



## 1. GENERAL

The final power amplifier (FPA) is designed for continuous duty operation over the full  $-30^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  range of ambient temperatures. The amplifier employs ceramic hybrid modules with 50-ohm interfaces between all stages. Figure 1 shows a typical Final Power Amplifier Deck.

## 2. THEORY OF OPERATION

**2.1** The input signal to the FPA comes from the DPA. Under nominal operating conditions, the input level of the FPA is 10 to 15 watts. This rf signal is divided into two 3-way splitters. The 6-way split signal is applied to six final amplifier modules. The combined outputs of the modules deliver 350 to 410 watts to the output connector. A directional coupler/power detector for power control and sensing output power is mounted on the combiner board.

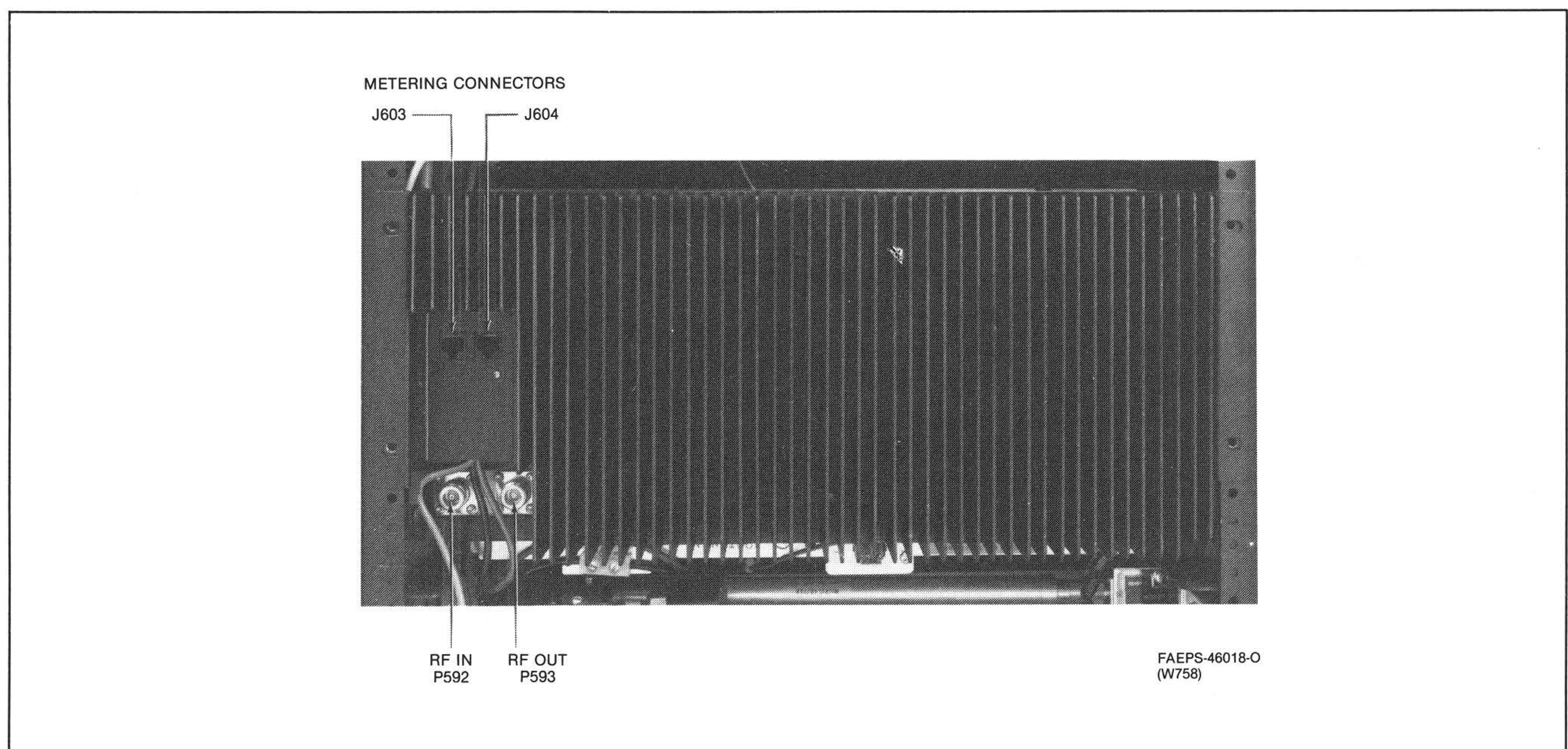
**2.2** Isolation resistors (TRN5207A, 7065A) under the splitter and combiner boards minimize the interaction between modules. In the event of a module failure or degradation, the resulting mismatch will be isolated from the other modules.

**2.3** Operating temperature of the FPA is sensed by thermistor RT601 located on the dc distribution board. The thermistor senses the temperature on the heat sink backplane. The temperature information is used by the power control circuit to control the station power output under elevated ambient temperature.

## 3. SERVICING

### 3.1 GENERAL

**3.1.1** Repair of the microstrip ceramic substrates is not recommended and should be avoided. The modules are built, tuned and tested at the factory employing special fixtures and processes to ensure proper operation.



*Figure 1. Front View of Final Power Amplifier Deck*

**technical writing services**

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The repair procedure consists of replacing a defective module rather than components on the module.

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**IMPORTANT**

All four cover screws must be tight to ensure optimum performance.

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**3.1.2** During servicing of the transmitter, it may be necessary to defeat the transmitter shutdown section of the power control. Under normal operation, the transmitter shutdown circuit signals the station control to turn off the transmitter when power control cannot level power. Transmitter shutdown can be prevented by installation of the service jumper JU1, on the Station Control board. This allows the serviceman to make measurements in the areas of power control, IPA, and both power amplifier decks regardless of conditions in the transmitter.

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**CAUTION**

Installation of JU1 allows the transmitter to continue to operate, although a potentially damaging condition may exist. Therefore, key the transmitter for only short periods during servicing. Refer to the troubleshooting chart for fault isolation.

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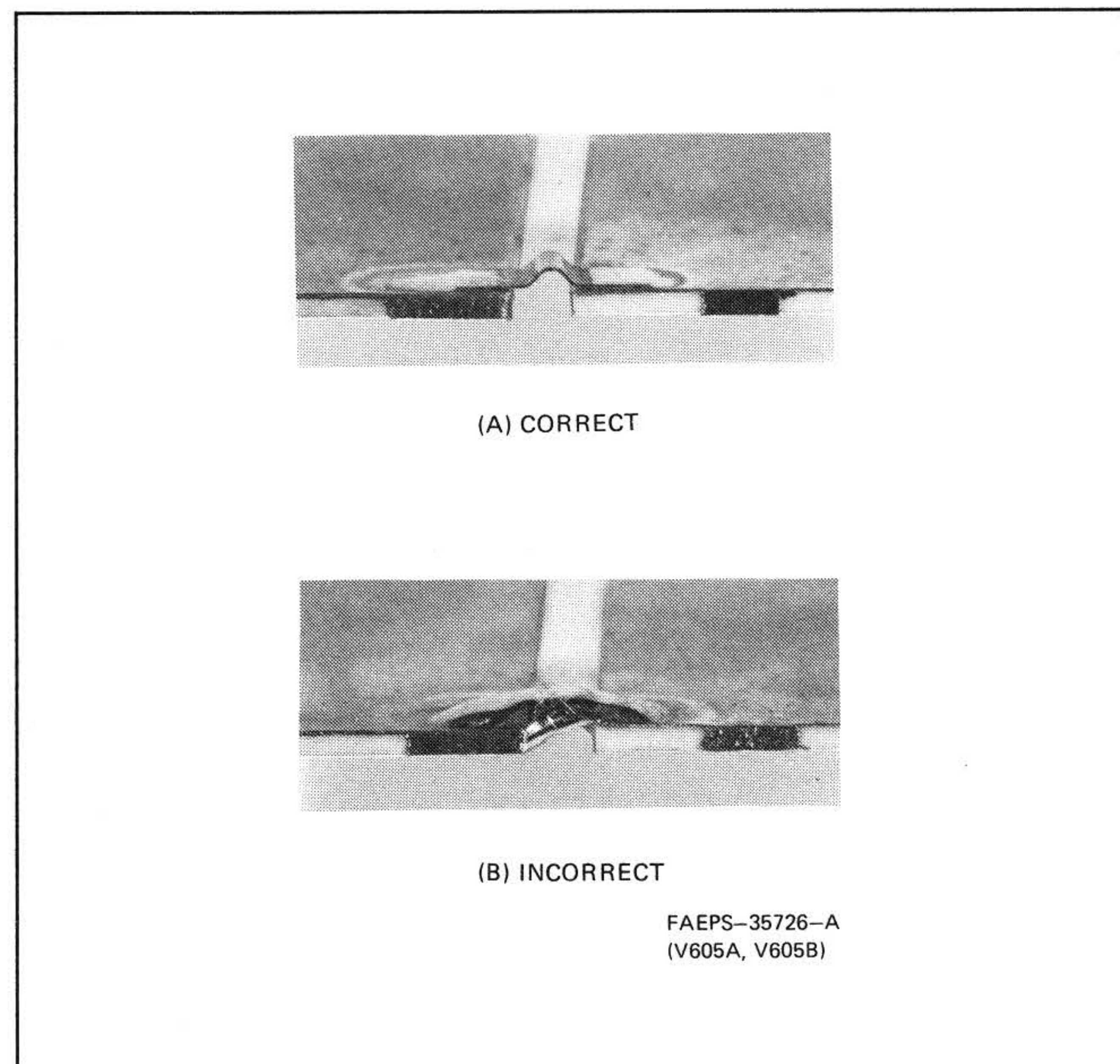
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**IMPORTANT**

