. Depot Maintenance Allowance Per 100 Equipment. This column indicates that the items identified with an asterisk ar6 authorized to be requisitioned as required.

j. Illustration. This column is divided as follows:

(1) *Figure number.* Indicates the figure number of the illustration on which the item is shown.

(2) *Item number*. Indicates the callout number used to reference the item on the illustration.

B4. Special Information

(Not applicable).

B-5. How to Locate Repair Parts

a. When Federal stock number or reference number is unknown:

(1) *First*. Using the table of contents determine the functional group within which the repair part belongs. This is necessary since illustrations are prepared for functional groups, and listings are divided into the same groups.

(2) *Second*. Find the illustration covering the functional group to which the repair part belongs.

(3) *Third*. Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) *Fourth*. Using the Repair Parts Listing, find the functional group to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

b. When Federal stock number or reference number is known:

(1) *First*. Using the Index of Federal Stock Numbers and Reference Numbers, find the pertinent Federal Stock number or reference number. This index is in ascending FSN sequence, followed by a list of reference numbers in ascending alphanumeric sequence, cross referenced to the illustration figure number and item number.

(2) *Second*. Using the Repair Parts Listing, find the functional group of the repair part and the illustration figure number and item number referenced in the Index of Federal Stock Numbers and Reference Numbers.

B-6. Abbreviations

(Not applicable).

(Next printed page is B5)

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 O/W UNIT, EXPRESS-LINK-LOCAL TA-923/FSC									
	5805-269-0027	O/W UNIT, EXP-LK-LCL TA-923/FSC 6505-3821 (468591		EA	1	*	*	*	*		
		GROUP 01010203 KEY ASSEMBLY									
PAOZZ	6240-115-5042	LAMP INCANDESCENT 24CSB (58854)		EA	6	*	*	*	*	3	2
		GROUP 01010204 KEY ASSEMBLY									
PAOZZ	6240-115-5042	LAMP, INCANDESCENT 24CSB (58854)		EA	6	*	*	*	*	3	2
		GROUP 0103 HANDSET									
PAOHH		HANDSET NC1800-03G3AR15T4 (97101		EA	1	*	*	*	*	4	3
		GROUP 0104 HEADSET									
PAOHH		HEADSET 1574-5 (97101)		EA	1	*	*	*	*	5	1

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 O/W UNIT, EXP-LK-LCL TA-923/FSC												
	5805-269-3027	O/W UNIT, EXP-LK-LCL TA-923/FSC 6505-3821 (46859)												
		GROUP 0101 CALL DIRECTOR ASSEMBLY												
AFFFH		CALL DIRECTOR ASSEMBLY 6505-3836 (46859)	EA	1										
		GROUP 010101 SF OSCILLATOR-BUZZER ASSEMBLY												
PAFHH		SIGNALING FREQ OSCILLATOR 6505-3834 (46859)	EA	1	*	*	*	*	*	*		*	1	1
		GROUP 01010101 SF OSCILLATOR												
AFFFH	5895-173-7025	OSCILLATOR ASSEMBLY 49009-01 (51504)	EA	1				*	*	*		*	1	2
PAHZZ	5905-114-3711	RESISTOR, FIXED, COMPOSITION RCR07G472JS (81349)	EA	3				*	*	*		*	1	3
PAHZZ	59a5-104-8364	RESISTOR, FIXED, COMPOSITION RCR07G125JS (81349)	EA	1				*	*	*		*	1	4
PAHZZ	5961-226-8584	TRANSISTOR 2N2222 (81349)	EA	4				*	*	*		*	1	5
PAHZZ	5910-435-3856	CAPACITOR, FIXED, PLASTIC D01 1MDF1-103 (72136)	EA	1				*	*	*		*	1	6
PAHZZ	5905-110-Z388	RESISTOR, FIXED COMPOSITION RCR07G104JS (813493	EA	3				*	*	*		*	1	7
PAHZZ	5905-110-7672	RESISTOR, FIXED, COMPOSITION RCR07G682JS (81349)	EA	1				*	*	*		*	1	8
PAHZZ	5905-116-3555	RESISTOR, FIXED, COMPOSITION RCR07G153JS (81349)	EA	2				*	*	*		*	1	9
PAHZZ		CAPACITOR, FIXED, ELECTROLYTIC 0437ARG100 (K0004)	EA	1				*	*	*		*	1	10
PAHZZ	5905-106-3666	RESISTOR, FIXED COMPOSITION RCR07G103JS (81349)	EA	1				*	*	*		*	1	11

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5905-111-1678	RESISTOR FIXED, COMPOSITION RCR07G564JS (81349)	EA	1				*	*	*		*	1	12
PAHZZ	5961-232-3017	SEMICONDUCTOR DEVICE, DIODE 1N5242 (047131	EA	2				+	*	*		*	1	13
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE, DIODE 1N4148 (81349)	EA	2				*	*	*		*	1	14
PAHZZ	5905-119-3504	RESISTOR, FIXED, COMPOSITION RCR07G273J5 (813491	EA	4				*	*	*		*	1	15
PAHZZ	5961-913-1747	TRANSISTOR 2N2907 (81349)	EA	1	*			*	*	*		*	1	16
PAHZZ	5961-054-4191	TRANSISTOR 40347 (02735)	EA	1	*			*	*	*		*	1	17
PAHZZ	5905-504-7058	RESISTOR, FIXED, COMPOSITION RCR42G681JS (81349)	EA	1				*	*	*		*	1	18
PAHZZ	5905-141-1183	RESISTOR, FIXED, COMPOSITION RCROT7GCIJS (81349)	EA	2	*			*	*	*		*	1	19
PAHZZ	5905-111-4858	RESISTOR, FIXED, COMPOSITION RCR2OG47tJS (81349t	EA	1	*			*	*	*		*	1	20
PAHZZ	5910-224-5115	CAPACITOR, FIXED ELECTROLYTIC K1R8C28K (31433)	EA	1	*			*	*	*		*	1	21
PAHZZ	5950-930-4451	TRANSFORMER, POWER 124-5K (7C674)	EA	1				*	*	*		*	1	22
PAHZZ		TERMINAL, LUG 2OOOCI (15849)	EA	5	*			*	*	*		*	1	23
PAHZZ	5910-267-27C6	CAPACITOR, FIXED, PLASTIC HRO-1UFIOPCT160VDCW (082571	EA	1				*	*	*		*	1	24
PAHZZ	5905-238-5828	RESISTOR, VARIABLE 335qwN-t03 (83294)	EA	1	*			*	*	*		*	1	25
PAHZZ	5910-068-3887	CAPACITOR, FIXED, MICA DI COIJFDItOIK3 (14655)	EA	1				*	*	*		*	1	26
PAHZZ	5905-105-7765	RESISTOR, FIXED, COMPOSITION RCR07G224JS (81349)	EA	1	*			*	*	*		*	1	27
PAHZZ	5950-236-7096	INDUCTOR 083A027 (515s4)	EA	1				*	*	*		*	1	28

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	591C-275-6507	CAPACITOR, FIXED, PLASTIC DI 611-13GOPF2-5PCT33V (266253	EA	1				*	*	*		*	1	29
PAHZZ	591C-283-5664	CAPACITOR, FIXED, PLASTIC DI 611-820PF2-5PCT33V (26625)	EA	1				*	*	*		*	1	30
PAHZZ	5905-141-0717	RESISTOR, FIXED, COMPOSITION RCR07G473JS (81349)	EA	1				*	*	*		*	1	31
		GROUP 01010102 BUZZER												
PAFZZ	6350-239-5581	BUZZER SCZ4 (37942)	EA	1	*	*	*	*	*	*		*	1	32
		GROUP 010102 CALL DIRECTOR												
AFFFH		TELEPHONE SWITCHBOARD 703I16-158 (789571	EA	1								*	2	1
PAFZZ	5940-262-2228	TERMINAL BOARD 703016-640 (78957)	EA	1	*	*	*	*	*	*		*	2	2
PAHZZ	5905-119-8811	RESISTOR, FIXED, COMPOSITION RCR32G151JS (81349)	EA	1				*	*	*		*	2	3A
PAFZZ		CAPACITOR, FIXED, ELECTROLYTIC TTIOGX2 (91201)	EA	1	*	*	*	*	*	*		*	2	3
PAFZZ	5940-941-0201	TERMINAL, LUG 41566-000 (78957)	EA 9	9	*	*	*	*	*	*		*	2	4
PAFZZ	5935-240-5760	CONNECTOR, PLUG, ELECTRICAL 304145-271 (789573	EA	5	*	*	*	*	*	*		*	2	5
PAFZZ	5935-003-7711	CONNECTOR, PLUG, ELECTRICAL 304146-874 (789571	EA	5	*	*	*	*	*	*		*	2	6
PAFZZ	5910-880-2938	SEMICONO DEVICE, DIODE IN4D13 (04713)	Ea	1	*	*	*	*	*	*		*	2	7
PAHZZ	5905-106-3666	RESISTOR FIXED, COMPOSITION RCN37GIC3JS (81349	EA I)	1				*	*	*		*	2	8
PAFZZ		RESISTOR, FIXED, COMPOSITION RCR42G2)2JS (P1349	EA)	1	*	*	*		*	*		*	2	9
PAHZZ	5961-184-7475	SEMICONDUCTOR 1N5359 (04713	EA)	1				*	*	*		*	2	10

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5905-119-3811	RESISTOR, FIXED, COMPOSITION RCR3ZG151JS (81349)	EA	1				*	*	*		*	2	11
XBHZZ		BEZEL, INSTRUMENT MOUNTING P11E903 (1T794)	EA	1										
XBHZZ		BRACKET ANGLE 703016-637 (78957)	EA	1										
XBNZZ		BRACKET, ANGLE 703016-756 (78957)	EA	1										
XBHZZ		CABINET, ELECTRICAL EQUIPMENT P96X460 (78957)	EA	1										
HFFZZ		CABLE ASSEMBLY 703306-897 (78957)	EA	1										
PAFZZ	5305-057-35P9	SCREW, MACHINE MS51958-12 (96906)'	EA	10	*	*	*	*	*	*		*		
PAFZZ	5305-763-7827	SCREW MACHINE MS51959-18 (96906)	EA	5	*	*	*	*	*	*		*		
XBFZZ		HOOD, CONNECTOR 304146-863 (78957)	EA	5										
XBFZZ		TERMINAL, LUG 701019-933 (78957)	EA	21										
XBFZZ		FACEMAT 703016-215 (78957)	EA	1										
XBFZZ		PANEL, MOUNTING P894824 (1794)	EA	1										
XBFZZ		TERMINAL, LUG 13-108S (72653)	EA	2										
		GROUP 01010201												
PAFZZ		NETWORK O4N3A4 (C1794)	EA	1	*	*	*	*	*	*		*	2	12
		GROUP 01010202 DIAL A88EMBLY												
PAFZZ 201054-2?1	5835-25P-584 (78957)	DIAL ASSEMBLY, PUSH BUTTON	EA	1	*	*	*	*	*	*		*	2	13

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ		PUSHBUTTON 303947-421 (78957)	EA	1	*	*	*	*	*	*		*	2	14
PAFZZ		PUSHBUTTON 303941-421 (78957)	EA	1	*	*	*	*	*	*		*	2	15
PAFZZ		PUSHBUTTON 303941-121 (789571	EA	1	*	*	*	*	*	*		*	2	16
PAFZZ		PUSHBUTTON 303941-521 (789571	EA *	1	*	*	*	*	*	*		*	2	17
PAFZZ		PUSHBUTTON 30394t-321 (78957.	EA	1	*	*	*	*	*	*		*	2	18
PAFZZ		PUSHBUTTON 303947-321 (78957)	EA	1	*	*	*	*	*	*		*	2	19
PAFZZ		PUSHBUTTON 303941-221 (78957)	EA	1	*	*	*	*	*	*		*	2	20
PAFZZ		PUSHBUTTON 303940-921 (789573	EA	1	*	*	*	*	*	*		*	2	21
PAFZZ		PUSHBUTTON 303940-821 (789573	EA	1	*	*	*	*	*	*		*	2	22
PAFZZ		PUSHBUTTON 30394D-321 (78957)	EA	1	*	*	*	*	*	*		*	2	23
PAFZZ		PUSHBUTTON 303940-621 (789573	EA	1	*	*	*	*	*	*		*	2	24
PAFZZ		PUSHBUTTON 303940-721 (789575	EA	1	*	*	*	*	*	*		*	2	25
XAFZZ		BAR, ACTUATOR. ELECTRICAL SWITCH 303940-499 (78957)	EA	1										
XAFZZ		BRACKET, ANGLE 303940-5IC (7(957)	EA	1										
XAFZZ		CIRCUIT CARD ASSEMBLY 255005-199 (7957)	EA	4										
XAFZZ		SCREW, MACHINE 304397-241 (78957)	EA	2										
X4FZZ	5305-770-2533	SCREW, MACHINE M551959-13 (96906)	EA	2										

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XAFZZ		CAPACITOR, FIXED, CERAMIC DI 202907-035 (78957)	EA	1										
XAFZZ	5910-071-99CS	CAPACITOR, FIXED, PLASTIC DI 202907-025 (78957)	EA	2										
XAFZZ	5970-930-9885	INSULATOR, TRANSISTOR 3500&2-789 (78957)	EA	1										
XAFZZ	5950-997-5224	OSCILLATOR ASSEMBLY 202906-282 (78957)	EA	1										
XAFZZ	5950-997-6302	OSCILLATOR ASSEMBLY 202906-292 (78957)	EA	1										
XAFZZ		PRINTED WIRING BOARD 302106-455 (78957)	EA	1										
XAFZZ	5905-111-1679	RESISTOR, FIXED, COMPOSITION RCR37G512JS (81349)	EA	1										
XAFZZ	5905-119-8768	RESISTOR, FIXED, COMPOSITION RCR07G21JS (81349)	EA	1										
XAFZZ		RESISTOR FIXED FILM RN7OC45R30S (81349)	EA	1										
XAFZZ		SEMICONDUCTOR DEVICE, DIODE 202899-079 (789571	EA	3										
XAFZZ	5961-8C4-5482	TRANSISTOR 2N524 (8Ci31)	EA	1										
XAFZZ		VARISTOR 202926-769 (78957)	EA	1										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 203280-459 (7&957)	EA	1										
XAFZZ	5335-763-6961	SCREW MACHINE NS51954-26 (96906)	EA	2										
XAFZZ	5895-134-0611	CONTACT, ELECTRICAL 300000-851 (78957)	EA	4										
XAFZZ	5999-134-0612	CONTACT, ELECTRICAL 305300-861 (78957)	EA	3										
XAFZZ	5999-134-8858	CONTACT, ELECTRICAL 300C0-871 (7t957)	EA	3										

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XAFZZ	5895-134-0859	CONTACT .ELECTRICAL 300000-881 (78957)	EA	1										
XAFZZ		INSULATOR, WASHER 300000-911 (70957)	EA	6										
XAFZZ		INSULATOR WASHER 300000-921 (78957	EA	5										
XAFZZ		PLATE, LOCKING 300000-931 (78957	EA	4										
XAFZZ	5305-622-9472	SCREW MACHINE MS35265-5 (96906)	EA	4										
XAFZZ		PLATE MOUNTING 300000-071 (789573	EA	1										
XAFZZ		SPACER 300000 (78957!	EA	2										
XAFZZ		SPACER 300000-921 (78957)	EA	2										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 200280-619 (78957)	EA	1										
XAFZZ		COVER 303946-921 (78957)	EA	1										
XAFZZ		CRANK, HAND , KNOB 300000-661 (78957)	EA	1										
XAFZZ		CRANK, HAND, KNOB 30000-671 (78957)	EA	2										
XAFZZ		CRANK HAND KNOB 300000-681 (76957)	E4	2										
XAFZZ		CRANK, HAND, KNOB 300000-91 (789557)	EA	2										
XAFZZ		FRAME 303940-210 (78957)	EA	1										
XAFZZ		INSULATOR, PLATE 300001-041 (78957)	EA	1										
XAFZZ		INSULATOR, PLATE 300002-501 (78957)	EA	1										

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XAFZZ		SPACER, SLEEVE 30001-C31 (78957)	EA	4										
XAFZZ		SPRING, HELICAL, COMPRESSION 300000-701 (78957)	EA	12										
		GROUP 01010203 KEY ASSEMBLY												
PAFZZ		PUSHBUTTON ASSEMBLY 703016-5C9 (78957)	EA	1	*	*	*	*	*	*		*	3	1
PAOZZ	6240-115-5042	LAMP, INCANDESCENT 24CSB (58854)	EA	6	*	*	*	*	*	*		*	3	2
PAFZZ		PUSHBUTTON 300972-191 (78957)	EA	1	*	*	*	*	*	*		*	3	3A
PAFZZ	5805-117-5484	PUSHBUTTON 300972-171 (78957)	EA	5	*	*	*.	*	*	*		*	3	3
XAFZZ		BRACKET, DOUBLE ANGLE 300972-841 (78957)	EA	1										
PAFZZ	5305-057-3508	SCREW, MACHINE MS51958-11 (96906)	EA	1	*	*	*	*	*	*		*		
XAFZZ		CONNECTOR, RECEPTACLE, ELEC 304145-262 (78957)	EA	1										
PAFZZ	5305-057-0510	SCREW, MACHINE MS1958-13 (969061	EA	2	*	*	*	*	*	*		*		
PAFZZ	5335-855-3973	SCREW, TAPPING, PAN HEAD MS24629-12 (96906)	EA	2	*	*	*	*	*	*		*		
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 206011-129 (78957)	EA	1										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 201280-2C9 (78957)	EA	5										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 253280-219 (78957)	EA	1'										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 203260-229 (78957)	EA	1										
XAFZZ		PLATE, MOUNTING 30972-011 (78957)	EA	1										

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5305-777-6039	SCREW MACHINE MS51959-12 (96906)	EA	8	*	*	*	*	*	*		*		
XAFZZ		LAMP ASSEMBLY INCANDESCENT 703016-526 (78957)	EA	1										
PAFZZ	5305-828-3821	SCREW TAPPING, PAN HEAD MS24629-13 (96906)	EA	2	*	*	*	*	*	*		*		
XAFZZ		COLLAR 300972-161 (78957)	EA	6										
XAFZZ		PLATE, MOUNTING 300972-351 (78957)	EA	1										
XAFZZ		RETAINER, LAMP 300972-041 (78957)	EA	1										
XAFZZ		PIN, SHOULDERED, HEADLESS 300972-561 (78957)	EA	1										
XAFZZ		PLUNGER ASSEMBLY 206011-109 (78957)	EA	1										
XAFZZ	5305-054-5649	SCREW MACHINE MS51957-15 (96906)	EA	2										
XAFZZ		BAR, CHAINING 300972-031 (78957)	EA	1										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 703016-013 (78957)	EA	1										
XAFZZ		BRACKET 300972-111 (78957)	EA	1										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 206011-169 (75957)	EA	1										
XAFZZ		PLATE MOUNTING 703015-676 (78957)	EA	1										
XAFZZ		DETENT.SWITCH 300972-021 (78957)	EA	1										
XAFZZ		LOCKOUT 300972-231 (78957)	EA	4										
XAFZZ		PIN, SHOULDERED, HEADLESS 300972-561 (78957)	EA	1										

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XAFZZ		PLATE, MOUNTING 300971-991 (78957)	EA	1										
PAFZZ	5305-855-0970	SCREW, TAPPING, PAN HEAD MS24629-12 (96906)-	EA	2	*	*	*	*	*	*		*		
XAFZZ		PLUNGER 307972-151 (78957)	EA	1										
XAFZZ		PLUNGER ASSEMBLY 703015-677 (75957)	EA	5										
XAFZZ		PLUNGER 703015-926 (78957)	EA	I										
XAFZZ		SCREW, MACHINE 703015-679 (78957)	EA	1										
XAFZZ		SPRING, HELICAL, COMPRESSION 301972-051 (78951T	EA	6										
XAFZZ		SPRING, HELICAL, COMPRESSION 303972-141 (78957)	EA	1										
XAFZZ		SPRING, HELICAL, COMPRESSION 303972-051 (78957)	EA	1										
XAFZZ		TERMINAL, LUG 303972-211 (78957)	EA	12										
		GROUP 01010254 KEY ASSEMBLY												
PAFZZ		PUSHBUTTON ASSEMBLY 703;16-510 (78957)	EA	2	*	*	*	*	*	*		*	3	1
PAOZZ	6240-115-3542	LAMP INCANDESCENT 24CSB (58854)	EA	6	*	*	*	*	*	*		*	3	2
PAFZZ	5805-117-8484	PUSH BUTTON 300972-171 (78957)	EA	6	*	*	*	*	*	*		*	3	3
XAFZZ		BRACKET, DOUBLE ANGLE 30 972-841 (7l957)	EA	1										
PAFZZ	5305-057-i5C8	SCREW, MACHINE MS51958-11 (96936)	EA	1	*	*	*	*	*	*		*		
XAFZZ		CONNECTOR, RECEPTACLE, ELEC 334145-262 (78957)	EA	1										

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5305-057-0510	SCREW, MACHINE MS5t958-13 (96906)	EA	2	*	*	*	*	*	*		*		
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 206911-129 (78957)	EA	1										
PAFZZ	5305-855-0970	SCREW, TAPPING, PAN HEAD MS24629-12 (96906)	EA	2	*	*	*	*	*	*		*		
XAFZZ		LAMP ASSEMBLY, INCANDESCENT 703016-527 (78957)	EA	1										
PAFZZ	5305-828-9821	SCREW, TAPPING, PAN HEAD MS24629-13 (96906)	EA	2	*	*	*	*	*	*		*		
XAFZZ		COLLAR 301972-161 (78957)	EA	6										
XAFZZ		PLATE, MOUNTING 300972-351 (78957)	EA	I										
XAFZZ		RETAINER, LAMP 303972-041 (78957)	EA	1										
XAFZZ		TERMINAL, LUG 309972-211 (789571	EA	12										
XAFZZ		PIN, SHOULDERED, HEADLESS 303972-561 (78957)	EA	1										
XAFZZ		PLUNGER ASSEMBLY 206011-tC9 (769571	EA	1										
XAFZZ	S305-054-5649	SCREW, MACHINE MS51957-15 (q9906)	EA	2										
XAFZZ		SPRING, HELICAL, COMPRESSION 300972-051 (789571	EA	1										
		GROUP 0102 PANEL ASSEMBLY												
AFFFF		PANEL ASSEMBLY GB11672 (11136)	EA	1									4	1
PAFZZ	585-00O3-’671	PANEL, MOUNTING 1058(01794)	EA	2	*	*	*	*	*	*		*	4	2
PAHZZ	5935-975-4649	JACK, TELEPHONE CMT337 (2389)	EA	2				*	*	*		*	7	3

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PAHZZ	5935-224-4213	JACK, TELEPHONE MT332A (82389?	EA	2				*	*	*		*	4	4
PAHZZ	5940-983-5051	TERMINAL BOARD 37TB10 (81349)	EA	1				*	*	*		*	4	5
XBFZZ		BLOCK, JACK MOUNTING AP916 (11136)	EA	1										
XBFZZ		PANEL, MOUNTING GB11678 (11136) GROUP 010201 DIAL ASSEMBLY	EA	1										
PAFZZ		DIAL, TELEPHONE 330CG450 (09712)	EA	1	*	*	*	*	*	*		*	4	6
		GROUP 01C2C2 HOOK SWITCH	EA	1	*	*	*	*	*	*		*		
PAFZZ	5930-236-5529	SWITCH, HOOK AT81C6I1O (11136) GROUP 01C3	EA	1	*	*	*	*	*	*		*	4	7
PAOHH		HANDSET NC1800-03G3AR15T4 (97101)	EA	1	*	*	*	*	*	*		*	4	8
PAHZZ		TRANSMITTER, TELEPHONE 1912-93 (97101)	EA	1				*	*	*		*	4	9
PAHZZ	5965-651-4348	RECEIVER, TELEPHONE 1590V (97101)	EA	1				*	*	*		*	4	10
PAHZZ		CAP, RECEIVER	EA	1				*	*	*		*	4	11
XAHZZ		HEADSET 1809-03 (97101) GROUP 0104 HEADSET	EA	1										
PAOHH		HEADSET 1574-5 (97101)	EA	1	*	*	*	*	*	*		*	5	1
P4HZZ	5965-578-5931	RECEIVER, TELEPHONE 1350(97101)	EA	1				*	*	*		*	5	2

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PAHZZ		TRANSMITTER, TELEPHONE 1338(97101)	EA	1				*	*	*		*	5	3
PAHZZ		PLUG, TELEPHONE 7683 (971011	EA	1				*	*	*		*	5	4
XBHZZ		HEADBAND 1342F (97101)	EA	1										

FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

SECTION VIII.

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5305-003-2671	4	2
5805-117-8484	3	3
5805-117-8484	3	3
5805-258-5840	2	13
5805-269-0027	1	1
5905-104-8364	1	4
5905-105-7765	1	27
5905-106-3666	1	11
5905-106-3666	2	8
5905-110-0388	1	7
5905-110-7622	1	8
5905-111-t678	1	12
5905-111-4858	1	20
5905-114-0711	1	3
5905-116-8555	1	9
5905-119-3504	1	15
5905-119-8811	2	3A
5905-119-6811	2	11
5905-141-0717	1	31
5905-141-1183	1	19
5905-238-5828	1	25
5905-504-7058	1	18
5910-06h-3887	1	26
5910-224-6115	1	21
5910-267-2706	1	24
5910-275-6507	1	29
5910-283-5664	1	30
5910-405-0856	1	6
5910-886-2938	2	7
5930-236-6529	4	7
5935-003-7711	2	6
5935-224-4213	4	4
5935-241-6760	2	5
5935-978-4649	4	3
5940-262-2228	2	2
5940-941-0201	2	4
594G-983-6051	4	5
5950-236-7C96	1	28
5950-930-4451	1	22
5961-054-4191	1	17
5961-184-7435	2	10
5961-226-8584	1	5
5961-232-3017	1	13
5961-913-1747	1	16
5961-938-1135	1	14
5965-578-6931	5	2
5965-651-4348	4	1C
6240-115-5042	3	2
6240-115-5042	3	2
6350-239-5581	1	32

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
AT810510W	11136	4	7
CO10F010CK03	14655	1	26
CMT337	82389	4	3
C437ARG100	K0004	1	10
GB11672	11136	4	1
KIR8C20K	31433	4	21
NRO-1UF10PCT160VDCW	08257	1	24
MT332A	82389	4	4
NC1800-03G3AR15T4	97101	4	8
QNP3A4	01194	2	12
RCR07G101JS	81349	1	19
RCR07G103JS	81349	1	11
RCR07G103JS	81349	2	8
RCR07G104JS	81349	1	7
RCR07G125JS	81349	1	4
RCR07G153JS	81349	1	9
RCR07G224JS	81349	1	27
RCR07G273JS	81349	1	15
RCR07G273JS	81349	1	3
RCR07G473JS	81349	1	31
RCR07G564JS	81349	1	12
RCR07G682JS	81349	1	8
RCR20G471JS	81349	1	20
RCR32G151JS	81349	2	3A
RCR32G151JS	81349	2	11
RCR42G202JS	81349	2	9
RCR42G681JS	81349	1	18
SC24	37942	1	32
TT100X2	90201	2	3
08CA02T	51504	1	28
1MDF1-103	72136	1	6
1N4003	04713	2	7
1N4148	81349	1	14
1N5242	04713	1	13
1N5359	04713	2	10
105B	01794	4	2
124-5K	70674	1	22
1308	97191	2	3
1350	97101	5	2
1574-5	97101	5	1
1590v	97101	5	10
1811-03	97101	4	11
1912-03	97101	4	9
2N2222	81349	4	5
2N2907	81349	1	16
200C1	15849	1	23
200054-221	78957	1	13
240SB	58854	2	2
240SB	58854	3	2
300972-171	74957	3	3

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
300972-171	78957	3	3
300972-191	78957	3	3A
303940-321	78957	2	11
303940-621	78957	2	12
303940-721	78957	2	13
303940-821	78957	2	10
303940-921	76957	2	9
333941-121	78957	2	4
303941-221	78957	2	8
303941-321	78957	2	6
303941-421	7895?	2	3
303941-521	78957	2	5
303947-321	78957	2	7
303947-421	78957	2	2
304145-271	78957	2	5
304146-874	78957	2	6
3300G450	09712	4	6
3359W1-103	80294	1	25
37TB10	81349	4	5
40347	02735	1	17
41566-000	78957	2	4
49009-01	51504	1	2
611-1300PFZ-5PCT33V	26625	1	29
611-820PF2-5PCT33V	26625	1	30
6505-3821	46859	1	1
6505-3834	46859	1	1
6505-3836	46859	1	1
703016-508	78957	2	1
703016-509	78957	3	1
703016-510	76957	3	1
703016-640	78957	2	2
7683	97101	5	4

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 O/W UNIT REMOTE LINK TA-924/FSC									
	5805-269-0321	O/W UNIT REMOTE LK TA-924/FSC 6505-3823 (46859)									
		GROUP 010202 AMPLIFIER									
PAOZZ		AMPLIFIER, VARIABLE FREQUENCY TLC410 (64294)		EA	1	*	*	*	*	8	9
		GROUP 0103 HANDSET									
PAOHH		HANDSET NC1800-03G3AR05T4 (97101)		EA	1	*	*	*	*	8	11
		GROUP 0104 HEADSET									
PAOHH		HEADSET 1574-5 (97101)		EA	1	*	*	*	*	9	1

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		GROUP 01													
		O/W UNIT REMOTE LINK TA-924/FSC													
	5805-269-0321	O/W UNIT REMOTE LINK TA-924/FSC 6505-3823 (46859)													
		GROUP 1010													
		CALL DIRECTOR ASSEMBLY													
AFFFH		CALL DIRECTOR ASSEMBLY 6505-3839 (46859)		EA	1										
		GROUP 010101													
		BUZZER ASSEMBLY													
AFFFH		SIGNALING FREQ OSCILLATOR 6525-3835 (468593		EA	1									6	1
		GROUP 01010101													
		BUZZER													
PAFZZ	6350-23 -5581	BUZZER SCZ4 (379g2)		EA	1	*	*	*	*	*	*		*	6	2
XBFZZ		MOUNTING BOARD 6505-3833 (46859)		EA	1										
XBFZZ		MOUNTING WAFER MP6 (37942)		EA	1										
XBFZZ		SPACER, SLEEVE 13-552C (726533		EA	2										
XBFZZ		TERMINAL, LUG 13-108S (72653)		EA	8										
		GROUP 010102													
		CALL DIRECTOR													
AFFFM		TELEPHONE SWITCHBOARD 703015-596 (75957)		EA	1									7	1
PAFZZ	594C-26?-2228	TERMINAL BOARD		EA	1	*	*	*	*	*	*		*	7	2
PAFZZ	5915-11C-:991	RESISTOR, FIXED, COMPOSITION RCR32G151JS (81349)		EA	1	*	*	*	*	*	*		*	7	3
PAFZZ	5940-941-0201	TERMINAL, LUG 41566-000 (78957)		EA	5	*	*	*	*	*	*		*	7	4

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5935-24C-6760	CONNECTOR, PLUG, ELECTRICAL 304145-271	EA (789571	3	*	*	*	*	*	*		*	7	5
PAFZZ	5935-003-7711	CONNECTOR, PLUG, ELECTRICAL 304146-674	EA (78957)	3	*	*	*	*	*	*		*	7	6
		GROUP 01010201 NETWORK												
PAFZZ		NETWORK QNB3A4 (01794)	EA	1	*	*	*	*	*	*		*	7	7
		GROUP C1010202 DIAL ASSEMBLY												
PAFZZ	5805-258-5840	DIAL ASSEMBLY, PUSHBUTTON 200054-221 (78957)	EA	1	*	*	*	*	**	*		*	2 FOR BREAKDOWN	13
SEE													SECTION VI, GROUP 01010202	
MFFZZ		CABLE ASSEMBLY 703006-895 (78957)	EA	1										
PAFZZ	5315-057-0509	SCREW, MACHINE MS5195A-12 (96906)	EA	6	*	*	*	*	*	*		*		
PAFZZ	5315-763-7827	SCREW, MACHINE MS51959-18 (969F6)	EA	3	*	*	*	*	*	*		*		
XBFZZ		HOOD, CONNECTOR 304146-863 (78957)	EA	3										
XBFZZ		TERMINAL, LUG 701019-933 (78957)	EA	21										
XBFZZ		FACEMAT 705316-210 (78957)	EA	i										
XBFZZ		PANEL, MOUNTING P894839 (C1794)	EA	I										
XBF1Z		TERMINAL, LUG 13-1085 (72653)	EA	1										
		GROUP 01010203 KEY ASSEMBLY												
PAFZZ		PUSHBUTTON ASSEMBLY 703016-509 (7R9571	EA	1	*	*	*	*	*	*		*	3 FOR BREAKDOWN	1
SEE													SECTION VI, GROUP 01010203	
		GROUP 0102 PANEL ASSEMBLY												

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
AFFFH		PANEL, ASSEMBLY GB11671 (11136)	EA	1									8	1
PAFZZ	5805-003-7671	PANEL, MOUNTING 15OB (Ct194)	EA	2	*	*	*	*	*	*		*	8	2
PAFZZ	5935-978-4649	JACK, TELEPHONE CMT337 (62389)	EA	2	*	*	*	*	*	*		*	8	3
PAFZZ	5935-224-4213	JACK, TELEPHONE MT332A (82389)	EA	2	*	*	*	*	*	*		*	8	3
PAFZZ	5940-983-6051	TERMINAL BOARD MILT55164 (81349)	EA	1	*	*	*	*	*	*		*	8	4
PAFZZ		RESISTOR, VARIABLE U12 (37942)	EA	1	*	*	*	*	*	*		*	8	5
PAFZZ	593C-975-2889	SWITCH, ROTARY US28 (37942)	EA	1	*	*	*	*	*	*		*	8	6
XBFZZ		BLOCK, JACK MOUNTING AP916 (11116)	EA	1	*	*	*	*	*	*		*	8	7
XBFZZ		PANEL, MOUNTING 6GB11677 (11136)	EA	1										
XBFZZ		PANEL, MOUNTING GB6023L23 (11136)	EA	1										
XBFZZ		BEZEL, INSTRUMENT MOUNTING P11E902 (p1794)	EA	1										
XBFZZ		BRACKET, ANGLE 703016-755 (78957) GROUP G1C231 HOOK SWITCH	EA	1										
PAFZZ	5930-236-5529	SWITCH, HOOK ATA1061CW (11136) GROUP GO020? AMPLIFIER	EA	1	*	*	*	*	*	*		*	8	8
PAOZZ		AMPLIFIER, VARIABLE FREQUENCY TL0410 (64?94) GROUP O1203 SPEAKER	EA	1	*	*	*	*	*	*		*	8	9

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5965-261-8086	LOUDSPEAKER, PERMANENT MAGNET 33025 (74199) GROUP 0103 HANDSET	EA	1	*	*	*	*	*	*		*	8	10
PAOHH		HANDSET NC1800-03G3AR05T4 (97101)	EA	1	*	*	*	*	*	*		*	8	11
PAHZZ		TRANSMITTER, TELEPHONE 1912-03 (97101)	EA	1				*	*	*		*	8	12
PAHZZ	5965-651-4348	RECEIVER, TELEPHONE 1590V (97101)	EA	1				*	*	*		*	8	13
PAHZZ		CAP, RECEIVER 1811-03 (97101)	EA	1				*	*	*		*	8	14
XAHZZ		HANDSET 1839-03 (97101) GROUP Clt4 HEADSET	EA	1										
PAOHH		HEADSET 1574-5 (97101)	EA	1	*	*	*	*	*	*		*	5 FOR BREAKDOWN SEE SECTION VI, GROUP 0104	1

FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

SECTION XIII

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5805-003-2671	8	2
5805-258-6840	2	13
5805-269-0321	1	1
5905-110-0991	7	3
5930-236-6529	8	8
5930-975-2889	8	7
5935-003-7711	7	6
5935-224-4213	8	4
5935-240-6760	7	5
5935-978-4649	8	3
5940-262-2228	7	2
5940-941-0201	7	4
5940-983-6051	8	5
5965-261-8086	8	10
5965-651-4348	8	13
6350-239-5581	6	2

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
AT810610W	11136	8	8
CMT337	82389	8	3
G811671	11136	8	1
MILT55164	81349	8	5
MT332A	82389	8	4
NC1600-03G3AR05T4	97101	8	11
QNB3A4	01794	7	7
RCR32G151JS	81349	7	3
SC24	37942	6	2
TLC410	64294	8	9
US28	37942	8	7
U12	37942	8	6
105B	01794	8	2
1574-5	97101	5	1
1590V	97101	8	13
1811-03	97101	8	14
1912-03	97101	8	12
200054-221	78957	2	13
30C25	74199	8	10
304145-271	78957	7	5
304l46-874	78957	7	6
41566-000	78957	7	4
65C5-3823	46859	1	1
65C5-3835	46859	6	1
65C5-3839	46859	1	1
703016-506	78957	7	1
703016-509	78957	3	1
703016-640	78957	7	2

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 ORDERWIRE UNIT, LINK TA-925/FSC									
	5805-269-0320	ORDERWIRE UNIT LINK TA-925/FSC 6505-3822 (46859)									
PAOZZ	6240-115-5042	LAMP INCANDESCENT 24CSB (58854)		EA	6	*	*	*	*	3	2
		GROUP 010203 AMPLIFIER									
PAOZZ		AMPLIFIER, VARIABLE FREQUENCY TLC410 (64294)		EA	1	*	*	*	*	10	10
		GROUP 0103 HANDSET									
PAOHH		HANDSET NC1800-03G3AR50T4 (97101)		EA	1	*	*	*	*	10	12
		GROUP 0104 HEADSET									
PAOHH		HEADSET 1574-5 (97101)		EA	1	*	*	*	*	1	1

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01												
		ORDERWIRE UNIT, LINK TA-925/FSC												
		GROUP 01												
	5805-269-0320	ORDERWIRE UNIT LINK TA-925-FSC												
		6505-3822 (46859)												
		GROUP 0101												
		CALL DIRECTOR ASSEMBLY	EA	1										
AFFFH		CALL DIRECTOR LINK TA-925-/FSC												
		6535-3838 (46859)												
		GROUP 010101												
		SF OSCILLATOR, BUZZER ASSEMBLY												
PAFHH		SIGNALING FREQ OSCILLATOR	EA	1	*	*	*	*	*	*		*	1	1
		6558-3838 (46859)												
		GROUP 01010101												
		SF OSCILLATOR												
AFFFH	5895-173-7025	OSCILLATOR ASSEMBLY	EA	1									1	2
		419009-1 (51504)											FOR BREAKDOWN SEE SECTION VI, GROUP 01010101	
		GROUP 01010102												
		BUZZER												
PAFZZ	6350-239-5581	BUZZER	EA	1	*	*	*	*	*	*		*	1	32
		SC24 (37942)												
		GROUP 010102												
		CALL DIRECTOR												
AFFFH		TELEPHONE SNITCH BOARD	EA	1									9	1
		703.16-754 (78957)												
PAFZZ	5940-262-2228	TERMINAL BOARD	EA	1	*	*	*	*	*	*		*	9	2
		703016-640 (78957!												
PAFZZ		CAPACITOR, FIXED, ELECTROLYTIC	EA	1	*	*	*	*	*	*		*	9	3
		77100X2 (90201)												
PAFZZ	5915-119-5811	RESISTOR, FIXED, COMPOSITION	EA	1	*	*	*	*	*	*		*	9	4
		RCR32G1510S (31349)												
PAFZZ	5940-941-0201	TERMINAL LUG	EA	5	*	*	*	*	*	*		*	9	5
		41566-000 (78957)												
PAFZZ	5935-240-6760	CONNECTOR, PLUG, ELECTRICAL	EA	5	*	*	*	*	*	*		*	9	6
		394145-271 (74957)												

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XBFZZ	5935-063-7711	CONNECTOR, PLUG, ELECTRICAL 304146-874 (78957)	EA	3									9	7
PAFZZ	5961-880-2938	SEMICONDUCTOR, DEVICE, DIODE IN4003 (04713) GROUP 01010201	EA	1	*	*	*	*	*	*		*	9	8
PAFZZ		NETWORK ONB83A4 (01794) GROUP 01010202 DIAL ASSEMBLY	EA	1	*	*	*	*	*	*		*	9	9
PAFZZ	5805-258-5840	DIAL ASSEMBLY, PUSHBUTTON 203054-221 (78957)	EA	1	*	*	*	*	*	*		*	2 FOR BREAKDOWN SEE SECTION VI, GROUP 01010202	13
XBFZZ		BEZEL, INSTRUMENT, MOUNTING P11E902 (C1794)	EA	1										
XBFZZ		BRACKET, ANGLE 703016-755 (78957)	EA	1										
NFFZZ		CABLE ASSEMBLY 703006-895 (78957)	EA	1										
PAFZZ	5305-057-05C9	SCREW, MACHINE MS51958-12 (96906)	EA	6	*	*	*	*	*	*		*		
PAFZZ	5305-763-7827	SCREW, MACHINE SS51959-18 (96906)	EA	3	*	*	*	*	*	*		*		
XBFZZ		HOOD, CONNECTOR 304146-863 (789571	EA	3										
XBFZZ		TERMINAL, LUG 7011G9-933 (78957)	EA	21										
XBFZZ		FACEMAT 703016-210 (78957)	EA	1										
XBFZZ		PANEL, MOUNTING P894839 (C1794)	EA	1										
XBFZZ		TERMINAL, LUG 13-108S (72653) GROUP G11a0233 KEY ASSEMBLY	E4	2										

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ		PUSHBUTTON ASSEMBLY 703016-509 (78957)	EA	1	*	*	*	*	*	*		*	3	1 FOR BREAKDOWN SEE SECTION VI, GROUP 01010203
		GROUP 01010204 KEY ASSEMBLY												
XAFZZ		PUSHBUTTON ASSEMBLY 703016-511 (78957)	EA	1									3	1
PAOZZ	6240-115-5042	LAMP, INCANDESCENT 24CSB (58854)	EA	6	*	*	*	*	*	*		*	3	2
PAFZZ		PUSHBUTTON 303972-171 (78957)	EA	6	*	*	*	*	*	*		*	3	3
XAFZZ		BRACKET, DOUBLE ANGLE 30972-841 (78957)	EA	1										
PAHZZ	5305-0S7-3508	SCREW, MACHINE MS51958-11 (96936)	EA	1				*	*	*		*		
XAFZZ		CONNECTOR, RECEPTACLE, ELEC 304145-262 (78957)	EA	1										
PAFZZ	5305-057-0510	SCREW, MACHINE MS21958-13 (96906)	EA	2	*	*	*	*	*	*		*		
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 206011-119 (78957)	EA	1										
PAFZZ	5305-855-0970	SCREW, TAPPING, PAN HEAD NS24629-12 (96906)	EA	2	*	*	*	*	*	*		*		
XAFZZ		C0NTACT ASSEMBLY, ELECTRICAL 20280-209 (78957)	EA	6										
XAFZZ		CONTACT ASSEMBLY, ELECTRICAL 2002S8-229 (78957)	EA	1										
XAFZZ		PLATE, MOUNTNG 300972-011 (78957)	EA	1										
PAFZZ	5305-777-55 9	SCREW, MACHINE MS51959-12 (96906)	EA	8	*	*	*	*	*	*		*		
XAFZZ		LAMP ASSEMBLY, INCANDESCENT 703016-527 (78957)	EA	1										
PAFZZ		SCREW, TAPPING PAN HEAD PS24629-13 (969061	EA	2	*	*	*	*	*	*		*		

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XAFZZ		COLLAR 303972-161 (78957!	EA	6										
XAFZZ		PLATE, MOUNTING 30972-351 (78957)	EA	1										
XAFZZ		RETAINER, LAMP GO972-041 (78957)	EA	1										
XAFZZ		TERMINAL, LUG 300972-211 (78957)	EA	12										
XAFZZ		PLUNGER ASSEMBLY 20601-099 (78957)	EA	1										
PAFZZ	5305-054-5649	SCREW, MACHINE MS51957-15 (96956)	EA	2	*	*	*	*	*	*		*		
XAFZZ		BAR, CHAINING 300972-031 (78957)	EA	1										
XAFZZ		BRACKET, DOUBLE, ANGLE 703015-675 (78957)	EA	1										
XAFZZ		DETENT, SWITCH 303972-OZ1 (78957)	FA	1										
XAFZZ		LOCKOUT 300972-231 (78957)	EA	5										
XAFZZ		PIN, SHOULDERED, HEADLESS 300972-561 (78957)	EA	1										
XAFZZ		PLATE, MOUNTING 30971-991 (74957)	EA	1										
PAFZZ		SCREW, TAPPING, PAN HEAD MS24629-11 (9696)5	EA	2	*	*	*	*	*	*		*		
XAFZZ		PLUNGER ASSEMBLY 70315-677 (78957)	EA	6										
XAFZZ		SPRING, HELICAL, COMPRESSION 300972-051 (79957)	EA	7										
		GROUP C122 PANEL ASSEMBLY												
AFFFH		PANEL ASSEM9LY GB11670 (11136)	EA	1									10	1

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5805-003-2671	PANEL, MOUNTING 1059 (01794)	EA	1	*	*	*	*	*	*		*	10	2
PAFZZ	5935-978-4649	JACK, TELEPHONE CHT337 (82389)	EA	2	*	*	*	*	*	*		*	10	3
PAFZZ	5935-224-4213	JACK, TELEPHONE HT332A (82389)	EA	2	*	*	*	*	*	*		*	10	4
PAFZZ	5940-983-S051	TERMINAL BOARD 10-140 (717851	EA	1	*	*	*	*	*	*		*	10	5
PAFZZ		RESISTOR, VARIABLE U12 (37942)	EA	1	*	*	*	*	*	*		*	10	6
PAFZZ	5930-97q-2889	SWITCH, ROTARY US26 (37942)	EA	1	*	*	*	*	*	*		*	10	7
		GROUP 010201 DIAL ASSEMBLY		1										
PAFZZ		DIAL, TELEPHONE 3390G450 (09712)	EA	1	*	*	*	*	*	*		*	10	8
		GROUP 010202 HOOKSWITCH	EA	1										
PAFZZ	5930-236-6529	SWITCH, HOOK AT810610W (11136)	EA	1	*	*	*	*	*	*		*	10	9
		GROUP 010203 AMPLIFIER												
PAOZZ		AMPLIFIER, VARIABLE FREQUENCY TLC410 (64294)	EA	1	*	*	*	*	*	*		*	10	10
		GROUP 010204 SPEAKER		1	*	*	*	*	*	*		*		
PAFZZ	5965-261-'086	LOUD, SPEAKER, PERMANENT MAGNET 30025 (74199)	EA	1	*	*	*	*	*	*		*	10	11
		GROUP 0103 HANDSET		1										
PAOHH		HANDSET NC1800-03G3AR05T4 (97101)	EA	1	*	*	*	*	*	*		*	10	12
PAHZZ		TRANSMITTER, TELEPHONE 1912-09 (97101)	EA	1				*	*	*		*	10	13

SECTION XVI **REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE** **TA-923/FSC**

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5965-651-4358	RECEIVER,TELEPHONE 1590V (97t01)	EA	1			*	*	*			*	10	14
PAHZZ		CAP,RECEIVER 1811-03 (97101)	EA	1			*	*	*			*	10	15
		GROUP 0104 HEADSET												
PAOHH		HEADSET 1574-5 (97101)	EA	1	*	*	*	*	*	*		*	5	1
													FOR BREAKDOWN SEE SECTION VI,GROUP 0104	
XAHZZ		HANDSET 1800(971t1i	EA	1										
XBFZZ		BLOCK,JACK MOUNTING AP916 (111361	EA	1										
XBFZZ		PANEL,MOUNTING GB16T6 (11136)	EA	1										
XBFZZ		PANEL,MOUNTING GB6023L23 (11136)	EA	1										

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5805-003-2671	10	2
5805-258-6840	2	13
5805-269-0320	1	1
5895-173-7025	1	2
5905-119-8811	9	4
5930-236-6529	10	9
5930-975-2889	10	7
5935-003-7711	9	7
5935-224-4213	10	4
5935-240-5760	9	6
5935-978-4649	10	3
5940-262-2228	9	2
5940-941-0201	10	5
5940-983-5051	9	5
5961-880-2938	10	8
5965-261-8086	10	11
5965-651-4358	3	14
6240-115-5042	1	2
6350-234-5581		32

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
AT810610W	11136	10	9
CMT337	82389	10	3
GB811670	11136	10	1
IN4003	04713	9	8
MT332A	82389	10	4
NC1800-C3G3AR05T4	97101	10	12
QNB3A4	01794	9	9
RCR32G151JS	81349	9	4
SC24	37942	1	32
TLC410	64294	10	10
TT100X2	90201	9	3
US28	37942	10	7
U12	37942	10	6
10-140	71785	10	5
1058	01794	10	2
1574-5	97101	5	1
1590V	97101	10	14
1811-03	97101	10	15
1912-03	97101	10	13
200054-221	78957	2	13
240SB	58854	3	2
30025	74199	10	11
300972-171	78957	3	3
304145-271	78957	9	6
304146-674	78957	9	7
3300G450	09712	10	8
41566-000	78957	9	5
49009-1	51534	1	2
6505-3822	46659	1	1
6505-3838	46859	1	1
6508-3834	46859	1	1
703016-509	78957	3	1
703016-511	78957	3	1
703016-640	78957	9	2
703016-754	78957	9	1

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 O/W UNIT, EXP-LK-LCL TA-928/FSC							*		
	5805-269-0323	O/W UNIT,EXP-LK-LCL TA-928/FSC 6505-3820 (46859)							*		
		GROUP 0102 ROTARY DIAL MOUNTING							*		
PAOHH		PANEL ASSEMBLY GB11767 (111361		EA	1	*	*	*	*	12	3
		GROUP 0103 SPEAKER ASSEMBLY									
PAOHD		SPEAKER ASSEMBLY 6505-3828 (46859)		EA	1	*	*	*	*	12	6
		GROUP 0104 HANDSET									
PAOHH		HANDSET NC1800-03G3AR15T4 (97101)		EA	1	*	*	*	*	4	8
		GROUP 0105 HEADSET									
PAOHH		HEADSET 1574-5 (971011		EA	1	*	*	*	*	5	1

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 O/W UNIT, EXP-LX-LCL-TA-928/FSC													
	5805-269-1323	O/W UNIT, EXP-LK-LCL TA-928/FSC 6505-3820 (46859)													
		GROUP 0101 CALL DIRECTOR ASSEMBLY													
AFFFH		CALL DIRECTOR ASSEMBLY 6505-3837 (46859)		EA	1										
		GROUP 010101 SF OSCILLATOR-BUZZER ASSEMBLY													
PAFHH		SIGNALLING FREQUENCY OSC 6505-3834 (46859)		EA	1	*	*	*	*	*	*		*	1	1
		GROUP 01010101 SF OSCILLATOR													
AHHHH	5895-173-7025	OSCILLATOR ASSEMBLY 49009-01 (51504)		EA	1									1	2
		GROUP 01010102 BUZZER													
PAFZZ	6350-239-5581	BUZZER SC24 (37942)													
		GROUP 010102 CALL DIRECTOR													
AFFFH		TELEPHONE BOARD SWITCHBOARD 703016-507 (78957)		EA	1									11	1
PAFZZ	5940-262-2228	TERMINAL BOARD 703016-640 (78957)		EA	1	*	*	*	*	*	*		*	11	2
PAFZZ		CAPACITOR, FIXED, ELECTROLYTIC TT100X2 (37942)		EA	1	*	*	*	*	*	*		*	11	3
PAFZZ	5905-110-0991	RESISTOR, FIXED, COMPOSITION RCR32G151JS (81349)		EA	1	*	*	*	*	*	*		*	11	4
PAFZZ	5940-941-0201	TERMINAL, LUG 41566-000 (78957)		EA	9	*	*	*	*	*	*		*	11	5
PAFZZ	5935-240-6760	CONNECTOR, PLUG, ELECTRICAL 304145-271 (78957)		EA	5	*	*	*	*	*	*		*	11	6

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5961-880-2938	SEMICONDUCTOR DEVICE DIODE 1N4003 (04713)	EA	1	*	*	*	*	*	*		*	11	7A
PAFZZ	5935-003-7711	CONNECTOR,PLUG,ELECTRICAL 304146-874 (78957)	EA	5	*	*	*	*	*	*		*	11	7
PAHZZ	5905-106-3666	RESISTOR,FIXED,COMPOSITION RCR07G103JS (81349)	EA	1				*	*	*		*	11	8
PAFZZ		RESISTOR,FIXED,COMPOSITION RCR42G2C2JS (81349)	EA	1	*	*	*	*	*	*		*	11	9
PAFZZ	5961-184-7435	SEMICONDUCTOR,DEVICE ,DIODE 1N5359 (04713)	EA	1	*	*	*	*	*	*		*	11	10
PAFZZ	5905-119-9811	RESISTOR.FIXED,COMPOSITION RCR07G51JS (81349)	EA	1	*	*	*	*	*	*		*	11	11
		GROUP 01010201 NETWORK												
PAFZZ		NETWORK QNB3A4 (01794)	EA	1	*	*	*	*	*	*		*	11	12
		GROUP 01010202 DIAL ASSEMBLY												
PAFZZ	5805-258-5840	DIAL ASSEMBLY, PUSHBUTTON 200054-221 (78957)	EA	1	*	*	*	*	*	*		*	2 FOR BREAKDOWN SEE SECT. VI, GROUP 01010202	13
		GROUP 01010203 KEY ASSEMBLY												
PAFZZ		PUSHBUTTON ASSEMBLY 703016-510 (78957)	EA	1	*	*	*	*	*	*		*	3 FOR BREAKDOWN SEE SECT. VI, GROUP 01010203	1
		GROUP 01010204 KEY ASSEMBLY												
PAFZZ		PUSHBUTTON ASSEMBLY 703016-510 (78957)	EA	2	*	*	*	*	*	*		*	3 FOR BREAKDOWN SEE SECT. VI, GROUP 01010204	1
XBFZZ		BRACKET, ANGLE P11E903 (01794)	EA	1										
XBFZZ		BRACKET, ANGLE 703016-637 (78957)	EA	1										
XBFZZ		BRACKET, ANGLE 703016-756 (78957)	EA	1										

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
MFFZZ		CABLE ASSEMBLY 703006-896 (78957)	EA	1										
PAFZZ	5305-057-0509	SCREW, MACHINE MS51958-12 (96906)	EA	10	*	*	*	*	*	*		*		
PAFZZ	5305-763-7827	SCREW, MACHINE MS51959-18 (96906)	EA	5	*	*	*	*	*	*		*		
XBFZZ		HOOD, CONNECTOR 304146-863 (78957)	EA	5										
XBFZZ		TERMINAL, LUG 701019-933 (78957)	EA	21										
XBFZZ		FACEMAT 703016-215 (78957)	EA	1										
XBFZZ		HOUSING, CALL DIRECTOR 703060-414 (78957)	EA	1										
XBFZZ		PANEL, MOUNTING P894824 (01794)	EA	1										
XBFZZ		TERMINAL, LUG 701019-933 (78957)	EA	21										
XBFZZ		FACEMAT 703016-215 (78957)	EA	1										
XBFZZ		HOUSING, CALL DIRECTOR 703060-414 (78957)	EA	1										
XBFZZ		PANEL, MOUNTING P894824 (01794)	EA	1										
XBFZZ		TERMINAL, LUG 13-108S (72653)	EA	2										
PAFZZ	5805-003-2671	PANEL, MOUNTING 1058 (01794) GROUP 01010205 HOOKSWITCH	EA	2	*	*	*	*	*	*		*	12	1
PAFZZ	5930-236-5381	SWITCH, HOOK 703016-639 (78957) GROUP 0102 ROTARY DIAL MOUNTING	EA	1	*	*	*	*	*	*		*	12	2
PAOHH		PANEL ASSEMBLY G811767 (11136)	EA	1	*	*	*	*	*	*		*	12	3
PAHZZ	5935-978-4649	JACK, TELEPHONE MT337 (82389) GROUP 010201 DIAL ASSEMBLY	EA	2				*	*	*		*	12	4
PAHZZ		DIAL, TELEPHONE 3300G450 (09712)	EA	1				*	*	*		*	12	5

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		GROUP 0103 SPEAKER ASSEMBLY													
PAOHD		SPEAKER ASSEMBLY 6505-3828 (46859)		EA	1	*	*	*	*	*	*		*	12	6
PAHZZ		GASKET 405-003 (34079)		EA	1				*	*	*		*	12	7
PAHZZ		LOUDSPEAKER, PERMANENT MAGNET 203-002 (32001)		EA	1				*	*	*		*	12	8
PAHZZ		RESISTOR, VARIABLE 905-009 (34079)		EA	1				*	*	*		*	12	9
PAHZZ		KNOB 311-004 (34079)		EA	1				*	*	*		*	12	10
XBFZZ		BLOCK, JACK MOUNTING GB882L5 (11136)		EA	1										
XAMZZ		HOUSING ASSEMBLY GB982-60 (11136)		EA	1										
XAHZZ		TERMINAL BOARD GB882L1 (11136)		EA	1										
XAHZZ		TERMINAL, LUG 60M (71785)		EA	11										
XAHZZ		TERMINAL BOARD GB882L4 (11136)		EA	1										
XAHZZ		TERMINAL, LUG 60M (71785)		EA	11										
XAHZZ		BRACKET, DOUBLE ANGLE 400-090 (34079)		EA	1										
XAHZZ		HOUSING 700-019 (34079)		EA	1										
XAHZZ		PLATE, MOUNTING 400-074 (34079)		EA	1										
XAHZZ		SCREEN, METAL 400-075 (34079)		EA	1										
AHHHH		CIRCUIT CARD ASSEMBLY 6505-3828BDASSY (46859)		EA	1									13	1

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5905-114-5425	RESISTOR, FIXED, COMPOSITION RCR20G362JS (81349)	EA	1				*	*	*		*	13	2
PAHZZ	5905-104-8349	RESISTOR, FIXED, COMPOSITION RCR20G511JS (81349)	EA	1				*	*	*		*	13	3
PAHZZ	5905-114-5430	RESISTOR, FIXED, COMPOSITION RCR20G433JS (81349)	EA	1				*	*	*		*	13	4
PAHZZ		TRANSISTOR 903-001 (34079)	EA	1				*	*	*		*	13	5
PAHZZ	5905-114-5407	RESISTOR, FIXED, COMPOSITION RCR20G271JS (81349)	EA	1				*	*	*		*	13	6
PAHZZ	5905-141-1168	RESISTOR, FIXED, COMPOSITION RCR20G222JS (81349)	EA	1				*	*	*		*	13	7
PAHZZ	5905-131-9395	RESISTOR, FIXED, COMPOSITION RCR20G131JS (81349)	EA	1				*	*	*		*	13	8
PAHZZ		CAPACITOR, FIXED 900-089 (34079)	EA	2				*	*	*		*	13	9
PAHZZ	5961-542-7308	TRANSISTOR 2N657 (81349)	EA	1				*	*	*		*	13	10
PAHZZ		CAPACITOR, FIXED 900-111 (34079)	EA	2				*	*	*		*	13	11
PAHZZ		TRANSFORMER, AUDIO FREQUENCY 200-017 (34079)	EA	1				*	*	*		*	13	12
PAHZZ		CAPACITOR, FIXED 900-090 (34079)	EA	1				*	*	*		*	13	13
PAHZZ		CAPACITOR, FIXED 900-011 (34079)	EA	1				*	*	*		*	13	14
PAHZZ		SEMICONDUCTOR DEVICE, DIODE 902-003 (34079)	EA	1				*	*	*		*	13	15
PAHZZ		SEMICONDUCTOR DEVICE, DIODE 1N53618 (04713)	EA	1				*	*	*		*	13	16
PAHZZ		RESISTOR, FIXED, WIRE WOUND 4409A (44655)	EA	1				*	*	*		*	13	17
PAHZZ		TRANSFORMER, AUDIO FREQUENCY 200-022 (34079)	EA	1				*	*	*		*	13	18

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PAHZZ		RESISTOR, FIXED, COMPOSITION RCR20G1R2JS (81349)		EA	1				*	*	*		*	13	19
PAHZZ	5905-935-8541	RESISTOR, FIXED, COMPOSITION RCR20G301JS		EA	1				*	*	*		*	13	20
XAHZZ		HEAT SINK 223085 (13103)		EA	1										
XAHZZ		INSULATOR, TRANSISTOR 303-002 (34079)		EA	2										
XAHZZ		PRINTED WIRING BOARD 801-020 (34079)		EA	1										
		GROUP 0104 HANDSET													
PAOHH		HANDSET NC1800-03G3AR15T4 (97101)		EA	1	*	*	*	*	*	*		*	4 FOR BREAKDOWN SEE SECT. VI, GROUP 0104	8
		GROUP 0105 HEADSET													
PAOHH		HEADSET 1574-5 (97101)		EA	1	*	*	*	*	*	*		*	5 FOR BREAKDOWN SEE SECT. VI, GROUP 0104	1

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5805-003-2671	12	1
5805-258-6840	2	13
5805-269-0323	1	1
589S-173-7025	1	2
5905-104-3349	13	3
5905-106-3666	11	8
5905-11G-0991	11	4
5905-114-5407	13	6
5905-114-5425	13	2
5905-114-5430	13	4
5905-119-8611	11	11
5905-131-9395	13	8
5905-141-1168	13	7
5905-935-5541	13	20
5930-236-6381	12	2
5935-003-77tl1	11	7
5935-24C-6760	11	6
5935-978-4649	12	4
5940-262-2228	11	2
5940-941-0201	11	5
5961-184-7435	11	10
5961-542-7306	13	10
5961-880-2936	11	7A
6350-239-5581	1	32

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
GB11767	11136	12	3
MT337	82389	12	4
NC1800-03G3AR15T4	97101	4	8
QNB3A4	01794	11	12
RCR07G103JS	81349	11	8
RCR07G151JS	81349	11	11
RCR20G1R2JS	81349	13	19
RCR20G131JS	81349	13	8
RCR20G222JS	81349	13	7
RCR20G271JS	81349	13	6
RCR20G301JS	81349	13	20
RCR20G362JS	81349	13	2
RCR20G433JS	81349	13	4
RCR20G511JS	81349	13	3
RCR32G151JS	81349	11	4
RCR42G202JS	81349	11	9
SC24	37942	1	32
TT100X2	37942	11	3
1N4003	04713	11	7A
1N5359	04713	11	10
1N5361B	04713	13	16
105B	01794	12	1
1574-5	97101	5	1
2N657	81349	13	10
200-017	34079	13	12
200-022	34079	13	18
200054-221	78957	2	13
203-002	32001	12	8
304145-271	78957	11	6
304146-874	78957	11	7
311-004	34079	12	10
33000450	09712	12	5
405-003	34079	12	7
41566-000	78957	11	5
4409A	44655	13	17
49009-01	51504	1	2
6505-3820	46859	1	1
6505-3828	46859	12	6
6505-3828BDASSY	46859	13	1
6505-3834	46859	1	1
6505-3837	46859	1	1
703016-507	78957	11	1
703016-509	78957	11	13
703016-510	78957	11	13
703015-639	78957	12	2
703016-640	78957	11	2
900-011	34079	13	14
900-089	34079	13	9
900-090	34079	13	13
900-111	34079	13	11

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
902-033	34079	13	15
903-001	34079	13	5
905-009	34079	12	9

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		GROUP 01 O/W INTERCOM TERM UNIT ORDERWIRE INTERCOMM TERM UNIT TA-918(v)1/FSC THRU TA-918(v)8/FSC GROUP 0101 PANEL, FUSE SB-3751/FSC									
PDOHD		FUSE PANEL SB-3751/FSC 12734-1 (21870)		EA	1	*	*	*	*	14	1
PAOZZ	5920-857-8417	FUSE GMT5 (71400)		EA	10	*	*	*	*	14	7
PAOZZ	5920-857-8933	FUSE GMT2 (71400)		EA	15	*	*	*	*	14	8
PAOZZ	6240-683-0560	LAMP, GLOW 345 (71744)		EA	1	*	*	*	*	14	10
PAOZZ	5920-857-8416	FUSE GMT1-1-3 (71400)		EA	15	*	*	*	*	14	14
PAOZZ	5920-280-5066	FUSE, CARTRIDGE 313005 (75915)		EA	1	*	*	*	*	15	8
		GROUP 010201 LINE CARD									
PAOHH	5895-167-1183	CIRCUIT CARD ASSEMBLY LC401-4 (15960)		EA	1	*	*	*	*	16	1
		GROUP 010202 INTERRUPTER ASSEMBLY									
PAOHH	5895-167-1270	CIRCUIT CARD ASSEMBLY INT9740 (15960)		EA	1	*	*	*	*	17	1
		GROUP 0103 COMMON EQUIPMENT SHELF									
PD0HD		EQUIPMENT SHELF 41010-96 (51504)		EA	2	*	*	*	*	18	1
		GROUP 010301 DTMF TONE RECEIVER									

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PAOHD	5895-173-7051	RECEIVER, TONE 40452-01 (51504) GROUP 010302 DIGIT DECODER		EA	2	*	*	*	*	19	1
PAOHH	5895-173-7023	DECODER, DIGIT 40451-01 (51504) GROUP 010303 SF DETERMINING AND OSCILLATOR		EA	2	*	*	*	*	21	1
PAOHD		DETECTOR, SINGLE FREQUENCY OSC 41063-02 (51504) GROUP 010304 4W/2W HYBRID MODULE		EA	2	*	*	*	*	22	1
PAOHD	5895-173-7035	NETWORK, HYBRID CIRCUIT 49008-01 (51504) GROUP 010305 4W/2W HYBRID WITH 2.7 KHZ FILTER		EA	2	*	*	*	*	24	1
PAOHD	5895-174-3549	NETWORK, HYBRID CIRCUIT 49008-02 (51504) GROUP 010306 SF DETECTOR		EA	2	*	*	*	*	25	1
PAOHD		DETECTOR, SINGLE FREQUENCY 41063-01 (51504) GROUP 010307 DC/DC POWER SUPPLY									
PAOHD	5895-195-0582	POWER SUPPLY 41028-01 (51504)		EA	1	*	*	*	*	28	1
PAOZZ		LIGHT, INDICATOR 11-507 (72765)		EA	1	*	*	*	*	28	3
PAOZZ	5920-280-3178	FUSE, CARTRIDGE MDL2-1-2 (71400)		EA	1	*	*	*	*	28	9

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		GROUP 01 O/W INTERCOM TERM UNIT ORDERWIRE INTERCOMM TERM UNIT TA918(v)1/FSC THRU TA-918(v)8/FSC GROUP 0101 PANEL, FUSE SB-3751/FSC												
PDOHD		FUSE PANEL SB-3751/FSC 12734-1 (21870)	EA	1	*	*	*	*	*	*		*	14	1
PAHZZ	5961-577-6214	SEMICONDUCTOR DEVICE, DIODE 1N538 (81349)	EA	4				*	*	*		*	14	2
PAHZZ		SOCKET, RELAY 30055-1 (02288)	EA	1				*	*	*		*	14	3
XBHZZ		RELAY, ARMATURE T154-206V (21870)	EA	1									14	4
PAHZZ	5905-070-3369	RESISTOR, FIXED, WIRE WOUND 247E4015 (56289)	EA	1				*	*	*		*	14	5
PAHZZ	5920-968-3238	FUSEHOLDER HLT (71400)	EA	40				*	*	*		*	14	6
PAOZZ	5920-857-8417	FUSE GMT5 (71400)	EA	10	*	*	*	*	*	*		*	14	7
PAOZZ	5920-857-8933	FUSE GMT2 (71400)	EA	15	*	*	*	*	*	*		*	14	8
PAHZZ	5905-958-7253	RESISTOR, FIXED, WIRE WOUND 247E5005 (56289)	EA	1				*	*	*		*	14	9
PAOZZ	6240-683-0560	LAMP, GLOW 345 (71744)	EA	1	*	*	*	*	*	*		*	14	10
PAHZZ		SWITCH, PUSH 513-0101-604 (72619)	EA	1				*	*	*		*	14	11
PAHZZ		CAP, ELECTRICAL 185-1871 (72619)	EA	1				*	*	*		*	14	12
PAHZZ	5905-984-3312	RESISTOR, FIXED, WIRE WOUND 247E3015 (56289)	EA	1				*	*	*		*	14	13
PAOZZ	5920-857-8416	FUSE GMT1-1-3 (71400)	EA	15	*	*	*	*	*	*		*	14	14

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XNHZZ		BAR, RETAINER A12740 (21870)	EA	4										
PAHZZ	5310-934-8748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	16				*	*	*		*		
PAHZZ	5305-765-4352	SCREW, MACHINE MS51959-31 (96906)	EA	8				*	*	*		*		
PAHZZ	5310-929-6395	WASHER, LOCK MS35338-136 (96906)	EA	16				*	*	*		*		
XBHZZ		BAR, SUPPORT 812708-5 (21870)	EA	1										
PAHZZ	5305-054-6668	SCREW, MACHINE MS51957-43 (96906)	EA	4				*	*	*		*		
PAHZZ	5310-933-8119	WASHER, LOCK MS35338-137 (96906)	EA	4				*	*	*		*		
MHHZZ		CABLE ASSEMBLY, POWER 12742 (21870)	EA	2										
XBHZZ		CHASSIS, ELECTRICAL EQUIPMENT 12737-1 (21870)	EA	1										
PAHZZ	5310-934-9761	NUT, PLAIN, HEXAGON MS35649-264 (96906)	EA	12				*	*	*		*		
PAHZZ	5305-770-2779	SCREW, MACHINE MS51959-15 (96906)	EA	4				*	*	*		*		
PAHZZ	5310-933-8118	WASHER, LOCK MS3538-135 (96906)	EA	12				*	*	*		*		
XBHZZ		BRACKET, ANGLE 812739 (21870)	EA	1										
PAHZZ	5310-934-9761	NUT, PLAIN, HEXAGON MS35649-264 (96906)	EA	3				*	*	*		*		
PAHZZ	5305-054-5648	SCREW, MACHINE MS51957-14 (96906)	EA	3				*	*	*		*		
PAHZZ	5310-933-8118	WASHER, LOCK MS35338-135 (96906)	EA	11				*	*	*		*		
PAHZZ		CHASSIS, ELECTRICAL EQUIPMENT C12738 (21870)	EA	1				*	*	*		*		

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XBHZZ		GROMMET, RUBBER 2172 (83330)	EA	1										
XBHZZ	5940-902-5611	TERMINAL, INSULATED 4814-1-0516 (71279)	EA	8										
PAHZZ	5305-054-5646	SCREW, MACHINE MS51957-12 (96906)	EA	8				*	*	*		*		
XBHZZ		CHASSIS, ELECTRICAL EQUIPMENT 012736 (21870)	EA	1										
XBHZZ		FRONT PANEL FUSE PANEL 012735 (21870)	EA	1										
PAHZZ	5305-719-5064	SCREW, MACHINE MS51959-30 (96906)	EA	4				*	*	*		*		
XBHZZ		PLATE, IDENTIFICATION A10615 (21870)	EA	1										
XBHZZ		SPACER 8451 (83330)	EA	2										
XBHZZ		TERMINAL STRIP 601Y6 (75382)	EA	1										
PAHZZ	5305-054-6655	SCREW, MACHINE MS51957-31 (96906)	EA	4				*	*	*		*		
PAHZZ	5310-722-5998	WASHER, FLAT MS15795-805 (96906)	EA	4				*	*	*		*		
XBHZZ		TERMINAL STRIP 411-1904-20 (75382)	EA	4										
PAHZZ	5305-614-0260	SCREW, MACHINE MS35265-17 (96906)	EA	8				*	*	*		*		
		GROUP 0102 PC CARD RACK ASSEMBLY												
AOOFO		CABINET, ELECTRICAL EQUIPMENT LCC9748 (15960)	EA	1									15	1
PAFZZ	5940-472-4604	TERMINAL BORAD PJ610 (70674)	EA	2	*	*	*	*	*	*		*	15	2
PAFZZ	5905-111-4858	RESISTOR, FIXED, COMPOSITION	EA	1	*	*	*	*	*	*		*	15	3

