DESCRIPTION AND MAINTENANCE

MASTR® II BASE STATION TONE REMOTE CONTROL SHELF

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ILLUSTRATIONS

DESCRIPTION

The MASTR II Tone Remote Station Control Shelf is used with a remote control console in remote, local/ remote and remote/repeater station combinations. The Control Shelf is a 3-rack unit card shelf.

A Mother Board is utilized on the shelf to interconnect the plug-in function boards. This Mother Board provides the function board jacks, the station interconnect jacks and the printed wiring runs between these jacks. External connections are made to terminal board TB1201 located on the rear of the Mother Board.

Control Functions

A maximum of twelve different functions can be performed in the Tone Control Shelf. This is accomplished by applying two or three tones in sequence at the prescribed level to the transmission medium for detection at the Control Shelf.

Tone Control Sequence

When a non-transmit function is selected at the remote control console, the Secur-it tone frequency of 2175 Hz is transmitted for a period of 125 milliseconds at a level equal to normal voice peaks. In the case of a 0 VU line level, the Secur-it tone is transmitted at a level of +10 dBm. At the end of this 125 milliseconds, the tone is changed to that of the function frequency selected. This tone is transmitted for a period of 40 milliseconds at a level of 10 dB below the Secur-it tone burst.

When a transmit function is selected at the remote control console, the Secur-it tone is transmitted as in the sequence described above, followed by a 40 ms burst of the F1 or F2 transmit function tone. This is followed by the 2175 Hz tone transmitted at a level 30 dB below its initial Secur-it burst level. The low level 2175 Hz tone remains on in the presence of voice as long as the PTT switch is operated at the remote control console.

ERICSSON

Ericsson Inc.
Private Radio Systems
Mountain View Road
Lynchburg, Virginia
1-800-528-7711 (Outside USA, 804-528-7711)

Printed in U.S.A.

Control Frequency and Function (1 or 2 Freq. TX & RX)

The control frequencies selected at the remote control console for performing 1 or 2 frequency transmit and receive functions as well as other auxiliary control functions are listed in Table 1.

Table 1 - Tone Control Frequency And Function
(1 or 2 Freq. TX & RX)

FUNCTION	TONE FREQUENCY
RX Channel Guard Disable (Reset by PTT)	2050 Hertz
TX-Freq. No. 1	1950 Hertz
TX-Freq. No. 2	1550 Hertz
RX-Freq. No. 1 or Receiver No. 1	1750 Hertz
RX-Freq. No. 2 or Receiver No. 2	1650 Hertz
Channel Guard Enable or Minimum Squelch or Repeater Enable	1550 Hertz
Channel Guard Disable or Maximum Squelch or Repeater Disable	1450 Hertz
Aux. Function 1 ON	1350 Hertz
Aux. Function 1 OFF	1250 Hertz
Aux. Function 2 ON	1150 Hertz
Aux. Function 2 OFF or PSLM or Sim. Monitor	1050 Hertz
TX Hold	2175 Hertz

Control Frequency and Function (3 or 4 Freq. TX & RX)

The control frequencies selected at the remote control console for performing 3 or 4 frequency transmit and receiver functions as well as other auxiliary control functions are listed in Table 2.

Table 2 - Tone Control Frequency And Function
3 or 4 Freq. TX & RX)

FUNCTION	TONE FREQUENCY
RX Channel Guard Disable (Reset by PTT)	2050 Hertz
TX-RX Freq. No. 1	1950 Hertz
TX-RX Freq. No. 2	1550 Hertz
TX-RX Freq. No. 3	1350 Hertz
TX-RX Freq. No. 4	1250 Hertz
Channel Guard Enable or Minimum Squelch or Repeater Enable	1550 Hertz
Channel Guard Disable or Maximum Squelch or Repeater Disable	1450 Hertz
Channel Guard Enable and Repeater Enable	1550 Hertz 1150 Hertz
Channel Guard Disable and Repeater Disable	1450 Hertz 1450 Hertz

Control Modules

The following chart indicates the plug-in boards required to provide the various control functions.

CONTROL FUNCTION	REQUIRED PLUG-IN MODULE				
	AUDIO	TX CONT.	RX CONT.	CG FILTER	STE
1 Freq. Transmit 1 Freq. Receive	19A129924G3	19D416660G1			
2 Freg. Transmit 1 Freq. Receive	19A129924G3	19D416660G2			
2 Freq. Transmit 2 Freq. Receive	19A129924G3	19D416660G2	19D416655G2		
2 Freq. Transmit 2 Freq. Receive CG Monitor	19A129924G3	19D416660G3	19D416655G2	19C320627G1	19A130001G1
1 Freq. Transmit 1 Freq. Receive CG Monitor	19A129924G3	19D416660G4		19C320627G1	
2 Freq. Transmit 2 Separate Receivers	19A129924G3	19D416660G2	19D416655G3		
3 or 4 Freq. TX 3 or 4 Freq. RX	19A129924G3	19D416660G2 19D429082G1	19D429100G1		
3 or 4 Freq. TX 3 or 4 Freq. RX CG Monitor	19A129924G3	19D416660G3 19D429082G1	19D429100G1	19C320627G1	
3 or 4 Freq. TX 1 Freq. RX	19A129924G3	19D416660G2 19D429082G1			
3 or 4 Freq. TX 1 Freq. RX CG Monitor	19A129924G3	19D416660G3 19D429082G1	19D429100G1	19C320627G1	

NOTE

The Secur-it Tone Board 19D424051 and 10-Volt Regulator Board 19D417401 are required in all applications.

CONNECTIONS

All connections to the Base Station Control Shelf are made at TB1201. Any transmission circuit capable of handling audio frequencies in the 300 to 3000 Hz range can be used for tone control. It is not necessary to observe polarity in wire line connections for tone control applications.

1. Connect the telephone or metallic pair to TB1201-10 and TB1201-11.

2. Connect jumper between TB1201-12 and TB1201-13.

Four-Wire Audio

In remote control two-way radio systems where customer-owned multiplex/microwave systems are utilized, or where leased lines obtained from the local telephone company do not utilize hybrids in the transmission path, 4-wire audio operation may be required. The 4-wire audio system provides separate connections for the receive audio path and the transmit audio path. See Figure 1.

The 4-Wire Audio Kit (Option 9507) consists of a separate transformer mounted to the Mother Board with special connections to be made to TB1201. Refer to the Installation Instructions for Option 9507.

ADJUSTMENTS

Before making adjustments on the Base Station Control Shelf, make sure that all power line, phone line and ground connections have been completed at the remote control console and at the Base Station. Also, the remote control console and Base Station should have been properly aligned.