If the radio is a MSF digital style radio, refer to the Operation section of the installation manual. Under the "Special Service Modes" section is the procedure to enable/disable service jumper JU1 functionality. Follow all safeguards associated with JU1 usage.

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**3.1.3** Care should be exercised in removal of the "Omega" straps between modules and their reinstallation. Care should be exercised when soldering the "Omega" strap interconnects. The "Omega" straps (Motorola p/n 4284510M04) absorb mechanical stresses caused during temperature excursions of the station and therefore must remain flexible after installation. When soldering these connections, do not allow solder to bridge over the top or to fill the underside of the "Omega" strap. Figure 2a shows how a correctly soldered "Omega" strap should look. Incorrect soldering is shown in Figure 2b. Furthermore, do not substitute any rigid material or attempt to replace an "Omega" strap by "solder bridging". If proper soldering techniques are not observed during installation of "Omega" straps, premature failure of the hybrid module can result.



*Figure 2.*  
*"Omega" Strap Replacement Soldering Technique*

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**IMPORTANT**

Power measurements of the individual final power amplifier deck modules should *not* be attempted. The splitter and combiner circuits serve to prevent imbalances in drive and output of the final amplifier stages. If input or output connections to the individual final modules are broken, power measurements will be incorrect.

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## **3.2 MODULE REPLACEMENT PROCEDURE**

The rf power modules consist of an rf power transistor and associated circuits that are secured by screws to a copper heat spreader.

Step 1. Locate the defective module (refer to the power amplifier deck troubleshooting procedures).

Step 2. Disconnect the power from the deck to be repaired.

Step 3. Unsolder all four "Omega" straps from the module to be replaced from the adjacent circuit boards. Also unsolder the A+ and all of the ground straps from the module circuit board.

Step 4. Remove the two outside screws holding the module to the heat sink.

Step 5. Remove the module. Thermal compound between the module and the heat sink may cause the mod-

ule to stick to the heat sink. A gentle "rocking" force is usually sufficient to free a stuck module.

Step 6. Apply a thin coat of new thermal compound between the module and the heat sink in the module location.

Step 7. Position the new module on the heat sink, ensuring the module is oriented properly.

Step 8. Carefully replace the two screws holding the module to the heat sink.

Step 9. Solder all "Omega" straps to adjacent circuit boards. Refer to paragraph 3.1.3 for the proper "Omega" strap soldering technique. Also, solder the A+ connection and all the ground straps to the module circuit board. Reconnect power to the deck.

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#### CAUTION

The PA deck requires connection to a 28 V ganged supply. Make sure that both 28 V supplies are connected together. Failure to have this connection could result in overheating of power supply.

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### 3.3 COMBINER BOARD REMOVAL PROCEDURE

Step 1. Remove the FPA deck cover (4 screws).

Step 2. Unsolder the isolation resistor leads from the combiner board.

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#### IMPORTANT

At this time the isolation resistors should be checked for resistance value. Refer to paragraph 3.7 for the isolation resistor test procedure.

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Step 3. Unsolder all "Omega" strap connections between the combiner boards and all modules. Also, unsolder all ground strap connections from the combiner board. Unsolder the directional coupler connection if removing the combiner connected to the rf output connector.

Step 4. Remove the board from the heat sink.

### 3.4 COMBINER BOARD INSTALLATION PROCEDURE

Step 1. Position the combiner board on the heat sink ensuring that all module "Omega" straps lie on top of the board and that all isolation resistor leads are aligned to protrude through the proper board holes.

Step 2. Solder all "Omega" straps from the modules from the adjacent circuit boards to the combiner board. Also solder all ground strap connections to the combiner board and the directional coupler connection if replacing the combiner connected to the rf output connector.

Step 3. Solder all the isolation resistor leads to the combiner board.

Step 4. Re-install the FPA cover (4 screws).

### 3.5 SPLITTER BOARD REMOVAL PROCEDURE

The splitter board removal procedure is identical to the combiner board removal procedure.

### 3.6 SPLITTER BOARD INSTALLATION PROCEDURE

The splitter board installation procedure is identical to the combiner board installation procedure.

### 3.7 ISOLATION RESISTOR TEST AND REPLACEMENT PROCEDURE

Step 1. Unsolder all leads of the isolation resistor to be tested from the appropriate splitter or combiner board.

Step 2. Measure the resistance on all combinations of any two leads of the isolation resistor (one measurement on the two-way resistor TRN7065A; three measurements on the three-way resistor TRN5207A). Resistance should measure between 90 and 110 ohms for both the TRN5207A and TRN7065A.

Step 3. Resolder the isolation resistor to the board if it is not found to be defective, otherwise replace it.

## FPA TROUBLESHOOTING PREREQUISITES

STEP 1. INSTALL STATION CONTROL BOARD SERVICE JUMPER (JU1)  
ONTO ITS SERVICE INSTALLATION POSITION.

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### IMPORTANT

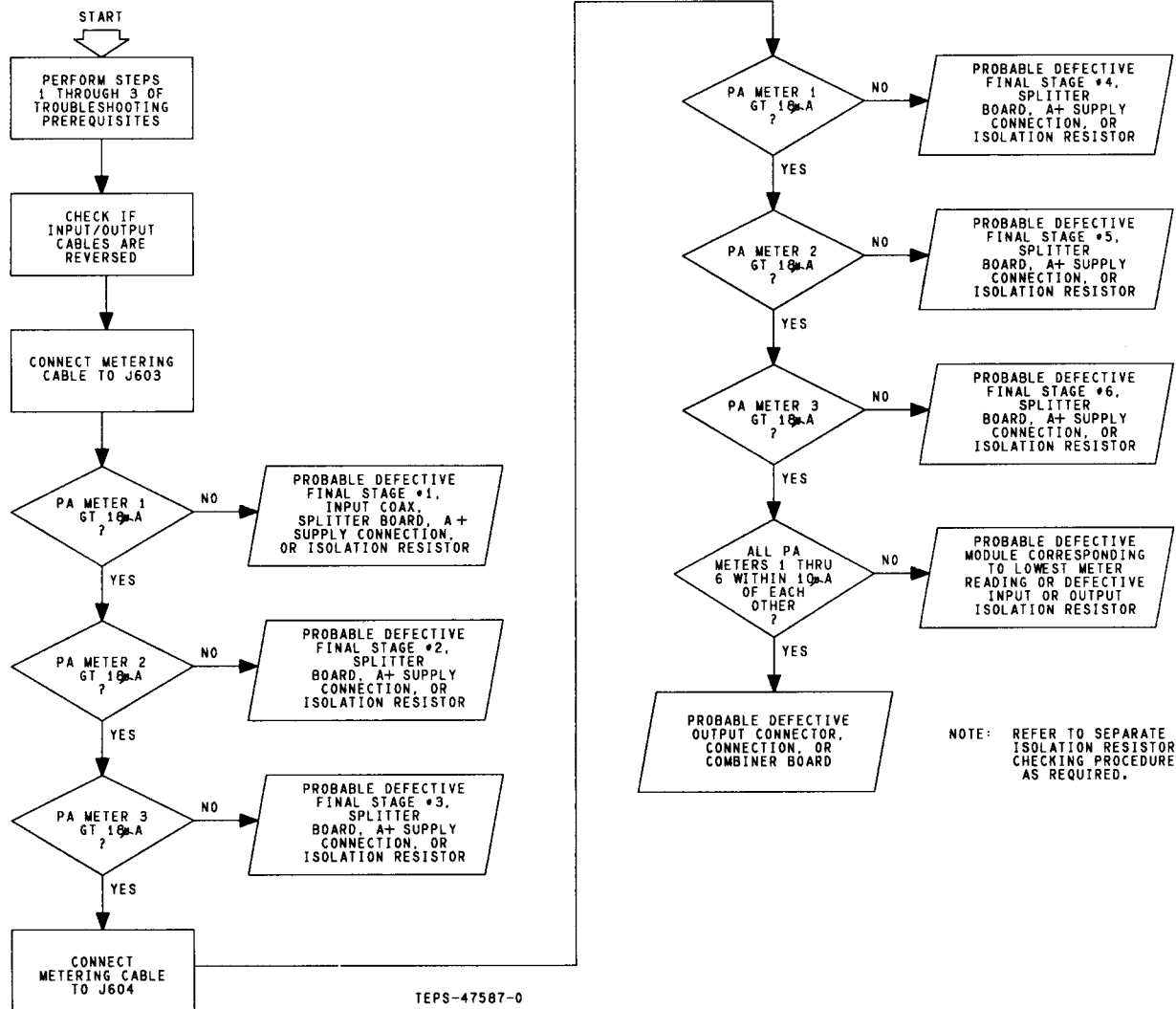
IF THE RADIO IS A MSF DIGITAL STYLE RADIO, REFER TO  
THE OPERATION SECTION, UNDER THE SPECIAL SERVICE MODES  
SECTION IS THE PROCEDURE TO ENABLE/DISABLE SERVICE JUMPER JU1  
FUNCTIONALITY. FOLLOW ALL SAFEGUARDS ASSOCIATED WITH JU1 USAGE.  
WHEN TROUBLESHOOTING IS COMPLETED, RETURN JU1 TO ITS ORIGINAL POSITION.

