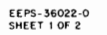
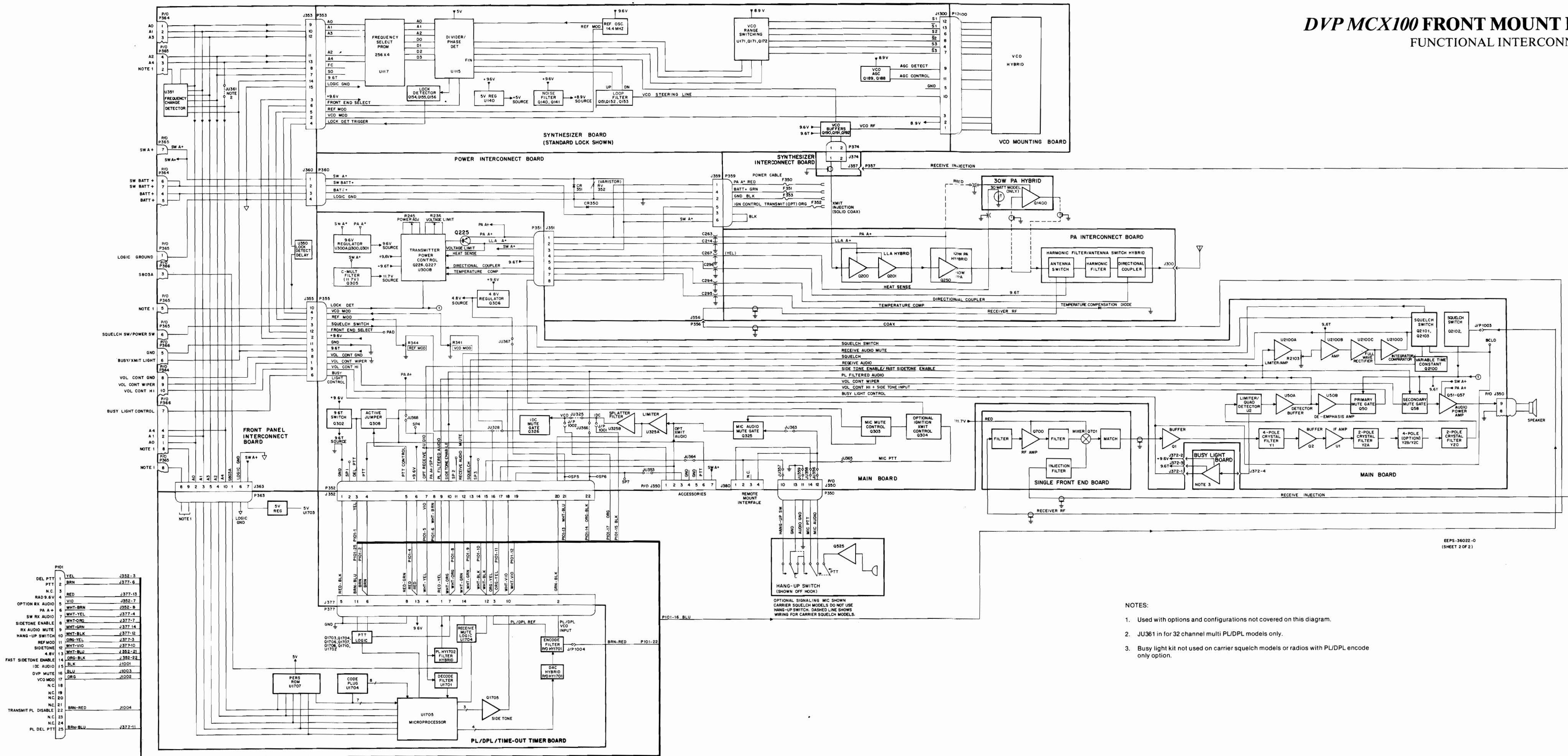


**68P81064E14-O**  
(Sheet 1 of 2)  
3/15/83- *PHI*



# DVP MCX100 FRONT MOUNT RADIO SET

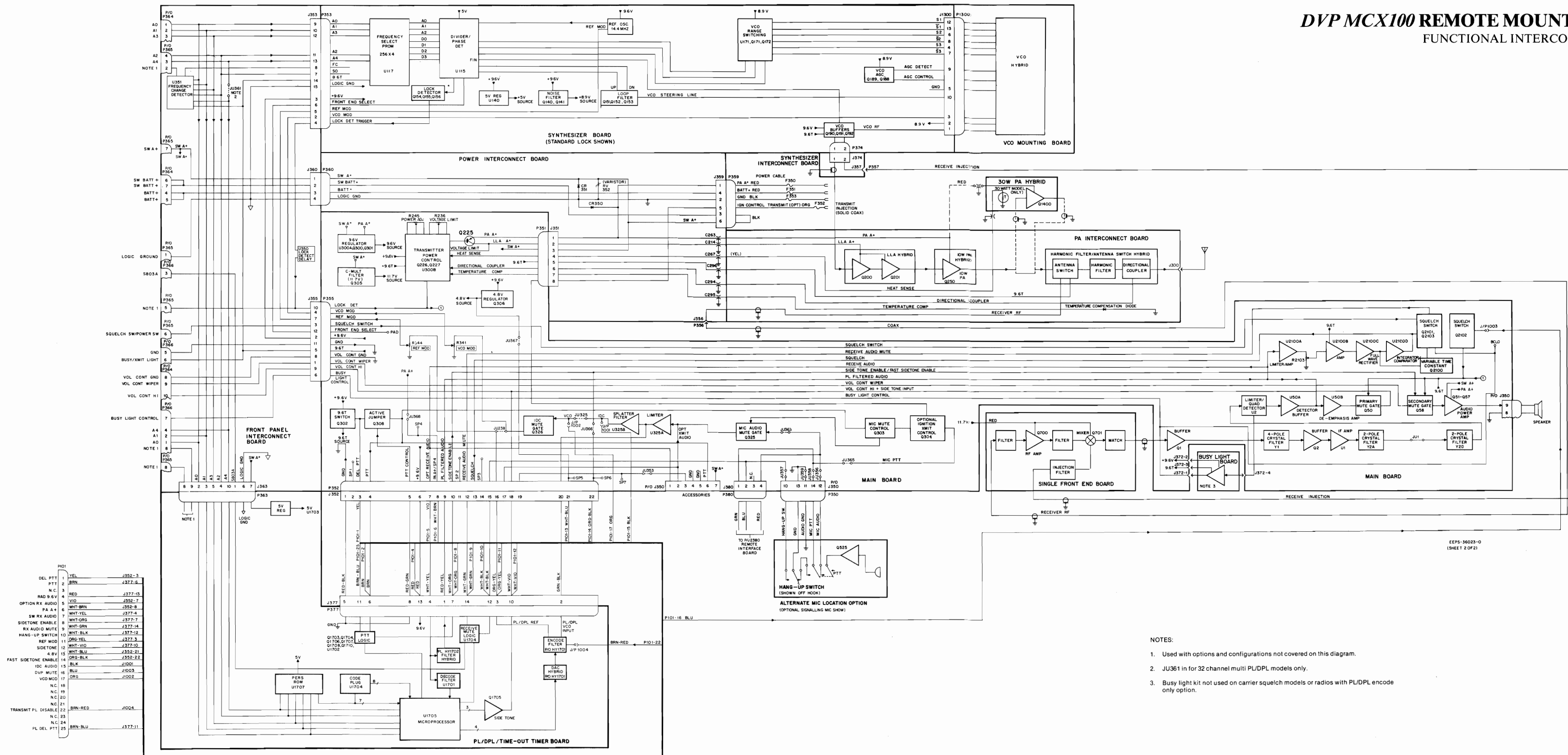
## FUNCTIONAL INTERCONNECT DIAGRAM





# DVP MCX100 REMOTE MOUNT RADIO SET

## FUNCTIONAL INTERCONNECT DIAGRAM



SINGLE FRONT END  
MODELS TRD6161B (136-162 MHz)  
AND TRD6162B (146-174 MHz)