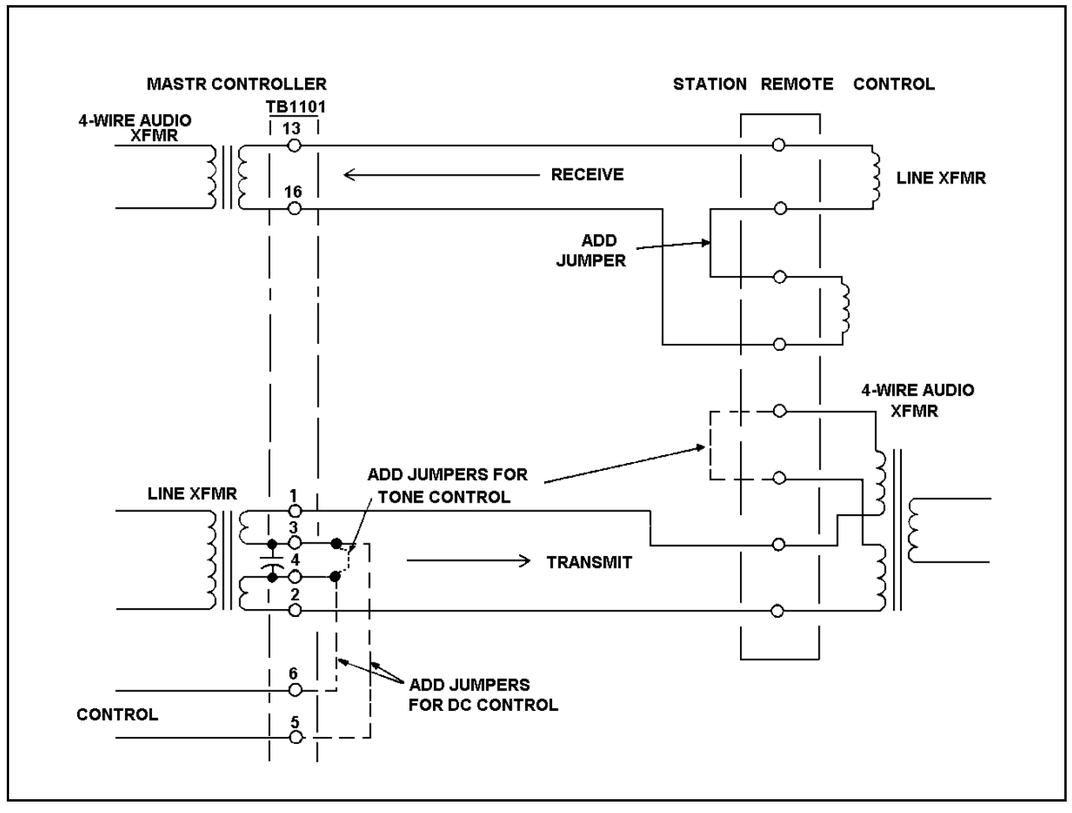


Figure 1 - Typical 4-Wire Audio Installation

A. TEST EQUIPMENT REQUIRED

1. Audio Oscillator. Hewlett Packard Model 401C or equivalent.

2. VOM. Simpson Model 260 or equivalent.

3. AC VTVM. Heathkit Model IM-35 or equivalent.

B. LINE INPUT

1. Feed a 1000 Hz tone at the required level into the microphone jack of the remote control console having the largest line loss. Adjust the remote control console line output control for 2.7 Volts RMS as measured across the audio pair at the remote control console.

2. Key the Base Station Transmitter from the remote control console* and adjust LINE INPUT control R39 on the Remote Audio Board for threshold of compression as indicated by a 1dB drop on an AC VTVM connected between the emitter of Q20 and ground.

C. XMIT LEVEL

1. Key the Base Station transmitter from the remote control console.* Adjust the XMIT LEVEL control R50 on the Remote Audio Board for 4.5 kHz system deviation as measured on a deviation meter.

2. Adjust the LINE OUT control R14 on the Remote Audio Board for a reading of 2.7 Volts RMS as measured at the Base Station audio pair.

* The station may also be adjusted by connecting the audio generator across the audio pair at the station and keying the transmitter by holding the REMOTE PTT switch on the 10-Volt Regulator/Control Board in the REMOTE PTT position.

MAINTENANCE

The Tone Remote Control Shelf is designed for ease of servicing and minimum maintenance. All circuit modules can be easily removed for routine inspection. An Extender Board (19D417455G1, Option 9544) is recommended for servicing any of the modules out of the shelf while maintaining circuit connections. Refer to the Trouble-shooting Procedure (see Table of Contents) when maintenance becomes necessary.

MODIFICATIONS

Several modifications are required in the station for 3 or 4 frequency tone remote control applications. These modifications include the following:

- Transmitter Control Board 19D416660
- Transmitter Control Board 19D429052
- System Board 19D417213
- Station Harness 19C320511
- Mother Board 19D417214

Refer to the respective Schematic Diagrams for details of these modifications. Also, a 19A137391G1 4-frequency overlay harness is required.