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STEP 2. CONNECT THE FPA OUTPUT TO A WATTMETER TERMINATED IN A 50-OHM LOAD.  
BE SURE THE WATTMETER AND LOAD ARE RATED FOR USE AT 100-200 MHz.  
MAKE SURE THE LOAD CAN HANDLE 500 W.

# FINAL POWER AMPLIFIER DECK

## TROUBLESHOOTING CHART

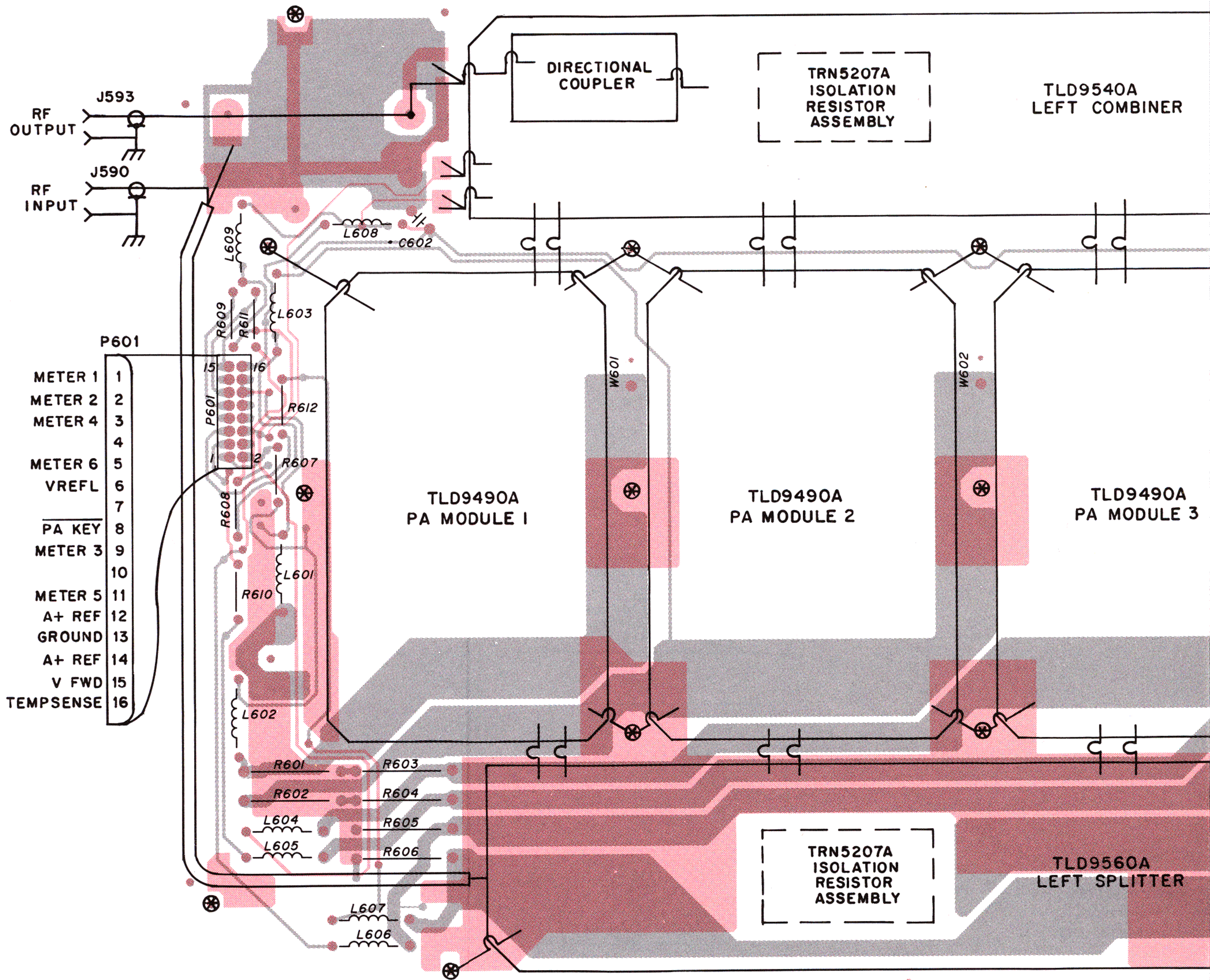


1)

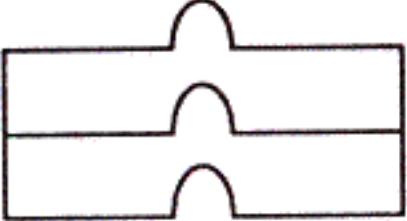
ER JU1  
1 USAGE.  
IGINAL POSITION.  
IN A 50-OHM LOAD.  
-200 MHZ.