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PAFZZ	5940-926-9807	TERMINAL BOARD 353-11-03-001 (71785)		EA	1	*	*	*	*	*	*		*	15	4
PAFZZ	5325-829-3887	GROMMET, PLASTIC G402 (92219)		EA	1	*	*	*	*	*	*		*	15	5
PAFZZ	5905-552-5478	RESISTOR, VARIABLE RV4NAYSD102A (81349)		EA	1	*	*	*	*	*	*		*	15	6
PAFZZ	5920-462-7136	FUSEHOLDER 342015 (75915)		EA	1	*	*	*	*	*	*		*	15	7
PAOZZ	5920-280-5066	FUSE, CARTRIDGE 313005 (75915)		EA	1	*	*	*	*	*	*		*	15	8
PAFZZ	5935-264-5611	CONNECTOR, RECEPTACLE, ELEC 00-6007-044-452-012 (91662)		EA	12	*	*	*	*	*	*		*	15	9
PAFZZ	5945-465-9919	KEY, POLARIZING 60-6002-31-24 (91662)		EA	12	*	*	*	*	*	*		*	15	10
XBFZZ		BRACKET, DOUBLE ANGLE 171-006 (15960)		EA	2										
XBFZZ		BUSHING 14-1001 (15960)		EA	12										
PAFZZ	5310-934-9759	NUT,P LAIN, HEXAGON MS35649-284 (96906)		EA	16	*	*	*	*	*	*		*		
PAFZZ	5305-054-6668	SCREW, MACHINE MS51957-43 (96906)		EA	8	*	*	*	*	*	*		*		
PAFZZ	5310-809-8546	WASHER, FLAT MS27183-8 (96906		EA	8	*	*	*	*	*	*		*		
PAFZZ	5310-809-3365	WASHER, LOCK MS35340-42 (96906)		EA	16	*	*	*	*	*	*		*		
PAFZZ	5310-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (96906)		EA	24	*	*	*	*	*	*		*		
PAFZZ	5305-177-5545	SCREW, MACHINE MS51957-1120 (96906)		EA	26	*	*	*	*	*	*		*		
PAFZZ	5310-655-9505	WASHER, LOCK MS35340-40 (96906)		EA	28	*	*	*	*	*	*		*		
XBFZZ		COVER, TOP 171-008 (15960)		EA	1										

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PAFZZ	5305-054-5649	SCREW, MACHINE MS51957-15 (96906)	EA	9	*	*	*	*	*	*		*		
XBFZZ		GUIDE, CIRCUIT CARD 33-9016-12-01-04 (15960)	EA	24										
XBFZZ		PANEL, MOUNTING 171-007 (15960)	EA	1										
MFFZZ		PLATE, DESIGNATION 63-9016-24-02 (91562)	EA	1										
XBFZZ		PLATE, MOUNTING 33-9016-13-01-02-148 (91662)	EA	2										
XBFZZ		PLATE, MOUNTING 63-9016-50-01-00-148 (91662)	EA	2										
PAFZZ	5310-934-9761	NUT, PLAIN, HEXAGON MS35649-264 (96906)	EA	16	*	*	*	*	*	*		*		
PAFZZ	5305-054-6653	SCREW, MACHINE MS51957-29 (96906)	EA	16	*	*	*	*	*	*		*		
PAFZZ	5310-839-3770	WASHER, LOCK MS35340-41 (96906) GROUP 010201 LINE CARD	EA	16	*	*	*	*	*	*		*		
PAOHH	5895-167-1183	CIRCUIT CARD ASSEMBLY LC401-4 (15960)	EA	1	*	*	*	*	*	*		*	16	1
PAHZZ	5905-141-1168	RESISTOR, FIXED, COMPOSITION RCR20G222JS (81349)	EA	5				*	*	*		*	16	2
PAHZZ	5961-148-4501	SEMICONDUCTOR DEVICE, DIODE 1N4003 (04173)	EA	10				*	*	*		*	16	3
PAHZZ	5961-226-8584	TRANSISTOR 2N2222 (81349)	EA	3				*	*	*		*	16	4
PAHZZ	5905-106-1282	RESISTOR, FIXED, COMPOSITION RCR20G223JS (81349)	EA	3				*	*	*		*	16	5
PAHZZ	5905-141-0596	RESISTOR, FIXED, COMPOSITION RCR20G473JS (81349)	EA	1				*	*	*		*	16	6
PAHZZ		CAPACITOR, FIXED, ELECTROLYTIC TDC105M015AS (37942)	EA	2				*	*	*		*	16	7

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PAHZZ	5905-104-3346	RESISTOR, FIXED, COMPOSITION R2R20G334JS (81349)	EA	3				*	*	*		*	16	8
PAHZZ	5962-169-4730	INTEGRATED CIRCUIT CD4001AE (86614)	EA	1				*	*	*		*	16	9
PAHZZ		CAPACITOR, FIXED, ELECTROLYTIC TDC476M010CS (37942)	EA	1				*	*	*		*	16	10
PAHZZ	5935-104-5756	RESISTOR, FIXED, COMPOSITION R0G10CJS (81349)	EA	1				*	*	*		*	16	11
PAHZZ		CONTACT, ELECTRICAL 14-1018 (15960)	EA	2				*	*	*		*	16	12
PAHZZ	5935-238-5507	CONNECTOR, RECEPTACLE, ELEC A2169 (27264)	EA	2				*	*	*		*	16	13
PAHZZ	5905-110-0196	RESISTOR, FIXED, COMPOSITION RCR2CGIO2JS (81349)	EA	1				*	*	*		*	16	14
PAHZZ	5120-471-1819	HANDLE, CIRCUIT CARD 5005-09N (13103)	EA	1				*	*	*		*	16	15
PAHZZ	5961-250-4722	DIODE, LIGHT EMITTING CSL3 (50347)	EA	1				*	*	*		*	16	16
PAHZZ		SEMICONDUCTOR DEVICE. DIODE VTL9R7 (18178)	EA	1				*	*	*		*	16	17
PAHZZ	5945-238-5254	RELAY, REED R2583-1 (156363)	EA	1				*	*	*		*	16	18
PAHZZ	5910-261-6533	CAPACITOR, FIXED, PLASTIC DI 411E334K (05844)	EA	1				*	*	*		*	16	19
PAHZZ	5905-274-2235	RESISTOR, FIXED, WIRE WOUND CPS-12:-CHM1CPCT (91637)	EA	1				*	*	*		*	16	20
PAHZZ		SEMICONDUCTOR DEVICE. DIODE PT001 (01121)	EA	1				*	*	*		*	16	21
PAHZZ		RELAY, ARMATURE 670PK4C81 (29238)	EA	2				*	*	*		*	16	22
XAHZZ		PRINTED WIRING BOARD C1-1061 (1596)	EA	1										
		GROUP 0112C2 INTERRUPTED ASSEMBLY												

SECTION XXVI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE TA918(V)1/FSC THRU TA-918(V)8/FSC

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PAOHH	5895-167-1270	CIRCUIT CARD ASSEMBLY INT9740 (15963)	EA	1	*	*	*	*	*	*		*	17	1
PAHZZ	5905-141-1168	RESISTOR, FIXED, COMPOSITION RCR2GG222JS (81349)	EA	5				*	*	*		*	17	2
PAHZZ	5905-116-5560	RESISTOR, FIXED, COMPOSITION RCRZ2GZ04JS (513493	EA	1				*	*	*		*	17	3
PAHZZ	5905-106-1282	RESISTOR, FIXED, COMPOSITION RCR2CG223JS (81349)	EA	2				*	*	*		*	17	4
PAHZZ	5910-261-6533	CAPACITOR, FIXED, PLASTIC DI 411E334K (05844)	EA	1				*	*	*		*	17	5
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE, DIODE 1N4148 (81349)	EA	6				*	*	*		*	17	6
PAHZZ	5962-169-4728	INTEGRATED CIRCUIT CO4013AE (86684)	EA	1				*	*	*		*	17	7
PAHZZ	5961-843-2498	SEMICONDUCTOR DEVICE, DIODE 1N40C3 (04713)	EA	4				*	*	*		*	17	8
PAHZZ	5962-243-2555	INTEGRATED CIRCUIT CO4It7AE (86684)	EA	1				*	*	*		*	17	9
PAHZZ	5905-104-5756	RESISTOR, FIXED, COMPOSITION RCR20G105JS (81349)	EA	1				*	*	*		*	17	10
PAHZZ	5961-250-4722	DIODE, LIGHT EMITTING OSL3 (5C347)	EA	1				*	*	*		*	17	11
PAHZZ	5935-156-4348	RESISTOR, FIXED, COMPOSITION PC-2CG154JS (81349)	EA	5				*	*	*		*	17	12
PAHZZ	5961-226-6584	TRANSISTOR 2N2222 (813493)	EA	2				*	*	*		*	17	13
PAHZZ	5961-146-8295	TRANSISTOR 2N223C8 (09214)	EA	4				*	*	*		*	17	14
PAHZZ		HEAT SINK 621 (058ZC)	EA	1				*	*	*		*	17	15
PAHZZ	5961-107-?571	TRANSISTOR 2N4922 (04713)	EA	1				*	*	*		*	17	16
PAHZZ	5961-250-4028	TRANSISTOR MJE110 (04713)	EA	3				*	*	*		*	17	17

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PAHZZ		CAPACITOR, FIXED, PLASTIC DI TOC1O6M601OS (37942)	EA	1				*	*	*		*	17	18
PAHZZ		SEMICONDUCTOR DEVICE, DIODE SKF51A (24444)	EA	1				*	*	*		*	17	19
PAHZZ	5905-141-0591	RESISTOR, FIXED, COMPOSITION RCR20GI03JS (81349)	EA	1				*	*	*		*	17	20
PAHZZ	5962-169-4730	INTEGRATED CIRCUIT C040CIAE (866S4)	EA	1				*	*	*		*	17	21
XBHZZ		BUSHING 1560A (91833)	EA	4										
PAHZZ	5335-054-5647	SCREW, MACHINE MS551957-13 (96906)	EA	4				*	*	*		*		
PAHZZ	5316-595-6211	WASHER, FLAT MS15795-303 (96906)	EA	4				*	*	*		*		
XBHZZ		PRINTED HIRING BOARD 01-1062 (15960)	EA	1										
PAHZZ	531F-934-7?48	NUT,PLAIN,HEX4GON WS3564Q-244 (96906)	EA	4				*	*	*		*		
PAHZZ	53C5-054-5651	SCREW, MACHINE NSS1957-17 (96906)	EA	4				*	*	*		*		
PAHZZ	5310-543-2410	WASHER LOCK MS35338-40 (969061 GROUP 0103 COMMON EQUIPMENT SHELF	EA	4				*	*	*		*		
POOHO		EQUIPMENT SHELF 41010-96 (51574)	EA	2	*	*	*	*	*	*		*	18	1
PAFZZ	5905-818-4866	RESISTOR, FIXED, WIRE WOUND RH50-150H (91637)	EA	1	*	*	*	*	*	*		*	18	2
PAFZZ		TERMINAL BOARD 52A (71785)	EA	1	*	*	*	*	*	*		*	18	3
PAFZZ	5961-199-5008	TRANSISTOR 2N2S55 (81349)	EA	1	*	*	*	*	*	*		*	18	4
PAFZZ	5935-837-5718	CONNECTOR, RECPT, ELECTRICAL 143-018-12 (13511)	EA	16	*	*	*	*	*	*		*	18	5

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XBFFZ		BRACKET, ANGLE 1410-2050 (51504)	EA	2										
PAFZZ	5305-054-6651	SCREW, MACHINE MS51957-27 (96906)	EA	3	*	*	*	*	*	*		*		
PAFZZ	5305-054-5661	WASHER, LOCK MS535333-37 (96906)	EA	3	*	*	*	*	*	*		*		
PAFZZ	5305-054-6651	SCREW, MACHINE MSS51957-27 (96906)	EA	3	*	*	*	*	*	*		*		
PAFZZ	5305-054-6661	WASHER, LOCK MS35337-37 (96906)	EA	3	*	*	*	*	*	*		*		
XBFZZ		BUSHING, SLEEVE 61473WHITE (98291)	EA	2										
XBFZZ		CLIP, RETAINER 1405-223G (51504)	EA	2										
PAFZZ	5305-054-5649	SCREW, MACHINE MS51957-15 (96906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5310-193-7577	WASHER, LOCK MS35333-.15 (96906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5305-054-5649	SCREW, MACHINE MS51957-15 (96906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5310-193-7577	SCREW, MACHINE MS35333-36 (96906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5305-054-5649	SCREW, MACHINE MS55197-15 (96936)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5310-193-7577	SCREW, MACHINE MS35333-36 (96906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5305-054-5649	SCREW, MACHINE MS51957-15 (96906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5335-054-5649	SCREW, MACHINE MS5157-15 (95906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5310-193-7577	SCREW, MACHINE MS35333-36 (96906)	EA	2	*	*	*	*	*	*		*		
PAFZZ	5305-054-5649	SCREW, MACHINE MS1957-15 (96916)	EA	2	*	*	*	*	*	*		*		

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5305-054-6668	SCREW, MACHINE MS51957-43 (96906)	EA	2	*	*	*	*	*	*		*		
XBFZZ		TERMINAL, LUG 1414-6 (83330)	EA	1										
PAFZZ	5305-054-5647	SCREW, MACHINE MS51957-13 (96906	EA	1	*	*	*	*	*	*		*		
PAFZZ	5310-193-7577	SCREW, MACHINE MS35333-36 (969063	EA	1	*	*	*	*	*	*		*		
XBFZZ		TERMINAL PANEL REAQ 1410-2220 (515043	EA	1										
PAFZZ	5305-054-5650	SCREW. MACHINE MS51957-26 (96906)	EA	6	*	*	*	*	*	*		*		
PAFZZ	5310-934-9761	NUT, PLAIN, HEXAGON MS35649-264 (96906)’	EA	2	*	*	*	*	*	*		*		
PAFZZ	5305-054-6652	SCREW, MACHINE MS51957-28 (96906)	EA	2	*	*	*	*	*	*		*		
XBFZZ		WASHER, NONMETALLIC 495320-1 (32735)	EA	1										
XBFZZ		WASHER, SHOULDER 495334-7 (12735) GROUP 013031 DTMF TONE RECEIVER	EA	2										
PAOHD	5895-173-7051	RECEIVER, TONE 40452-01 (51504)	EA	2	*	*	*	*	*	*		*	19	1
AHHHD		CIRCUIT CARD ASSEMBLY 4404-1524 (51504)	EA	1									19	2
PAHZZ	5995-117-9388	RESISTOR, FIXED, COMPOSITION RCYD7G1G4JS (813493	EA	8				*	*	*		*	19	3
PAHZZ	5935-114-0711	RESISTOR, FIXED, COMPOSITION RCR207G472JS (81349)	EA	11				*	*	*		*	19	4
PAHZZ	5905-126-6683	RESISTOR, FIXED, COMPOSITION RCD07G332JS (81349)	EA	20				*	*	*		*	19	5
PAHZZ	5905-130-3666	RESISTOR, FIXED, COMPOSITION RCRC7G103JS (81349)	EA	22				*	*	*		*	19	6

SECTION XXVI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE TA918(V)1/FSC THRU TA-918(V)8/FSC

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5905-243-2517	RESISTOR, FIXED, FILM RNR65C52R3FS (81349)	EA	1				*	*	*		*	19	7
PAHZZ	5905-141-1t83	RESISTOR, FIXED, COMPOSITION RCRO7GIOIJS (81349)	EA	5				*	*	*		*	19	8
PAHZZ	5905-121-9932	RESISTOR, FIXED, COMPOSITION RCR07G391JS (81349)	EA	1				*	*	*		*	19	9
PAHZZ	5905-116-8552	RESISTOR, FIXED, COMPOSITION QCR07G223JS (8349)	EA	3				*	*	*		*	19	10
PAHZZ	5905-119-3503	RESISTOR, FIXED, COMPOSITION RCR07G27tJS (81349)	EA	4				*	*	*		*	19	11
PAHZZ	5905-105-7764	RESISTOR, FIXED, COMPOSITION RCR07G222JS (81349)	EA	2				*	*	*		*	19	12
PAHZZ	5905-119-8769	RESISTOR, FIXED, COMPOSITION RCR07GS21JS (81349)	EA	1				*	*	*		*	19	13
PAHZZ	5905-141-0717	RESISTOR, FIXED, COMPOSITION RCR707473JS (81349)	EA	2				*	*	*		*	19	14
PAHZZ	5905-114-5343	RESISTOR, FIXED, COMPOSITION RCRO7G162JS (813493	EA	1				*	*	*		*	19	15
PAHZZ	5905-131-1255	RESISTOR, FIXED, COMPOSITION RCR07G122JS (813493	EA	9				*	*	*		*	19	16
PAHZZ	q905-119-8812	RESISTOR, FIXED, COMPOSITION RCR07G121JS (81349)	EA	1				*	*	*		*	19	17
PAHZZ	5905-772-7027	RESISTOR, FIXED, COMPOSITION MFSCD1243F (19701)	EA	7				*	*	*		*	19	18
PAHZZ	5905-106-1278	RESISTOR, FIXED, COMPOSITION RCR07O723JS (81349)	EA	3				*	*	*		*	19	19
PAHZZ	5910-267-2704	CAPACITOR, FIXED, PLASTIC DI ME0-22UF1CPCT200V (06257)	EA	2				*	*	*		*	20	1
PAHZZ	5910-227-7765	CAPACITOR, FIXED, PLASTIC DI 1MDF1-472 (72136)	EA	4				*	*	*		*	20	2
PAHZZ	5951-951-757	TRANSISTOR 2NZ222 (81349)	EA	29				*	*	*		*	20	3
PAHZZ	5910-267-2706	CAPACITOR, FIXED, PLASTIC 01 MR0-1UF10PCT160VOCW (08257)	EA	14				*	*	*		*	20	4

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5910-728-0O93	CAPACITOR, FIXED, MICA DI C06FO12JO3 (81349)	EA	1				*	*	*		*	20	5
PAHZZ	5961-913-1747	TRANSISTOR 2N2907 (81349)	EA	4				*	*	*		*	20	6
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE, DIODE 1N4148 (81349)	EA	4				*	*	*		*	20	7
PAHZZ	5950-236-7061	INDUCTOR 80AGC2C t515#4)	EA	1				*	*	*		*	20	8
PAHZZ		CAPACITOR, FIXED, PLASTIC DI MRO-1UF3PCT160VOCW (08257)	EA	2				*	*	*		*	20	9
PAHZZ	5910-224-5115	CAPACITOR, FIXED, ELECTROLYTIC K1RSC20K (31433)	EA	14				*	*	*		*	20	10
PAHZZ		CAPACITOR, FIXED, PLASTIC 0I 1NOF2-473 (72136)	EA	2				*	*	*		*	20	11
PAHZZ	5910-238-5508	CAPACITOR, FIXED, PLASTIC DI 1MODF-153 (72136)	EA	1				*	*	*		*	20	12
PAHZZ	5950-236-7063	INDUCTOR C80AG21 (51504)	EA	1				*	*	*		*	20	13
PAHZZ	5910-139-2406	CAPACITOR, FIXED, PLASTIC DI 1MDF1-102 (72136)	EA	1				*	*	*		*	20	14
PAHZZ	5950-845-9157	TRANSFORMER, POWER SS0-3 (80223)	EA	1				*	*	*		*	20	15
PAHZZ	5935-775-5711	CONNECTOR1RECEPTACLE,ELEC 133-C18-43 (02660)	EA	1				*	*	*		*	20	16
PA4ZZ	5950-236-71C6	INDUCTOR 08A046 (51504)	EA	1				*	*	*		*	20	17
PAHZ2	5950-236-7103	INDUCTOR 83AO45 (51504)	EA	1				*	*	*		*	20	18
PAHZZ	595C-236-7102	INDUCTOR 080A043 (51564)	EA	1				*	*	*		*	20	19
PAHZZ	5950-236-7101	INDUCTOR 083AG43 (51504)	EA	1				*	*	*		*	20	20
PAHZZ	591C-268-3986	CAPACITOR, FIXED, PLASTIC DI 611-15000PF2-5PCT33V (26625)	EA	1				*	*	*		*	20	21

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5910-264-5591	CAPACITOR, FIXED, PLASTIC DI 611-1600GPF2-5PCT33V (26625)	EA	1				*	*	*		*	20	22
PAHZZ	5910-264-5593	CAPACITOR, FIXED, PLASTIC DI 61-ISOCCCPF2-5PCT33V (26625)	EA	1				*	*	*		*	20	23
PAHZZ	5910-828-6282	CAPACITOR, FIXED, ELECTROLYTIC C43?ARG1O, (K0004)	EA	1				*	*	*		*	20	24
PAHZZ	5910-274-2230	CAPACITOR, FIXED, PLASTIC DI 611-30COCPF2-5PCT33V	EA (26625)	1				*	*	*		*	20	25
PAHZZ	5910-274-7218	CAPACITOR, FIXED, PLASTIC DI 611-27000PF2-5PC733V (26625)	EA	1				*	*	*		*	20	26
PAHZZ	5910-264-5595	CAPACITOR, FIXED, PLASTIC or 611-24003PF2-SPCT33V (26625)	EA	1				*	*	*		*	20	27
PAHZZ	5910-264-5594	CAPACITOR, FIXED, PLASTIC DI 611-2230GPF2-5PCT33V (26625)	EA	1				*	*	*		*	20	28
PAHZZ	5950-236-7097	INDUCTOR 080A04 (51504)	EA	1				*	*	*		*	20	29
PAHZZ	5950-236-7798	INDUCTOR 0830G41 (51504)	EA	1				*	*	*		*	20	30
PAHZZ	595C-236-7099	INDUCTOR C80A042 (51504)	EA	1				*	*	*		*	20	31
XAHZZ		BRACKET, ANGLE 1404-242J (51504)	EA	1										
PAHZZ	3t10-934-C748	NUT, PLAIN, HEXAGON 135P649-244 (96906)	EA	2				*	*	*		*		
PAHZZ	5335-054-5647	SCREW, MACHINE 551957-13 (96906)	EA	2				*	*	*		*		
PAHZZ	53iC-550-3715	WASHER, LOCK SS35333-70 (96916)	EA	2				*	*	*		*		
PAHZZ	5310-934-9745	NUT, PLAIN, HEXAGON MS35649-244 (96915)	EA	2				*	*	*		*		
PAHZZ	5305-054-5647	SCREW, MACHINE N551957-13 (96906)	EA	2				*	*	*		*		
PAHZZ	531-550-3705	WASHER, LOCK NS35333-70 (96906)	EA	2				*	*	*		*		

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PAHZZ		PRINTED WIRING BOARD 1404-1522 (51504)	EA	1				*	*	*		*		
XAHZZ		HANDLE 1413-2431 (51504)	EA	1										
PAHZZ	5305-058-2102	SCREEN, TAPPING, THREAD FORMING MS24622-17 (96906)	EA	2				*	*	*		*		
XAHZZ		PANEL, BLANK 1414-3521 (51504) GROUP 010332 DIGIT DECODER	EA	1										
PAOHH	5895-173-7023	DECODER, DIGIT 40451-04 (51504)	EA	2				*	*	*		*	21	1
XAOHH		CIRCUIT CARD ASSEMBLY 404-i1512(51504)	EA	1				*	*	*		*	21	2
PAHZZ	5905-126-6683	RESISTOR, FIXED, COMPOSITION RCR07G332JS t81349)	EA	14				*	*	*		*	21	3
PAHZZ	5905-141-3717	RESISTOR, FIXED, COMPOSITION RCR7OTG4?3JS (81349)	EA	1				*	*	*		*	21	4
PAHZZ	5905-106-3666	RESISTOR, FIXED, COMPOSITION RCR07G103JS (81349)	EA	27				*	*	*		*	21	5
PAHZZ	5961-951-5757	TRANSISTOR 2N2222 (81349)	EA	17				*	*	*		*	21	6
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE, DIODE 1N4148 (813493	EA	26				*	*	*		*	21	7
PAHZZ	5935-119-3504	RESISTOR, FIXED, COMPOSITION RCR07G273JS (81349)	EA	3				*	*	*		*	21	8
PAHZZ	5905-118-4559	RESISTOR, FIXED, COMPOSITION RCR7G333JS (81349)	EA	2				*	*	*		*	21	9
PAHZZ		CAPACITOR, FIXED, ELECTROLYTIC K1R8C2CK (31433)	EA	2				*	*	*		*	21	10
PAHZZ	5905-116-8556	RESISTOR, FIXED, COMPOSITION RCR07G223JS (81349)	EA	6				*	*	*		*	21	11
PAHZZ	5945-104-8368	RESISTOR, FIXED, COMPOSITION RCR57G470JS (81349)	EA	3				*	*	*		*	21	12

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PAHZZ	5905-120-9154	RESISTOR, FIXED, COMPOSITION RCR07G471JS (81349)	EA	2				*	*	*		*	21	13
PAHZZ	5910-974-6129	CAPACITOR, FIXED, ELECTROLYTIC K1020K (31433)	EA	1				*	*	*		*	21	14
PAHZZ		TRANSISTOR 2N6027 (047131	EA	3				*	*	*		*	21	15
PAHZZ	5905-116-8555	RESISTOR, FIXED, COMPOSITION RCR07G153JS (81349)	EA	4				*	*	*		*	21	16
P4HZZ	5905-110-7622	RESISTOR, FIXED, COMPOSITION RCR07G682JS (81349)	EA	3				*	*	*		*	21	17
PAHZZ	5905-105-7764	RESISTOR, FIXED, COMPOSITION RCR07G222JS (81349)	EA	1				*	*	*		*	21	18
PAHZZ	5905-114-0711	RESISTOR, FIXED, COMPOSITION RCRO7G472JS. (61349)	EA	1				*	*	*		*	21	19
PAHZZ		SOCKET, RELAY R4OS41nP33 (51504)	EA	1				*	*	*		*	21	20A
PAHZZ	5945-244-8215	RELAY, ARMATURE R43JEl2V801 (77342)	EA	1				*	*	*		*	21	20
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE, ELEC 133-G18-43 (02663)	EA	1				*	*	*		*	21	21
PAHZZ	5905-106-1356	RESISTOR, FIXED, COMPOSITION RC207G152JS (81349)	EA	2				*	*	*		*	21	22
PAHZZ	5910-139-2746	CAPACITOR, FIXED, PLASTIC DI 1MDF1-102 (72136)	EA	2				*	*	*		*	21	23
PAHZZ	5940-103-1883	TERMINAL, LUG 2000C1 (15849)	EA	21				*	*	*		*	21	24
PAHZZ		CAPACITOR, FIXED, ELECTROLYTIC B41283-100-50-9021 (25188)	EA	1				*	*	*		*	21	25
PAHZZ	5905-244-8241	RESISTOR, VARIABLE 3359W1-504 (80294)	EA	1				*	*	*		*	21	26
PAHZZ	5905-114-5344	RESISTOR, FIXED, COMPOSITION RCRO7G184JS (81349)	EA	1				*	*	*		*	21	27
XBHZZ		BRACKET, ANGLE 14C4-2420 (51504)	EA	1										

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PAHZZ	5310-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	2				*	*	*		*		
PAHZZ	5335-054-5647	SCREW, MACHINE MS51957-13 (96906)	EA	2				*	*	*		*		
PAHZZ	5310-55-3715	WASHER, LOCK MS35333-70 (96906)	EA	2				*	*	*		*		
PAHZZ		BUSHING 81473W (98291)	EA	1										
PAHZZ	5310-934-3748	NUT1PLAINGHEXAGON MS35649-244 (969061	EA	2				*	*	*		*		
PAHZZ	5305-177-5545	SCREW, MACHINE MS51957-120 (96906)	EA	2				*	*	*		*		
PAHZZ	5310-55C-3715	WASHER, LOCK MS35333-70 (96906)	EA	2				*	*	*		*		
XBHZZ		PRINTED WIRING BOARD 14r4-1514 (St5043	EA											
XBHZZ		HANDLE 1404-2431 (51504)	EA	1										
PAHZZ	53,5-058-21t2	SCREW,TAPPING.THRE40 FORMING MS24622-17 (96906)	EA	2				*	*	*		*		
XBHZZ		PANEL, BLANK 1404-3514 (51504) GROUP Ct0393 SF DETECTOR AND OSCILLATOR	EA	1										
PAOHD		DETECTOR, SINGLE FREQUENCY OSC 41363-12 (51504)	EA	2	*	*	*	*	*	*		*	22	1
PAHZZ	5935-136-3666	RESISTOR, FIXED, COMPOSITION RCR37G103JS (81349)	EA	10				*	*	*		*	22	2
PAHZZ	5905-116-9555	RESISTOR, FIXED, COMPOSITION RCR07G153JS (81349)	EA	5				*	*	*		*	22	3
PAHZZ	5935-141-Z742	RESISTOR, FIXED, COMPOSITION RCRO7G181JS (81349)	EA	1				*	*	*		*	22	4
PAHZZ	5925-114-3717	RESISTOR, FIXED, COMPOSITION RCRO7G473JS (81349)	EA	3				*	*	*		*	22	5

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5905-ii-7622	RESISTOR, FIXED COMPOSITION RCR07G682JS (81349)	EA	1				*	*	*		*	22	6
PAHZZ	5905-10-0388	RESISTOR, FIXED, COMPOSITION RCY07GIC4JS (81349)	EA	5				*	*	*		*	22	7
PAHZZ	5905-105-7764	RESISTORiFIXEO9COMPOSITION RCRO7G222JS (81349)	EA	1				*	*	*		*	22	8
PAHZZ	5905-104-S364	RESISTOR, FIXED, COMPOSITION RCR07G125JS (81349)	EA	1				*	*	*		*	22	9
PAHZZ	5905-119-1812	RESISTOR, FIXED, COMPOSITION RCR07GI21JS (813491	EA	1				*	*	*		*	22	10
PAHZZ	5905-116-8554	RESISTOR, FIXED, COMPOSITION RCRK07G05JS (81349)	EA	1				*	*	*		*	22	11
PAHZZ	5905-106-t278	RESISTOR, FIXED, COMPOSITION RCRO?G123JS (81349)	EA	6				*	*	*		*	22	12
PAHZZ	5905-114-5339	RESISTOR, FIXED, COMPOSITION PCKO7GI54JS (81349)	EA	1				*	*	*		*	22	13
PAHZZ	59C5-116-8556	RESISTOR, FIXED, COMPOSITION RCRO7G223JS (81349)	EA	2				*	*	*		*	22	14
PAHZZ	5905-135-5045	RESISTOR, FIXED, COMPOSITION RCRG7G33OJS (81349)	EA	2				*	*	*		*	22	15
PAHZZ	5905-105-7765	RESISTOR, FIXED, COMPOSITION RCR07G224JS (81349)	EA	2				*	*	*		*	22	16
PAHZZ	5905-iii-1678	RESISTOR, FIXED, COMPOSITION RCR37G564JS (81349)	EA	1				*	*	*		*	22	17
PAHZZ	5905-1C4-5358	RESISTOR, FIXED, COMPOSITION RCR07G822JS (81349)	EA	2				*	*	*		*	22	18
PAHZZ	5905-141-t183	RESISTOR, FIXED, COMPOSITION RCRO?7G!CtJS (81349)	EA	3				*	*	*		*	22	19
PAHZZ	5905-126-5683	RESISTOR, FIXED, COMPOSITION RCR07G332JS (81349)	EA	6				*	*	*		*	22	20
PAHZZ	5905-111i-927	RESISTOR, FIXED, COMPOSITION RCR17G272JS (81349)	EA	3				*	*	*		*	22	21
PAHZZ	5905-1C4-3h6d	RESISTOR, FIXED, COMPOSITION RCR37G7 JS (81349)	EA	1				*	*	*		*	22	22

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PAHZZ	5905-119-3503	RESISTOR, FIXED, COMPOSITION RCR37G271JS (81349)	EA	1				*	*	*		*	22	23
PAHZZ	5905-119-8768	RESISTOR, FIXED, COMPOSITION RCRT7GR21JS (81349)	EA	1				*	*	*		*	22	24
PAHZZ	5905-141-0598	RESISTOR, FIXED, COMPOSITION RCR20G561JS (81349)	EA	1				*	*	*		*	22	25
PAHZZ	5905-114-0711	RESISTOR, FIXED, COMPOSITION RCRC7G472JS (81349)	EA	1				*	*	*		*	22	26
PAHZZ	5905-119-3504	RESISTOR, FIXED, COMPOSITION RCR07GZ?3JS 81349)	EA	1				*	*	*		*	22	27
PAHZZ	5905-141-3743	RESISTOR, FIXED, COMPOSITION RCR07G392JS (81349)	EA	3				*	*	*		*	22	28
PAHZZ	5905-11t-7620	RESISTOR, FIXED, COMPOSITION RCR07GI02JS (81349)	EA	1				*	*	*		*	22	29
PAHZZ	5905-244-824t	RESISTOR, VARIABLE 3359W1-5C4 (80294)	EA	1				*	*	*		*	22	30
PAHZZ	5935-114-5344	RESISTOR, FIXED, COMPOSITION RCR07G184JS (81349)	EA	1				*	*	*		*	22	31
PAHZZ	5905-14t-G744	RESISTOR, FIXED, COMPOSITION RCRO7G562JS (81349)	EA	1				*	*	*		*	22	32
PAHZZ	5905-12C-9154	RESISTOR, FIXED, COMPOSITION RCR07G47IJS (81349)	EA	1				*	*	*		*	22	33
PAHZZ	5905-40C-4528	RESISTOR, FIXED, COMPOSITION RCR07Gt24JS (81349)	EA	1				*	*	*		*	22	34
PAHZZ	5905-114-O71C	RESISTOR, FIXED, COMPOSITION RCRO7G331JS (81349)	EA	1				*	*	*		*	22	35
PAHZZ	5905-243-1807	RESISTOR, VARIABLE 339-5:2 (R8294)	EA	1				*	*	*		*	22	36
PAHZZ	5905-23R-582R	RESISTOR, VARIABLE 3359k1-103 (80294)	EA	1				*	*	*		*	22	37
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE, DIODE 1N4143 (81349)	EA	6				*	*	*		*	23	1
PAHZZ	5961-951-5757	TRANSISTOR 2N2222 (81349)	EA	17				*	*	*		*	23	2

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PAHZZ	5910-4G5-3856	CAPACITOR, FIXED PLASTIC DI 1MDF1-103 (72136)	EA	2				*	*	*		*	23	3
PAHZZ	5910-28C-0986	CAPACITOR, FIXED, PLASTIC or 611-1500PF2-5PCT33V (26625)	EA	1				*	*	*		*	23	4
PAHZZ	5910-283-5664	CAPACITOR, FIXED, PLASTIC DI 611-1300CPF2-5PCT63V (26625)	EA	3				*	*	*		*	23	5
PAHZZ	5910-275-67t5	CAPACITOR, FIXED, PLASTIC 0D 611-13000PF2-SPCT33V (26625)	EA	3				*	*	*		*	23	6
PAHZZ		CAPACITOR, FIXED, PLASTIC or MEQ-33UFIOPCT2OOV (08257)	EA	1				*	*	*		*	23	7
PAHZZ	5910-274-2208	CAPACITOR, FIXED ELECTROLYTIC 841283-1'0-25-4112 (25088)	EA	2				*	*	*		*	23	8
PAHZZ	595C-236-7096	INDUCTOR 831AC27 (51504)	EA	2				*	*	*		*	23	9
PAHZZ	5910-06R-3887	CAPACITOR, FIXED, MICA DI COl3FO1ClKC3 (14655)	EA	1				*	*	*		*	23	10
PAHZZ		CAPACITOR, FIXED, PLASTIC DI MRO-1UFIGPCT160VOCW (082571	EA	6				*	*	*		*	23	11
PAHZZ	5910-224-S115	CAPACITOR, FIXED, ELECTROLYTIC KIR4C2GK (31433)	EA	5				*	*	*		*	23	12
PAHZZ	5910-139-24C6	CAPACITOR, FIXED, PLASTIC 0I 1MDF1-tO2 (72136)	EA	1				*	*	*		*	23	13
PAHZZ	5961-059-4464	TRANSISTOR 2N7218 (81349)	EA	2				*	*	*		*	23	14
PAHZZ	5950-845-3157	TRANSFORMER, POWER SS3-3 (80223)	EA	1				*	*	*		*	23	15
PAHZZ	5950-236-7110	TRANSFORMER, POWER 08A0C1S (51504)	EA	1				*	*	*		*	23	16
PAHZZ	5910-828-i282	CAPACITOR, FIXED, ELECTROLYTIC C437ARG1600 (K0004)	EA	2				*	*	*		*	23	17
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE ELEC 133-018-43 (02660)	EA	1				*	*	*		*	23	18
PAHZZ		SOCKET, RELAY P40410P33 (51524)	EA	1				*	*	*		*	23	19

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PAHZZ	5945-244-5215	RELAY, ARMATURE R4EIW2VO80C (77342)	EA	1				*	*	*		*	23	20
PAHZZ	5910-974-5129	CAPACITOR9FIXEDoELECTROLYTIC KIOC20K (31433)	EA	1				*	*	*		*	23	21
PAHZZ	5961-106-3698	TRANSISTOR 2N6327 (04713)	EA	1				*	*	*		*	23	22
PAHZZ.	5961-913-1747	TRANSISTOR 2N2907 (81349)	EA	1				*	*	*		*	23	23
PAHZZ		CAPACITOR, FIXED, PLASTIC DI HNOF2-473 (72136)	EA	1				*	*	*		*	23	24
PAHZZ	5950-236-7120	INDUCTOR 080A064 (51504)	EA	1				*	*	*		*	23	25
PAHZZ	5910-275-5704	CAPACITOR, FIXED, PLASTIC DI 611-1OCOOPF2-5PCT33V (26625)	EA	1				*	*	*		*	23	26
PAHZZ	5910-275-5710	CAPACITOR, FIXED, PLASTIC DI 611-680(PF2-5PCT33V (26625)	EA	1				*	*	*		*	23	27
PAHZZ	59iS-275-67i7	CAPACITOR, FIXED, PLASTIC DI 611-75CCPF?-5PCT33V (26625)	EA	1				*	*	*		*	23	28
PAHZZ	5910-264-5593	CAPACITOR, FIXED, PLASTIC DI 611ii-COPF2-5PCT33V (26625)	EA	1				*	*	*		*	23	29
PAHZZ	5950-236-7115	INDUCTOR 080A063 (51504)	EA	1				*	*	*		*	23	30
PAHZZ	5910-275-5708	CAPACITOR, FIXED, PLASTIC DI 61ii-3900GPF2-SPCT33V (26625)	EA	1				*	*	*		*	23	31
PAHZZ	591Ct-283-5656	CAPACITOR, FIXED, PLASTIC DI 615-22CPF2-SPCT63V (266251	EA	1				*	*	*		*	23	32
PAHZZ	595C-236-7114	INDUCTOR C83Ac62 51594)	EA	1				*	*	*		*	23	33
PAHZZ	5930-686-9533	SWITCH, PUSH 3q9-1 (8173)	EA	1				*	*	*		*	23	34
PAHZZ	5940-1G3-1883	TERMINAL, LUG 20§0C1 (15849)	EA	4				*	*	*		*	23	35
XBHZZ		BRACKET, ANGLE SS10H (80223)	EA	1										

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PAHZZ	530-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (969061	EA	6				*	*	*		*		
PAHZZ	5305-054-5647	SCREW, MACHINE MS51957-13 (96906)	EA	4				*	*	*		*		
PAHZZ	5310-55C-3715	WASHER, LOCK MS35333-70 (96906)	EA	6				*	*	*		*		
XBHZZ		BRACKET, ANGLE 1494-242C (51504}	EA	1										
PAHZZ	5305-177-5545	SCREW, MACHINE MS51957-12C (96906)	EA	2				*	*	*		*		
XBHZZ		HANDLE 1414-2431 (515041	EA	1										
PAHZZ	5335-058-2102	SCREW, TAPPING, THREAD FORMING MS24622-17 (96906)	EA	2				*	*	*		*		
XBHZZ		PANEL, BLANK 1410-3632 (51504)	EA	1										
XBHZZ		PRINTED WIRING BOARD 1410-163G (515e4) GROUP C1C304 4W/2W HYBRID MODULE	EA	1										
PAOHO	5895-173-7035	NETWORK, HYBRID CIRCUIT 49008-1 (51514)	EA	2	*	*	*	*	*	*		*	24	1
PAHZZ	5905-11C-762Z	RESISTOR, FIXED, COMPOSITION PCR37GiO2JS (81349)	EA	6				*	*	*		*	24	2
PAHZZ	59se-93C-4451	TRANSFOR4ER,POWER 124-5K (?7C674)	EA	4				*	*	*		*	24	3
PAHZZ		RELAY, ARMATURE 502-IA24V (C21161	EA	4				*	*	*		*	24	4
PAHZZ	5910-974-6129	CAPACITOR, FIXED, ELECTROLYTIC KtC20K (314331	EA	10				*	*	*		*	24	5
PAHZZ	5961-931-1135	SE'4ICONOUCTOR DEVICE, DIODE 1N4148 (81349)	EA	4				*	*	*		*	24	6
PAHZZ	59q5-ltt6-555	RESISTOR, FIXED, COMPOSITION RCRC7G223JS (81349)	EA	1				*	*	*		*	24	7

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PAHZZ	5905-106-3668	RESISTOR, FIXED, COMPOSITION RCR08G220JS (81349)	EA	1				*	*	*		*	24	8
PAHZZ	5961-951-8757	TRANSISTOR 2N2222 (81349)	EA	5				*	*	*		*	24	9
PAHZZ	5910-274-7208	CAPACITOR, FIXED, ELECTROLYTIC B41283-100-25-8112 (250881	EA	2				*	*	*		*	24	10
PAHZZ	5905-119-35C4	RESISTOR, FIXED, COMPOSITION RCRQ7G273JS (81349)	EA	2				*	*	*		*	24	11
PAHZZ	5905-115-3562	RESISTOR, FIXED, COMPOSITION RCR7TG394JS (81349)	EA	2				*	*	*		*	24	12
PAHZZ	5905-141-0717	RESISTOR, FIXED, COMPOSITION RCRO7G473JS (81349)	EA	2				*	*	*		*	24	13
PAHZZ	5905-106-3666	RESISTOR, FIXED, COMPOSITION RCR07GI03JS (81349)	EA	4				*	*	*		*	24	14
PAHZZ	5905-131-1255	RESISTOR, FIXED, COMPOSITION RCCE7G122JS (81349)	EA	2				*	*	*		*	24	15
PAHZZ	5905-115-3560	RESISTOR, FIXED, COMPOSITION RCR07Gt8.3JS (81349)	EA	2				*	*	*		*	24	16
PAHZZ	5905-126-6683	RESISTOR, FIXED, COMPOSITION RCR27G332JS (81349)	EA	2				*	*	*		*	24	17
PAHZZ	5905-141-1183	RESISTOR, FIXED, COMPOSITION RCRO7G1C1JS (81349)	EA	2				*	*	*		*	24	18
PAHZZ	5905-116-7394	RESISTOR, FIXED, COMPOSITION RCRT7GSIIJS (8i349)	EA	2				*	*	*		*	24	19
PAHZZ	59IC-893-02l	CAPACITOR, FIXED, MICA DI COt3FOI5SK53 (it4655)	EA	2				*	*	*		*	24	20
PAHZZ	59tC-828-6282	CAPACITOR, FIXED, ELECTROLYTIC C4S7ARG10 (IKC094)	EA	2				*	*	*		*	24	21
PAHZZ	5905-119-35C3	RESISTOR, FIXED, COMPOSITION RC937G?71JS (81349)	EA	2				*	*	*		*	24	22
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE ELEC 13'-C18-43	EA (1266k)	1				*	*	*		*	24	23
PAHZZ		CAPACITOR, FIXED, CERAMIC DI 505A471PFI:PCT 126625)	EA	2				*	*	*		*	24	24

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PAHZZ	5905-116-B555	RESISTOR FIXED, COMPOSITION RCRO7G153JS (81349)	EA	1				*	*	*		*	24	25
PAHZZ	5961-913-t?47	TRANSISTOR 2N290? (81349)	EA	2				*	*	*		*	24	26
PAHZZ	5935-832-9466	RESISTOR, FIXED, FILM RNR65GC604OFS (8349)	EA	4				*	*	*		*	24	27
PAHZZ	5905-243-1806	RESISTOR, VARIABLE 3359Wi-lC2 (8C2941	EA	2				*	*	*		*	24	28
PAHZZ	5935-G81-4578	JACK, TIP SKT10BLK (98291)	EA	3				*	*	*		*	24	29
PAHZZ	5935-617-6837 30	JACK, TIP SKT10WHT (98291)	EA	3					*	*	*		*	24
PAHZZ	5940-103-1883	TERMINAL, LUG 2023C1 (15849)	EA	10				*	*	*		*	24	31
XAHZZ		SPROCKET, ANGLE 1404-242C (51504)	EA	1										
PAHZZ	5310-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	4				*	*	*		*		
PAHZZ	5335-054-56’7	SCREW, MACHINE MS51957-13 (969C6)	EA	2				*	*	*		*		
PAHZZ	5310-55,-3715	WASHER, LOCK HS35333-7) (96906)	EA	3				*	*	*		*		
PAHZZ	53C5-177-5545	SCREW, MACHINE MS51957-t20 (96906)	EA	2				*	*	*		*		
XAHZZ		HANDLE 1434-2431 (51504)	EA	1										
PAHZZ	5305-058-21G2	SCREW,t4PPING,THREAD FORMING M524622-17 (969C6)	EA	2				*	*	*		*		
XAHZZ		PANEL BLANK 1490-308i (515041	EA	1										
XAHZZ		PRINTED WIRING BOARD 1t90-1tE8 (51504) GROUP 010305 4W/2W HYBRID WITH 2.7KHZ FILTER	EA	1										

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PAOHO	5895-174-3549	NETWORK, HYBRID CIRCUIT 49108-C2 (51594)	EA	2	*	*	*	*	*	*		*	25	1
AHHHD		CIRCUIT CARD ASSEMBLY 4490-1082 (51534)	EA	1									25	2
PAHZZ	5910-974-6129	CAPACITOR, FIXED, ELECTROLYTIC K1JC20K (31433)	EA	12				*	*	*		*	25	3
PAHZZ	5961-951-5757	TRANSISTOR 2N2222 (81349)	EA	6				*	*	*		*	25	4
PAHZZ	5905-116-2394	RESISTOR, FIXED, COMPOSITION RCRO7GS11JS (81349)	EA	2				*	*	*		*	25	5
PAHZZ	5905-111-4727	RESISTOR, FIXED, COMPOSITION RCR07G272JS (813491	EA	1				*	*	*		*	25	6
PAHZZ		RESISTOR, FIXED, COMPOSITION RCRO7G153JS (81349)	EA	2				*	*	*		*	25	7
PAHZZ	5935-119-5812	RESISTOR, FIXED, COMPOSITION RCR37G121JS (81349)	EA	1				*	*	*		*	25	6
PAHZZ	5910-274-2218	CAPACITOR, FIXED, PLASTIC DI 611-27000PF2-5PCT33V (26625)	EA	1				*	*	*		*	25	9
PAHZZ	5950-236-7109	INDUCTOR C80A053 (51504)	EA	1				*	*	*		*	25	10
PAHZZ		CAPACITOR, FIXED, PLASTIC DI 611-3OCPF2-SPCT63V (26625)	EA	1				*	*	*		*	25	11
PAHZZ	5910-283-5664	CAPACITOR, FIXED, PLASTIC DI 611-820PF2-5PCT63V (26625)	EA	2				*	*	*		*	25	12
PAHZZ	5905-105-7765	RESISTOR, FIXED, COMPOSITION RCRJ7G224JS (81349)	EA	1				*	*	*		*	25	13
PAHZZ	5910-275-1708	CAPACITOR, FIXED, PLASTIC DI 611-39S0OPF2-SPCT33V (26625)	EA	1				*	*	*		*	25	14
PAHZZ	5950-236-7108	INDUCTOR 080A052 (51504)	EA	1				*	*	*		*	25	15
PAHZZ		CAPACITOR, FIXED, PLASTIC DI 611-47:PF2-SPCr63V (26625)	EA	1				*	*	*		*	25	16
PAHZZ 61t-2:O'PF2-SPCT33V	591c-275-57C9	CAPACITOR, FIXED, PLASTIC DI (P2625)	EA	1				*	*	*		*	25	17

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PAHZZ	5950-236-71G7	INDUCTOR 08SA051 (515041	EA	1				*	*	*		*	25	18
PAHZZ	5910-264-5595	CAPACITOR, FIXED, PLASTIC DI 611-2400PF2-5PCT33V (26625)	EA	1				*	*	*		*	25	19
PAHZZ	5910-283-5655	CAPACITOR, FIXED, PLASTIC DI 611-100PF2-5PCT63V (26625)	EA	1				*	*	*		*	25	20
PAHZZ	5910-283-5659	CAPACITOR, FIXED, PLASTIC DI 611-680PF2-5PCT63V (26625)	EA	1				*	*	*		*	25	21
PAHZZ	5910-274-2231	CAPACITOR, FIXED, PLASTIC DI 611-33CCCPF2-SPCT33V (26625)	EA	1				*	*	*		*	25	22
PAHZZ	5910-893-0201	CAPACITOR, FIXED, MICA DI CO10FO151KC3 (14655)	EA	2				*	*	*		*	25	23
PAHZZ	5905-114-5343	RESISTOR, FIXED, COMPOSITION RCR7TGI82JS (81349)	EA	1				*	*	*		*	25	24
PAHZZ	5935-136-3891	RESISTOR, FIXED, COMPOSITION RCRO77G62JS (81349)	EA	1				*	*	*		*	25	25
PAHZZ	5905-126-6683	RESISTOR, FIXED, COMPOSITION RCR07G332JS (81349)	EA	2				*	*	*		*	25	26
PAHZZ	5905-141-1183	RESISTOR, FIXED, COMPOSITION RCR07GI1SJS (81349)	EA	3				*	*	*		*	25	27
PAHZZ	5905-115-3560	RESISTOR, FIXED, COMPOSITION QRC07G183JS (81349q	EA	2				*	*	*		*	25	28
PAHZZ	5961-913-1747	TRANSISTOR 2N29C7 (81349)	EA	2				*	*	*		*	25	29
PAHZZ	5905-131-1255	RESISTOR, FIXED, COMPOSITION RCRC7G122JS (81349)	EA	2				*	*	*		*	25	30
PAHZZ	5905-110-7620	RESISTOR, FIXED, COMPOSITION RCR07G122JS (81349)	EA	6				*	*	*		*	25	31
PAHZZ	5905-106-3666	RESISTOR, FIXED, COMPOSITION RC7O7G103JS (81349)	EA	4				*	*	*		*	25	32
PAHZZ	5905-119-3504	RESISTOR, FIXED, COMPOSITION RCOQ7G273JS (81349)	EA	2				*	*	*		*	25	33
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE ,DIODE 1N4148 (81349)	EA	4				*	*	*		*	25	34

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PAHZZ	5910-274-2208	CAPACITOR, FIXED ELECTROLYTIC 841283-100-25-8112 (25088)		EA	2				*	*	*		*	25	35
PAHZZ	5910-828-5282	CAPACITOR, FIXED, ELECTROLYTIC C437ARG100 (KOOC4)		EA	2				*	*	*		*	25	36
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE, ELEC 133-018-43 (02660)		EA	1				*	*	*		*	25	37
PAHZZ	5905-115-3562	RESISTOR, FIXED, COMPOSITION RCR07G394JS (81349)		EA	2				*	*	*		*	25	38
PAHZZ	5905-115-8055	RESISTOR FIXED, COMPOSITION RCR07G393JS (81349)		EA	1				*	*	*		*	25	39
PAHZZ	5910-892-9994	CAPACITOR, FIXED, CERAMIC DI 831-00X5F0-477K (172982)		EA	2				*	*	*		*	25	40
PAHZZ	5910-274-2231	CAPACITOR, FIXED, PLASTIC DI 611-3300PF2-SPCT33V (26625)		EA	1				*	*	*		*	25	41
PAHZZ		RELAY, ARMATURE 502-1A24V (G21163		EA	1				*	*	*		*	25	42
PAHZZ	5950-930-4451	TRANSFORMER, POWER 124-5K (7C674)		EA	4				*	*	*		*	25	43
PAHZZ	5905-832-9466	RESISTOR, FIXED, FILM RNR65C604OFS (81349)		EA	4				*	*	*		*	25	44
PAHZZ	5905-i06-3668	RESISTOR, FIXED, COMPOSITION RCRO7G220JS (81349)		EA	I				*	*	*		*	25	45
PAHZZ	5905-119-3503	RESISTOR, FIXED, COMPOSITION RCR7OG271JS (81349)		EA	1				*	*	*		*	25	46
PAHZZ	5905-116-S556	RESISTOR, FIXED, COMPOSITION RCRO7G223JS (1349)		EA	1				*	*	*		*	25	47
PAHZZ	5905-141-2717	RESISTOR, FIXED, COMPOSITION RCR07G473JS (81349)		EA	1				*	*	*		*	25	48
PAHZZ	5910-264-5591	CAPACITOR, FIXED, PLASTIC DI 611-16000PF2-5PCT33V (26625)		EA	1				*	*	*		*	25	49
PAHZZ	5905-243-1806	RESISTOR, VARIABLE 3359W1-102 (8Z244)		EA	2				*	*	*		*	25	50
PAHZZ	5910-274-5516	CAPACITOR, FIXED, PLASTIC DI 611-11000PF2-5PCT33V (26625)		EA	1				*	*	*		*	25	51

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5935-081-4578	JACK, TIP SKT108LK 1982911	EA	3				*	*	*		*	25	52
PAHZZ	5935-617-6837	JACK. TIP SKT10WHT (98291)	EA	3				*	*	*		*	25	53
PAHZZ	5940-103-1883	TERMINAL, LUG 2000C1 (158491	EA	10				*	*	*		*	25	54
XBHZZ		BRACKET, ANGLE 1404-2420 (51504)	EA	1										
PAHZZ	5310-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	2				*	*	*		*		
PAHZZ	5305-054-5647	SCREW, MACHINE MS51957-13 (96906)	EA	2				*	*	*		*		
PAHZZ	5310-550-3715	WASHER, LOCK MS35333-70 (96906)	EA	2				*	*	*		*		
PAHZZ	5310-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	2				*	*	*		*		
PAHZZ	5305-177-5545	SCREW, MACHINE MS51957-120 (96906)	EA	2				*	*	*		*		
PAHZZ	5310-550-3715	WASHER, LOCK MS15333-70 (96906)	EA	2				*	*	*		*		
XBHZZ		PRINTED WIRING BOARD 1490-182 (51504)	EA	1										
XBHZZ		HANDLE 1414-2431 (51504)	EA	1										
PAHZZ	5305-058-2102	SCREW, TIPPING, THREAD FORMING MS24622-17 (96906)	EA	2				*	*	*		*		
XAHZZ		PANEL BLANK 1493-3082 (51504)	EA	1										
		GROUP 010336 SF DETECT(R												
PAOHD		DETECTOR, SINGLE FREQUENCY 41053-01 (50504)	EA	2	*	*	*	*	*	*		*	26	1
PAHZZ	5905-243-1807	RESISTOR, VARIABLE 3359W1-522 (80294)	EA	1				*	*	*		*	26	2

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PAHZZ	5905-141-0742	RESISTOR, FIXED, COMPOSITION RCR37G181JS (81349)	EA	1				*	*	*		*	26	3
PAHZZ	5905-141-3717	RESISTOR, FIXED, COMPOSITION RCRO7G473JS (81349)	EA	3				*	*	*		*	26	4
PAHZZ	5905-105-7764	RESISTOR, FIXED, COMPOSITION RCR07G222JS (81349)	EA	1				*	*	*		*	26	5
PAHZZ	5905-116-8555	RESISTOR, FIXED, COMPOSITION RCRO7G153JS (81349)	EA	3				*	*	*		*	26	6
PAHZZ	5905-106-1278	RESISTOR, FIXED, COMPOSITION RCR07G123JS (81349)	EA	5				*	*	*		*	26	7
PAHZZ	5905-119-3812	RESISTOR FIXED ,COMPOSITION RCRO7G121JS (81349)	EA	1				*	*	*		*	26	8
PAHZZ	5905-116-5554	RESISTOR, FIXED, COMPOSITION RCRO7G10SJS (81349)	EA	1				*	*	*		*	26	9
PAHZZ	5935-114-5399	RESISTOR, FIXED, COMPOSITION RCRO7G154JS (81349)	EA	1				*	*	*		*	26	10
PAHZZ	5905-116-8556	RESISTOR, FIXED, COMPOSITION RCR07G223JS (81349)	EA	2				*	*	*		*	26	11
PAHZZ	5905-111-4727	RESISTOR, FIXED, COMPOSITION RCRD7G272JS (81349)	EA	3				*	*	*		*	26	12
PAHZZ	5905-131-6045	RESISTOR FIXED, COMPOSITION RCR07G330JS (81349)	EA	2				*	*	*		*	26	13
PAHZZ	5905-104-8358	RESISTOR, FIXED, COMPOSITION RCROTGS822J (81349)	EA	2				*	*	*		*	26	14
PAHZZ	5905-244-5241	RESISTOR, VARIABLE 3359W1-504 ({8294)	EA	1				*	*	*		*	26	15
PAHZZ	5905-141-1183	RESISTOR, FIXED, COMPOSITION RCR07G101JS (81349)	EA	3				*	*	*		*	26	16
PAHZZ	5915-110-1620	RESISTOR, FIXED, COMPOSITION RCY07G102JS (81349)	EA	1				*	*	*		*	26	17
PAHZZ	5905-141-0743	RESISTOR, FIXED, COMPOSITION RCR07G392JS (61349)	EA	3				*	*	*		*	26	18
PAHZZ	5935-119-8768	RESISTOR. FIXED, COMPOSITION RCR27G821JS (81349)	EA	1				*	*	*		*	26	19

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PAHZZ	5905-119-3504	RESISTOR, FIXED, COMPOSITION RCR07G273JS (81349)	EA	1				*	*	*		*	26	20
PAHZZ	5905-106-3666	RESISTOR, FIXED, COMPOSITION RCR07G103JS (81349)	EA	9				*	*	*		*	26	21
PAHZZ	5905-126-6683	RESISTOR, FIXED, COMPOSITION RCRJ7G332JS (81349)	EA	5				*	*	*		*	26	22
PAHZZ	5905-114-5344	RESISTOR. FIXED, COMPOSITION RCR07G184JS (81349)	EA	1				*	*	*		*	26	23
PAHZZ	5905-110-3388	RESISTOR, FIXED, COMPOSITION RC207G104JS (81349)	EA	2				*	*	*		*	26	24
PAHZZ	5905-141-3744	RESISTOR, FIXED, COMPOSITION RCR07G562JS (81349)	EA	1				*	*	*		*	26	25
PAHZZ	5905-135-7765	RESISTOR, FIXED, COMPOSITION RCRO7G224JS (81349)	EA	1				*	*	*		*	26	26
PAHZZ	5905-120-9154	RESISTOR, FIXED, COMPOSITION RCRO7G471JS (81349)	EA	1				*	*	*		*	26	27
PAHZZ	5905-40C-4528	RESISTOR, FIXED, COMPOSITION RCRO7G124JS (81349)	EA	1				*	*	*		*	26	28
PAHZZ	5905-114-3710	RESISTOR, FIXED COMPOSITION RCR07G331JS (81349)	EA	1				*	*	*		*	26	29
PAHZZ	5910-267-7706	CAPACITOR, FIXED, PLASTIC DI MR0-1UF10PCT160VOCW (08257)	EA	5				*	*	*		*	27	1
PAHZZ	5961-951-5757	TRANSISTOR 2N2222 (81349)	EA	13				*	*	*		*	27	2
PAHZZ	5910-224-5115	CAPACITOR, FIXED, ELECTROLYTIC K188C20K (31433)	EA	3				*	*	*		*	27	3
PAHZZ	5950-236-7123	INDUCTOR 080AC64 (51504)	EA	1				*	*	*		*	27	4
PAHZZ	5910-405-0856	CAPACITOR, FIXED, PLASTIC DI 1MDF1-103 (72136)	EA	1				*	*	*		*	27	5
PAHZZ	5961-938-1135	SEMICONDUCTOR DEVICE, DIODE 1N4148 (81349)	EA	5				*	*	*		*	27	6
PAHZZ	5910-280-0986	CAPACITOR. FIXED, PLASTIC DI 611-1500PF2-5DCT33V (26625)	EA	1				*	*	*		*	27	7

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PAHZZ		CAPACITOR. FIXED, PLASTIC DI ME0-33UF10PCT200V (08257)	EA	1				*	*	*		*	27	6
PAHZZ	5910-274-2208	CAPACITOR, FIXED, ELECTROLYTIC B41283-100-25-8112 (25088)	EA	2				*	*	*		*	27	9
PAHZZ	5910-275-5706	CAPACITOR, FIXED, PLASTIC DI 611-1300PF2-5PCT33V (26625)	EA	2				*	*	*		*	27	10
PAHZZ	5910-283-5664	CAPACITOR, FIXED, PLASTIC DI 611-82CPF2-5PCT63V (26625)	EA	2				*	*	*		*	27	11
PAHZZ	5950-236-7096	INDUCTOR 080A027 (51504)	EA	1				*	*	*		*	27	12
PAHZZ	5910-139-2406	CAPACITOR, FIXED, PLASTIC DI 1MDF1-102 (72136)	EA	1				*	*	*		*	27	13
PAHZZ	5950-845-9157	TRANSFORMER, POWER SS0-3 (80223)	EA	1				*	*	*		*	27	14
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE, ELEC 133-C18-43 (02660)	EA	1				*	*	*		*	27	15
PAHZZ	5910-828-6282	CAPACITOR, FIXED, ELECTROLYTIC C437AKG100 (K0004)	EA	1				*	*	*		*	27	16
PAHZZ		SOCKET, RELAY R40S410P33 (51504)	EA	1				*	*	*		*	27	17
PAHZZ	5945-244-5215	RELAY, ARMATURE R40E1W2V800 (77342)	EA	1				*	*	*		*	27	18
PAHZZ	5961-059-4464	TRANSISTOR 2N2218 (81349)	EA	1				*	*	*		*	27	19
PAHZZ	5910-974-5129	CAPACITOR, FIXED ELECTROLYTIC K10C20K (31433)	EA	1				*	*	*		*	27	20
PAHZZ	5961-106-3690	TRANSISTOR 2N6027 (04713)	EA	1				*	*	*		*	27	21
PAHZZ	5961-913-1747	TRANSISTOR 2N2927 (81349)	EA	1				*	*	*		*	27	22
PAHZZ		CAPACITOR, FIXED, PLASTIC DI 1MDF2-473 (72136)	EA	1				*	*	*		*	27	23
PAHZZ	5910-275-5704	CAPACITOR, FIXED, PLASTIC DI 611-1000PF2-5PCT33V (26625)	EA	1				*	*	*		*	27	24

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PAHZZ	591C-275-5710	CAPACITOR, FIXED, PLASTIC DI 611-6800PF2-5PCT33V (26625)	EA	1				*	*	*		*	27	25
PAHZZ	5910-264-5592	CAPACITOR, FIXED, PLASTIC DI 611-1RCOPF2-5PCT33V (26625)	EA	1				*	*	*		*	27	26
PAHZZ	5910-275-6708	CAPACITOR, FIXED, PLASTIC DI 611-39000PF2-SPCT33V (26625)	EA	1				*	*	*		*	27	27
PAHZZ	5950-236-7115	INDUCTOR 080A063 (51504)	EA	1				*	*	*		*	27	28
PAHZZ	5950-236-7114	INDUCTOR 080AG62 (51504)	EA	1				*	*	*		*	27	29
PAHZZ	5910-283-5656	CAPACITOR, FIXED, PLASTIC DI 611-220PF2-SPCT63V (266253	EA	1				*	*	*		*	27	30
PAHZZ	5910-275-6717	CAPACITOR, FIXED, PLASTIC DI 611-7500PF2-SPCT33V (26625)	EA	1				*	*	*		*	27	31
PAHZZ	5940-103-1883	TERMINAL, LUG 2000C1 (15849)	EA	4				*	*	*		*	27	32
XAHZZ		BRACKET, ANGLE SS0CH (80223)	EA	1										
PAHZZ	5310-934-9748	NUT, PLAIN, HEXAGON M535649-244 (96906)	EA	6				*	*	*		*		
PAHZZ	5305-054-5647	SCREW, MACHINE MS51957-13 (96906)	EA	4				*	*	*		*		
PAHZZ	5310-550-3715	WASHER, LOCK MS35333-70 (969'6)	EA	6				*	*	*		*		
XAHZZ		BRACKET, ANGLE 1404-242 (51504)	EA	1										
PAHZZ	5305-177-5545	SCREW, MACHINE MS5i957-12C (96906)	EA	2				*	*	*		*		
XAHZZ		HANDLE 1414-2431 (51504)	EA	1										
PAHZZ	5355-C58-2102	SCREW, TAPPING, THREAD FORMING MS24622-17 (96906)	EA	2				*	*	*		*		
XAHZZ		PANEL, BLANK 1410-3632 (51504)	EA	1										

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XAHZZ		PRINTED WIPING BOARD 1410-1630 (51504)		EA	1										
		GROUP 010307 DC/D POWER SUPPLY													
PAOHO	5895-195-3582	POWER SUPPLY 41028-01 (51504)		EA	1				*	*	*		*	28	1
PAHZZ	6250-484-1124	LAMPHOLDER 301-058 (72765)		EA	1				*	*	*		*	28	2
PAOZZ		LIGHT, INDICATOR 11-507 (72765)		EA	1				*	*	*		*	28	3
PAHZZ	5930-007-3967	SWITCH. TOGGLE 7101P (09353)		EA	1				*	*	*		*	28	4
PAOZZ	5920-280-3178	FUSE, CARTRIDGE MOL2-1-2 (11400)		EA	1				*	*	*		*	28	5
PAHZZ	5920-709-1149	FUSEHOLDER 342012 (75915)		EA	1				*	*	*		*	28	6
P4HZZ	5935-081-4578	JACK, TIP SKT10SLK (98291)		EA	1				*	*	*		*	28	7
PAHZZ	5935-617-6837	JACK, TIP SKT10WHT (98291)		EA	1				*	*	*		*	28	8
XAHZZ		BRACKET, ANGLE 1424-2420 (51504)		EA	1										
PAHZZ	5305-054-5650	SCREW, MACHINE MS51957-26 (96961)		EA	2				*	*	*		*		
XAHZZ		CLIP. ELECTRICAL 116A (72765)		EA	1										
XAHZZ		HANDLE 1434-2431 (51504)		EA	1										
PAHZZ	5305-058-2102	SCREW. TAPPING, THREAD FORMING MS24622-17 (96906)		EA	2				*	*	*		*		
XAHZZ		PANEL, BLANK 1413-0280 (51504)		EA	1										
AHHHD		CIRCUIT CARD ASSEMBLY 4410-1200-01 (51504)		EA	1									29	1

SECTION XXVI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE TA918(V)1/FSC THRU TA-918(V)8/FSC

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5910-244-8766	CAPACITOR, FIXED, ELECTROLYTIC 61C75AA172 (99392)	EA	2				*	*	*		*	29	2
PAHZZ	5910-902-1186	CAPACITOR, FIXED, ELECTROLYTIC 3901180050HP4 (56289)	EA	1				*	*	*		*	29	3
PAHZZ	5940-103-1883	TERMINAL, LUG 200OC1 (15849)	EA	12				*	*	*		*	29	4
PAHZZ	5905-060-3731	RESISTOR, FIXED, WIRE WOUND RW69VIROTX (81349)	EA	1				*	*	*		*	29	5
PAHZZ.	5935-775-5711	CONNECTOR, RECEPTACLE, ELEC 133-018-43 (02660)	EA	1				*	*	*		*	29	6
PAHZZ	5910-139-24C6	CAPACITOR, FIXED, PLASTIC DI 1MDF1-102 (72136)	EA	1				*	*	*		*	29	7
PAHZZ	5961-913-1747	TRANSISTOR 2N2907 (81349)	EA	3				*	*	*		*	29	8
PAHZZ	5961-975-1795	SEMICONDUCTOR DEVICE, DIODE 1N5240 (04713)	EA	1				*	*	*		*	29	9
PAHZZ	5905-131-1255	RESISTOR, FIXED, COMPOSITION RCRO7G122JS (81349)	EA	2				*	*	*		*	29	10
PAHZZ	5905-111-4727	RESISTOR, FIXED, COMPOSITION RCRC7G272JS (81349)	EA	2				*	*	*		*	29	11
PAHZZ	5910-974-5129	CAPACITOR, FIXED, ELECTROLYTIC K10C20K (31433)	EA	1				*	*	*		*	29	12
PAHZZ	5905-243-1806	RESISTOR, VARIABLE 3359W1-132 (80294)	EA	1				*	*	*		*	29	13
PAHZZ	5905-114-0711	RESISTOR, FIXED, COMPOSITION RCRO7G47ZJS (81349)	EA	2				*	*	*		*	29	14
PAHZZ	5905-106-3666	RESISTOR, FIXED, COMPOSITION RCRC7G103JS (81349)	EA	1				*	*	*		*	29	15
PAHZZ	5905-110-3196	RESISTOR, FIXED. COMPOSITION RCR20G102JS (51349)	EA	1				*	*	*		*	29	16
PAHZZ	5905-105-7764	RESISTOR, FIXED. COMPOSITION RCRC7G222Js (81349)	EA	1				*	*	*		*	29	17
PAHZZ	5961-979-0108	TRANSISTOR 2N4037 (80131)	EA	1				*	*	*		*	29	18

SECTION XXVI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE TA918(V)1/FSC THRU TA-918(V)8/FSC

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5961-871-3538	HEAT SINK NF207 (05820)	EA	1				*	*	*		*	29	19
PAHZZ	5310-934-3748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	2				*	*	*		*		
PAHZZ	5305-177-5545	SCREW, MACHINE MS51957-120 (96906)	EA	2				*	*	*		*		
PAHZZ	5310-55C-3715	WASHER, LOCK MS35333-70 (96906)	EA	2				*	*	*		*		
XBHZZ		PRINTED WIRING BOARD 1410-1200 (51554)	EA	1										

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FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5120-471-1819	16	15
5325-829-3887	15	5
5895-167-1183	16	1
5895-167-1270	11	1
5895-173-7023	21	1
5895-173-7035	24	1
5895-173-7051	19	1
5895-171-3549	25	1
5895-195-0582	28	1
0905-060-3731	29	5
5905-070-3369	14	5
9905-104-9756	16	11
5905-104-5756	17	10
5905-104-5346	16	8
5905-104-8358	22	18
5905-104-8358	26	14
5905-104-8364	22	9
5905-104-8368	21	12
5905-104-8368	22	22
5905-105-7764	19	12
5905-105-7764	21	18
5905-105-7764	22	8
9905-105-7764	26	5
5905-105-7764	29	17
5905-105-7765	22	16
5905-105-7765	25	13
5935-105-7765	25	26
5935-106-1278	19	19
5905-106-1278	22	12
5905-106-1278	26	7
5905-106-1282	16	5
5905-106-1282	17	4
5905-106-1356	21	22
5905-106-3666	19	6
5905-106-3666	21	5
5905-106-3666	22	2
5905-136-3666	24	14
5915-106-3666	25	32
5905-106-3666	26	21
5905-106-3666	29	15
5905-106-3668	24	8
5905-106-3668	25	45
5905-106-3348	17	12
5905-110-0196	16	14
5905-110-0196	29	16
5905-110-0388	19	3
5905-110-0388	22	7
5955-110-0388	26	24
5935-110-7620	22	29
5905-110-7620	24	2
5905-110-7620	25	31
5935-110-7620	26	17
9905-110-7622	21	17
5905-110-7622	22	6
5905-111-1678	22	17
5905-111-4727	25	6
5905-111-4727	26	12
5905-111-4727	29	11
5905-111-4858	15	3
5905-111-4927	22	21
5905-114-0710	22	35
5905-114-0710	26	29
5905-114-0711	19	4
5995-114-0711	21	19
5905-114-0711	22	26
5905-114-0711	29	14
5905-114-0717	22	5
5905-114-5339	22	13
5905-114-5343	19	15
5905-114-5343	25	24
5905-114-5344	21	27
5905-114-5344	22	31
5905-114-5344	26	23
5905-114-5399	26	10
5905-115-3560	24	16
5905-115-3560	25	28
5905-115-3562	24	12
5905-115-3562	25	38
5905-115-8055	25	39
5905-116-2394	24	19
5915-116-2394	25	5
5905-116-8552	19	11
5915-116-8554	22	11
5905-116-8554	26	9
5905-116-8555	21	16
5905-116-8555	22	3
5905-116-0555	24	25
5905-116-8555	26	6
5905-116-8556	21	11
5905-116-8556	22	14
5905-116-8556	24	7
5905-116-8556	25	47
5905-116-8556	26	11
5905-116-8560	17	3
5905-115-4559	21	9
5905-119-3503	19	11
5505-119-3503	22	23
5935-119-3503	24	22
5935-119-3503	25	46
5905-119-3504	21	8