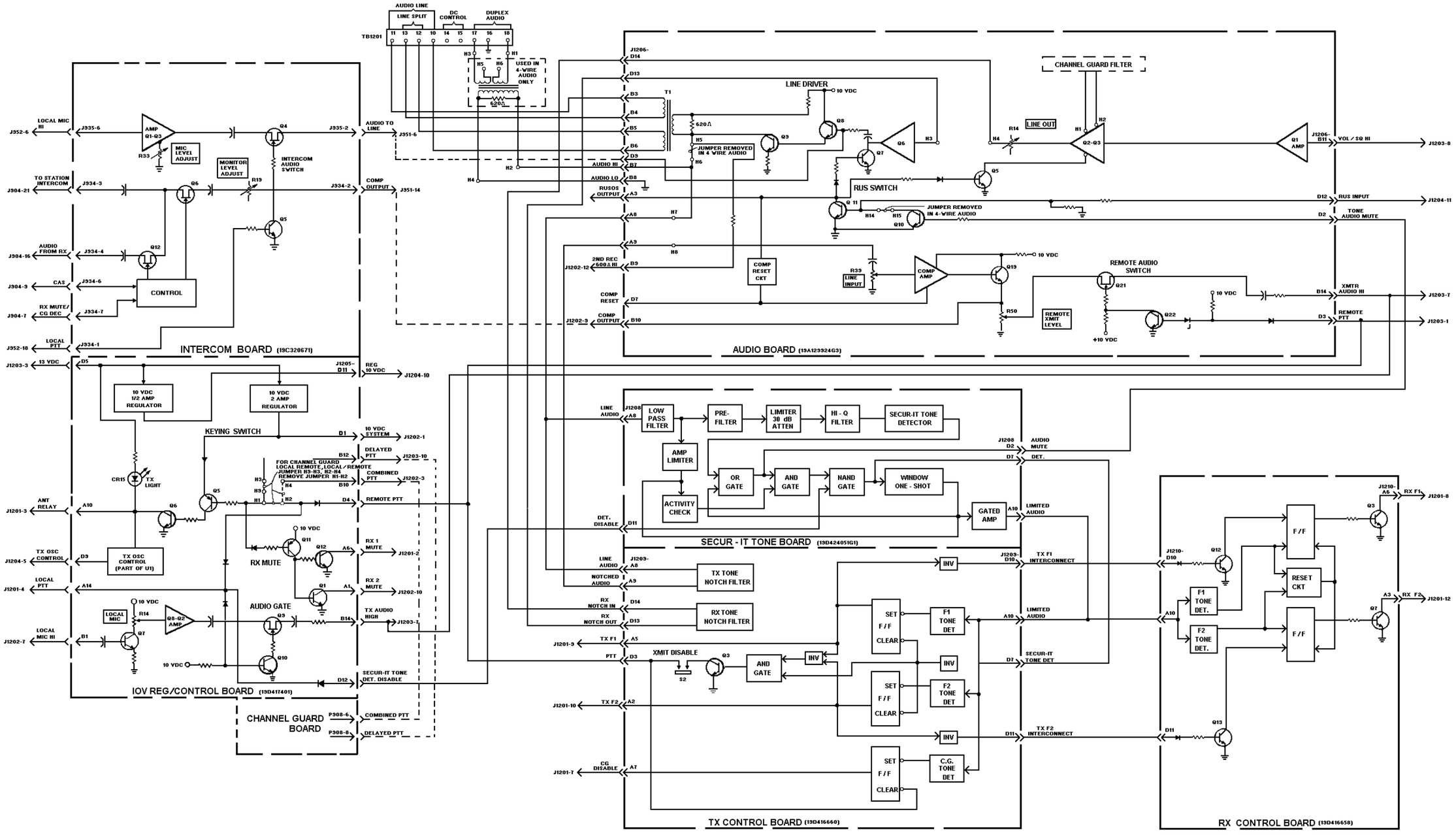


Figure 2 - Tone Remote Control System

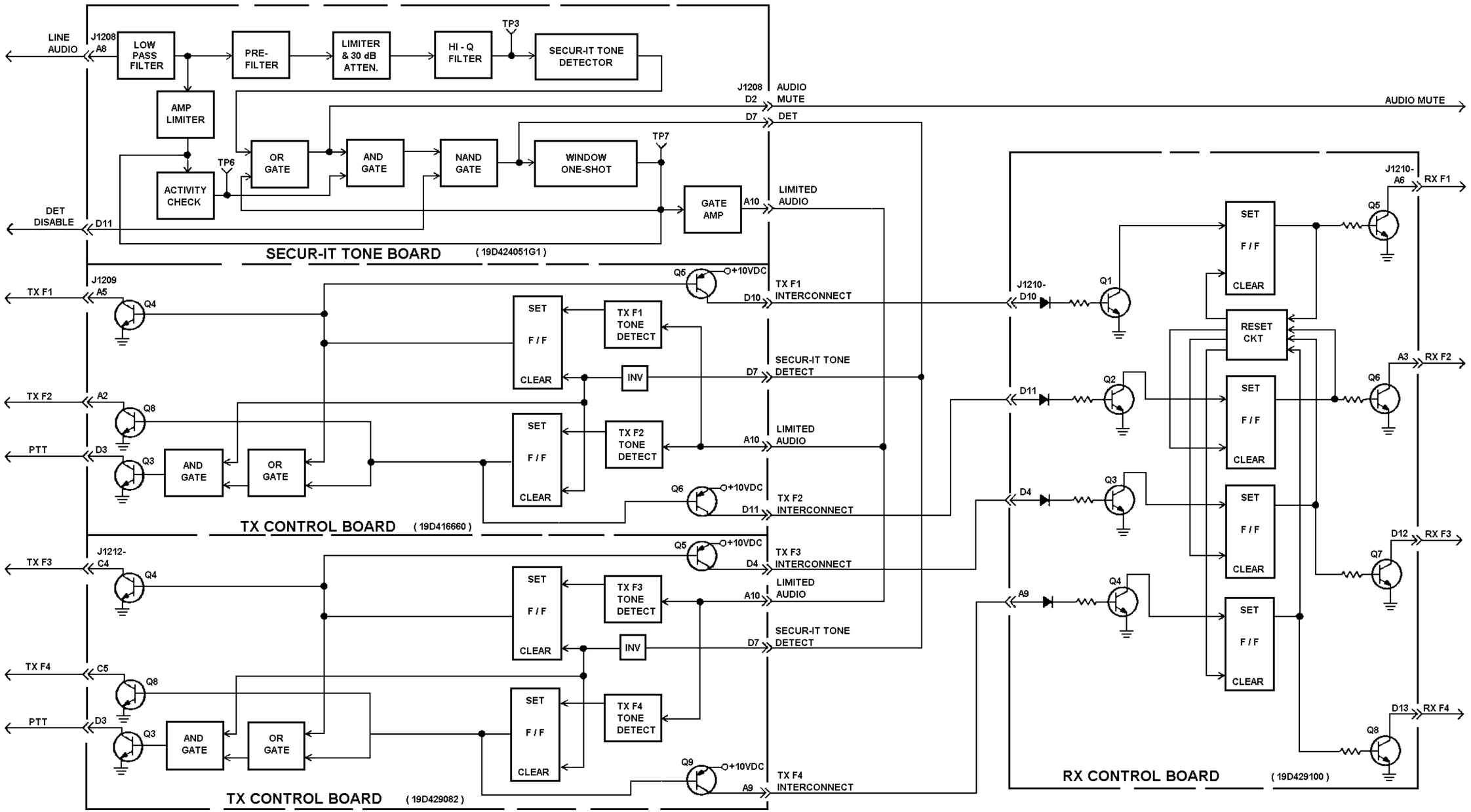
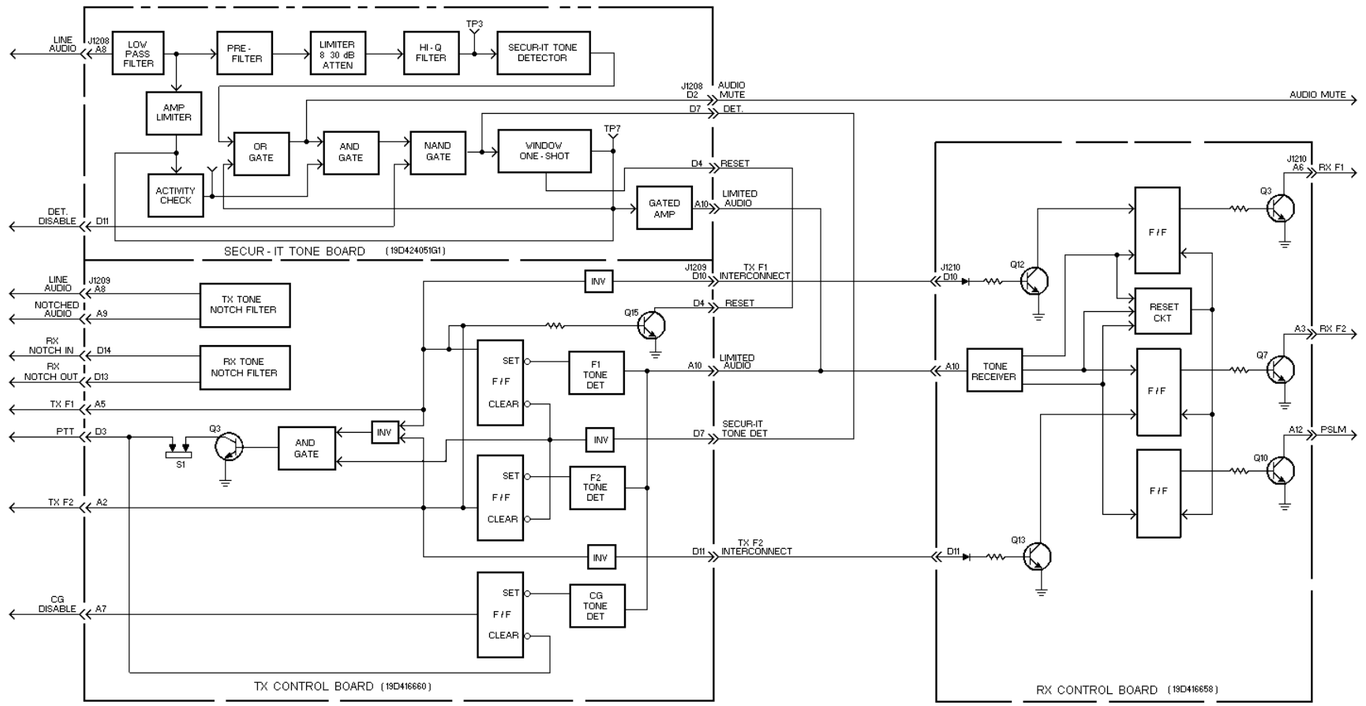
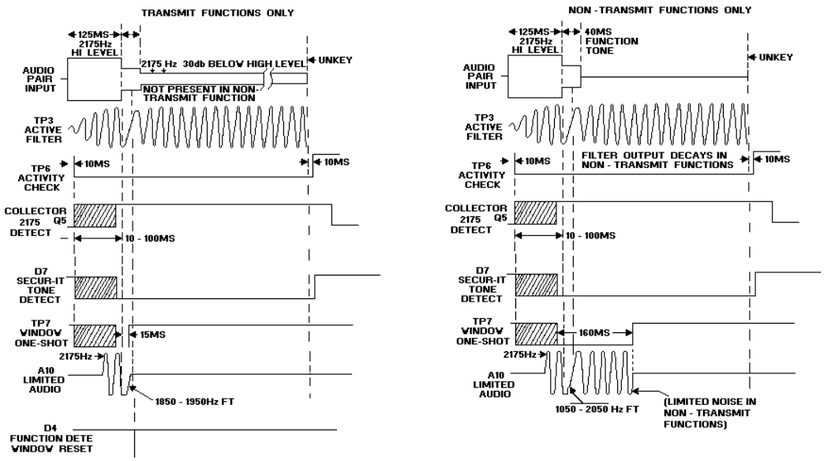