# FINAL POWER AMPLIFIER DECK

## CIRCUIT BOARD DETAIL

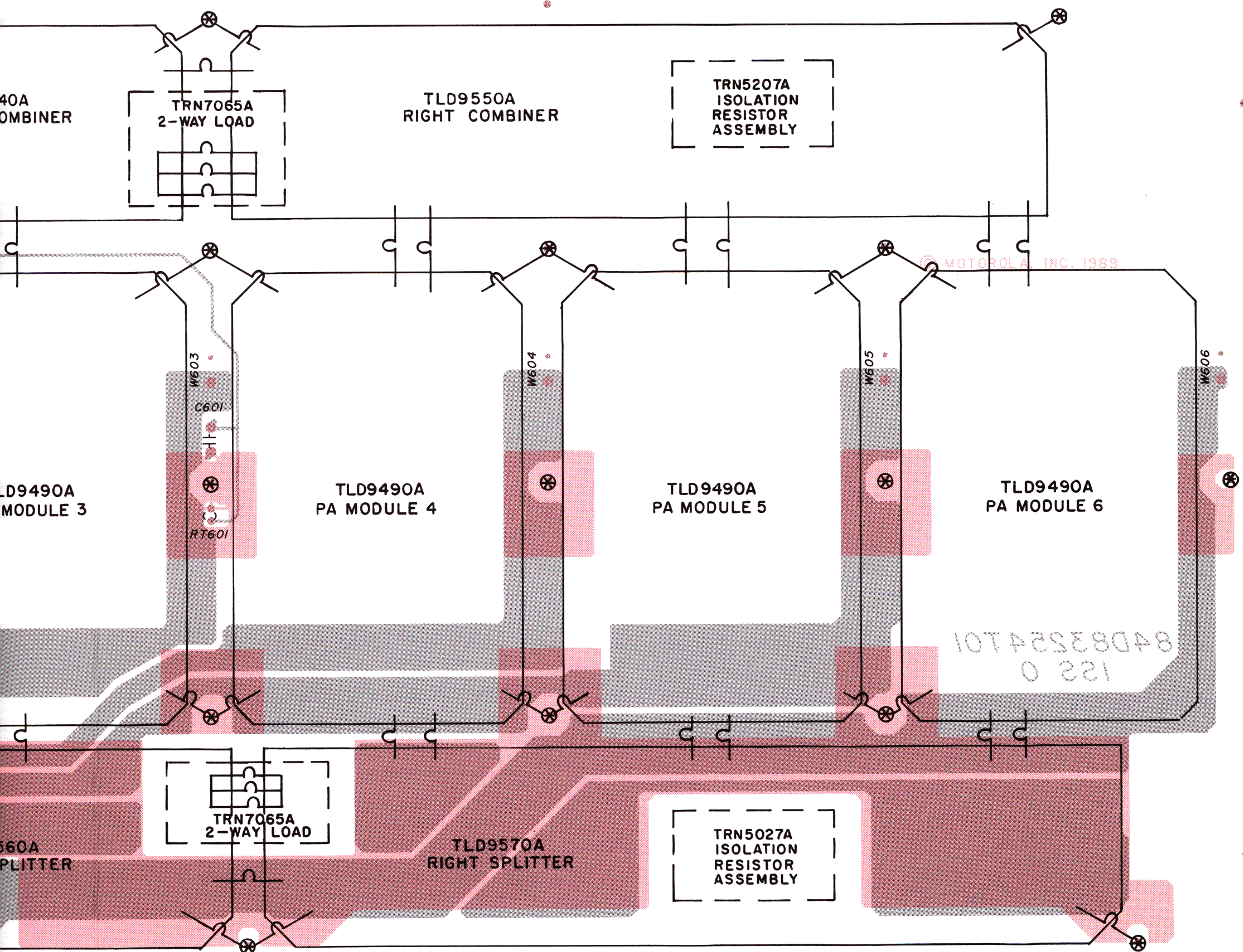


### LEGEND :

- A.  = OMEGA STRAP (NOTE 1)
- B.  = OMEGA STRAP (NOTE 1)
- C.  = OMEGA STRAP (NOTE 1)
- D.  = OMEGA STRAP (NOTE 1)
-  = GROUND STRAP (NOTE 2)  
WITH SLOTTED STAR SCREW  
(SEE DETAIL)

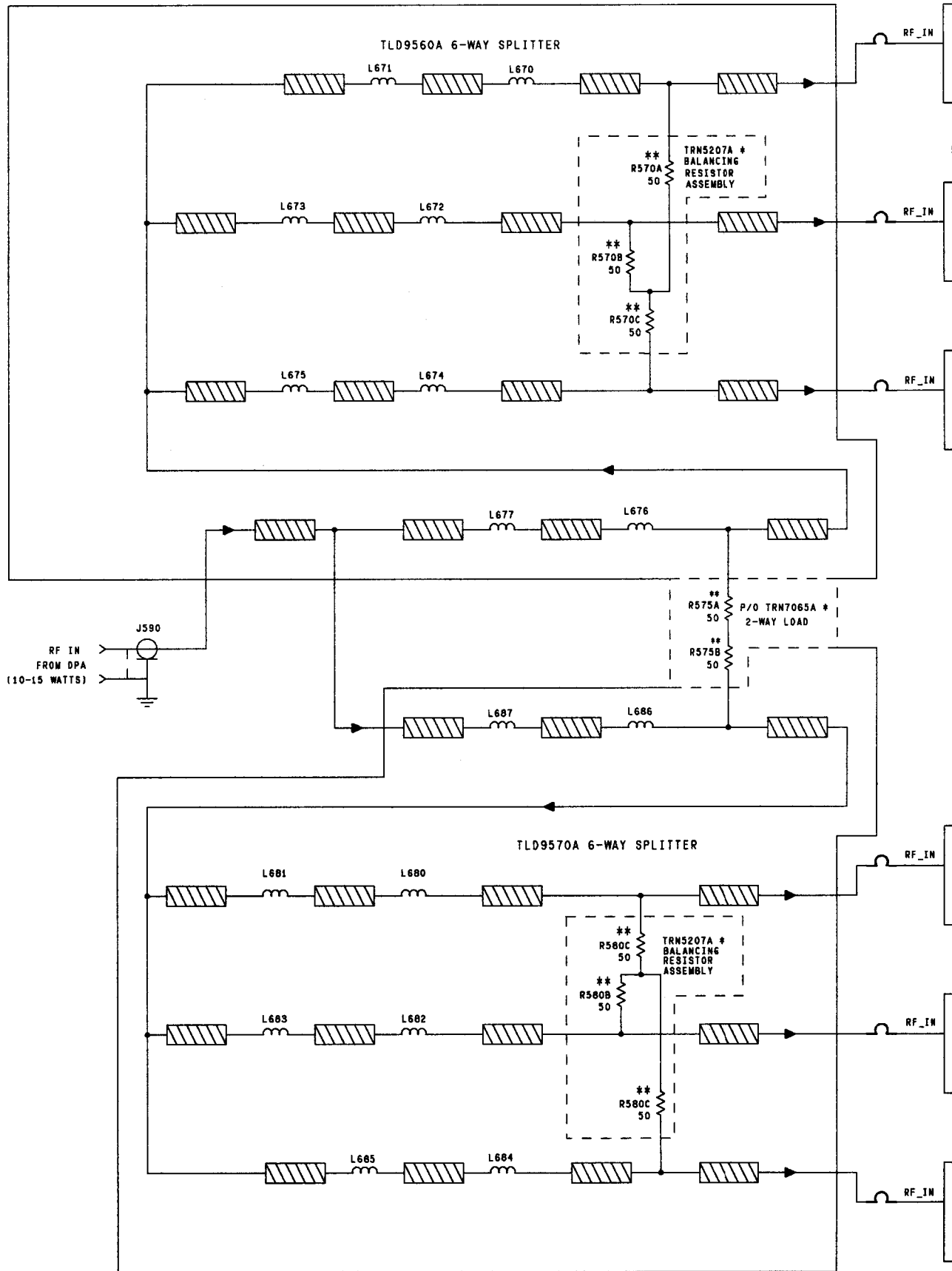
### NOTES:

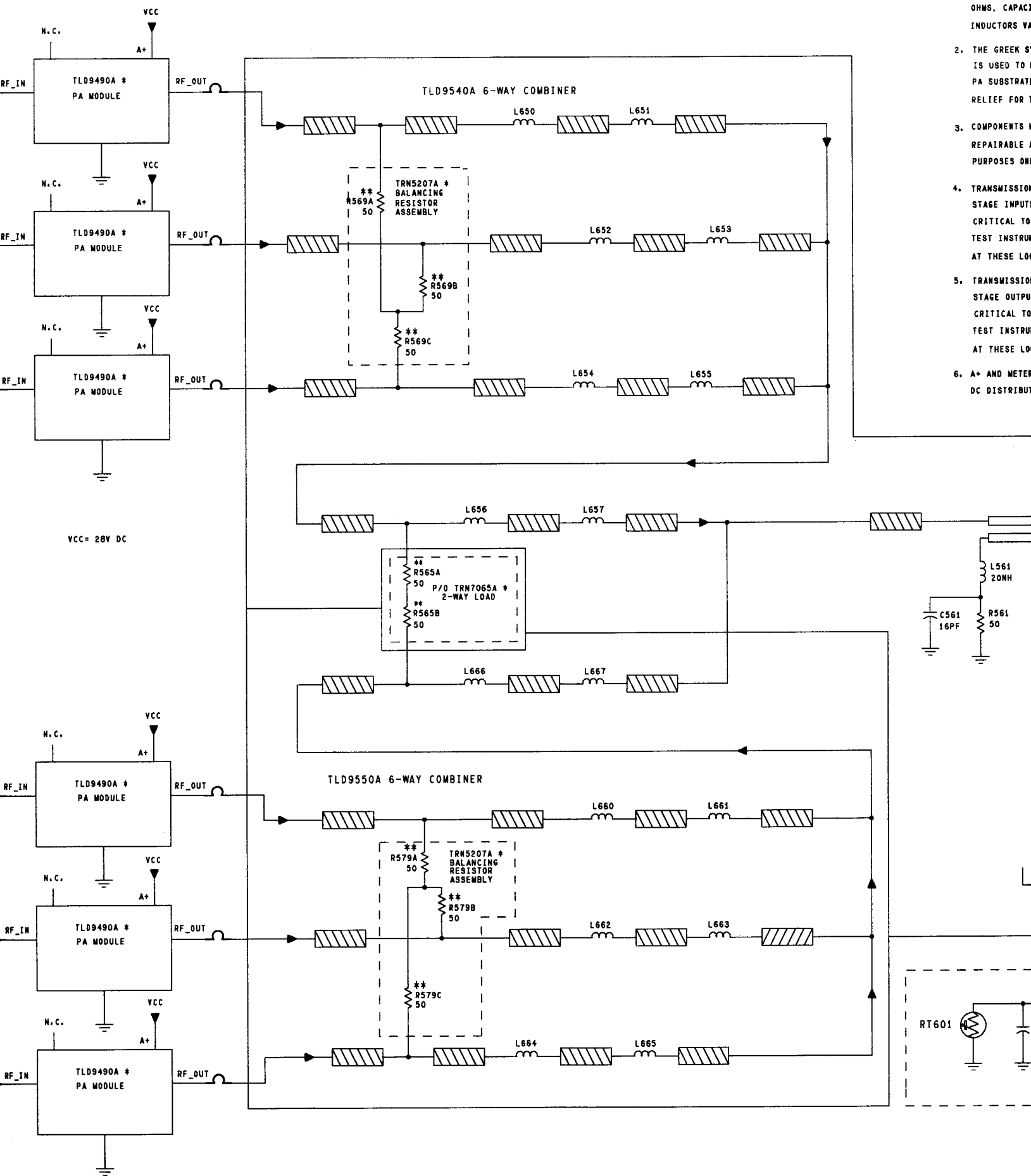
1. OMEGA STRAPS PART OF MODULE ASSEMBLIES.  
"A" STRAP PART NO. IS 4284453N01;  
"B" STRAP PART NO. IS 4284510M04;  
"C" STRAP PART NO. IS 4283680N04;  
"D" STRAP PART NO. IS 4283680N03.
2. GROUND STRAPS PART OF P/A HARDWARE KIT.
3. OMEGA STRAPS FOR SPLITTER OR COMBINER GND CONNECTIONS ARE PART OF PA HARDWARE KIT.



COMPONENT SIDE ● BD-DEPS-47612-0  
SOLDER SIDE ● BD-DEPS-47613-0  
OL-DEPS-47614-0

SHOWN FROM COMPONENT SIDE





# NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL COMPONENTS ARE TO BE 50 OHMS, CAPACITORS ARE TO BE 50V, INDUCTORS ARE TO BE 100V.
2. THE GREEK LETTER  $\epsilon$  IS USED TO INDICATE THE PERMITTIVITY OF THE PA SUBSTRATE. THE VALUE OF  $\epsilon$  IS TO BE DETERMINED BY THE USER FOR RELIEF OF THE DESIGNER.
3. COMPONENTS ARE TO BE REPAIRABLE AND THE DESIGNER IS TO BE ADVISED OF THE PURPOSES OF THE DESIGN.
4. TRANSMISSION LINE STAGE INPUTS ARE CRITICAL TO THE TEST INSTRUMENT AT THESE LOCATIONS.
5. TRANSMISSION LINE STAGE OUTPUTS ARE CRITICAL TO THE TEST INSTRUMENT AT THESE LOCATIONS.
6. A+ AND METER DC DISTRIBUTION.

# FINAL POWER AMPLIFIER DECK

## SCHEMATIC DIAGRAM

OTHERWISE SPECIFIED RESISTOR VALUES ARE IN  
CAPACITOR VALUES ARE IN PICOFARADS, AND  
RESISTOR VALUES ARE IN HENRIES.

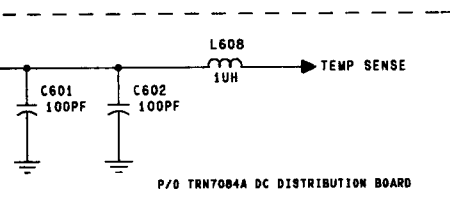
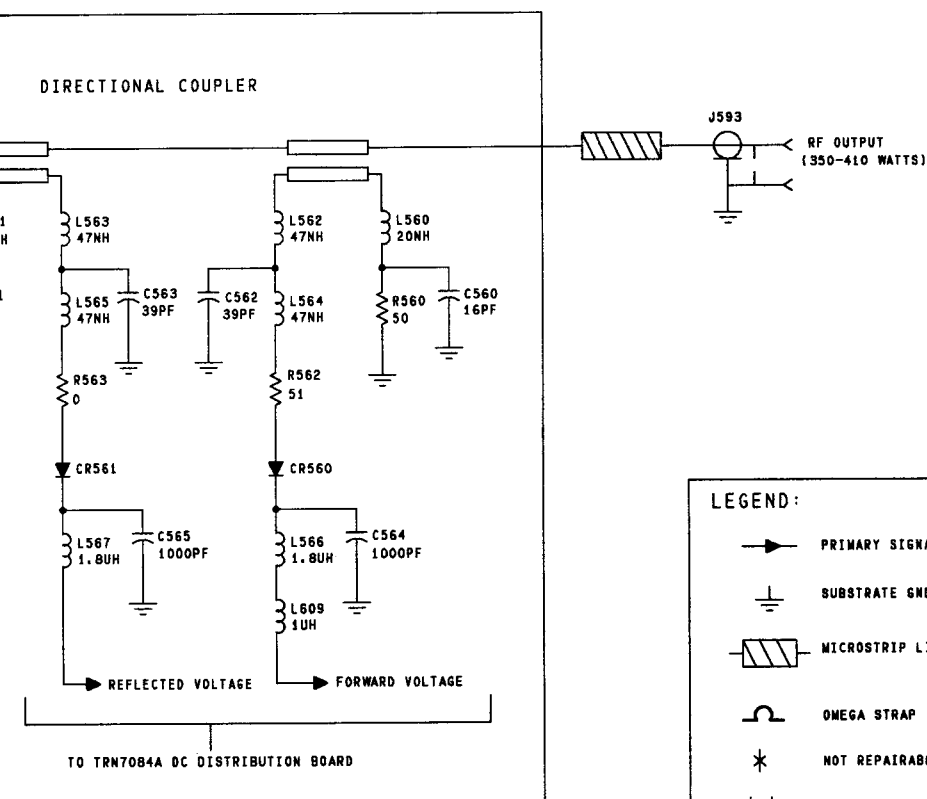
WAVE SYMBOL ( $\omega$ ) DENOTES AN 'OMEGA STRAP' WHICH  
IS USED TO PROVIDE CIRCUIT CONNECTIONS BETWEEN THE  
STRAPES AND PROVIDE THE NECESSARY STRAIN  
FOR THERMAL EXPANSION AND CONTRACTION.

COMPONENTS MARKED WITH AN ASTERISK (\*) ARE NOT  
REPAIRABLE AND ARE SHOWN FOR REFERENCE  
VALUES ONLY.

TRANSMISSION LINE LENGTHS BETWEEN THE POWER SPLITTER  
INPUTS AND FINAL AMPLIFIER STAGE OUTPUTS ARE  
CRITICAL TO PROPER AMPLIFIER OPERATION. DO NOT INSERT  
INSTRUMENTS (WATTMETER, LOAD TERMINATION, ETC.)  
AT THESE LOCATIONS.

TRANSMISSION LINE LENGTHS BETWEEN THE POWER COMBINER  
OUTPUTS AND FINAL AMPLIFIER STAGE INPUTS ARE  
CRITICAL TO PROPER AMPLIFIER OPERATION. DO NOT INSERT  
INSTRUMENTS (WATTMETER, LOAD TERMINATION, ETC.)  
AT THESE LOCATIONS.

METERING CONNECTIONS ARE MADE VIA THE TRN7084A  
DISTRIBUTION BOARD.