SECTION XXVIII **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5905-119-3504	22	27
5905-119-3504	24	11
5905-119-3504	25	33
5905-119-3504	26	20
5905-119-876s	22	24
5905-119-8768	26	19
5905-119-8769	19	13
5905-119-8812	19	17
5905-119-8812	22	10
5905-119-8812	25	8
5905-119-8812	26	a
5905-120-9154	21	13
5905-120-9154	22	33
5905-120-1154	26	27
5905-121-9932	19	9
5905-126-6683	19	5
5905-126-b683	21	3
5905-126-6683	22	20
5905-126-6683	24	17
5905-126-6683	25	26
5905-126-6683	26	22
5905-131-1255	19	16
5905-131-1255	24	15
5905-131-1255	25	30
5935-131-1255	29	13
5905-135-6045	22	15
5905-135-6045	26	13
5905-136-3891	25	25
5905-141-0591	17	20
5905-141-0596	16	6
5905-141-0598	22	25
5905-141-0717	19	14
5905-141-0717	21	4
5905-141-0717	24	13
5905-141-3717	25	48
5905-141-0717	26	4
5905-141-0742	22	4
5905-141-0742	26	3
5935-141-3743	22	28
5905-141-7143	26	18
5905-141-0744	22	32
5905-141-0744	26	25
5905-141-1168	16	2
5905-141-1168	17	2
5905-141-1183	19	8
5905-141-1183	22	19
5905-141-1183	24	18
5905-141-1183	25	27
5935-141-1183	26	16
5905-238-5828	22	37
5905-243-1806	24	28
5905-243-1806	25	50
5905-243-1806	29	13
5905-243-1807	22	36
5905-243-1807	26	2
5905-243-2517	19	7
5905-244-8241	21	26
5905-244-8241	22	30
5905-244-8241	26	t5
5905-274-2238	16	20
5905-400-4528	22	34
5905-400-4528	26	28
5905-552-5478	15	6
5905-772-7027	19	18
5905-818-4866	18	2
5905-832-9466	24	27
5905-832-9466	25	44
5905-958-7253	14	9
5905-984-3312	14	13
5910-068-3887	23	10
5910-139-2406	20	14
5910-139-2406	21	23
5910-139-2406	23	13
5910-139-2406	27	13
5910-139-2406	29	7
5910-222-7765	20	2
5910-224-8115	20	10
5910-224-8115	23	12
5910-224-8115	27	3
5910-238-5508	20	12
5910-244-8766	29	2
5910-261-6533	16	19
5910-261-6533	1t	5
5910-264-5591	20	22
5910-264-5591	25	49
5910-264-5592	27	26
5910-264-5593	20	23
5910-264-5593	23	29
5910-264-5594	20	28
5910-264-5595	20	27
5910-264-5595	25	19
5910-267-2704	20	1
5910-267-2706	20	4
5910-267-2706	27	1
5910-274-2208	23	8
5910-274-2208	24	10
5910-274-2208	25	35
5910-274-2208	27	9
5910-274-2218	20	26
5910-274-2218	25	9

SECTION XXVIII **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5910-274-2230	20	25
5910-274-2231	25	22
5910-274-2231	25	41
5910-275-5704	23	26
5910-275-6704	27	24
5910-275-6705	23	6
5910-275-6706	27	10
5910-275-6708	23	31
5910-275-7008	25	14
5910-275-1708	27	27
5910-275-6709	25	17
5910-275-6710	23	27
5910-275-6710	27	25
5910-275-6717	23	28
5910-275-6717	27	31
5910-279-6516	25	51
5910-280-6986	20	21
5910-280-3986	23	4
5910-280-0986	27	7
5910-283-5655	25	20
5910-283-5656	23	32
A910-283-5656	27	30
5910-283-5659	25	21
5910-283-5664	23	5
5910-283-5664	25	12
5910-283-5664	27	11
5910-405-0856	23	3
5910-405-0856	27	5
5910-726-4093	20	S
5910-828-6282	23	24
5910-828-6282	23	17
59L0-o28-6282	24	21
5910-828-6282	25	36
5910-828-6282	27	16
5910-892-9994	25	40
5910-893-0201	24	20
5910-693-0201	25	23
5910-902-1186	29	3
5910-974-6129	21	14
5910-974-6129	23	21
5910-974-6129	24	s
5910-974-6129	25	3
5910-974-6129	27	20
5910-974-6129	29	12
5920-280-3178	28	5
5920-280-5066	15	8
5920-462-7136	15	7
5920-709-1149	25	6
5920-857-5416	14	14
5920-857-8417	14	7
5920-657-8933	14	8
5920-968-3238	14	6
5930-007-3967	28	4
5930-686-9533	23	34
5935-081-4578	24	29
5935-081-4578	25	52
5935-081-4578	28	7
5935-238-5507	16	13
5935-264-5611	15	9
5935-617-6837	24	30
5935-617-6837	25	53
5935-617-6837	28	8
5935-775-5711	20	16
5935-775-5711	21	21
5935-775-5711	23	18
5935-775-5711	24	23
5935-775-5711	25	37
5935-775-5711	27	IS
5935-775-5711	29	6
5935-837-5718	18	5
5940-103-1883	21	24
5940-103-1883	23	35
5940-103-1883	24	31
5940-103-1883	25	54
5940-103-1883	27	32
5940-103-1883	29	4
5940-472-4604	15	2
5940-926-9807	15	4
5945-238-5254	16	18
5945-244-8215	21	20
5945-244-8215	23	20
5945-244-8215	27	18
5945-465-9919	15	11
5950-236-7061	20	8
5950-236-7363	20	13
5950-236-7396	23	9
5950-236-7396	27	12
5950-236-7097	20	29
5950-236-7098	20	30
5950-236-7399	20	31
5950-236-7101	20	20
5950-236-7102	20	19
5950-236-7103	20	18
5950-236-7106	20	17
5950-236-7107	25	18
5950-236-7108	25	15
5950-236-7139	25	10
5950-236-7110	23	16
5950-236-7114	23	33
5950-236-7114	27	29

SECTION XXVIII **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5950-236-7115	23	30
5950-236-7115	27	28
5950-236-7120	23	25
5950-236-7120	27	4
5950-845-9157	20	15
5950-845-9157	23	15
5950-845-9157	27	14
5950-930-4451	24	3
5950-930-4451	25	43
5961-059-4464	23	14
5961-059-4464	27	19
5961-106-3698	23	22
5961-106-3698	27	21
5961-107-2571	17	16
5961-146-5295	17	14
5961-148-4501	16	3
5961-199-6068	1	4
5961-226-8584	16	4
5961-226-S584	17	13
5961-250-4028	17	17
5961-250-4722	16	16
5961-250-4722	17	11
5961-577-6214	14	2
5961-843-2498	17	8
5961-871-9536	29	19
5961-913-1747	20	6
5961-913-1747	23	23
5961-913-1747	24	26
5961-913-1747	25	29
5961-913-1747	27	22
5961-913-1747	29	8
5961-938-1135	17	6
5961-938-1135	20	7
5961-938-1135	21	7
5961-938-1135	23	1
5961-938-1135	24	6
5961-938-1135	25	34
5961-938-1135	27	6
5961-951-5757	20	3
5961-951-5757	21	6
5961-951-8757	23	2
5961-951-8757	24	9
5961-951-8757	25	4
5951-951-8757	27	2
5961-975-1795	29	9
5961-979-0108	29	18
5962-169-4728	17	7
5962-169-4735	16	9
5962-169-4730	17	21
5942-243-2555	17	9
6240-683-0560	14	10
6253-484-1124	28	2

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MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
A2169	27264	16	13
B41283-100-25-8112	25088	23	8
B41283-100-25-8112	25088	24	10
B41283-100-25-8112	25088	25	35
B41283-100-25-8112	25088	27	9
B41283-100-50-9021	25088	21	25
CO10F010IK03	14655	23	IC
CO10F0151K03	14655	24	20
COD1F01SIK03	14655	25	23
CO4001AE	86684	16	9
CD400IAE	86684	17	21
CD4013AE	86684	17	7
CD4002AE	86684	17	9
CM06FO182J03	81349	20	5
CPS-120-OHNlOPCT	91637	16	20
C437ARGIOE	K0004	20	24
C437ARG100	K0004	23	17
C437ARG100	K0004	24	21
C437ARG100	K0004	25	36
C437ARG100	K0004	27	16
GHT1-1-3	71400	14	14
GMT2	71400	4	8
GMT5	71400	14	7
G402	92219	15	5
HLT	71400	14	6
INT9740	15960	17	1
K1RSC20K	31433	20	1I
KIROC20K	31433	21	10
KIR8C20K	31433	23	12
K1R8CZ0K	31433	27	3
K10C20K	31433	21	14
K10C20K	31433	23	21
K10C20K	31433	24	5
K10C2OK	31433	25	3
K10C20K	31433	27	20
K10C20K	31433	29	12
LOC9740	15960	15	1
LO401-4	15960	16	1
MOL2-1-2	71400	28	5
MEO-22UFiPCT23CV	08257	20	1
MEO-33UF10PCTZ02V	08257	23	7
MEO-33UF10PCT200V	08257	27	6
NFSCD1243F	19731	19	18
MJE1102	04713	17	17
MRO-1UFIOPCT16QVDCW	08257	20	4
MRO-IUFIOPCT160VOCW	08257	23	11
MRO-1UFlOPCT16CVDCW	18257	27	1
MRO-1UF3PCT16CVDCW	08257	20	9
NF207	05820	29	19
PJF10	70674	15	**2**

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MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
PT001	01121	16	21
RCR07G101JS	81349	19	8
RCR07G101JS	81349	22	19
RCR07G101JS	81349	24	18
RCR07G101JS	81349	25	27
RCRC7G101JS	81349	26	16
RCR07G102JS	81349	22	29
RCR07G102JS	81349	24	2
RCR07G102JS	81349	25	31
RCR07G102JS	81349	26	17
RCR07G103JS	81349	19	6
RCR07G103JS	81349	21	5
RCR07G013JS	81349	22	2
RCR07G1O3JS	81349	24	14
RCR07G1O3JS	81349	25	32
RCR07G1O3JS	81349	26	21
RCR07G103JS	81349	29	15
RCR07G1O4JS	81349	19	3
RCR07G1C4JS	81349	22	7
RCR07G104JS	81349	26	24
RCR07G10SJS	81349	22	11
RCR07G105JS	81349	26	9
RCR07G121JS	81349	19	17
RCR07G121JS	61349	22	10
RCROTG12IJS	81349	25	8
RCR07G121JS	81349	26	8
RCR07G122JS	81349	19	16
RCR07G122JS	81349	24	t5
RCR07S122JS	81349	25	30
RCR0TG122JS	81349	29	1t
RCR07G123JS	81349	19	19
RCR07G123JS	81349	22	12
RCR07G123JS	81349	26	7
RCR07G124JS	81349	22	34
RCR07G124JS	81349	26	28
RCR07G125JS	81349	22	9
RCR07G152JS	81349	21	22
RCR07G153JS	81349	21	16
RCR07G153JS	81349	22	3
RCR17G153JS	81349	24	25
RCR07C153JS	81349	25	7
RCR07G153JS	81349	26	6
RCR07G154JS	81349	22	13
RCR07G154JS	81349	26	10
RCRC7TGI1JS	81349	22	4
RCR0T7G11JS	81349	26	3
RCR07118ZJS	81349	19	15
RCR07G182JS	81349	25	24
RCR07G183JS	81349	24	16
RCR07G183JS	81349	25	28

SECTION XXVIII **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
RCR07G164JS	81349	21	27
RCR07G164JS	81349	22	31
RCR07G164JS	81349	26	23
RCR07G220JS	81349	24	8
RCR07G220JS	81349	25	45
RCR07G222JS	81349	19	12
RCR07GZ22JS	81349	21	18
RCR07G222JS	81349	22	8
RCR07G222JS	81349	26	5
RCP07G222JS	81349	29	17
RCR07G223JS	81349	19	10
RCR07G223JS	81349	21	11
RCR07G223JS	81349	22	14
RCR0TG223JS	81349	24	7
RCR07G223JS	81349	25	47
RCR07G223JS	81349	26	11
RCR07G224JS	81349	22	16
RCR07G224JS	81349	25	13
RCR07G224JS	81349	26	26
RCR07G271JS	81349	19	11
RCR07G271JS	81349	22	23
RCR07G271JS	81349	24	22
RCR07G271JS	81349	25	46
RCP07G272JS	81349	22	21
RCR07G272JS	81349	25	6
RCR07G272JS	81349	26	12
RCR07G272JS	81349	29	11
RCR0TG273JS	81349	21	8
RCRC7G273JS	81349	22	27
RCR07G273JS	81349	24	11
RCR07G273JS	81349	25	33
RCR07G273JS	81349	26	20
RCR07G330JS	81349	22	15
RCR07G330JS	81349	26	13
RCR07G331JS	81349	22	35
RCR07G331JS	81349	26	29
RCR07G332JS	81349	19	5
RCR07G332JS	81349	21	3
RCR07G332JS	81349	22	20
RCR07G332JS	81349	24	17
RCP07G332JS	81349	25	26
RCR07G332JS	81349	26	22
RCR07G333JS	81349	21	9
RCR07GS91JS	81349	19	9
RCR07G392JS	81349	22	28
RCP07G392JS	81349	26	18
RCR07G393JS	81349	25	39
RCR07G394JS	81349	24	12
RCR07G394JS	81349	25	38
RCR07G470JS	81349	21	12

SECTION XXVIII **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
RCR07G470JS	81349	22	22
RCRC7G471JS	81349	21	13
RCRC7G471JS	81349	22	33
RCR07G471JS	81349	26	27
RCRS7G472JS	81349	19	4
RCR07G472JS	81349	21	19
RGR07G472JS	81349	22	26
RCR07G472JS	81349	29	14
RCR07G473JS	81349	19	14
RCR77G473JS	81349	21	4
RCR07G473JS	81349	22	5
RCR07G473JS	81349	24	13
RCR17G473JS	81349	25	48
RCR07G473JS	81349	26	4
RCR07G511JS	81349	24	19
RCR07GS11JS	81349	25	5
RCR07G562JS	81349	22	32
RCR07G562JS	81349	26	25
RCR07GS64JS	81349	22	17
RCR07G621JS	81349	25	25
RCR07G682JS	81349	21	17
RCR07G682JS	81349	22	6
RCR077GB1JS	81349	19	13
RCR07G8Z1JS	81349	22	24
RCRR7G821JS	81349	26	19
RCR07G822JS	61349	22	18
RCR07G822JS	81349	26	14
RCR20G10ZJS	81349	16	14
RCR20G102JS	81349	29	16
RCR20G103JS	81349	17	20
RCR20G10SJS	81349	16	11
RCR20G10SJS	81349	117	1
RCR20G1S4JS	81349	17	12
RCR20G204JS	81349	17	3
RCR20G222JS	81349	16	2
RCR20G222JS	81349	17	2
RCR20G223JS	81349	16	5
RCR20G223JS	81349	17	4
RCR20G334JS	81349	16	8
RCR20G471JS	81349	15	3
RCR20G473JS	81349	16	6
RCR20GS61JS	81349	22	25
RHS0-150H	91637	18	2
RNR65C5ZR3FS	81349	19	7
RNR65C6C4FS	81349	24	27
RNR65C6041FS	81349	25	44
RV4NAYSD1C2A	81349	15	6
RW69V1R01X	81349	29	5
R2563-1	15636	16	18
R40E1W2V800	77342	21	20

SECTION XXVIII FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
R4OEIW2V8CO	77342	23	20
R4CEIW2V800	77342	27	18
R4CtS4OP33	51504	21	2CA
R40S410P33	51504	23	19
R40S4tOP33	51504	27	17
SKT10tLK	98291	24	29
SKT1OBLK	98291	25	52
SKT1OBLK	98291	28	7
SKTIONHT	98291	24	30
SKTlOWHt	98291	25	53
SKTIONHT	98291	28	8
SSO-3	80223	20	15
SSO-3	80223	23	15
SSO-3	8q223	27	14
TA-918(V)1/FSC	13	1	
TOC105NO1SAS	37942	16	7
TOC106MG1CBS	37942	17	18
TDC476Mo1OCS	37942	16	it
T154-ZC6V	21870	14	4
VTL9B7	18178	16	17
OSL3	50347	16	16
0SL3	50347	17	ii
00-6007-044-452-012	91662	15	9
00sA120	51504	20	8
08CA021	51504	20	13
08EA027	51504	23	9
080A027	51504	27	12
98CA040	51504	20	29
08CA041	51504	20	30
080A042	51504	20	31
08CA043	515C4	70	2C
08CAD44	515J4	20	19
8OCA045	51534	20	18
08CA046	51504	20	17
08CA051	515.4	25	18
00A4052	515’4	25	15
08CA053	515J4	25	10
CACA061	515’4	73	16
08CA062	51534	23	33
08CA062	51504	27	29
080A063	51504	23	3C
08CA063	515;4	27	28
808A064	515;4	23	25
08A064	51504	27	4
1-5KE51A	24444	17	q19
1MDF1-102	72136	2C	14
1MDF1-102	72136	21	23
1MOF1-102	72136	23	13
1MDF1-102	72136	27	13
1MDF1-102	72136	29	7

SECTION XXVIII FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
1MOF1-103	72136	23	3
1DOF1-103	72136	27	5
1MOF1-153	72136	20	12
1MDF1-472	72136	20	2
1MDF2-473	72136	20	11
1MOF2-473	72136	23	24
1MOF2-473	72136	27	23
1N4003	04713	t6	3
1N4003	04713	17	8
1N4148	81349	17	6
1N4148	81349	20	7
IN4148	81349	21	7
1N4148	81349	23	1
1N4148	81349	24	6
1N4148	81349	25	34
1N4148	81349	27	6
1N5240	04713	29	9
1N538	81349	14	2
11-507	72765	28	3
124-5K	70674	24	3
124-5	70674	25	43
12734-1	21870	14	1
133-018-43	02660	20	16
133-018-43	02660	21	21
133-018-43	02660	23	18
133-018-43	C2660	24	23
133-016-43	02660	25	37
133-018-43	02660	27	15
133-018-43	02660	29	6
14-1018	15960	16	12
143-018-12	13511	18	5
185-1871	72619	14	12
2N2218	81349	23	14
2N2213	81349	27	19
2N2222	81349	16	4
2N2222	81349	17	13
2N2222	81349	20	3
2N2222	81349	21	6
2N2222	81349	23	2
2N2222	81349	24	9
2N2222	81349	25	4
2N2222	81349	27	2
2N29CI	81349	2C	6
2N2907	81349	23	23
2N2937	81349	24	26
2N2907	81349	25	29
2N2907	81349	27	22
2N2907	81349	29	8
2N3055	81349	18	4
2N4637	80131	29	18

SECTION XXVIII FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
2N4922	04713	17	16
2N5308	09214	17	14
2N6027	04713	21	15
2N6027	04713	23	22
2"6027	04713	27	21
2000Ct	15849	21	24
20COC1	15849	23	35
20c0CI	15849	24	31
200Ct	15849	25	54
2000Ct	15849	27	32
20COCI	15849	29	4
247E3015	56289	14	13
247E4015	56289	14	5
247E5005	56289	14	9
30C-058	72765	28	2
30s55-1	02288	14	3
313005	75915	15	8
3359#1-102	80294	24	28
3359Qt-102	80294	25	50
33S59t-1L2	80294	29	13
3359s1-103	80294	22	37
335sst-z02	80294	22	36
33s5sg-Se2	8029’	26	2
335s9t-504	80294	21	26
33S91-50s4	80294	22	30
335g1-s$54	80294	26	I5
32012t	759s	28	6
3420tS	75915	15	7
345	71744	14	1t
3S3-11-S3-OtI	71785	15	4
39-1	to103	23	34
3SD11iOSCNHP4	56269	29	3
40451-O4	s5150	21	1
404s2-01	5150s	19	1
4CE10-96	s1504	Lt	1
4eC28-01	s15s4	28	1
41063-t1	51534	26	1
41C63-02	51st4	22	1
411E334K	S0644	16	19
411E334K	05844	17	5
44c4-ts12	51504	21	2
44C4-tS74	515wk I	q	2
44l-1t20O-01	51ts4	29	1
4490-1382	51504	25	2
49ces8-t	SiSC4	24	t
4900s-02	5152*	25	1
50CS-2qN	t31:3	16	15
532-A424V	02116	24	4
52-1t24V	2tii6	25	42
SC6A47tPFIoOCT	26625	24	24

SECTION XXVIII FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
513-0101-684	72619	14	11
52A	71785	18	3
60-6002-31-24	91662	15	10
6I075AA172	99392	29	2
611-100PF2-SPCT63V	26625	25	20
611-100OOPF2-SPCT33V	26625	23	26
611-1000PF2-5PCT33V	26625	27	24
611-11OCOPFZ-SPCT33V	26625	25	51
611-13000PF2-SPCT33V	26625	23	6
611-13000PF2-5PCT33V	26625	27	10
611-13008PFZ-5PCT63V	26625	23	5
611-1500PF2-SPCT33V	26625	23	4
611-150i PF2-SPCT33V	26625	27	7
611-15080PF2-5PCT33V	26625	20	21
611-I6000PF2-SPCT33V	26625	20	22
611-16000PFZ-5PCT33V	26625	25	49
611-1800PF2-SPCT33V	26625	23	29
611-180I PF2-5PCT33V	26625	27	26
611-18000PF2-5PCT33V	26625	20	23
611-220PF2-5PCT63V	26625	23	32
611-220PF2-SPCT63V	26625	27	30
611-220O0PF2-5PCT33V	26625	20	28
611-240OPF2-SPCT33V	26625	25	19
611-Z400OPF2-SPCT33V	26625	20	27
611-27000PF2-SPCT33V	26625	20	26
611-2700OPF2-SPCT33V	26625	25	9
611-300PF2-SPCT63V	26625	25	11
611-30000PF2-5PCT33V	26625	20	25
611-3300PF2-SPCT33V	26625	25	41
611-33000PF2-5PCT33V	26625	25	22
611-39000PF2-SPCT33V	26625	23	31
611-393JOPF2-SPCT33V	26625	25	14
611-39300PF2-5PCT33V	26625	27	27
611-42000PF2-SPCT33V	26625	25	17
611-470PF2-5PCT63V	26625	25	16
611-680PF2-SPCr63V	26625	25	21
611-6800PF2-5PCT33V	26625	23	27
611-6800PF2-5PCT33V	26625	27	25
611-7500PF2-SPCT33V	26625	23	28
611-750CPF2-5PCT33V	26625	27	31
611-823PF2-SPCT63V	26625	25	12
611-80OPF2-SPCT63V	26625	27	11
621	05820	17	15
67DPK4C501	29238	16	22
7101P	09353	28	4
831-09X5F0-471K	72982	25	40

SECTION XXIX ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 ORDERWIRE INTERCOMM TERM UNIT TA-930(V)1/FSC AND TA-930(V)2/FSC									
		GROUP 0101 PANEL, FUSE SB-3751/FSC									
PDOHD		FUSE PANEL SB-375/FSC 12734-1 (21870)		EA		*	*	*	*	14 FOR BREAKDOWN SEE SECT. XXIV, GROUP 0101	1
		GROUP 010201 LINE CARD									
PAOHH	5895-167-1183	CIRCUIT CARD ASSEMBLY LC401-4 (15960)		EA		*	*	*	*	16	1
		GROUP 010202 INTERRUPTER ASSEMBLY									
PAOHH	5895-167-1270	CIRCUIT CARD ASSEMBLY INT9740 (15960)		EA		*	*	*	*	17	1
		GROUP 0103 COMMON EQUIPMENT SHELF									
PAOHD		EQUIPMENT SHELF 41010-96 (51504)		EA		*	*	*	*	18	1
		GROUP 010301 DTMF TONE RECEIVER									
PAOHD	5895-173-7051	RECEIVER, TONE 40452-01 (51504)		EA		*	*	*	*	19	1
		GROUP 010302 DIGIT DECODER									
PAOHH	5895-173-7023	DECODER DIGIT 40451-04 (51504)		EA		*	*	*	*	21	1

SECTION XXIX ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 010303 SF DETECTOR AND OSCILLATOR								
PAOHD		DETECTOR, SINGLE FREQUENCY OSC 41063-02 (51504)	EA		*	*	*	*	22	1
		GROUP 010304 4W/2W HYBRID MODULE								
PAOHD	5895-173-7035	NETWORK, HYBRID CIRCUIT 49008-01 (51504)	EA		*	*	*	*	24	1
		GROUP 010305 4W/2W HYBRID WITH 2.7 KHZ FILTER								
PAOHD	5895-174-3549	NETWORK, HYBRID CIRCUIT 49008-02 (51504)	EA		*	*	*	*	25	1
		GROUP 010306 SF DETECTOR								
PAOBD		DETECTOR, SINGLE FREQUENCY 41063-01 (51504)	EA		*	*	*	*	26	1
		GROUP 010307 4W/4W BRIDGE								
PAOBD	5895-186-1263	BRIDGE 40455-03 (51504)	EA		*	*	*	*	30	1
		GROUP 010308 DUAL AMPLIFIER								
PAOHD	5895-173-7033	AMPLIFIER, RADIO FREQUENCY 40472-03 (51504)	EA		*	*	*	*	31	1
		GROUP 010309 DC/DC POWER SUPPLY								
PAOHD	5895-195-0582	POWER SUPPLY 41028-01 (51504)	EA		*	*	*	*	28 FOR BREAKDOWN SEE SECT. XXIV, GROUP 010307	1

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(6) DS (b) 21-50	(6) DS (c) 51-100	(7) GS (a) 1-20	(7) GS (b) 21-50	(7) GS (c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(10) ILLUSTRATIONS (b) REF./ITEM NUMBER
		GROUP 01 ORDERWIRE INTERCOMM TERM UNIT													
		ORDERWIRE INTERCOMM TERM UNIT TA-930(V)1/FCS AND TA-930(V)2/FS													
		GROUP 0101 PANEL, FUSE SB-3751/FSC													
PDOHD SEE		FUSE PANEL SB-3751/FSC 12734-1 (21870)		EA		*	*	*	*	*	*		*	14 FOR BREAKDOWN SECT. XXVI, GROUP 0101	1
		GROUP 0102 PC CARD RACK ASSEMBLY													
AOOFD SEE		CABINET, ELECTRICAL EQUIPMENT LCC9740 (15960)		EA										15 FOR BREAKDOWN SECT. XXVI, GROUP 0102	1
		GROUP 010201 LINE CARD													
PAOHH SEE	5895-167-1183	CIRCUIT CARD ASSEMBLY LC401-4 (15960)		EA		*	*	*	*	*	*		*	16 FOR BREAKDOWN SECT. XXVI, GROUP 010201	1
		GROUP 010202 INTERRUPTER ASSEMBLY													
PAOHH SEE	5895-167-1270	CIRCUIT CARD ASSEMBLY INT9740 (15960)		EA		*	*	*	*	*	*		*	17 FOR BREAKDOWN SECT. XXVI, GROUP 010202	1
		GROUP 0103 COMMON EQUIPMENT SHELF													
PDOHD SEE		EQUIPMENT SHELF 41010-96 (51504)		EA		*	*	*	*	*	*		*	18 FOR BREAKDOWN SECT. XXVI, GROUP 0103	1
		GROUP 010301 DTMF TONE RECEIVER													
PAOHD SEE	5895-173-7051	RECEIVER , TONE 40452-01 (51504)		EA		*	*	*	*	*	*		*	19 FOR BREAKDOWN SECT. XXVI, GROUP 010301	1

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 010302 DIGIT DECODER												
PAOHH SEE	5895-173-7023	DECODER, DIGIT 40451-04 (51504)	EA		*	*	*	*	*	*		*	21 FOR BREAKDOWN SECT. XXVI, GROUP 010302	1
		GROUP 010303 SP DETECTOR AND OSCILLATOR												
PAOHD SEE		DETECTOR, SINGLE FREQUENCY OSC 41063-02 (51504)	EA		*	*	*	*	*	*		*	22 FOR BREAKDOWN SECT. XXVI, GROUP 010303	1
		GROUP 010304 4W/2W HYBRID MODULE												
PAOHD SEE	5895-173-7035	NETWORK, HYBRID CIRCUIT 49008-01 (51504)	EA		*	*	*	*	*	*		*	24 FOR BREAKDOWN SECT. XXVI, GROUP 010304	1
		GROUP 010305 4W/2 HYBRID WITH 2.7 KHZ FILTER												
PAOHD SEE	5895-174-3549	NETWORK, HYBRID CIRCUIT 49008-02 (51504)	EA		*	* *	*	*	*	*		*	25 FOR BREAKDOWN SECT. XXVI, GROUP 010305	1
		GROUP 010306 SF DETECTOR												
PAOHD SEE		DETECTOR, SINGLE FREQUENCY 41063-01 (51504)	EA		*	*	*	*	*	*		*	26 FOR BREAKDOWN SECT. XXVI, GROUP 010306	1

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 010307 4W/4W BRIDGE													
PAOHO	5895-186-1263	BRIDGE 40455-03 (51504k		EA	1	*	*	*	*	*	*		*	30	1
AHHHO		CIRCUIT CARO ASSEMBLY 4404-1555 (51534)		EA	1								*	30	2
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE, ELEC 133-Ct1-43 (02660)		EA	1				*	*	*		*	30	3
PAHZZ	5905-243-2518	RESISTOR, FIXED, FILM RNR65CAO60FS (81349)		EA	24				*	*	*		*	30	4
PAHZZ	5905-243-2454	RESISTOR, FIXED, FILM RNR65C127IFS (81349)		EA	8				*	*	*		*	30	5
PAHZZ	5905-482-0525	RESISTOR, FIXED FILM RNR65C3650FS (81349)		EA	8				*	*	*		*	30	6
PAHZZ	5940-103-1883	TECH(NAL, LUG FO20CI (15849)		EA	32				*	*	*		*	30	7
PAHZZ	5935-081-4578	JACK, TRP SKTIOBLK (98291)		EA	4				*	*	*		*	30	8
PAHZZ	5935-617-5837 9	JACK, TIP SKTIOWHT (98291)		EA	4					*	*	*		*	30
XAHZZ		BRACKET, ANGLE 144k-2420 (51504)		EA	1				*	*	*		*		
PAHZZ	5310-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (96906)		EA	2				*	*	*		*		
PAHZZ	5305-77(-2533	SCREW. MACHINE MSS959-13 (96906)		EA	2				*	*	*		*		
PAHZZ	5310-55G-3715	WASHER, LOCK HS35333-70 (96906)		EA	2				*	*	*		*		
PAHZZ	S310-934-3748	NUT, PLAIN HEXAGON MS35649-244 (96906)		EA	2				*	*	*		*		
PAHZZ	53a5-177-5545	SCREW MACHINE HS51957-120 (96906)		EA	2				*	*	*		*		
PANZZ	531C-55t-3715	WASHER, LOCK ST55J33-70 (96906)		EA	2				*	*	*		*		

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XAHZZ		PRINTED WIRING BOARD 1404-1555 (1S5C4)		EA	1										
XAHZZ		HANDLE 1404-2431 (51504)		EA	1										
PAHZZ	5305-CS8-2102	SCREW*TAPPING, THREAD FORMING MH24627-17 (96906)		EA	2				*	*	*		*		
XAHZZ		PANEL, BLANK 1404-3553 (51504)		EA	1										
		GROUP 010308 DUAL AMPIFIEI													
PAOHO	5895-173-7033	AMPLIFIER, RADIO FREQUENCY 40472-E3 (51504)		EA	1	*	*	*	*	*	*		*	31	1
AHHHD		CIRCUIT CARD ASSEMBLY 4404-1721 (51504)		EA	1									31	2
PAHZZ	5910-274-2208	CAPACITOR, FIXED, ELECTROLYTIC 841283-100-25-8112 (25088!		EA	2				*	*	*		*	31	3
PAHZZ	5905-141-3717	RESISTOR, FIXED, COMPOSITION RCRO7G473JS (81349)		EA	2				*	*	*		*	31	4
PAHZZ	5961-938-1135	SE4ICONOUCTOR DEVICE, DIODE 1N4t48 (81349)		EA	2				*	*	*		*	31	S
PAHZZ	5935-119-3534	RESISTOR, FIXED, COMPOSITION RCRQOG273JS (81349)		EA	2				*	*	*		*	31	6
PAHZZ	5910-974-5129	CAPACITOR FIXED,, ELECTROLYTIC KIsC20K (31433)		EA	10				*	*	*		*	31	7
PAHZZ	5905-115-3562	RESISTOR, FIXED, COMPOSITION RCR07G394JS (81349)		EA	2	*			*	*	*		*	31	8
PAHZZ	5961-226-8584	TRANSISTOR 2N2222 (81349)		EA	4				*	*	*		*	31	9
PAHZZ	5905-106-3666	RESISTOR, FIXED, COMPOSITION RCR07GtO3JS (R1349)		EA	4				*	*	*		*	31	10
PAHZZ	5905-110-7620	RESISTOR FIX-), COMPOSITION RCRC7GlO2JS (8134d)		EA	6				*	*	*		*	31	11
PAHZZ		CAPACITOR FIXEDDCERAOIC DI 5C6A470PFI, PCT (26625)		EA	2				*	*	*		*	31	12

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5905-131-1255	RESISTOR, FIXED, COMPOSITION RCR077G22JS (81349)	EA	2				*	*	*		*	31	13
PAHZZ	5905-115-3560	RESISTOR, FIXED. COMPOSITION RCR070G83JS (81349)	EA	2				*	*	*		*	31	14
PAHZZ	5905-126-6683	RESISTOR, FIXED, COMPOSITION RCR07G332JS (81349)	EA	2				*	*	*		*	31	15
PAHZZ	5905-141-1183	RESISTOR, FIXED, COMPOSITION RCR7OG10JS (81349)	EA	2				*	*	*		*	31	16
PAHZZ	5961-913-1747	TRANSISTOR 2N2907 (81349)	EA	2				*	*	*		*	31	17
PAHZZ	5905-116-2394	RESISTOR, FIXED, COMPOSITION RCR07G5IIJS (81349)	EA	2				*	*	*		*	31	18
PAHZZ	5910-893-0201	CAPACITOR FIXED, MICA DI CODFO151K33 (14655)	EA	2				*	*	*		*	31	19
PAHZZ	5950-930-4451	TRANSFORMER, POWER 124-5K (70674)	EA	4				*	*	*		*	31	20
PAHZZ	5910-828-5282	CAPACITOR, FIXED, CELECTROLYTIC C437ARGt10 (KO004)	EA	2				*	*	*		*	31	21
PAHZZ	5905-119-3503	RESISTOR FIXED COMPOSITION RCRO7G271JS (813493	EA	2				*	*	*		*	31	22
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE, ELEC 133-018-43 (026601	EA	1				*	*	*		*	31	23
PAHZZ	5905-243-1806	RESISTOR, VARIABLE 3359W1-102 (80294)	EA	2				*	*	*		*	31	24
PAHZZ	5935-081-5578	JACK, TIP SKTIOBLK (98291)	EA	4				*	*	*		*	31	25
PAHZZ	5935-617-6877	JACK, TIP SKT10WHT (982913	EA	4				*	*	*		*	31	26
PAHZZ	5940-163-4883	TERMINAL, LUG 20O0C1 (15S49)	EA	12				*	*	*		*	31	27
XBHZZ		BRACKET, ANGLE 1404-2423 (51504)	EA	1										
PAHZZ	5310-934-9747	NUT, PLAIN. HEXAGON PS35649-244 (969C, 6)	EA	2				*	*	*		*		

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5305-054-5647	SCREW, MACHINE NS51957-13 (96906)		EA	2				*	*	*		*		
PAHZZ	5310-550-3715	WASHER, LOCK N535333-7C (96906)		EA	2				*	*	*		'		
XBHZZ		BUSHING 81473W (98291)		EA	2										
PAHZZ	5310-934-9748	NUT4PLAIN, HEXAGON MS35649-244 (96906)		EA	2				*	*	*		*		
PAHZZ	5305-177-5545	SCREW, MACHINE NS51957-12C (96906}		EA	2				*	*	*		*		
PAHZZ	5310-550-3715	WASHER, LOCK N535333-70 (96936)		EA	2				*	*	*		*		
XBHZZ		PRINTED WIRING BOARD 1404-1721 (51504)		EA	1										
XBHZZ		HANDLE 14 *4-2431 (51504)		EA	1										
PAHZZ	5305-058-2102	SCREW, TAPPING, THREAD FORMING MS'24622-17 (96906)		EA	2				*	*	*		*		
XBHZZ		PAt4EL, PLANK 1404-3723 (51504) GROUP 010309 DC/DC P(OE SUPPLY		EA	1										
PAOHD SEE 010307	5895-195-0582	PRW SUPPLY 41028-01 (51504)		EA		*	*	*	*	*			*	28 FOR BREAKDOWN SECT. XXVI, GROUP	1

SECTION XXXIII **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5859-167-1183	16	1
5895-167-1270	17	1
5895-173-7023	21	1
5895-173-7033	31	1
5895-173-7035	24	1
5895-173-7051	19	1
5895-174-3549	25	1
5895-186-1263	30	1
5905-195-0582	28	1
5905-106-3666	31	10
5905-110-7620	31	11
5905-115-3560	31	14
5905-115-3562	31	8
5905-116-2394	31	18
5905-119-3503	31	22
5905-119-3504	31	6
5905-126-6683	31	15
5905-131-1255	31	13
5905-141-0717	31	4
5905-141-1183	31	16
5905-243-1806	31	24
5905-243-2454	30	5
5905-243-2518	30	4
5905-482-0525	30	6
5910-274-2208	31	3
5910-828-6282	31	21
5910-893-0201	31	19
5910-974-6129	31	7
5935-081-4578	30	8
5935-081-4538	31	25
5935-617-6837	30	9
5935-617-6837	31	26
5935-775-5711	30	3
5935-775-5711	31	23
5940-103-1883	30	7
5940-103-4883	31	27
5950-930-4451	31	20
5961-226-8584	31	9
5961-913-1747	31	17
5961-938-1135	31	5

FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
B41283-100-25-8112	25088	31	3
CD10FD151K03	14655	31	19
C437ARG100	K0004	31	21
1NT9740	15960	17	1
LCC9740	15960	15	1
LC401-4	15960	16	1
KIOC20K	31433	31	7
RCR07G10LJS	81349	31	16
RCR07G102JS	81349	31	11
RCR07G103JS	81349	31	10
RCR07G122J8	81349	31	13
RCR07G183JS	81349	31	14
RCR07G27LJS	81349	31	22
RCR07G273J8	81349	31	6
RCR07G332JS	81349	31	15
RCR07G394JS	81349	31	8
RCR07G473J8	81349	31	4
RCR07G511J8	81349	31	18
RNR65C1271F8	81349	30	5
RNR65C3650F8	81349	30	6
RIR65C8060F8	81349	30	4
STrilOBLK	98291	30	8
S]T1OBLK	98291	31	25
STrlOWIT	98291	30	9
S1T10WIT	98291	31	26
11N4148	81349	31	5
124-5K	70674	31	20
12734-1	21870	14	1
133-018-43	02660	30	3
133-018-43	02660	31	23
212222	81349	31	9
212907	81349	31	17
2000C1	15849	30	7
2000C1	15849	31	27
335911-102	80294	31	24
40452-01	51504	19	1
40455-03	51504	30	1
40472-03	51504	31	1
41010-96	51504	18	1
41028-01	51504	28	1
4404-1555	51504	30	2
4404-1721	51504	31	2
506A470FF10PCT	26625	31	12

SECTION XXXIV ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 COCF BRIDGE TEL TA-920(V1)/FSC								
		CONF BRIDGE TEL TA-920(VI)/FSC 40110-98 (51504)	EA	1	*	*	*	*	32	1
		GROUP 0101 DUAL AMPLIFIER								
PAOHD	5895-173-7028	AMPLIFIER, RADIO FREQUENCY 40172-03 (51504)	EA	4	*	*	*	*	33	1
		GROUP 0102 4 WAY-4 WIRE BLDGE								
PAOHD	5095-173-7022	BRIDGE 40155-03 (51504)	EA	2	*	*	*	*	34	1
		GROUP 02 COrF BRIDG TEL Th-920(V)2/FSC								
POOHD	5805-306-9323	CONF BRIDGE TEL TA-920(V)2/FSC 40110-99 (51504)	EA	1	*	*	*	*	32	1
		GROUP 0201 DUAL AMPLIFIER								
PAOHD	5895-173-7028	AMPLIFIER, RADIO FREQUENCY 40172-03 (51504)	EA	2	*	*	*	*	33	1
		GROUP 0202 4 WAY - 4 WIRE BRIDGE								
PAOHD	5895-173-7022	BRIDGE 40155-03 (51504)	EA	1	*	*	*	*	34	1

SECTION XXXVI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 10 CFw I BRIDGE TL -920(V)1/FSC												
		CONF BRIDGE TEL TA-92O(V)I/FSC 4011C-98 (51514)	EA	t									32	1
PAHZZ	5935-637-5718	CONNECTOR.RECEPTACLE, ELFC 143-C18-12 (02660)	EA	6									32	2
PAHZZ	594C-229-3644	TERMINAL BOARO 52A (71785)	EA	I			*						32	3
PAHZZ	5310-934-9748	NUTtPLAIN, HEXAGON MS35649-244 (96906)	EA	72										
PAHZZ	5305-177-5545	SCREW, MACHINE NSSt957-120 (96906)	EA	72										
PAHZZ	5310-595-6211	WASHER, FLAT MS15795-803 (96906)	EA	72										
PAHZZ	5310-550-3715	WASHER.LOCK MS35333-70 (96936)	EA	72										
XBHZZ		nRAWER, ELECTRICAL EQUIPMFNT 1405-2o00 (51504)	EA	1										
XBHZZ		PANEL, BLANK l405-2103 51504)	EA	3										
PAHZZ	5305-054-6650	SCREW, MACHINE MS51957-26 (96936)	EA	36										
MHHZZ		PLATE, IDENTIFICATTON 1434-273' (51594)	EA	1										
		GROUP Lial DUL AMFTE												
PAOHD	5895-173-7028	AMPLTFrER, kADIO FREQUENCY 40172-03 (51504)	EA	4									33	1
AHHHO		CIRCUIT CARO ASSEMBLY 44'4-17Z1 (51504)	EA	1									33	2
PAHZZ	5910-274-2208	CAPACITOR, FIXED, ELECTROLYTIC d41283-C0O-25-8112 (250R8!	EA	2									33	3
PAHZZ	5935-141-3717	RESISTOR, FIXED, COMPOSITION RCT7CG473JS (81349)	EA	2									33	4

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5961-938-1137	SEMICONDUCTOR DEVICE, DIODE 1N4148 (81349)	EA	2	·			*	*	*		*	33	5
PAHZZ	5905-119-3504	RESISTOR, FIXED COMPOSITION RCR07G273JS (31349)	EA	2				*	*	*		*	33	6
PAHZZ	5910-974-5129	CAPACITOR. FIXED, ELECTROLYTIC K10C20K (31433)	EA	10				*	*	*		*	33	7
PAHZZ	5905-115-3562	RESISTOR, FIXED, COMPOSITION PCY37G394JS (81349)	EA	2				*	*	*		*	33	8
PAHZZ	5905-110-7620	RESISTOR, FIXED, COMPOSITION RCR07G102JS (81349)	EA	6				*	*	*		*	33	9
PAHZZ	5905-106-3666	RESISTOR, FIXED, COMPOSITION C07G103JJ (81349)	EA	4				*	*	*		*	33	10
PAHZZ	5910-892-9994	CAPACITOR, FIXED CERAMIC DI 631-OOCX5FC-471K (72982)	EA	2				*	*	*		*	33	11
PAHZZ	5905-131-1255	RESISTOR, FIXED, COMPOSITION QCQC7GI22JS (813493	EA	2				*	*	*		*	33	12
PAHZZ	5905-115-3560	RESISTOR, FIXED COMPOSITION RCR07GI83JS (813493	EA	2				*	*	*		*	33	i3
PAHZZ	5905-126-5683	RESISTOR, FIXED COMPOSITION RCCt7G332JS (81349)	EA	2				*	*	*		*	33	14
PAHZZ	5905-141-1183	RESISTOR, FIXED COMPOSITION RCRZ7G1OIJS (81349)	EA	2				.*	*	*		*	33	15
PAHZZ	5905-116-2394	RESISTOR, FIXED, COMPOSITION RCRO7151GtJ (81349)	EA	2				*	*	*		*	33	16
PAHZZ	5910-893-0201	CAPACITOR, FIXED, MICA DI CO3JFO151Kt3 (14655)	EA	2				*	*	*		*	33	17
PAHZZ	5950-93'-4s51	TRANSFORMER, POWER 124-5K (76743	EA	4				*	*	*		*	33	t8
PAHZZ	5911-82AR-282	CAPACITOR, FIXED, ELECTROLYTIC C4S7PAR10C (K0004)	EA	2				*	*	*		*	33	19
PAHZZ	5995-119-x5:3	RESISTOR. FIXED, COMPOSITION RC-C7G271JS (81349)	EA	2				*	*	*		*	33	20
PAHZZ	5961-226-q584	TRANSISTOR 2N2222 (81349)	EA	4				*	*	*		*	33	21

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION / REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5961-913-1747	TRANSISTOR 2N2907 (813491	EA	2				*	*	*		*	33	22
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE. ELEC 133-018-43 (026603	EA	1				*	*	*		*	33	23
PAHZZ	5905-243-1806	RESISTOR, VARIABLE 3359W1-1t2 (802941	EA	2				*.	*	*		*	33	24
PAHZZ	5935-081-4578	JACK, TIP SKTIOBLK (982911	EA	4				*	*	*		*	33	25
PAHZZ	5935-617-6837	JACK, TIP SKTIGNHT (98291)	EA	4				*	*	*		*	33	26
PAHZZ	5940-103-1883	TERMINAL, LUG 2000Ci (15849)	EA	12				*	*	*		*	33	27
XBHZZ		BRACKET, ANGLE 1404-2420 (51504)	EA	1										
PAHZZ	5310-934-3748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	2				*	*	*		*		
PAHZZ	5305-054-5647	SCREW, MACHINE HS51957-13 (96906)	EA	2				*	*	*		*		
PAHZZ	5310-55G-3715	WASHER, LOCK MS35333-70 (96906)	EA	2				*	*	*		*		
XBHZZ		BUSHING 81473W (982913	EA	2										
PAHZZ	5310-934-9748	NUT, PLAIN, HEXAGON MS35649-244 (96906)	EA	2				*	*	*		*		
PAHZZ	5305-177-5545	SCREW MACHINE MS51957-12 (969C63	EA	2				*	*	*		*		
PAHZZ	5310-55C-3715	WASHER, LOCK MS35333-70 (96906)	EA	2				*	*	*		*		
XBHZZ		PRINTER WIRING BOARO 1434-1721 (515043	EA	1										
XBHZZ		HANDLE 14½5-2171 (51504)	EA	1										
PAHZZ	5305-05R-21D2	SCREW, TAPPING, THREAD FORMING MS74622-17 (969C6)	EA	2				*	*	*		*		

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
XBHZZ		PANEL, BLANK 14q1-3723 (51504)		EA	1										
XBHZZ		BRACKET, ANGLE 1405-2040 (51504)		EA	2										
PAHZZ	5305-054-5651	SCREW, MACHINE HMS5957-27 (96906)		EA	8				*	*	*		*		
PAHZZ	5310-616-3555	WASHER, LOCK M535333-71 (96906)		EA	44				*	*	*		*		
		GROUP 0102 4 WAY - 4 WIRE BRIDGE													
PAOHD	5895-173-7022	BRIDGE 40155-C3 (51504)		EA	2	*	*	*	*	*	*		*	34	1
AHHHO		CIRCUIT CARO ASSEMBLY 4401-1555 (515C4)		EA	1									34	2
PAHZZ	5935-775-5711	CONNECTOR, RECEPTACLE, ELFC 133-18-43 (02660)		EA	I1				*	*	*		*	34	3
PAHZZ	5905-243-7518	RESISTOR, FIXED. FILM RNR65C806CFS (81349)		EA	24				*	*	*		*	34	4
PAHZZ	5905-243-2454	RESISTOR, FIXED. FILM RNR65CI271FS (81349)		EA	8				*	*	*		*	34	5
PAHZZ	5905-482-3525	RESISTOR, FIXED, FILM RNR65C3650FS (81349)		EA	8				*	*	*		*	34	6
PAHZZ	5940-103-1883	TERMINAL, LUG 207OCI (15844)		EA	32				*	*	*		*	34	7
PAHZZ	5935-081-4578	JACK, TAP SKTICBLK (98291)		EA	4				*	*	*		*	34	8
PAHZZ	5935-617-5837	JACK.TIP SKTI:WHT (98791)		EA	4				*	*	*		*	34	9
XBHZZ		BRACKET, ANGLE 144-242eC (51504)		EA	1										
PAHZZ	5310-934-9741	NUT, PLAIN, HEXAGON 4S35649-244 (96906)		EA	2				*	*	*		*		
PAHZZ	5305-770-2583	SCREW.MACHINE MHSs159-13 (96906)		EA	2				*	*	*		*		

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5310-550-3715	WASHER, LOCK HS35333-70 (96906)		EA	2				*	*	*		*		
PAHZZ	5310-934-3748	NUT, PLAIN, HEXAGON MS535649-244 (96906)		EA	2				*	*	*		*		
PAHZZ	5305-177-5545	SCREH, MACHINE NS51957-12Z (96906)		EA	2				*	*	*		*		
PAHZZ	5310-55C-3715	WASHER, LOCK MS35333-70 (96906!		EA	2				*	*	*		*		
XBHZZ		HANDLE 1405-2171 (51504)		EA	1										
PAHZZ	5355-058-2102	SCREW, TAPPING, THREAD FORMING MS24622-17 (96906!		EA	2				*	*	*		*		
XBHZZ		PANEL, BLANK 1431-3553 (515041		EA	1										
		GROUP 02 CONF BRIDGE TEL TA-920(V)2/FSC													
POOHO	5805-306-9323	CONF BRIDGE TEL TA-920(V12/FSC 40110-99 (51534)		EA	1	*	*	*	*	*	*		*	32	1
PAHZZ	5935-837-5718	CONNECTOR, RECEPTACLE. ELEC 143-CiR-12 (02660)		EA	6				*	*	*		*	32	2
PAHZZ	5940-229-3644	TERMINAL BOARD 52A (71785)		EA	1				*	*	*		*	32	3
XBHZZ		BRACKET, ANGLE 1405-2’4. (51504)		EA	2										
PAHZZ	5305-C54-)651	SCREW, MACHINE MS51957-27 (q69.6)		EA	8				*	*	*		*		
PAHZZ	5310-616-3555	WASHER, LOCK MS35333-71 (969063		EA	44				*	*	*		*		
PAHZZ	5310-934-3748	NUT, PLAIN, HEXAGON MS35649-244 (96Y06)		EA	72				*	*	*		*		
PAHZZ	5335-177-5545	SCREW, MACHINE SS51957-12C (969C6)		EA	72				*	*	*		*		
PAHZZ	5310-59;-6211	WASHER, FLAT M51579;5-83 (96936)		EA	72				*	*	*		*		

SECTION XXXI ORGANIZATION MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	53t0-550-3715	WASHER, LOCK MS35333-70 (96906)	EA	72				*	*	*		*		
XBHZZ		DRAWER ELECTRICAL EQUIPMENT 1435-21100 (51504)	EA	1										
XBHZZ		PANEL BLANK 1405-2100 (51504)	EA	3										
PAHZZ	5305-054-6650	SCREW, MACHINE MS51957-26 (96906)	EA	36				*	*	*		*		
MHHZZ		PLATE IDENTIFICATION 1404-2730 (51504)	EA	1										
		GROUP 0201 DUAL AMPLIFIER												
PAOHD	5895-173-7028	AMPLIFIER RADIO FREQUENCY 40172-03 (51504)	EA	2	*	*	*	*	*	*		*	33	1
SEE													FOR BREAKDOWN SECT. XXVN, GROUP 0101	
		GROUP 02C2 4 WAY - 4 WIRE BRIDGE												
PAOHD	5895-173-7022	BRIDGE 40155-03 (51504)	EA	1	*	*	*	*	*	*		*	34	1
SEE													FOR BREAKDOWN SECT. MXXXV, GROUP 0102	

SECTION XXXVIII FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5805-3b6-9323	32	1
5895-173-7022	34	1
5595-173-7022	34	1
5895-173-7028	33	1
5895-173-7028	33	1
5935-136-3666	33	1t
5905-11S-7620	33	9
5935-115-3560	33	13
5905-115-3562	33	8
5905-116-2394	33	16
5905-119-3503	33	20
5935-119-3504	33	6
5905-126-5683	33	14
5905-131-1255	33	12
5905-141-C717	33	4
5905-141-1183	33	15
5905-243-1866	33	24
5905-243-2454	34	5
5905-243-2518	34	4
5935-462-3525	34	6
5910-274-2208	33	3
5910-828-6282	33	19
5910-892-9994	33	11
5910-893-0201	33	17
5910-974-5129	33	7
5935-081-4578	33	25
5935-081-4578	34	8
5935-617-6837	33	26
5935-617-6837	34	9
5935-775-5711	33	23
5935-775-5711	34	3
5935-837-5718	32	2
5935-837-5718	32	2
5940-103-1883	33	27
5940-103-1883	34	7
5940-229-9644	32	3
5940-229-9644	35	3
5950-93C-4451	33	18
5961-226-8584	33	21
5961-913-1747	33	22
5961-938-1137	33	5

SECTION XXXVIII FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
B41283-100-25-8112	25088	33	3
CD0OF1S1KO3	14655	33	17
C437ARGI00	K0004	33	19
KtIC2OK	31433	33	7
RCR07TG01JS	81349	33	15
RCPC77GI2JS	81349	33	9
RCRO7GIO3JS	81349	33	10
RCRO7Gt2ZJS	81349	33	12
RCRO7Gt83JS	81349	33	13
RCR07G27IJS	81349	33	20
RCROtG273JS	81349	33	6
RCR07G332JS	81349	33	t4
RCRO7G394JS	81349	33	8
RCR07G473JS	81349	33	4
RCR07GSIIJS	81349	33	16
RNR65CI27tFS	81349	34	5
RNR65C365FS	81349	34	6
RNR65C8GCOFS	81349	34	4
SKT1OBLK	98291	33	25
SKT1OBLK	98291	34	8
SKTIOWHT	98291	33	26
SKTIOdHT	98291	34	9
iN4148	81349	33	5
124-5K	73674	33	18
133-018-43	02660	33	23
133-018-43	02660	34	3
143-018-12	C2660	32	2
143-018-12	02660	32	2
2N2222	81349	33	21
2N2907	81349	33	22
2OCOCt	15849	33	27
Z0OCI	15849	34	7
3359W1-102	80294	33	24
40110-98	515J4	32	1
40ii0-99	51504	32	1
40155-03	51504	34	1
40155-03	51504	34	1
40172-C3	51504	33	1
40172-03	51504	33	1
44tC-1555	51504	34	2
44C4-t721	51504	33	2
52A	71785	32	3
52A	71785	35	3
831-013X5FO-47tK	72982	33	11

SECTION XXXIX **ORGANIZATIONAL MAINTENANCE REPAIR PARTS LIST**

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 LOCAL ORDERWIRE ORDERWIRE,LOCAL 41010-97 (51504)								35	1
		GROUP CO11 POWER SUPPLY									
PAOHD	5895-186-1262	POWER SUPPLY 41029-01 (51504)		EA	1	*	*	*	*	37	1
PAOZZ	5920-131-9816	FUSE,CARTRIOGE MDL1 (71400)		EA		1	*	*	*	37	12
		GROUP 0102 SPEAKER AMPLIFIER									
PAOHD	5895-195-0444	AMPLIFIER,AUDIO FREQUENCY 41030-01 (51504)		EA	1	*	*	*	*	39	1
		GROUP 0103 SF BETECTOR AND OSCILIATOR									
PAOHD		DETECTOR,SINGLE FREQUENCY OSC 41063-C2 (51504)		EA	1	*	*	*	*	22	1

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 LOCAL ORDERWIRE ORDERWIRE,LOCAL 41115-97 (515043											35	1
XBFZZ		DRAWER,ELECTRICAL EQUIPMENT 1410-2030 (51504)	EA	1										
XBFZZ		PANEL,RLANK 1413-2230 (51504)	E4	1										
XBFZZ		PANEL,ELANK 1410-2240 (51504)	EA	1										
PAFZZ	5935-837-5718	CONNECTOR,RECEPTACLE,ELEC 143-081-12 (02660)	EA	6	*	*	*	*	*	*		*	36	1
PAFZZ	5940-518-8129	TERMINAL BOARD 54C (71785)	EA	1	*	*	*	*	*	*		*	36	2
PAFZZ	5961-985-9074	TRANSISTOR 2N3055 (81349)	EA	1	*	*	*	*	*	*		*	36	3
PAFZZ	5940-882-3272	TERMINAL,LUG 1414-6 (83330)	EA	1	*	*	*	*	*	*		*	36	4
PAFZZ	5975-989-9347	BUSHING,STRAIN RELIFF 1523 (72653)	EA	1	*	*	*	*	*	*		*	36	5
PAFZZ	6150-071-1180	CABLE ASSEMBLY,POWER 17419 (70903)	EA	1	*	*	*	*	*	*		*	36	6
XBHZZ		BRACKET,ANGLE 1410-2050 (51504)	EA	2										
XBFZZ		CLAMP,LOOP AP3 (06229)	EA	1										
PAFZZ	5305-054-5651	SCREW,MACHINE MS51957-27 (96956)	EA	7	*	*	*	*	*	*		*		
PAHZZ	5310-616-3555	WASHER,LOCK MS35333-71 (96936)	EA	16				*	*	*				
XBFZZ		CLIP,RETAINING 1405-223: (51504)	EA	10										
PAFZZ	5310-934-3748	NUT,PLAIN,HEXAGON MS35649-244 (96906)	EA	100	*	*	*	*	*	*		*		

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5305-054-5650	SCREW,MACHINE MS51957-26 (96906)	EA	67				*	*	*		*		
PAFZZ	5305-054-5650	WASHER,LOCK MS35333-70 (96906)	EA	172	*	*	*	*	*	*		*		
PAFZZ	5305-054-5649	SCREW,MACHINE MS51957-15 (96906)	EA	72	8	*	*	*	*	*		*		
XBFZZ		INSULATOR,BUSHING KA13A495334-7 (86684)	EA	2										
XBFZZ		INSULATOR,DISK KA22A495320-1 (86684)	EA	1										
XBFZZ		PANEL,BLANK 1410-2210 (51504)	EA	1										
XBFZZ		NUT,SHEET SPRING C8103-832-4 (785531	EA	4										
PAFZZ	5305-054-6668	SCREW,MACHINE MS51957-43 (96906)	EA	4	*	*	*	*	*	*		*		
XBFZZ		PLATE,ELECTRICAL SHIELD 1410-2250 (51504)	EA	2										
MHHZZ		PLATE,IDENTIFTCATION 1404-2730 (51504)	EA	1										
XBFZZ		TERMINAL BOARD 0611-0205 (51504)	EA	2										
PAHZZ	5310-934-9761	NUT,PLAIN HEXAGON MS35649-264 (96906)	EA	8				*	*	*		*		
PAFZZ	5305-054-5652	SCEW,MACHINE MS51957-28 (96906)	EA	10	*	*	*	*	*	*		*		
PAFZZ	5310-081-8087	NUT,SELFLOCKING,HEXAGON F22NM62 (72962) GROUP 0101 POWER SUPPLY	EA	2	*	*	*	*	*	*		*		
PAOHD	5895-186-1262	POWER SUPPLY 41029-C1 (51504)	EA	1	*	*	*	*	*	*		*	37	1
PAHZZ	5835-081-4578	JACK,TTP SKT10BLK (98291)	EA		1	*	*	*	*	*		*	37	2

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5935-617-5837	JACK,TIP SKT10WHT (98291)	EA	1				*	*	*		*	37	3
PAHZZ	5961-901-8108	CL4MP,CAPACITOR CMC32 (56289)	EA	1				*	*	*		*	37	4
PAHZZ	5910-125-0928	CAPACITOR,FIXED,ELECTROLYTIC 360842G040892A (56289)	EA	1				*	*	*		*	37	5
PAHZZ		RECTIFIER,SEMICONOUCTOR DEVICE 4410-1990 (51504)	EA	1				*	*	*		*	37	6
PAHZZ	5950-238-5915	TRANSFORMER,POWER T61129 (96256)	EA	1				*	*	*		*	37	7
PAHZZ	6250-484-1124	LAMPHOLDER 300-C58 (72765)	EA	1				*	*	*		*	37	8
PAHZZ		LIGHT,INDICATOR 11-507 (72765)	EA	1				*	*	*		*	37	9
PAHZZ	5930-007-3967	SWITCH,TOGGLE 7101P (09353)	EA	1				*	*	*		*	37	10
PAHZZ	5920-450-8063	FUSEHOLDER 34.212 (75915)	EA	1				*	*	*		*	37	11
PAOZZ	5920-131-9816	FUSE,CARTRIDGE MOL1 (71400)	E4	1	*	*	*	*	*	*		*	37	12
XBHZZ		BRACKET,ANGLE 1410-2350 (51534)	EA	1										
PAHZZ	5305-054-5650	SCREW,MACHINE MS51957-26 (96936)	EA	5				*	*	*		*		
XBHZZ		CHASSIS,ELECTRICAL EQUIPMENT 1410-2320 (51504)	EA	1										
XBHZZ		CLIP.ELECTPICAL 116A (72765)	EA	1										
XBHZZ		PANEL,BLANK 1410-3290 (51504)	EA	1										
PAHZZ		SCREW,ASSEMBLED WASHER 0604-0501 (51504)	E4	2				*	*	*		*		
AHHHD		CIRCUIT CASD ASSEMBLY 4410-1202 (51504)	EA	1									38	1

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5910-902-1186	CAPACITOR,FIXED,ELECTROLYTIC 390118G050HP4 (56289)		EA	1				*	*	*		*	38	2
PAHZZ	5905-066-3731	RESISTOR,FIXED,WIRE HOUND RW69VIRO (85349)		EA	1				*	*	*		*	38	3
PAHZZ	5935-775-5711	CONNECTOR,RECEPTACLE,ELEC 133-018-43 (02660)		EA	1				*	*	*		*	38	4
PAHZZ	5940-103-1883	TERMINAL,LUG 200OC1 (15849)		EA	17				*	*	*		*	38	5
PAHZZ	5910-068-3887	CAPACITOR,FIXED,MICA DI CD10FD10K03 (14655}		EA	1				*	*	*		*	38	6
PAHZZ	5961-913-1747	TRANSISTOR 2N2907 (81349)		EA	3				*	*	*		*	38	7
PAHZZ	5961-975-1795	SEMICONDUCTOR DEVICE,DIODE 1N5240 (04713)		EA	1				*	*	*		*	38	8
PAHZZ		RESISTOR,FIXED,COMPOSITION RCRO7G122JS (81349)		EA	2				*	*	*		*	38	9
PAHZZ	5905-111-4727	RESISTOR,FIXED,COMPOSITION RCR07G272JS (81349)		EA	2				*	*	*		*	38	10
PAHZZ	5910-974-5129	CAPACITOR,FIXED,ELECTROLYTIC K10C20K (31433)		EA	1				*	*	*		*	38	11
PAHZZ	5905-243-1686	RESISTOR,VARIABLE 3359W1-102 (60294)		EA	1				*	*	*		*	38	12
PAHZZ	5905-114-0711	RESISTOR,FIXED,COMPOSITION RCRO7G472JS (81349)		EA	2				*	*	*		*	38	13
PAHZZ	5905-110-0196	RESISTOR,FIXED,COMPOSITION RCR2OG102JS (81349)		EA	1				*	*	*		*	38	14
PAHZZ	5905-106-3666	RESISTOR,FIXED,COMPOSITION RCR07G103JS (81349)		EA	1				*	*	*		*	38	15
PAHZZ	5935-105-7764	RESISTOR,FTXED.COMPOSITION RCR07G222JS (81349)		EA	1				*	*	*		*	38	16
PAHZZ	5961-979-0108	TRANSISTOR 2N4037 (80131)		EA	1				*	*	*		*	38	17
PAHZZ		HEAT SINK NF207 (058C)		EA	1				*	*	*			38	18

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAFZZ	5310-934-4748	NUT,PLAIN,HEXAGON MS35649-244 (96906)		EA	2	*	*	*	*	*	*		*		
PAHZZ	5305-177-5545	SCREW,MACHINE MS51957-120 (96906)		EA	2				*	*	*		*		
PAFZZ	5305-054-5650	WASHER,LOCK MS35333-70 (96906)		EA	2	*	*	*	*	*	*		*		
XBHZZ		PRINTED WIRING BOARO 1410-1202 (51504) GROUP 0102 SPEAKER AMPLIFIER		EA	1										
PAOHD	5895-195-0444	AMPLIFIER,AUDIO FREQUENCY 41030-01 (51504)		EA	1	*	*	*	*	*	*		*	39	1
PAHZZ	5935-194-3079	JACK,TELFPHONE JJ042 (81349)		EA	2				*	*	*		*	39	2
PAHZZ	5945-238-5168	LOUDSPEAKER,PERMANENT MAGNET 28A8C (07109)		EA	1				*	*	*		*	39	3
PAHZZ	5961-901-8108	CLAMP,CAPACITOR CMC32 (56289)		EA	1				*	*	*		*	39	4
PAHZZ	5910-125-0928	CAPACITOR,FIXED.ELECTROLYTIC 36D842G0-40BB2A (56289)		EA	1				*	*	*		*	39	5
PAHZZ	6250-484-1124	LAMPHOLOER 300-058 (72765)		EA	1				*	*	*		*	39	6
PAHZZ		LIGHT,INDICATOR 11-507 (72765)		EA	1				*	*	*		*	39	7
PAHZZ	5305-958-8326	SCREW.EXTERNALLY RELIEVED BODY 51-18-406-24 (24248)		EA	2				*	*	*		*	39	8
PAHZZ	5355-253—581	KNOB KN50CBA (95146)		EA	1				*	*	*		*	39	9
PAHZZ	5930-236-5529	SWITCH,HOOK AT810610W (11136)		EA	1				*	*	*			39	10
XBHZZ		BLOCK,MOUNTING 1404-2270 (51504)		EA	1										
PAHZZ	5310-934-9761	NUT,PLAIN,HEXAGON MS35649-264 (96406)		EA	6				*	*	*		*		

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5305-054-6655	SCREW,MACHINE MS51957-31 (96906)		EA	2				*	*	*		*		
PAHZZ	5310-616-3555	WASHER,LOCK MS35333-71 (96906)		EA	6				*	*	*		*		
XBHZZ		BRACKET,ANGLE 1410-2350 (51504)		EA	1										
PAHZZ	5305-056-6650	SCREW,MACHINE MS51957-26 (96906)		EA	15				*	*	*		*		
XAHZZ		BRACKET,ANGLE 1410-2360 (51504)		EA	1										
XBNZZ		CHASSIS,ELECTRICAL EQUIPMENT 1410-2320 (51504)		EA	1										
XBHZZ		CLIP,ELECTRICAL 116A (72765)		EA	1										
XBHZZ		PANEL,BLANK 1410-3301 (51504)		EA	1										
XBHZZ		TERMINAL,LUG 1414-10 (83330)		EA	2										
AHHHD		CIRCUIT CARO ASSEMBLY 4410-1300 (51504)		EA	1									40	1
PAHZZ	5905-135-6046	RESISTOR,FIXED,COMPOSITION RCR07G681JS (81349)		EA	1				*	*	*		*	40	2
PAHZZ	5905-235-3534	RESISTOR,FIXED,COMPOSITION RCR32G681JS (81349)		EA	1				*	*	*		*	40	3
PAHZZ	5905-126-6683	RESISTOR,FIXED,COMPOSITION RCR07G332JS (81349)		EA	1				*	*	*		*	40	4
PAHZZ	5935-238-5828	RESISTOR,VARIABLE 3359W1-103 (8:294)		EA	1				*	*	*		*	40	5
PAHZZ	5910-974-5129	CAPACITOR,FIXED,ELECTROLYTIC K10C20K (31433)		EA	7				*	*	*		*	40	6
PAHZZ	5961-951-8757	TRANSISTOR 2N2222 (81349)		EA	6				*	*	*		*	40	7
PAHZZ	5905-110-71620	RESISTOR,FIXED,COMPOSITION RCR07G102JS (81369)		EA	6				*	*	*		*	40	8

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5910-274-2208	CAPACITOR*FIXEDIELECTROLYTIC B41283-100-25-8112 (25088)	EA	1				*	*	*		*	40	9
PAHZZ	5905-116-5555	RESISTOR,FIXED,COMPOSITION RCRO7G153JS (81349)	EA	2				*	*	*		*	40	10
PAHZZ	5905-115-3560	RESISTOR,FIXED,COMPOSITION RCR37G183JS (81349)	EA	3				*	*	*		*	40	11
PAHZZ	5905-119-3504	RESISTOR,FIXED,COMPOSITION RCRO7G273JS (51349)	EA	1				*	*	*		*	40	12
PAHZZ	5905-106-1278	RESISTOR,FIXED,COMPOSITION RCRO7G123JS (81349)	EA	2				*	*	*		*	40	13
PAHZZ	5905-445-1682	RESISTOR,FIXED,FILM RNR65C464OFS (81349)5	EA	1				*	*	*		*	40	14
PAHZZ	5905-119-5511	RESISTOR,FIXED,COMPOSITTON RCRO7G151JS (81349)	EA	1				*	*	*		*	40	15
PAHZZ	5910-267-2706	CAPACTOR,FIXED,PLASTIC DI MR0-1UF10PCT160VDCW (08257)	EA	2				*	*	*		*	40	16
PAHZZ	5910-088-7235	CAPACITOR,FIXED,PLASTIC DI 1MD1-333J (72136)	EA	1				*	*	*		*	40	17
PAHZZ	5910-828-6282	CAPACITOR,FIXED,ELECTROLYTIC C437ARG10O (K0004)	EA	2				*	*	*		*	40	18
PAHZZ	5950-930-4451	TRANSFORMER,POWER 124-5K (70674)	EA	2				*	*	*		*	40	19
PAHZZ	5905-136-3891	RESISTOR,FIXED,COMPOSITION RCR07G621JS (81349)	EA	1				*	*	*		*	40	20
PAHZZ	5910-224-8115	CAPACITOR,FIXED,ELECTROLYTIC KIR8C20K (31433)	EA	1				*	*	*		*	40	21
PAHZZ	5905-110-7622	RESISTOR,FIXED,COMPOSITION RCR0JG682JS (81349)	EA	1				*	*	*		*	40	22
PAHZZ	5905-105-7764	RESISTOR,FIXED,COMPOSITION RCR07G222JS (81349)	EA	1				*	*	*		*	40	23
PAHZZ	5905-141-3717	RESISTOR,FIXED,COMPOSITION RCR07G473JS (81349)	EA	2				*	*	*		*	40	24
PAHZZ	5905-114-533	RESISTOR,FIXED,COMPOSITION RCR07G154JS (81349)	EA	2				*	*	*		*	40	25

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5905-114-5343	RESISTOR,FIXED,COMPOSITION RCR07G82SJS (81349)	EA	2				*	*	*		*	40	26
PAHZZ	5935-775-5711	CONNECTOR,RECEPTACLE,ELEC 133-018-43 (02660)	EA	2				*	*	*		*	40	27
PAHZZ	5905-552-5478	RESISTOR,VARIABLE RV4NAYSD102A (81349)	EA	1				*	*	*		*	40	28
PAHZZ	5961-118-1180	TRANSISTOR 2N4851 (80131)	EA	2				*	*	*		*	40	29
PAHZZ	5905-141-1183	RESISTOR,FIXED,COMPOSITION RCR07G1O1JS (81349)	EA	3				*	*	*		*	40	30
PAHZZ	591C-222-7765	CAPACITOR,FIXED,PLASTIC DI 1MOF1-472J (721361	EA	2				*	*	*		*	40	31
PAHZZ	5905-114-0711	RESISTOR,FIXED,COMPOSITION RCR07G472JS (81349)	EA	1				*	*	*		*	40	32
PAHZZ	5905-105-7768	RESISTOR,FIXED,COMPOSITION RCRO7G561JS (81349)	EA	1				*	*	*		*	40	33
PAHZZ	5910-139-24C6	CAPACITOR,FIXED,PLASTIC DI 1MFl-102 (72136)	E4	1				*	*	*		*	40	3
PAHZZ	5961-913-1747	TRANSISTOR 2N29C7 (81349)	EA	1				*	*	*		*	40	35
PAHZZ	5905-141-1595	RESISTOR,FIXED,COMPOSITION RCR2CG472JS (81349)	EA	2				*	*	*		*	40	36
PAHZZ	5905-141-0742	RESISTOR,FIXED,COMPOSITION RCR07G18JS (81349)	EA	1				*	*	*		*	40	37
PAHZZ	5961-054-4191	TRANSISTOR 40347 (02735)	EA	2				*	*	*		*	40	38
PAHZZ	5905-141-0744	RESISTOR,FIXED,COMPOSITION RC07G562JS (81349)	EA	1				*	*	*		*	40	39
PAHZZ	5905-120-9154	RESISTOR.FIXED,COMPOSITION RCR7G471JS (81349)	EA	1				*	*	*		*	40	40
PAHZZ	5905-110-0196	RESISTOR,FIXED,COMPOSITION RCR20G102JS (81349)	EA	1				*	*	*		*	40	41
PAHZZ	5935-116-8556	RESISTOR,FIXED,COMPOSITION RCRO7G223JS (61349)	E41					*	*	*		*	40	42

SECTION XLI REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) / USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5940-103-1883	TERMINAL,LUG 2000C1 (15849)	EA	16									40	43
XAHZZ		PRINTED WIRING BOARD 1410-1300 (51504) GROUP C103 SF DETECTOR AND OSCILIATOR	EA	1										
PAOHD		DETECTOR.SINGLE FREQUENCY OSC 41063-02 (51504)	EA	1	*	*	*	*	*	*		*	22 FOR BREADOWN SEE SECTION XXVI, GROUP 010303	1

FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5305-958-8326	39	8
5355-253-0581	39	9
5835-081-4578	37	2
5895-186-1262	37	1
5895-195-0444	39	1
5905-060-3731	38	3
5905-105-7764	38	16
5905-105-?764	49	23
5905-105-7765	40	33
5905-106-1278	40	13
5905-106-3666	38	15
0os5-110-0196	38	14
5905-110-0196	40	41
5905-110-7620	40	8
5905-!1C-7622	40	22
5905-111-4727	38	10
5905-114-0711	38	13
5905-114-0711	40	32
5905-114-5339	40	25
5905-114-5343	40	26
5905-115-3560	40	11
5905-116-8555	40	10
5905-116-8556	40	42
5905-119-3504	40	12
5905-119-8811	40	15
5905-120-9154	40	40
5905-126-6683	40	4
5905-135-6046	40	2
5905-136-3891	40	20
5905-141-0595	40	36
5905-141-0717	40	24
5905-141-0742	40	37
5905-141-0744	40	39
5905-141-1183	40	30
5905-235-3534	40	3
5905-238-5828	40	5
5905-243-1806	38	12
5905-552-5478	43	28
5910-068-3887	38	6
5910-088-7235	40	17
5910-125-3928	37	5
5910-125-3928	39	5
5910-135-24C6	40	34
5910-222-7765	40	31
5910-224-5115	40	21
5910-267-2706	40	16
5910-274-2208	40	9
5910-828-5282	40	18
5910-902-1186	36	2
5910-974-6129	38	11
5910-974-6129	40	6
5920-131-9816	37	12
5920-450-8063	37	1t
5930-007-3967	37	10
5930-236-6529	39	10
5935-194-3079	39	2
5935-617-6837	37	3
5935-775-5711	38	4
5935-775-5711	40	27
5935-837-5718	36	1
5940-103-1883	38	5
5940-103-1883	40	43
5940-518-8129	36	2
5940-882-3272	36	4
5945-238-5168	39	3
5950-238-5915	37	7
5950-930-4451	40	19
5961-054-4191	40	38
5961-118-t1180	0	29
5961-901-8108	37	4
5961-901-8108	39	4
5961-913-1747	38	7
5961-913-1747	40	35
5961-951-6757	40	7
5961-975-1795	38	8
5961-979-0108	38	17
5961-985-9074	36	3
5975-989-9347	36	5
6150-071-1180	36	6
6250-484-1124	37	8
6250-484-1124	39	6

SECTION XLIII **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
AT81061W	11136	39	10
841283-100-25-8112	25088	40	9
CD10FD101K03	14655	38	6
CMC32	56289	37	4
CMC32	56289	39	4
C437ARG100	K0004	40	18
JJ42	81349	39	2
KN500BA	95146	39	9
K1R8C20K	31433	40	21
K10C20K	31433	38	11
K10C20K	31433	40	6
MDL1	71400	37	12
MRO-1UF10PCT160VDCW	08257	40	16
NF207	05820	38	18
RCR07G101JS	81349	40	30
RCR07G02JS	81349	40	8
RCR07G103JS	81349	38	15
RCR07G122JS	81349	38	9
RCR07G123JS	81349	40	13
RCR07G151JS	81349	40	15
RCR07G153JS	81349	40	10
RCR07G154JS	81349	40	25
RCR07G181JS	81349	40	37
RCR07G182JS	81349	40	26
RCR07G183JS	81349	40	11
RCR07G222JS	81349	38	16
RCR07G222JS	81349	40	23
RCR07G223JS	81349	38	10
RCR07G273JS	81349	40	12
RCR07G332JS	81349	40	4
RCR07G471JS	81349	40	40
RCR07G472JS	81349	38	13
RCR07G472JS	81349	40	32
RCR07G7473JS	81349	40	24
RCR07G561JS	81349	40	33
RCP07G562JS	81349	40	39
RCR07G621JS	81349	4e	20
RCR07G681JS	81349	40	2
RCR07G682JS	81349	40	22
RCR28BG12JS	81349	38	14
RCR20G102JS	81349	40	41
RCR20G472JS	81349	40	36
RCR32G681JS	81349	40	3
RNR65C4640FS	81349	40	14
RV4NAYS012A	813349	45	28
RW69V1R0	81349	38	3
SKT10BLK	98291	37	2
SKT10WHT	98291	37	3
T61129	9625S	37	7

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
1MDF1-102	72136	40	34
1MDF1-472J	72136	40	31
1MD1-333J	72136	40	17
11-507	04713	38	8
11-507	72765	37	9
124-5K	72765	39	7
124-SK	07674	40	19
133-018-43	02660	38	4
133-018-43	02660	40	27
1424-6	03339	36	4
143-018-12	02660	36	1
1523	72653	36	5
17419	70903	36	6
2N2222	81349	40	7
2N2907	81349	38	7
2N2907	81349	40	35
2N3055	81349	36	3
2N4037	80131	38	17
2N4851	80131	40	29
2000C1	15849	38	5
2000C1	15849	40	43
28A8C	07109	39	3
300-058	72765	37	8
300-058	72765	39	6
3359W1-102	80294	38	12
3359W1-103	83294	40	5
342012	75915	37	11
36D842G04BB2A	56289	37	5
36D842G04DBB2A	56289	39	5
39D118G6050HP4	56289	36	2
40347	02735	40	38
41C10-97	51504	35	1
41029-01	51504	37	1
41C30-01	51504	39	1
41063-02	51504	41	1
4410-1202	51504	38	1
4410-1300	51504	40	1
4410-1990	51504	38	6
51-18-406-24	24248	39	8
54C	71785	36	2
7101P	09353	37	10

SECTION XLIV REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE / MAINT. CODE / REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.)	USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
AFFFD		PANEL ASSEMBLY 9740CB2 (18633)		EA	1									41	1
PAFZZ		CAPACITOR,FIXED,ELECTROLTIC TT002N100N0B (90201)		EA	14	*	*	*	*	*	*		*	41	2
PAFZZ		RESISTOR,FIXED, WIREWOULD AS3-3500J (11502)		EA	10	*	*	*	*	*	*		*	41	3
PAFZZ		SEMICONDUCTOR. DEVICE,DIODE 100F (64959}		EA	5	*	*	*	*	*	*		*	41	4
PAFZZ		TERMINAL BOARD 15318 (91833)		EA	2									41	5
PAFZZ	5310-186-9298	SPACER, SLEEVE 2370 (83330)		EA	8	*	*	*	*	*	*		*	41	6
PAFZZ	5310-934-9739	NUT,PLAIN,HEXAGON MS35649-242 (96906)		EA	4	*	*	*	*	*	*		*		
PAFZZ	5305-054-5653	SCREW,MACHINE MS51957-19 (96906)		EA	4	*	*	*	*	*	*		*		
PAFZZ	5310-543-2410	WASHER,LOCK MS35338-40 (96906)		EA	4	*	*	*	*	*	*		*		
PAFZZ	5310-997-1888	NUT,PLAIN,HEXAGON MS35649-2252 (96906)		EA	4	*	*	*	*	*	*		*		
PAFZZ	5305-071-1318	SCREW,MACHINE MS51957-83 (96906)		EA	4	*	*	*	*	*	*		*		
PAFZZ	5310-582-5965	WASHER,LOCK MS35333-44 (96906)		EA	4	*	*	*	*	*	*		*		
XBFZZ		CLAMP,LOOP 34-336C (72653)		EA	1										
XBFZZ		PANEL, FRONT 811101 (18633)		EA	1										

SECTION XLIV REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 02 PANEL ASSEMBLY CB1												
AFFD		PANEL ASSEMBLY 9740CB1 (18633)	EA	1									41	7
PAFZZ	5961-880-2938	SEMICONDUCTOR,DEVICE',DIODE 1N4003 (80351)	EA	10	*	*	*	*	*	*		*	41	8
PAFZZ		CAPACITOR,FIXED,ELECTROLYTIC TT002N100NOB (90201)	EA	10	*	*	*	*	*	*		*	41	2
PAFZZ		RESISTOR,FIXED,WIREWOUND AS3-3500J (11502)	EA	10	*	*	*	*	*	*		*	41	3
PAFZZ		SEMICONDUCTOR DEVICE ,DIODE 10OF (64959)	EA	5	*	*	*	*	*	*		*	41	4
PAFZZ		TERMINAL BOARD 15318 (91833)	EA	2	*	*	*	*	*	*		*	41	5
PAFZZ	5310-186-9298	SPACER,SLEEVE 2370 (83330)	EA	8	*	*	*	*	*	*		*	41	6
PAFZZ	5310-934-9739	NUT,PIAIN,HEXAGON 53535649-242 (96906)	EA	4	*	*	*	*	*	*		*		
PAFZZ	5305-054-5653	SCREW,MACHINE MS51957-19 (96906)	EA	4	*	*	*	*	*	*		*		
PAFZZ	5310-543-2410	WASHER,LOCK MS353338-40 (96906)	EA	4	*	*	*	*	*	*		*		
PAFZZ	5310-997-1888	NUT,PLAIN,HEXAGON MS35649-2252 (96906)	EA	4	*	*	*	*	*	*		*		
PAFZZ	5305-071-1318	SCREW,MACHINE M551957-83 (96906)	EA	4	*	*	*	*	*	*		*		
PAPZZ	5310-582-5965	WASHER,LOCK MS35333-44 (96906)	EA	4	*	*	*	*	*	*		*		
XBZZ		CLAMP,LOOP 34-336C (72653)	EA	1										
XBFZZ		PANEL,FRONT 811101 (18633)	EA	1										

STOCK NUMBER AND REFERENCE NUMBER INDEX

SECTIOM XLIV

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER	FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5310-186-9298	41	6			
5310-186-9298	41	6			
5961-880-2938	41	8			

SECTION XLVI **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
AS3-3500J	11502	41	3
AS3-350CJ	11502	41	3
TT002N100N0B	90201	41	2
TT002N100N0B	90201	41	2
1N4003	80131	41	8
100F	64959	41	4
100F	64959	41	4
15318	91833	41	5
15318	91833	41	5
2370	83330	41	6
2370	83330	41	6
9740C81	18633	41	7
9740C82	18633	41	1

SECTION XLVII ORGANIZATIONAL MAINTENANCE REPAIR PARTS LIST

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	(6) 15 DAY ORGANIZATIONAL MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 LAMP-JACK PANEL								
		LAMP-JACK PANEL 803101 (186333							42	1
PAOZZ	6240-Z69-0960	LAMP,INCANDESCENT 48D1 (088061	EA	2					42	3
PAOZZ	6210-880-3385	LENS.INDICATOR LIGHT PJ151 (70674)	EA	2					42	4

SECTION XLIX REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
		GROUP 01 LAMP-JACK PANEL												
		LAMP-JACK PANEL 803101 (18633)											42	1
PAHZZ	6250-023-6555	LAMPHOLOER LT47 (82389)	EA	2				*	*	*		*	42	2
PAOZZ	6240-269-0960	LAMP,INCANDESCENT 4801 (088C6)	EA	2	*	*	*	*	*	*		*	42	3
PAOZZ	6210-880-3385	LENS,INOICATOR LIGHT PJ151 (70674)	EA	2	*	*	*	*	*	*		*	42	4
PAHZZ	5935-134-3287	JACK,TELEPHONE MT333 (82389)	EA	4				*	*	*		*	42	5
XBHZZ		CHASSIS,ELECTRICAL EQUIPMENT 803101-1 (18633)	EA	1										
XBHZZ		COVER, ELECTRICAL EQUIPMENT 803101-3 (18633)	EA	1										
PAHZZ	5305-543-5763	SCREW,MACHINE MS35223-31 (96906)	EA	12				*	*	*		*		
PAHZZ	5310-045-4007	WASHER,LOCK MS35337-41 (96906)	EA	14				*	*	*		*		
XBHZZ		COVER, ELECTRICAL EQUIPMENT 803101-4 (18633)	EA	1										
PAHZZ	5315-984-4989	SCREW,MACHINE MS35223-29 (96906)	EA	6				*	*	*		*		
XBHZZ		PANEL,MOUNTING 803101-2 (18633)	EA	1										
PAHZZ	5305-543-5763	WASHER,LOCK MS15795-205 (96916)	EA	4				*	*	*		*		
MHHZZ		PLATE,DESIGNATION MS10-172Y (71785)	EA	2										
PAHZZ	5940-997-2583	TEMINAL BOARD 4100JY1C (75382)	EA	2				*	*	*			43	1
PAHZZ	5305-889-2998	SCREW,MACHINE MS35223-16 (96906)	EA	8				*	*	*		*		

SECTION XLIX REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) SOURCE CODE MAINT. CODE REC. CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF. NUMBER MFR. CODE (MFR. PART NO.) USE ON CODE	(4) UNIT OF MEASURE	(5) QTY. INCL. IN UNIT	30 DAY MAINT. ALW. (6) DS (a) 1-20	(b) 21-50	(c) 51-100	(7) GS (a) 1-20	(b) 21-50	(c) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CONTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) REF./ITEM NUMBER
PAHZZ	5310-557-7770	WASHER,LOCK MS35337-49 (96906)	EA	8				*	*	*		*		

SECTION LI

FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

FEDERAL STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5935-134-5287	42	5
5940-997-2583	43	1
6210-880-3385	42	4
6240-269-0960	42	3
6250-023-6555	42	2

SECTION LI **FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX**

MANUFACTURER PART NUMBER	FED MFR CODE	FIGURE NUMBER	ITEM NUMBER
LT47	82389	42	2
MT333	82389	42	5
PJ151	70674	42	4
410JJY10	75382	43	1
48D1	08806	42	3
803101	18633	42	1

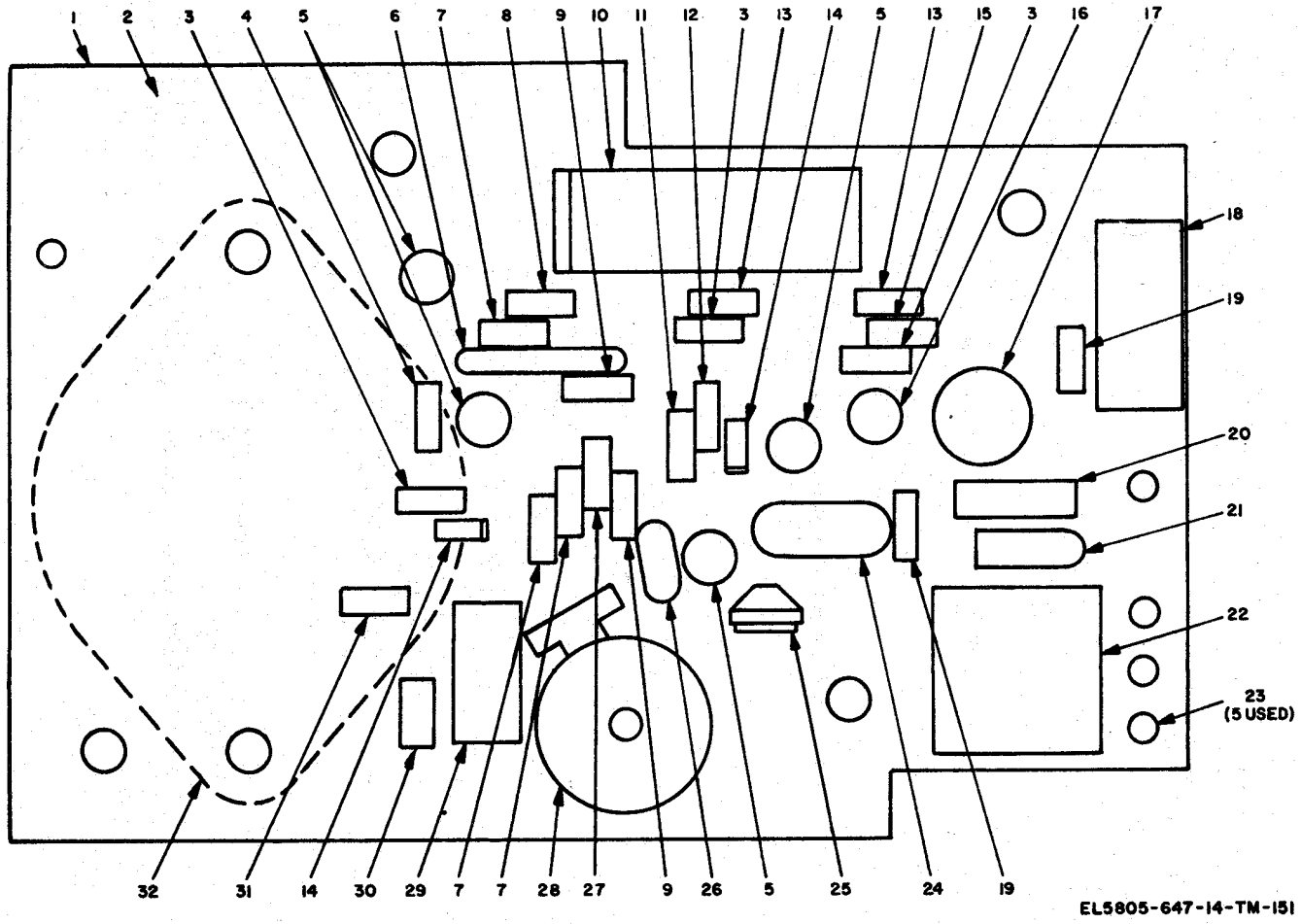

Figure 1. Oscillator assembly, parts location

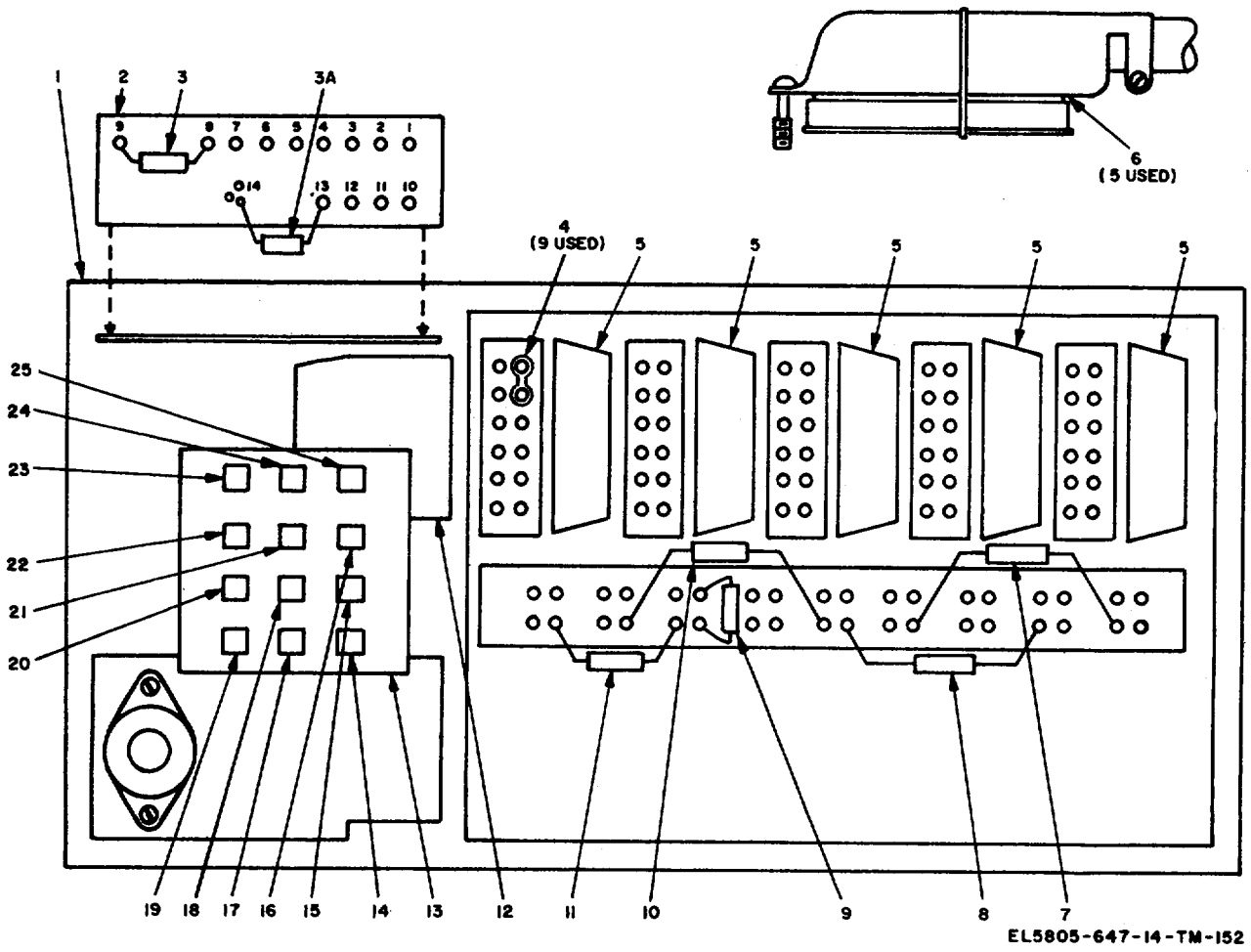

Figure 2. Cal director assembly, parts location.

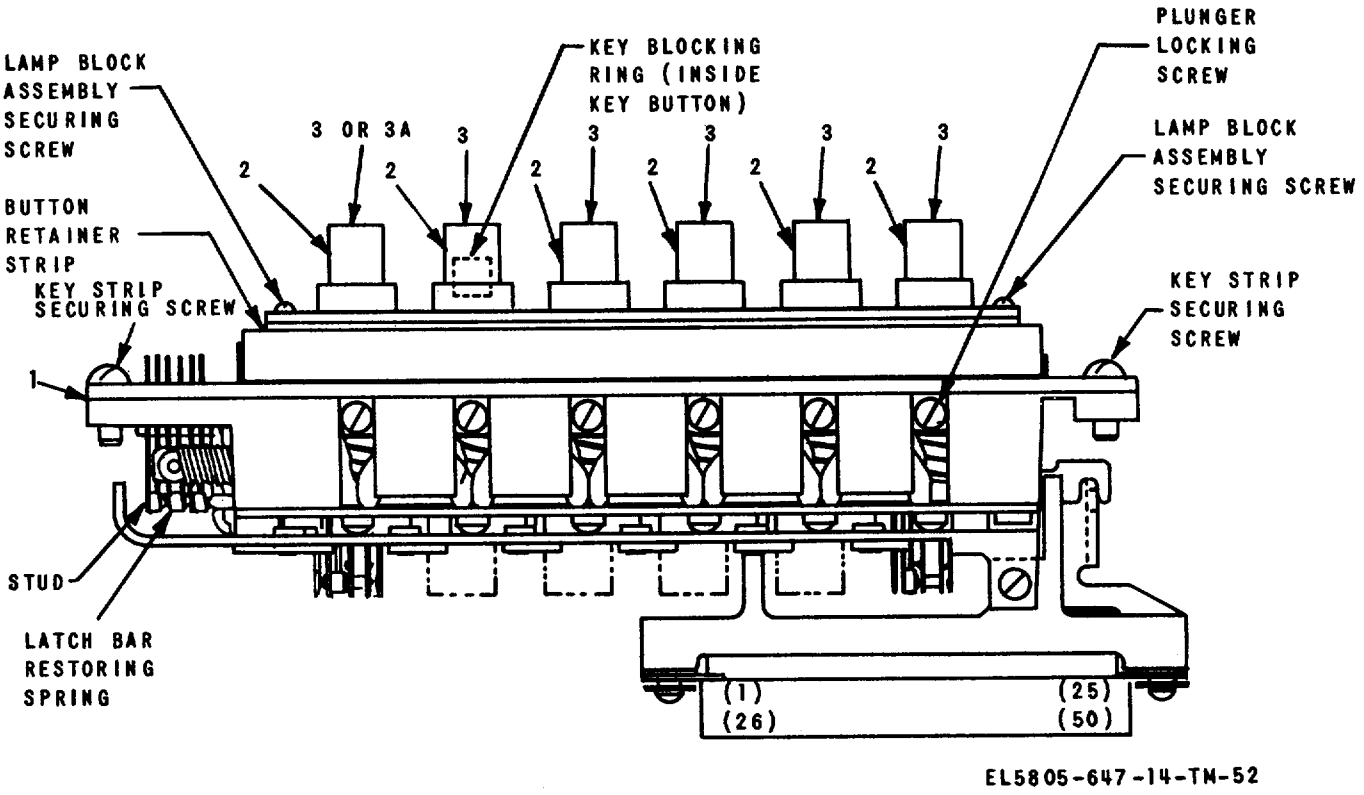

Figure 3. Typical key strip detail, parts location

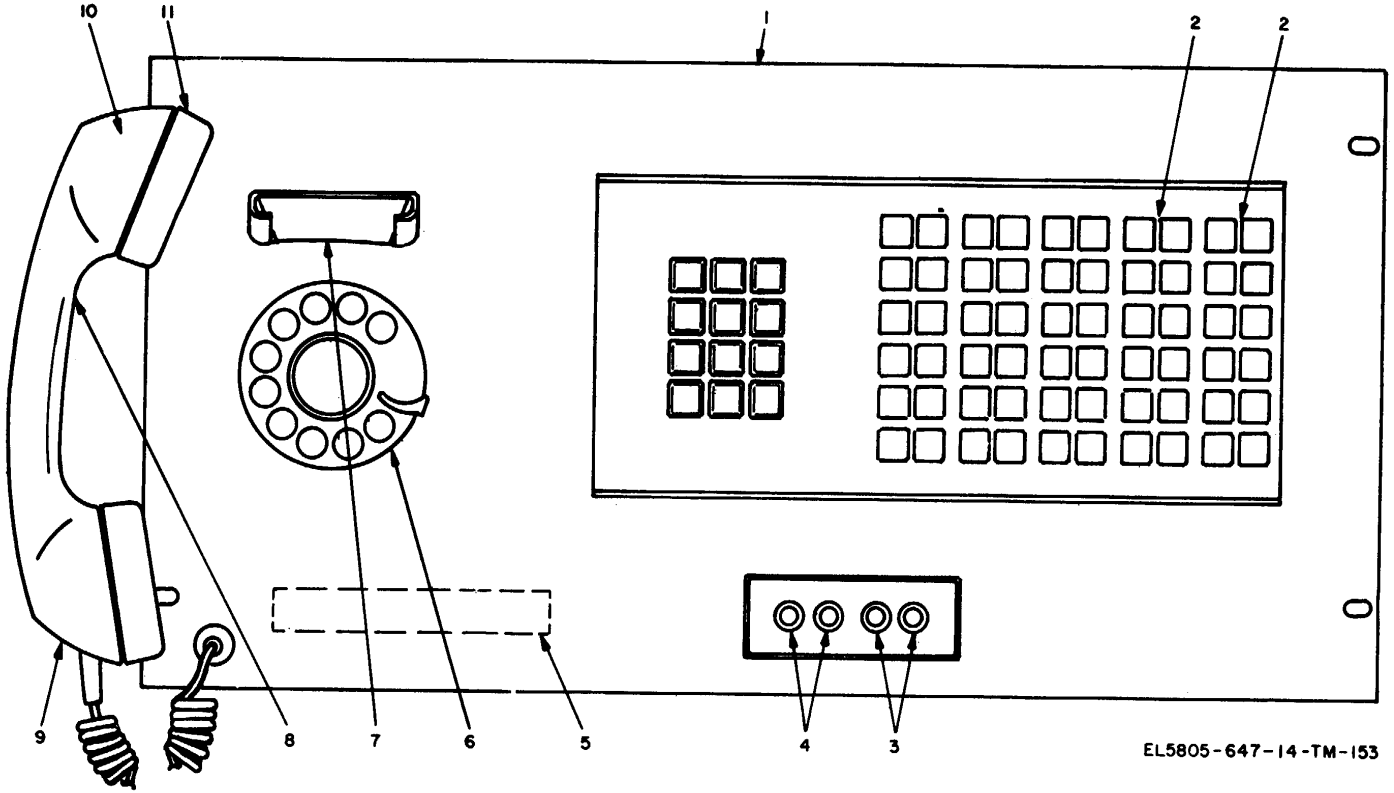

Figure 4. Call director panel assembly and handset, parts location.

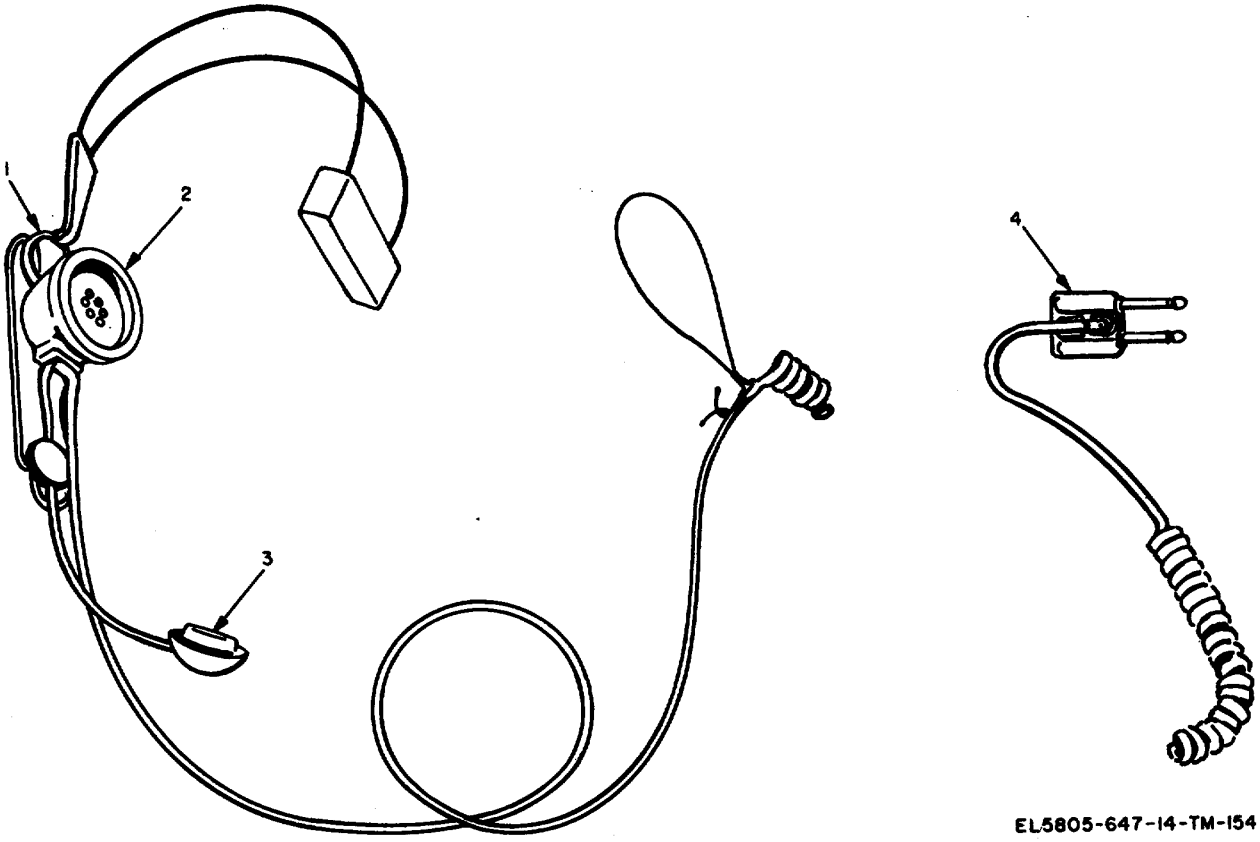

Figure 5. Headset, parts location

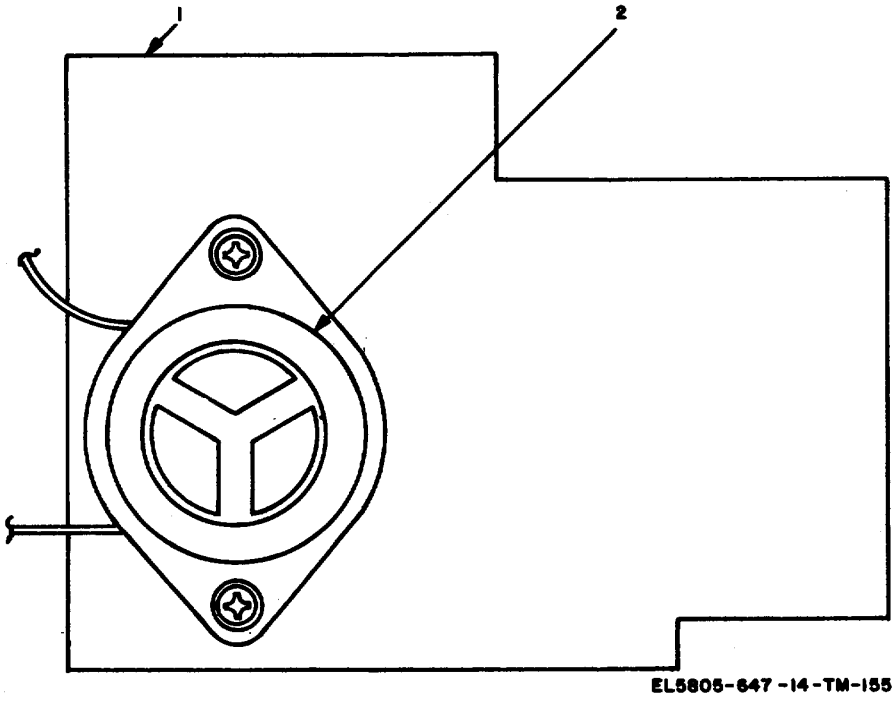

Figure 6. Buzzer numbly, parts o141

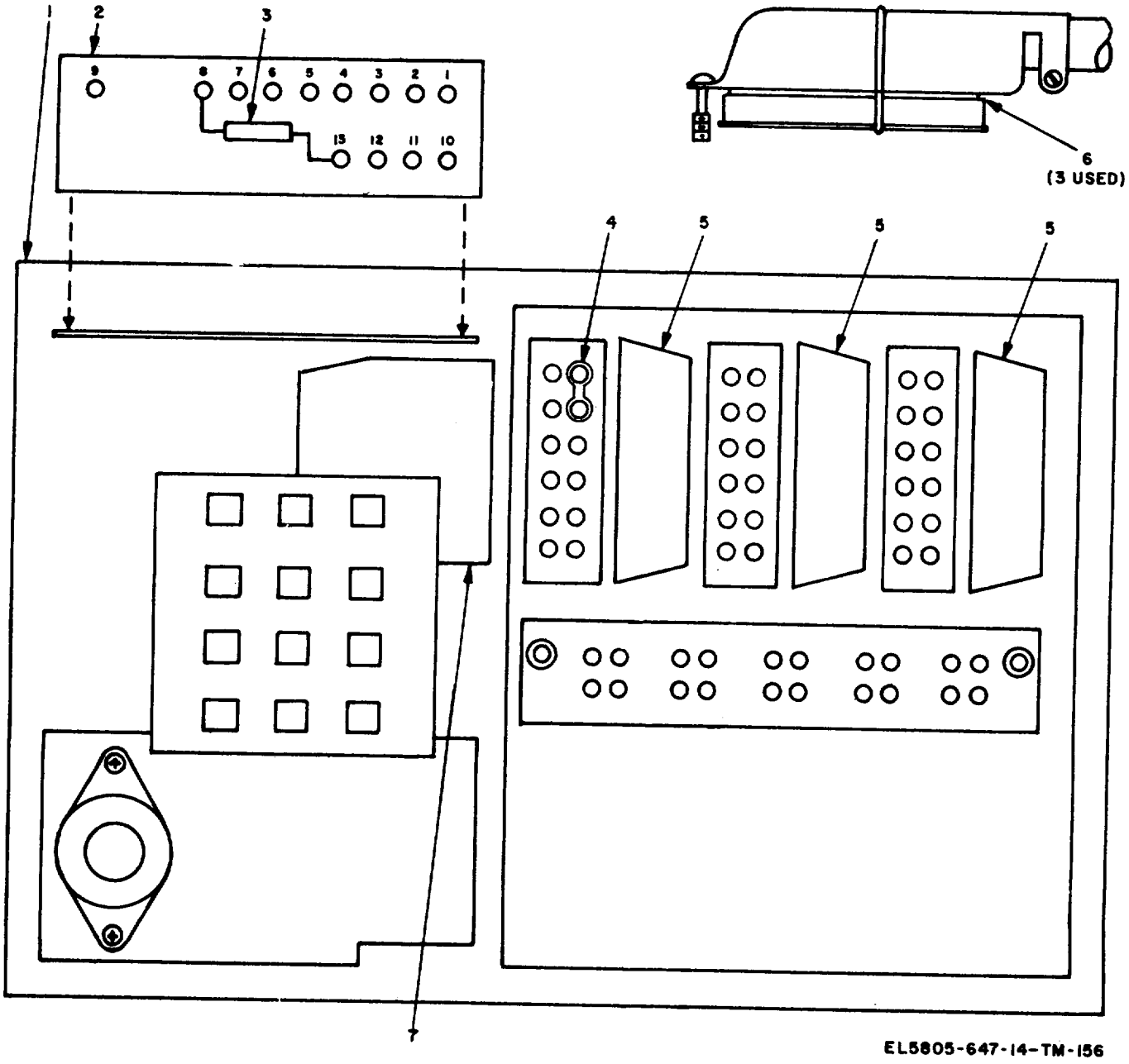

Figure 7. Call director assembly, parts location.

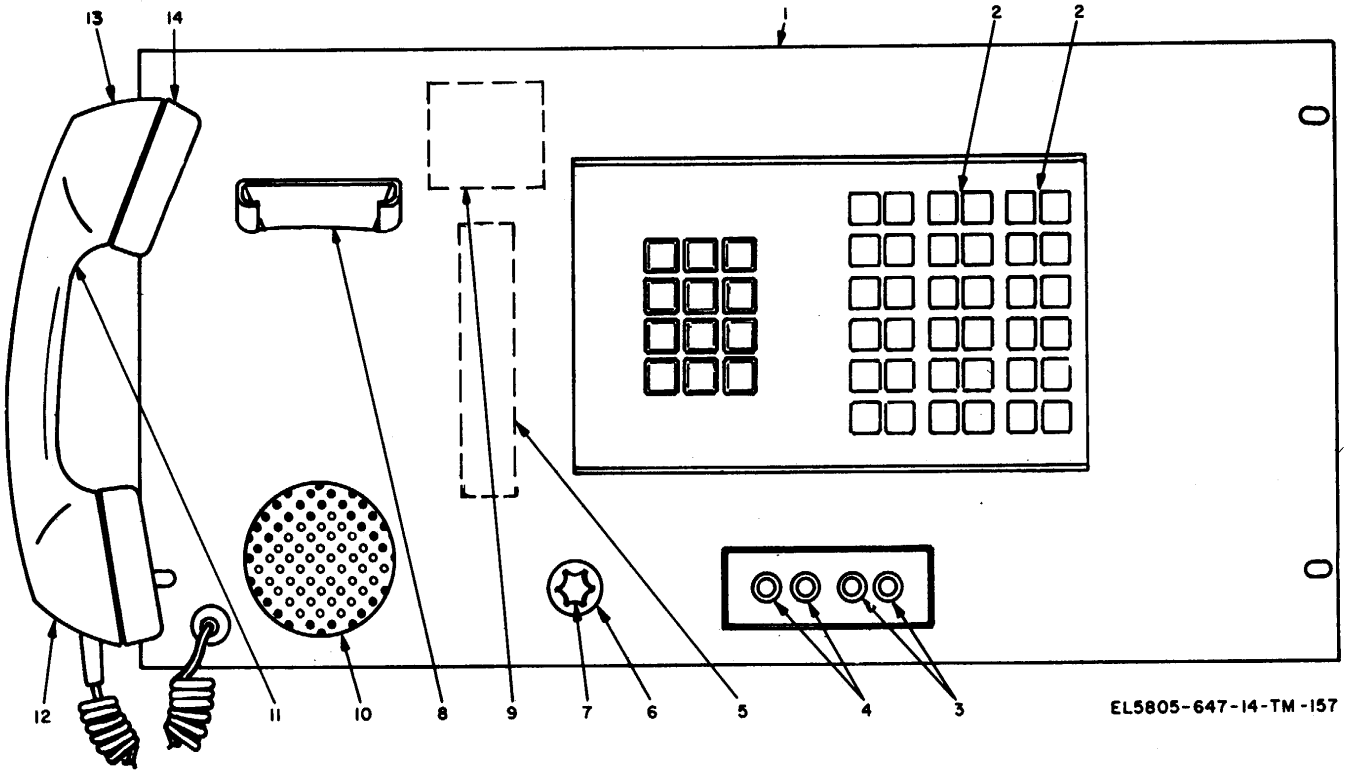

Figure 8. Call director panel assembly and handset, parts location.

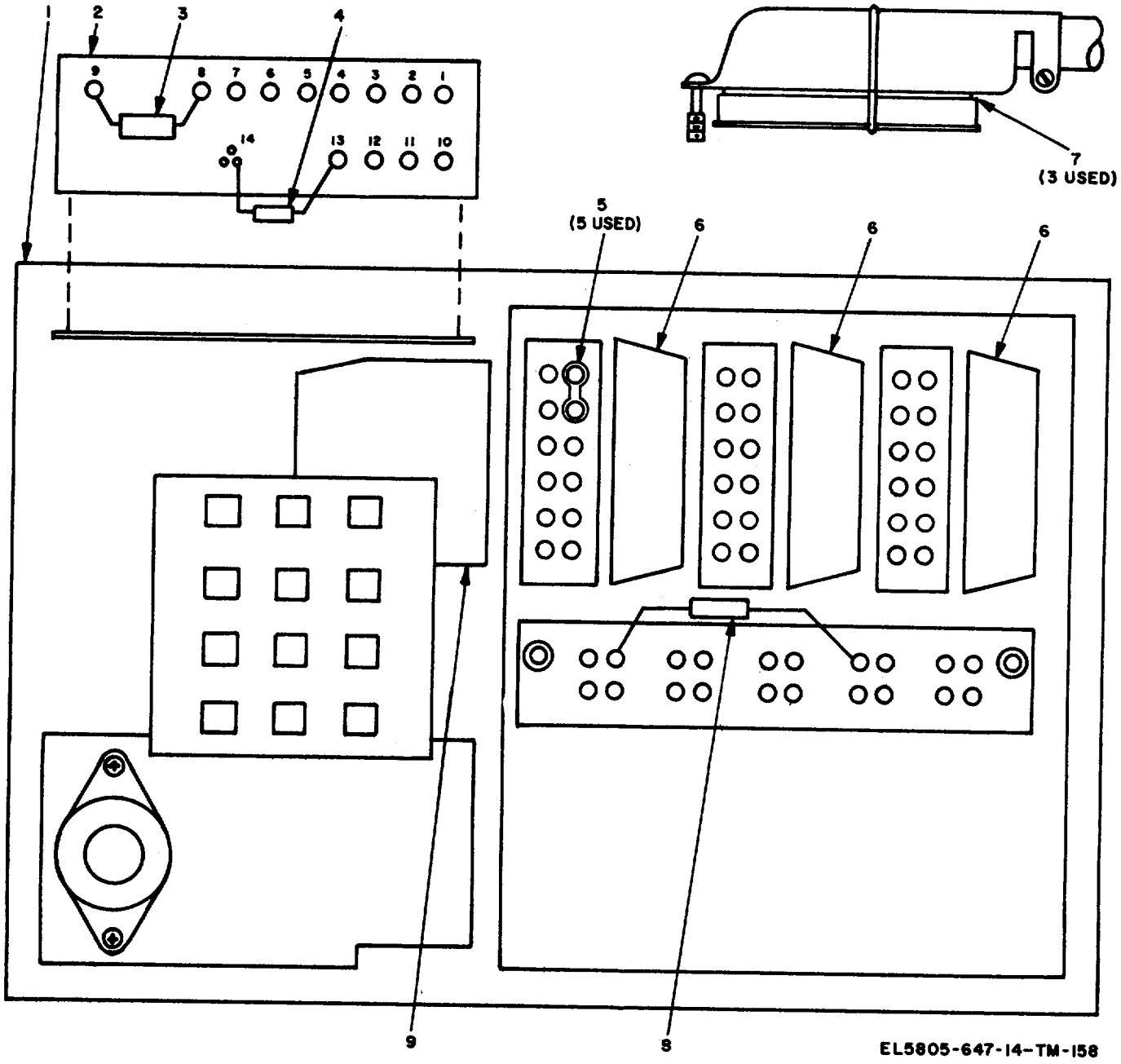

Figure 9. Call director assembly, parts location.

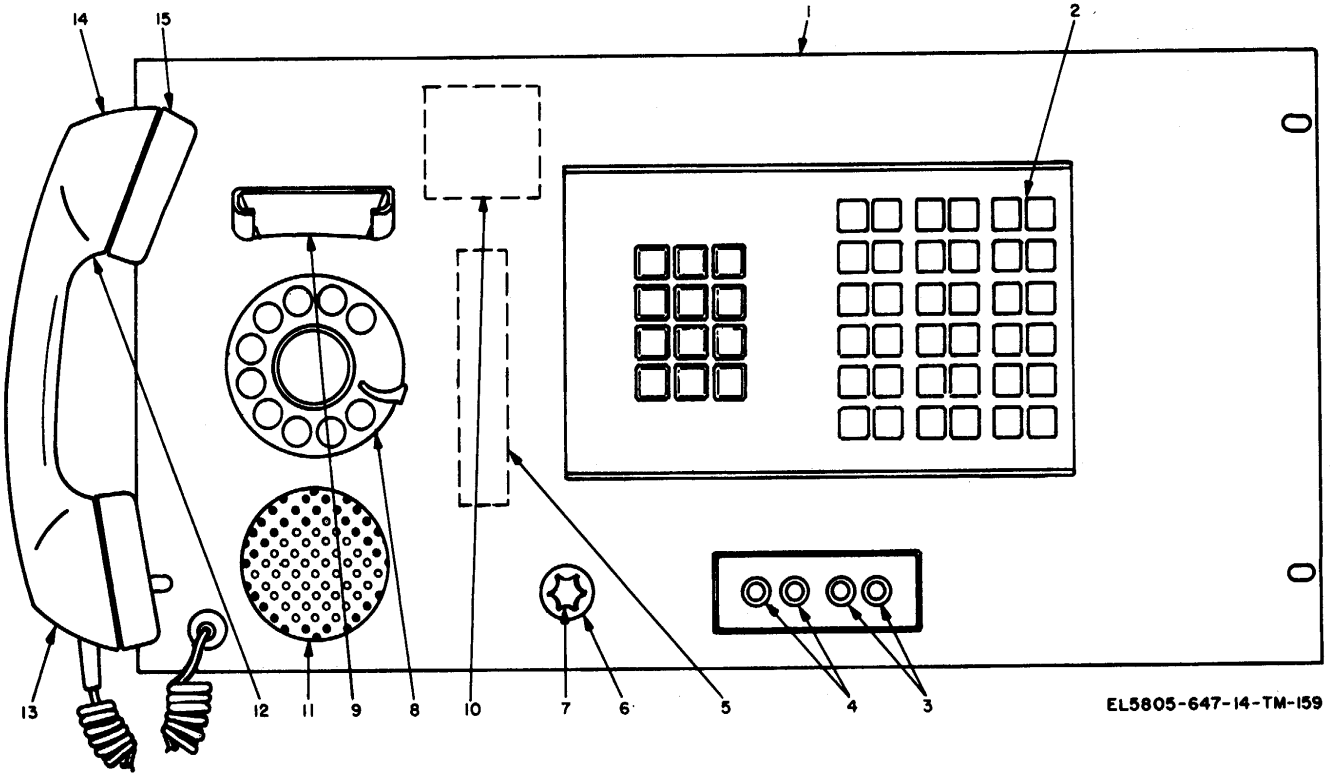

Figure 10. Call director panel assembly and handset, parts location.

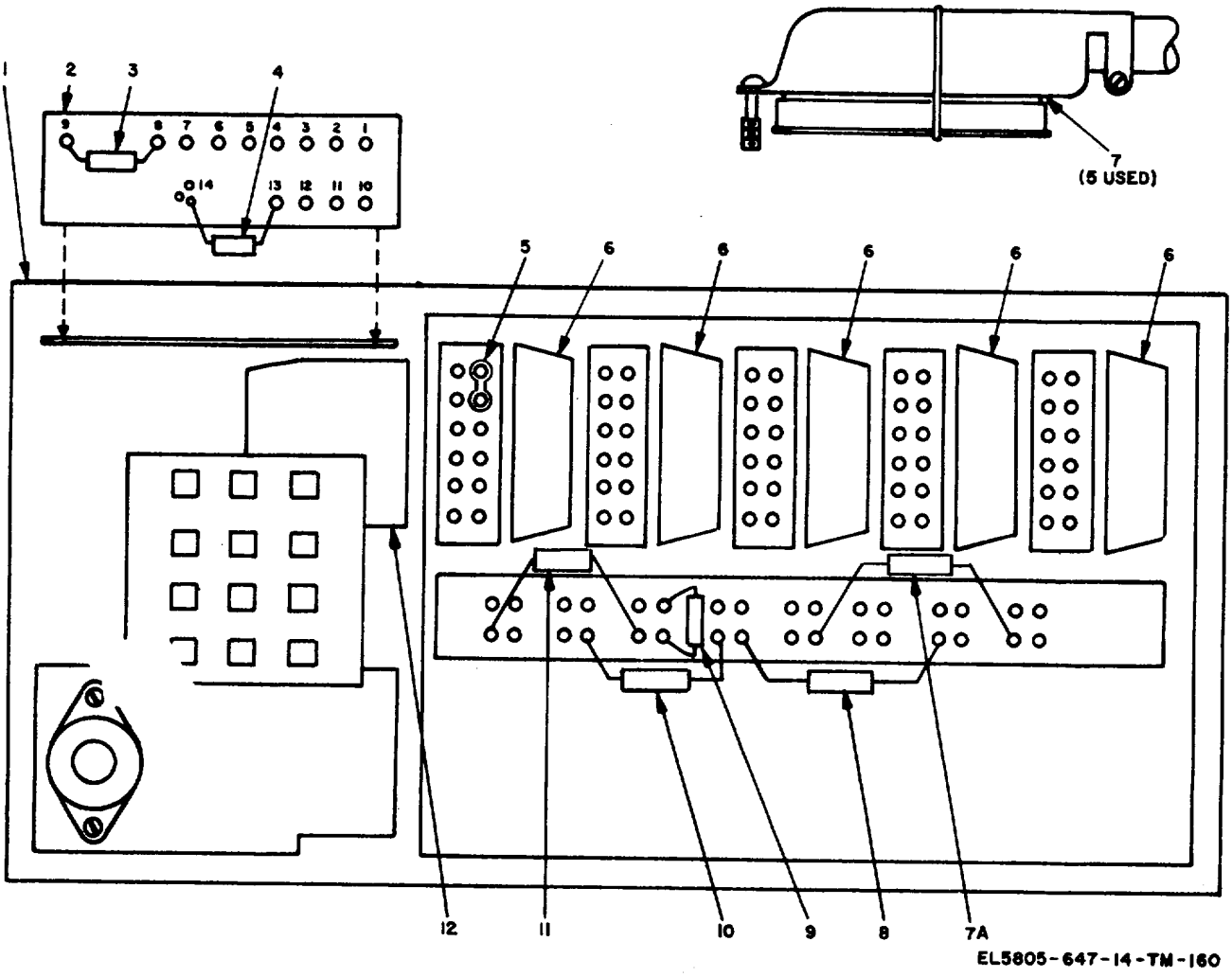

Figure 11. Call director assembly, parts location.

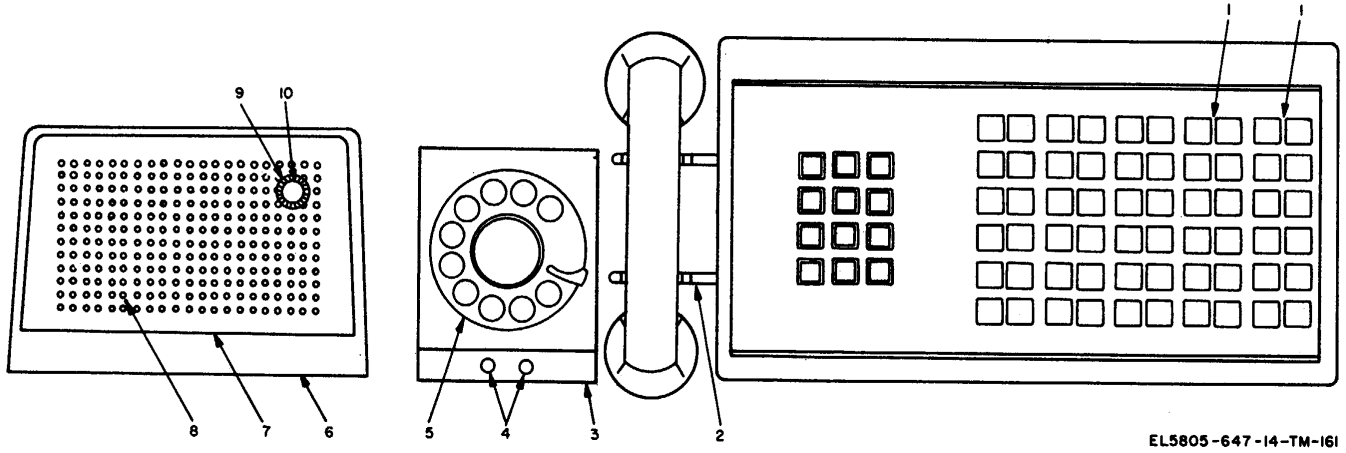

Figure 12. Call director, dial assembly and speaker assembly, parts location.

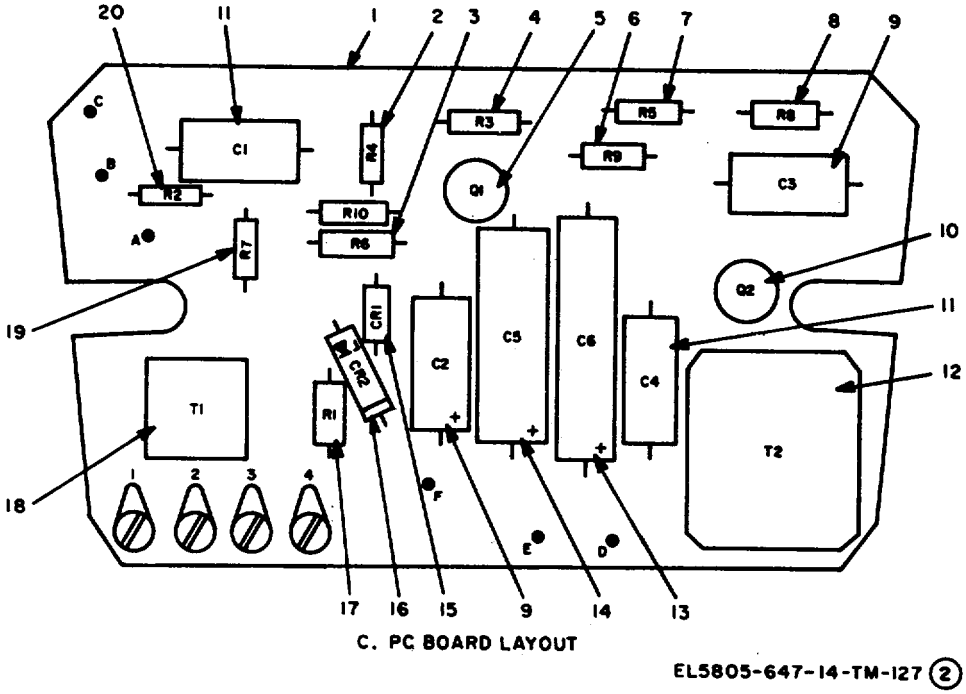

Figure 13. Speaker amplifier unit -3828, parts location.

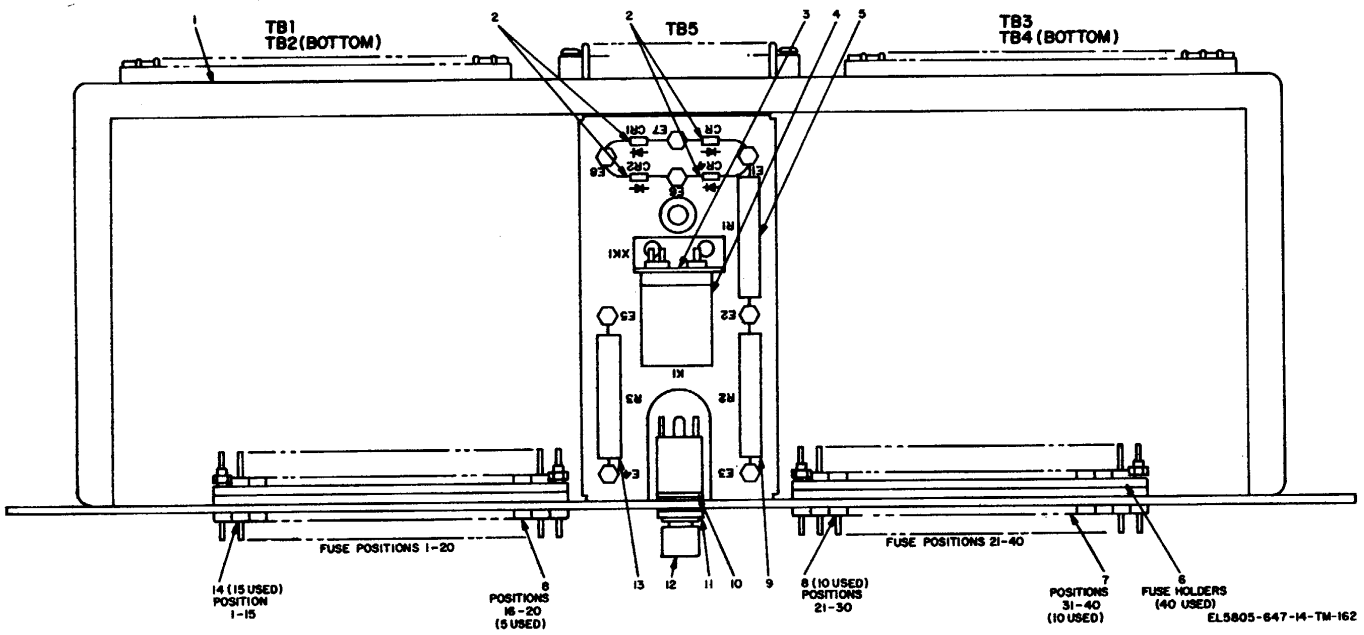

Figure 14. Fuse panel SB-751/FSC, parts location.

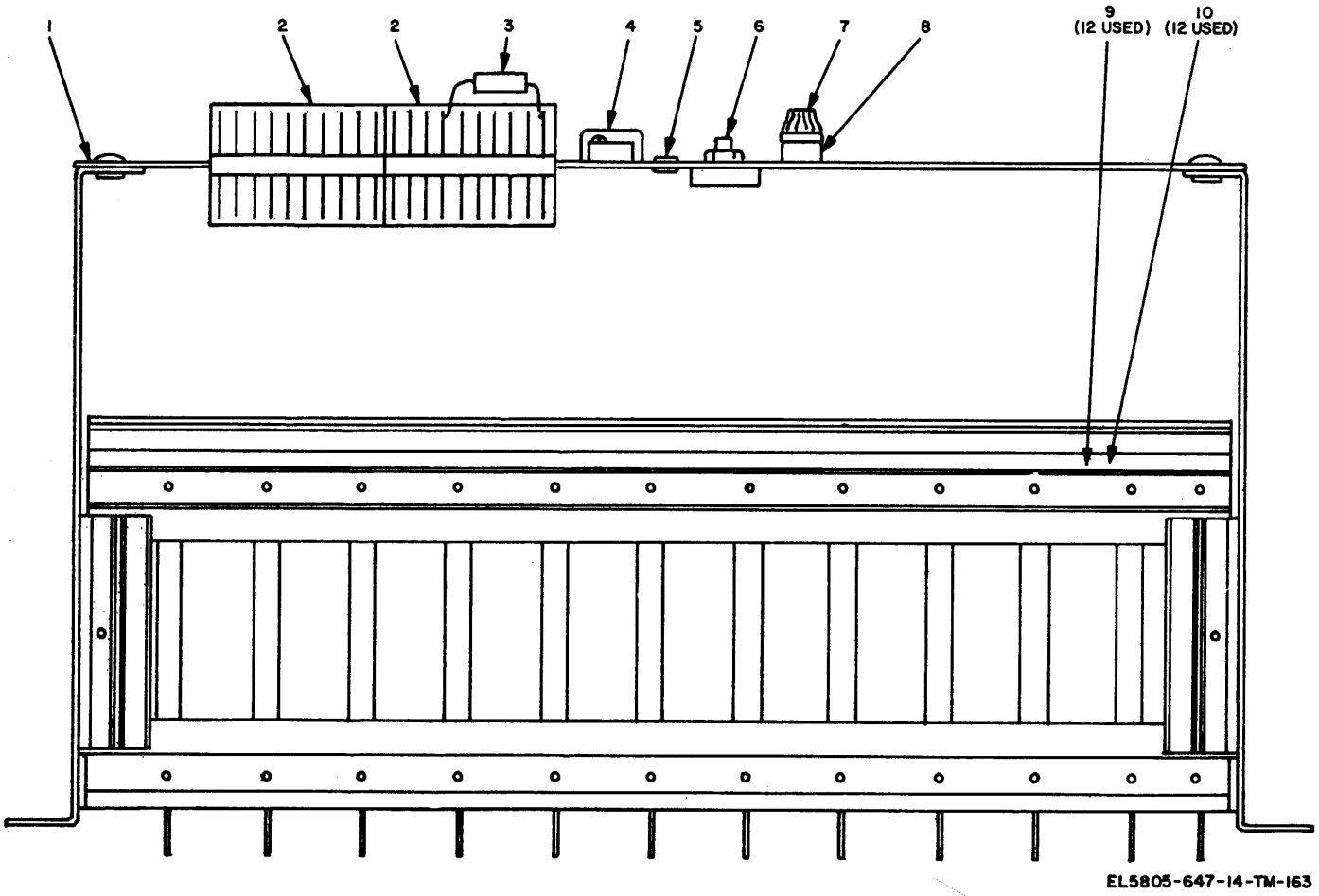

Figure 15. PC card rack assembly, parts location

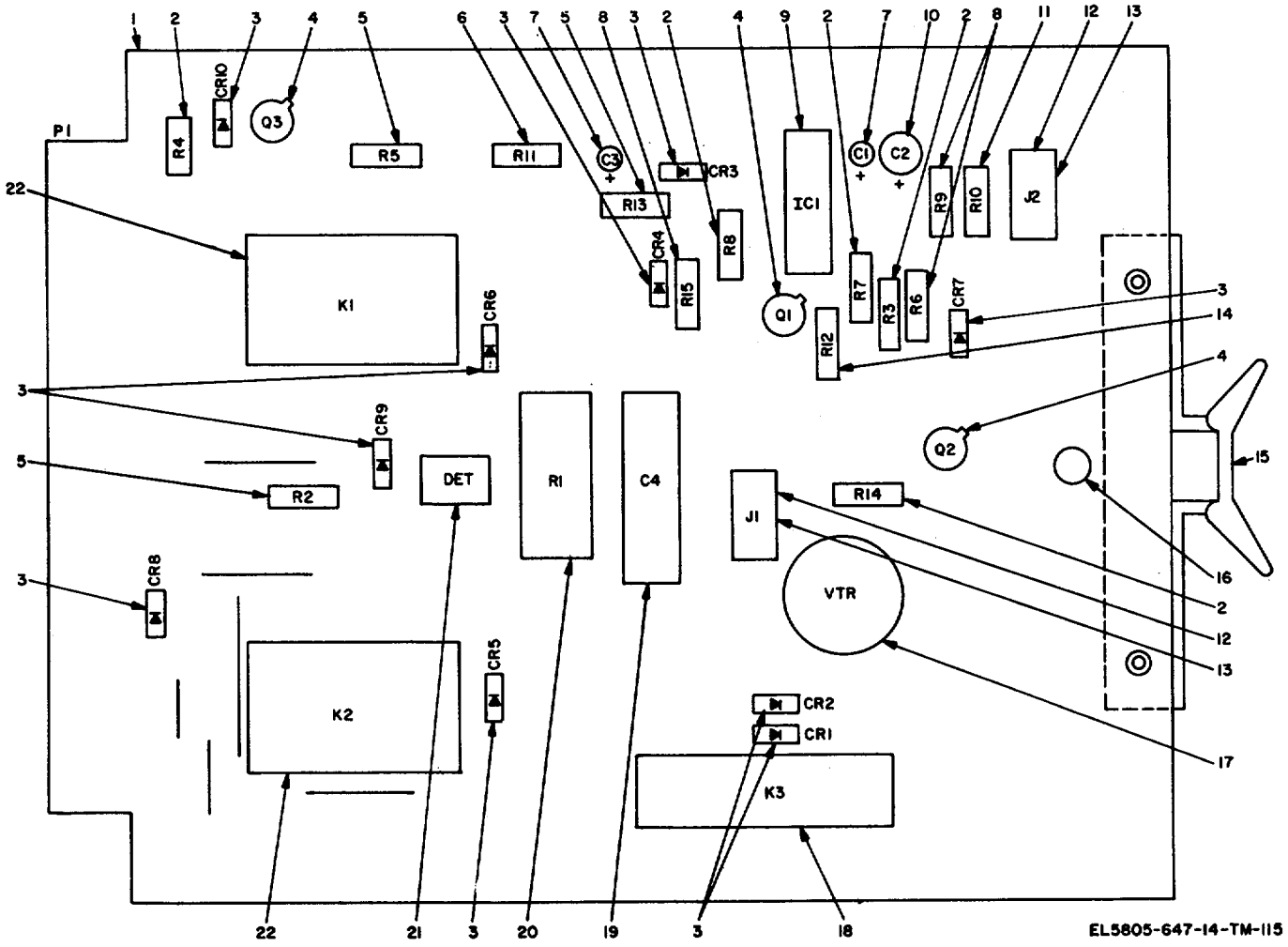

Figure 16. Line card assembly LC401-4, parts location.

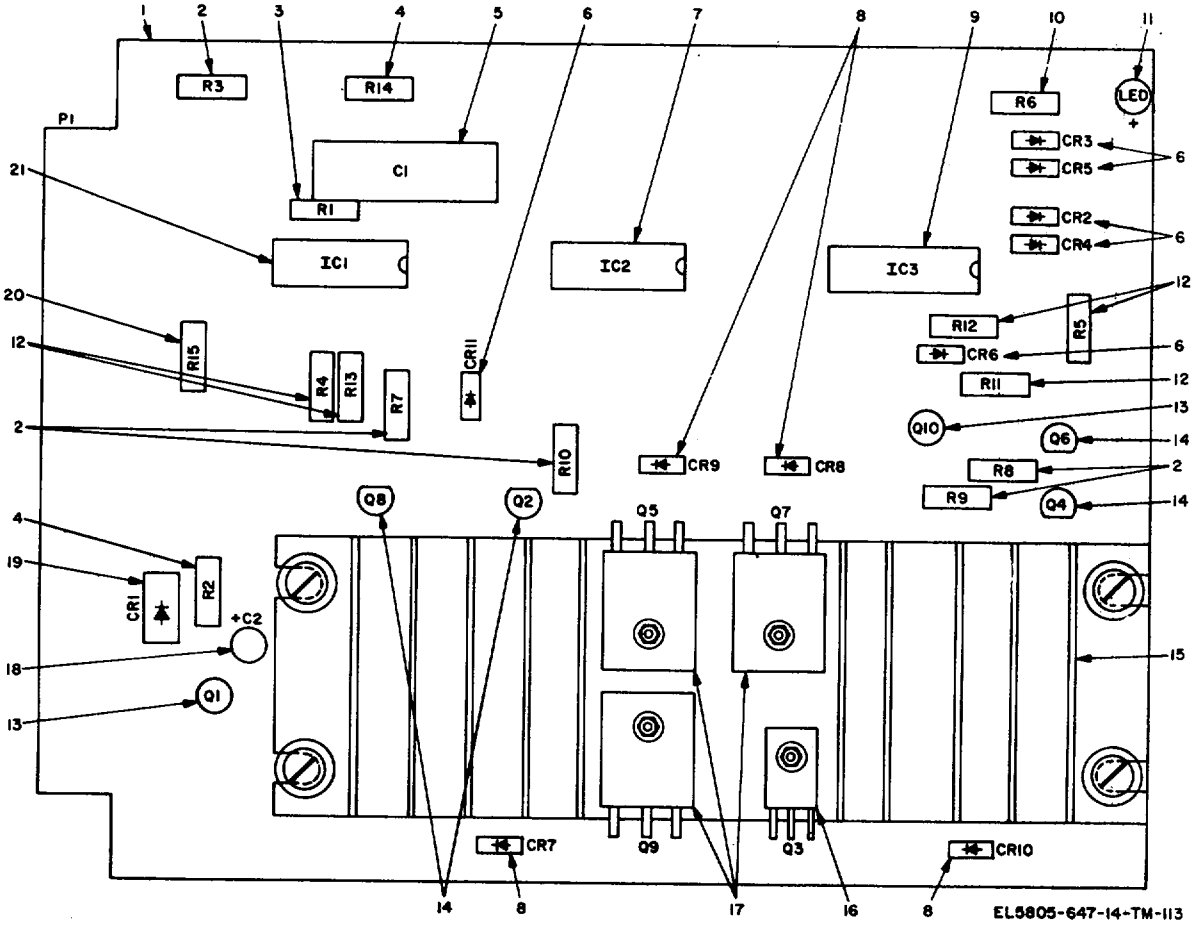

Figure 17. Interrupter card assembly INT9740, parts location.

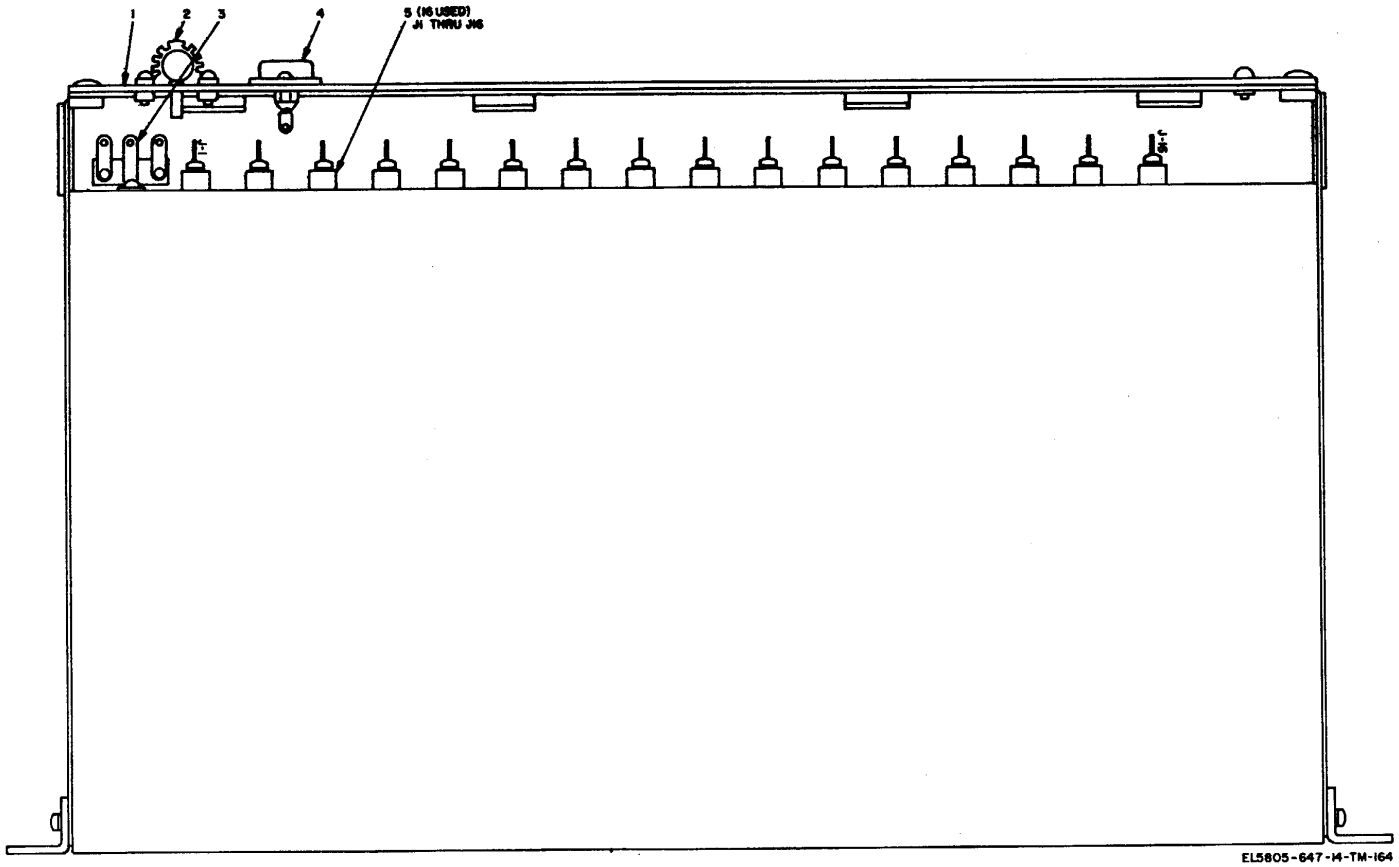

Figure 18. Equipment shelf 41040-96, top view, parts location.