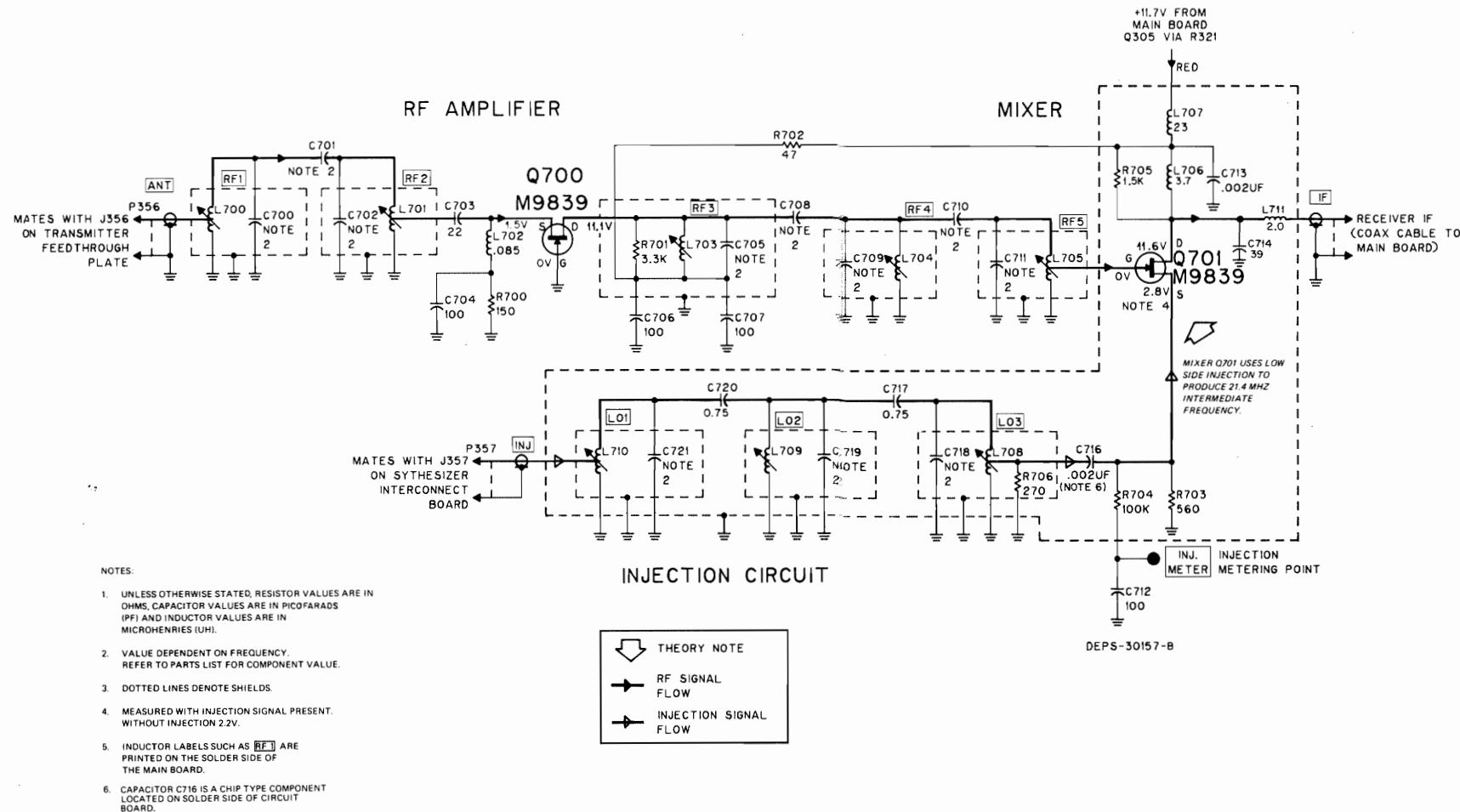
parts list

TRD6161B Single Front End, 136-162 MHz (L)  
TRD6162B Single Front End, 146-174 MHz (H) PL-7171-B

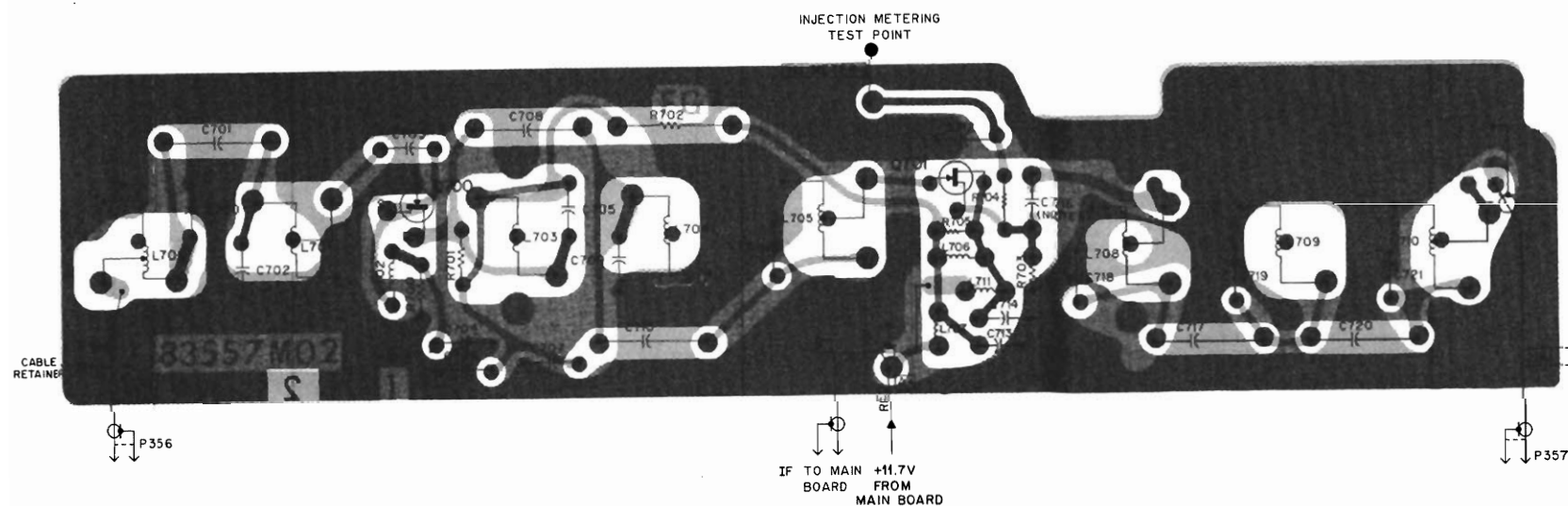
| REFERENCE SYMBOL                                          | MOTOROLA PART NO.                    | DESCRIPTION                     |
|-----------------------------------------------------------|--------------------------------------|---------------------------------|
| capacitor, fixed: pF ± 5%; 50 V; unless otherwise stated: |                                      |                                 |
| C700 (H)                                                  | 21-11022H24                          | 9 ± 0.5                         |
| C700 (L)                                                  | 21-11022H28                          | 11                              |
| C701 (L)                                                  | 21-82450B47                          | 1                               |
| C701 (H)                                                  | 21-82450B48                          | 0.75                            |
| C702 (H)                                                  | 21-11022H24                          | 9 ± 0.5                         |
| C702 (L)                                                  | 21-11022H28                          | 11                              |
| C703                                                      | 21-11022G38                          | 22                              |
| C704                                                      | 21-11022M42                          | 100                             |
| C705 (H)                                                  | 21-11022H16                          | 5.6 ± 0.5                       |
| C705 (L)                                                  | 21-11022H19                          | 6.8 ± 0.5                       |
| C706, 707                                                 | 21-11022M42                          | 100                             |
| C708 (H)                                                  | 21-82450B33                          | 0.56                            |
| C708 (L)                                                  | 21-82450B48                          | 0.75                            |
| C709 (H)                                                  | 21-11022H20                          | 7.0 ± 0.5                       |
| C709 (L)                                                  | 21-11022H23                          | 8.2 ± 0.5                       |
| C710 (H)                                                  | 21-82450B33                          | 0.56                            |
| C710 (L)                                                  | 21-82450B48                          | 0.75                            |
| C711 (H)                                                  | 21-11022H16                          | 5.6 ± 0.5                       |
| C711 (L)                                                  | 21-11022H19                          | 6.8 ± 0.5                       |
| C712                                                      | 21-11022M42                          | 100                             |
| C713                                                      | 21-11021E25                          | .002 uF ± 10%                   |
| C714                                                      | 21-11022H41                          | 39                              |
| C715                                                      | NOT USED                             |                                 |
| C716                                                      | 21-84547A26                          | .0022 uF ± 10% (chip)           |
| C717                                                      | 21-82450B48                          | 0.75                            |
| C718 (H)                                                  | 21-11022H23                          | 8.2 ± 0.5                       |
| C718 (L)                                                  | 21-11022H27                          | 10 ± 0.5                        |
| C719 (H)                                                  | 21-11022H17                          | 6 ± 0.5                         |
| C719 (L)                                                  | 21-11022H23                          | 8.2 ± 0.5                       |
| C720                                                      | 21-82450B48                          | 0.75                            |
| C721 (H)                                                  | 21-11022H23                          | 8.2 ± 0.5                       |
| C721 (L)                                                  | 21-11022H27                          | 10 ± 0.5                        |
| coil, rf:                                                 |                                      |                                 |
| L700, 701                                                 | 24-84972A34                          | 3-1/2 turns; tapped (coded RED) |
| L702                                                      | 24-82723H13                          | choke, 0.85 uH                  |
| L703, 704                                                 | 24-84972A35                          | 3-1/2 turns (coded ORG)         |
| L705                                                      | 24-84972A36                          | 3-1/2 turns; tapped (coded GRN) |
| L706                                                      | 24-82835G21                          | choke, 3.7 uH                   |
| L707                                                      | 24-82723H35                          | choke, 23 uH                    |
| L708                                                      | 24-84972A37                          | 4-1/2 turns; tapped (coded YEL) |
| L709                                                      | 24-84972A38                          | 4-1/2 turns (coded WHT)         |
| L710                                                      | 24-84972A37                          | 4-1/2 turns; tapped (coded YEL) |
| L711                                                      | 24-82190C17                          | choke, 2 uH                     |
| connector, plug:                                          |                                      |                                 |
| P356, 357                                                 | 28-82365D03                          | male, single contact (antenna)  |
| transistor: (see note)<br>field-effect; M9839             |                                      |                                 |
| Q700, 701                                                 | 48-869839                            |                                 |
| resistor, fixed: ± 5%; 1/4 W;                             |                                      |                                 |
| R700                                                      | 6-11020A29                           | 150                             |
| R701                                                      | 6-11020A61                           | 3.3k                            |
| R702                                                      | 6-11009C17                           | 47                              |
| R703                                                      | 6-11020A43                           | 560                             |
| R704                                                      | 6-11020A97                           | 100k                            |
| R705                                                      | 6-11020A53                           | 1.5k                            |
| R706                                                      | 6-185A35                             | 270, 1/8 W                      |
| R707                                                      | 6-11020A17                           | 47                              |
| mechanical parts                                          |                                      |                                 |
| 3-84208M01                                                | SCREW, machine; M3 x 0.5 x 8; 3 used |                                 |
| 14-84114M01                                               | INSULATOR, (mixer shield)            |                                 |
| 14-84155M01                                               | INSULATOR, (rf shield)               |                                 |
| 26-84115M01                                               | SHIELD, mixer; component side        |                                 |
| 26-84598A01                                               | SHIELD, coil; 8 used                 |                                 |
| 26-84079N01                                               | SHIELD, large; solder side           |                                 |
| 26-84117M01                                               | SHIELD, small solder side            |                                 |
| 37-16754                                                  | GROMMET, rubber; 6 used              |                                 |

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

SINGLE FRONT END



SINGLE FRONT END



SHOWN FROM SOLDER SIDE

OL-DEPS-30158-B  
SOLDER SIDE  
BD-DEPS-30159-B  
COMPONENT SIDE  
BD-DEPS-30160-A

SINGLE FRONT END

68P81045E86-B  
1/19/83- PHI

WIDESPAC  
SINGLE FRONT END

MODEL TLD2492B (146-174 MHz)