TEPS-47588-0

# FINAL POWER AMPLIFIER DECK

## SCHEMATIC DIAGRAM, CIRCUIT BOARD DETAIL AND PARTS LISTS

### parts list

TRN7084A DC Distribution Board PL-11363-A

| REFERENCE SYMBOL               | MOTOROLA PART NO.        | DESCRIPTION                                                     |
|--------------------------------|--------------------------|-----------------------------------------------------------------|
| C601,602                       | 2111022A55               | capacitor, fixed:<br>100pF $\pm 5\%$ ; 50V                      |
| L601 thru 609                  | 2482835G14               | coil:<br>1uH                                                    |
| P601                           | 0984865R06               | connector:<br>receptacle: 16-contact                            |
| R601 thru 606<br>R607 thru 612 | 1782620B04<br>0611009C56 | resistor, fixed:<br>.02 $\pm 3\%$ ; 3W<br>2000 $\pm 5\%$ ; 1/4W |
| RT601                          | 0683600K05               | thermistor: (see note)<br>100K                                  |

TLD9490A Module PA VHF PL-11490-O

| REFERENCE SYMBOL                                                  | MOTOROLA PART NO.                                                                | DESCRIPTION                                                   |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------|
| C571                                                              | 2111078B42                                                                       | capacitor, fixed: pF $\pm 5\%$ 50V<br>unless otherwise stated |
| C572                                                              | 2113740B41                                                                       | 100 100V                                                      |
| C573                                                              | 2113740B21                                                                       | 47                                                            |
| C574                                                              | 2184366F32                                                                       | 6.8 $\pm 0.25$ pF                                             |
| C575                                                              | 2311049A17                                                                       | 100 $\pm 10\%$ 250V                                           |
| C576,577                                                          | 2113740B73                                                                       | 8.8uF $\pm 10\%$ 35V                                          |
| C578,579                                                          | 2113740B57                                                                       | 1000                                                          |
| C580                                                              | 2113741B45                                                                       | 200                                                           |
| C581 thru 583                                                     | 2113741B45                                                                       | .01uF                                                         |
| C584                                                              | 2184366F38                                                                       | 1000                                                          |
| CR571                                                             | 4880140L07                                                                       | 330 150V                                                      |
| CR572                                                             | 4882106T01                                                                       | diode: (see note)<br>Zener: 5.6V<br>Schottky                  |
| L571                                                              | 2483035N14                                                                       | coil:<br>4 turns                                              |
| L572,573                                                          | 2411087A29                                                                       | 1.8uH                                                         |
| L574                                                              | 2484331M44                                                                       | 3 turns                                                       |
| L575,576                                                          | 2484331M42                                                                       | 11 turns                                                      |
| Q571                                                              | 4882233P60                                                                       | transistor: (see note)<br>silicon                             |
| R571 thru 574<br>R575,576<br>R577<br>R579<br>R580,581<br>R582,583 | 0611077A76<br>0611077A43<br>0611077A98<br>0611077B17<br>0611077A71<br>0611077A72 | resistor, fixed: $\pm 5\%$ 1/8W<br>unless otherwise stated    |
| RT571                                                             | 0680149M02                                                                       | 1.2k<br>51<br>10k<br>56k<br>750<br>820                        |
|                                                                   |                                                                                  | thermistor:<br>100k $\pm 10\%$ 240mW                          |

#### non-referenced items

|            |                                          |
|------------|------------------------------------------|
| 0310943J10 | SCREW, tapping: TT3 $\times$ 0.5; 2 used |
| 2983208M01 | LUG, solder: 2 used                      |
| 4284510M04 | STRAP, power amplifier: 4 used           |
| 6482287N01 | PLATE, ground strip: 2 used              |
| 6483530T01 | PLATE, transistor mounting               |

note: For optimum performance, diodes, transistors, and integrated circuits must be ordered by Motorola part numbers.

TLD9570A Right 6-Way Splitter PL-11360-A

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION          |
|------------------|-------------------|----------------------|
| L680             | 2483035N60        | coil, rf:<br>5 turns |
| L681             | 2483035N59        | 4 turns              |
| L682             | 2483035N60        | 5 turns              |
| L683             | 2483035N59        | 4 turns              |
| L684             | 2483035N60        | 5 turns              |
| L685             | 2483035N59        | 4 turns              |
| L686             | 2483035N68        | 3 turns              |
| L687             | 2483035N69        | 4 turns              |

TRN9961A Interconnect Board PL-11134-O

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                          |
|------------------|-------------------|--------------------------------------|
| P602             | 0984865R06        | connector:<br>receptacle: 16-contact |
| P603, 604        | 0983365N01        | receptacle: 8-contact                |
| P605             | 2810773A05        | plug: 10-contact                     |

TRN5207A Balancing Resistor Kit PL-8255-O

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION       |
|------------------|-------------------|-------------------|
|                  | 7-83108N01        | BRACKET, resistor |
|                  | 7-84102N01        | FRAME, LD         |

TKN8549A PA DC Power Cable PL-11292-O

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                      |
|------------------|-------------------|--------------------------------------------------|
| E561             | 2983897M02        | terminal:<br>terminal, wire grip                 |
| W502             | 3000831572        | cable:<br>#10 gauge stranded black battery: 9.5" |
| W503             | 3000813233        | #10 gauge stranded red battery: 8.5"             |
|                  | 2982907N05        | non-referenced item<br>TERMINAL, ring: yellow    |

TRN7113A 350W PA Hardware PL-11364-A

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                                    |
|------------------|-------------------|----------------------------------------------------------------|
|                  | 0182691T02        | PLATE, feedthru                                                |
|                  | 0182722T01        | CABLE, metering board                                          |
|                  | 0310943J10        | SCREW, tapping: TT3 $\times$ 0.5 $\times$ 8 (10 used)          |
|                  | 0310943J21        | SCREW, tapping: TT4 $\times$ 0.7 $\times$ 10 (8 used)          |
|                  | 0310943R68        | SCREW, tapping: TT4 $\times$ 0.7 $\times$ 13 (2 used)          |
|                  | 0383498N06        | SCREW, tapping: M4 $\times$ 0.7 $\times$ 16 (16 used)          |
|                  | 0383678N02        | SCREW, tapping: M4 $\times$ 0.7 $\times$ 18 (4 used)           |
|                  | 0383678N03        | SCREW, tapping: M3 $\times$ 0.5 $\times$ 9 (39 used)           |
|                  | 0400007607        | WASHER, flat: 0.125 $\times$ .281 $\times$ .027<br>(4 used)    |
|                  | 0400007657        | WASHER, lock: No. 8 ext tooth                                  |
|                  | 0400139423        | WASHER, flat: 0.125 $\times$ 0.218 $\times$ .018"<br>(15 used) |
|                  | 0780078A01        | BRACKET, thermistor mtg                                        |
|                  | 0783990P01        | BRACKET, PA mtg, RH                                            |
|                  | 0783990P03        | BRACKET, PA mtg, LH                                            |
|                  | 0900816159        | CONNECTOR, receptacle (2 used)                                 |
|                  | 1582584T01        | COVER, PA pocket                                               |
|                  | 1583177N01        | COVER, PA                                                      |
|                  | 2683223T01        | HEAT SINK, power amplifier                                     |
|                  | 2683379T01        | HEAT SINK, combiner cooling                                    |
|                  | 3082616T01        | CABLE, rf, input                                               |
|                  | 3282796H02        | GASKET: 49.25" lg                                              |
|                  | 3282796H03        | GASKET: 8.75" lg                                               |
|                  | 4210217A02        | STRAP, tie: .091 $\times$ 3.62"                                |
|                  | 4283150N01        | STRAP, grounding (15 used)                                     |
|                  | 4283680N03        | STRAP, IPA (3 used)                                            |
|                  | 4283680N04        | STRAP, interconnect (4 used)                                   |
|                  | 4284453N01        | STRAP, triple PA (2 Used)                                      |
|                  | 4284510M04        | STRAP, PA (2 used)                                             |

PL-11380-A

| DESCRIPTION                                                                                       |
|---------------------------------------------------------------------------------------------------|
| coll, rf:<br>5 turns<br>4 turns<br>5 turns<br>4 turns<br>5 turns<br>4 turns<br>3 turns<br>4 turns |

PL-11134-O

| DESCRIPTION                                                                       |
|-----------------------------------------------------------------------------------|
| connector:<br>receptacle: 16-contact<br>receptacle: 8-contact<br>plug: 10-contact |

PL-8255-O

| DESCRIPTION                    |
|--------------------------------|
| BRACKET, resistor<br>FRAME, LD |

PL-11292-O

| DESCRIPTION                                                                              |
|------------------------------------------------------------------------------------------|
| terminal:<br>terminal, wire grip                                                         |
| cable:<br>#10 gauge stranded black battery: 9.5"<br>#10 gauge stranded red battery: 8.5" |
| Terminated Item                                                                          |
| TERMINAL, ring: yellow                                                                   |