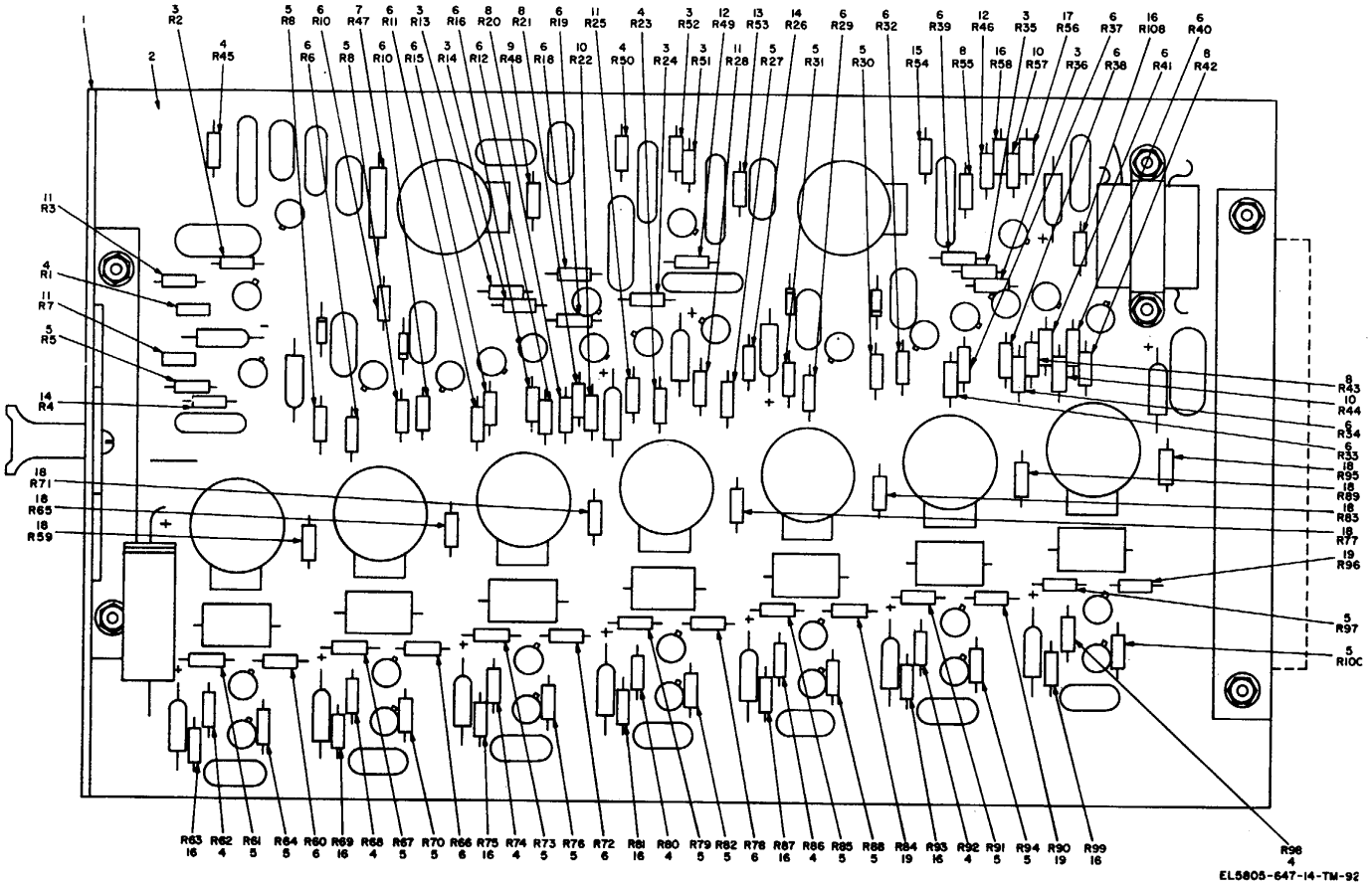

Figure 19. Tone receiver 40452-01, resistor location.

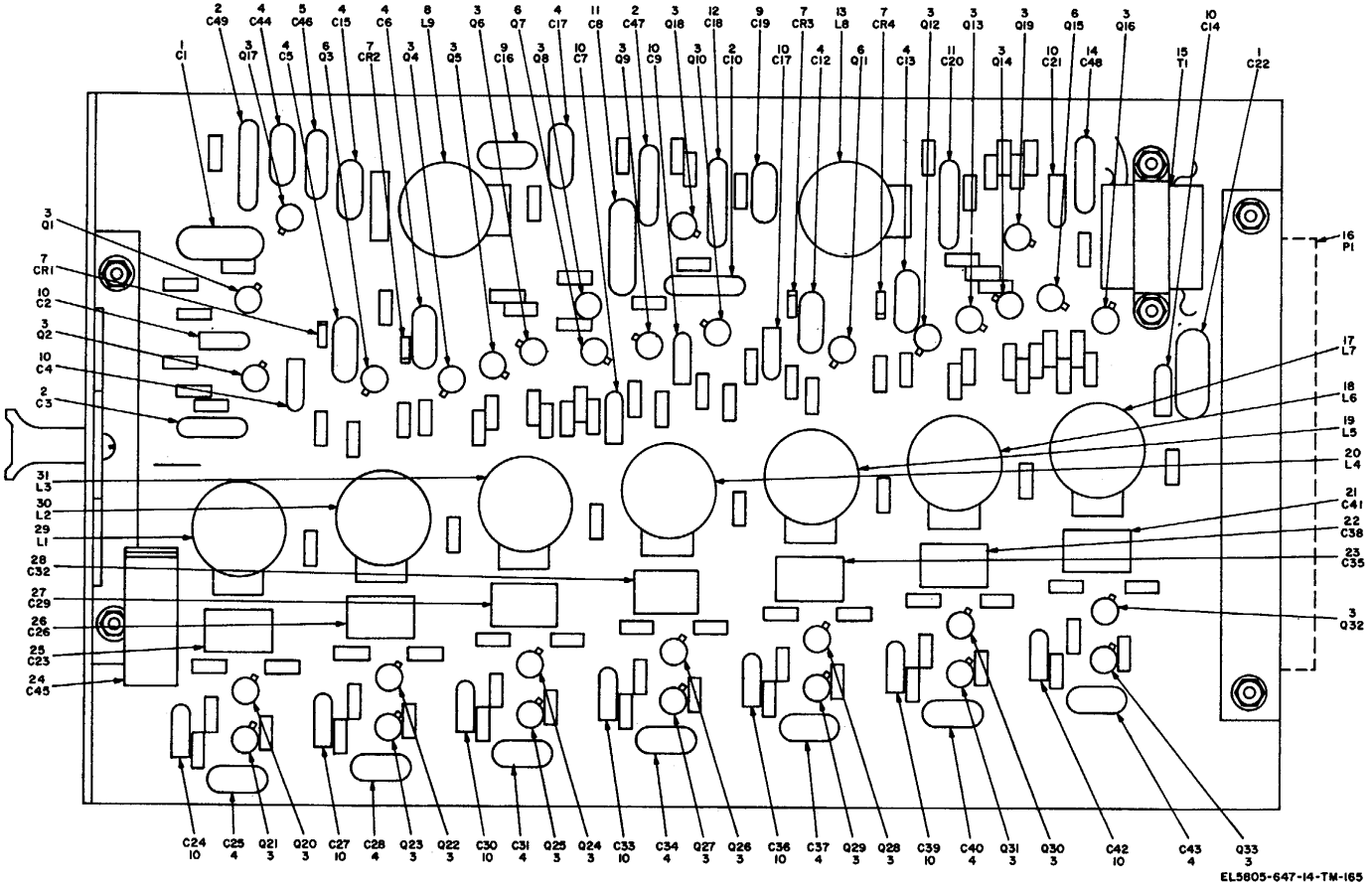

Figure 20. Tone receiver 40452-01, parts location.

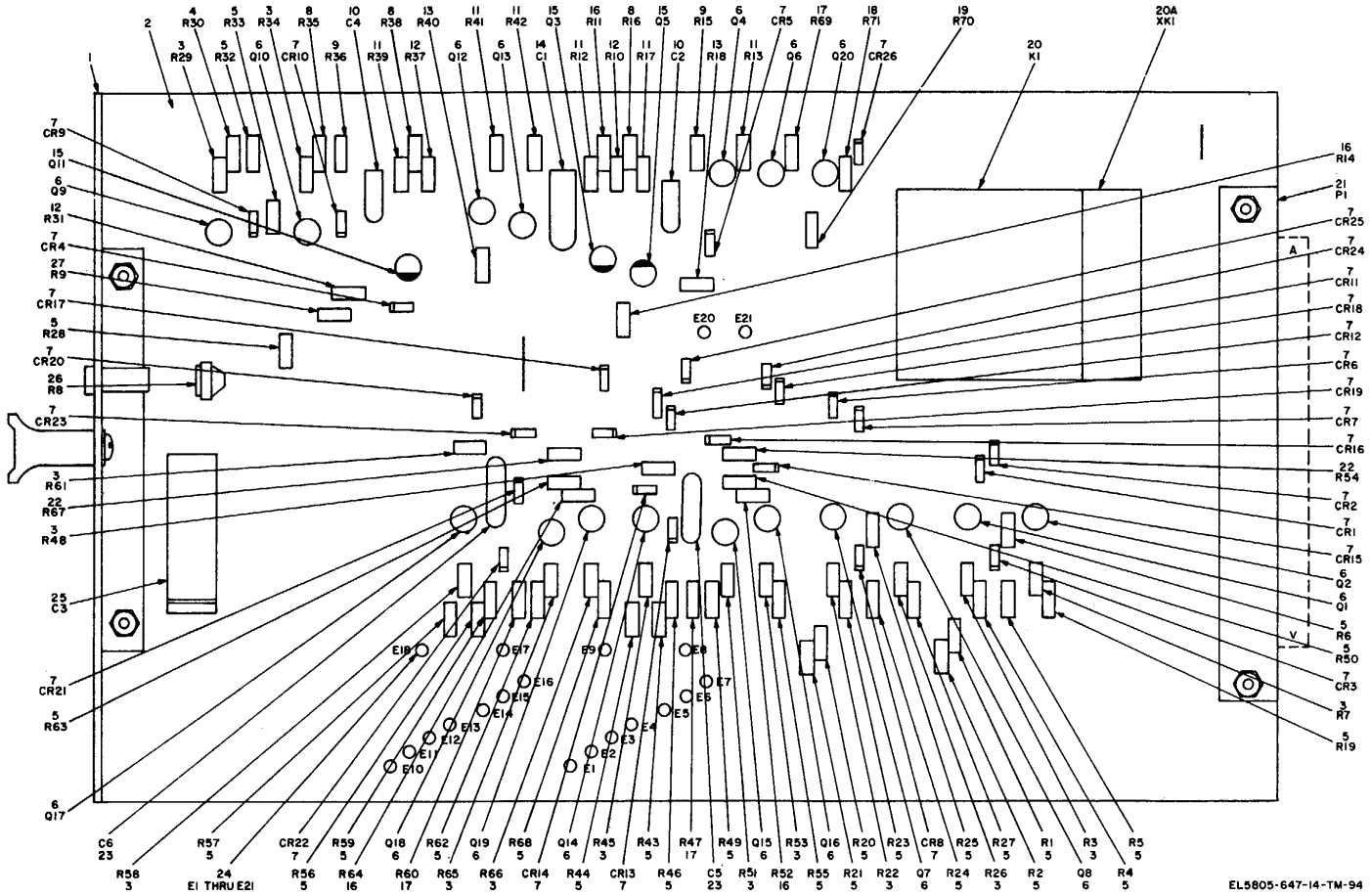

Figure 21. Digit decoder 40451-04, parts location.

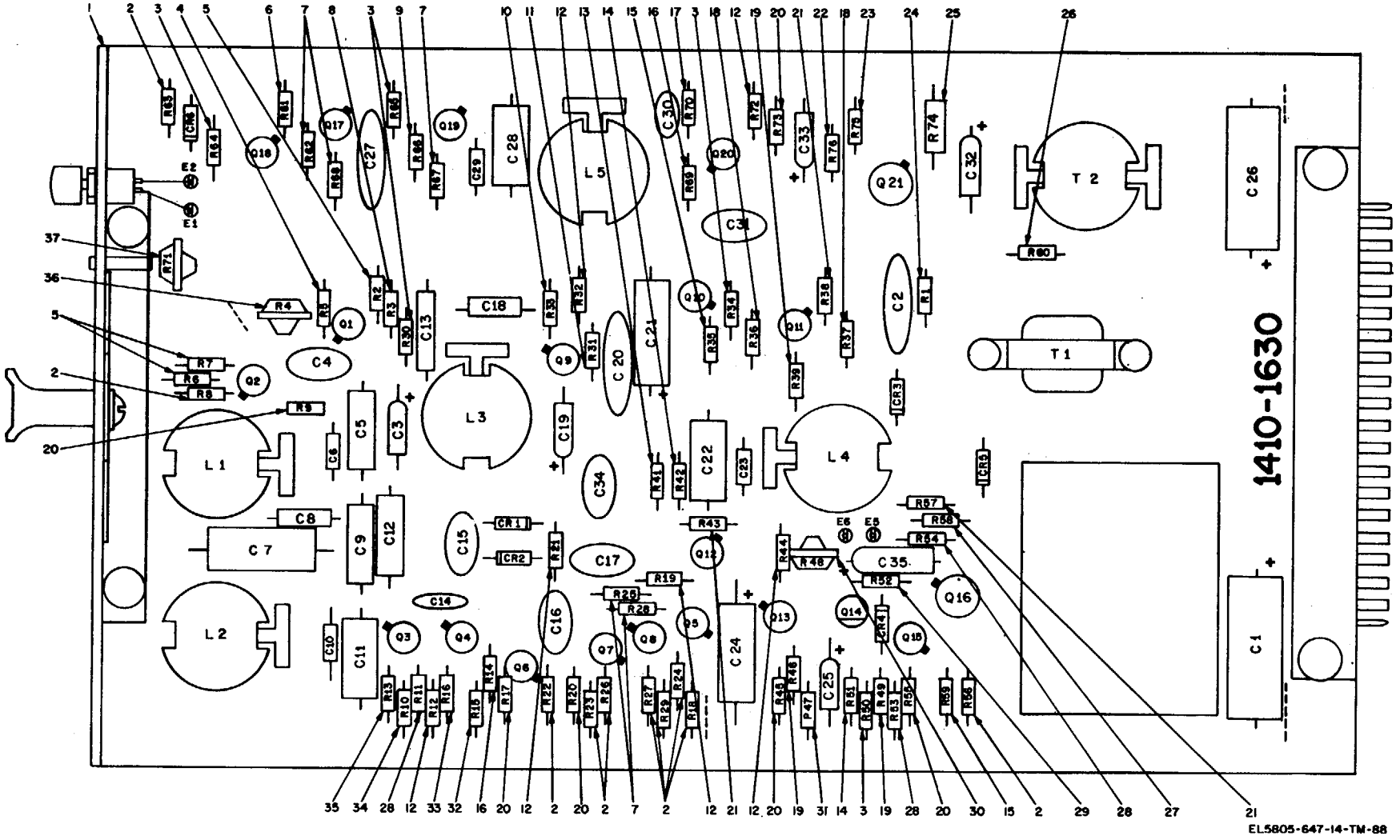

Figure 22. SF detector and oscillator 41063-02, resistor location.

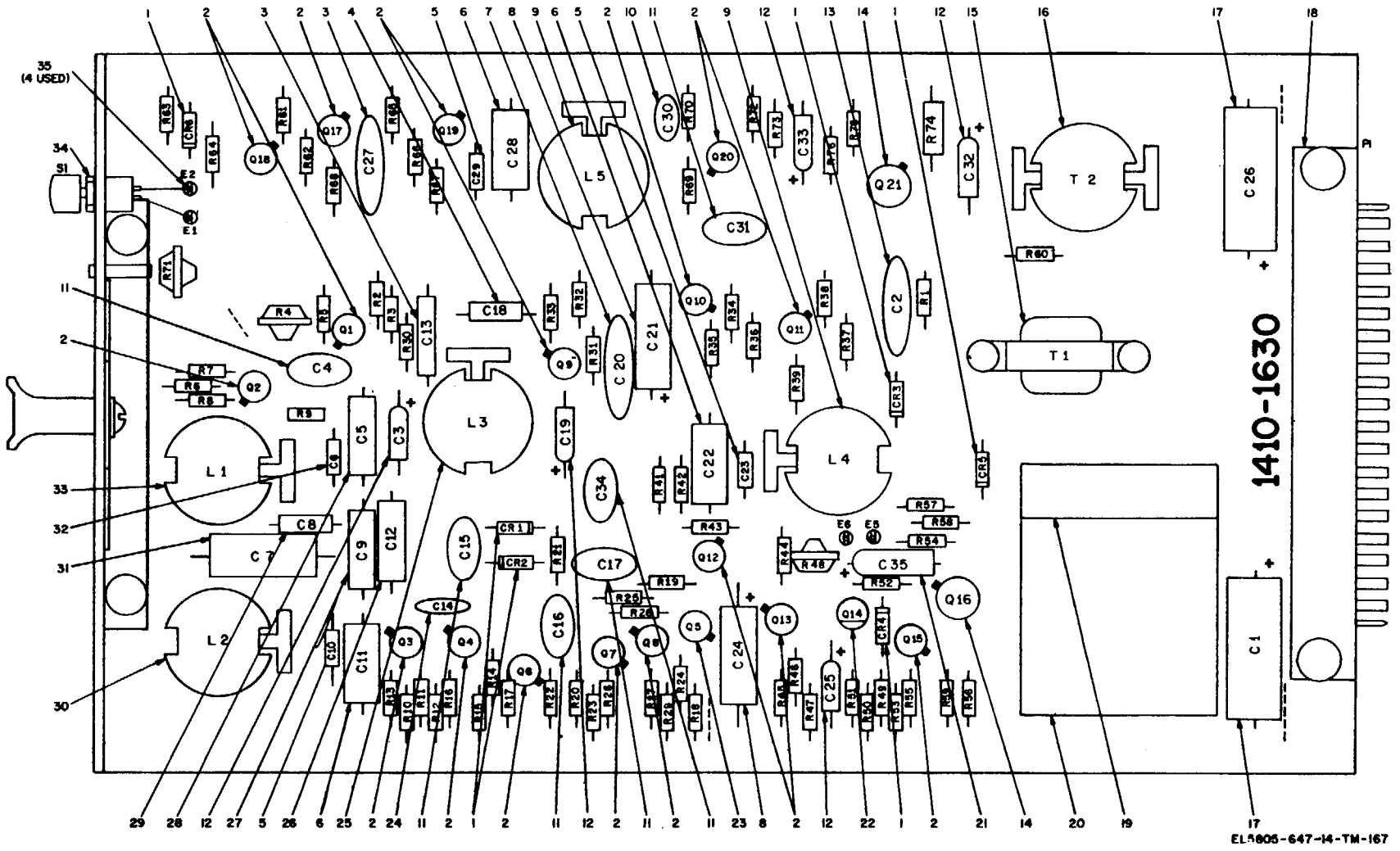

Figure 23. SF detector and oscillator 41063-02, parts location.

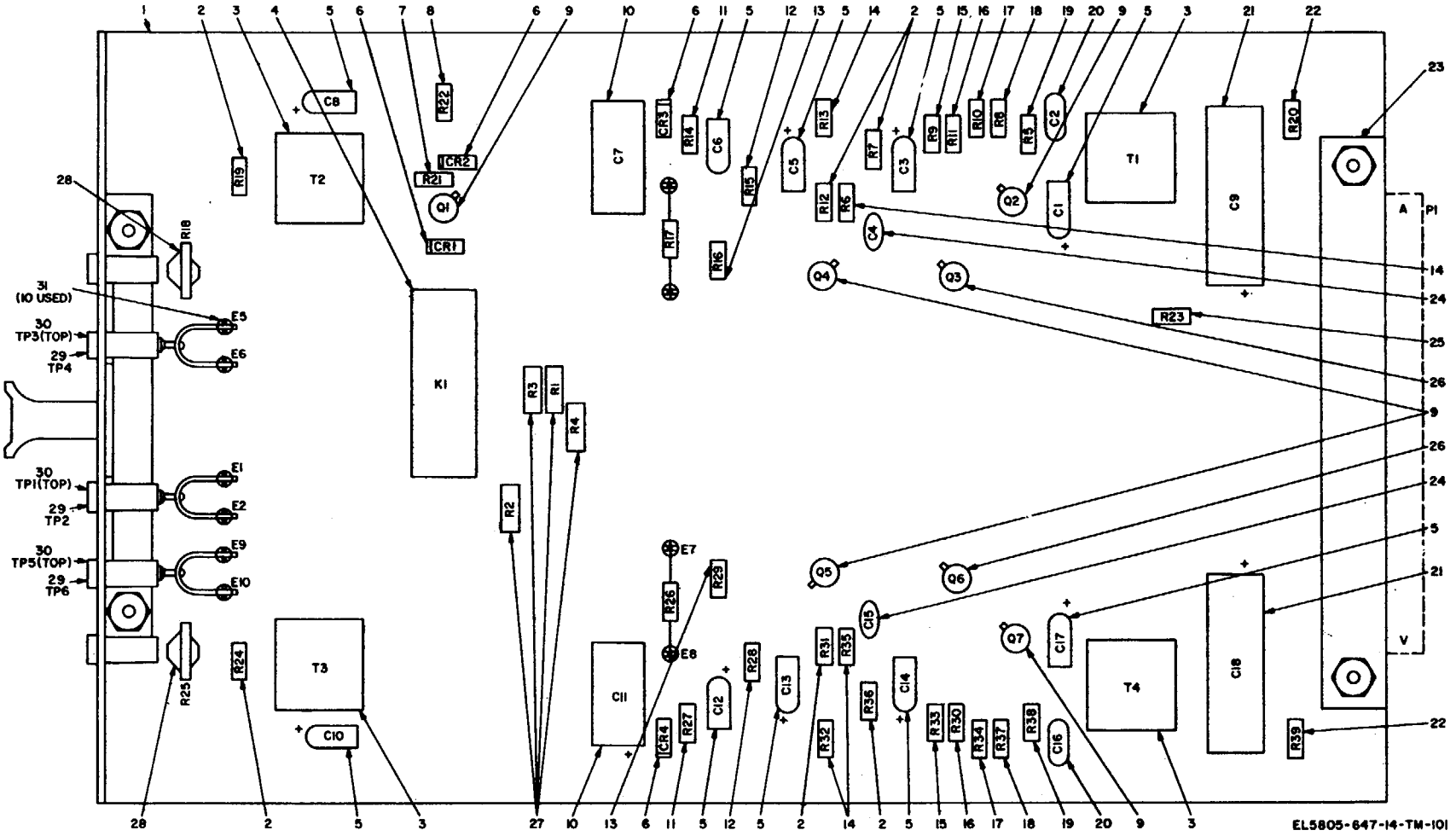

Figure 24. 4-Wire/2-wire hybrid 49008-01, parts location.

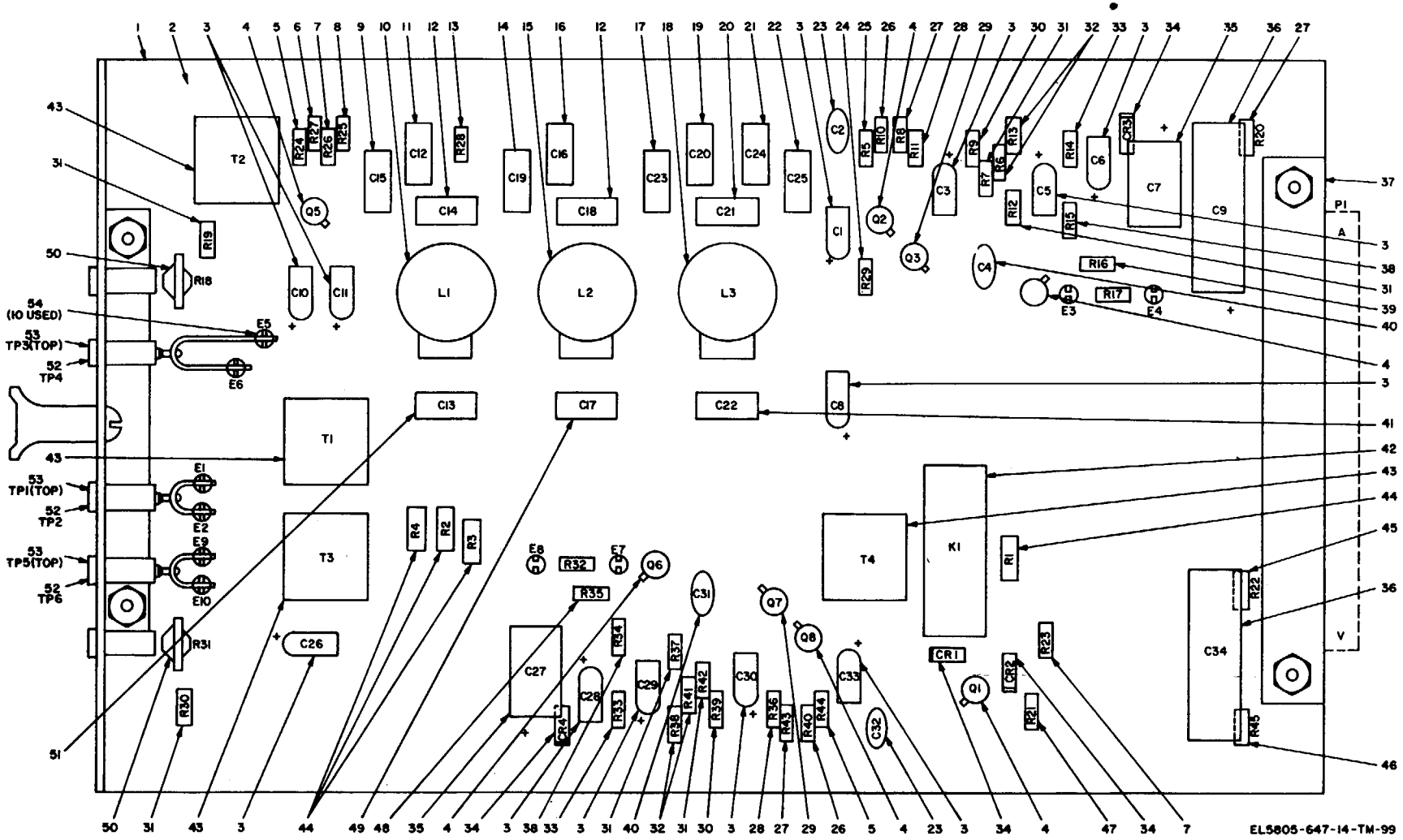

Figure 25. 4-Wire/2-wire hybrid with low-pass filter 49008-02, parts location

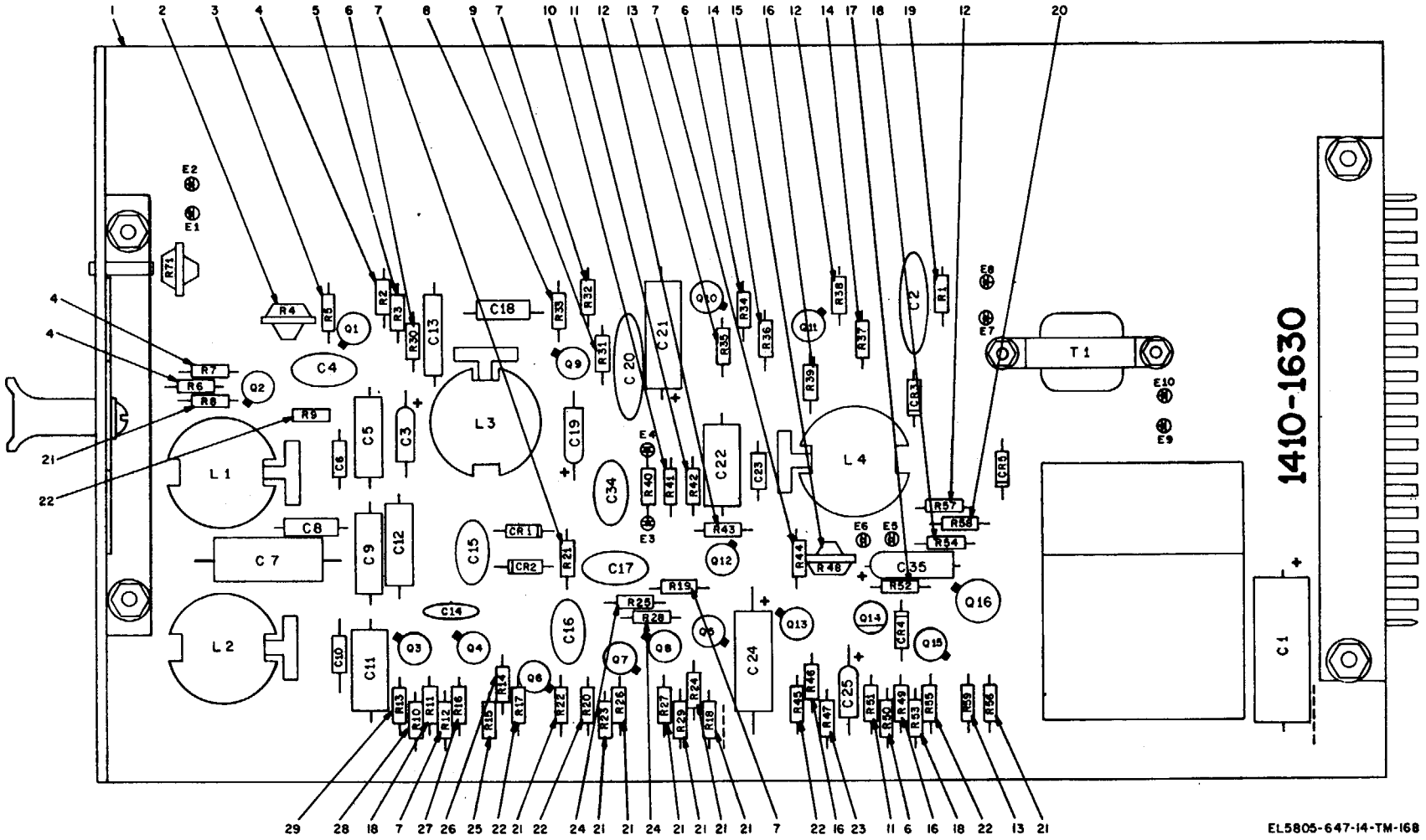

Figure 26. SF detector 41063-01, resistor location.

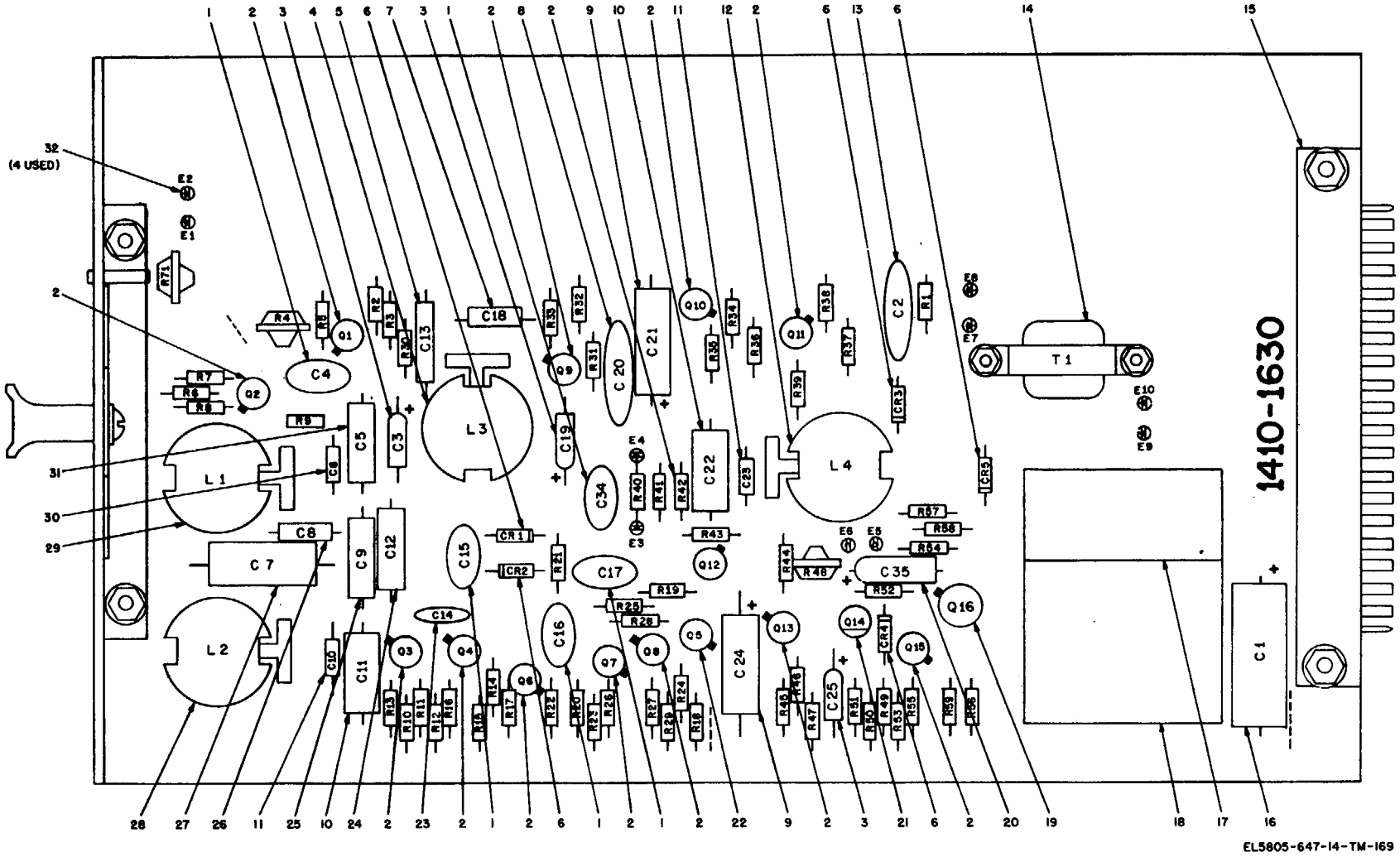

Figure 27. SF detector 41063-01, parts location.

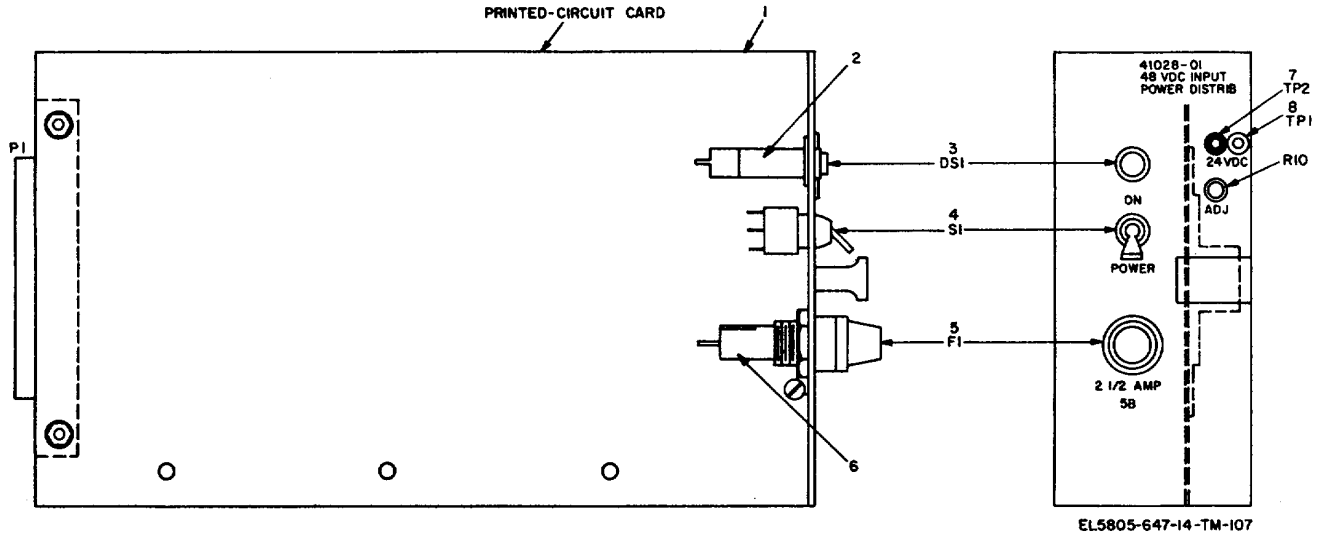

Figure 28. Power supply 41028-01, parts location.

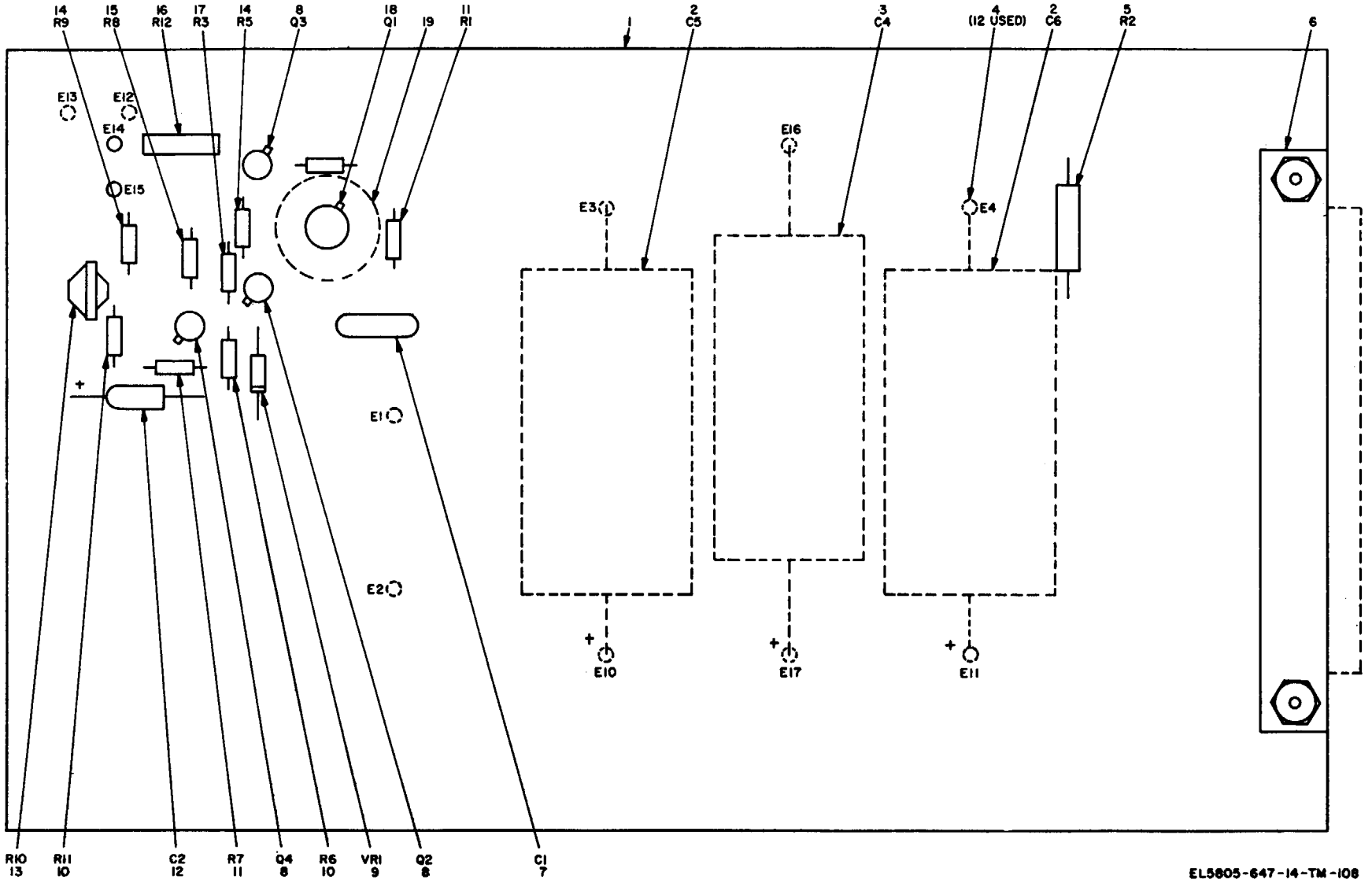

Figure 29. Printed circuit card for power supply 41028-01, parts location.

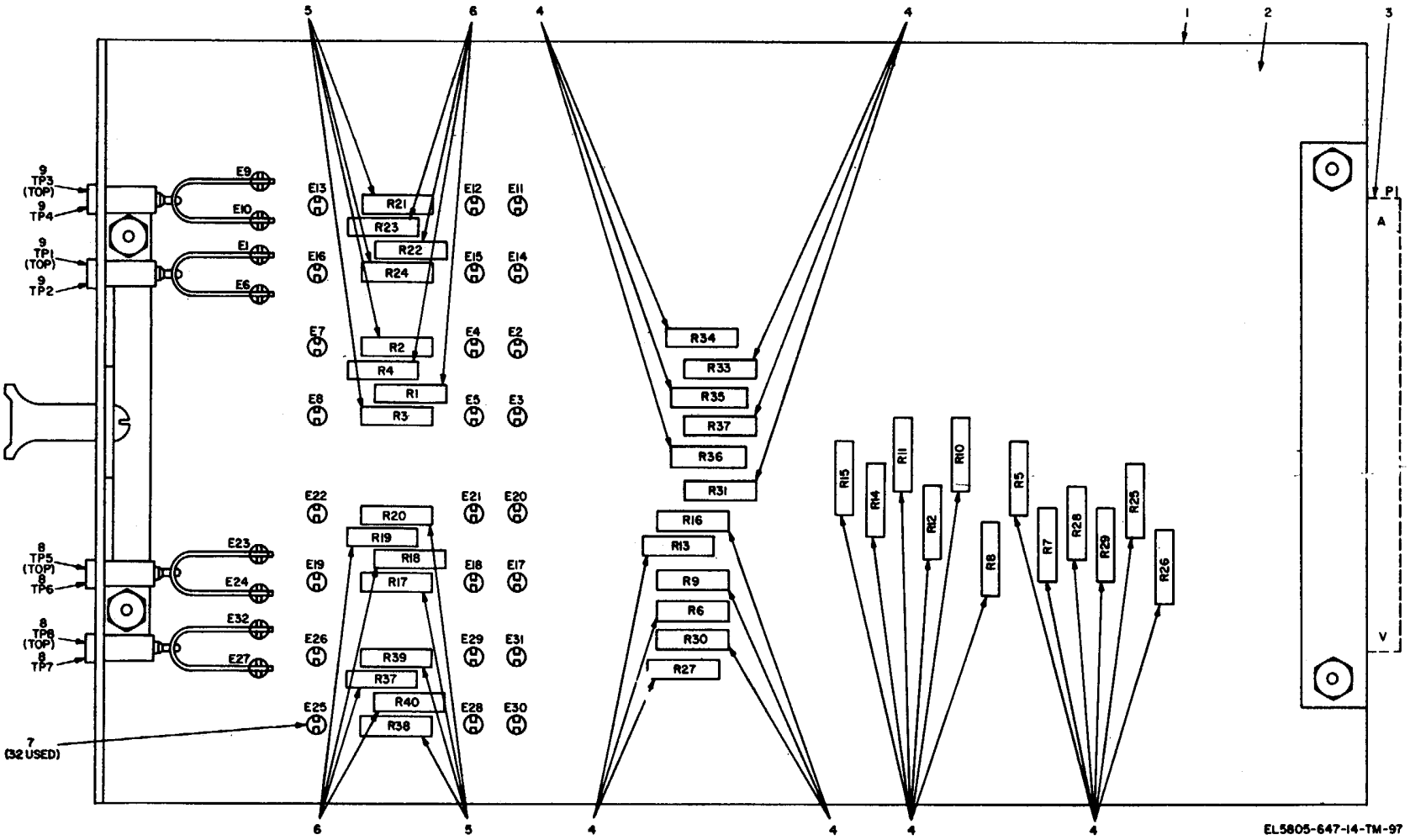

Figure 30. 4-Way/4-wire bridge 40455-03, parts location.

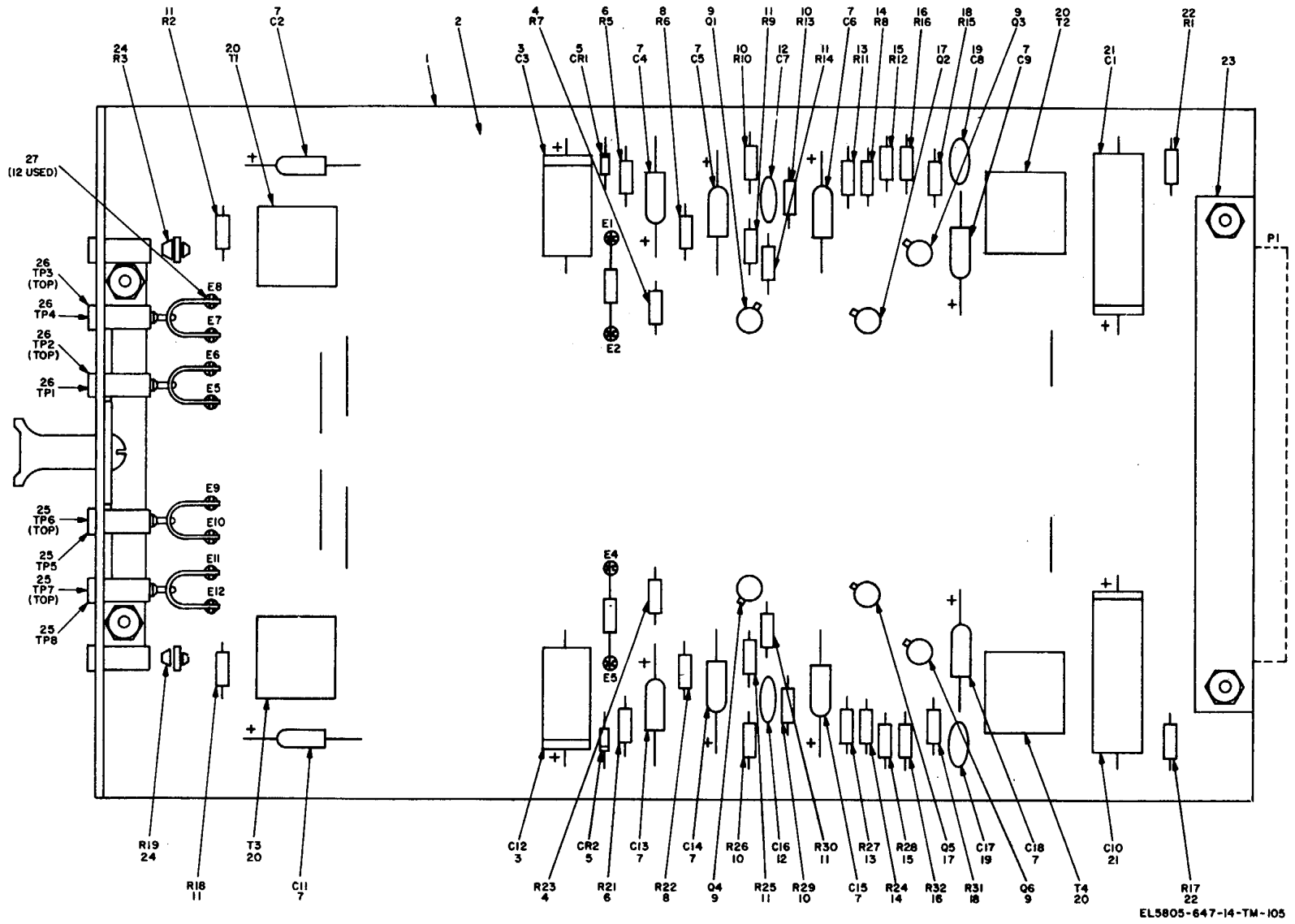

Figure 31. Dual amplifier 40472-03, parts location.

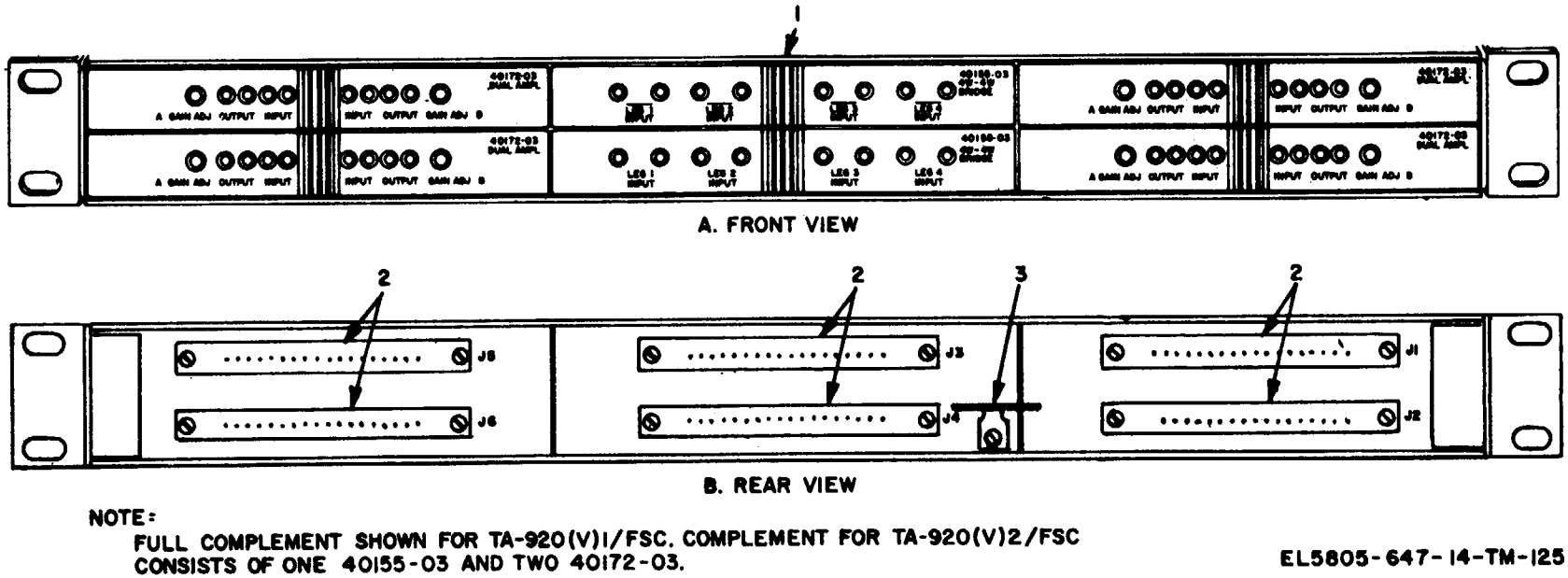

Figure 32. Conference bridge, telephone TA - 920(V)1/FSC and TA-920 (V) 2/FSC.

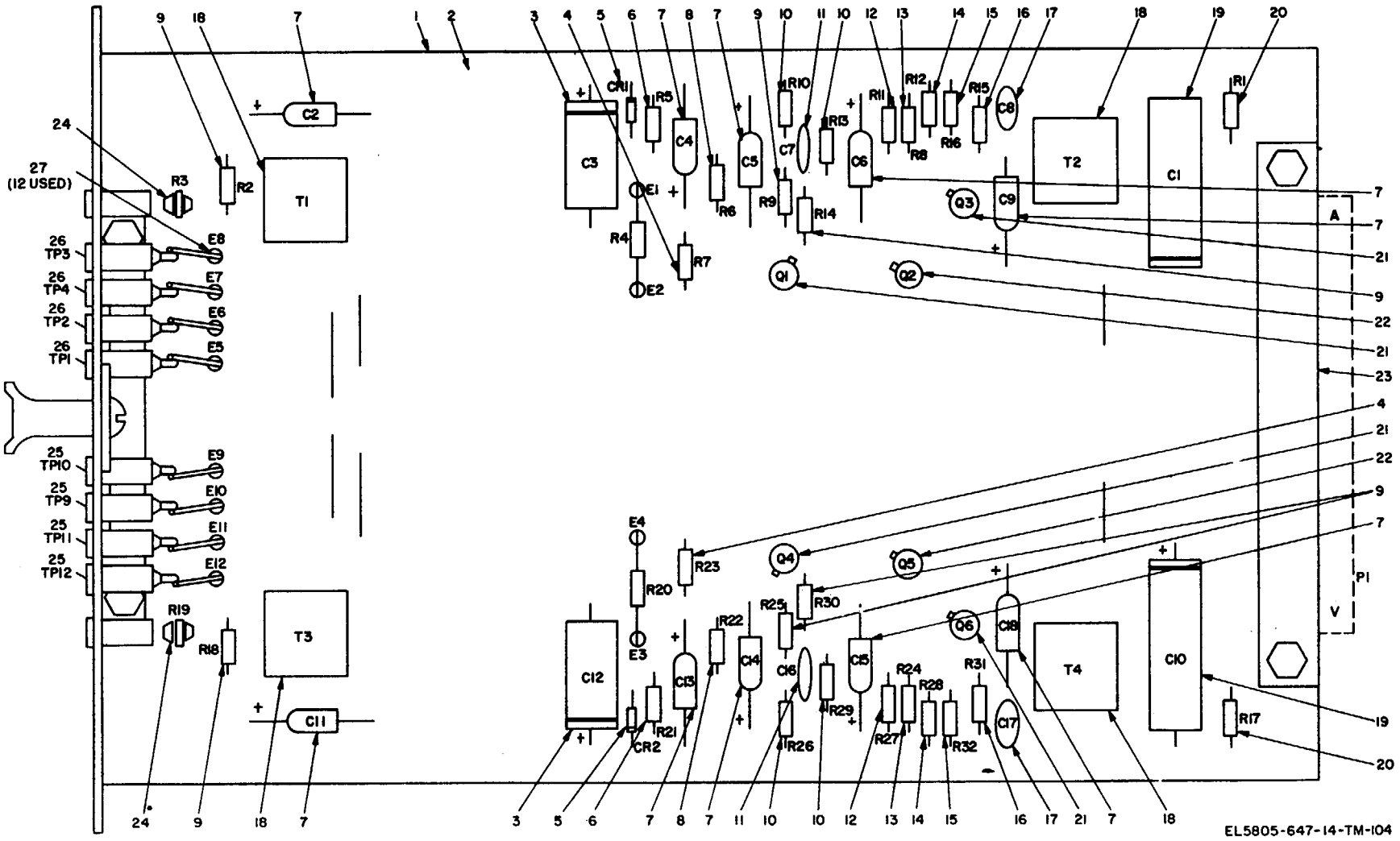

Figure 33. Dual amplifier 40172-03, parts location.

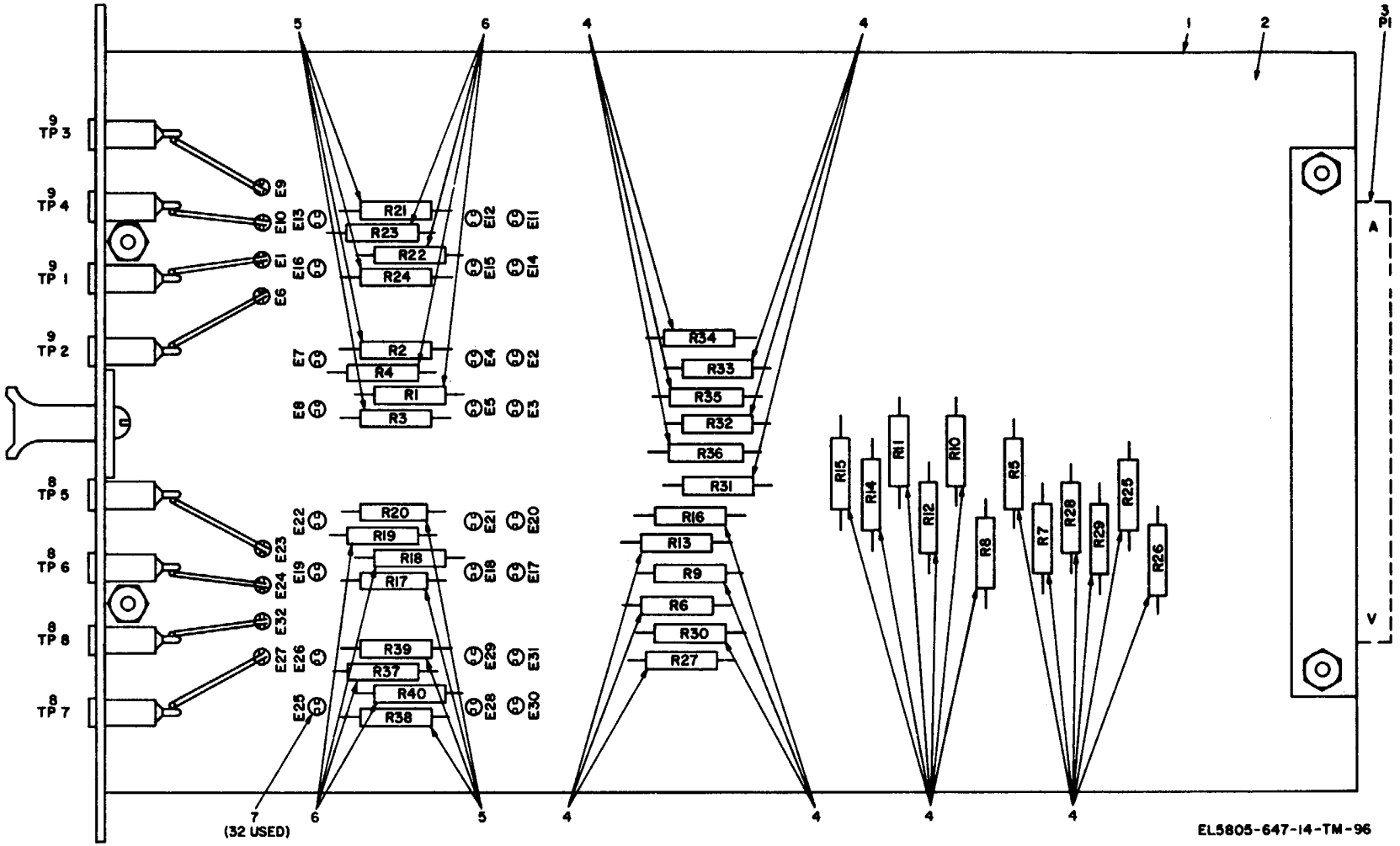

Figure 34. 4-Way/4-wire bridge 40155-03, parts location.

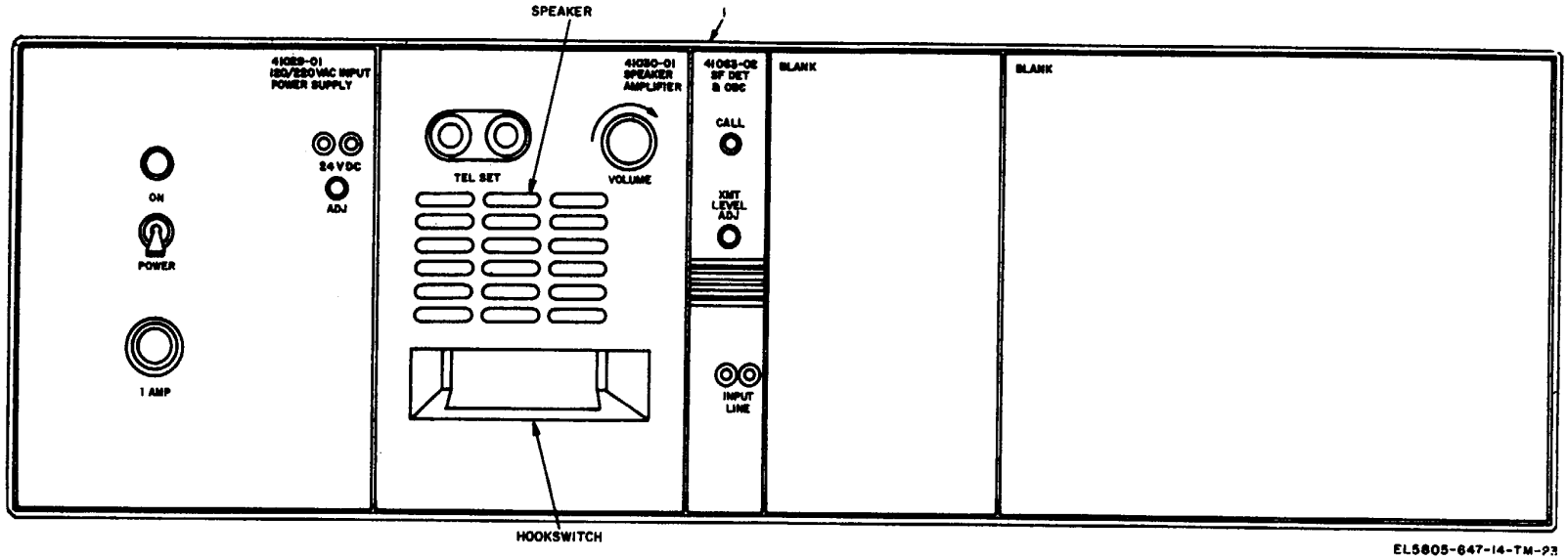

Figure 35. Local orderwire unit 41010-97 (front view).

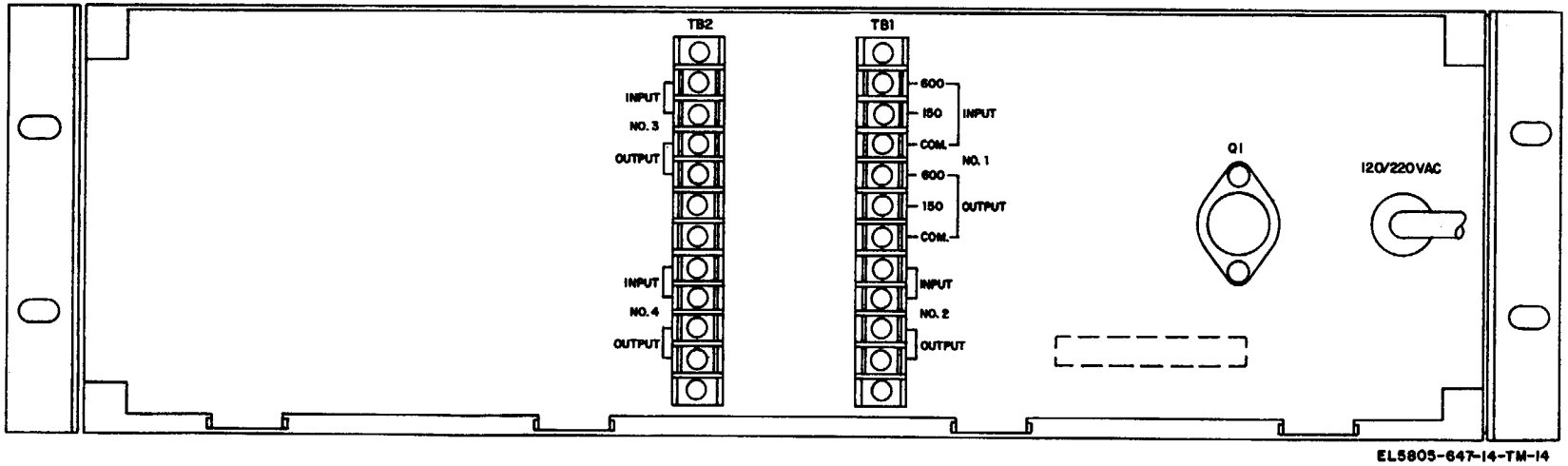

Figure 36. Local orderwire unit 411010-97, connection terminal (rear).

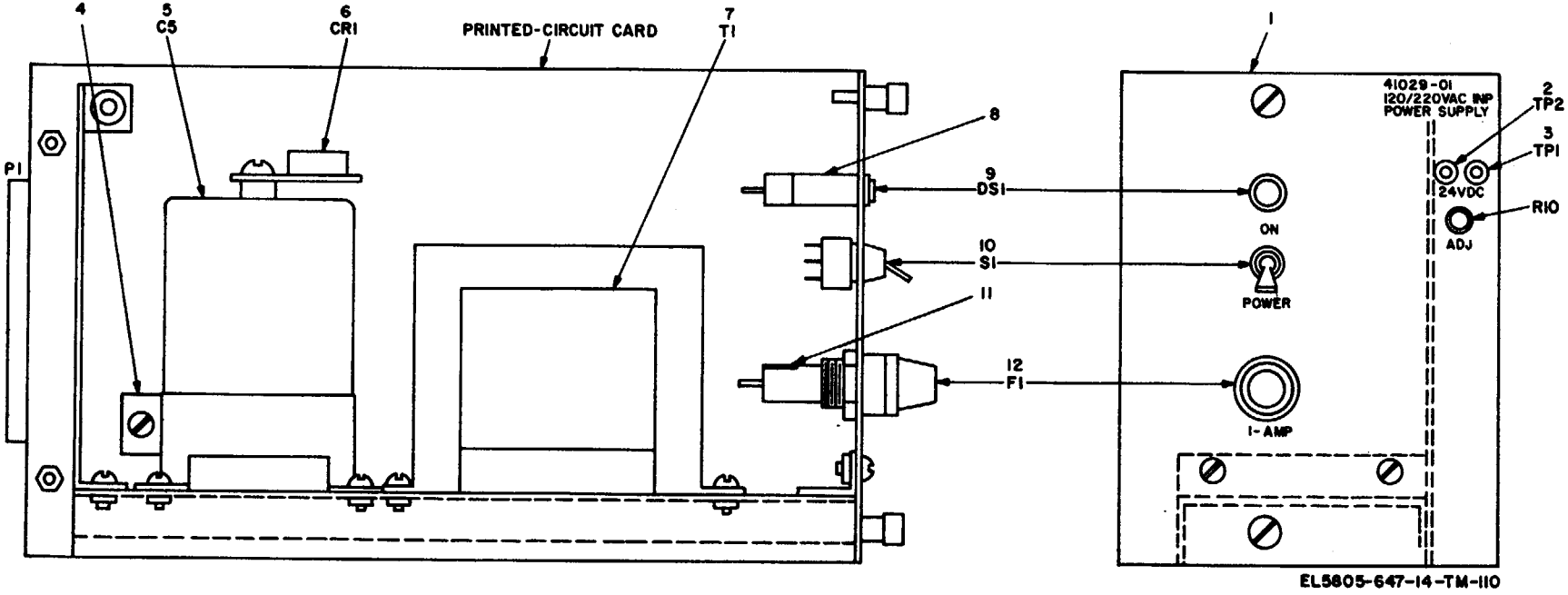

Figure 37. Power supply 41029-01, parts location.

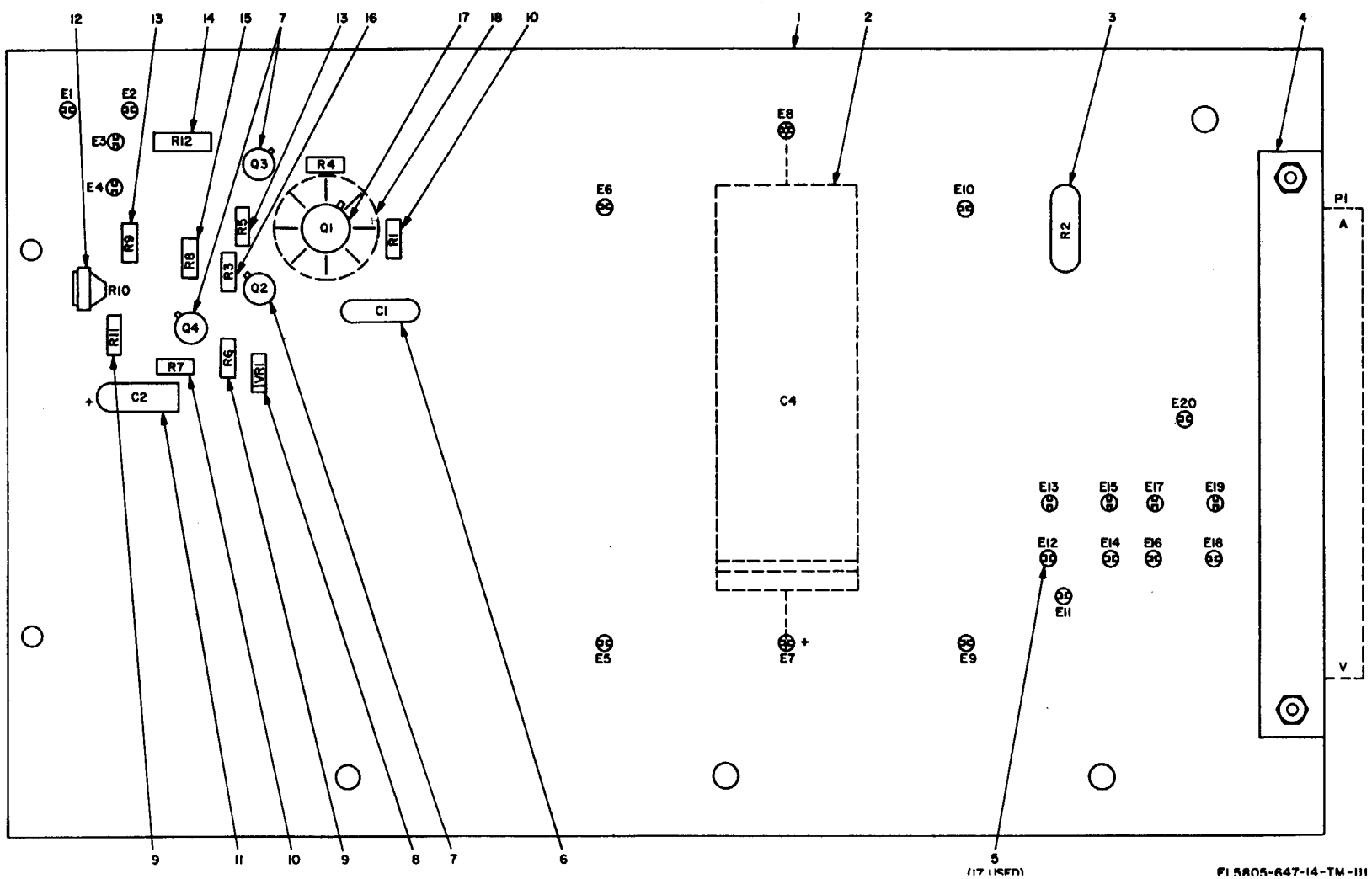

Figure 38. Printed circuit card for power supply 41029-01, parts location.

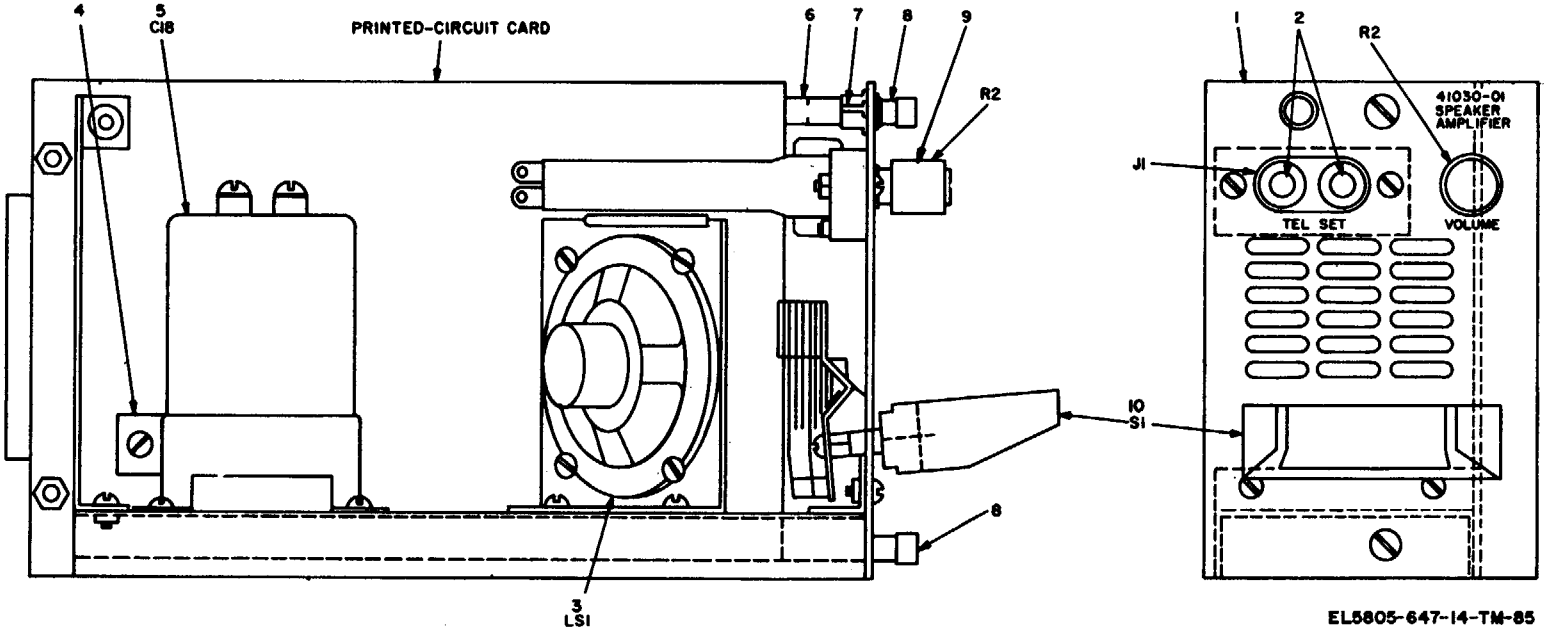

Figure 39. Speaker amplifier assembly 41030-01, parts location.