FUNCTION

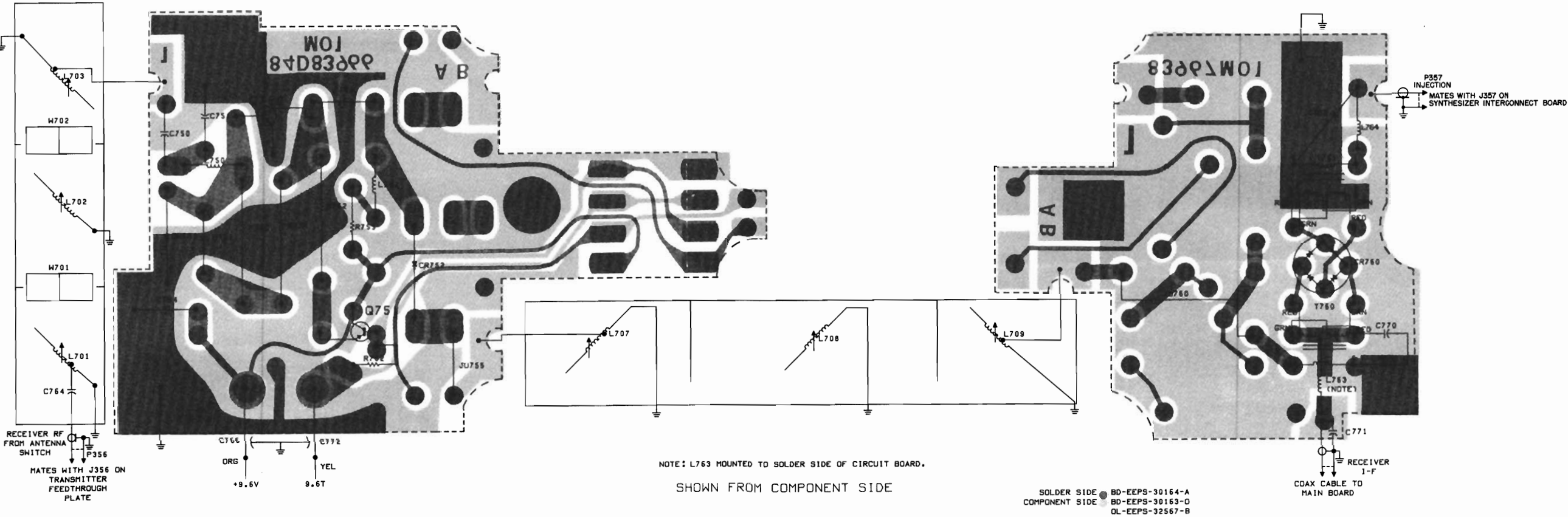
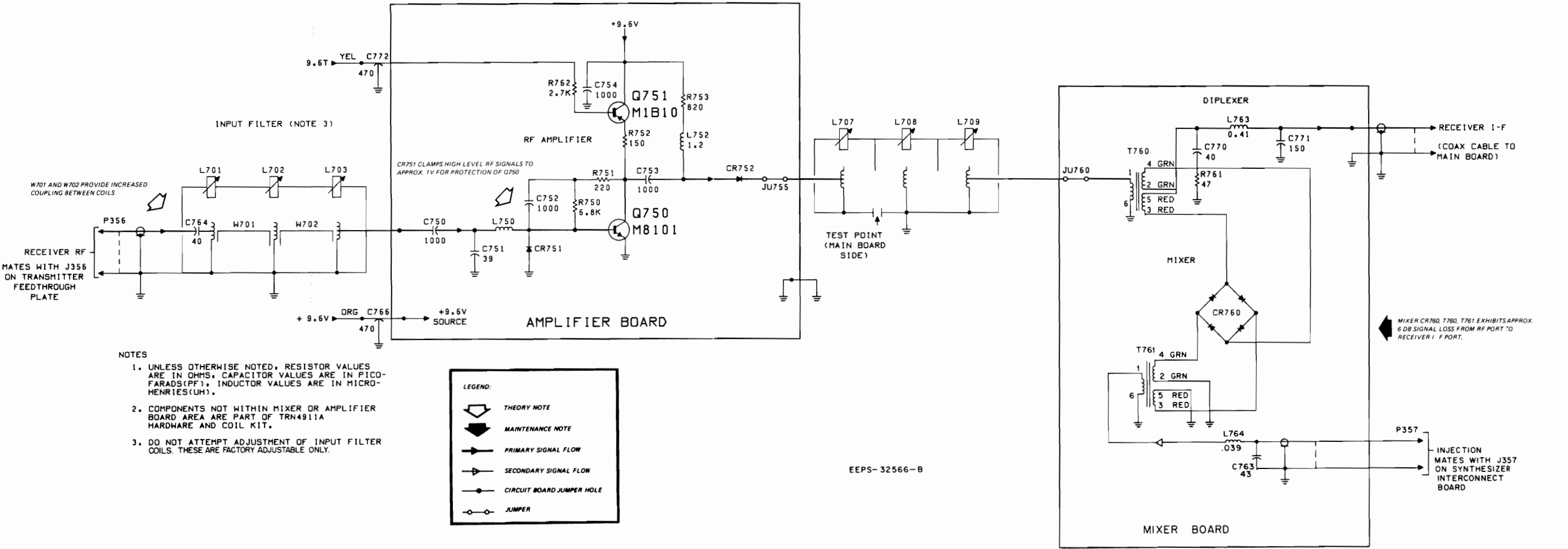
Provides receive rf amplication, injection, and output to receiver i-f amplifier.

Widespace Single Front End  
Model Complement Chart

| TLD2492B Widespace Single Front End (146-174 MHz) |                                  |
|---------------------------------------------------|----------------------------------|
| TRN4911B                                          | Hardware and Coils (146-174 MHz) |
| TRN4952B                                          | Housing Assembly                 |
| TRN5001A                                          | Hardware                         |

Provides receive rf amplication, injection, and output to receiver i-f amplifier.

68P81048E19-B  
1/19/83- PHI



parts list

TRN4911B Hardware and Coil Kit (146-174 MHz) PL-7499-B

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                                         |
|------------------|-------------------|---------------------------------------------------------------------|
| C750             | 21-11021E13       | capacitor, fixed: 1000 pF ± 10%; 50 V                               |
| C751             | 21-11028G44       | 39 pF ± 5%; 50 V                                                    |
| C752 thru 754    | 21-11021E13       | 1000 pF ± 10%; 50 V                                                 |
| C763             | 21-00020M27       | 43 pF ± 5%; 50 V                                                    |
| C764             | 21-82358G28       | 40 pF ± 5%; 100 V                                                   |
| C766             | 21-84874K01       | 470 pF ± 20%; 250 V (feed-thru)                                     |
| C770             | 21-00020M28       | 40 pF ± 5%; 100 V                                                   |
| C771             | 21-00020M02       | 150 pF ± 5%; 75 V                                                   |
| C772             | 21-84874K01       | 470 pF ± 20%; 250 V (feed-thru)                                     |
| CR751            | 48-83654H01       | diode: (see note) silicon                                           |
| CR752            | 48-00063M01       | silicon, PIN                                                        |
| CR760            | 48-00085M01       | quad                                                                |
| P356, P357       | 28-82365D03       | connector, plug: male, single contact (phono)                       |
| L701             | 24-00078M29       | coil; input, helical                                                |
| L702             | 24-00078M22       | input, helical                                                      |
| L703             | 24-00078M21       | input, helical                                                      |
| L707             | 24-00078M23       | helical high                                                        |
| L708             | 24-00078M24       | helical high                                                        |
| L709             | 24-00078M25       | helical high                                                        |
| L750             | 24-00080M01       | air wound                                                           |
| L752             | 24-82723H01       | choke; 1.2 uH                                                       |
| L763             | 24-82723H05       | choke; 0.41 uH                                                      |
| L764             | 24-82723H25       | choke; 0.039 uH                                                     |
| Q750             | 48-00081M01       | transistor: (see note) NPN; type M8101                              |
| Q751             | 48-02061B10       | PNP; type M1810                                                     |
| R750             | 6-11009C89        | resistor, fixed ± 5%; 1/4 W                                         |
| R751             | 6-124A33          | 6.8k                                                                |
| R752             | 6-124A29          | 220                                                                 |
| R753             | 6-11020A47        | 150                                                                 |
| R761             | 26-185A17         | 820                                                                 |
| R762             | 6-11020A59        | 47, 1/8 W                                                           |
|                  |                   | 2.7k                                                                |
| T760, 761        | 24-00079M01       | transformer: balun                                                  |
| mechanical parts |                   |                                                                     |
| W701, 702        | 3-84208M01        | SCREW, machine; M3 x 0.5 x 8; 2 used                                |
|                  | 3-84208M03        | SCREW, machine; M2.2 x 0.45 x 6; 18 used                            |
|                  | 15-84118M01       | HOUSING, preselector base                                           |
|                  | 1-80734D23        | COUPLING, insert; 2 used                                            |
|                  | 1-80732D79        | INJECTION CABLE assembly; includes: CABLE, coaxial; 8" used         |
|                  | 30-83794C01       | refer P356                                                          |
|                  | 1-80732D80        | ANTENNA CABLE assembly; includes: CABLE, coaxial RG178 B/U; 4" used |
|                  | 30-83361G01       | refer P357                                                          |
|                  | 1-80732D81        | OUTPUT CABLE assembly; includes: CABLE, coaxial RG178 B/U; 3" used  |
|                  | 30-83361G01       |                                                                     |

TRN5001A Hardware PL-7593-A

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                             |
|------------------|-------------------|-----------------------------------------|
|                  | 3-84208M03        | SCREW, machine, M2.5 x 0.5 x 6; 12 used |
|                  | 54-00056M01       | LABEL warning; 2 used                   |

WIDESPACEDUAL FRONT END

MODELS TLD2461B (136-162 MHz)  
AND TLD2462B (146-174 MHz)

FUNCTION

Provides extended frequency coverage by switching between two three-cell helical filters. The filters may be tuned independently within the operating frequency of the radio. Switching between the ranges is controlled by the Front End Select line from the synthesizer.