PL-11384-A

| DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLATE, feedthru<br>CABLE, metering board<br>SCREW, tapping: TT3 x 0.5 x 8 (10 used)<br>SCREW, tapping: TT4 x 0.7 x 10 (8 used)<br>SCREW, tapping: TT4 x 0.7 x 13 (2 used)<br>SCREW, tapping: M4 x 0.7 x 16 (16 used)<br>SCREW, tapping: M4 x 0.7 x 18 (4 used)<br>SCREW, tapping: M3 x 0.5 x 9 (39 used)<br>WASHER, flat: 0.125 x .281 x .027<br>(4 used)<br>WASHER, lock: No. 8 ext tooth<br>WASHER, flat: 0.125 x 0.218 x .018"<br>(15 used)<br>BRACKET, thermistor mtg<br>BRACKET, PA mtg, RH<br>BRACKET, PA mtg, LH<br>CONNECTOR, receptacle (2 used)<br>COVER, PA pocket<br>COVER, PA<br>HEAT SINK, power amplifier<br>HEAT SINK, combiner cooling<br>CABLE, rf, input<br>GASKET: 49.25" lg<br>GASKET: 8.75" lg<br>STRAP, tie: .091 x 3.62"<br>STRAP, grounding (15 used)<br>STRAP, IPA (3 used)<br>STRAP, interconnect (4 used)<br>STRAP, triple PA (2 Used)<br>STRAP, PA (2 used) |

TLD9580A Left 6-Way Splitter

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION          |
|------------------|-------------------|----------------------|
| L670             | 2483035N60        | coll, rf:<br>5 turns |
| L671             | 2483035N59        | 4 turns              |
| L672             | 2483035N60        | 5 turns              |
| L673             | 2483035N59        | 4 turns              |
| L674             | 2483035N60        | 5 turns              |
| L675             | 2483035N59        | 4 turns              |
| L676             | 2483035N68        | 3 turns              |
| L677             | 2483035N67        | 4 turns              |

PL-11359-A

TRN7065A Hybrid Isolation Load, 2-Way

PL-11294-O

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION        |
|------------------|-------------------|--------------------|
|                  | 0783108N01        | BRACKET, resistor  |
|                  | 0784102N01        | FRAME, low density |

TLD9540A Left 6-Way Combiner

PL-11357-A

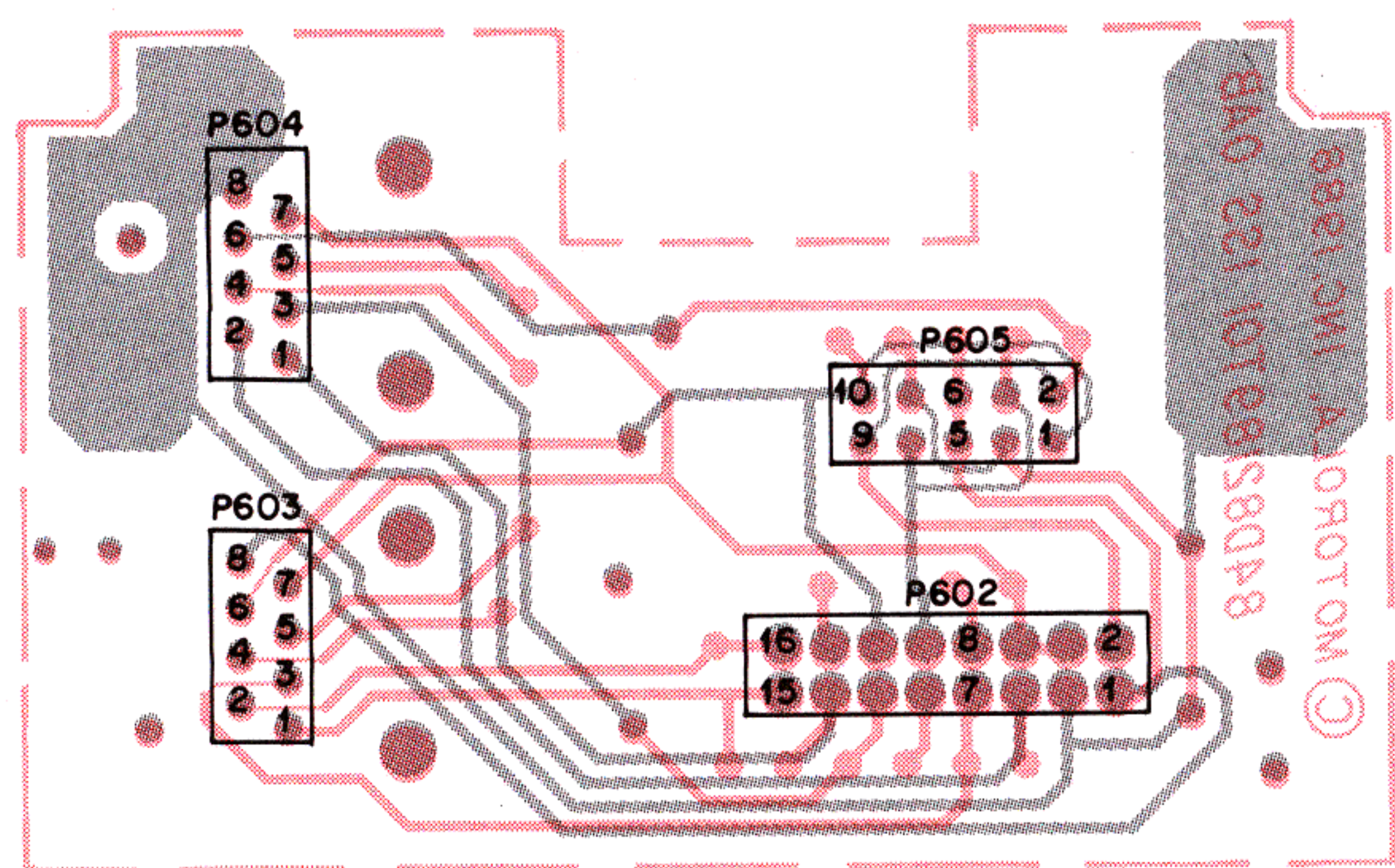
| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                               |
|------------------|-------------------|-------------------------------------------|
| C560,561         | 2113740B25        | capacitor, fixed: pF $\pm$ 5%; 50V:<br>10 |
| C562,563         | 2113740B39        | 39                                        |
| C564,565         | 2113740B73        | 1000                                      |
| CR560,561        | 4882106T01        | diode: (see note)<br>Schottky type        |
| L560,561         | 2483035N32        | coll:<br>7 turns                          |
| L562 thru 565    | 2483035N26        | 8 turns                                   |
| L566,567         | 2411087A29        | 1.8uH                                     |
| L650             | 2483035N60        | 5 turns                                   |
| L651             | 2483035N59        | 4 turns                                   |
| L652             | 2483035N60        | 5 turns                                   |
| L653             | 2483035N59        | 4 turns                                   |
| L654             | 2483035N60        | 5 turns                                   |
| L655             | 2483035N59        | 4 turns                                   |
| L656             | 2483035N68        | 3 turns                                   |
| L657             | 2483035N67        | 4 turns                                   |
| R560,561         | 0683854P02        | resistor, fixed:<br>50 $\pm$ 2%; 1W       |