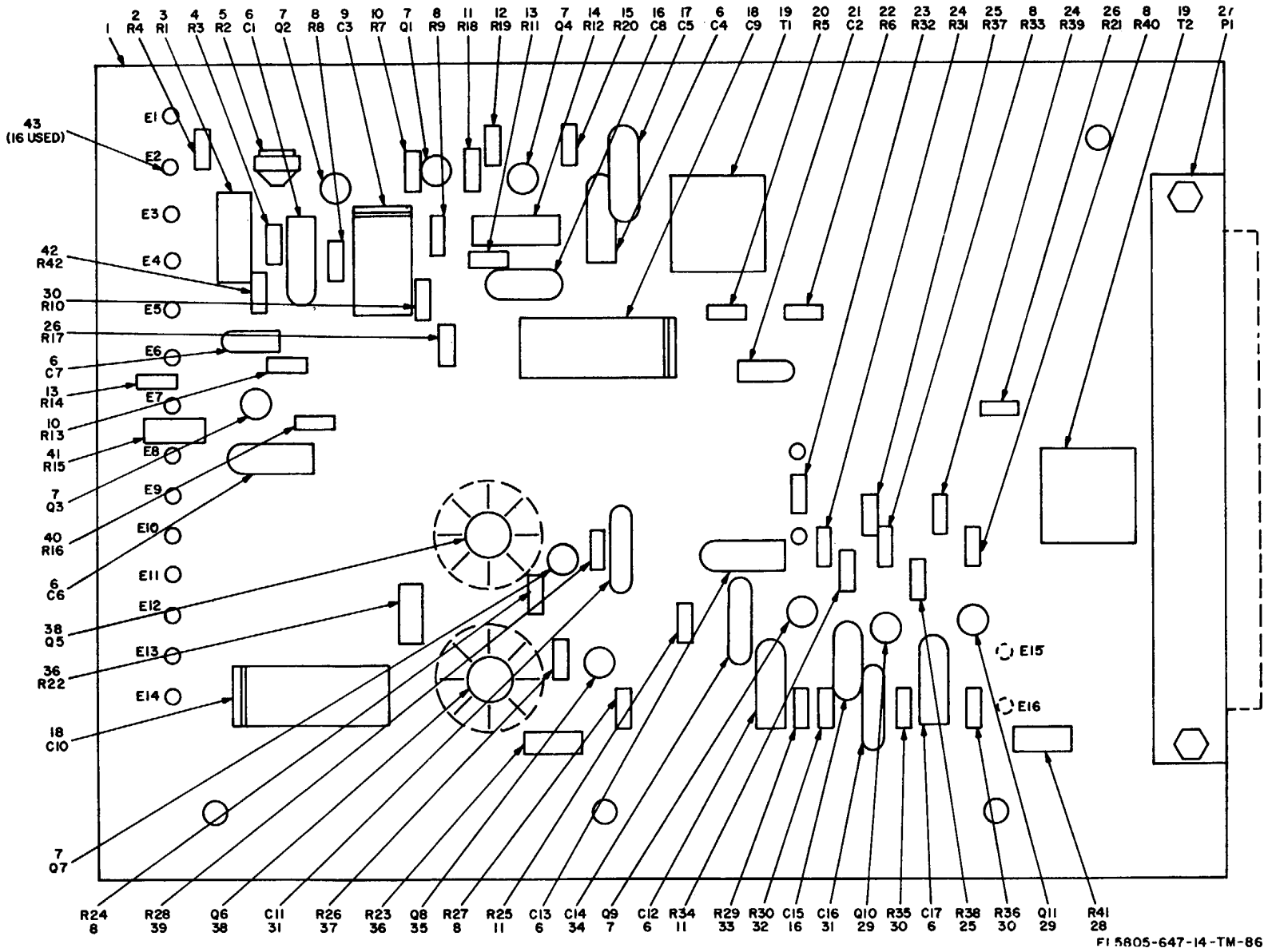

Figure 40. Printed circuit card for speaker amplifier assembly 41030-01, parts location.

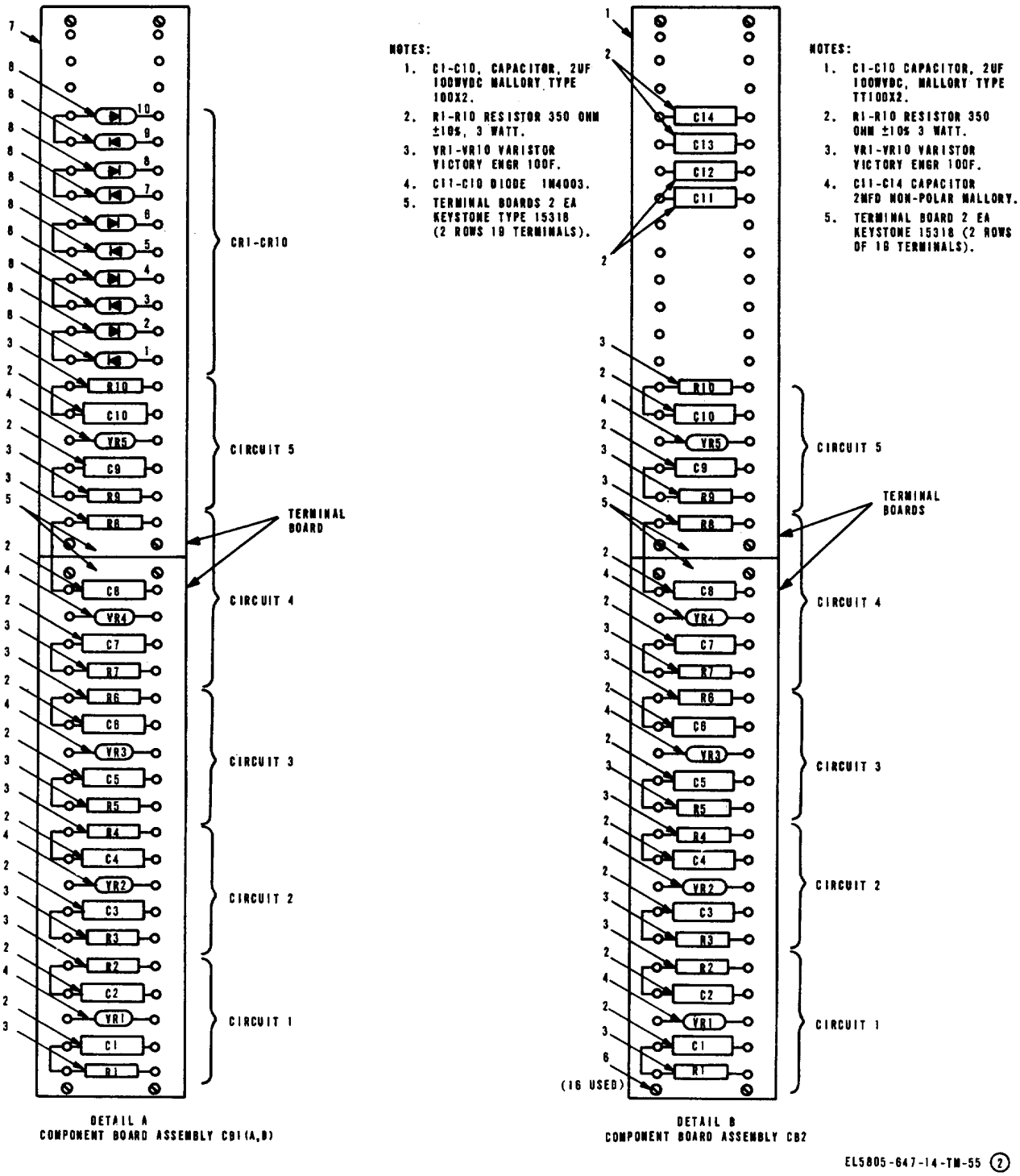

Figure 41. Typical equipment cabinet, subassembly parts location.

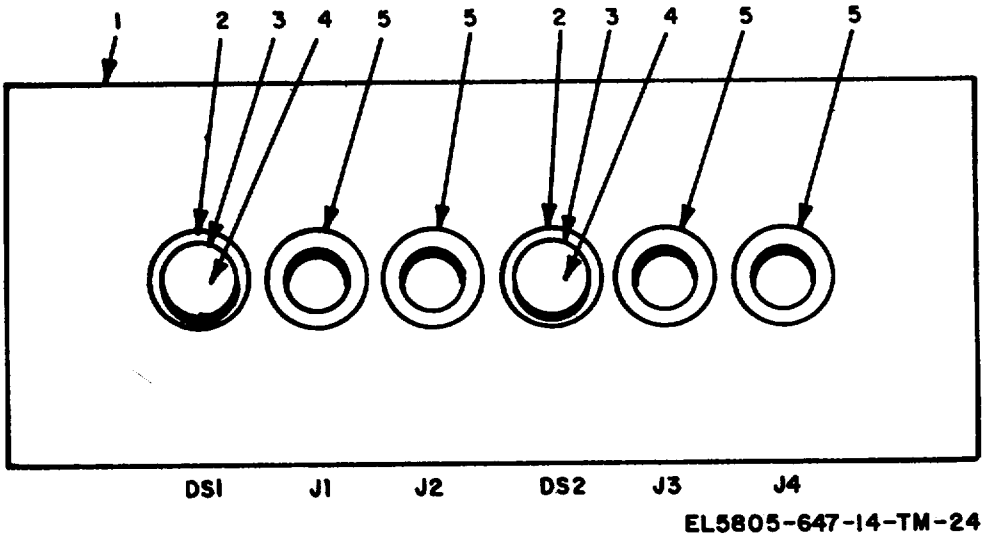

Figure 42. Jack and lamp JLP-1 (front view), parts location

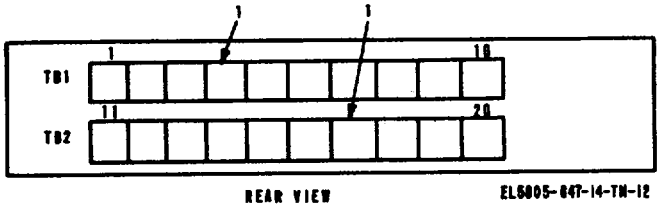

Figure 43. Jack and amp panel JLP-1, connection terminal (rear).

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

C-2. Maintenance Functions

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

b. Test. To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, etc. This is accomplished with external test equipment and does not include operation of the equipment and operator type tests using internal meters or indicating devices.

c. Service. To clean, to preserve, to charge, and to add fuel, lubricants, cooling agents, and air. If it is desired that elements, such as painting and lubricating, be defined separately, they may be so listed.

d. Adjust. To rectify to the extent necessary to bring into proper operating range.

e. Align. To adjust two or more components or assemblies of an electrical or mechanical system so that their functions are properly synchronized.
This does not include setting the frequency control knob of radio receivers or transmitters to the desired frequency.

f. Calibrate. To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared with the certified standard.

g. Install. To set up for use in an operational environment such as an encampment, site, or vehicle.

h. Replace. To replace unserviceable items with serviceable like items.

i. Repair. To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes, but is not limited to welding, grinding, riveting, straightening, and replacement of parts other than the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

j. Overhaul. Normally, the highest degree of maintenance performed by the Army in order to minimize time work in process is consistent with quality and economy of operation. It consists of that maintenance necessary to restore an item to completely serviceable condition as prescribed by maintenance standards in technical publications for each item of equipment. Overhaul normally does not return an item to like new, zero mileage, or zero hour condition.

k. Rebuild. The highest degree of materiel maintenance. It consists or restoring equipment as nearly as possible to new condition in accordance with original manufacturing standards.
Rebuild is performed only when required by operational considerations or other paramount factors and then only at the depot maintenance category. Rebuild reduces to zero the hours or miles the equipment, or component thereof, has been in use.

l. Symbols. The uppercase letter placed in the appropriate column indicates the lowest level at which that particular maintenance function is to be performed.

C-3. Explanation of Format

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies and modules with the next higher assembly.

b. Column 2, Functional Group. Column 2 lists the noun names of components, assemblies, subassemblies and modules on which maintenance is authorized.

c. Column 3, Maintenance Functions. Column

3 lists the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

Code Maintenance category
C .....Operator/crew O ..... Organizational Maintenance
F .....Direct Support Maintenance
H..... General Support Maintenance
D .....Depot Maintenance

d. Column 4,. Tools and Test Equipment. Column 4 specifies, by code, those tools and test equipment required to perform the designated function. The numbers appearing in this column refer to specific tools and test equipment which are identified in table I.

e. Column 5, Remarks. Self-explanatory.

C4. Explanation of Format of Table I (Tool and Test Equipment Requirements)

The columns in table I are as follows:

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the Maintenance Allocation Chart. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test, and maintenance equipment required to perform the maintenance function.

d. Federal Stock Number. This column lists the Federal stock number of the specific tool or test equipment.

e. Tool Number. Not used.

(Next printed page is C3)

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	FUNCTIONAL GROUP COMPONENT ASSEMBLY	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	ORDER WIRE UNIT, EXPRESS-LINK-LOCAL TA-923/FSC		O										1,5,6,7,15, 16	
	PHILCO-FORD 6505-3821				0								5,6,7,15, 16,20	Adjust SF oscillator frequency and level
										O			20	Replace lamps
										F			20	See Note 1 for all (F) level maintenance.
0101	CALL DIRECTOR ASSEMBLY		F										1,5,6,7,15, 16	
	PHILCO-FORD 6506-3836									F			20	
010101	SF OSCILLATOR-BUZZER ASSEMBLY		F										1,5,6,7,15, 16	
	PHILCO-FORD 6505-3834		F										20	
01010101	SF OSCILLATOR		H										1,3,4,5, 6 thru 11	
	RAVEN ELECTRONICS CORP. 49009-01								F				20	
										H			21	
01010102	BUZZER								F				20	
	MALLORY SC24													
010102	CALL DIRECTOR		F										1	
	STROMBERG CARLSON 703016-508									F			20	
01010201	NETWORK		H										19	
	NORTHERN ELECTRIC QNB3A4								F				20	
01010202	DIAL ASSEMBLY		H										1,4 thru 7, 9,11,14, 17,18	
	STROMBERG CARLSON 200054-221								F				20	

SECTION II MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-923/FSC (CONT' D)													
01010203	KEY ASSEMBLY		H										1	
	STROMBERG CARLSON 703016-509								F				20	
01010204	KEY ASSEMBLY		H										1	
	STROMBERG CARLSON 70316-510								F				20	
0102	PANEL ASSEMBLY		F										1	
	ALLEN TEL PRODUCTS GB1672									F			20	
010201	DIAL ASSEMBLY		H										2,4,9,12,	
	ITT 3300G450												13	
									F				20	
010202	HOOK SWITCH								F				20	
	ALLEN TEL PRODUCTS ATS1061W0													
0103	HANDSET		O											
	AUDIO SEARS CORP NC1800-03GAR15T4								O				20	
										H			21	
0104	HEADSET								O					
	AUDIO SEARS CORP, 1574-5									H			21	
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by off site (Area Maint. and Supply Facility, AMSF) personnel													

TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-923/FSC (CONT' D)			
1	O,F,H	MULTIMETER	AN/USM-210	6625-019-0815	
2	H	OSCILLOSCOPE	AN/USM-281A	6625-228-2201	
3	H	TRANSISTOR TESTER	TS-1836	6625-893-2628	
4	H	POWER SUPPLY	HP6206B	6625-823-5359	
5	O,F,H	AC VTVM	ME-30A	6625-893-4737	
6	0,F,H	COUNTER, FREQUENCY	AN/USM-207	6625-911-6368	
7	0,H	CABLE, TEST	POMONA 2BC-BNC-36	6625-900-4276	
8	H	RESISTOR, DECADE	ZM-16/U	6625-669-0266	
9	H	CABLE, TEST	POMONA AL-B-24		
10	H	RESISTOR, 150-OHMS, ½ W, 1%	RN65D1500F	5905-978-7095	
11	H	CABLE, TEST	POMONA 2BB-AL-30	6625-866-4509	
12	H	RESISTOR, 10K-OHMS, ½ W, 5%	RC20GF1O3J	5905-107-6530	
13	H	CABLE, TEST	POMONA 1166-24-RED	6625-764-2934	
14	H	TEST ADAPTER	PHILCO-FORD QR9848-8		
15	0	RESISTOR, 604-OHMS,1/2 1W, 1%	RN70D6040F	5905-984-3221	
16	0	CABLE, TEST	POMONA 2BC-MG-36	6625-936-6290	
17	H	RESISTOR, 910-OHMS, ½ W, 5%	RC20GF911J	5905-279-3509	
18	H	RESISTOR, 200-OHMS, ½ W, 1%	RN65D2000F	5905-857-6107	
19	H	IMPEDANCE BRIDGE	AN/URM-90	6625-534-7458	
20	O,F	TOOL KIT, ELECTRONIC EQUIPMENT	TK-105/G	5180-610-8177	
21	H	TOOL KIT, ELECTRONIC EQUIPMENT	TK-100/G	5180-605-0079	

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SECTION III MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	ORDER WIRE UNIT, REMIOTE LINK TA-924/FSC PHILCO-FORD 6505-3823		O							O F			1,4,5 15 15	Replace lamps See Note 1 for all (F) level maintenance
0101	CALL DIRECTOR ASSEMBLY PHILCO-FORD 6505-3839		F							F			1,4,5 15	
010101	BUZZER ASSEMBLY PHILCO-FORD 6505-3835		F							F			1 15	
01010101	BUZZER MALLORY SC24								F				15	
010102	CALL DIRECTOR STROMBERG CARLSON 703016-506		F							F			1 15	
01010201	NETWORK NORTHERN ELECTRIC CO QNB3A4		H						F				14 15	
01010202	DIAL ASSEMBLY STROMBERG CARLSON 200054-221		H						F				1,2 4,5 6, 9 thru i3, 16 15	
01010203	KEY ASSEMBLY STROMBERG CARLSON 703016-509		H						F				1 15	
0102	PANEL ASSE MBLY ALLEN TEL PRODUCTS GB11671								F	F			1 15	
010201	HOOK SWITCH ALLEN TEL PRODUCTS AT810610J								F				15	
010202	AMPLIFIER WEBSTER ELECTRIC CO TLC410		H						F				2 thru 8 15	

SECTION II. MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-924/FSC CONT' D)													
010203	SPEAKER QUAM 30C25								F				15	
0103	HANDSET		O											
	AUDIO SEARS CORP NC1800-03GAR05T4								O				15	
										H			16	
0104	HEADSET								O					
	AUDIO SEARS C3RP 1574-5									H			16	
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by off site (Area Maint. and Supply Facility, AMSF) personnel.													

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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-924/FSC (CONT' D)			
1	0,F,H	MULTIIETER	AN/USM-210	6625-019-0815	
2	H	POWER SUPPLY	HP6206B	6625-823-5359	
3	H	GENERATOR, SIGNAL	AN/USM-205	6625-788-9672	
4	O,F,H	AC VTVM	ME-30A	6625-893-4737	
5	O,F,H	COUNTER, FREQUENCY	AN/USM-207	6625-911-6368	
6	H	CABLE, TEST	POMONA 2BC-BNC-36	3625-900-4276	
7	H	RESISTOR, 8-OHMS, 3W	RW79U8R25F	5905-872-9109	
8	H	TEST ADAPTER	PHILCO-FORD QR 9848-7		
9	H	CABLE, TEST	POMONA AL-B-24		
10	H	CABLE, TEST	POMONA 2BB-AL-30	6625-866-4509	
11	H	TEST ADAPTER	PHILCO-FORD QR9848-8		
12	H	RESISTOR, 910-OHMS, ½ W, 5%	RC20GF911J	5905-279-3509	
13	H	RESISTOR, 200-OHMS, ½ W, 1%	RN65D2000F	5905-857-6107	
14	H	IMPEDANCE BRIDGE	AN/URM-90	6625-534-7458	
15	O,F	TOOL KIT, ELECTRONIC EQUIPMENT	TK-105/G	5180-610-8177	
16	H	TOOL KIT, ELECTRONIC EQUIPMENT	TK-100/G	5180-605-0079	

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SECTION IV MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
101	ORDER WIRE UNIT, LINK		O										1,6,7,8,	
	TA-925/FSC												18,19	
	PHILCO-FORD 6505-3822				O								6,7,8,18,	Adjust SF oscillator
													19,23	frequency and level
										0			23	Replace lamps
										F			23	See Note 1 for all
														(F) level maintenance
0101	CALL DIRECTOR ASSEMBLY		F										1,6,7,8,	
	PHILCO-FORD 6505-3838												18,19	
										F			23	
010101	SF OSCILLATOR-BUZZER ASSEMBLY		F										1,6,7,8,	
	PHILCO-FORD 6505-3834												18,19	
									F				23	
01010101	SF OSCILLATOR									H			1,3,4,6,7	
	RAVEN ELECTRONICS CORP 49009-01												8,11,12,	
													13,14	
									F				23	
										H			24	
01010102	BUZZER								F				23	
	MALLORY SC24													
010102	CALL DIRECTOR		F										1	
	STROMBERG CARLSON 703016-754									F			23	
01010201	NETWORK		H										22	
	NORTHERN ELECTRIC CO QNB3A4								F				23	
01010202	DIAL ASSEMBLY		H										1,4,6,7,8,	
	STROMBERG CARLSON 200054-221												12,14,17,20,	
													21	
									F				23	
01010203	KEY ASSEMBLY		H										1	
	STROMBERG CARLSON 703016-509								F				23	

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SECTION II. MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-925/FSC (CONT'D)													
01010204	KEY ASSEMBLY		H										1	
	STRONGBERG CARLSON 703016-511								F				23	
0102	PANEL ASSEMBLY		F										1	
	ALLEN TEL PRODUCTS GB11670									F			23	
010201	DIAL ASSEMBLY		H										2,4,12,	
	ITT 3300G450												15,16	
									F				23	
010202	HOOKSWITCH													
	ALLEN TEL PRODUCTS AT810610W								F				23	
010203	AMPLIFIER		H										4 thru 10,	
	WEBSTER ELECTRIC C0. TLC410												24	
									F				23	
010204	SPEAKER													
	QUAM 30C25								F				13	
0103	HANDSET		O											
	AUDIO SEARS CORP. NC1800-03GR05T4								O				23	
										H			24	
0104	HEADSET								O					
	AUDIO SEARS CORP. 1574-5									H			24	
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by off site (Area Maint. and Supply Facility, AMSF) personnel.													
														ESC-FM 97-66

TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-925/FSC			
1	O,F,H	MULTIMETER	AN/USM-210	6625-019-0815	
2	H	OSCILLOSCOPE	AN/USM-281A	6625-228-2201	
3	H	TPRANSISTOR TESTER	TS-1836	6625-893-2628	
4	H	POWER SUPPLY	HP 6206B	6625-823-5359	
5	H	GENERATOR,SIGNAL	AN/USM-205	6625-788-9672	
6	O,F,H	AC VTVM	ME-30A	6625-893-4737	
7	O,F,H	COUNTER,FREQUENCY	AN/USM-207	6625-911-6368	
8	O,H	CABLE,TEST	POMONA 2BC-BNC-36	6625-900-4276	
9	H	RESISTOR,8-OHMS, 3W	RW79U8R25F	5905-872-9109	
10	H	TEST ADAPTER	PHILCO-FORD QR9848-7		
11	H	RESISTOR,DECADE	ZM-16/U	6625-669-0266	
12	H	CABLE,TEST	POMONA AL-B-24		
13	H	RESISTOR,150-OHMS, 1/2 W, 1%	RN65D1500F	5905-978-7095	
14	H	CABLE,TEST	POMONA 2BB-AL-30	6625-866-4509	
15	H	RESISTOR,1OK-OHMS, 1/2 W, 5%	RC20GF103J	5905-107-6530	
16	H	CABLE,TEST	POMONA 1166-24-RED	6625-764-2934	
17	H	TEST ADAPTER	PHILCO-FORD QR9848-8		
18	0	RESISTOR,604-OHMS, 1/2 W, 1%	RN70D6040F	5905-984-3221	
19	0	CABLE,TEST	POMONA 2BC-MG-36	6625-936-6290	
20	H	RESISTOR,910-OHMS, 1/2 W, 5%	RC20GF911J	5905-279-3509	

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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-925/FSC (CONT'D)			
21	H	RESISTOR,200-OHMS, 1/2W, 1%	RN65D2000F	5905-857-6107	
22	H	IMPEDANCE BRIDGE	AN/URM-90	6625-534-7458	
23	O,F	TOOL KIT,ELECTRONIC EQUIPMENT	TK-105/G	5180-610-8177	
24	H	TOOL KIT,ELECTRONIC EQUIPMENT	TK-100/G	5180-605-0079	

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SECTION V MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	ORDER WIRE UNIT,EXPRESS-LINK-LOCAL TA-928/FSC		O										1,6,7,8, 16,17	
	PHILCO-FORD 6505-3820				O								6,7,8,16, 17,21	Adjust SF oscillator frequency and level
										O			21	Replace lamps
										F			21	See Note 1 for all (F) level maintenance
0101	CALL DIRECTOR ASSEMBLY		F										1,6,7,8,	
	PHIIO-FORD 6505-3837												16,17	
										F			21	
010101	SF OSCILLATOR-BUZZER ASSEMBLY		F										1,6,7,8,	
	PHILCO-FORD 6505-3834												16,17	
										F			21	
01010101	SF OSCILLATOR		H										1,3,4,6,7,	
	RAVEN ELECTRONICS CORP 49009-01												8,9 thru 12	
									F				21	
										H			22	
01010102	BUZZER								F				21	
	MALLORY SC24													
010102	CALL DIRECTOR									F			1	
	STROYBERG CARLSON 703016-507		F										21	
01010201	NETWORK		H										20	
	NORTHERN ELECTRIC CO QNB3A4								F				21	
01010202	DIAL ASSEMBLY		H										1,4,6,7,8,	
	STROMBERG CARLSON 200054-221												10,15,18,19	
									F				21	
01010203	KEY ASSEMBLY		H										1	
	STROMBERG CARLSON 703016-509								F				21	
01010204	KEY ASSEMBLY		H										1	
	STROMBERG CARLSON 703016-510								F				21	

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SECTION II. MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-928/FSC (CONT'D)													
01010205	HOOKSWITCH STROXBERG CARLSON 703016-639								F				21	
0102	ROTARY DIAL MOUNTING ALLEN TEL PRODUCTS GB11767									F			21	
010201	DIAL ASSEMBLY ITT 3300G450		H										2,4,10, 13,14	
									F				21	
0103	SPEAKER ASSEMBLY		H										1,3 thru 8,	
									F				21	
0104	HANDSET AUDIO SEARS CORP NC1800-03GARI15T4		O						O				21	
										H			22	
0105	HEADSET AUDIO SEARS CORP 1574-5								O					
										H			22	
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by Off Site (Area Maint. and Supply Facility, AMSF) personnel.													

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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-928/FSC (CONT'D)			
1	O,F,H	MULTIMETER	AN/USM-210	6625-019-0815	
2	H	OSCILLOSCOP-'	AN/USM-281A	6625-228-2201	
3	H	TRANSISTOR TESTER	TS-1836	6625-893-2628	
4	H	POWER SUPPLY	HP 6206B	6625-823-5359	
5	H	GENERATOR, SIGNAL	AN/USM-205	6625-788-9672	
6	O,F,H	AC VTVM	W.-30A	6625-893-4737	
7	O,F,H	COUNTER,FREQUENCY	AN/USM-207	6625-911-6368	
8	O,H	CABLSE,TEST	POMO.NA 2BC-BNC-36	6625-900-4276	
9	H	RESISTOR,DECADE	ZIM-16/U	6625-669-0266	
10	H	CABLE,TEST	POMONA AL-B-24		
11	H	RESISTO-1,150-OHMS, 1/2W, 1%	RN65D150OF	5905-978-7095	
12	H	CABLE ,TEST	POMONA 2BB-AL-30	6625-866-4509	
13	H	RESISTOR,10 K-OHMS, 1/2W, 5%	RC20GF103J	5905-107-6530	
14	H	CABLE,TEST	POMONA 1166-24-RED	6625-764-2934	
15	H	TEST ADAPTER	PHILCO-[FORD 2R9848-8		
16	0	RESISTOR,604-OHMS, 1/2W, 1%	RN7OD6040F	5905-984-3221	
17	0	CABLE ,TEST	POMONA 2BC-MG-36	6625-936-6290	
18	H	RESISTOR, 910-OHMS, 1/2W, 5%	RC20GF911J	5905-279-3509	
19	H	RESISTOR,200-OHMS, 1/2W, 1%	RN65D2000F	5905-857-6107	
20	H	IMPEDANCE BRIDGE	AN/URM-90	6625-534-7458	

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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS				
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**	**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-928/FSC (CONT'D)		
21	O,F	TOOL KIT,ELECTRONIC EQUIPMENT TK-105/G	5180-610-8177	
22	H	TOOL KIT,ELECTRONIC EQUIPMENT TK-100/G	5180-605-0079	

SECTION VI MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	ORDERWIRE INTERCOMIMUNICATION													
	TERMINATI ON UNIT		O										1,3	
	TA-918 (V) 1/FSC THRU TA-918 (V) 8/FSC		F										1,3	Intrarack components and wiring. See Note 1 for all (F) level maintenance.
	PHILCO-FORD 6505-3824				O								1,3 15,16, 17,20,29 thru 32	Adjusts circuit cards No. 41028-01,41063-02,49008-02, 49008-01.
										O			13	Module replacement
										F			43	Intrarack components and wiring
0101	PANEL,FUSE		O										1	
	SB-3751/FSC								O				43	
	GRM 12734-1									H			44	
0102	PC CARD RACK ASSEMBLY		O										1	
	TELTRONICS INC. LCC9740		F										1	
					O									Audible signal level
									F				43	
010201	LINE CARD		H										1,2,4,5,11,	
	TELTRONICS INC. LC401-4												12,23,35	
									0					
										H			44	
010202	INTERRUPTER ASSEMBLY		H										1,2,4,5,12,	
	TELTRONICS INC INT9740												23,35	
									0					
										H			44	
0103	COMMON EQUIPMENT SHELF		0										1	
	RAVEN ELECTRONICS CORP 41010-96		F										1	
										F			43	

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SECTION VI MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-918 (V) 1/FSC THRU TA-918 (V) 8/FSC (CONT 'D)													
010301	DTMF TONE RECEIVER RAVEN ELECTRONICS CORP 40452-01		H										1 thru 5,7, 14,17,19,25 33,39	
									O					
										H			44	
010302	DIGIT DECODER RAVEN ELECTRONICS CORP 40451-04		H										1,2,4,5,9, 12,18,25, 34,36,39,41	
									O					
										H			44	
010303	SF DETECTOR AND OSCILLATOR RAVEN ELECTRONICS CORP 41063-02		H										1 thru 9, 13,14,17, 19,20,25, 26,27,28, 36,37,38, 45	
									O					
										H			44	
010304	4W/2W HYBRID MODULE RAVEN ELECTRONICS CORP 49008-01		H										2 thru 5, 12,13,21, 25	
									O					
										H			44	
010305	4W/2W HYBRID MODULE WITH 2.7 KHZI L. P. FIILTER RAVEN ELECTRONICS CORP 49008-02		H										1 thru 5,7, 12,13,14, 17,19,25, 45	
									O					
			H										44	

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SECTION VI MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-918(V)1/FSC THRU TA-918(V)8/FSC (CONT'D)													
010306	SF DETECTOR RAVEN ELECTRONICS CORP 41063-01		H										1 thru 9, 13,17,19, 21,25,36	
									O					
											H		44	
010307	DC/DC POWER SUPPLY RAVEN ELECTRONICS CORP 41028-01		H										1,4,5,10, 17,18,22, 23,24,39, 40	
									O					
											H		44	
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by off site (Area Maint. and Supply Facility, AMSF) personnel.													

TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-918 (V) 1/FSC THRU TA-918 (V)8/FSC (CONT 'D)			
1	O,F,H	MULTIMETER	AN/USM-210	6625-019-0815	
2	H	OSCILLOSCOPE	AN/USM-281A	6625-228-2201	
3	O,F,H	TEST SET,TELEPHONE/HP 3550B	AN/USM-181(U)	6625-740-0344	
4	H	TRANSISTOR TESTER	TS-1836	6625-893-2628	
5	H	POWER SUPPLY	HP 6206B	6625-823-5359	
6	H	GENERATOR,SIGNAL	AN/USM-205	6625-788-9672	
7	H	COUNTER,FREQUENCY	AN/USM-207	6625-911-6368	
8	H	AC VTVM	ME-30A	6625-893-4737	
9	H	MULTIMETER	ME-26A	6625-542-6407	
10	H	VOLTMETER,DIFFERENTIAL	ME-202/U	6625-050-8686	
11	H	AUTOTRANSFORMER	GR W20MT3A	5950-926-0472	
12	H	POWER SUPPLY	HP DPR-6255A	6130-065-5811	
13	H	RESISTOR,DECADE	ZM-16/U	6625-669-0266	
14	H	IMPEDANCE BRIDGE	AN/URM-90	6625-534-7458	
15	0	TRANSFORMER,LINE	HP11005A	6625-678-0343	
16	0	TEST CABLE	LENKIIRT 664A	5995-725-5846	
17	O,H	TEST CABLE	POMONA 2BC-PP-36	6625-856-9738	
18	H	TEST CABLE	POMONA AL-B-24		
19	H	ADAPTER	POMONA 1296	4935-992-6162	
20	O,H	TEST CABLE	HP 1100OA	5995-986-3323	

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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-918 (V) 1/FSC THRU TA-918 (V) 8/FSC (CONT'D)			
21	H	TEST CABLE	POMONA 1166-24-RED	6625-764-2934	
22	H	TEST ADAPTER	PHILCO-FORD QR9848-17		
23	H	TEST CABLE	POMONA B-24-BLACK	4931-739-4433	
24	H	RHEOSTAT,16-OHMS,750 W	OHMIITE 1310		
25	H	ADAPTER	PHILCO-FORD QR9848-10		
26	H	RESISTOR,604-OHMS, 1/2W, 1%	RN70D6040F	5905-984-3221	
27	H	TERMINATION	POMONA MDP-R600	5905-899-8513	
28	H	TEST CABLE	POMONA 3785-C-48		
29	0	ADAPTER	POMONA 2631	5940-194-3073	
30	O	TEST CABLE	POMONA 2BC-BNC-60	6625-803-2881	
31	0	ADAPTER	UG-914/U	5935-280-1454	
32	0	TEST CABLEI	POMONA BNC-E-84	6150-403-8196	
33	H	RESISTOR,1800-OHMS,1/2W, 5%	RC20GF182J	5905-190-8881	
34	H	SWITCH,TOGGLE,DPDT	CUTLER-HAMMER 8680K1	5930-112-4970	
35	H	TEST ADAPTER	PHILCFORD QR9885		
36	H	ADAPTER	POMONA 3832		
37	H	ADAPTER	POMONA 1437 RED	5940-938-5883	
38	H	ADAPTER	POMONA 1437 BLK	5940-938-2962	
39	H	CABLE	POMONA 3781-12		
40	H	RESISTOR,30-OHMIS,50W,1%	DALE RH-50	5905-076-3454	

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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-918 (V) 1/FSC THRU TA-918 (V) 8/FSC (CONT'D)			
41	H	RESISTOR,3300 OHMS,1/2W,,5%	RC20GF332J	5905-991-8596	
42	H	TEST ADAPTER	PHILCO-FORD .R9848-8		
43	O,F	TOOL KIT,ELECTRONIC EQUIPMENT	TK 105/G	5180-610-8177	
44	H	TOOL KIT,ELECTRONIC EQUIPIENT	TK 100/G	5180-605-0079	
45	H	CABLE	HP 11002A	6625-079-1426	

SECTION VII MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	ORDERWIRE-INTERCOMIIIUNICATION TERMINATION UNIT TA-930(V)l/FSC and TA-930(V)2/FSC PHILCO-FORD, 6505-3825		O F										1,3 1,3	Intrarack components and wiring. See Note 1 for all (F) level maintenance.
					O								1,3,15,16, 17,20, 29 thru 32	Adjusts circuit cards No. 41028-01,41063-02,49008-02, 49008-01,40472-03
										0			43	Module replacement
										F			43	Intrarack components and wiring
0101	PANEL,FUSE SB-3751/FSC GRM 12734-1		O						O	H			1 43 44	
0102	PC CARD RACK ASSEMBLY TELTRONICS INC LCC9740		O F										1 1	Shelf wiring and components
					O					F			43	Audible signal level
010201	LINE CARD TELTRONICS INC LC401-4		H						O	H			1,2,4,5,11, 12,23,35 44	
010202	INTERRUPTER ASSEMBLY TELTRONICS INC INT9740		H						O	H			1,2,4,5,12, 23,35 44	
0103	COMMON EQUIPMENT SHELF RAVEN ELECTRONICS CCRP 41010-96		O F							F			1 1 43	Shelf wiring and components

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SECTION VII. MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-930(V) 1/FSC AND TA-930(V)2/FSC (CONT'D)													
010301	DTMF TONE RECEIVER RAVEN ELECTRONICS CORP. 40452-01		H						O	H			1 thru 5,7, 14,17,19, 25,33,39 44	
010302	DIGIT DECODER RAVEN ELECTRONICS CORP. 40451-04		H						O	H			1,2,4,5,9, 12,18,25, 34,36,39,41 44	
010303	SF DETECTOR AND OSCILLATOR RAVEN ELECTRONICS CORP 41063-02		H						O	H			1 thru 9,13 14,17,19,20 25,26,27,28 36,37,38,45 44	
010304	4W/2W HYBRID MODULE RAVEN ELECTRONICS CORP. 49009-01		H						O	H			2 thru 5, 12,13,21,25 44	
010305	4W/2W HYBRID MODULE WITH 2.7 L. P. FILTER RAVEN ELECTRONICS CORP. 49008-02		H						O	H			1 thru 5,7, 12,13,14, 17,19,25,45 44	
010306	SF DETECTOR RAVEN ELECTRONICS CORP. 41063-01		H							H			1 thru 9, 13,17,19, 21,25,36 0 44	

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SECTION VII. MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TA-930(V)1/FSC AND TA-930(V)2/FSC (CONT'D)													
010307	4w/4w BRIDGE RAVEN ELECTRONICS CORP. 40455-03		H										1,3,25,26, 42,45	
									O	H			44	
010308	DUAL AMPLIFIER RAVEN ELECTRONICS CORP 40472-03		H										1 thru 5,8, 13,21,25	
									O	H			44	
010309	DC/DC POWER SUPPLY RAVEN ELECTRONICS CORP. 41028-01		H										1,4,5,10, 17,18,22, 23,24,39,40	
									O	H			44	
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by off site (Area Maint. and Supply Facility, AMSF) personnel													

TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-930(V)1/FSC AND TA-930(V)2/FSC (CONT'D)			
1	O,F,H	MULTIMETER	AN/USM-210	6625-019-0815	
2	H	OSCILLOSCOPE	AN/USM-281A	6625-228-2201	
3	O,F,H	TEST SET,TELEPHONE/HP 3550B	AN/USM-181(U)	6625-740-0344	
4	H	TRANSISTOR TESTER	TS-1836	6625-893-2628	
5	H	POWER SUPPLY	HP 6206B	6625-823-5359	
6	H	GENERATOR,SIGNAL	AN/USM-205	6625-788-9672	
7	H	COUNTER,FREQUENCY	AN/USM-207	6625-911-6368	
8	H	AC VTVM	ME-30A	6625-893-4737	
9	H	MULTIMETER	ME-26A	6625-542-6407	
10	H	VOLTMMETER, DIFFERENTIAL	ME-202/U	6625-050-8686	
11	H	AUTOTRLNSFORMER	GR W20MT3A	5950-926-0472	
12	H	POWER SUPPLY	HP DPR-6255A	6130-065-5811	
13	H	RESISTOR,DECADE	ZM-16/U	6625-669-0266	
14	H	IMPEDANCE BRIDGE	AN/URM-90	6625-534-7458	
15	0	TRANSFORMER,LINE	HP 11005A	6625-678-0343	
16	0	TEST CABLE	LENIKURT 664A	5995-725-5846	
17	O,H	TEST CABLE	POMONA 23C-PP-36	6625-856-9738	
18	H	TEST CABLE	POMONA AL-B-24		
19	H	ADAPRER	POMONA 1296	4935-992-6162	
20	O,H	TEST CABLE	HP 11000A	5995-986-3323	
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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-930(V) 1/FSC AND TA-930(V)2/FSC (CONT'D)			
21	H	TEST CABLE	POMONA 1166-24-RED	6625-764-2934	
22	H	TEST ADAPTER	PHILCO-FORD QR9848-17		
23	H	TEST CABLE	POMONA B-24-BLACK	4931-739-4433	
24	H	RHEOSTAT,16-OHMS,750W	OHMITE 1310		
25	H	ADAPTER	PHIILO-FORD QR9848-10		
26	H	RESISTCR,604-OIIS,1/2W,1%	RN70D6040F	5905-984-3221	
27	H	TERMINATION	POMONA MDP-R600	5905-899-8513	
28	H	TEST CABLE	PODONA 3785-C-48		
29	0	ADAPTER	POMONA 2631	5940-194-3073	
30	0	TEST CABLE	POMONA 2BC-BNC-60	6625-803-2881	
31	0	ADAPTER	UG-914/U	5935-280-1454	
32	0	TEST CABLE	POMONA BNC-E-84	6150-403-8196	
33	H	RESISTOR,1800-OHMS,1/2W,5%	RC20GF182J	5905-190-8881	
34	H	SWITCH,TOGGLE,DPDT	CUTER-HAMMER 8680K1	5930-112-4970	
35	H	TEST ADAPTER	PHILCO-FO-RD QR9885		
36	H	ADAPTER	POMOXA 3832		
37	H	ADAPIER	POMONA 1437 RED	3940-938-5883	
38	H	ADAPTER	POMONA 1437 BLK	3940-938-2962	
39	H	CABLE	POMONA 3781-12		
40	H	RESISTOR,30-OHS, 50W,1%	DALE RH-50	5905-076-3454	

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TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-930(V)1/FSC AND TA-930(V)2/FSC (CONT'D)			
41	N	RESISTOR,3300 OHMS,1/2W,5%	RC20GF332J	5905-991-R596	
42	H	TEST ADAPTER	PHICO-FOIUD QR9848-8		
43	O,F	TOOL KIT,ELECTRONIC EQUIPMENT	TK 105/G	5180-610-8177	
44	H	TOOL KIT,ELECTRONIC EQUIPMENT	TK 100/G	5180-605-0079	
45	H	CABLE	HP 11002A	6625-079-1426	

SECTION VIII MAINTENANCE ALLOCATION CHART (ORDER WIRE UNIT, EPRESS-LINK-LOCAL, TA-923/FSC)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) FUNCTIONAL GROUP COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	CONFERENCE BRIDGE,TELEPHONE TA-920(V)1/FSC RAVEN ELECTRONICS CORP. 40110-98		O										1,3,7	Level Check
			F										1,7	See Note 1 for all (F) level maintenance
					O								3,7,15	Gain adjust and strapping
										O				Replaces subassembly
										F			15,16,17,18	
0101	DUAL AMPLIFIER RAVEN ELECTRONICS CORP. 40172-03		H										1 thru 5,8, 9,12,13	
									O					
										H			14	
0102	4WAY-4WIRE BRIDGE RAVEN ELECTRONICS CORP. 40155-03		H										1,3,6,9,10, 11	
									O					
										H			14	
02	CONFERENCE BRIDGE,TELEPHONE TA-920(V)2/FSC RAVEN ELECTRONICS CORP. 40110-99													Maintenance allocation for this unit is same as for TA-920 (V) 1/FSC
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by off site (Area Maint. and Supply Facility, AMSF) personnel													

TABLE 1: TOLL AND TEST EQUIPMENT REQUIREMENTS (ORDER WIRE UNIT, EXPRESS-LINK-LOCAL, TA-923/FSC)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		TA-920(V)1/FSC AND TA-920(V)2/FSC (CONT'D)			
1	O,F,H	MULTIMETER	AN/USIC-210	6625-019-0815	
2	H	OSCILLOSCOPE	AN/USM-281A	6625-228-2201	
3	O,H	TEST SET,TELEPHONE/HP 3550B	AN/USM-181(U)	6625-740-0344	
4	H	POWER SUPPLY	HP 6206B	6625-823-5359	
5	H	RESISTOR,DECADE	ZM-16/U	662 5-669-0266	
6	H	TEST CABLE	HP 11002A	6625-079-1426	
7	O,F	TEST CABLE	LENIURT 664A	5995-725-5846	
8	H	TEST CABLE	POMONA 1166-24-RED	6625-764-2934	
9	H	ADAPTER	PHILCO--FORD QR9848-10		
10	H	RESISTOR,604-OHMS,1/2W,1%	RN70D6040F	5905-984-3221	
11	H	TEST ADAPTER	PHILCO-FORD QR9848-8		
12	H	TRANSISTOR TESTER	TS-1836	6625-893-2628	
13	H	AC VTVY	ME-30A	6625-893-4737	
14	H	TOOL KIT,ELECTRONIC EQUIPYENT	TK-100/G	5180-605-0079	
15	O,F	TOOL KIT,ELECTRONIC EQUIPMENT	TK-105/G	5180-610-8177	
16	F	WIREWRAP TOOL	GARDNER DENVER CO., 12AXA2-3		
17	F	WRAPPING BIT	GARDNER DENVER CO., 18632		
18	F	WRAPPING SLEEVE	GARDNER DENVER CO., 18840		

AMSEL-MR form **ESC-FM 97-66**

Jan 66 6013 (Supersedes edition of 1 JAN 65, which is obsolete

Section IX. Maintenance Allocation Chart (LOCAL ORDERWIRE, RAVEN 41010-97)

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	LOCAL ORDERWIRE RAVEN ELECTRONICS CORP 41010-97		O										1,3, 15 thru 18	
			F										1	Shelf wiring and components See Note 1 for all (F) level maintenance
					0								1,3 15 thru 18, 37	Level and power supply adjustment
									0				37	By card replacement
									F				37	
0101	POWER SUPPLY RAVEN ELECTRONICS CORP 41029-01		H										1,2,4, 6 thru 10, 12,19,21,22, 38	
					H								1,2, 6 thru 10, 12,19,21,22, 38	
									O				37	
										H			38	
0102	SPEAKER AMPLIFIER RAVEN ELECTRONICS CORP. 41030-01		H										1,3,4,5,8, 11 thru 14, 20, 23 thru 25,38	
					H								1,3,5,8, 11 thru 14, 20, 23 thru 25,38	
									O				37	
										H			38	

Section IX. Maintenance Allocation Chart (LOCAL ORDERWIRE, RAVEN 41010-97)

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
0103	RAVEN 41010-97 (CONT'D) SF DETECTOR AND OSCILLATOR RAVEN ELECTRONICS CORP. 41063-02		H										1 thru 5,8, 9,12,13,14, 26 thru 36, 38	
						H							1,2,3,5,8, 9,12,13,14, 26,27,28, 30 thru 36, 38	
									0				37	
										H			38	
	NOTE 1: Direct Support (F) level maintenance operations for fixed plant equipment located OCONUS will be performed by off site (Area Maint. and Supply Facility, AMSF) personnel													

TABLE I. TOOL AND TEST EQUIPMENT REQUIREMENTS (LOCAL ORDERWIRE, RAVEN 41010-97)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		RAVEN 41010-97 (CONT'D)			
1	O,F,H	MUILTIMETER	AN/USI-210	6625-019-0815	
2	H	OSCILLOSCOPE	AN/USNI-281A	6625-228-2201	
3	O,H	TEST SET,TELEPHONE/HP 3550B	AN/USM-181(U)	6625-740-0344	
4	H	TRANSISTOR TESTER	TS-1836	6625-893-2628	
5	H	POWER SUPPLY	HP6206B	6625-823-5359	
6	H	VOLTMETER ,DIFFERENT IAL	ME-202/U	6625-050-8686	
7	H	AUTOTRANSFORMER	GR W20MT3A	5950-926-0472	
8	H	RESISTOR,DECADE	ZM-16/U	6625-669-0266	
9	H	TEST CABLE	POMONA 2BC-PP-36	6625-856-9738	
10	H	TEST CABLE	POMONA AL-B-24		
11	H	TEST CABLE	POMOXA 2BB-AL-30	6625-866-4509	
12	H	TEST CABLE	POMONA 116-6-24-RED	6625-764-2934	
13	H	ADAPTER	PHILCO-FORD QR9848-10		
14	H	RESISTOR,604-OHMS,1/2W,1%	RN70D6040F	5905-984-3221	
15	0	ADAPTER	POMONA 2631	5940-194-3073	
16	0	TEST CABLE	POMONA 2BC-BNC-60	6625-803-2881	
17	0	ADAPTER	UG-914/U	5935-280-1454	
18	0	TEST CABLE	POMONA BNC-E-84	6150-403-8196	
19	H	TEST ADAPTER	PHILCO-FORD QR9848-9		
20	H	CABLE	POMONA 3781-12		

TABLE I. TOOL AND TEST REQUIREMENTS (LOCAL ORDERWIRE, RAVEN 41010-97)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		RAVEN 41010-97 (CON 'D)			
21	H	RESISTOR,30-OHMS,50W,1%	DALE RH-50	5905-076-3454	
22	H	RESISTOR,60-OHMS,25W,1%	DALE RH-25	5905-043-1261	
23	H	HANDSET	RAVEN 5505-0101		
24	H	TEST ADAPTER	PHILCO-FORD QR9848-6		
25	H	CAPACITOR,0.25 MICROFARAD,200V	SPRAGUE 2TMP25	5910-021-1329	
26	H	GENERATOR,SIGNAL	AN/USM-205	6625-788-9672	
27	H	COUNTER,FREQUENCY	AN/USM-207	6625-911-6368	
28	H	AC VTVM	ME-30A	6625-893-4737	
29	H	IMPEDANCE BRIDGE	AN/URM-90	6625-534-7458	
30	H	ADAPTER	POMONA 1296	4935-992-6162	
31	H	TEST CABLE	HP 11000A	5995-986-3323	
32	H	TERMINATION	POMDNA MDP-R600	5905-899-8513	
33	H	TEST CABLE	POMONA 3785-C-48		
34	H	ADAPTER	POMONA 3832		
35	H	ADAPTER	POMONA 1437 RED	3940-938-5883	
36	H	ADAPTER	POMONA 1437 BLK	3940-938-2962	
37	O,F	TOOL KIT,ELECTRONIC EQUIPMENT	TK-105/G	5180-610-8177	
38	H	TOOL KIT,ELECTRONIC EQUIPMENT	TK-100/G	5180-605-0079	
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Section X Maintenance Allocation Chart (LOCAL ORDERWIRE, RAVEN 41010-97)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY NOMENCLATURE	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	PANEL ASSEMBLY CB2		F										1	
	EFE 9740 CB2								F				2	
02	PANEL ASSEMBLY CB1		F										1	
	EFE 9740 CB1								F				2	

TABLE I. TOOLS AND TEST EQUIPMENT REQUIREMENTS (PANEL ASSEMBLY CB1 AND CB2)				
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**	**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
1	F	MULTIMETER AN/USM-210	6625-019-’815	
2	F	TOOL KIT, EZECTRONIC EQUIPMENT TK-105/G	5180-610-8177	

Section XI. Maintenance Allocation Chart (JACK AND LAMP PANEL, EFE 803101)

MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY NOMENCLATURE	(3) MAINTENANCE FUNCTIONS											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
01	JACK AND LAMP PANEL EFE 803101		0							0			1 2	

TABLE I. TOOL AND TEST EQUIPMENT REQUIREMENTS (JACK AND LAMP PANEL, EFE 803101)

TOOLS AND TEST EQUIPMENT REQUIREMENTS					
TOOLS AND EQUPMENT	**MAINTENANCE CATEGORY**	**NOMENCLATURE**		**FEDERAL STOCK NUMBER**	**TOOL NUMBER**
		EFE 803101 (CONT'D)			
1	0	MULTIMETER	AN/USM-210	6625-019-0815	
2	0	TOOL KIT, ELECTRONIC EQUIPMENT	TK-105/G	5180-610-8177	

APPENDIX D

CABINET HARNESS WIRING LIST

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS		
	FUSE PANEL			
1	TB1-1	(SH3) TB1-B2	BLACK	DTMF 1 LAMP (F1)
2	TB1-2	(SH3) TB1-B3	BLACK	DTMF 2 LAMP (F2)
3	TB1-3	(SH3) TB1-B4	BLACK	DTMF 3 LAMP (F3)
4	TB1-4	(SH3) TB1-B5	BLACK	DTMF 4 LAMP (F4)
5	TB1-5	(SH3) TB1-B6	BLACK	DTMF 5 LAMP (F5)
6	TB1-6	CKA K7 - 2L	BLACK	E&M 1 LAMP (F6)
7	TB1-7	CKA K8 - 2L	BLACK	E&M 2 LAMP (F7)
8	TB1-8	CKA K9 - 2L	BLACK	E&M 3 LAMP (F8)
9	TB1-9	CKA K10 - 2L	BLACK	E&M 4 LAMP (F9)
10	TB1-10	CKA K11 - 2L	BLACK	E&M 5 LAMP (F10)
11	TB1-11	CKA K1 - 2L	BLACK	PBX LAMP (F11)
12	TB1-12	L/KA K1-8	BLACK	IC 1 LAMP (F12)
13	TB1-13	L/KA K2-8	BLACK	IC 2 LAMP (F13)
14	TB1-14	L/KA K3-8	BLACK	IC 3 LAMP (F14)
15	TB1-15	LA L1-1	BLACK	DTMF 1 TB (F15)
16	TB1-16	LA L2-1	BLACK	DTMF 2 TB (F16)
17	TB1-17	LA L3-1	BLACK	DTMF 3 TB (F17)
18	TB1-18	LA L4-1	BLACK	DTMF 4 TB (F18)
19	TB1-19	LA L5-1	BLACK	DTMF 5 TB (F19)
20	TB1-20	LA L6-1	BLACK	E&M 1 TB (F20)
21	TB3-21	LA L7-1	BLACK	E&M 2 TB (F21)
22	TB3-22	LA L8-1	BLACK	E&M 3 TB (F22)
23	TB3-23	LA L9-1	BLACK	E&M 4 TB (F23)
24	TB3-24	LA L10-1	BLACK	E&M 5 TB (F24)
25	TB3-25	L/KA K1-6	BLACK	IC 1 TB (F25)
26	TB3-26	L/KA K2-6	BLACK	IC 2 TB (F26)
27	TB3-27	L/KA K3-6	BLACK	IC 3 TB (F27)
28	TB2-15	LA L1-4	WHITE	LA L1 RETURN
29	TB2-16	LA L2-4	WHITE	LA L2
30	TB2-17	LA L3-4	WHITE	LA L3
31	TB2-18	LA L4-4	WHITE	LA L4
32	TB2-19	LA L5-4	WHITE	LA L5
33	TB2-20	LA L6-4	WHITE	LA L6

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
34	TB4-21	LA L7-4	WHITE	LA L7
35	TB4-22	LA L8-4	WHITE	LA L8
36	TB4-23	LA L9-4	WHITE	LA L9
37	TB4-24	LA L10-4	WHITE	LA L10
38	TB4-25	L/KA K1-1	WHITE	L/KA K1 RETURN
39	TB4-26	L/KA K2-1	WHITE	L/KA K2
40	TB4-27	L/KA K3-1	WHITE	L/KA K3
41	TB3-31	(SH2) J1-S	BLACK	C. EQ. SHELF (F28)
42	TB3-31	(SH2) J1-T	BLACK	C. EQ. SHELF (F28)
43	TB4-31	(SH2) J1-V	WHITE	C. EQ. SHELF
44	TB4-31	(SH2) J1-V	WHITE	C. EQ. SHELF
45	TB3-32	(SH3) TB3-1	BLACK	PC CARD RACK (F29)
46	TB3-32	(SH3) TB3-1	BLACK	PC CARD RACK (F29)
47	TB4-32	(SH3) TB3-2	WHITE	PC CARD RACK
48	TB4-32	(SH3) TB3-2	WHITE	PC CARD RACK
	TERM BLOCK	COMP BOARD		DTMF 4-WIRE
49	TB1-1A, 1B	CB2-8, 4		SD CKT 1 (LOW) NOTE 1
50	TB1-1C, 1D	CB2-18, 14		SD CKT 2 (LOW) NOTE 1
51	TB1-2C, 2D	CB2-7, 3		SD CKT 1 (LOW) NOTE 1
52	TB1-2E, 2F	CB2-17, 13		SD CKT 2 (LOW) NOTE 1
	TERM BLOCK	COMP BOARD		IC CKT
53	TB1-10A, 10B	CB2-28, 24		CKT 1 (LINE)
54	TB1-10C, 10D	CB2-38, 34		CKT 2
55	TB1-10E, 10F	CB2-48, 44		CKT 3
56	TB1-11A, 11B	CB2-27, 23		CKT 1 (EQUIP)
57	TB1-11C, 11D	CB2-37, 33		CKT 2
58	TB1-11E, 11F	CB2-47, 43		CKT 3
	TERM BLOCK	L/KA		CKT CONT
59	TB1-23B, 23C	K1-9, 7		CKT 1 (LINE)
60	TB1-24B, 24C	K2-9, 7		CKT 2 (LINE)
61	TB1-25B, 25C	K3-9, 7		CKT 3 (LINE)
62	TB1-23E	K1-10		CKT 1A (EQUIP)
63	TB1-24E	K2-10		CKT 2A (EQUIP)
64	TB1-25E	K3-10		CKT 3A (EQUIP)

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
	TERM BLOCK	CKA		CON CONT
65	TB1-5G	K1-3 (COIL)		OPERATE
66	TB1-5H	K1-2 (COIL)		RELEASE-
67	TB1-13E	K2-DIODES (ANODE)		CONT 1
68	TB1-14E	K3-DIODES (ANODE)		CONT 2
69	TB1-15E	K4-DIODES (ANODE)		CONT 3
70	TB1-16E	K5-DIODES (ANODE)		CONT 4
71	TB1-17E	K6-DIODES (ANODE)		CONT 5
	TERM BLOCK	CKA		CONF CONT
72	TB1-18E	K7-DIODES (ANODE)		CONT 1
73	TB1-19E	K8-DIODES (ANODE)		CONT 2
74	TB1-20E	K9-DIODES (ANODE)		CONT 3
75	TB1-21E	K10-DIODES (ANODE)		CONT 4
76	TB1-22E	K11-DIODES (ANODE)		CONT 5
	TERM BLOCK	CKA		CONF FLASH
77	TB1-18A	K7-5L DIODE (ANODE)		CKT 1
78	TB1-19A	K8-5L DIODE (ANODE)		CKT 2
79	TB1-20A	K9-5L DIODE (ANODE)		CKT 3
80	TB1-21A	K10-5L DIODE (ANODE)		CKT 4
81	TB1-22A	K11-5l DIODE (ANODE)		CKT 5
	TERM BLOCK	CKA		PBX CIRCUIT
82	TB1-12A, 12B	K1-2R, 5R		CKT 1
	TERM BLOCK	CKA		CONF CONT
83	TB1-26E	K1-DIODES (ANODE)		CONT 1
	TERM BLOCK	CKA		CONF FLASH
84	TB1-26A	K1-5L DIODE (ANODE)		CKT 1
	TERM BLOCK	FUSE PANEL		
85	TB1-9G	TB1-1		JACK PANEL
86	TB1-11G	TB1-2		POWER
87	TB1-9H	TB2-1		
88	TB1-11H	TB2-2		

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
	TERM BLOCK	LINE CARD		DTMF 2 WIRE
89	TB1-4C, 4D	(SH3) TB1-G2, F2		CKT 1
90	TB1-4E, 4F	(SH3) TB1-G3, F3		CKT 2
91	TB1-4G, 4H	(SH3) TB1-G4, F4		CKT 3
92	TB1-5A, 5B	(SH3) TB1-G5, F5		CKT 4
93	TB1-5C, 5D	(SH3) TB1-G6, F6		CKT 5
	TERM BLOCK	LINE CARD		OP ACCESS CONT
94	TB1-13E	(SH3) TB1-H2		A1
95	TB1-14E	(SH3) TB1-H3		A2
96	TB1-15E	(SH3) TB1-H4		A3
97	TB1-16E	(SH3) TB1-H5		A4
98	TB1-17E	(SH3) TB1-H6		A5
99	TB1-13G	(SH3) TB2-I7		RC1
100	TB1-14G	(SH3) TB2-H7		RC2
101	TB1-15G	(SH3) TB2-G7		RC3
102	TB1-16G	(SH3) TB2-F7		RC4
103	TB1-17G	(SH3) TB2-E7		RC5
		DIGIT DEC		
104	TB1-13A	(SH2) J8-D		L1
105	TB1-14A	(SH2) J10-D		L2
106	TB1-15A	(SH2) J12-D		L3
107	TB1-16A	(SH2) J14-D		L4
108	TB1-17A	(SH2) J16-D		L5
	TERM BLOCK	LINE CARD		E&M 2 WIRE
109	TB1-8E, 8F	(SH3) TB1-G7, F7		CKT 1
110	TB1-8G, 8H	(SH3) TB1-G8, F8		CKT 2
111	TB1-9A, 9B	(SH3) TB1-G9, F9		CKT 3
112	TB1-9C, 9D	(SH3) TB1-G10, F10		CKT 4
113	TB1-9E, 9F	(SH3) TB2-G1, F1		CKT 5
	TERM BLOCK	LINE CARD		OP ACCESS CONT
114	TB1-18E	(SH3) TB1-H7		A1
115	TB1-19E	(SH3) TB1-H8		A2
116	TB1-20E	(SH3) TB1-H9		A3
117	TB1-21E	(SH3) TB1-H10		A4
118	TB1-22E	(SH3) TB2-H1		A5
119	TB1-18G	(SH3) TB2-D7		RC1

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
120	TB1-19G	(SH3) TB2-C7		RC2
121	TB1-20G	(SH3) TB2-B7		RC3
122	TB1-21G	(SH3) TB2-A7		RC4
123	TB1-22G	(SH3) TB2-J8		RC5
124	TB1-18A	(SH3) TB1-C7		L1
125	TB1-19A	(SH3) TB1-C8		L2
126	TB1-20A	(SH3) TB1-C9		L3
127	TB1-21A	(SH3) TB1-C10		L4
128	TB1-22A	(SH3) TB2-C1		L5
	TERM BLOCK	LINE CARD		PBX CKT.
129	TB1-12A, 12B	(SH3) TB1-G1, I1		CKT 1 (LINE)
130	TB1-12C, 12D	(SH3) TB1-G1, F1		CKT 1 (EQUIP)
	TERM BLOCK	LINE CARD		OP ACCESS CONT
131	TB1-26E	(SH3) TB1-H1		A1
132	TB1-26G	(SH3) TB2-J7		RC1
133	TB1-26A	(SH3) TB1-C1		L1
	TERM BLOCK	SF DET & OSC		DTMF 4-W SEND
134	TB1-1A, 1B	(SH2) J2-H, J		CKT 1 (LOW/EOW) NOTE
135	TB1-1C, 1D	(SH2) J3-H, J		CKT 2 (LOW/EOW) 1
136	TB1-1E, 1F	(SH2) J4-H, J		CKT 3 (EOW)
137	TB1-1G, 1H	(SH2) J5-H, J		CKT 4 (EOW)
138	TB1-2A, 2B	(SH2) J6-H, J		CKT 5 (EOW)
	TERM BLOCK	SF DET & OSC.		DTMF 4 WIRE REC
139	TB1-3A, 3B	(SH2) J2-K, L		CKT 1
140	TB1-3C, 3D	(SH2) J3-K, L		CKT 2
141	TB1-3E, 3F	(SH2) J4-K, L		CKT 3
142	TB1-3G, 3H	(SH2) J5-K, L		CKT 4
143	TB1-4A, 4B	(SH2) J6-K, L		CKT 5
	TERM BLOCK	4W/2W HYBRID		E&M 4 WIRE
144	TB1-6A, 6B	(SH1) J7-S, T		SEND CKT 1
145	TB1-6C, 6D	(SH1) J9-S, T		SEND CKT 2
146	TB1-6E, 6F	(SH1) J11-S, T		SEND CKT 3
147	TB1-6G, 6H	(SH1) J13-S, T		SEND CKT 4
148	TB1-7A, 7B	(SH1) J15-S, T		SEND CKT 5

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
149	TB1-7C, 7D	(SH1) J7-H, J		REC CKT 1
150	TB1-7E, 7F	(SH1) J9-H, J		REC CKT 2
151	TB1-7G, 7H	(SH1) J11-H, J		REC CKT 3
152	TB1-8A, 8B	(SH1) J13-H, J		REC CKT 4
153	TB1-8C, 8D	(SH1) J15-H, J		REC CKT 5
	TERM BLOCK	COMP BOARD		
154	TB1-13A	CB1 (A) 52		L1
155	TB1-14A	CB1 (A) 56		L2
156	TB1-15A	CB1 (A) 60		L3
157	TB1-16A	CB1 (A) 64		L4
158	TB1-17A	CB1 (A) 68		L5
	COMP BOARD	L/KA		BATTERY FEED (JK PNL)
159	CB2-2, 10	L1-2, 3		CKT 1
160	CB2-12, 20	L2-2, 3		CKT 2
	COMP BOARD	L/KA		BATTERY FEED
161	CB2-22, 29	K1-5, 2		CKT 1
162	CB2-32, 39	K2-5, 2		CKT 2
163	CB2-42, 49	K3-5, 2		CKT 3
	COMP BOARD	SF DET & OSC		DTMF 4-WIRE
164	CB2-66, 64	(SH2) J2-H, J		SEND CKT 1 (LOW) NOTE 1
165	CB2-70, 68	(SH2) J3-H, J		SEND CKT 2 (LOW) NOTE 1
	CKA	LINE CARD		LAMP CONT
166	K1-1L	(SH3) TB1-A1		CKT 1
	CKA	LINE CARD		LAMP CONT
167	K2-1L	(SH3) TB1-A2		CKT 1
168	K3-1L	(SH3) TB1-A3		CKT 2
169	K4-1L	(SH3) TB1-A4		CKT 3
170	K5-1L	(SH3) TB1-A5		CKT 4
171	K6-1L	(SH3) TB1-A6		CKT 5
	CKA	LINE CARD		LAMP CONT
172	K7-1L	(SH3) TB1-A7		CKT 1
173	K8-1L	(SH3) TB1-A8		CKT 2
174	K9-1L	(SH3) TB1-A9		CKT 3

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
175	K10-1L	(SH3) TB1-A10		CKT 4
176	K11-1L	(SH3) TB2-A1		CKT 5
	CKA	LINE CARD		CONF FL DIST
177	K1-6L	(SH3) TB2-D10		
	CKA	DIGIT DEC		LAMP/IDLE TERM CONT
178	K2-2L	(SH2) J8-F		CKT 1
179	K3-2L	(SH2) J10-F		CKT 2
180	K4-2L	(SH2) J12-F		CKT 3
181	K5-2L	(SH2) J14-F		CKT 4
182	K6-2L	(SH2) J16-F		CKT 5
	CKA	DIGIT DEC		
183	K2-5L DIODE (ANODE)	(SH2) J8-E		L1 (CF)
184	K3-5L DIODE (ANODE)	(SH2) J10-E		L2 (CF)
185	K4-5L DIODE (ANODE)	(SH2) J12-E		L3 (CF)
186	K5-5L DIODE (ANODE)	(SH2) J14-E		L4 (CF)
187	K6-5L DIODE (ANODE)	(SH2) J16-E		L5 (CF)
	CKA	SF DET		E&M LAMP
188	CKA K7-2L	(SH1) J8-S	BLACK	E&M 1
189	CKA K8-2L	(SH1) J10-S	BLACK	E&M 2
190	CKA K9-2L	(SH1) J12-S	BLACK	E&M 3
191	CKA K10-2L	(SH1) J14-S	BLACK	E&M 4
192	CKA K11-2L	(SH1) J16-S	BLACK	E&M 5
	CKA	SF DET & OSC		CKT SUPV
193	K2-4L	(SH2) J2-M		CKT 1
194	K3-4L	(SH2) J3-M		CKT 2
195	K4-4L	(SH2) J4-M		CKT 3
196	K5-4L	(SH2) J5-M		CKT 4
197	K6-4L	(SH2) J6-M		CKT 5
	LINE CARD	DIGIT DEC		
198	(SH3) TB1-B2	(SH2) J8-H	BLACK	DTMF 1 LAMP
199	(SH3) TB1-B3	(SH2) J10-H	BLACK	DTMF 2 LAMP
200	(SH3) TB1-B4	(SH2) J12-H	BLACK	DTMF 3 LAMP
201	(SH3) TB1-B5	(SH2) J14-H	BLACK	DTMF 4 LAMP
202	(SH3) TB1-B6	(SH2) J16-H	BLACK	DTMF 5 LAMP

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
	LINE CARD	SF DET & OSC		DTMF OFF HOOK CONT
203	(SH3) TB1-D2	(SH2) J2-N		CKT 1
204	(SH3) TB1-D3	(SH2) J3-N		CKT 2
205	(SH3) TB1-D4	(SH2) J4-N		CKT 3
206	(SH3) TB1-D5	(SH2) J5-N		CKT 4
207	(SH3) TB1-D6	(SH2) J6-N		CKT 5
	LINE CARD	DIGIT DEC		DTMF RING IN
208	(SH3) TB1-E2	(SH2) J8-J		CKT 1
209	(SH3) TB1-E3	(SH2) J10-J		CKT 2
210	(SH3) TB1-E4	(SH2) J12-J		CKT 3
211	(SH3) TB1-E5	(SH2) J14-J		CKT 4
212	(SH3) TB1-E6	(SH2) J16-J		CKT 5
	LINE CARD	DIGIT DEC		
213	(SH3) TB2-B10	(SH2) J8-C		LAMP FL DIST
	LINE CARD	SF DET		E&M RING IN
214	(SH3) TB1-E7	(SH1) J8-R		CKT 1
215	(SH3) TB1-E8	(SH1) J10-R		CKT 2
216	(SH3) TB1-E9	(SH1) J12-R		CKT 3
217	(SH3) TB1-E10	(SH1) J14-R		CKT 4
218	(SH3) TB2-E1	(SH1) J16-R		CKT 5
	DTMF REC	4W/2W HYBRID		DTMF 4 WIRE
219	(SH2) J7-C, D	(SH1) J2-E, F		REC CKT 1
220	(SH2) J9-C, D	(SH1) J3-E, F		REC CKT 2
221	(SH2) J11-C, D	(SH1) J4-E, F		REC CKT 3
222	(SH2) J13-C, D	(SH1) J5-E, F		REC CKT 4
223	(SH2) J15-C, D	(SH1) J6-E, F		REC CKT 5
	SF DET & OSC	4W/2W HYBRID		DTMF 4 WIRE
224	(SH2) J2-D, E	(SH1) J2-M, N		SEND CKT 1
225	(SH2) J3-D, E	(SH1) J3-M, N		SEND CKT 2
226	(SH2) J4-D, E	(SH1) J4-M, N		SEND CKT 3
227	(SH2) J5-D, E	(SH1) J5-M, N		SEND CKT 4
228	(SH2) J6-D, E	(SH1) J6-M, N		SEND CKT 5

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
229	SF DET & OSC (SH2) J1-AU	4W/2W HYBRID (SH1) J1-A, U	BLACK, WHITE	24 VDC DIST
	COMP BOARD	LA		BATTERY FEED
230	CB1 (A) -2, 10	L1-2, 3	BLACK, WHITE	CKT 1
231	CB1 (A) -12, 20	L2-2, 3	BLACK, WHITE	CKT 2
232	CB1 (A) -22, 30	L3-2, 3	BLACK, WHITE	CKT 3
233	CB1 (A) -32, 40	L4-2, 3	BLACK, WHITE	CKT 4
234	CB1 (A) -42, 50	L5-2, 3	BLACK, WHITE	CKT 5
	COMP BOARD	LA	BLACK, WHITE	BATTERY FEED
235	CB1 (B) -2, 10	L6-2, 3		CKT 1
236	CB1 (B) -12, 20	L7-2, 3		CKT 2
237	CB1 (B) -22, 30	L8-2, 3		CKT 3
238	CB1 (B) -32, 40	L9-2, 3		CKT 4
239	CB1 (B) -42, 50	L10-2, 3		CKT 5
	COMP BOARD	CKA		DTMF 2 WIRE
240	CB1 (A) 7, 4	K2-2R, 5R		CKT 1
241	CB1 (A) 17, 14	K3-2R, 5R		CKT 2
242	CB1 (A) 27, 24	K4-2R, 5R		CKT 3
243	CB1 (A) 37, 34	K5-2R, 5R		CKT 4
244	CB1 (A) 47, 44	K6-2R, 5R		CKT 5
	COMP BOARD	CKA		TERM CONT
245	CB1 (A) -53	K2-3L		CKT 1
246	CB1 (A) -57	K3-3L		CKT 2
247	CB1 (A) -61	K4-3L		CKT 3
248	CB1 (A) -65	K5-3L		CKT 4
249	CB1 (A) -69	K6-3L		CKT 5
	COMP BOARD	CKA		
250	CB1 (A) -73, 75	K1-3R, 6R		PBX CONF
251	CB1 (A) -74, 76	K2-3R, 6R		PBX CONF
	COMP BOARD	LKA		
252	CB1 (A) -73, 75	L3-1, 4		PBX TERM
	COMP BOARD	CKA		E&M 2 WIRE
253	CB1 (B) -7, 4	K7-2R, 5R		CKT 1
254	CB1 (B) -17, 14	K8-2R, 5R		CKT 2

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
255	CB1 (B) -27, 24	K9-2R, 5R		CKT 3
256	CB1 (B) -37, 34	K10-2R, 5R		CKT 4
257	CB1 (B) -47, 44	K11-2R, 5R		CKT 5
	COMP BOARD	CKA		TERM CONT
258	CB1 (B) -52	K7-3L		CKT 1
259	CB1 (B) -56	K8-3L		CKT 2
260	CB1 (B) -60	K9-3L		CKT 3
261	CB1 (B) -64	K10-3L		CKT 4
262	CB1 (B) -68	K11-3L		CKT 5
	COMP BOARD	LINE CARD		DTMF 2 WIRE
263	CB1 (A) -7, 3	(SH3) TB1-G2, I2		CKT 1
264	CB1 (A) -17, 13	(SH3) TB1-G3, I3		CKT 2
265	CB1 (A) -27, 23	(SH3) TB1-G4, I4		CKT 3
266	CB1 (A) -37, 33	(SH3) TB1-G5, I5		CKT 4
267	CB1 (A) -47, 43	(SH3) TB1-G6, I6		CKT 5
	COMP BOARD	LINE CARD		TERM CONTROL
268	CB1 (A) -54	(SH3) TB2-I3		CKT 1
269	CB1 (A) -58	(SH3) TB2-H3		CKT 2
270	CB1 (A) -62	(SH3) TB2-G3		CKT 3
271	CB1 (A) -66	(SH3) TB2-F3		CKT 4
272	CB1 (A) -70	(SH3) TB2-E3		CKT 5
	COMP BOARD	LINE CARD		E&M 2 WIRE
273	CB1 (B) -9, 3	(SH3) TB1-G7, I7		CKT 1
274	CB1 (B) -19, 13	(SH3) TB1-G8, I8		CKT 2
275	CB1 (B) -29, 23	(SH3) TB1-G9, I9		CKT 3
276	CB1 (B) -39, 33	(SH3) TB1-G10, I10		CKT 4
277	CB1 (B) -49, 43	(SH3) TB1-GI, I1		CKT 5
	COMP BOARD	LINE CARD		TERM CONT
278	CB1 (B) -51	(SH3) TB2-D3		CKT 1
279	CB1 (B) -55	(SH3) TB2-C3		CKT 2
280	CB1 (B) -59	(SH3) TB2-B3		CKT 3
281	CB1 (B) -63	(SH3) TB2-A3		CKT 4
282	CB1 (B) -67	(SH3) TB2-J4		CKT 5

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
	COMP BOARD	LINE CARD		
283	CB1 (A) -51	(SH3) TB1-C2		L1
284	CB1 (A) -55	(SH3) TB1-C3		L2
285	CB1 (A) -59	(SH3) TB1-C4		L3
286	CB1 (A) -63	(SH3) TB1-C5		L4
287	CB1 (A) -67	(SH3) TB1-C6		L5
	COMP BOARD	SF DET & OSC		OSC CONT
288	CB1 (A) -53	(SH2) J2-T		CKT 1
289	CB1 (A) -57	(SH2) J3-T		CKT 2
290	CB1 (A) -61	(SH2) J4-T		CKT 3
291	CB1 (A) -65	(SH2) J5-T		CKT 4
292	CB1 (A) -69	(SH2) J6-T		CKT 5
	COMP BOARD	4W/2W HYBRID		DTMF 2 WIRE
293	CB1 (A) -7, 4	(SH1) J2-J, K		CKT 1
294	CB1 (A) -17, 14	(SH1) J3-J, K		CKT 2
295	CB1 (A) -27, 24	(SH1) J4-J, K		CKT 3
296	CB1 (A) -37, 34	(SH1) J5-J, K		CKT 4
297	CB1 (A) -47, 44	(SH1) J6-J, K		CKT 5
	COMP BOARD	4W/2W HYBRID		TERM CONT
298	CB1 (A) -53	(SH1) J2-S		CKT 1
299	CB1 (A) -57	(SH1) J3-S		CKT 2
300	CB1 (A) -61	(SH1) J4-S		CKT 3
301	CB1 (A) -65	(SH1) J5-S		CKT 4
302	CB1 (A) -69	(SH1) J6-S		CKT 5
	COMP BOARD	4W/2W HYBRID		E&M 2 WIRE
303	CB1 (B) -7, 4	(SH1) J7-M, N		CKT 1
304	CB1 (B) -17, 14	(SH1) J9-M, N		CKT 2
305	CB1 (B) -27, 24	(SH1) J11-M, N		CKT 3
306	CB1 (B) -37, 34	(SH1) J13-M, N		CKT 4
307	CB1 (B) -47, 44	(SH1) J15-M, N		CKT 5
	COMP BOARD	4W/2W HYBRID		TERM CONT
308	CB1 (B) -52	(SH1) J7-D		CKT 1
309	CB1 (B) -56	(SH1) J9-D		CKT 2
310	CB1 (B) -60	(SH1) J11-D		CKT 3

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		COMMON EQUIPMENT WIRING HARNESS (Cont)		
311	CB1 (B) -64	(SH1) J13-D		CKT 4
312	CB1 (B) -68	(SH1) J15-D		CKT 5
	L/KA	LA		DTMF TB
313	L1-1	L1-1	BLACK	1
314	L2-1	L2-1	BLACK	2
315	L1-4	L1-4	WHITE	L/KA L1 RETURN
316	L2-4	L2-4	WHITE	L/KA L2 RETURN

NOTES: 1. DTMF CIRCUITS 1 & 2 ARE APPLICABLE TO LOW OR EOW CIRCUITS. TERMINATE THE APPROPRIATE WIRES AS REQUIRED AT EACH SITE. THE UNTERMINATED WIRES ARE INSULATED AND TIED BACK IN THE HARNESS AS SHOWN BELOW.