Output is at the receiver intermediate frequency (i-f).

| Widespace Dual Front End Model Complement Chart |                                  |
|-------------------------------------------------|----------------------------------|
| TLD2461B Dual Front-End (136-162 MHz)           |                                  |
| TRN4757B                                        | Hardware and Coils (136-162 MHz) |
| TRN4760B                                        | Housing                          |
| TRN5001A                                        | Hardware                         |
| TLD2462B Dual Front-End (146-174 MHz)           |                                  |
| TRN4759B                                        | Hardware and Coils (146-174 MHz) |
| TRN4760B                                        | Housing                          |
| TRN5001A                                        | Hardware                         |

WIDESPACEDUAL FRONT END

68P81045E87-C  
1/19/83- PHI

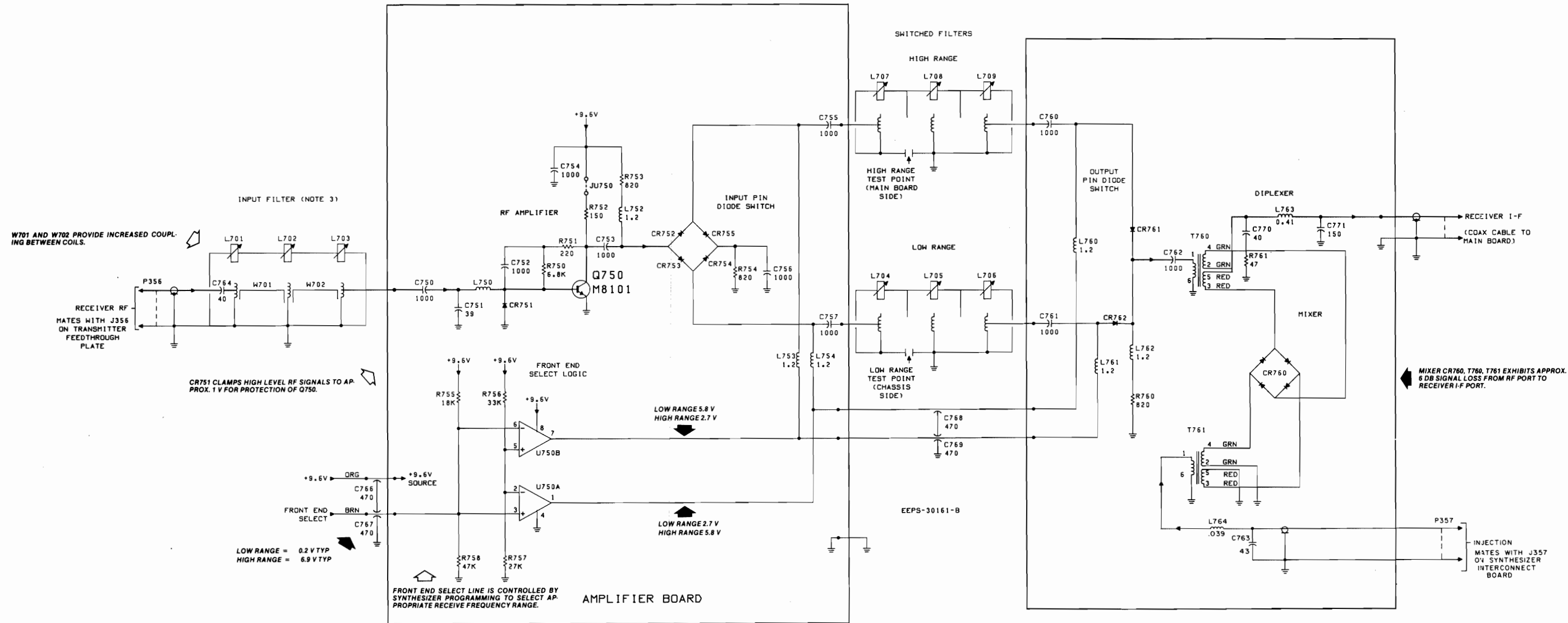
parts list

TRN4757B Hardware and Coil Kit (136-162 MHz)  
TRN4759B Hardware and Coil Kit (146-174 MHz)  
PL-7446-C

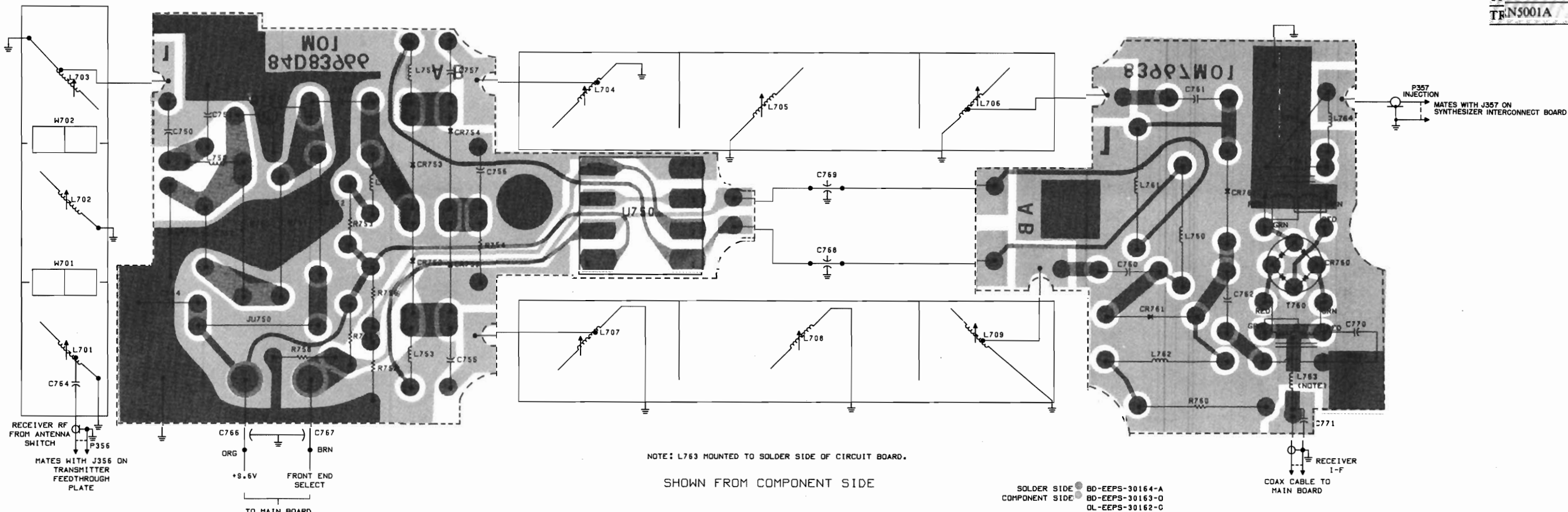
| REFERENCE SYMBOL | MOTOROLA PART NO.          | DESCRIPTION                                   |
|------------------|----------------------------|-----------------------------------------------|
| C750             | 21-11021E13                | capacitor, fixed: 1000 pF ± 10%; 50 V         |
| C751             | 21-11028G44                | 39 pF ± 5%; 50 V                              |
| C752 thru 757    | 21-11021E13                | 1000 pF ± 10%; 50 V                           |
| C760, 761, 762   | 21-11021E13                | 100 pF ± 10%; 50 V                            |
| C763             | 21-00020M27                | 43 pF ± 5%; 50 V                              |
| C764             | 21-00030M28                | 40 pF ± 5%; 100 V                             |
| C766 thru C769   | 21-84874K01                | 470 pF ± 20%; 250 V (feed-thru)               |
| C770             | 21-00020M28                | 40 pF ± 5%; 100 V                             |
| C771             | 21-00025M02                | 150 pF ± 5%; 75 V                             |
| P356, P357       | 28-82365D03                | connector, plug: male, single contact (phono) |
| L701             | 24-00078M19 or 24-00078M29 | coil; input, helical (TRN4757A only)          |
| L702             | 24-00078M12 or 24-00078M22 | input, helical (TRN4759A only)                |
| L703             | 24-00078M11 or 24-00078M21 | input, helical (TRN4757A only)                |
| L704             | 24-00078M13                | switched, helical low                         |
| L705             | 24-00078M14                | switched, helical low                         |
| L706             | 24-00078M15                | switched, helical low                         |
| L707             | 24-00078M23                | switched, helical high                        |
| L708             | 24-00078M24                | switched, helical high                        |
| L709             | 24-00078M25                | switched, helical high                        |
| L750             | 24-00080M01                | air wound choke; 1.2 uH                       |
| L752 thru 754    | 24-82723H01                | choke; 1.2 uH                                 |
| L760, 761, 762   | 24-82723H01                | choke; 0.41 uH                                |
| L763             | 24-82723H05                | choke; 0.41 uH                                |
| L764             | 24-82723H25                | choke; 0.039 uH                               |
| CR751            | 48-83654H01                | diode; (see note) silicon                     |
| CR752, 753       | 48-00083M01                | silicon, PIN                                  |
| CR754, 755       | 48-00082M01                | silicon, PIN                                  |
| CR760            | 48-00085M01                | quadrant                                      |
| CR761, 762       | 48-00083M01                | silicon PIN                                   |

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                                        |
|------------------|-------------------|--------------------------------------------------------------------|
| R750             | 6-11009C69        | resistor, fixed ± 5%; 1/4 W                                        |
| R751             | 6-124A33          | 6.8k                                                               |
| R752             | 6-124A29          | 220                                                                |
| R753, 754        | 6-11020A47        | 150                                                                |
| R755             | 6-11009C79        | 820                                                                |
| R756             | 6-11020A85        | 18k                                                                |
| R757             | 6-11020A83        | 33k                                                                |
| R758             | 6-11020A89        | 27k                                                                |
| R760             | 6-11009A47        | 47k                                                                |
| Q750             | 48-00081M01       | transistor; (see note) NPN; type M8101                             |
| T760, 761        | 24-00079M01       | transformer: balun                                                 |
| U750             | 51-80067C03       | integrated circuit; (see note) type 67C03                          |
| mechanical parts |                   |                                                                    |
| W701, 702        | 3-84208M01        | SCREW, machine; M3 x 0. x 8; 2 used                                |
|                  | 3-84208M03        | SCREW, machine; M2.5 x 0.5 x 6; 6 used                             |
|                  | 15-84118M01       | HOUSING, preselector base                                          |
|                  | 1-80734D23        | COUPLING, insert; 2 used                                           |
|                  | 1-80732D79        | INJECTION CABLE assembly; includes: CABLE, coaxial; 8" used        |
|                  | 30-83794C01       | refer P356                                                         |
|                  | 1-80732D80        | ANTENNA CABLE assembly; includes: CABLE, coaxial RG178 BU; 4" used |
|                  | 30-83361G01       | refer P357                                                         |
|                  | 1-80732D81        | OUTPUT CABLE assembly; includes: CABLE, coaxial RG178 BU; 3" used  |
|                  | 30-83361G01       |                                                                    |

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



- NOTES
1. UNLESS OTHERWISE NOTED, RESISTOR VALUES ARE IN OHMS; CAPACITOR VALUES ARE IN PICO-FARADS (PF); INDUCTOR VALUES ARE IN MICRO-HEMPTES (UH).
  2. COMPONENTS NOT WITHIN MIXER OR AMPLIFIER BOARD AREA ARE PART OF TRN4757A/TRN4759A HARDWARE AND COIL KIT.
  3. DO NOT ATTEMPT ADJUSTMENT OF INPUT FILTER COILS. THESE ARE FACTORY ADJUSTABLE ONLY.