Figure 3 - Four Frequency Tone Remote Control



SECUR-IT TONE WAVEFORM CHARTS



SYMPTOM	PROCEDURE
NO SECUR-IT TONE DETECT	1. CHECK FOR 2175 Hz TONE AT LINE AUDIO TERMINAL J1208-A8 OR TP. 2. CHECK FOR TONE AT OUTPUT OF ACTIVE FILTER (TP3) REFER TO WAVEFORM CHART. 3. CHECK FOR PROPER WAVEFORM AT ACTIVITY CHECK CIRCUIT (TP6). REFER TO WAVEFORM CHART. IF PROPER WAVEFORM IS NOT OBTAINED, CHECK OPERATION OF AR4, Q9 - Q12. 4. CHECK FOR PROPER WAVEFORM AT 2175 DETECT (Q5 COLLECTOR). REFER TO WAVEFORM CHART. IF PROPER WAVEFORM CANNOT BE OBTAINED, CHECK Q2 - Q5.
NO LIMITED AUDIO OUTPUT	1. CHECK WAVEFORM OF WINDOV ONE. SHOT (TP7). 2. CHECK WAVEFORM AT Q7 (A10).
NO AUDIO MUTE FUNCTION	1. CHECK OPERATION OF Q20. THIS TRANSISTOR SHOULD BE TURNED OFF DURING SECUR-IT TONE DETECT.

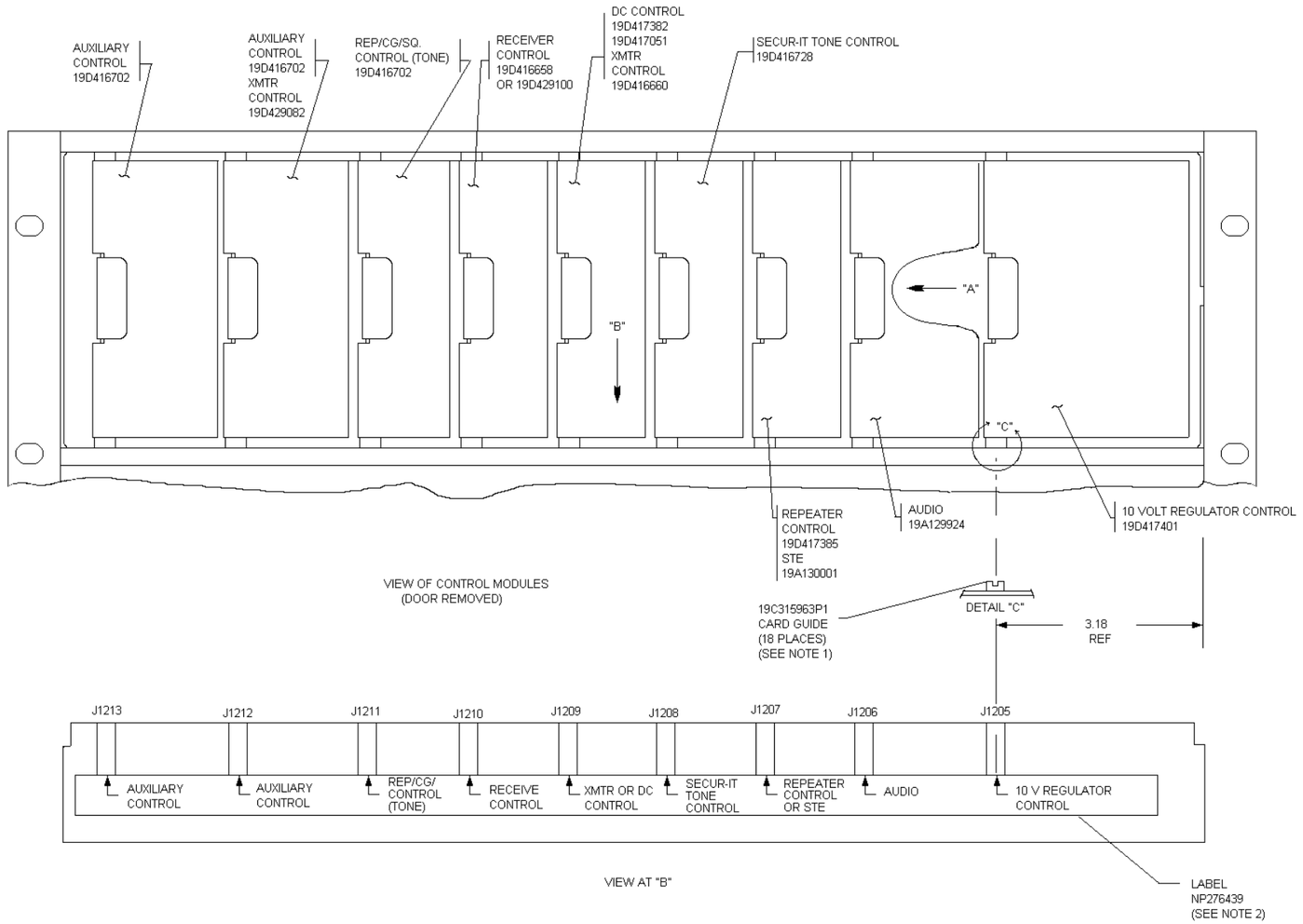
SYMPTOM	PROCEDURE
NO PTT FUNCTION	1. CHECK FOR 2175 Hz TONE AT OUTPUT OF HI-Q FILTER (TP3). 2. CHECK FOR LOV AT PIN 3 OF U1A ON TRANSMITTER CONTROL BOARD. 3. CHECK OPERATION OF Q3 ON TRANSMITTER CONTROL BOARD (REFER TO SCHEMATIC DIAGRAM FOR CORRECT VOLTAGE READINGS)
NO TX F1 FUNCTION	1. CHECK FOR 1950 Hz TONE (TX-F1) AT LIMITED AUDIO(A10) WHEN THE TX-F1 FUNCTION IS SELECTED. 2. CHECK FOR LOV AT PIN 3 OF U1A ON TRANSMITTER CONTROL BOARD. 3. CHECK OPERATION OF Q3 ON TRANSMITTER CONTROL BOARD
NO TX F2 FUNCTION	1. CHECK FOR 1850 Hz TONE (TX-F2) AT LIMITED AUDIO(A10) WHEN THE TX-F2 FUNCTION IS SELECTED. 2. CHECK FOR LOV AT PIN 3 OF U1A ON TRANSMITTER CONTROL BOARD. 3. CHECK OPERATION OF Q8 AND Q9 ON TRANSMITTER CONTROL BOARD.
NO CG MONITOR FUNCTION	1. CHECK FOR 2050 Hz (CG DISABLE) TONE AT LIMITED AUDIO(A10) WHEN THE CG MONITOR FUNCTION IS SELECTED. 2. CHECK FOR LOV AT PIN 3 OF U1A ON TRANSMITTER CONTROL BOARD. 3. CHECK OPERATION OF Q11 ON TRANSMITTER CONTROL BOARD