LISTING NO.	QUANTITY OF LINK O.W. CIRCUITS		
	0	1	2
49	-	✓	✓
50	-	-	✓
51	-	✓	✓
52	-	-	✓
134	✓	-	-
135	✓	✓	-
169	-	✓	✓
170	-	-	✓

✓ = WIRING PER LISTING NO.

– = INSULATED AND TIEDBACK.

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		LOW WIRING HARNESS		
	FUSE PANEL			
1	TB1-1	(SH2) TB1-B2	BLACK	DTMF 1 LAMP (F1)
2	TB1-2	(SH2) TB1-B3	BLACK	DTMF 2 LAMP (F2)
3	TB1-3	(SH2) TB1-A4	BLACK	E&M 1 LAMP (F3)
4	TB1-4	(SH2) TB1-A5	BLACK	E&M 2 LAMP (F4)
5	TB1-5	(SH2) TB1-A1	BLACK	PBX LAMP (F5)
6	TB1-6	L/KA K1-8	BLACK	INTERCOM LAMP (F6)
7	TB1-7	L/KA L1-1	BLACK	DTMF 1 TB (F7)
8	TB1-8	L/KA L2-1	BLACK	DTMF 2 TB (F8)
9	TB1-9	L/KA L3-1	BLACK	E&M 1 TB (F9)
10	TB1-10	L/KA L4-1	BLACK	E&M 2 TB (F10)
11	TB1-11	L/KA K1-6	BLACK	IC TB (F11)
12	TB2-7	L/KA L1-4	WHITE	L/KA L1 RETURN
13	TB2-8	L/KA L2-4	WHITE	L2
14	TB2-9	L/KA L3-4	WHITE	L3
15	TB2-10	L/KA L4-4	WHITE	L4
16	TB2-11	L/KA K1-1	WHITE	K1
17	TB1-12	(SH1) J1-S	BLACK	COMM EQ SHELF (F12)
18	TB1-12	(SH1) J1-T	BLACK	POWER
19	TB2-12	(SH1) J1-V	WHITE	POWER
20	TB2-12	(SH1) J1-V	WHITE	POWER
21	TB1-13	(SH2) TB3-1	BLACK	PC CARD SHELF (F13)
22	TB1-13	(SH2) TB3-1	BLACK	POWER
23	TB2-13	(SH2) TB3-2	WHITE	POWER
24	TB2-13	(SH2) TB3-2	WHITE	POWER
	TERM BLOCK	COMP BOARD		IC CKT
25	TB1-7A, 7B	CB1-48, 44	NO. 1	CKT 1 (LINE)
26	TB1-8A, 8B	CB1-47, 43	NO. 2	CKT 1 (EQUIP)
	TERM BLOCK	L/KA		IC CONTROL
27	TB1-15B, 15C	K1-9, 7	NO. 3	CKT 1 RR, LR
28	TB1-15E	K1-10	WHITE-BLACK	CKT A
	TERM BLOCK	LINE CARD		DTMF 2-WIRE
29	TB1-3A, 3B	(SH2) TB1-G2, F2	NO. 3	CKT 1
30	TB1-3C, 3D	(SH2) TB1-G3, F3	NO. 3	CKT 2

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		LOW WIRING HARNESS (Cont)		
	TERM BLOCK	LINE CARD		E&M 2-WIRE
31	TB1-6A, 6B	(SH2) TB1-G4, F4	NO. 3	CKT 1
32	TB1-6C, 6D	(SH2) TB1-G5, F5	NO. 3	CKT 2
	TERM BLOCK	LINE CARD		PBX CKT
33	TB1-9A, 9B	(SH2) TB1-G1, I1	NO. 1	CKT 1 (LINE)
34	TB1-10A, 10B	(SH2) TB1-G1, F1	NO. 1	
	TERM BLOCK	LINE CARD		PANEL CONTROL
35	TB1-11E	(SH2) TB1-H2	WHITE-BLACK	A1
36	TB1-12E	(SH2) TB1-H3	WHITE-BLACK	A2
37	TB1-11G	(SH2) TB2-I7	WHITE-RED	RC 1
38	TB1-12G	(SH2) TB2-H7	WHITE-RED	RC 2
		COMP BOARD		
39	TB1-11A	CB1-52	WHITE-GREEN	L1
40	TB1-12A	CB1-56	WHITE-GREEN	L2
	TERM BLOCK	LINE CARD		PANEL CONTROL
41	TB1-13E	(SH2) TB1-H4	WHITE-BLACK	A1
42	TB1-14E	(SH2) TB1-H5	WHITE-BLACK	A2
43	TB1-13G	(SH2) TB2-G7	WHITE-RED	RC 1
44	TB1-14G	(SH2) TB2-F7	WHITE-RED	RC 2
45	TB1-13A	(SH2) TB1-C4	WHITE-GREEN	L1
46	TB1-14A	(SH2) TB1-C5	WHITE-GREEN	L2
	TERM BLOCK	LINE CARD		PANEL CONTROL
47	TB1-16E	(SH2) TB1-H1	WHITE-BLACK	A1
48	TB1-16G	(SH2) TB2-J7	WHITE-RED	RC 1
49	TB1-16A	(SH2) TB1-C1	WHITE-GREEN	L1
	TERM BLOCK	SF DET & OSC		DTMF 4-WIRE
50	TB1-1A, 1B	(SH1) J3-H, J	NO. 1	SEND CKT 1
51	TB1-1C, 1D	(SH1) J7-H, J	NO. 1	SEND CKT 2
	TERM BLOCK	4W/2W HYBRID		DTMF 4-WIRE
52	TB1-2A, 2B	(SH1) J2-E, F	NO. 2	REC CKT 1
53	TB1-2C, 2D	(SH1) J6-E, F	NO. 2	REC CKT 2
	TERM BLOCK	4W/2W HYBRID		E&M 4-WIRE
54	TB1-4A, 4B	(SH1) J10-S, T	NO. 1	SEND CKT 1

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		LOW WIRING HARNESS (Cont)		
55	TB1-4C, 4D	(SH1) J12-S, T	NO. 1	SEND CKT 2
56	TB1-5A, 5B	(SH1) J10-H, J	NO. 1	REC CKT 1
57	TB1-5C, 5D	(SH1) J12-H, J	NO. 1	REC CKT 2
	TERM BLOCK	DIGIT DECODER		LAMP CONTROL
58	TB1-11A	(SH1) J5-D	WHITE-ORANGE	CKT 1
59	TB1-12A	(SH1) J9-D	WHITE-ORANGE	CKT 2
	TERM BLOCK	DUAL AMPLIFIER		
60	TB1-23A, 23B	(SH1) J14-S, T	NO. 2	LEG 1 SEND
61	TB1-23C, 23D	(SH1) J14-C, D	NO. 2	LEG 2 SEND
	TERM BLOCK	4W/4W BRIDGE		
62	TB1-24A, 24B	(SH1) J15-K, L	NO. 2	LEG 1 REC
63	TB1-24C, 24D	(SH1) J15-H, J	NO. 2	LEG 2 REC
64	TB1-24E, 24F	(SH1) J15-E, F	NO. 2	LEG 3 REC
65	TB1-24G, 24H	(SH1) J15-C, D	NO. 2	LEG 4 REC
	TERM BLOCK	DUAL AMPLIFIER		
66	TB1-23E, 23F	(SH1) J16-S, T	NO. 1	LEG 3 SEND
67	TB1-23G, 23H	(SH1) J16-C, D	NO. 1	LEG 4 SEND
	COMP BOARD	L/KA		TALK BATTERY
68	CB1-42, 49	K1-5, 2	BLACK-WHITE	CKT 1
	COMP BOARD	L/KA		TALK BATTERY
69	CB1-2, 10	L1-2, 3	BLACK-WHITE	CKT 1
70	CB1-2, 20	L2-2, 3	BLACK-WHITE	CKT 2
	COMP BOARD	LINE CARD		DTMF 2-WIRE
71	CB1-22, 30	L3-2, 3	BLACK-WHITE	CKT 1
72	CB1-32, 40	L4-2, 3	BLACK-WHITE	CKT 2
	COMP BOARD	LINE CARD		DTMF 2-WIRE
73	CB1-7, 3	(SH2) TB1-G2, I2	NO. 3	CKT 1
74	CB1-17, 13	(SH2) TB1-G3, I3	NO. 3	CKT 2
	COMP BOARD	LINE CARD		E&M 2-WIRE
75	CB1-27, 23	(SH2) TB1-G4, I4	NO. 3	CKT 1
76	CB1-37, 33	(SH2) TB1-G5, I5	NO. 3	CKT 2

NO.	FROM	TO	24 AWG PAIR/COLOR	FUNCTION
		LOW WIRING HARNESS (Cont)		
	COMP BOARD	4W/2W HYBRID		DTMF 2 WIRE
77	CB1-7, 4	(SH1) J2-J, K	NO. 3	CKT 1
78	CB1-17, 14	(SH1) J6-J, K	NO. 3	CKT 2
	COMP BOARD	4W/2W HYBRID		E&M 2-WIRE
79	CB1-27, 24	(SH1) J10-M, N	NO. 3	CKT 1
80	CB1-37, 34	(SH1) J12-M, N	NO. 3	CKT 2
	LINE CARD	DIGIT DECODER		DTMF RING IN
81	(SH2) TB1-E2	(SH1) J5-J	WHITE-YELLOW	CKT 1
82	(SH2) TB1-E3	(SH1) J9-J	WHITE-YELLOW	CKT 2
	LINE CARD	SF DET & OSC		DTMF OFF-HOOK CONT
83	(SH2) TB1-D2	(SH1) J3-N	WHITE-BLUE	CKT 1
84	(SH2) TB1-D3	(SH1) J7-N	WHITE-BLUE	CKT 2
	LINE CARD	SF DET & OSC		TERM CONTROL
85	(SH2) TB2-I3	(SH1) J3-T	WHITE-BROWN	CKT 1
86	(SH2) TB2-H3	(SH1) J7-T	WHITE-BROWN	CKT 2
	LINE CARD	DIGIT DECODER		LAMP FLASH DIST
87	(SH2) TB2-B10	(SH1) J5-C	WHITE-GRAY	
	LINE CARD	SF DET		E&M RING IN
88	(SH2) TB1-E4	(SH1) J11-R	WHITE-YELLOW	CKT 1
89	(SH2) TB1-E5	(SH1) J13-R	WHITE-YELLOW	CKT 2
	LINE CARD	DIGIT DECODER		LAMP CONTROL
90	(SH2) TB1-A2	(SH1) J5-F	WHITE-BLUE	CKT 1
91	(SH2) TB1-A3	(SH1) J9-F	WHITE-BLUE	CKT 2
	LINE CARD	4W/2W HYBRID		TERM CONTROL
92	(SH2) TB2-G3	(SH1) J10-D	WHITE-RED	CKT 1
93	(SH2) TB2-F3	(SH1) J12-D	WHITE-RED	CKT 2
94	(SH2) TB1-B2	(SH1) J5-H	BLACK	DTMF 1 LAMP
95	(SH2) TB1-B3	(SH1) J9-H	BLACK	DTMF 2 LAMP
96	(SH2) TB1-A4	(SH1) J11-S	BLACK	E&M 1 LAMP
97	(SH2) TB1-A5	(SH1) J13-S	BLACK	E&M 2 LAMP
	LINE CARD	COMP BOARD		
98	(SH2) TB2-C2	CB1-51	WHITE-GREEN	L1
99	(SH2) TB2-C3	CB1-55	WHITE-GREEN	L2

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USACC-Europe Sig Op Bn (2)
USACC-Europe Sig Spt Agcy (2)
Units org under fol TOE
(1 copy each unit):
11-97
11-98
11-117
11-127
11-302
11-500(AA-AC)
29-134
29-136

NG: None.

USAR: None.

For explanation of abbreviations used, see AR 310-50.

*U. S. GOVERNMEN PRINTING OFFICE : 1996- 406-421 (60248)

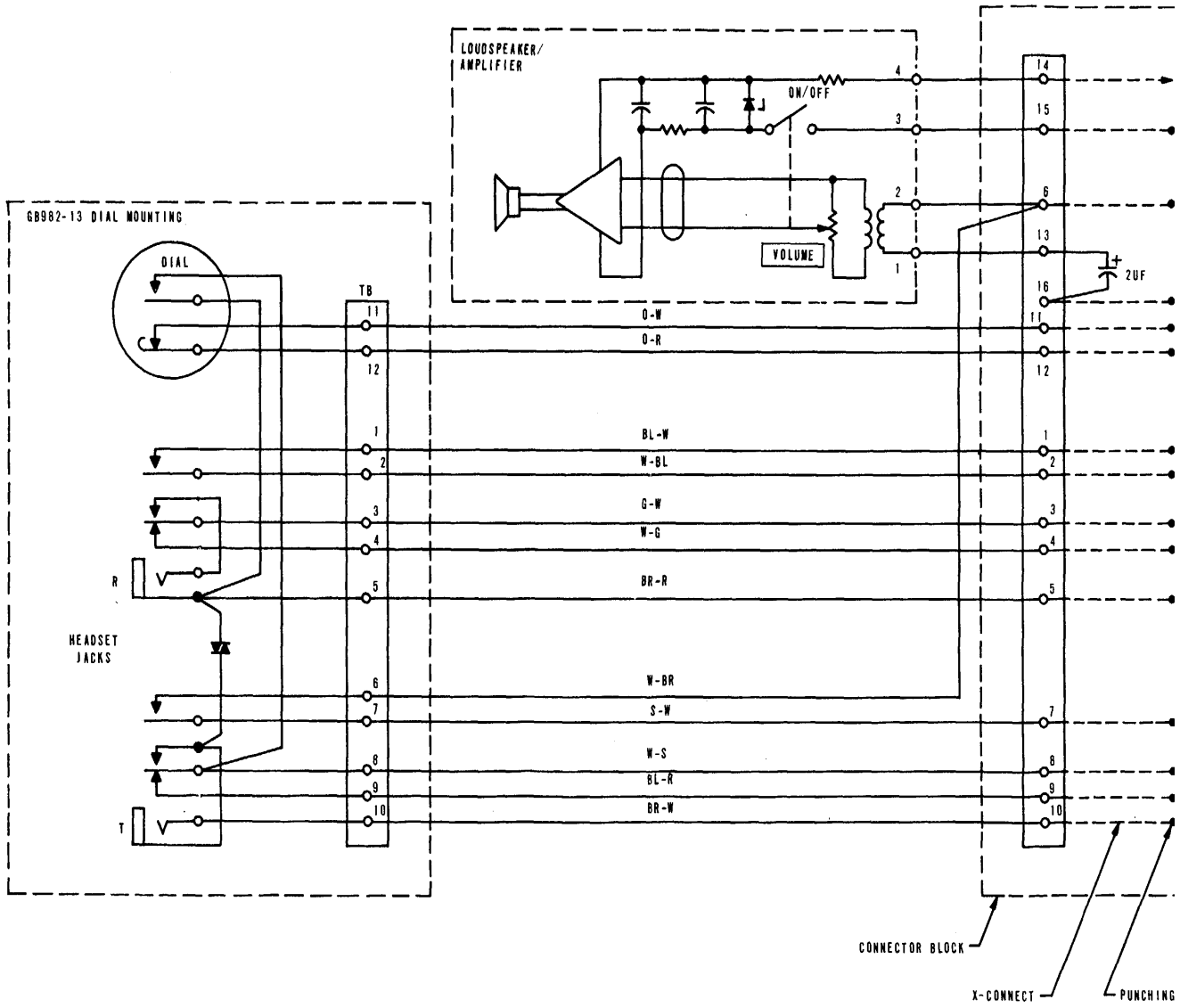


Figure FO-1(1). Express-Link-Local Orderwire Unit TA-928/FSC, wiring diagram (sheet 1 of 4).

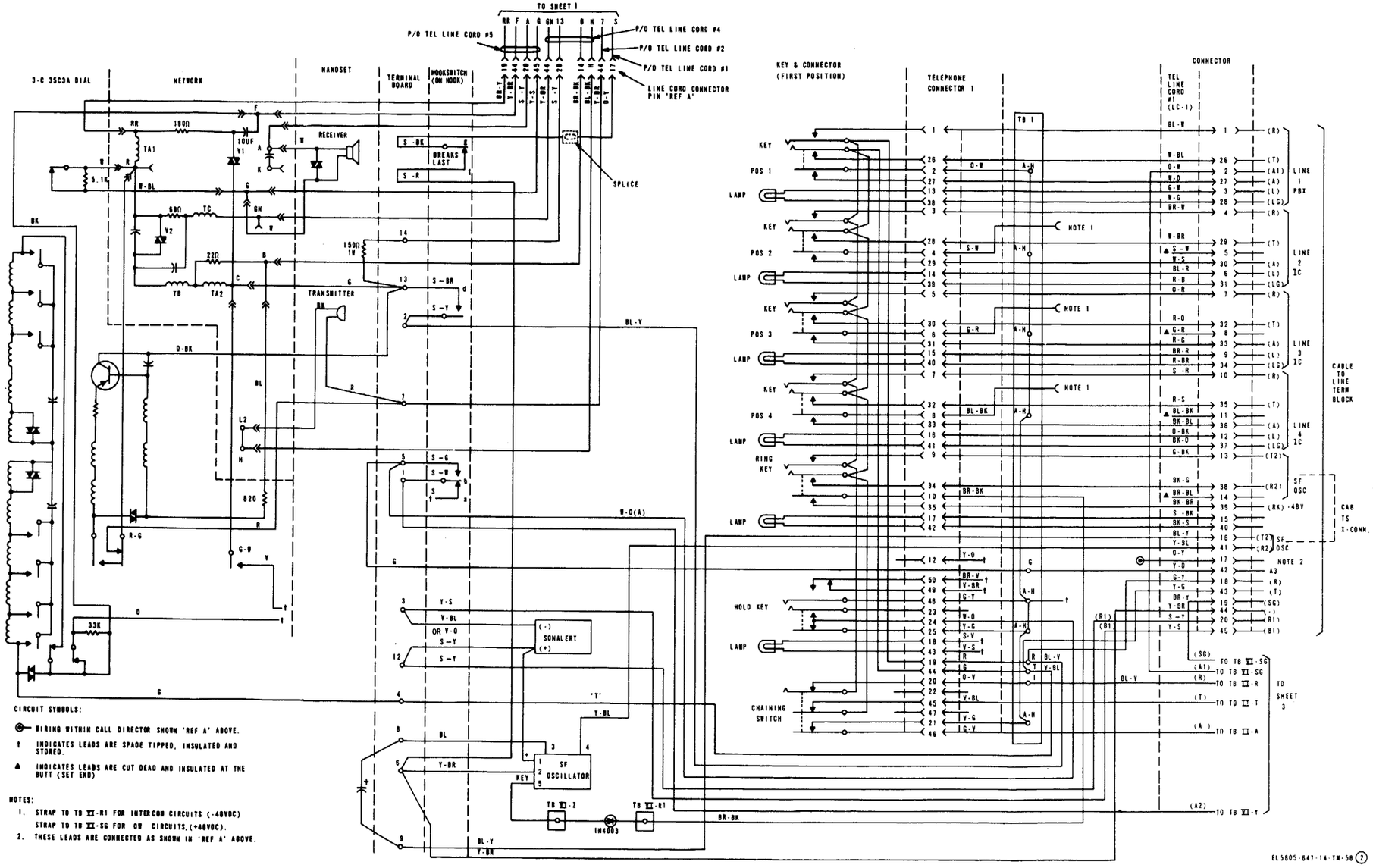


Figure FO-1(2). Express-Link-Local Orderwire Unit TA-928/FSC, wiring diagram (sheet 2 of 4).

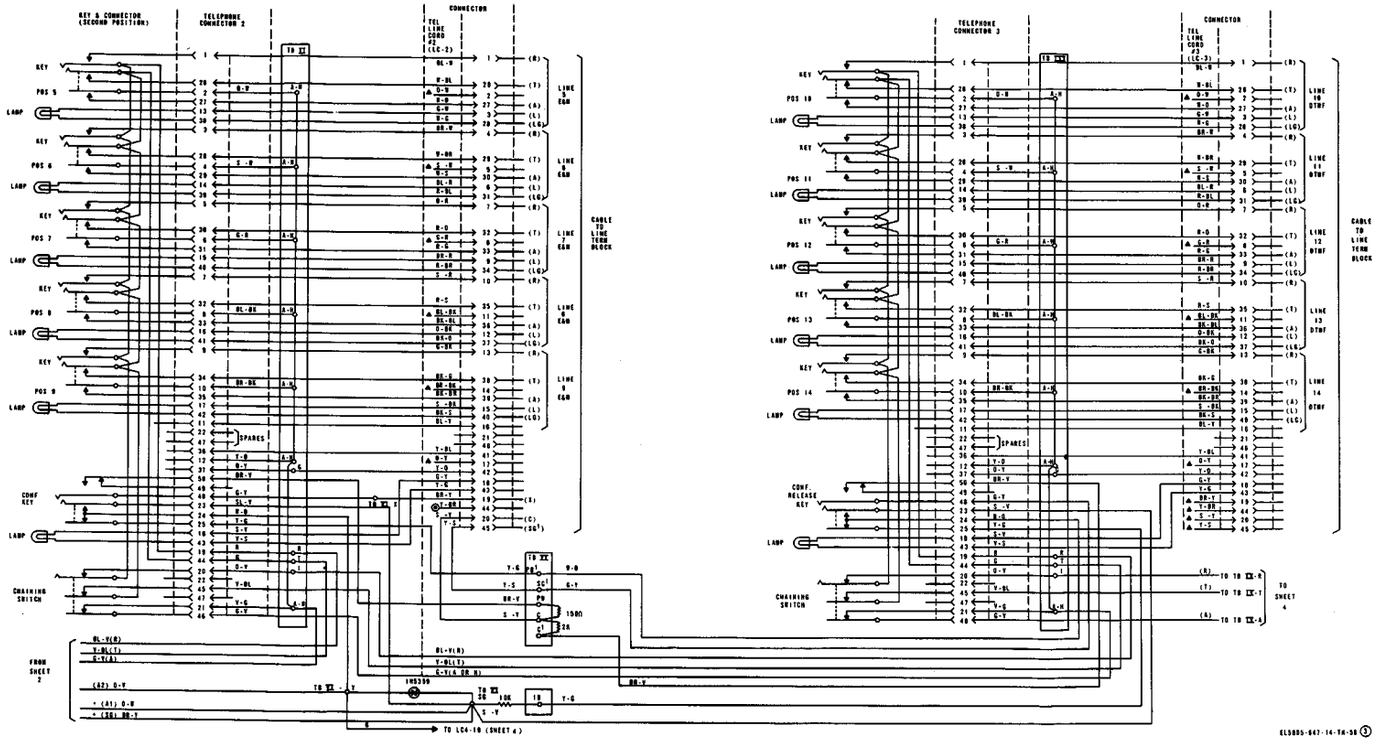


Figure FO-1(3). Express-Link-Local Orderwire Unit TA-928/FSC, wiring diagram (sheet 3 of 4).

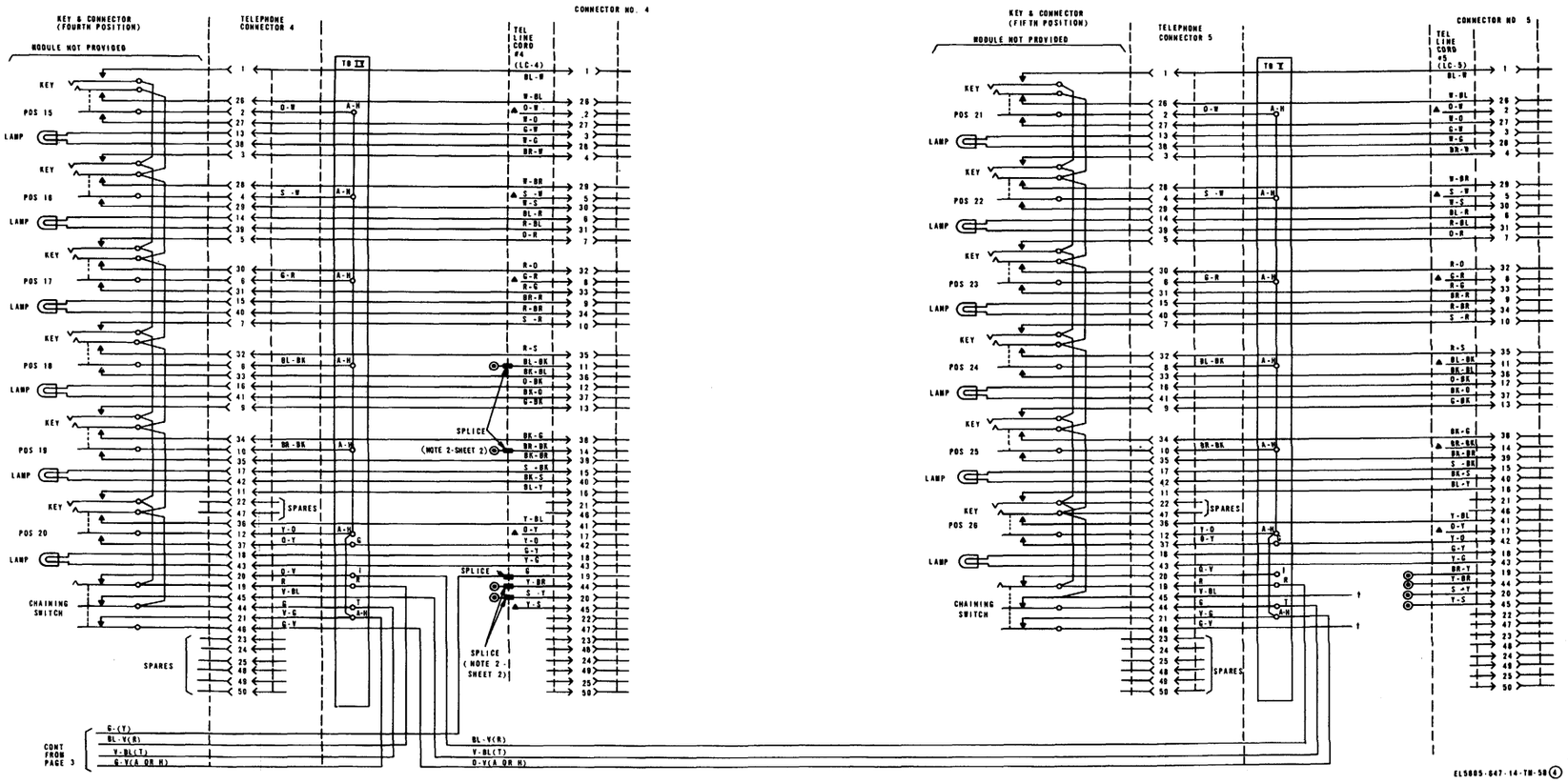
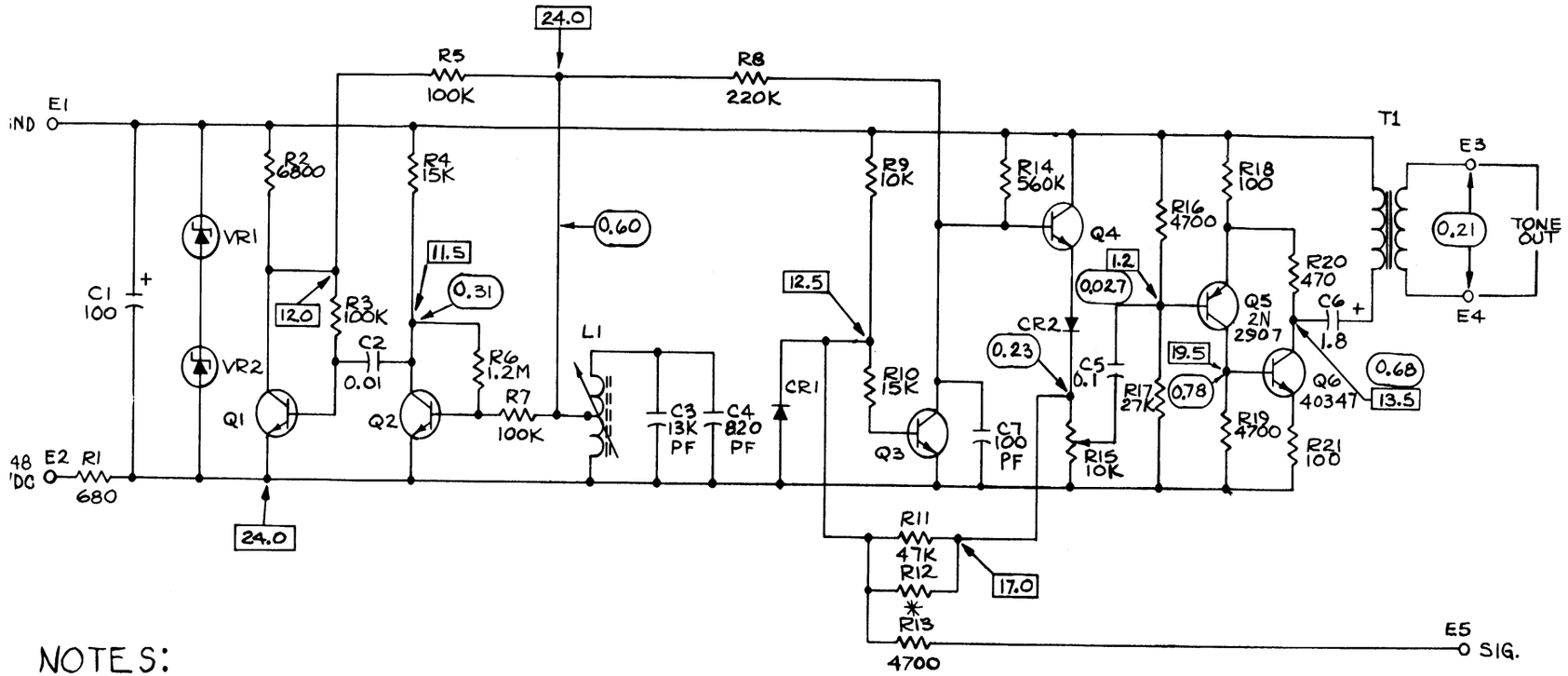


Figure FO-1(4). Express-Link-Local Orderwire Unit TA-928/FSC, wiring diagram (sheet 4 of 4).



NOTES:

1. Q1,2,3 & 4 2N2222
2. CR1,2 1N4148
3. VR1,2 1N5242
4. ALL CAPACITANCE IN UF UNLESS NOTED
5. ALL RESISTANCE IN OHMS
6. ▭ NEGATIVE D.C. VOLTS
   ⬭ A.C. VOLTS
7. ALL A.C. SIGNALS SINUSOIDAL EXCEPT AT COLLECTOR OF Q1 SQUARE WAVE
8. * INDICATES VALUE DETERMINED BY CIRCUIT CHARACTERISTICS

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Figure FO-2. S. F. Oscillator, 49009-01, schematic diagram

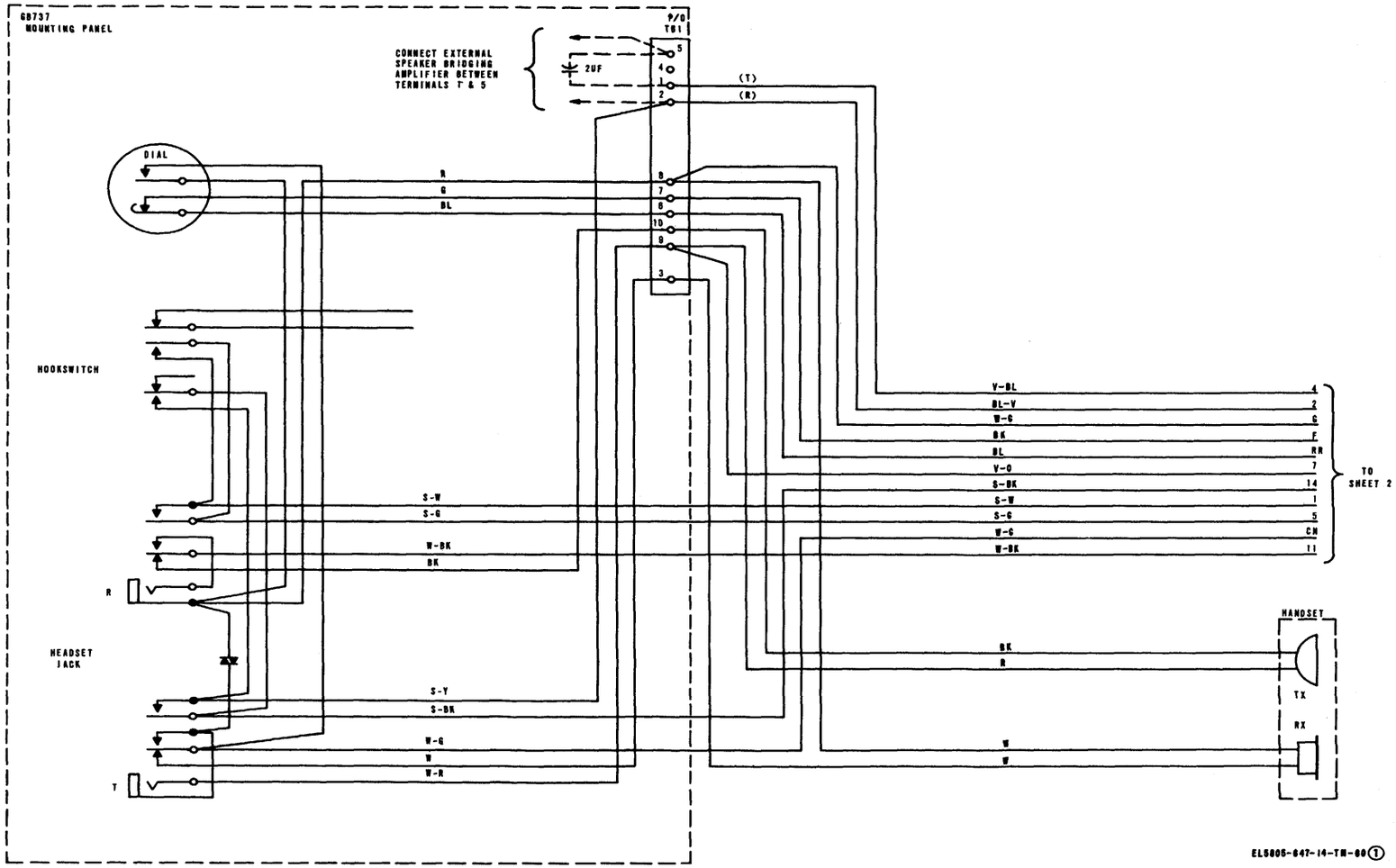


Figure FO-3(1). Express-Link-Local Orderwire Unit TA-923/FSC, wiring diagram (sheet 1 of 4).

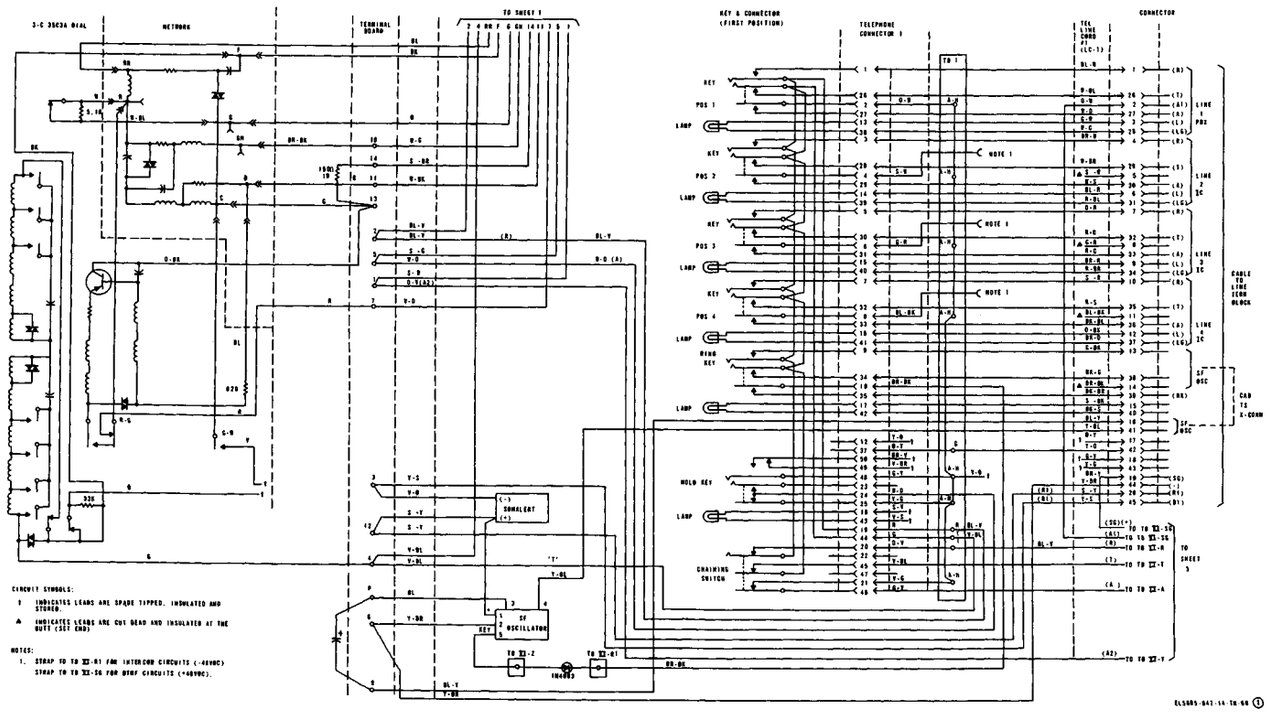


Figure FO-3(2). Express-Link-Local Orderwire Unit TA-923/FSC, wiring diagram (sheet 2 of 4).

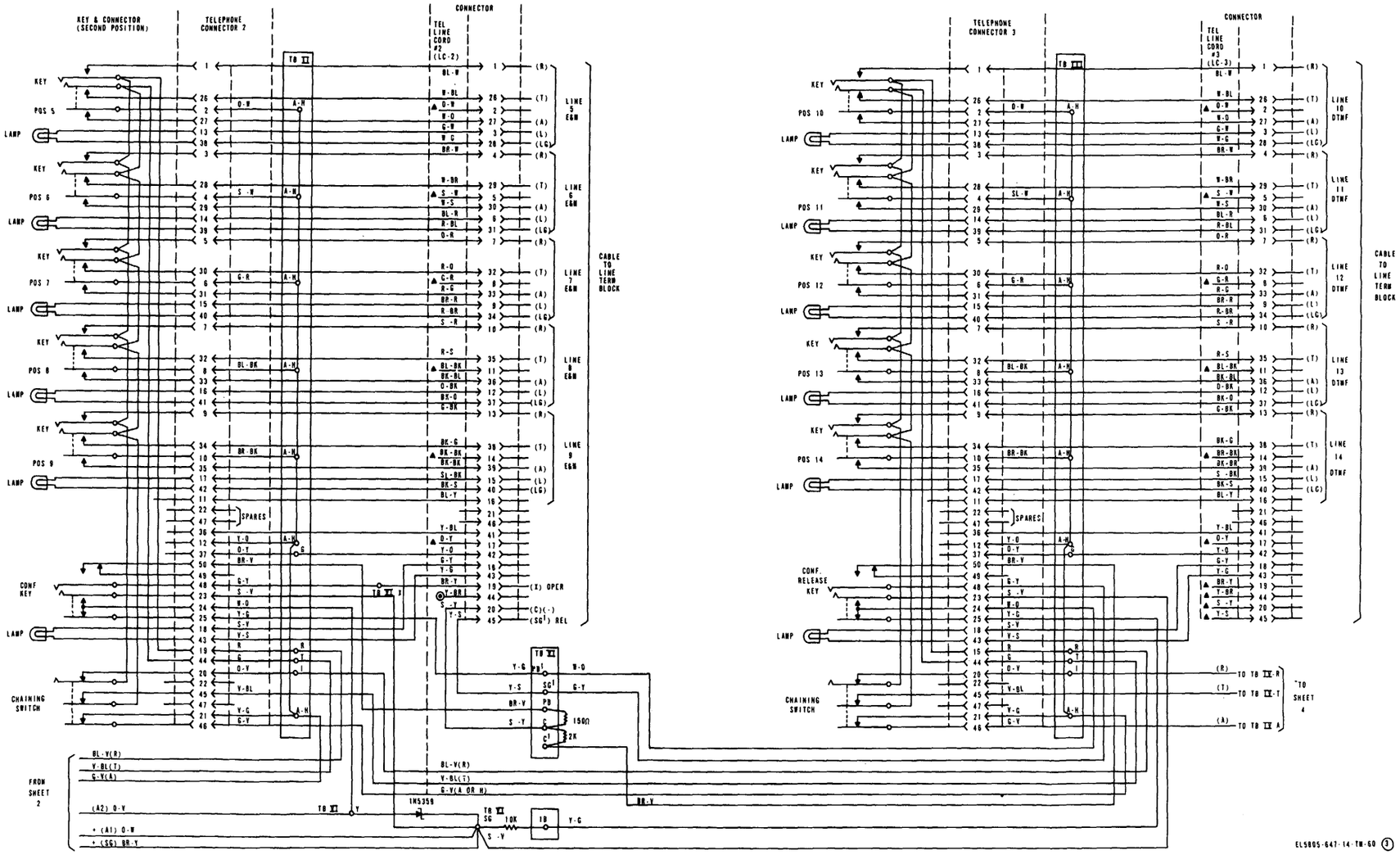


Figure FO-3(3). Express-link local orderwire Unit TA923/FSC, wiring diagram (sheet 3 of 4).

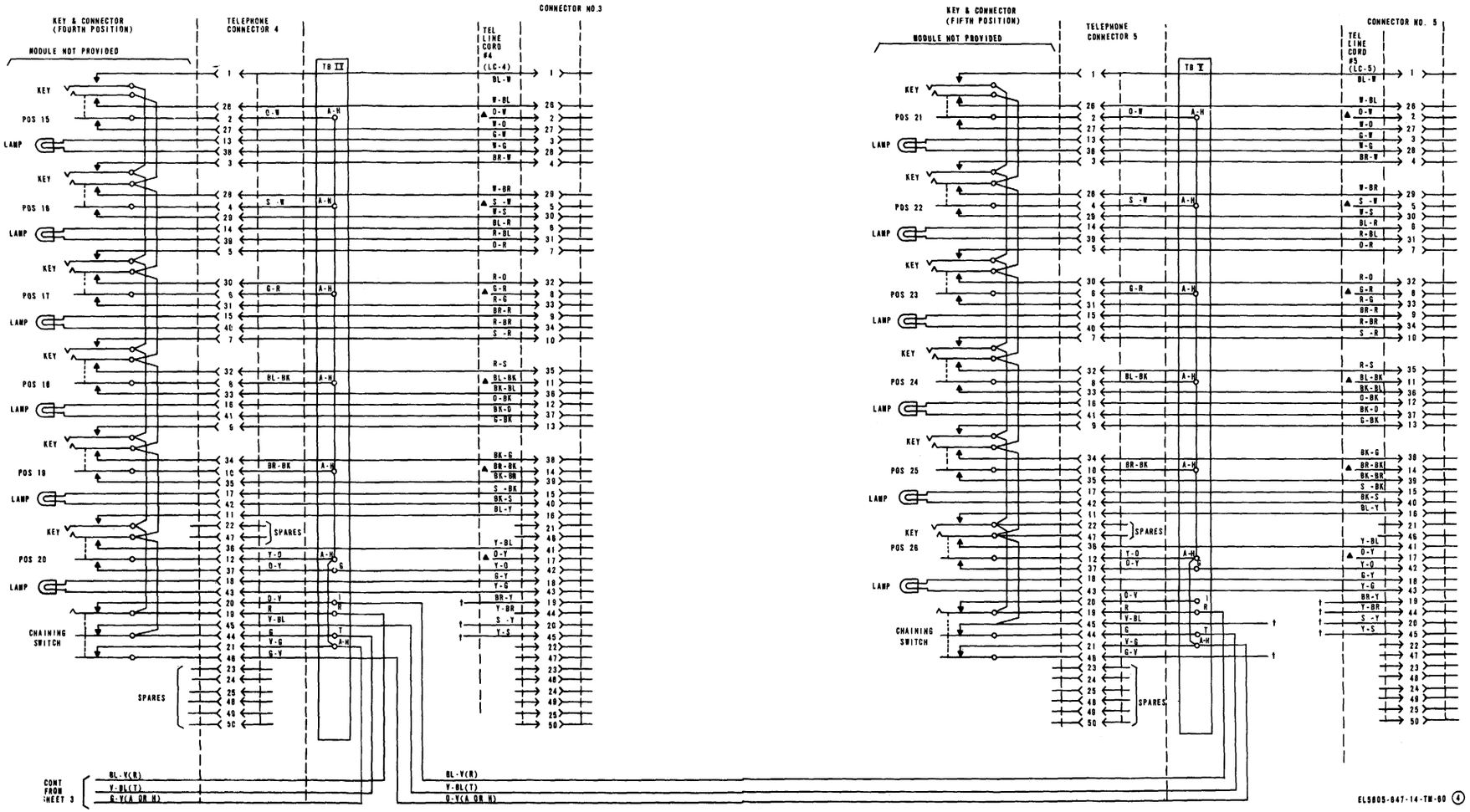


Figure FO-3(4). Express-Link-Local Orderwire Unit TA-923/FSC, wiring diagram (sheet 4 of 4).

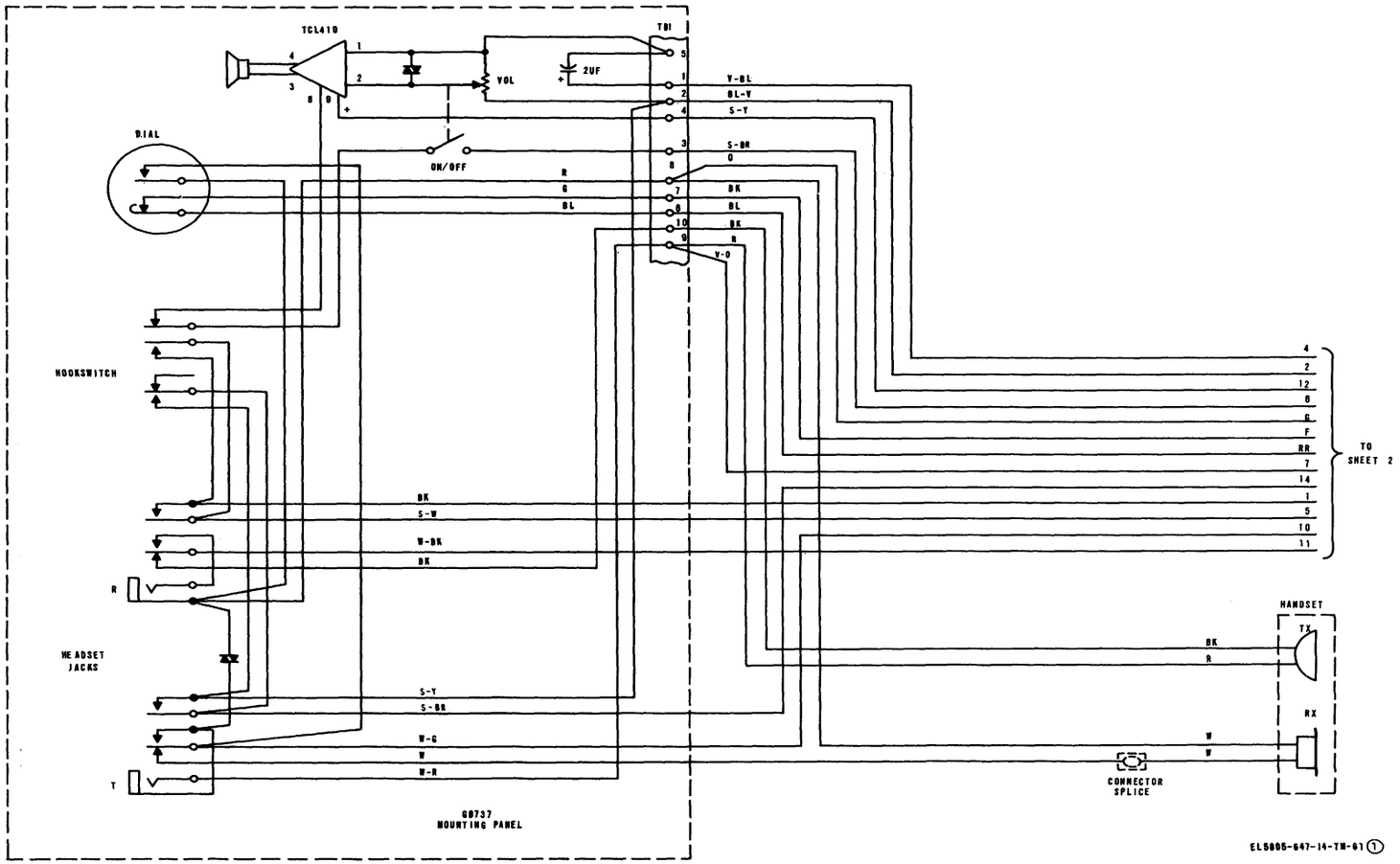


Figure FO-4(1). Link Orderwire Unit TA-925/FSC, wiring diagram (sheet 1 of 3).

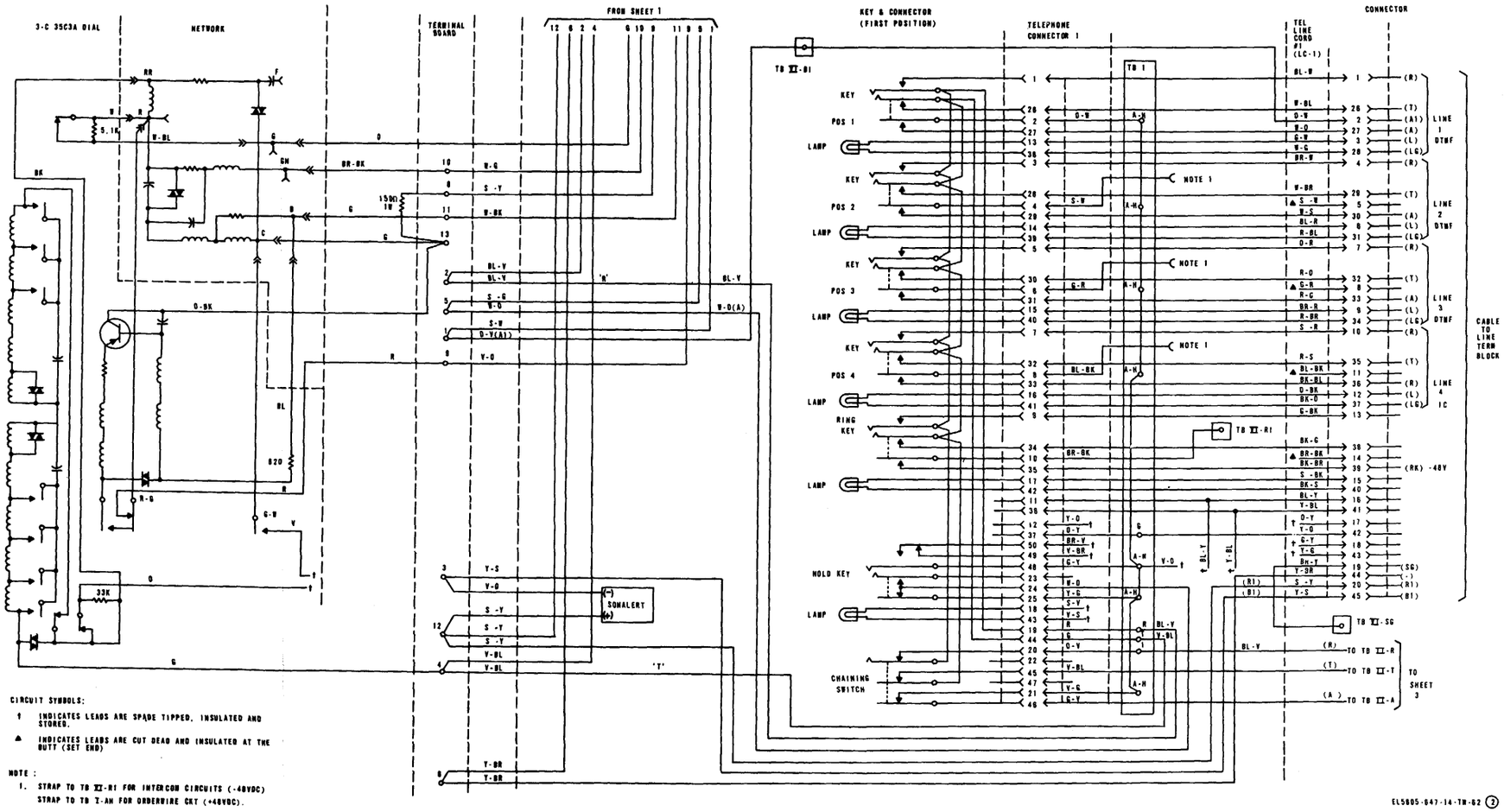


Figure FO-4(2). Link Orderwire Unit TA-925/FSC, wiring diagram (sheet 2 of 3).

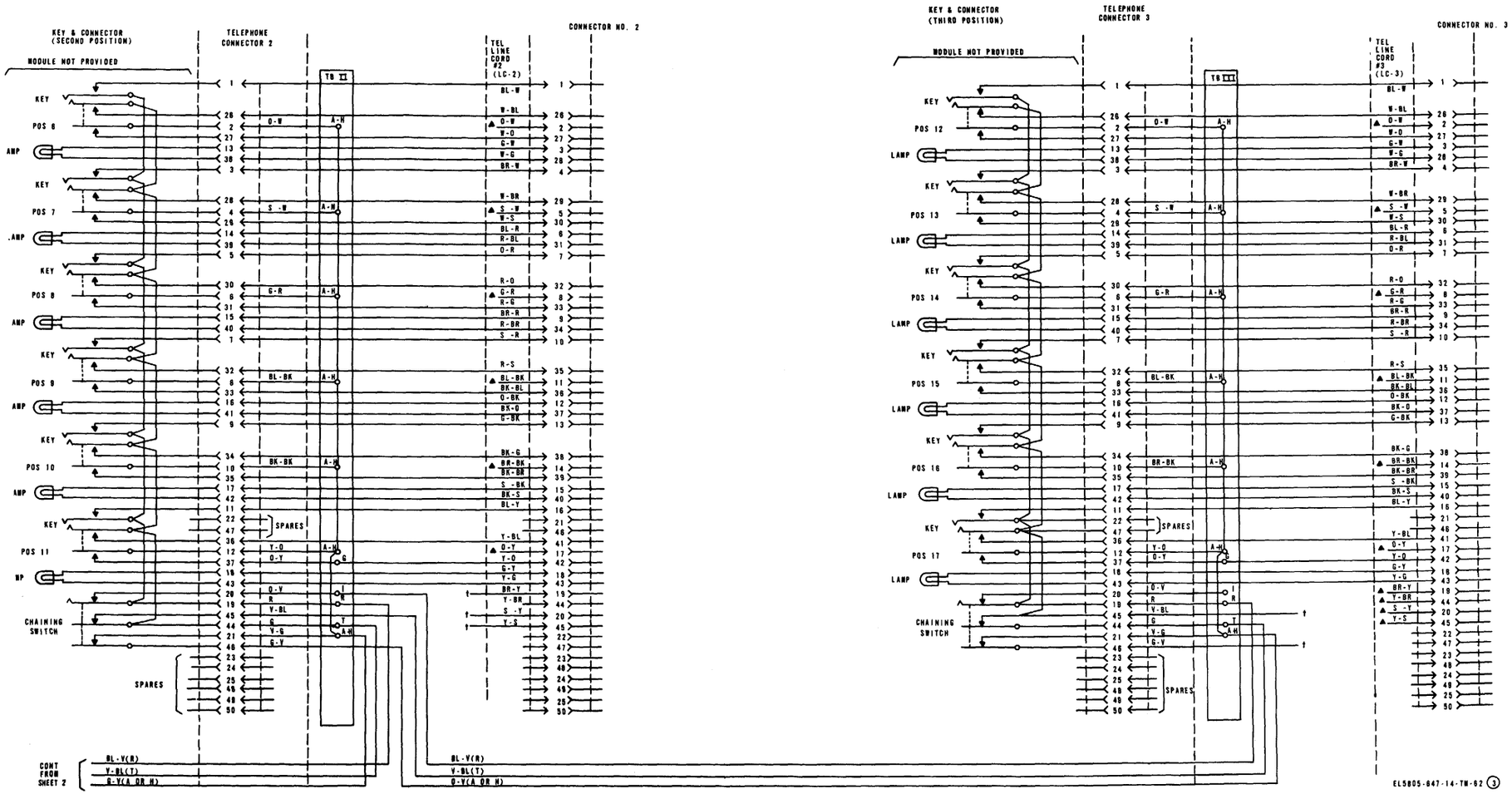


Figure FO-4(3). Remote Link Orderwire Unit TA-924/FSC, wiring diagram (sheet 3 of 3)

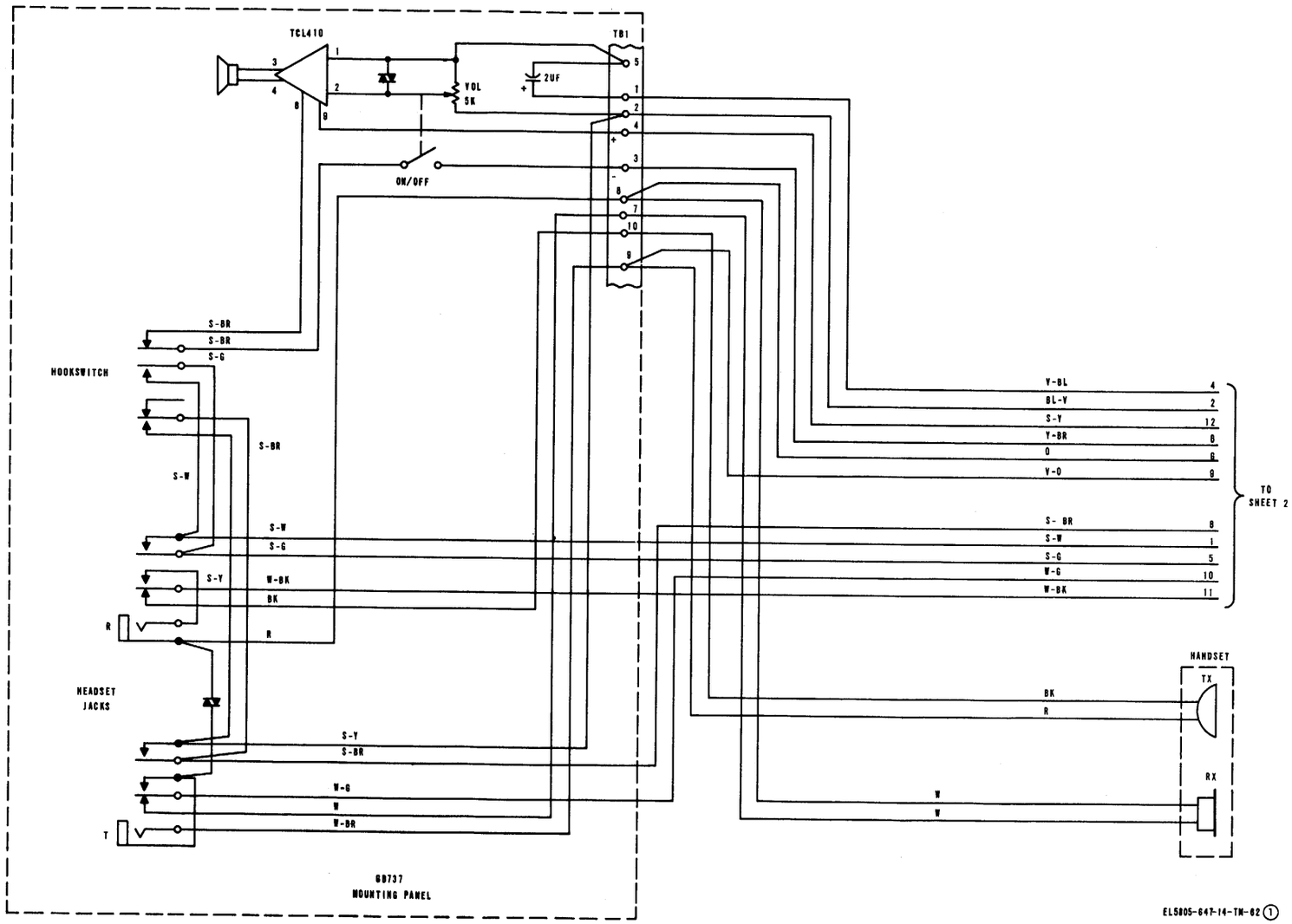


Figure FO-5(1). Remote Link Orderwire Unit TA-924/FSC, wiring diagram (sheet 1 of 3)

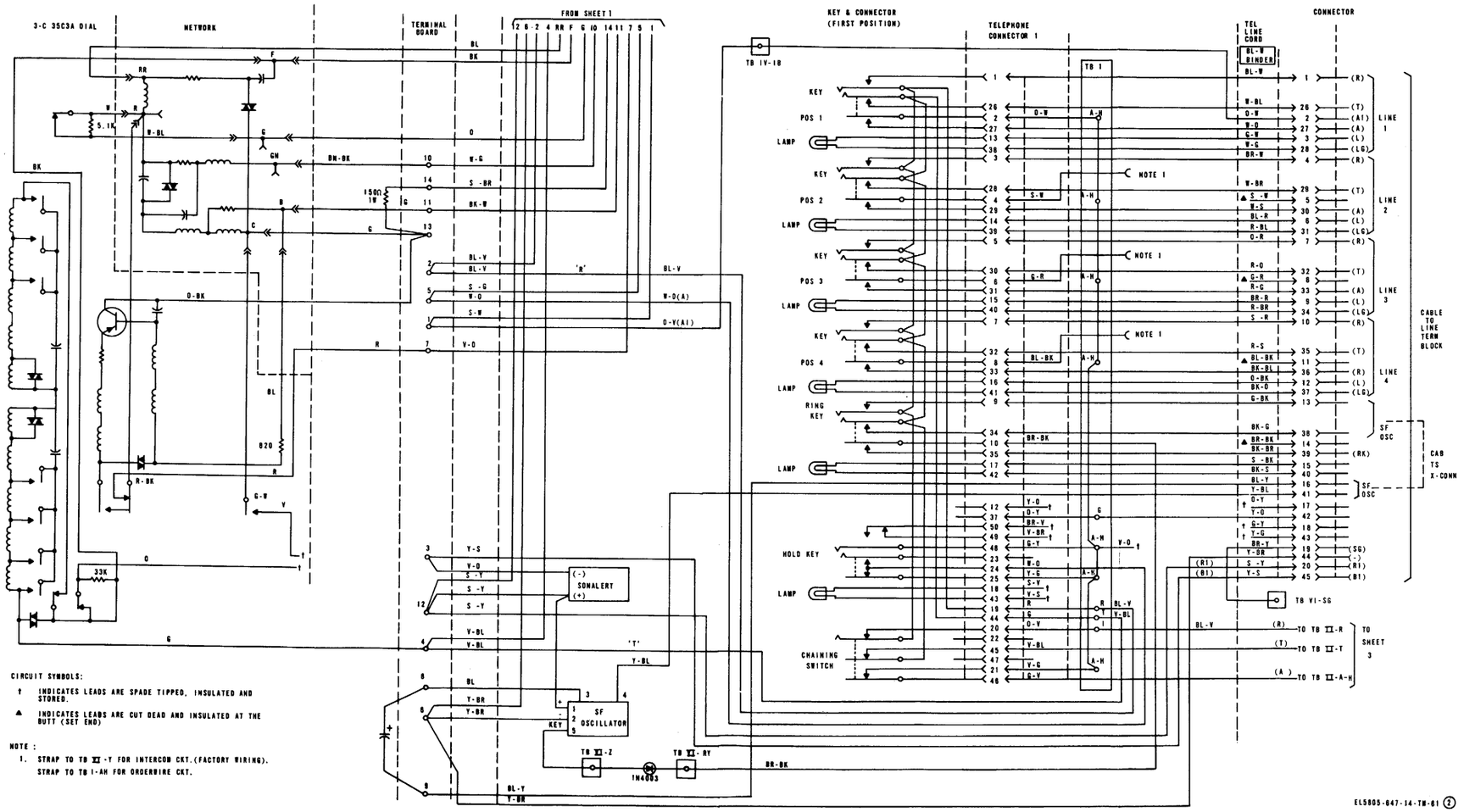


Figure FO-5(2). Remote Link Orderwire Unit TA-924/FSC, wiring diagram (sheet 2 of 3)

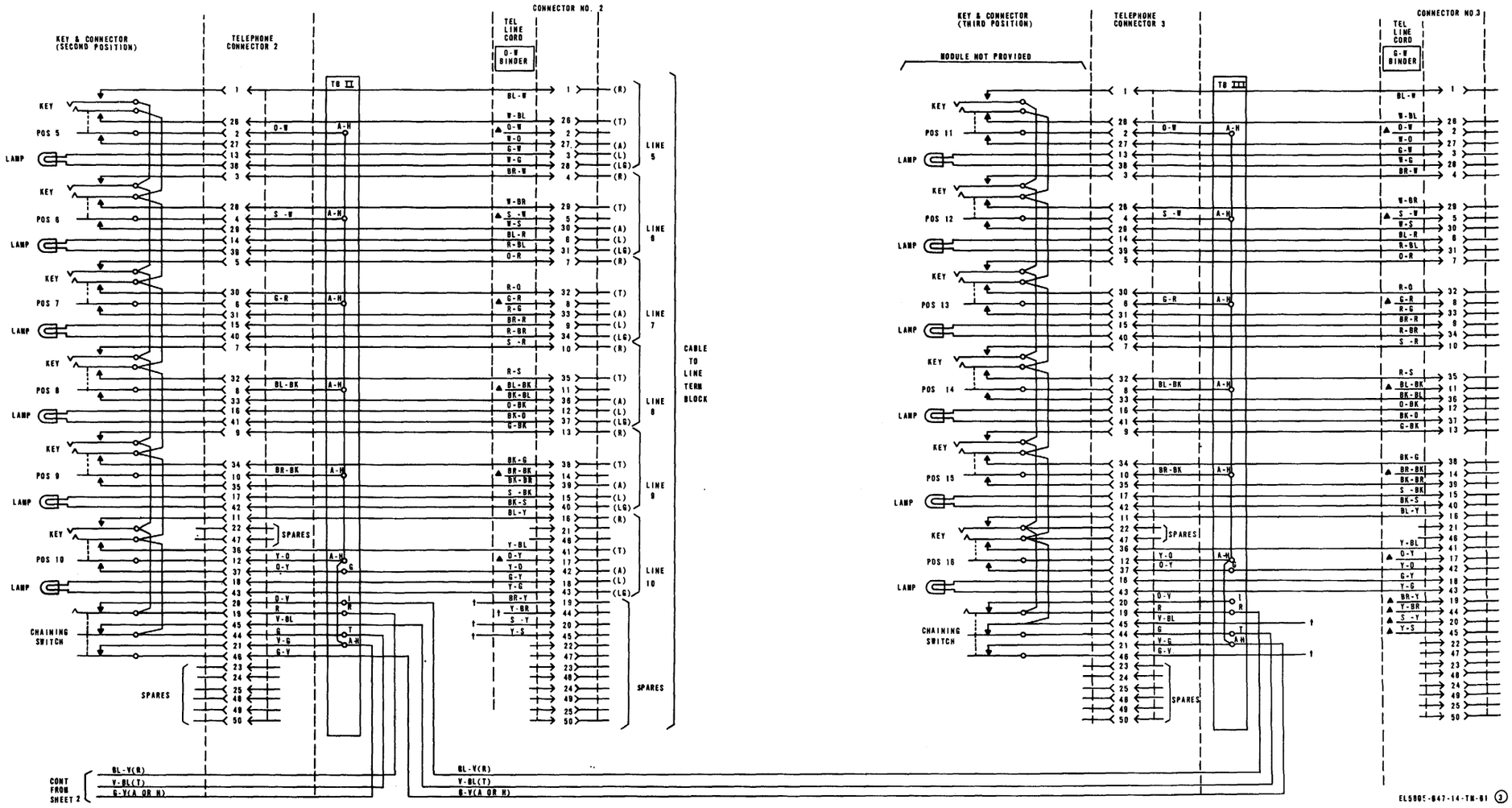


Figure FO-5(3). Remote Link Orderwire Unit A-924/FSC, wiring(sheet 3 of 3)

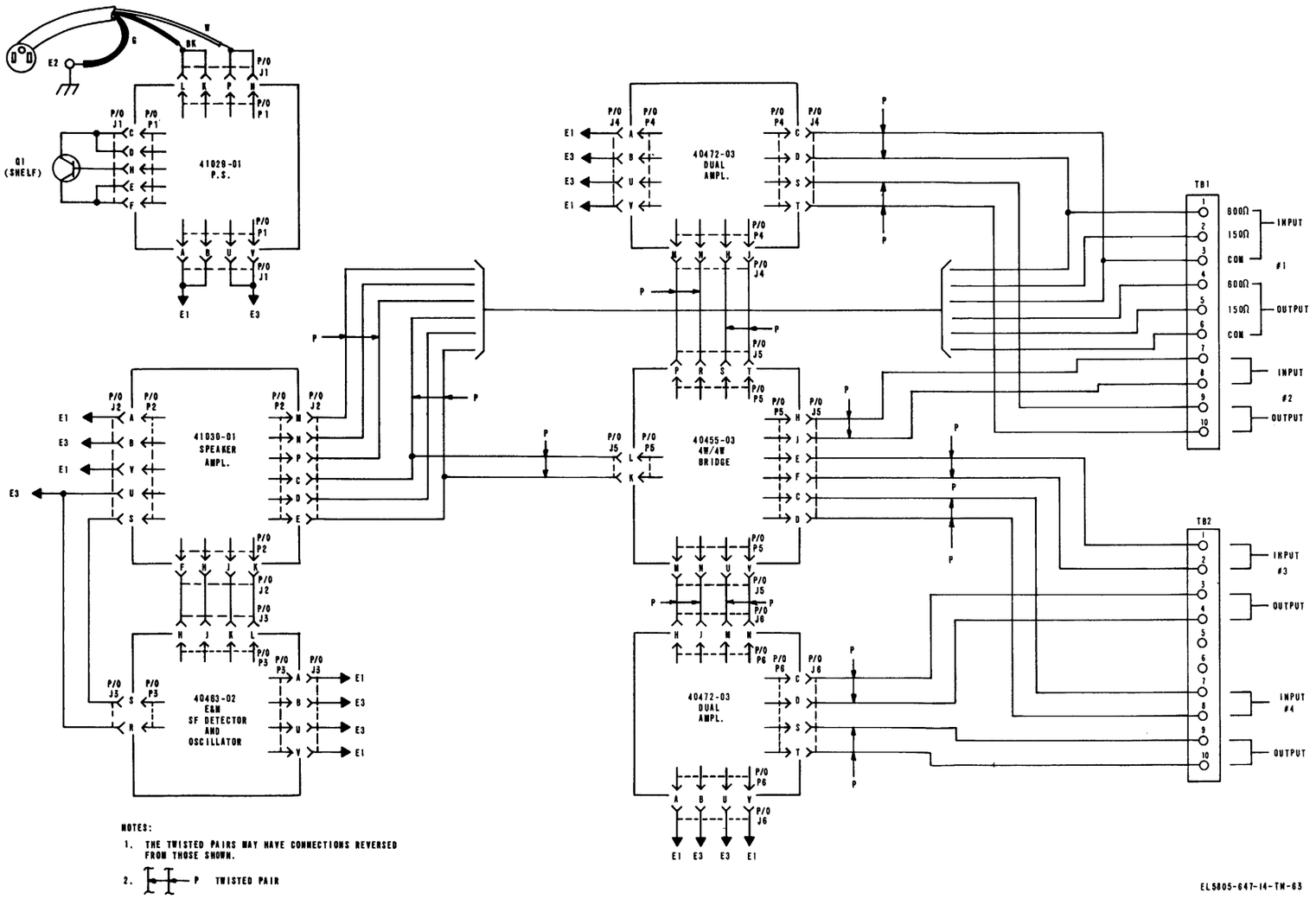


Figure FO-6. Local Orderwire Unit 41010-97, interconnection wiring diagram.