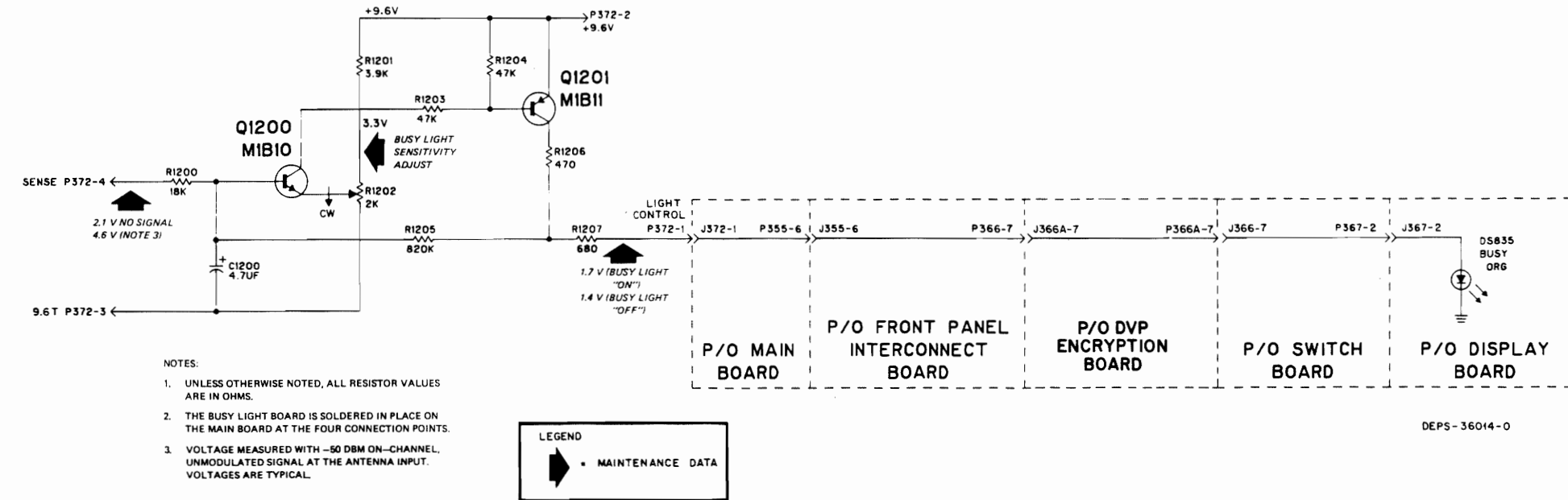


NOTE: L763 MOUNTED TO SOLDER SIDE OF CIRCUIT BOARD.