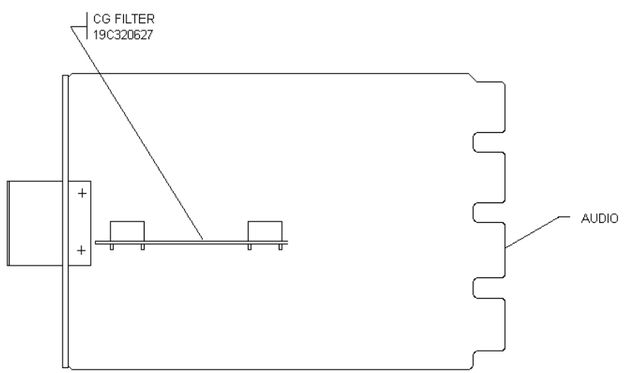
SYMPTOM	PROCEDURE
NO RX F1 FUNCTION	1. CHECK AUDIO MUTE (J1208-D2) FOR GROUND INDICATION. IF NOT PRESENT, CHECK OPERATION OF Q20 ON SECUR-IT TONE BOARD. Q20 SHOULD BE CONDUCTING. 2. CHECK FOR RX F1 TONE (1750 Hz) AT LIMITED AUDIO (A10) WHEN RX F1 FUNCTION IS SELECTED. 3. CHECK FOR LOV AT PIN 3 OF U1A ON RECEIVER CONTROL BD. 4. CHECK OPERATION OF Q3 ON RECEIVER CONTROL BOARD.
NO RX F2 FUNCTION	1. CHECK FOR RX F2 TONE (1650 Hz) AT LIMITED AUDIO (A10) WHEN RX F2 FUNCTION IS SELECTED. 2. CHECK FOR LOV AT PIN 3 OF U1C ON RECEIVER CONTROL BD. 3. CHECK OPERATION OF Q7 ON RECEIVER CONTROL BOARD.
NO PSLM (OR SIM MONITOR) CONTROL	1. CHECK FOR TONE 1050 Hz AT LIMITED AUDIO (A10) WHEN FUNCTION IS SELECTED. 2. CHECK FOR LOV AT PIN 3 OF U3A ON RECEIVER CONTROL BD. 3. CHECK OPERATION OF Q10 ON RECEIVER CONTROL BOARD.

4-FREQ. TONE CONTROL SYSTEM

SYMPTOM	PROCEDURE
NO TX RX F1 FUNCTION	1. CHECK FOR TX-RX F1 TONE (1950Hz) AT LIMITED AUDIO (A10) WHEN F1 FUNCTION IS SELECTED. 2. FOLLOW SAME PROCEDURE AS OUTLINED FOR TX F1 IN 2-FREQ SYSTEM 3. CHECK OPERATION OF Q1, Q5 ON RECEIVER CONTROL BOARD. 4. CHECK FOR LOV AT PIN 3 OF U1A ON RECEIVER CONTROL BOARD.
NO TX-RX F2 FUNCTION	1. CHECK FOR TX-RX F2 TONE (1850Hz) AT LIMITED AUDIO (A10) WHEN FUNCTION IS SELECTED. 2. FOLLOW SAME PROCEDURE AS OUTLINED FOR TX F2 IN 2-FREQ SYSTEM 3. CHECK OPERATION OF Q2, Q6 ON RECEIVER CONTROL BOARD. 4. CHECK FOR LOV AT PIN 3 OF U1C ON RECEIVER CONTROL BOARD.
NO TX-RX F3 FUNCTION	1. CHECK FOR TX-RX F3 TONE (1250Hz) AT LIMITED AUDIO (A10) WHEN F3 FUNCTION IS SELECTED. 2. CHECK FOR LOV AT PIN 3 OF U1A ON 19D429082 TX CONTROL BOARD. 3. CHECK OPERATION OF Q3, Q4, Q5 ON ON 19D429082 TX CONTROL BOARD. 4. CHECK OPERATION OF Q3, Q7 ON RECEIVER CONTROL BOARD. 5. CHECK FOR LOV AT PIN 3 OF U1A2 ON RECEIVER CONTROL BOARD.
NO TX-RX F4 FUNCTION	1. CHECK FOR TX-RX F4 TONE (1250Hz) AT LIMITED AUDIO (A10) WHEN F4 FUNCTION IS SELECTED. 2. CHECK FOR LOV AT PIN 3 OF U2A ON 19D429082 TX CONTROL BOARD. 3. CHECK OPERATION OF Q3, Q9 Q9 ON ON 19D429082 TX CONTROL BOARD. 4. CHECK OPERATION OF Q4, Q8 ON RECEIVER CONTROL BOARD. 5. CHECK FOR LOV AT PIN 8 OF U2C ON RECEIVER CONTROL BOARD.