TLD9550A Right 6-Way Combiner

PL-11358-O

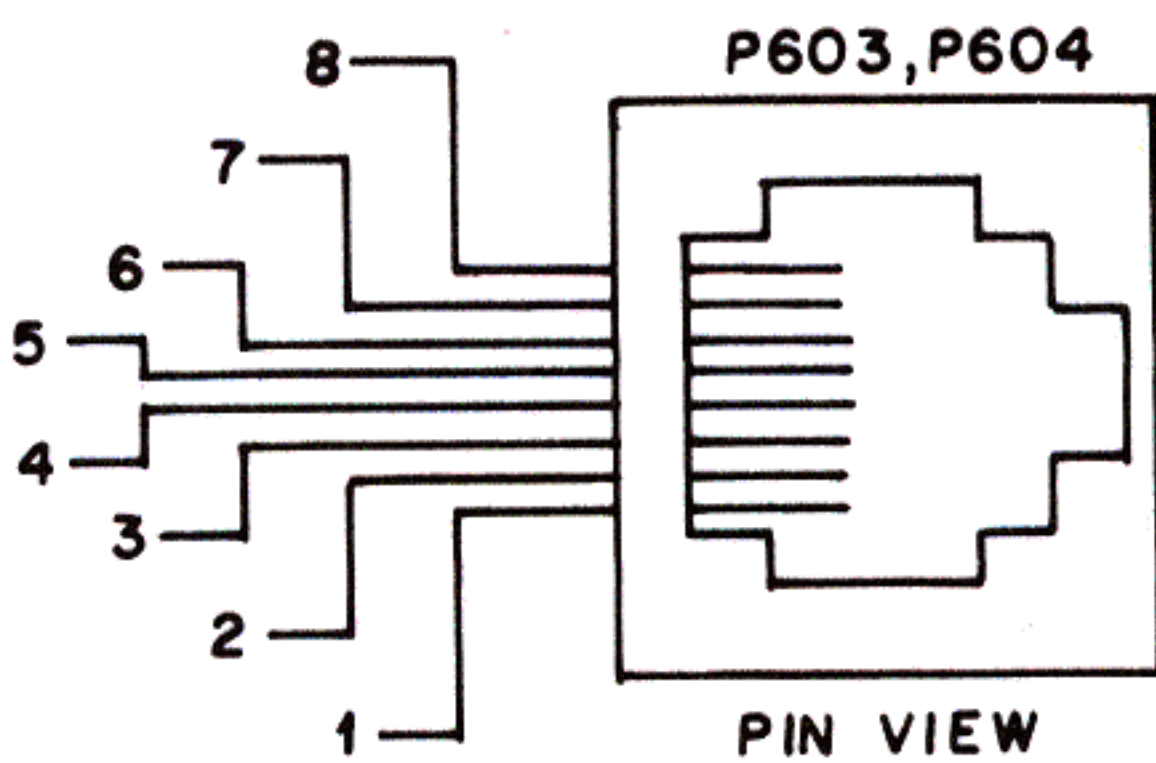
| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION          |
|------------------|-------------------|----------------------|
| L660             | 2483035N60        | coll, rf:<br>5 turns |
| L661             | 2483035N59        | 4 turns              |
| L662             | 2483035N60        | 5 turns              |
| L663             | 2483035N59        | 4 turns              |
| L664             | 2483035N60        | 5 turns              |
| L665             | 2483035N59        | 4 turns              |
| L666             | 2483035N68        | 3 turns              |
| L667             | 2483035N67        | 4 turns              |

TRN9961A INTERCONNECT POCKET BOARD



COMPONENT SIDE ● BD-CEPS-46205-0  
SOLDER SIDE ● BD-CEPS-46206-0  
OL-CEPS-47596-0  
SHOWN FROM COMPONENT SIDE

| P605       |    |   |            |
|------------|----|---|------------|
| VREV       | 2  | 1 | THERMISTOR |
| GND        | 4  | 3 | PA KEY     |
| V FWD      | 6  | 5 | V FWD      |
| PA KEY     | 8  | 7 | GND        |
| THERMISTOR | 10 | 9 | VREV       |
| PIN VIEW   |    |   |            |



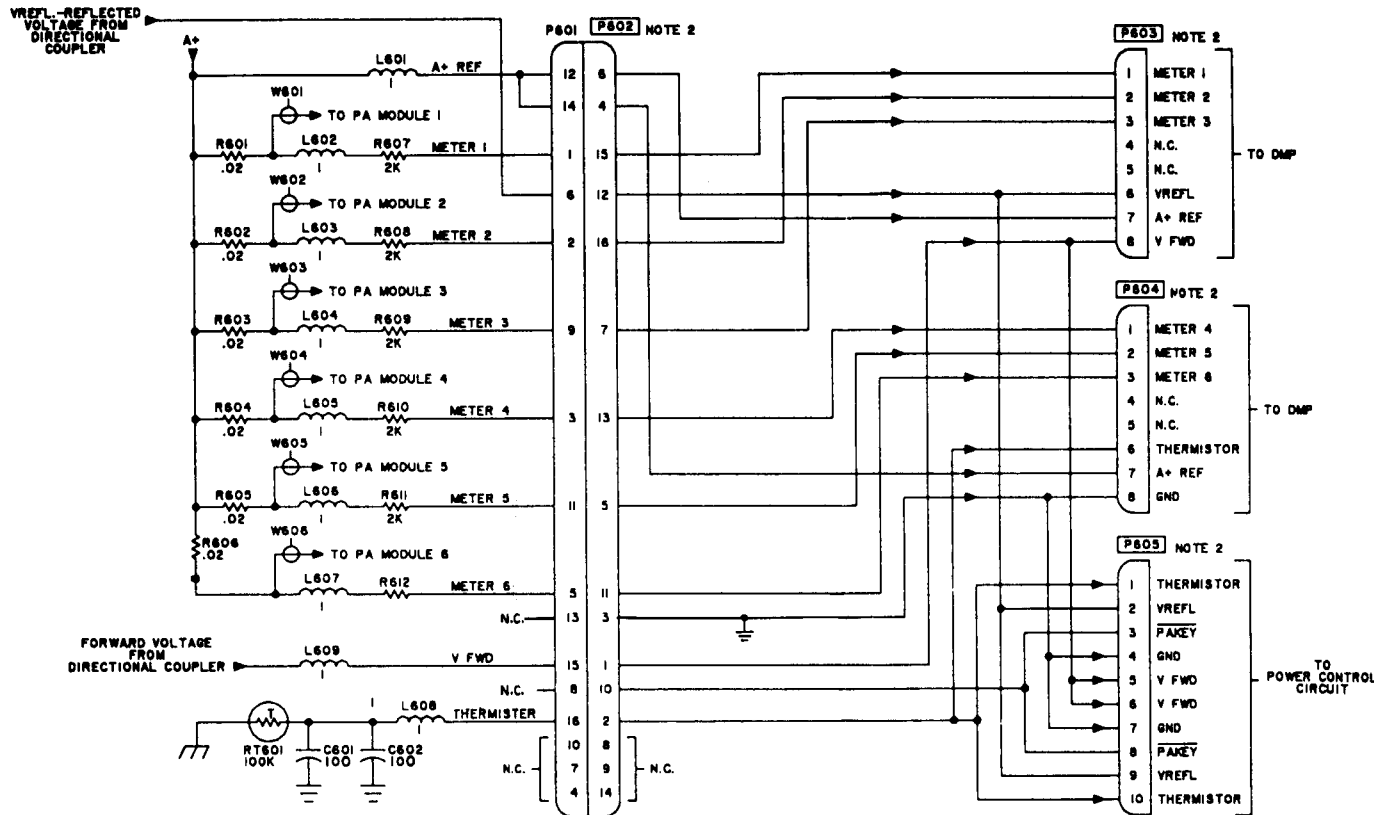
| P602       |    |    |         |
|------------|----|----|---------|
| THERMISTOR | 2  | 1  | V FWD   |
| A+ REF     | 4  | 3  | GND     |
| A+ REF     | 6  | 5  | METER 5 |
| NOT USED   | 8  | 7  | METER 3 |
| N.C.       | 10 | 9  | N.C.    |
| VREV       | 12 | 11 | METER 6 |
| N.C.       | 14 | 13 | METER 4 |
| METER 2    | 16 | 15 | METER 1 |
| PIN VIEW   |    |    |         |

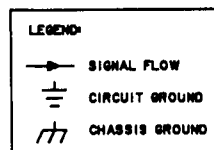
| PA METERING |          |            |
|-------------|----------|------------|
| PIN         | P603     | P604       |
| 1           | METER 1  | METER 4    |
| 2           | METER 2  | METER 5    |
| 3           | METER 3  | METER 6    |
| 4           | NOT USED | NOT USED   |
| 5           | NOT USED | NOT USED   |
| 6           | V REV    | THERMISTOR |
| 7           | A+ REF   | A+ REF     |
| 8           | V FWD    | GND        |

NOTE: METER 3,4,5,6 NOT USED  
WITH TLD2690A P.A. DECK.

# TRN7084A DC DISTRIBUTION BOARD

# TRN9961A INTERCONNECT BOARD



**TRN9961A INTERCONNECT BOARD**

**NOTES:**

1. UNLESS OTHERWISE SPECIFIED, ALL RESISTOR VALUES ARE IN OHMS, ALL CAPACITOR VALUES ARE IN PICO-FARADS AND ALL INDUCTOR VALUES ARE IN MICROHENRIES.
2. CONNECTORS P602, P603, P604, AND P605 ARE JACKS MOUNTED ON THE TRNS88IA INTERCONNECT BOARD.

DEPS-47611-0