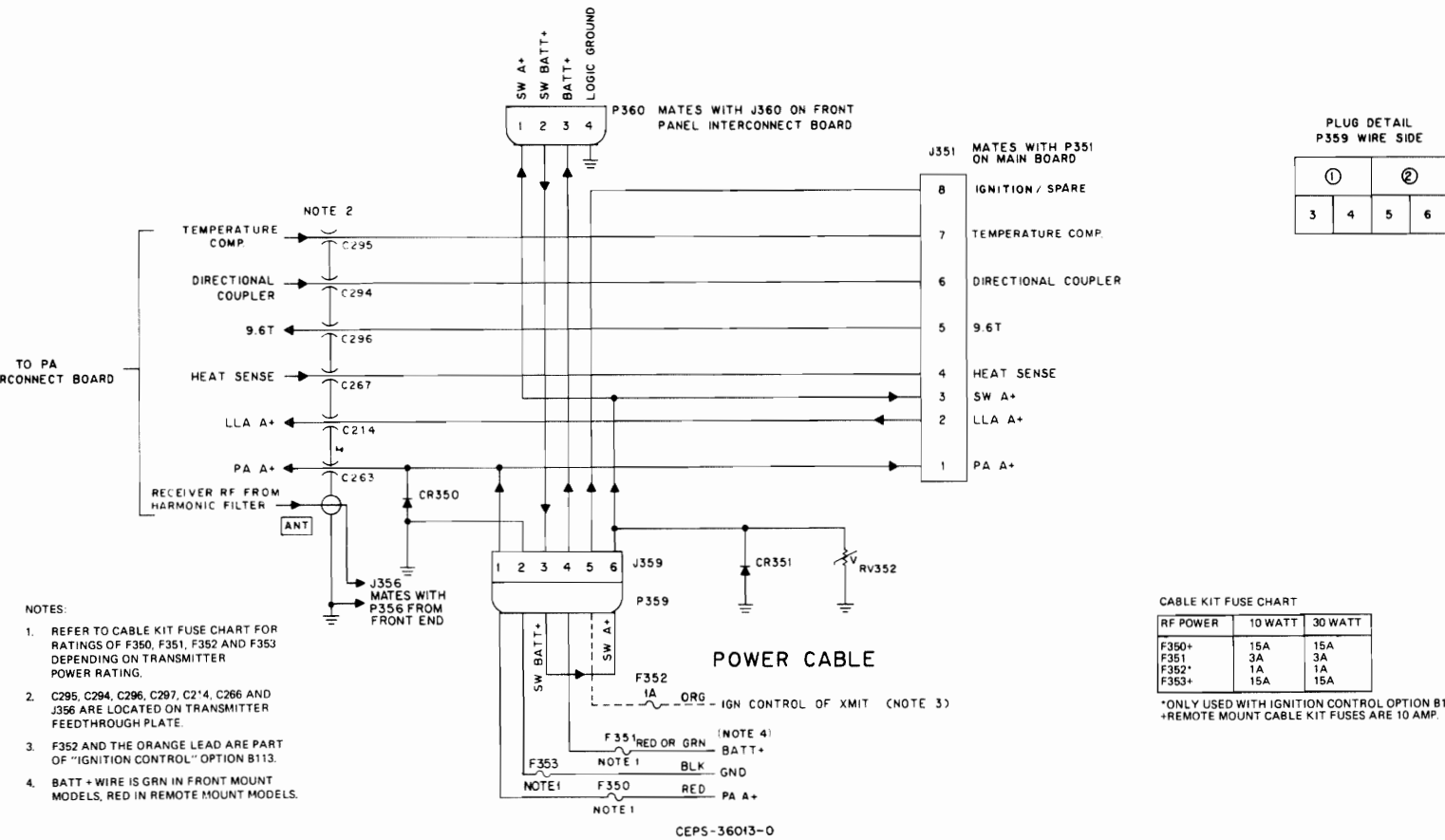
SHOWN FROM COMPONENT SIDE

SOLDER SIDE: 60-EEPS-30164-A  
COMPONENT SIDE: 60-EEPS-30163-D  
OL-EEPS-30162-C

## BUSY LIGHT



## POWER INTERCONNECT BOARD AND POWER CABLE



## parts list

| REFERENCE SYMBOL |             | MOTOROLA PART NO. | DESCRIPTION                                                  |
|------------------|-------------|-------------------|--------------------------------------------------------------|
|                  |             |                   | capacitor, fixed: uF ± 10%; 50 V:<br>unless otherwise stated |
| C1 thru 3        | 21-11021E25 |                   | .002                                                         |
| C4               | 21-11022G34 |                   | 15 pF ± 5%                                                   |
| C5 thru 11       | 21-11021E25 |                   | .002                                                         |
| C12              | 21-11022G34 |                   | 15 pF ± 5%                                                   |
| C13              | 21-11022G25 |                   | 8 pF ± 0.5 pF                                                |
| C14              | 21-11021E26 |                   | .005                                                         |
| C15              | 21-11021E25 |                   | .002                                                         |
| C16              | 21-82450B33 |                   | 0.56 pF ± 5%; 500 V                                          |
| C17              | 21-0002M426 |                   | 150 pF ± 5%; 100 V                                           |
| C18, 19          | 21-11021E25 |                   | .002                                                         |
| C21              | 21-11021E26 |                   | .005                                                         |
| C22              | 21-11021E25 |                   | .002                                                         |
| C23              | 21-11021E09 |                   | 470 pF                                                       |
| C24, 25          | 21-82450B33 |                   | 0.56 pF ± 5%; 500 V                                          |
| C27, 28          | 21-11021E25 |                   | .002                                                         |
| C50, 51          | 23-11019A26 |                   | 22 ± 20%; 16 V                                               |
| C52              |             |                   | NOT USED                                                     |
| C53              | 21-11021E09 |                   | 470 pF                                                       |
| C54              | 8-11023B09  |                   | .0047                                                        |
| C55              | 8-11023B03  |                   | .0015                                                        |
| C56              | 23-11019A09 |                   | 1 ± 20%                                                      |
| C57, 58          | 23-11019A26 |                   | 22 ± 20%; 16 V                                               |
| C59              | 8-11023B17  |                   | .002                                                         |
| C60              | 23-11019A26 |                   | 22 ± 20%; 16V                                                |
| C61, 62          | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C63              | 23-83210A19 |                   | 500 + 100-10%; 20 V                                          |
| C64              | 8-11023B17  |                   | .022                                                         |
| C65              | 23-84613M02 |                   | 22 ± 20%; 25 V                                               |
| C66, 67          | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C68              | 8-84637L22  |                   | 0.22; 100 V                                                  |
| C69, 70          | 23-11019A26 |                   | 22 ± 20%; 16V                                                |
| C225, 226        | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C227             | 23-11019A26 |                   | 22 ± 20%; 16 V                                               |
| C228             | 8-11023B13  |                   | .01                                                          |
| C229             | 8-11023B23  |                   | .068                                                         |
| C230             | 8-11023B09  |                   | .0047                                                        |
| C300             | 23-11019A26 |                   | 22 ± 20%; 16V                                                |
| C301             | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C302             | 21-11021E25 |                   | .002                                                         |
| C303             | 23-84613M02 |                   | 22 ± 20%; 25 V                                               |
| C304             | 8-11023B13  |                   | .01                                                          |
| C305             | 23-84613M03 |                   | 47 ± 20%; 16 V                                               |
| C306             | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C307             | 23-84613M02 |                   | 22 ± 20%; 25V                                                |
| C325             | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C326             | 8-11023A11  |                   | .0068 ± 5%                                                   |
| C327             | 23-11019A09 |                   | 1 ± 20%                                                      |
| C328             | 8-11023B01  |                   | .001                                                         |
| C329             | 8-11023B05  |                   | .0022                                                        |
| C330             | 21-11022G52 |                   | 80 pF ± 5%                                                   |
| C331             | 23-11019A45 |                   | 100 ± 20%; 16 V                                              |
| C332             | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C333             | 8-11023B18  |                   | .021                                                         |
| C334             | 21-11025A01 |                   | .01 ± 20%; 25 V                                              |
| C335, 336        | 23-11019A26 |                   | 22 ± 20%; 16 V                                               |
| C2100            | 8-11023B21  |                   | .047                                                         |
| C2101            | 23-11019A09 |                   | 1 ± 20%                                                      |
| C2102            | 8-11023B11  |                   | .001                                                         |
| C2103            | 8-11023B09  |                   | .0047                                                        |
| C2104, 2105      | 21-11022M42 |                   | 100 pF ± 5%                                                  |
| C2106            | 23-11019A26 |                   | 22 ± 20%; 16 V                                               |
| C2107            | 8-11023B17  |                   | .022                                                         |
| C2108            | 23-11019A07 |                   | 0.47                                                         |
| C2109            | 23-11019A09 |                   | 1 ± 20%                                                      |
| C2110            | 8-11023B13  |                   | .01                                                          |
|                  |             |                   | diode: (see note)                                            |
| CR50, 51         | 48-84399M01 |                   | silicon                                                      |
| CR52, 53         | 48-83654H02 |                   | silicon                                                      |
| CR225 thru 229   | 48-84399M01 |                   | silicon                                                      |
| CR300            | 48-84399M01 |                   | silicon                                                      |
| CR301            |             |                   | NOT USED                                                     |
| CR302 thru 305   | 48-84399M01 |                   | silicon                                                      |
| CR325            | 48-84399M01 |                   | silicon                                                      |
| CR2102 thru      | 48-84399M01 |                   | silicon                                                      |
| 2106             |             |                   |                                                              |
| CR2107, 2108     | 48-83654H01 |                   | silicon                                                      |
|                  |             |                   | connector, receptacle:                                       |
| J350             | 1-80731D28  |                   | assembly, 14-contact                                         |
| J380             | 28-84318M10 |                   | male; 4-contact                                              |
|                  |             |                   | coil, rf:                                                    |
| L1 thru 4        | 24-82723H35 |                   | choke; 23 uH                                                 |
| L5               | 24-84972A57 |                   | 8-1/2 turns coded GRN                                        |
| L6, 7            | 24-82723H35 |                   | choke; 23 uH                                                 |

| REFERENCE<br>SYMBOL | MOTOROLA<br>PART NO. | DESCRIPTION |
|---------------------|----------------------|-------------|
|---------------------|----------------------|-------------|

|                                                                              |              |                          |
|------------------------------------------------------------------------------|--------------|--------------------------|
| L50                                                                          | 24-82190C15  | choke; 1.2 uH            |
| L325                                                                         | 24-82415N02  | choke; 10 mH             |
| <b>connector, plug:</b>                                                      |              |                          |
| P351                                                                         | 28-82647K03  | male, 8-contact          |
| P352                                                                         | 28-84318M01  | male, 22-contact         |
| P355                                                                         | 28-82502M04  | male, 12-contact         |
| <b>transistor: (see note)</b>                                                |              |                          |
| Q1, 2                                                                        | 48-869839    | field-effect, type M9839 |
| Q50, 51, 52                                                                  | 48-02081B11  | PNP; type M1B11          |
| Q53                                                                          | 48-02081B10  | NPV; type M1B10          |
| Q24                                                                          | 48-869807    | PNP; type M9807          |
| Q55                                                                          | 48-02081B10  | NPV; type M1B10          |
| Q56                                                                          | 48-869806    | NPV; type M9806          |
| Q57                                                                          | 48-02081B11  | PNP; type M1B11          |
| Q58                                                                          | 48-02081B10  | NPV; type M1B10          |
| Q225                                                                         | 48-844111.10 | PNP; type M1110          |
| Q226                                                                         | 48-02081B10  | NPV; type M1B10          |
| Q227                                                                         | 48-02081B11  | PNP; type M1B11          |
| Q300                                                                         | 48-869807    | PNP; type M9807          |
| Q301                                                                         | 48-02081B10  | NPV; type M1B10          |
| Q302                                                                         | 48-869841    | PNP; type M9641          |
| Q303, 305 thru 308                                                           | 48-02081B10  | NPV; type M1B10          |
| Q325                                                                         | 48-02081B11  | PNP; type M1B11          |
| Q326                                                                         | 48-02081B10  | NPV; type M1B10          |
| Q2100 thru 2103                                                              | 48-02081B10  | NPV; type M1B10          |
| <b>resistor, fixed: <math>\pm 5\%</math>; 1/4 W; unless otherwise stated</b> |              |                          |
| R1                                                                           | 6-11020A29   | 150                      |
| R2                                                                           | 6-11020A47   | 820                      |
| R3                                                                           | 6-11020A49   | 1k                       |
| R4                                                                           | 6-11020A29   | 150                      |
| R5                                                                           | 6-11020A35   | 270                      |
| R6, 7                                                                        | 6-11020A47   | 820                      |
| R8                                                                           | 6-11020A43   | 560                      |
| R9                                                                           | 6-11020A35   | 270                      |
| R10                                                                          | 6-11020A85   | 33k                      |
| R11                                                                          | 6-11009C71   | 8.2k                     |
| R50                                                                          | 6-11020A65   | 4.7k                     |
| R51                                                                          | 6-11020A63   | 27k                      |
| R52                                                                          | 6-11020A75   | 12k                      |
| R53                                                                          | 6-11020A91   | 56k                      |
| R54                                                                          | 6-11020B02   | 150k                     |
| R55                                                                          | 6-11020B18   | 680k                     |
| R56                                                                          | 6-11020A71   | 8.2k                     |
| R57                                                                          | 6-11020A14   | 10k                      |
| R58, 59                                                                      | 6-11020A73   | 10k                      |
| R60                                                                          | 6-11020A43   | 560                      |
| R61, 62                                                                      | 6-11020A89   | 47k                      |
| R63                                                                          | 6-11020A87   | 39k                      |
| R64                                                                          | 6-11020A97   | 100k                     |
| R65                                                                          | 6-11020A21   | 22k                      |
| R66                                                                          | 6-11020A73   | 10k                      |
| R67                                                                          | 6-11020A61   | 3.3k                     |
| R68                                                                          | 6-11020A29   | 150                      |
| R69                                                                          | 6-11020A49   | 1k                       |
| R70, 71                                                                      | 6-11020A43   | 560                      |
| R72                                                                          | 6-11020A35   | 270                      |
| R73                                                                          | 6-11020A79   | 18k                      |
| R74                                                                          | 6-11020A29   | 150                      |
| R75                                                                          | 6-11020A91   | 56k                      |
| R76                                                                          | 6-11020A57   | 2.2k                     |
| R77                                                                          | 6-11020A65   | 4.7k                     |
| R78, 79                                                                      | 17-82036G59  | 0.18 $\pm 10\%$ ; 1 W    |
| R225                                                                         | 6-11020A25   | 100                      |
| R226                                                                         | 6-11020A49   | 1k                       |
| R227                                                                         | 6-11020A25   | 100                      |
| R228                                                                         | 6-11020A65   | 4.7k                     |
| R229                                                                         | 6-11020A67   | 5.6k                     |
| R230                                                                         | 6-11020A61   | 3.3k                     |
| R231                                                                         | 6-11020A73   | 10k                      |
| R232                                                                         | 6-11020A47   | 820                      |
| R233                                                                         | 6-11020A59   | 2.7k                     |
| R234                                                                         | 6-11020A75   | 12k                      |
| R235                                                                         | 6-11020A71   | 8.2k                     |
| R236                                                                         | 18-84944C02  | variable; 25k $\pm 20\%$ |
| R237, 238                                                                    | 6-11020A77   | 15k                      |
| R239                                                                         | 6-11020A73   | 10k                      |
| R240                                                                         | 6-11020A85   | 33k                      |
| R241                                                                         | 6-11020A89   | 47k                      |
| R242                                                                         | 6-11020A63   | 3.9k                     |
| R243                                                                         | 6-11020A81   | 22k                      |
| R244                                                                         | 6-11020A75   | 12k                      |
| R245                                                                         | 18-84944C02  | variable; 25k $\pm 20\%$ |
| R246                                                                         | 6-11020A72   | 9.1k                     |
| R247                                                                         | 6-11020A57   | 2.2k                     |
| R301                                                                         | 6-11020A37   | 330                      |
| R302                                                                         | 6-11020A45   | 680                      |
| R303                                                                         | 6-11020A75   | 12k                      |
| R304                                                                         | 6-11020A76   | 13k                      |
| R305                                                                         | 6-11020A51   | 1.2k                     |

| REFERENCE<br>SYMBOL | MOTOROLA<br>PART NO. | DESCRIPTION |
|---------------------|----------------------|-------------|
|---------------------|----------------------|-------------|