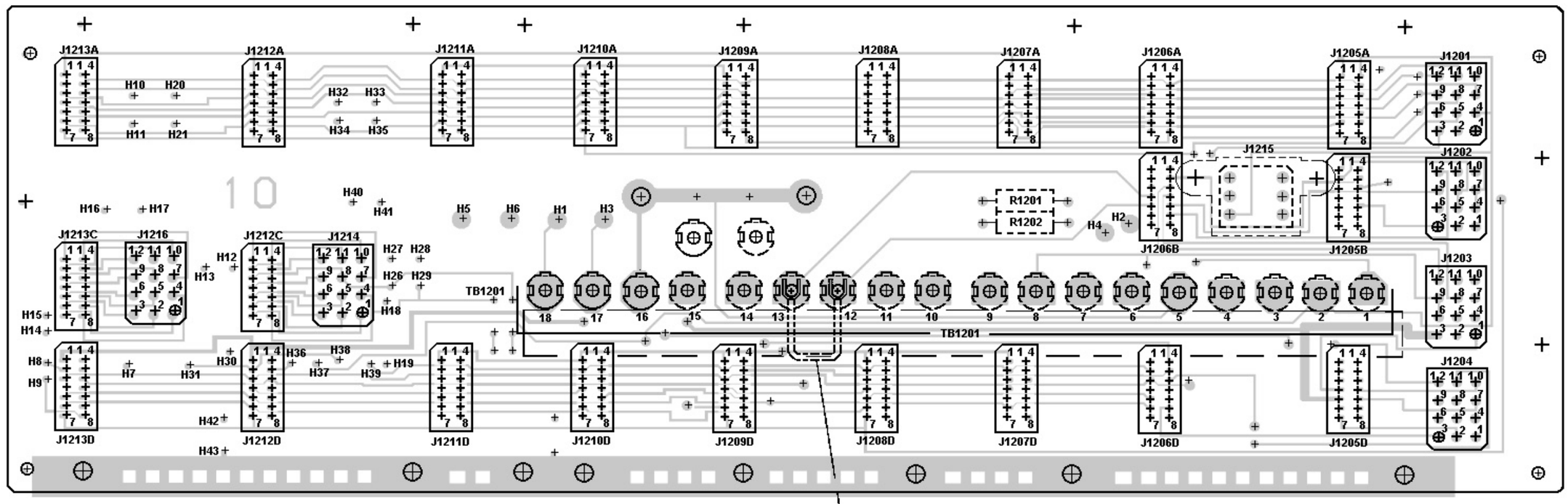
Figure 4 - Tone Control System Troubleshooting



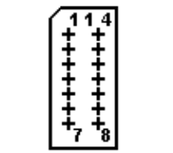


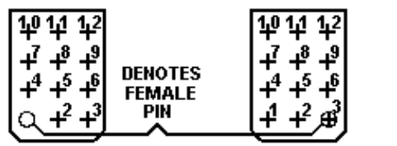
NOTES:
1. PART OF MOTHER BD. HDW. KIT PL19A130031G3
2. ALIGN ARROW WITH CENTER OF FIRST GUIDE WITHIN .06.

CONTROL SHELF

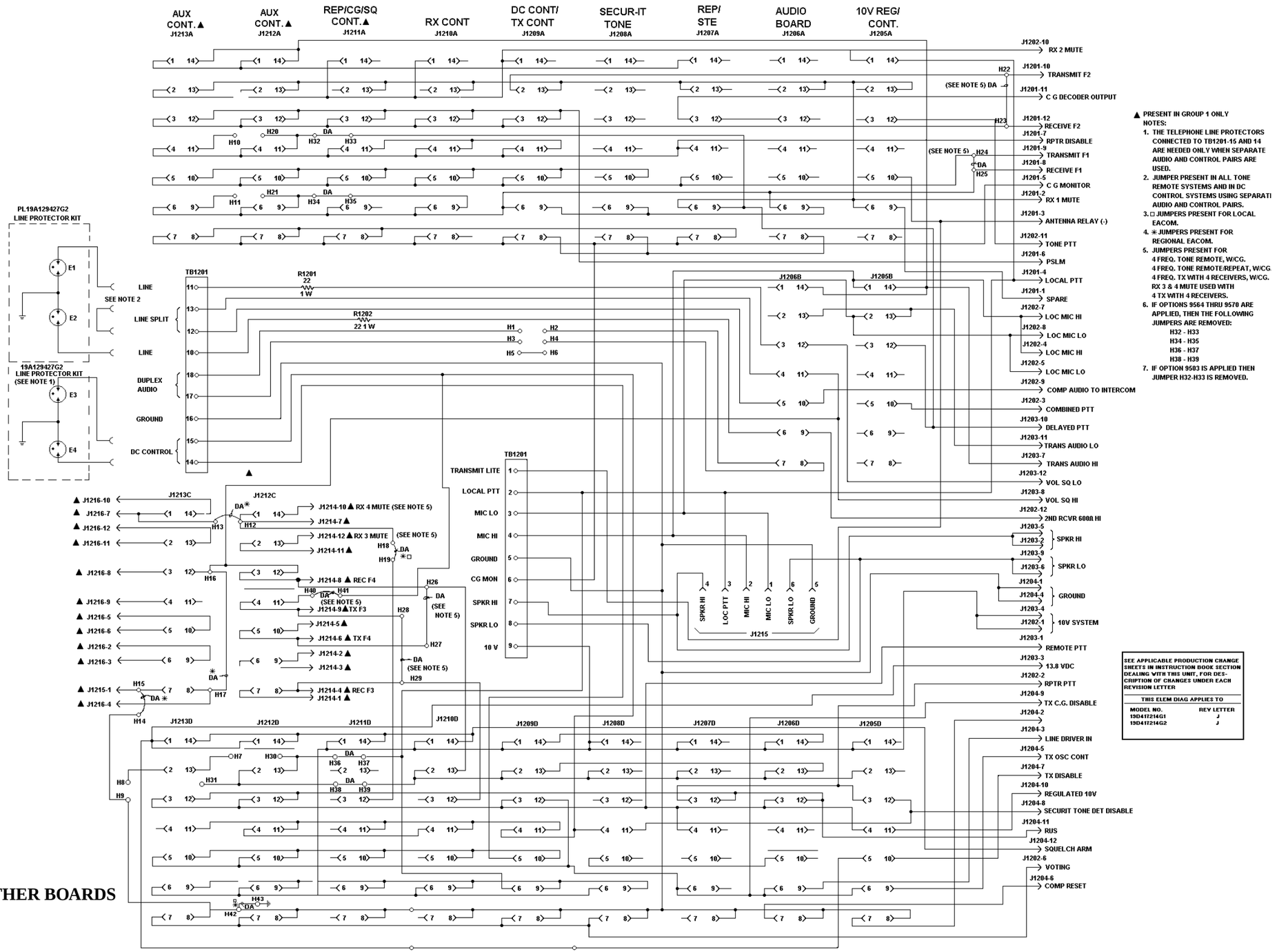


(19D423897, Rev. 7)
(RC-2943)
(19D423597, Sh. 1, Rev. 11)





CONTROL SHELF MOTHER BOARDS
19D417214G1 & G2



CONTROL SHELF MOTHER BOARDS

19D417214G1 & G2

(19E501157, Rev. 17)

CONTROL SHELF 19D417214G1, G2

SYMBOL	PART NO.	DESCRIPTION
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - - -
J1201	19A116647P4	Connector, printed wiring: 12 terminals; sim to Molex 09-18-5121.
J1202	19A116647P6	Connector, printed wiring: 12 terminals; sim to Molex 09-18-5927.
J1203	19A116647P4	Connector, printed wiring: 12 terminals; sim to Molex 09-18-5121.
J1204	19A116647P6	Connector, printed wiring: 12 terminals; sim to Molex 09-18-5927.
J1205A	19A116446P5	Connector, printed wiring: 14 contacts.
J1205B	19A116446P5	Connector, printed wiring: 14 contacts.
J1205D and J1206A	19A116446P5	Connector, printed wiring: 14 contacts.
J1206B	19A116446P5	Connector, printed wiring: 14 contacts.
J1206D and J1207A	19A116446P5	Connector, printed wiring: 14 contacts.
J1207D and J1208A	19A116446P5	Connector, printed wiring: 14 contacts.
J1208D and J1209A	19A116446P5	Connector, printed wiring: 14 contacts.
J1209D and J1210A	19A116446P5	Connector, printed wiring: 14 contacts.
J1210D	19A116446P5	Connector, printed wiring: 14 contacts.
J1211A	19A116446P5	Connector, printed wiring: 14 contacts. (Used in G1).
J1211D and J1212A	19A116446P5	Connector, printed wiring: 14 contacts. (Used in G1).
J1212C	19A116446P5	Connector, printed wiring: 14 contacts. (Used in G1).
J1212D and J1213A	19A116446P5	Connector, printed wiring: 14 contacts. (Used in G1).
J1213C	19A116446P5	Connector, printed wiring: 14 contacts. (Used in G1).
J1213D	19A116446P5	Connector, printed wiring: 14 contacts. (Used in G1).
J1214	19A116647P4	Connector, printed wiring: 12 terminals; sim to Molex 09-18-5121. (Used in G1).
J1215	19B219627G1	Connector: 6 contacts
J1216	19A116647P4	Connector, printed wiring: 12 terminals; sim to Molex 09-18-5121. (Used in G1).
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1201 and R1202	19A700112P23	Composition: 22 ohms + or - 5%, 1 w.
		- - - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1201	19A116667P3	Plate nut. (Quantity 1)
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19A129525G3	Cable: approx 3 inches long