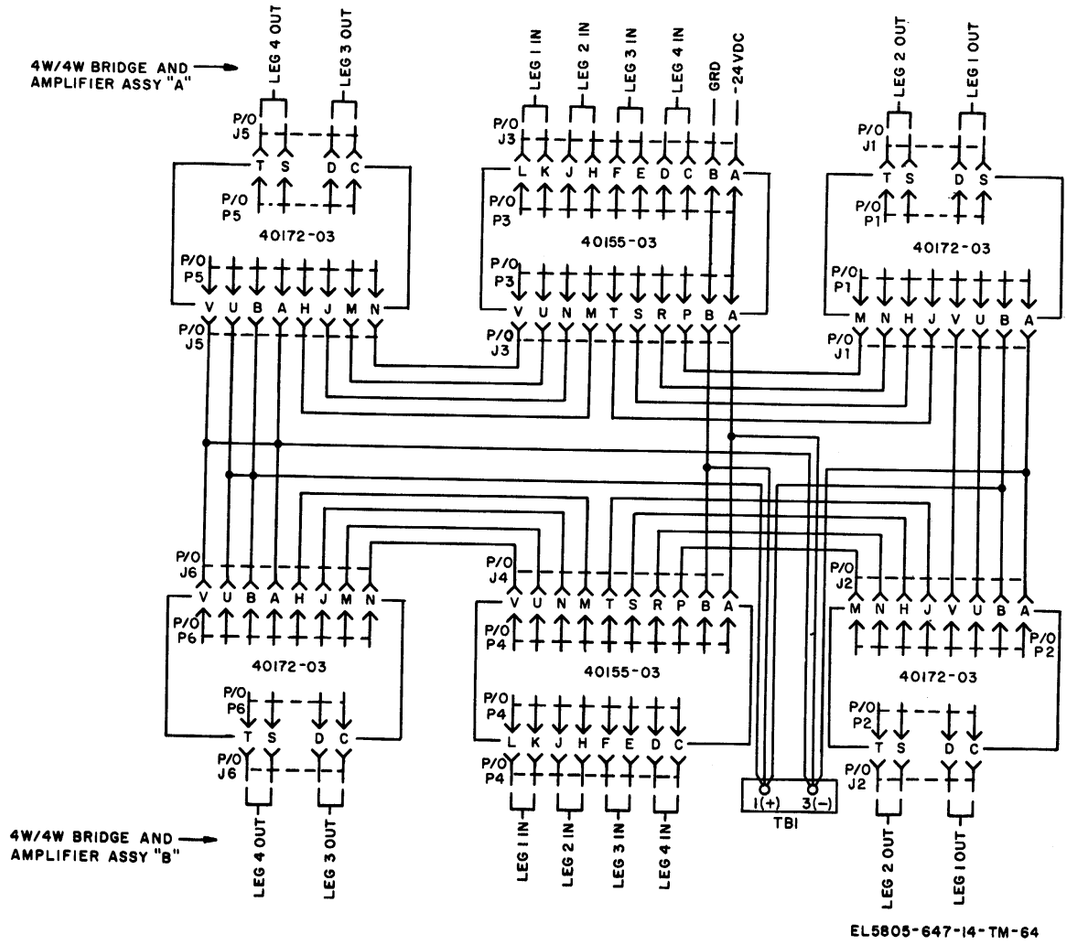


Figure FO-7. 4-Way/4-wire bridge and amplifier assembly 40155-03, intrawiring diagram.

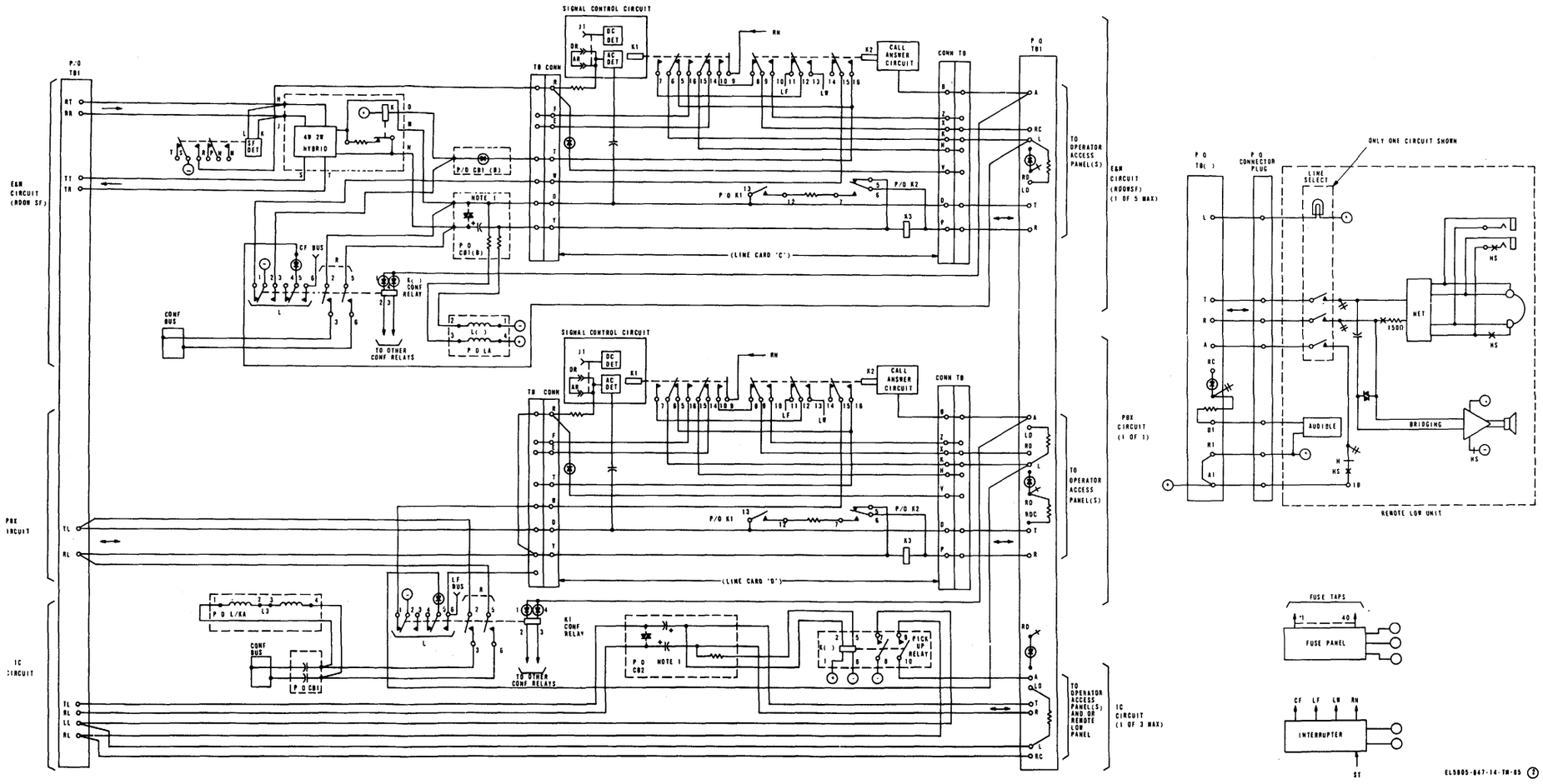


Figure FO-8(1). Orderwire/intercom (EOW sites), functional diagram (sheet 1 of 2)

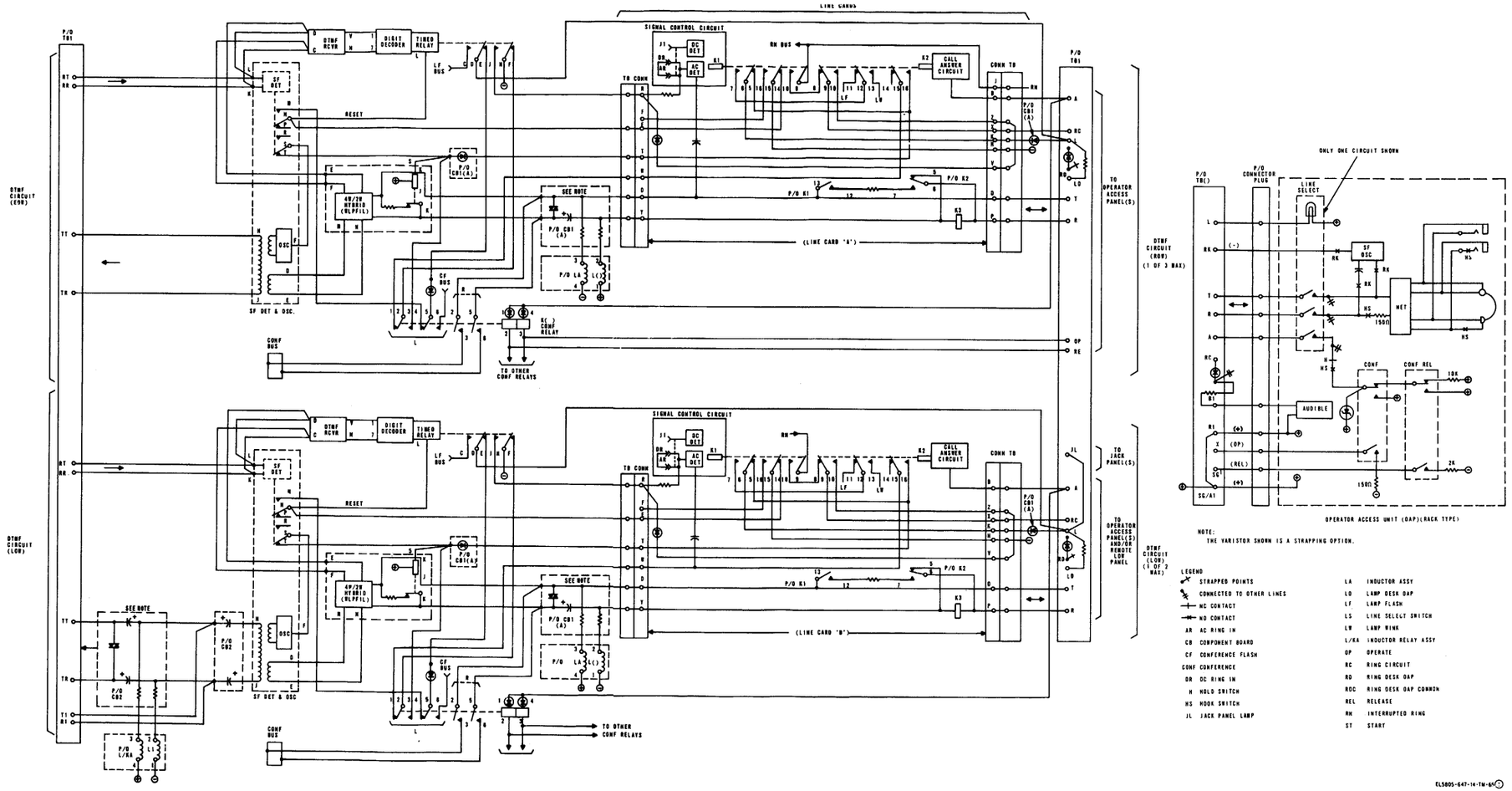


Figure FO-8(2). Orderwire/intercom (EOW sites), functional diagram (sheet 2 of 2).

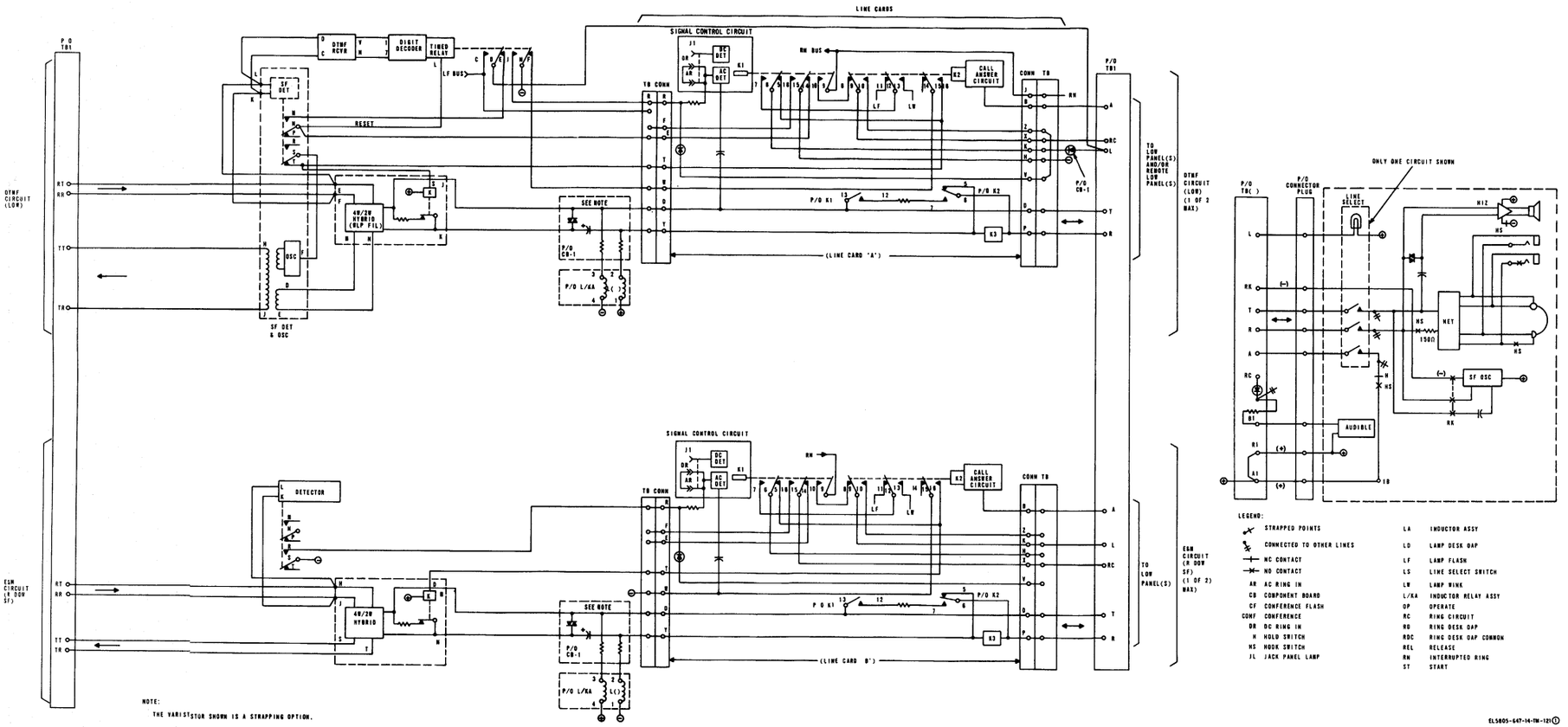


Figure FO-9(1). Orderwire/intercom (LOW sites), functional diagram (sheet 1 of 2).

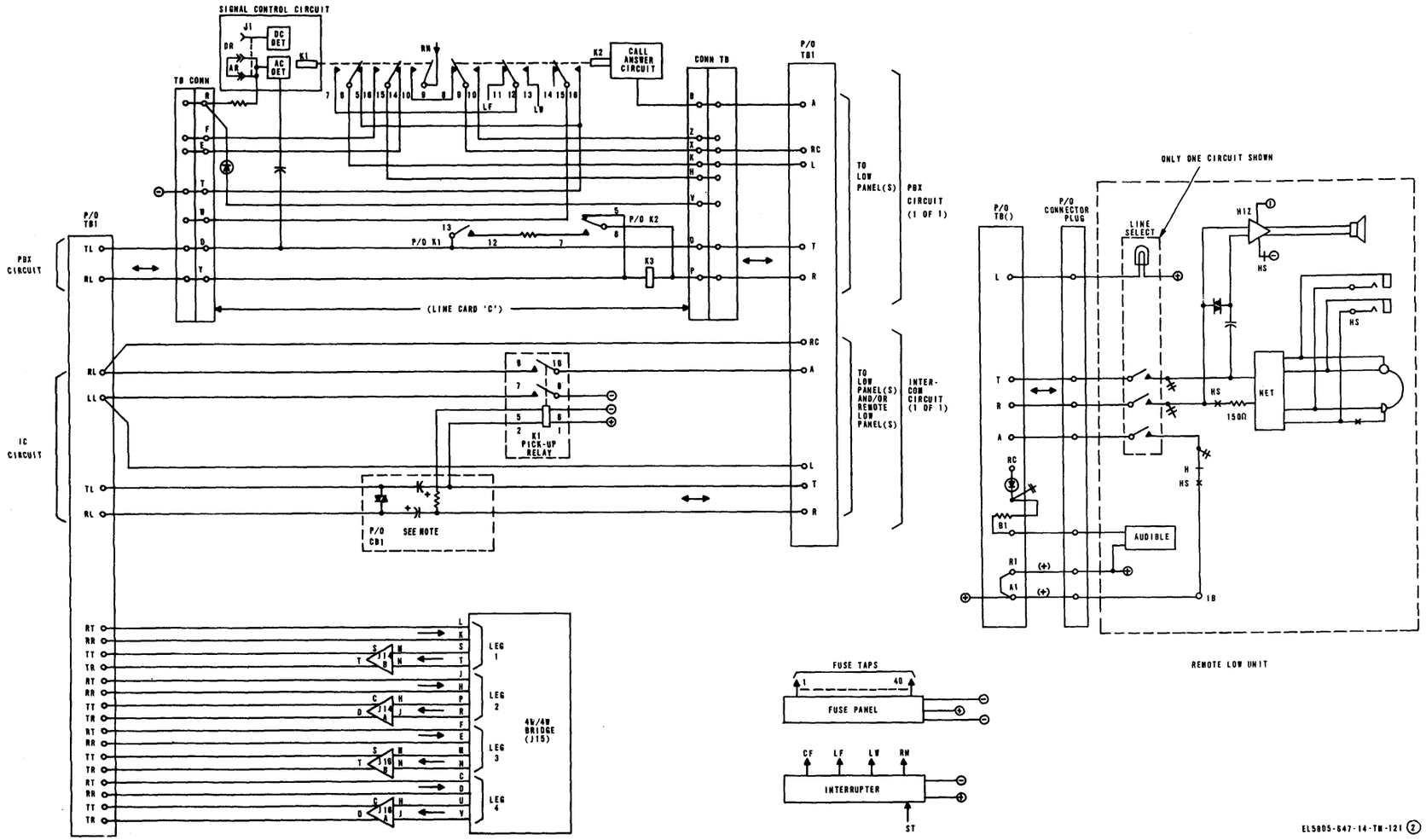
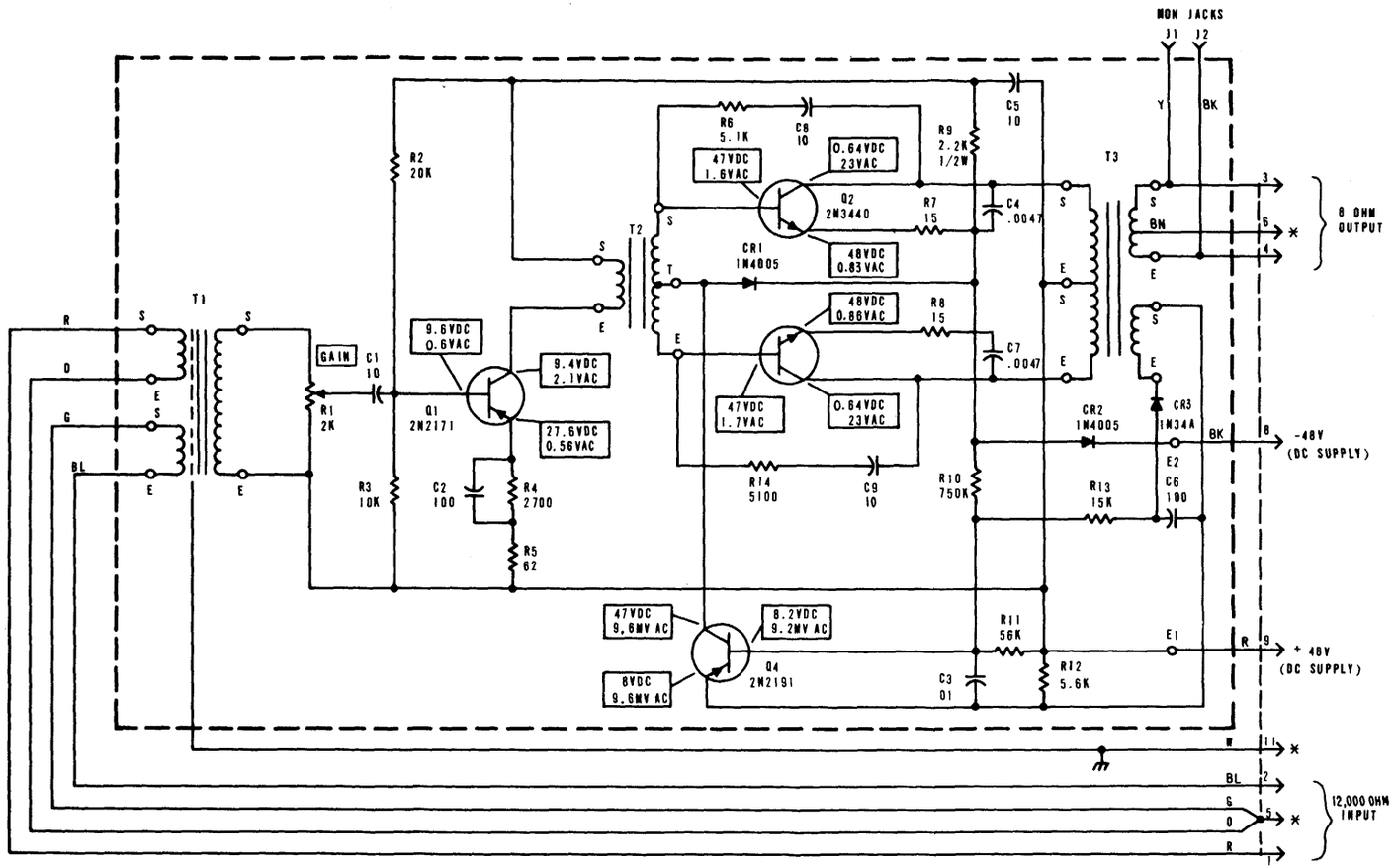


Figure FO-9(2). Orderwire/intercom (LOW sites), functional diagram (sheet 2 of 2).



NOTES:
1. ALL RESISTORS 1/4W, 5% UNLESS OTHERWISE SPECIFIED.
2. Q2 & Q3 MOUNTED IN HEAT SINKS.
3. ALL CAPACITORS IN UF.
4. CAPACITOR POLARITY +|(-
5. HEAVY DASHED LINES INDICATE CKT BOARD.
6. DC VOLTAGES TAKEN WITH INPUT SHORTED AND 8 OHM LOAD.
7. AC VOLTAGES TAKEN AT 1kHz 0dB (0.78) 12,000 OHM INPUT, 8 OHM LOAD. GAIN SET TO PRODUCE 2 WATTS AT LOAD.

* DENOTES NOT USED.

Figure FO-10. Power amplifier, type TLC410, schematic diagram.

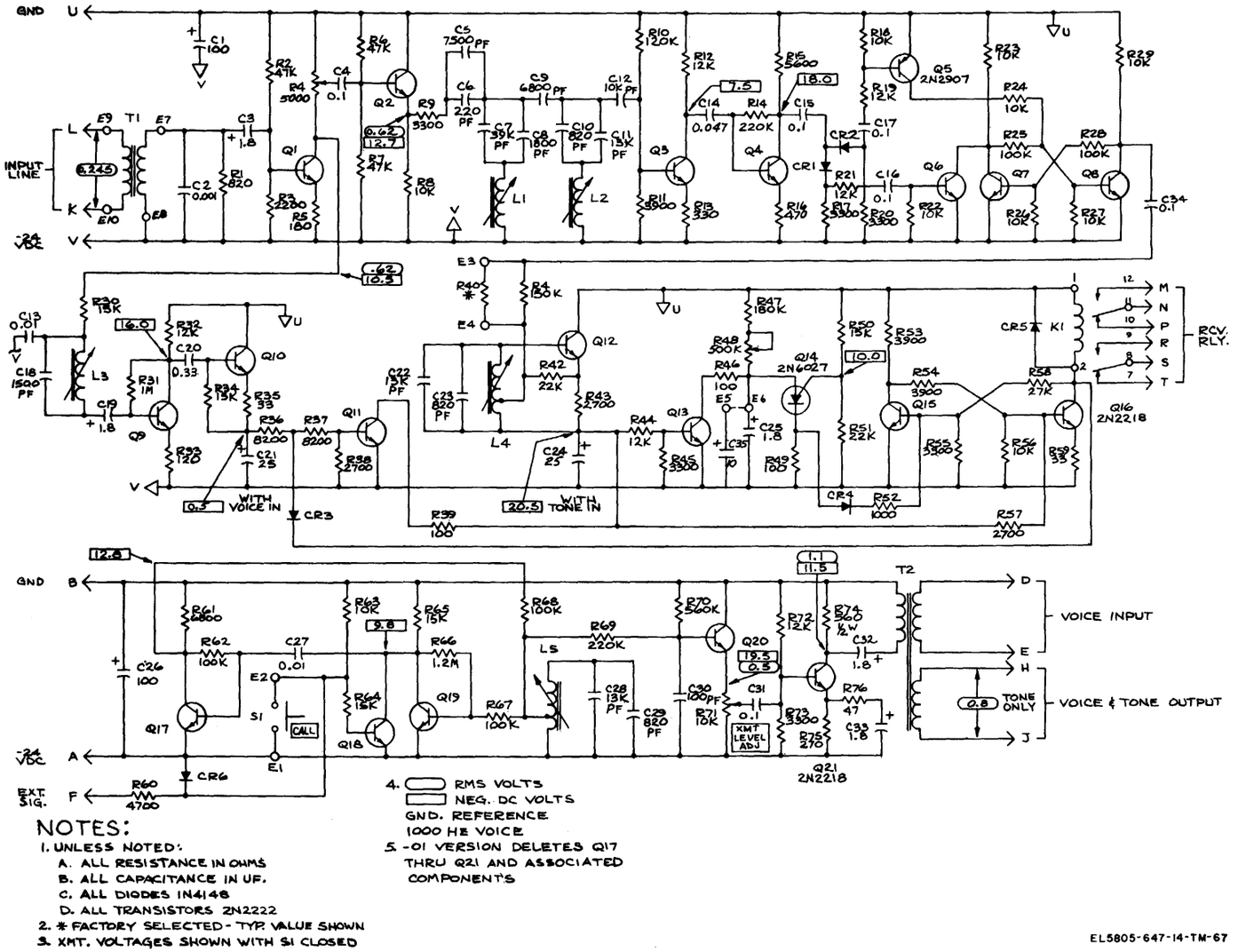


Figure FO-11. S .F. detector and oscillator 41063-02, schematic diagram.

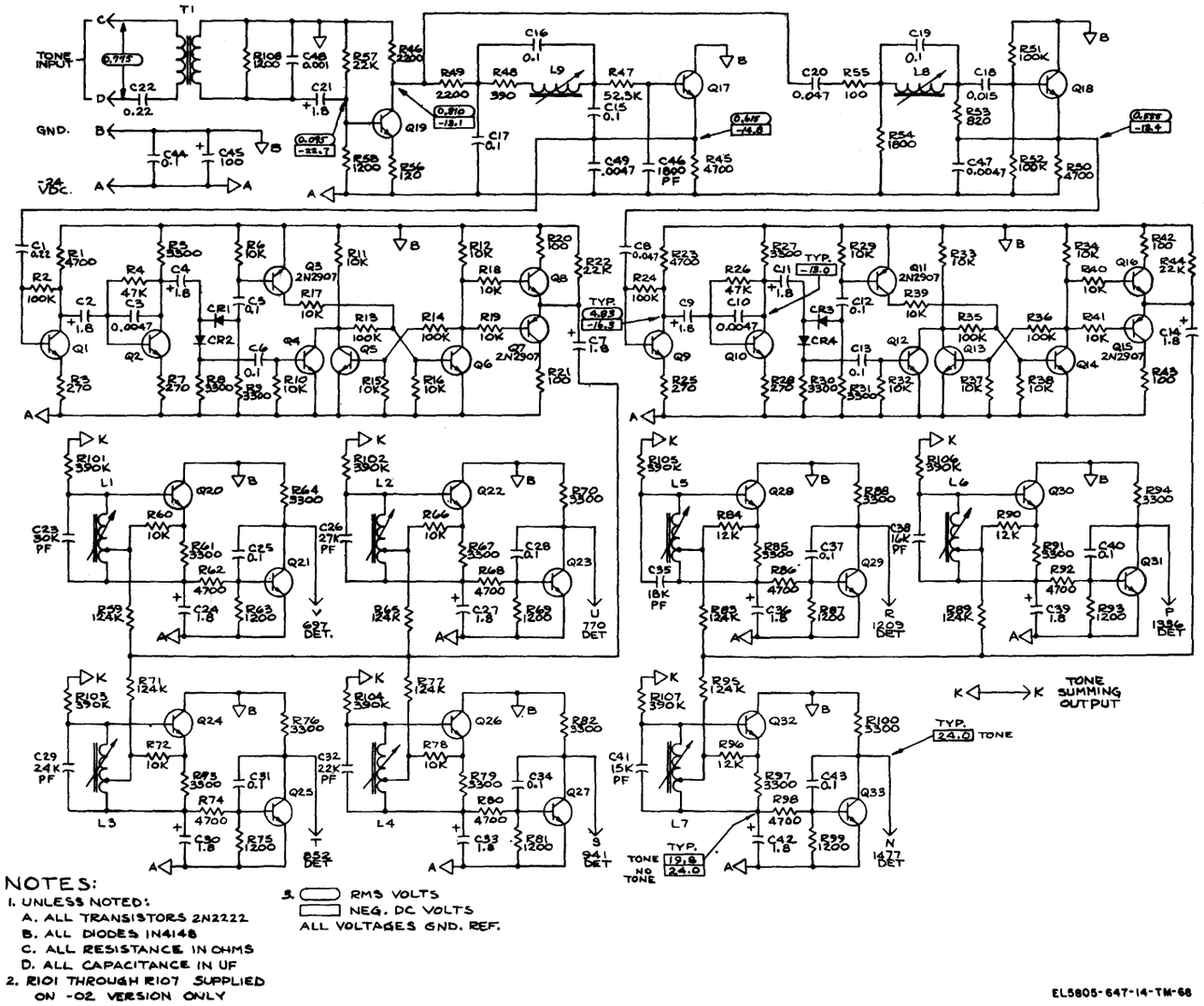


Figure FO-12. DTMF tone receiver 40452-01, schematic diagram.

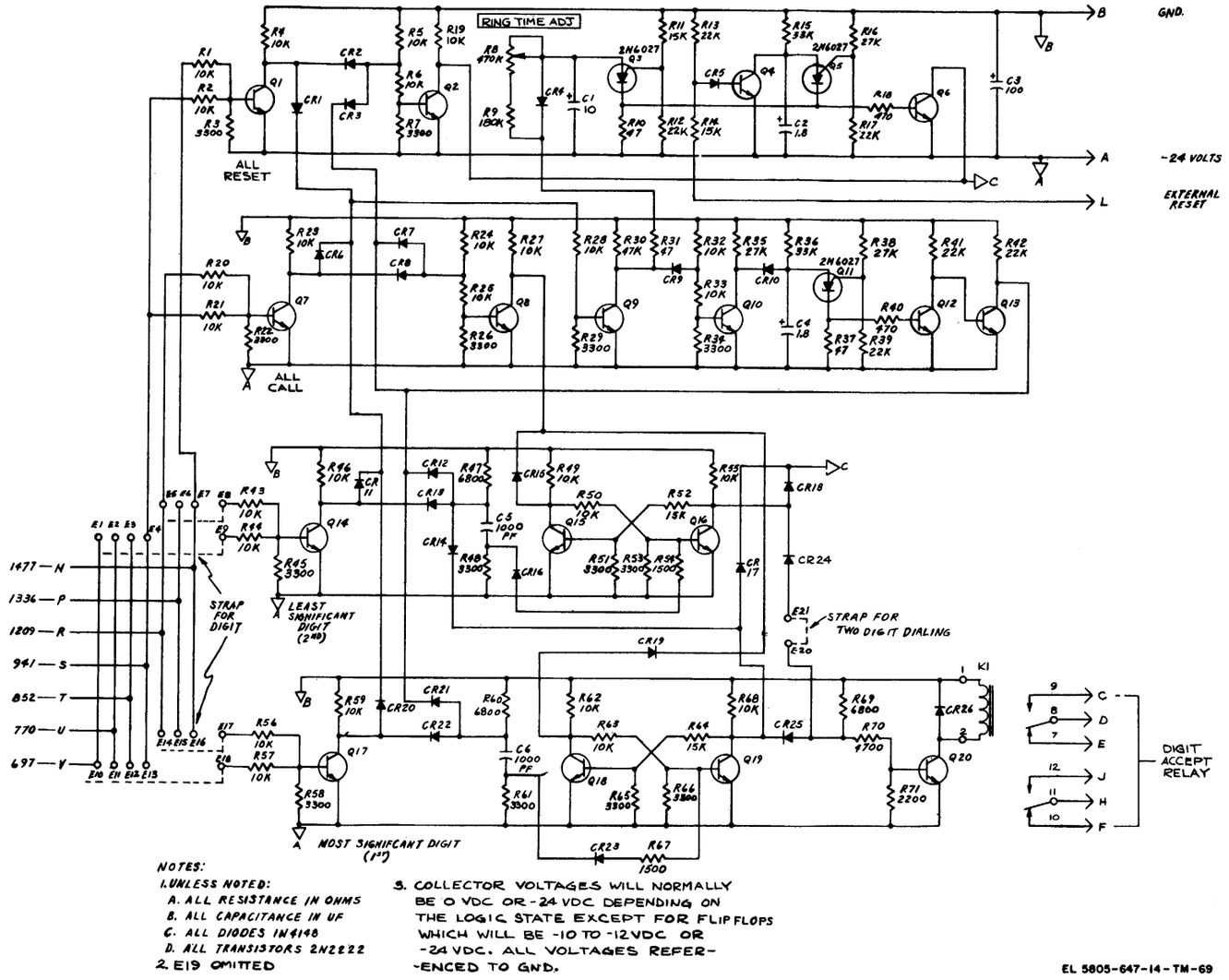
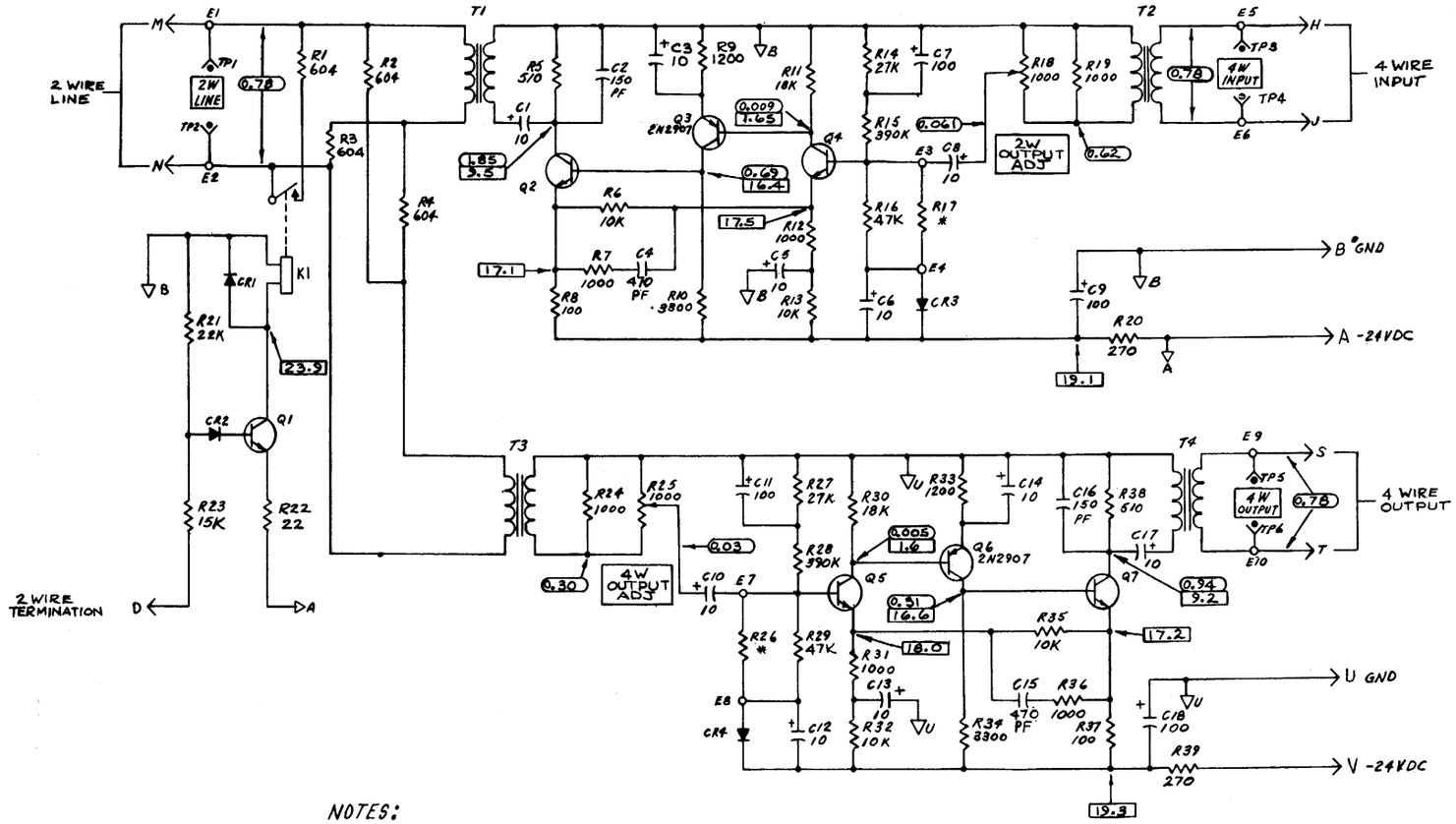


Figure FO-13. Digit decoder 40451, schematic diagram.



NOTES:

1. UNLESS NOTED:
   A. ALL RESISTANCE IN OHMS
   B. ALL CAPACITANCE IN UF
   C. ALL DIODES IN4148
   D. ALL TRANSISTORS 2N2222
2. * DENOTES SELECTED VALUE
   220K TYP.
3. ▭ NEG. DC VOLTS
   ⬭ RMS VOLTS
   ALL VOLTAGES EXCEPT BAL. I/O LEVELS REFERENCED TO GND.

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Figure FO-14. 4W/2W hybrid 49008-02, schematic diagram.

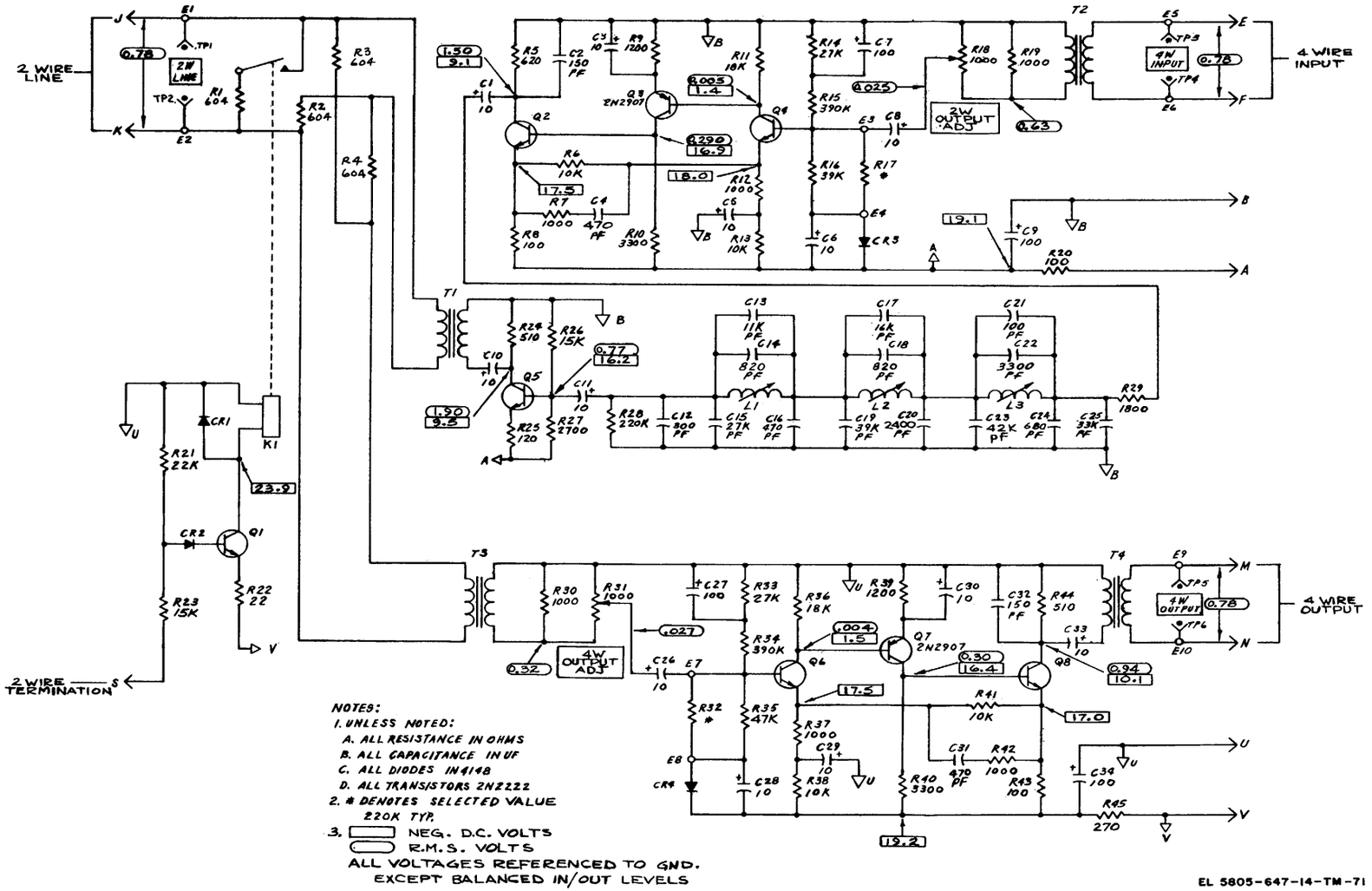


Figure FO-15. 4W/2W hybrid 49008-01, schematic diagram.

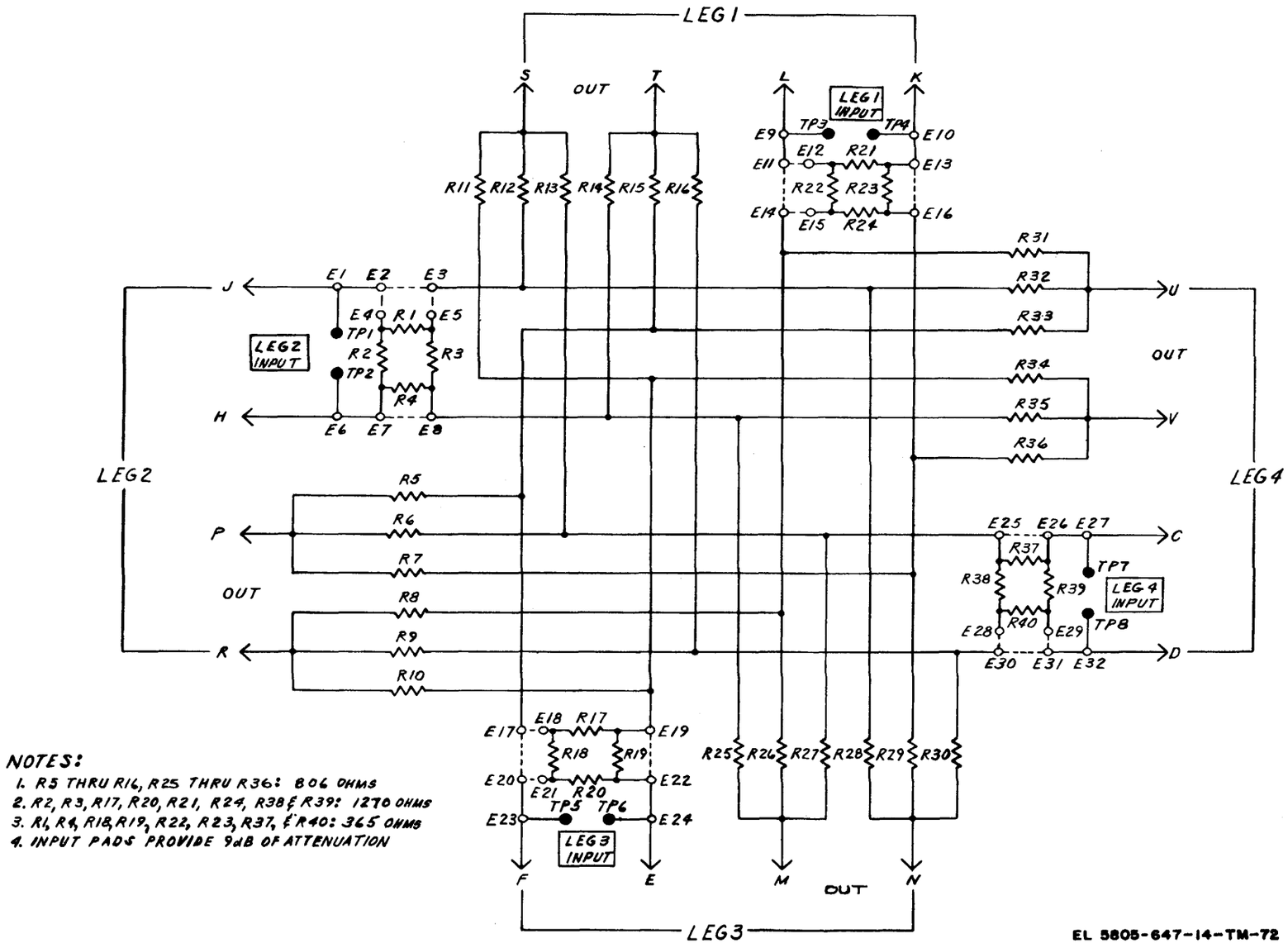


Figure FO-16. 4-way/4-wire bridge 40155/40455-03, schematic diagram.

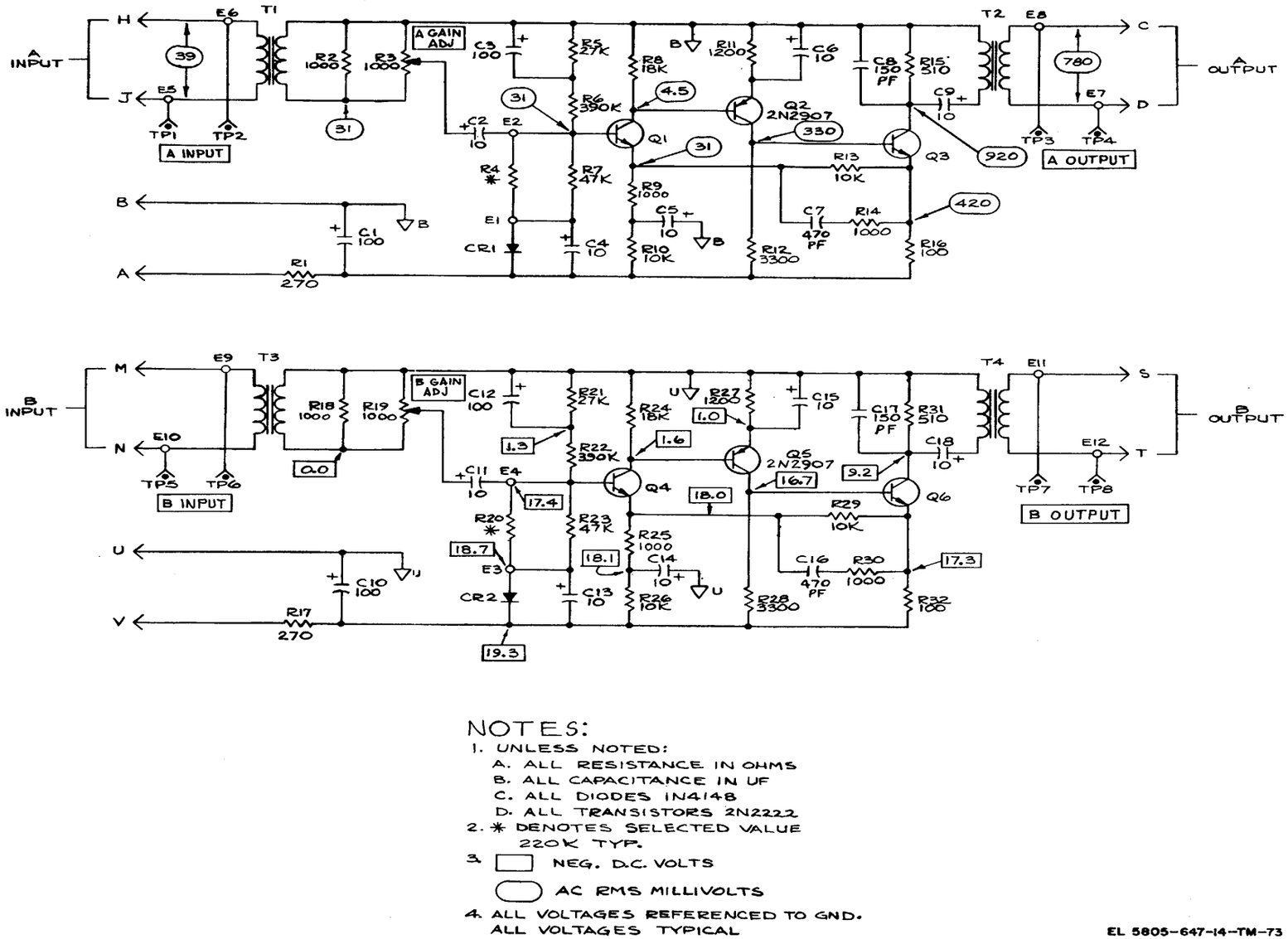
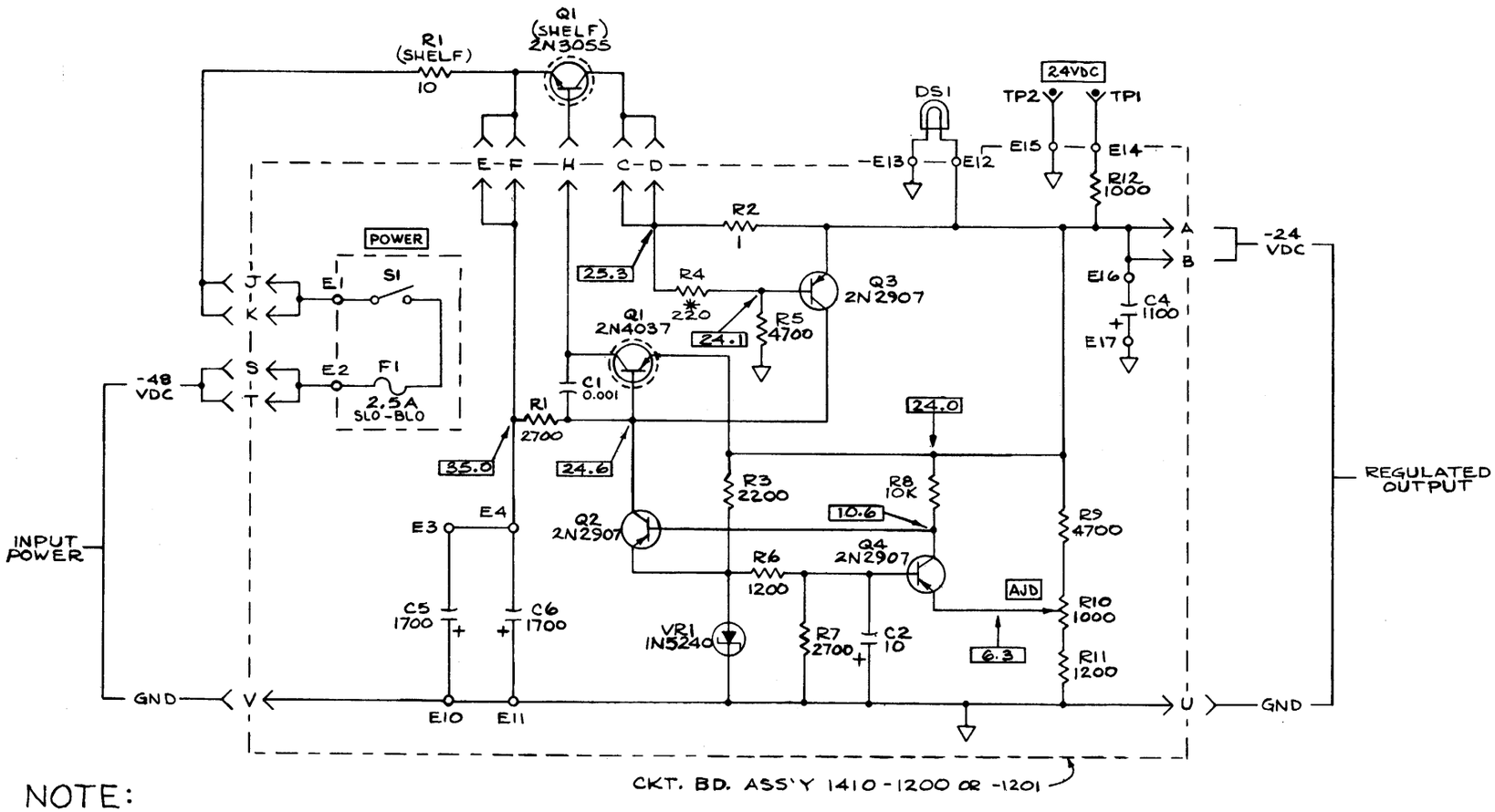


Figure FO-17. Dual amplifier 40172/40472-03, schematic diagram.



NOTE:

1. Q1 AND R1 MOUNTED ON SHELF REAR PANEL (SHELF).
2. F1, S1, DS1, TP1 AND TP2 MOUNTED ON 41028 ASS'Y FRONT PANEL.
3. ALL RESISTANCE IN OHMS.
4. ALL CAPACITANCE IN UF.
5. UNUSED TERMINALS NOT SHOWN.
6. ▭ NEGATIVE D.C. VOLTS, GND REFERENCE.
7. * FACTORY SELECTED - TYP. VALUE SHOWN

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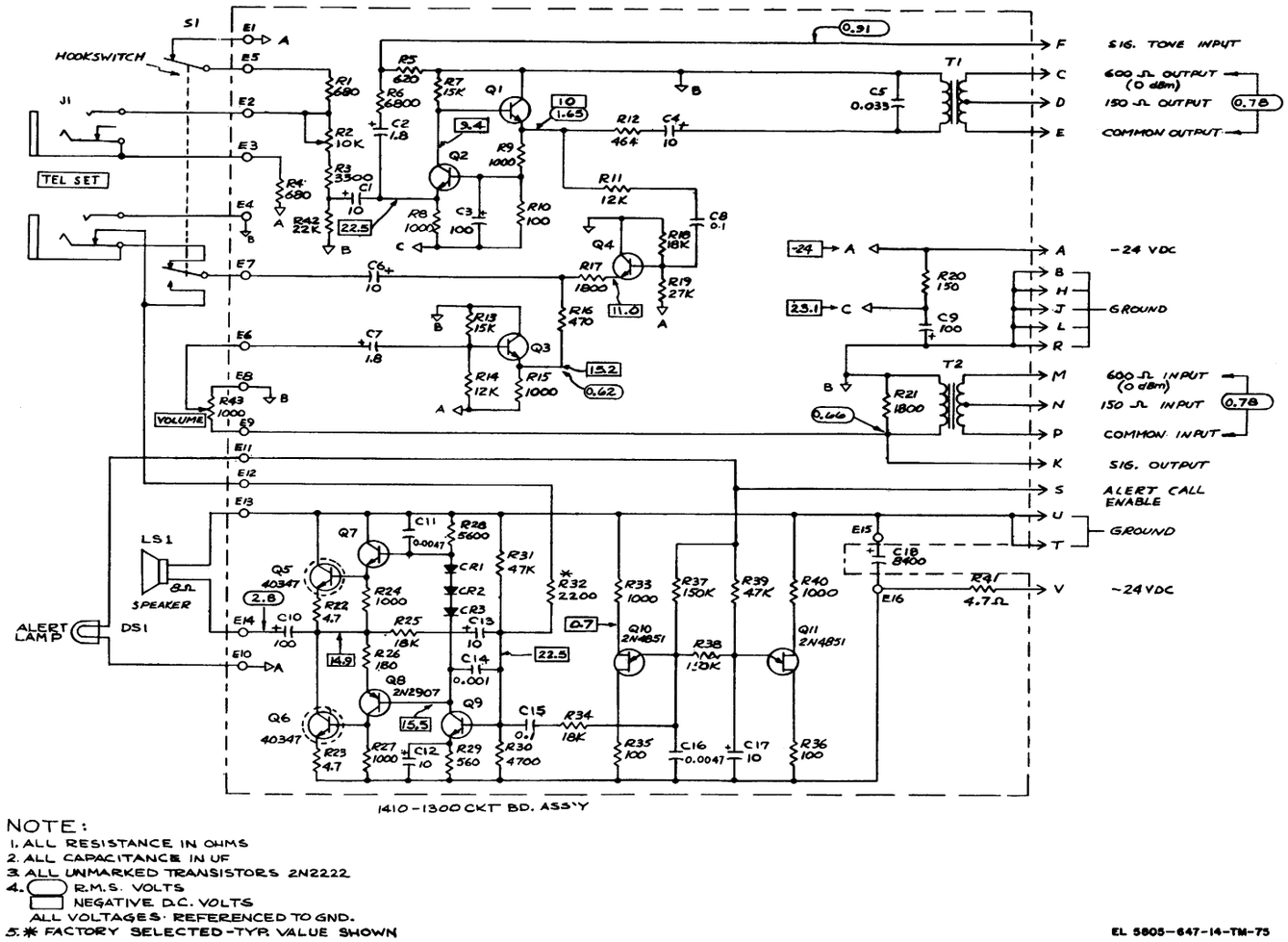
Figure FO-18. Dc-dc power supply 41028-01, schematic diagram



NOTE:
1. ALL RESISTANCE IN OHMS
2. ALL CAPACITANCE IN UF
3. ALL UNMARKED TRANSISTORS 2N2222
4. (oval) R.M.S. VOLTS
   (rectangle) NEGATIVE D.C. VOLTS
   ALL VOLTAGES REFERENCED TO GND.
5. * FACTORY SELECTED - TYP. VALUE SHOWN

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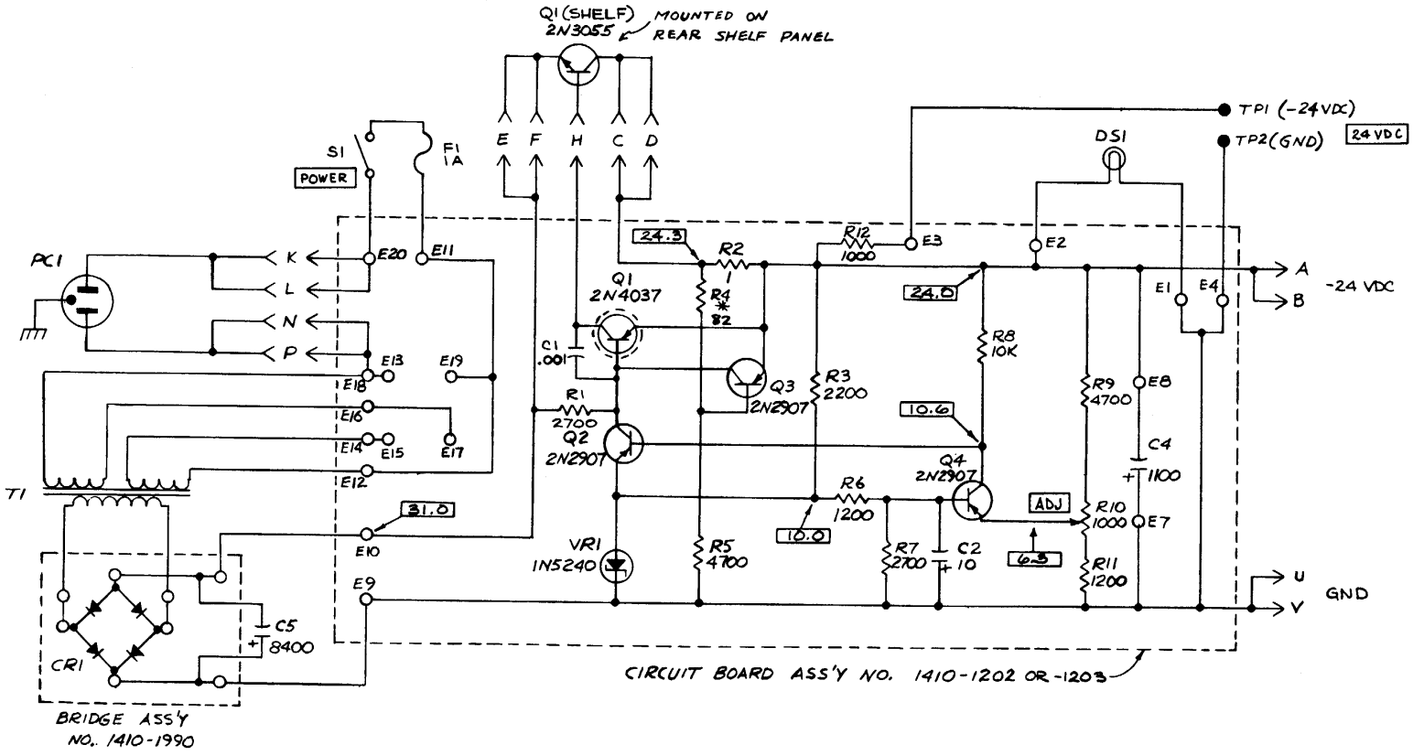
Figure FO-19. Speaker amplifier 41030-01, schematic diagram.



NOTES:

1. FOR 120 VAC INPUT STRAP E13 TO E15 AND STRAP E17 TO E19
2. FOR 220 VAC INPUT STRAP E15 TO E17
3. ALL RESISTANCE IN OHMS
4. ALL CAPACITANCE IN UF
5. UNUSED TERMINALS NOT SHOWN
6. ▭ NEG. DC VOLTS, GND. REFERENCE.
7. * SELECTED VALUE - TYP. VALUE SHOWN

EL 5805-647-14-TM-76

Figure FO-20. Power supply 40129-01, schematic diagram.

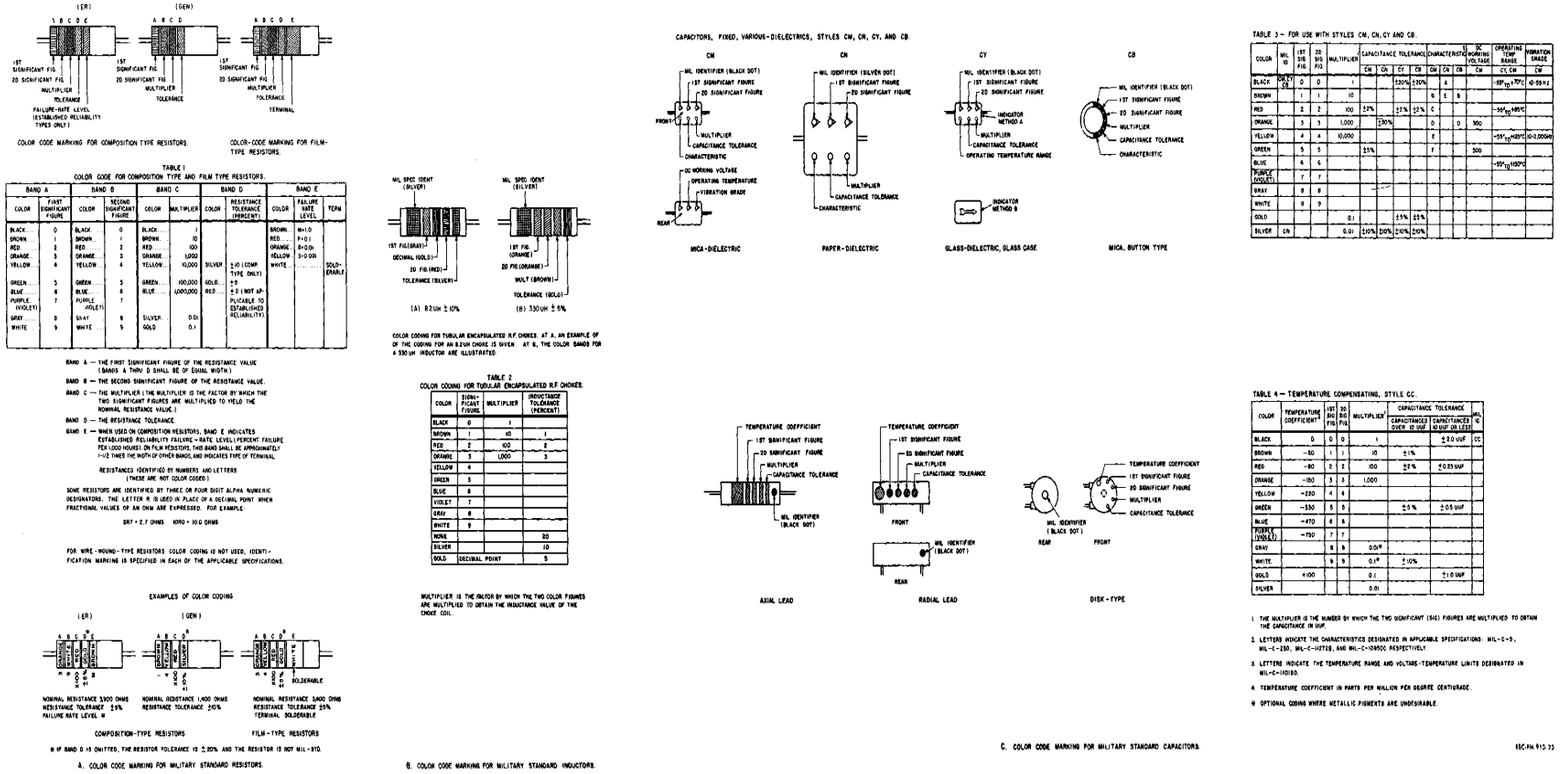


Figure FO-21. Color code markings for MIL-STD resistors, inductors, and capacitors.

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