|                                      |             |                            |
|--------------------------------------|-------------|----------------------------|
| R306                                 | 6-11020A73  | 10k                        |
| R307                                 | 6-10621C87  | 9090 $\pm$ 1%              |
| R308                                 | 6-10621C91  | 10.0k $\pm$ 1%             |
| R309                                 |             | NOT USED                   |
| R310                                 | 6-11020A27  | 120                        |
| R311                                 | 6-11020A43  | 560                        |
| R312                                 | 6-11020A89  | 47k                        |
| R314                                 | 6-11020A45  | 680                        |
| R315                                 |             | NOT USED                   |
| R316                                 | 6-11020A65  | 4.7k                       |
| R317                                 | 6-11020A53  | 1.5k                       |
| R318                                 | 6-11020A77  | 15k                        |
| R319                                 | 6-11020A73  | 10k                        |
| R320, 321                            | 6-11020A01  | 10                         |
| R325                                 | 6-11020A43  | 560                        |
| R326, 327                            | 6-11020A73  | 10k                        |
| R328                                 | 6-11020A65  | 4.7k                       |
| R329                                 | 6-11020A98  | 36k                        |
| R330                                 | 6-11020B17  | 620k                       |
| R332                                 | 6-11020A65  | 4.7k                       |
| R332                                 | 6-11020A73  | 10k                        |
| R333                                 | 6-11020A73  | 10k                        |
| R334                                 | 6-11020A98  | 36k                        |
| R335                                 | 6-11020A98  | 110k                       |
| R336                                 | 6-11020A98  | 110k                       |
| R337                                 | 6-11020A57  | 2.2k                       |
| R338, 339                            | 6-11020A97  | 100k                       |
| R340                                 | 6-11020A73  | 10k                        |
| R341                                 | 18-8494AC03 | variable, 10k $\pm$ 20%    |
| R342                                 | 6-11020A59  | 2.7k                       |
| R343                                 | 6-11020A01  | 10                         |
| R344                                 | 18-8494AC03 | variable, 10k $\pm$ 20%    |
| R345                                 | 6-11020A49  | 1k                         |
| R346                                 | 6-1102057   | 2.2k                       |
| R347                                 | 6-11020A25  | 10k                        |
| R348                                 | 6-11020A73  | 10k                        |
| R349                                 | 6-11020A25  | 10k                        |
| R2100, 2101                          | 6-11009C57  | 2.2k                       |
| R2102                                | 6-11009A65  | 33k                        |
| R2103                                | 18-8494AC01 | variable, 2k $\pm$ 20%     |
| R2104                                | 6-11020A57  | 2.2k                       |
| R2105                                | 6-11009C53  | 1.5k                       |
| R2106                                |             | NOT USED                   |
| R2107, 2108                          | 6-11020A53  | 1.5k                       |
| R2109                                | 6-11020A85  | 33k                        |
| R2110                                | 6-11020A85  | 33k                        |
| R2111                                | 6-11020A85  | 33k                        |
| R2112                                | 6-11020A81  | 22k                        |
| R2113                                | 6-11020A29  | 150                        |
| R2114                                | 6-11020A55  | 1.8k                       |
| R2115                                | 6-11020A85  | 33k                        |
| R2116                                | 6-11020B02  | 150k                       |
| R2117                                | 6-11020A73  | 10k                        |
| R2118                                | 6-11020A55  | 1.8k                       |
| R2119                                | 6-11020A47  | 820                        |
| R2120                                | 6-11020A89  | 47k                        |
| R2121                                | 6-11020A65  | 4.7k                       |
| R2122                                | 6-11020A73  | 18k                        |
| R2123                                | 6-11020A76  | 13k                        |
| R2124                                | 6-11020A73  | 10k                        |
| R2125                                | 6-11020A53  | 1.5k                       |
| <b>thermistor:</b>                   |             |                            |
| RT2106                               | 6-82557J06  | 16k @ 25°C                 |
| <b>integrated circuit (see note)</b> |             |                            |
| U1                                   | 51-83629M47 | wideband amplifier         |
| U2                                   | 51-84641L84 | limiter/detector           |
| U50                                  | 51-82609M33 | dual operational amplifier |
| U300, 325                            | 51-82609M33 | dual operational amplifier |
| U2100                                | 51-83629M06 | dual operational amplifier |
| <b>voltage regulator (see note)</b>  |             |                            |
| VR54                                 | 48-82256C15 | Zener type; 5.1 V          |
| VR225                                | 48-82256C33 | Zener type; 2.6 V          |
| VR301                                | 48-83461E40 | Zener type; 5.1 v $\pm$ 1% |
| VR353                                | 48-82256C11 | Zener type; 10 V           |
| VR354                                | 48-82256C20 | Zener type; 27 V           |
| VR355                                | 48-82256C11 | Zener type; 10 V           |
| VR2100, 2101                         | 48-82256C33 | Zener type; 2.6 V          |

| REFERENCE<br>SYMBOL | MOTOROLA<br>PART NO. | DESCRIPTION |
|---------------------|----------------------|-------------|
|---------------------|----------------------|-------------|

|                         |             |                                                    |
|-------------------------|-------------|----------------------------------------------------|
| Y1A, B                  | 48-05535C05 | <b>crystal: (see note)</b>                         |
| Y2A, B                  | 48-05535C07 | filter matched pair: BLK-ORG                       |
|                         |             | filter matched pair: BLU-VIO                       |
| <b>mechanical parts</b> |             |                                                    |
| 3-84208M03              |             | SCREW, tapping; M2.5 x 0.45 x 6.0; 4 used          |
| 3-84208M01              |             | SCREW, tapping; M2.5 x 0.5 x 6.0; 2 used           |
| 4-490124                |             | WASHER, flat; 0.092 x .250"; 2 used                |
| 4-44152B01              |             | WASHER, shoulder, nylon; 4 used                    |
| 14-05160A01             |             | INSULATOR, crystal; 4 used                         |
| 14-84123M01             |             | INSULATOR, shield (for 26-84132M01)                |
| 14-84124M01             |             | INSULATOR, shield; 2 used (for 26-84237N01, and 2) |
| 14-84391F01             |             | INSULATOR, transistor; 4 used                      |
| 1-80737D85              |             | SHIELD, detector input with spring                 |
| 1-80737D84              |             | SHIELD, buffer (Q1) with spring                    |
| 1-80737D83              |             | SHIELD, second buffer (Q2) with spring             |
| 26-82437N01             |             | SHIELD, solder side (Y1)                           |
| 26-82437N02             |             | SHIELD, solder side (Y2)                           |
| 26-84130M01             |             | SHIELD, coil (L5)                                  |
| 26-84132M01             |             | SHIELD, detector solder side                       |
| 26-84104M01             |             | HEAT SINK, main board audio/regulator              |
| 19-0184A10              |             | CONTACT, pin (bubble); 1 used                      |
| 43-84136M01             |             | SPACER, standoff; 3 used                           |
| 46-84135M01             |             | GUIDE, circuit board                               |

|                                                       |                          |                                                     |
|-------------------------------------------------------|--------------------------|-----------------------------------------------------|
| TKN8158B Power Cable (Front Mount CUA and EXA Models) |                          | PL-7165                                             |
| <b>REFERENCE SYMBOL</b>                               | <b>MOTOROLA PART NO.</b> | <b>DESCRIPTION</b>                                  |
|                                                       |                          | <b>fuse:</b>                                        |
| F350                                                  | 65-4165                  | 15A                                                 |
| F351                                                  | 65-20404                 | 3A; 250 V                                           |
| F353                                                  | 65-4165                  | 15A                                                 |
| <b>mechanical parts</b>                               |                          |                                                     |
| P359                                                  | 15-84192M01              | HOUSING, connector; 6-contact                       |
|                                                       | 14-82883A01              | INSULATOR, fuseholder; 3 used                       |
|                                                       | 42-82884A01              | CLIP, fuseholder; 3 used                            |
|                                                       | 1-80733D11               | ASSEMBLY, black wire and terminal; includes:        |
|                                                       | 9-84151B03               | TERMINAL, female (small); 2 used                    |
|                                                       | 1-80733D12               | ASSEMBLY, red wire and terminal (short) includes:   |
|                                                       | 42-82884A01              | CLIP, fuse holder                                   |
|                                                       | 29-82607B03              | LUG, ring                                           |
|                                                       | 14-82882A01              | BODY, fuse holder                                   |
|                                                       | 41-82885A01              | SPRING, fuse holder                                 |
|                                                       | 1-80733D13               | ASSEMBLY, red wire and terminal (long) includes:    |
|                                                       | 29-84151L05              | TERMINAL, female (large)                            |
|                                                       | 1-80733D14               | ASSEMBLY, green wire and terminal (short) includes: |
|                                                       | 42-82884A01              | CLIP, fuse holder                                   |
|                                                       | 29-865065                | LUG, ring                                           |
|                                                       | 14-82882A01              | BODY, fuse holder                                   |
|                                                       | 41-82885A01              | SPRING, fuse holder                                 |
|                                                       | 1-80733D15               | ASSEMBLY, green wire and terminal (long) includes:  |
|                                                       | 9-84151B03               | TERMINAL, female (small)                            |
|                                                       | 1-80733D16               | ASSEMBLY, black wire and terminal (short) includes: |
|                                                       | 42-82884A01              | CLIP, fuse holder                                   |
|                                                       | 29-82607B03              | LUG, ring                                           |
|                                                       | 14-82882A01              | BODY, fuse holder                                   |
|                                                       | 41-82885A01              | SPRING, fuse holder                                 |
|                                                       | 1-80733D17               | ASSEMBLY, black wire and terminal (long) includes:  |
|                                                       | 29-84151L05              | TERMINAL, female (large)                            |

TRN4602A Transmitter Feedthrough Plate PL-7166

| SYMBOL                           | PART NO.    | DESCRIPTION                                                |
|----------------------------------|-------------|------------------------------------------------------------|
| C214, 263, 267,<br>294, 295, 296 | 21-8487AK01 | <b>capacitor, fixed:</b><br>470 pF ± 20%; 250 V; feed-thru |
| J356                             | 9-83663C01  | <b>connector, receptacle:</b><br>female; single contact    |
| <b>mechanical parts</b>          |             |                                                            |
|                                  | 3-84208M01  | SCREW, machine: M3 x 0.5 x 8; feed-thru                    |
|                                  | 4-84207E02  | SOLDER RING                                                |
|                                  | 29-84322M01 | TERMINAL, pin; feed-thru, 6 used                           |
|                                  | 64-84212M01 | PLATE, feed-thru                                           |