PRODUCTION CHANGES

Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A - To provide line surge protection and change polarity of DC control leads. Added R1201 and R1202. Reversed connections to J1209-4 and J1209-5.

REV. B - Changed printed board to provide outputs for EACOM Systems.

REV. C - Changed board for use in 4 frequency remote systems.

REV. D - To reduced falsing on noise. Added jumper between J1208-D4 and J1209-4.

REV. E - To make both auxiliary positions functional. Added H32 thru H39.

REV. F - Changed printed pattern to supply +10 VDC to J1210-D6.

REV. G - To solve a falsing problem. Added H40 and H41.

REV. H - To add identity to existing ground run holes, added labels h42 and H43.

REV. J - To correct printed wiring error.

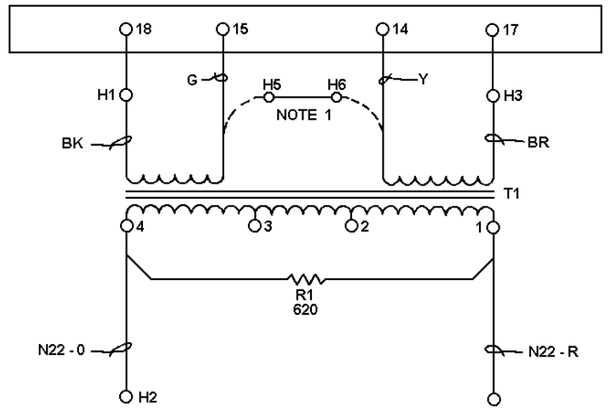
PARTS LIST

LBI4567B

4 WIRE AUDIO KIT 19A129508GL

SYMBOL	GE PART NO.	DESCRIPTION
		TRANSFORMER ASSEMBLY 19A129500G1
		- - - - - - - - TRANSFORMERS - - - - - - - -
R1	3R77P621J	Composition : 620 ohms ±5% 1 / 2 w.
		- - - - - - - - TRANSFORMERS - - - - - - - -
T1	19A115731P1	Audio freq: 300 to 6000 Hz, Pri (1-4): 22 ohms ±15% DC res, Pri (2-3): 12.5 ohms ±15% DC res, Sec 1: 13 ohms ±15%, Sec 2: 13 ohms ±15%,
		- - - - - - - - MISCELLANEOUS - - - - - - - -
	19B209226OP103	Terminal, solderless. (Used with T1).
	N80P13005B6	Screw: No. 6 - 32 x 5 / 16.
	7141225P3	Hex nut: No. 6 - 32
	N404P13B6	Lockwasher, internal tooth: No. 6

TB1201



ALL RESISTORS ARE 1 / 2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACTOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF=MICROFARADS, INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH=MILIHENRYS OR H=HENRYS

NOTE :

1. FOR TONE CONTROL CONNECT GREEN WIRE TO HOLE 5 8 YELLOW WIRE TO HOLE 6 INSTEAD OF TB1201.

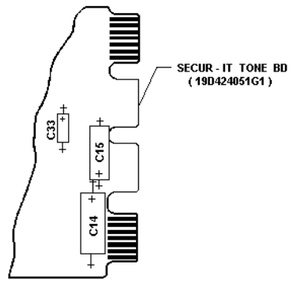
IN ORDER TO RETAIN RATED EQUIPMENT PERFORMANCE, REPLACEMENT OF ANY SERVICE PART SHOULD BE MADE ONLY WITH A COMPONENT HAVING THE SPECIFICATIONS SHOWN ON THE PARTS LIST FOR THAT PART.

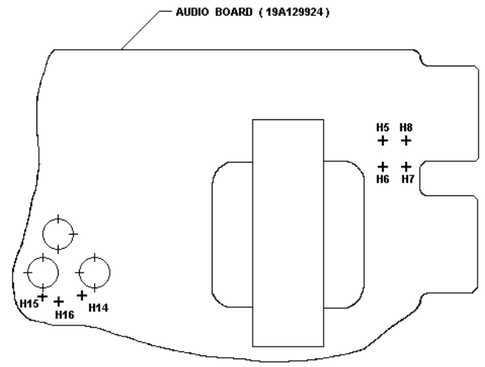
(19B226163, Sh. 1, Rev. 1)

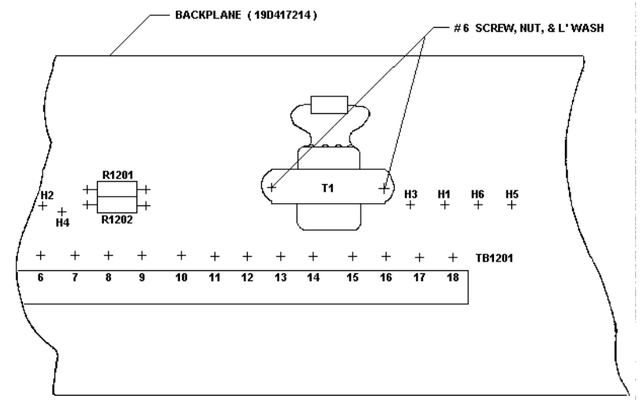
4-WIRE AUDIO KIT 19A129508

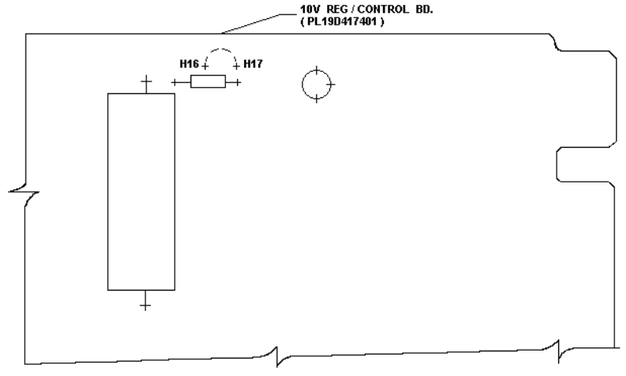
(OPTION 9507)

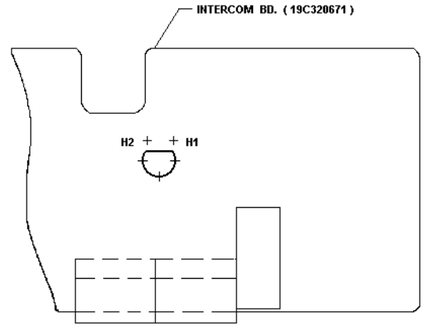
(Sheet 1 of 2)











① THESE INSTRUCTIONS COVER THE INSTALLATION OF THE 4 WIRE AUDIO KIT PL19A129508.

INSTRUCTIONS FOR INSTALLATION ON 19D417214G1 BACK PLANE FOR D.C. REMOTE SYSTEM.

1. MOUNT T1 TO BACK PLANE AS SHOWN.
2. SOLDER BLACK LEAD IN HOLE 1.
3. SOLDER BROWN LEAD IN HOLE 3.
4. SOLDER ORANGE LEAD IN HOLE 2.
5. SOLDER RED LEAD IN HOLE 4.
6. CONNECT GREEN LEAD TO TB1201 - 15.
7. CONNECT YELLOW LEAD TO TB1201 - 14
8. REMOVE JUMPER BETWEEN HOLES 5 & 6 ON AUDIO BOARD BD 19A129924.
9. MOVE JUMPER FROM HOLE 14 TO HOLE 16 ON AUDIO BD 19A129924.
10. REMOVE JUMPER FROM H16 TO H17 ON 10V REG / CONTROL BD (19D417401). IF THE NINTH DIGIT OF STATION COMBINATION IS D OR L, OR SEVENTH DIGIT OF COMBINATION IS "U".
11. IF INTERCOM BD. (19C320671) IS PRESENT, ADD A JUMPER (D.A. WIRE) FROM H1 TO H2.
12. TEST PER 19A129945.

② INSTRUCTIONS FOR INSTALLATION ON 19D417214G1 BACK PLANE FOR TONE CONTROL SYSTEM.

1. MOUNT T1 TO BACK PLANE AS SHOWN.
2. SOLDER BLACK LEAD IN HOLE 1.
3. SOLDER BROWN LEAD IN HOLE 3.
4. SOLDER ORANGE LEAD IN HOLE 2.
5. SOLDER RED LEAD IN HOLE 4.
6. CLIP TERMINAL OFF OF GREEN LEAD & SOLDER LEAD IN HOLE 5.
7. CLIP TERMINAL OFF OF YELLOW LEAD & SOLDER LEAD IN HOLE 6.
8. REMOVE JUMPER BETWEEN HOLES 5 & 6 ON AUDIO BOARD 19A129924.
9. MOVE JUMPER FROM HOLE 14 TO HOLE 16.
10. REMOVE JUMPER FROM HOLE 16 TO HOLE 17 ON 10V REG / CONTROL BD. (19D417401) IF THE NINTH DIGIT OF STATION COMBINATION IS D OR L, OR IF EITHER OPTION 9812, 9813, 9824, MD03, OR MD1F ARE PRESENT, OR IF SEVENTH DIGIT OF COMBINATION IS "V".
11. IF INTERCOM BD. (19C320671) IS PRESENT, ADD A JUMPER (D.A. WIRE) FROM H1 TO H2.
12. REMOVE C33 ON SECUR - IT TONE BD. 19D424051G1.
13. TEST PER 19A129945.

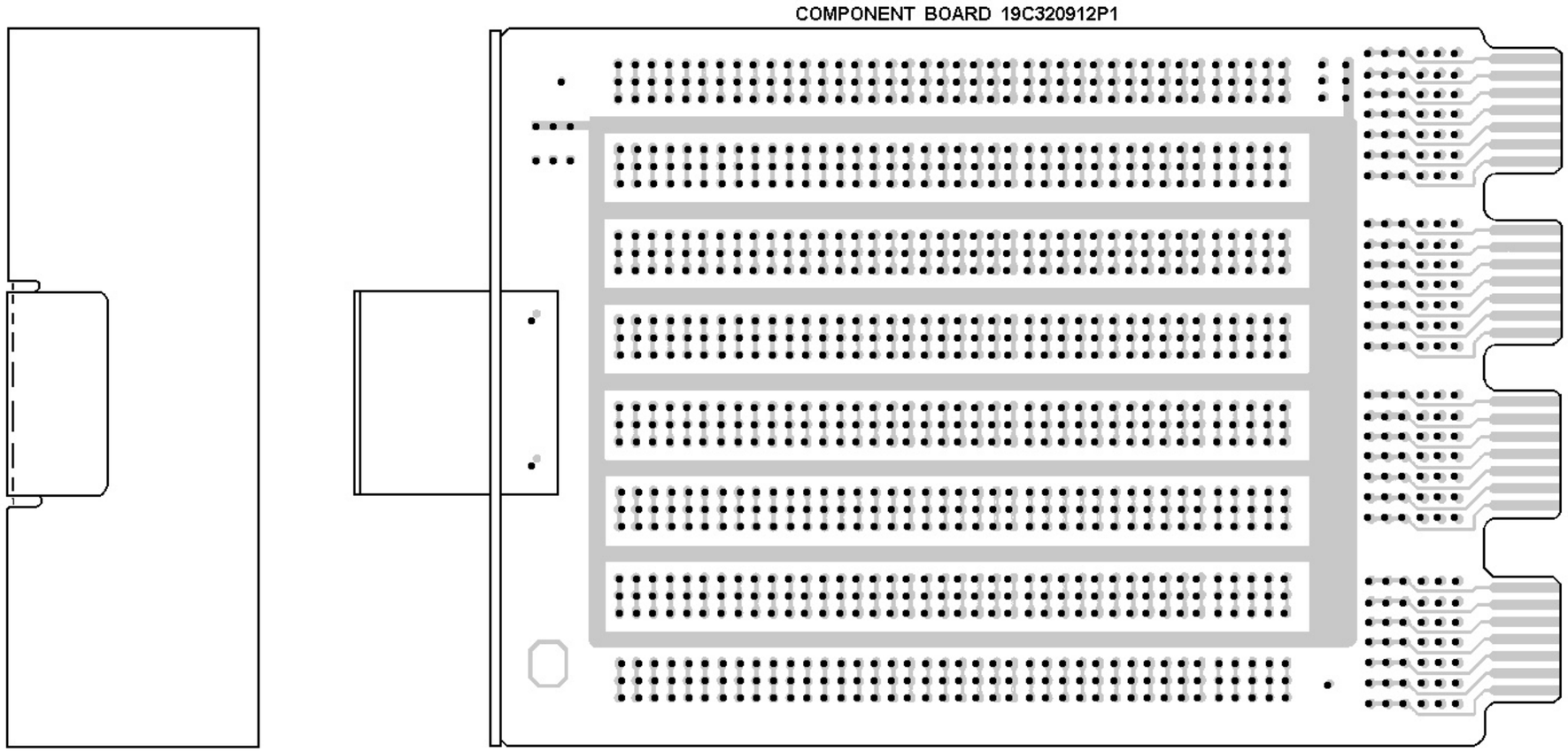
(19D417439, Rev. 10)

4-WIRE AUDIO KIT 19A129508

(OPTION 9507)
(Sheet 2 of 2)

(19D423102, Rev. 0)
(19D417215, Sh. 3, rev. 0)

EXTENDER BOARD
19D417458G1



(19C321422, Rev. 0)
(19B226246, Sh. 1, Rev. 0)

FIELD APPLICATION MODULE
19D417941

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