TRN4604A Busy Light Board PL-7170-

| REFERENCE SYMBOL       | MOTOROLA PART NO. | DESCRIPTION                                                  |
|------------------------|-------------------|--------------------------------------------------------------|
| C1200                  | 23-84665F21       | capacitor, fixed:<br>4.7 uF $\pm$ 10%; 50 V                  |
| DS835                  | 48-84404E10       | light emitting diode:<br>orange                              |
| P372                   | 28-84318M04       | connector, pin:<br>male; single contact; 4 used              |
| Q1200                  | 48-02081B10       | transistor: (see note)                                       |
| Q1201                  | 48-02081B11       | PNP; type M1B10<br>PNP; type M1B11                           |
| R1200                  | 6-11020A79        | resistor, fixed: $\pm$ 5%; 1/4 W:<br>unless otherwise stated |
| R1201                  | 6-11020A83        | 18k                                                          |
| R1202                  | 18-84944CQ1       | 3.9k                                                         |
| R1203, 1204            | 6-11020A89        | variable; 2k                                                 |
| R1205                  | 6-11020B20        | 47k                                                          |
| R1206                  | 6-11020A41        | 820k                                                         |
| R1207                  | 6-11020A45        | 470<br>680                                                   |
| <b>mechanical part</b> |                   |                                                              |
|                        | 43-84137M02       | SPACER, LED                                                  |

## TKN8160A Ignition Control PTT (Front Mount CUA and EXA Models) PL-7216-

| REFERENCE SYMBOL        | MOTOROLA PART NO. | DESCRIPTION                                      |
|-------------------------|-------------------|--------------------------------------------------|
| F352                    | 65-52281          | fuse:<br>1A                                      |
| Q304                    | 48-02081B10       | transistor: (see note)<br>NPN; type M1B10        |
| R313                    | 6-11020A73        | resistor, fixed:<br>10k $\pm$ 5%; 1/4 W          |
| <b>mechanical parts</b> |                   |                                                  |
|                         | 1-80733D18        | ASSEMBLY, orange wire and clip includes:         |
|                         | 42-82884A01       | CLIP, fuse holder                                |
|                         | 1-80733D19        | ASSEMBLY, orange wire and terminal;<br>includes: |
|                         | 9-84151B03        | TERMINAL                                         |
|                         | 14-82882A01       | BODY, fuse holder                                |
|                         | 14-82883A01       | CAP, fuse holder                                 |
|                         | 42-82885A01       | SPRING, fuse holder                              |
|                         | 42-82884A01       | CLIP, fuse holder                                |
|                         | 42-10217A02       | STRAP, cable harness                             |

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

## TRN5365A Power Interconnect Board PL-7167-

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                   |
|------------------|-------------------|-------------------------------|
|                  |                   | <b>diode: (see note)</b>      |
| CR350            | 4B-8252SG13       | silicon                       |
| CR351            | 4B-8252SG19       | silicon                       |
| RV352            | 6-84357M01        | varistor, metal oxide         |
|                  |                   | <b>connector, receptacle:</b> |
| J351             | 9-83497F10        | female; 6-contact             |
| J359             | —                 | includes: (see note 2)        |
|                  | 29-3053           | LOG, solder; 2 used           |
|                  | 29-84134M01       | TERMINAL, short; 4 used       |

**notes:**

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

**MAIN BOARD AND POWER  
INTERCONNECT BOARD**

POWER CABLES  
BUSY LIGHT

## FUNCTION

The main board contains receiver circuitry, transmitter audio and power control circuitry, and voltage regulation for transmitter and receiver circuits. The power interconnect board provides power distribution for the radio set and feedthrough interconnect from the main to the power amplifier circuitry.

**68P81064E17-C**  
(Sheet 1 of 4)  
3/15/83- *PHI*

## TRANSMITTER



NOTES:

1. Unless otherwise noted, resistor values are in ohms, capacitor values in microfarads, inductor values are in microhenries.
2. Refer to Microphone instruction section for preamplifier information.
3. Refer to Jumper Table.
4. Measured with 800 millivolts rms, 1 kHz input to "MIC AUDIO + " input (J350-12) with "MIC PTT" (J350-14) grounded.
5. Refer to Parts List for component values.
6. LLA refers to low level rf amplifier stage.
7. Voltage notations:  
(T) = Transmitter Keyed  
(R) = Receive (Transmitter Unkeyed)
8. R313 and Q304 are part of "Ignition Control" Option B113.

| Transmitter Jumper Table |                                                              |          |
|--------------------------|--------------------------------------------------------------|----------|
| Jumper                   | Function                                                     | Location |
| JU302                    | Cut For Ignition PTT Control Option B113                     | Q304     |
| JU325                    | Always Out                                                   | U325B-7  |
| JU328                    | Install For Special Applications Only                        | R340     |
| JU352                    | Cut For Alternate Use of J350-2                              | J350-2   |
| JU354                    | Cut For Alternate Use of J350-6                              | J350-6   |
| JU355                    | Cut For Alternate Use of J350-7                              | J350-7   |
| JU356                    | Cut For Alternate Use of J350-12                             | J350-12  |
| JU357                    | Cut For Alternate Use of J350-10                             | J350-10  |
| JU358                    | Cut For Alternate Use of J350-14                             | J350-14  |
| JU359                    | Cut For Alternate Use of J350-11                             | J350-11  |
| JU363                    | Cut For Alternate Use of J350-12 And J380-4 (MIC AUDIO +)    | Q325-E   |
| JU364                    | Cut For Alternate Use of J350-10 And J380-2 (Hang-Up Switch) | P352-15  |
| JU365                    | Cut For Alternate Use of J350-14 And J380-1 (MIC PTT)        | Q304-E   |
| JU367                    | Cut For Alternate Use of P352-21                             | P352-21  |
| JU368                    | Always In                                                    | P352-8   |

| Component Designation Chart                    |                   |
|------------------------------------------------|-------------------|
| Transmit Audio/IDC                             | 325-349           |
| 9.6 V Regulator, 4.8 V Regulator and PTT Logic | 300-324           |
| Transmit Power & Level Control                 | 225-249 and U300B |

| Reference Number | Type Number | V + Pin | V – Pin | Description |
|------------------|-------------|---------|---------|-------------|
| U300, U325       | 019M33      | 8       | 4       | Dual Op Amp |

| Output Power | TP31 Voltage |
|--------------|--------------|
| 0 Watts      | 2.0 V        |
| 10 Watts     | 1.6 V        |
| 30 Watts     | 1.3 V        |

TKN8173B Power Cable Remote Mount (CUA and EXA Models) PL-7464-D

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION  |
|------------------|-------------------|--------------|
|                  |                   | <b>fuse:</b> |
| F350             | 65-10266          | 10A; 32 V    |
| F351             | 65-20404          | 3A; 250 V    |
| F353             | 65-10266          | 10A; 32 V    |

## Housing connector: 6-contact

|      |             |                                                                                         |
|------|-------------|-----------------------------------------------------------------------------------------|
| P359 | 15-84192M01 | HOUSING, connector; 6-contact                                                           |
|      | 14-82883A01 | INSULATOR, fuseholder; 3 used                                                           |
|      | 42-82884A01 | CLIP, fuseholder; 3 used                                                                |
|      | 1-80733D11  | ASSEMBLY, black wire and terminal,<br>includes:<br>TERMINAL, female (small); 2 used     |
|      | 9-84151B03  | ASSEMBLY, red wire (short remote)<br>includes:<br>BODY, fuseholder                      |
|      | 14-82882A01 | LUG, ring tongue (3/8" stud)                                                            |
|      | 29-832116   | SPRING, fuseholder                                                                      |
|      | 41-82885A01 | CLIP, fuseholder                                                                        |
|      | 42-82884A01 | ASSEMBLY, red wire #18 (short remote)<br>includes:<br>BODY, fuseholder                  |
|      | 1-80734D04  | LUG, ring tongue (3/8" stud)                                                            |
|      | 14-82882A01 | SPRING, fuseholder                                                                      |
|      | 29-85065    | CLIP, fuseholder                                                                        |
|      | 41-82885A01 | ASSEMBLY, black wire (short remote)<br>includes:<br>BODY, fuseholder                    |
|      | 42-82884A01 | LUG, ring tongue (3/8" stud)                                                            |
|      | 1-80734D05  | SPRING, fuseholder                                                                      |
|      | 14-82882A01 | CLIP, fuseholder                                                                        |
|      | 29-832116   | ASSEMBLY, red wire (long remote)<br>includes:<br>TERMINAL, female (large)               |
|      | 41-82884A01 | ASSEMBLY, red wire #18 (long remote)<br>includes:<br>RECEPTACLE, female; single contact |
|      | 41-82885A01 | ASSEMBLY, black wire (long remote)<br>includes:<br>TERMINAL, female (large)             |
|      | 1-80734D06  | CAP, fuseholder; 3 used                                                                 |
|      | 29-84151L05 | STRAP, cable harness; 6 used                                                            |
|      | 1-80734D07  | STRAP, tie; 0.140 x 5.50                                                                |
|      | 9-84151B03  | CLIP, fuse; 3 used                                                                      |
|      | 1-80734D08  |                                                                                         |
|      | 29-84151L05 |                                                                                         |
|      | 14-82883A01 |                                                                                         |
|      | 42-10217A02 |                                                                                         |
|      | 42-10217A14 |                                                                                         |
|      | 42-82884A01 |                                                                                         |

TKN8197A Ignition Control PTT Remote (CUA and EXA Models) PL-7468-B

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                               |
|------------------|-------------------|-------------------------------------------|
| F352             | 65-52281          | fuse:<br>1A                               |
| Q304             | 48-02081B10       | transistor: (see note)<br>NPN; type M1B10 |
| R313             | 6-11020A73        | resistor:<br>10k $\pm$ 5%; 1/4 W          |

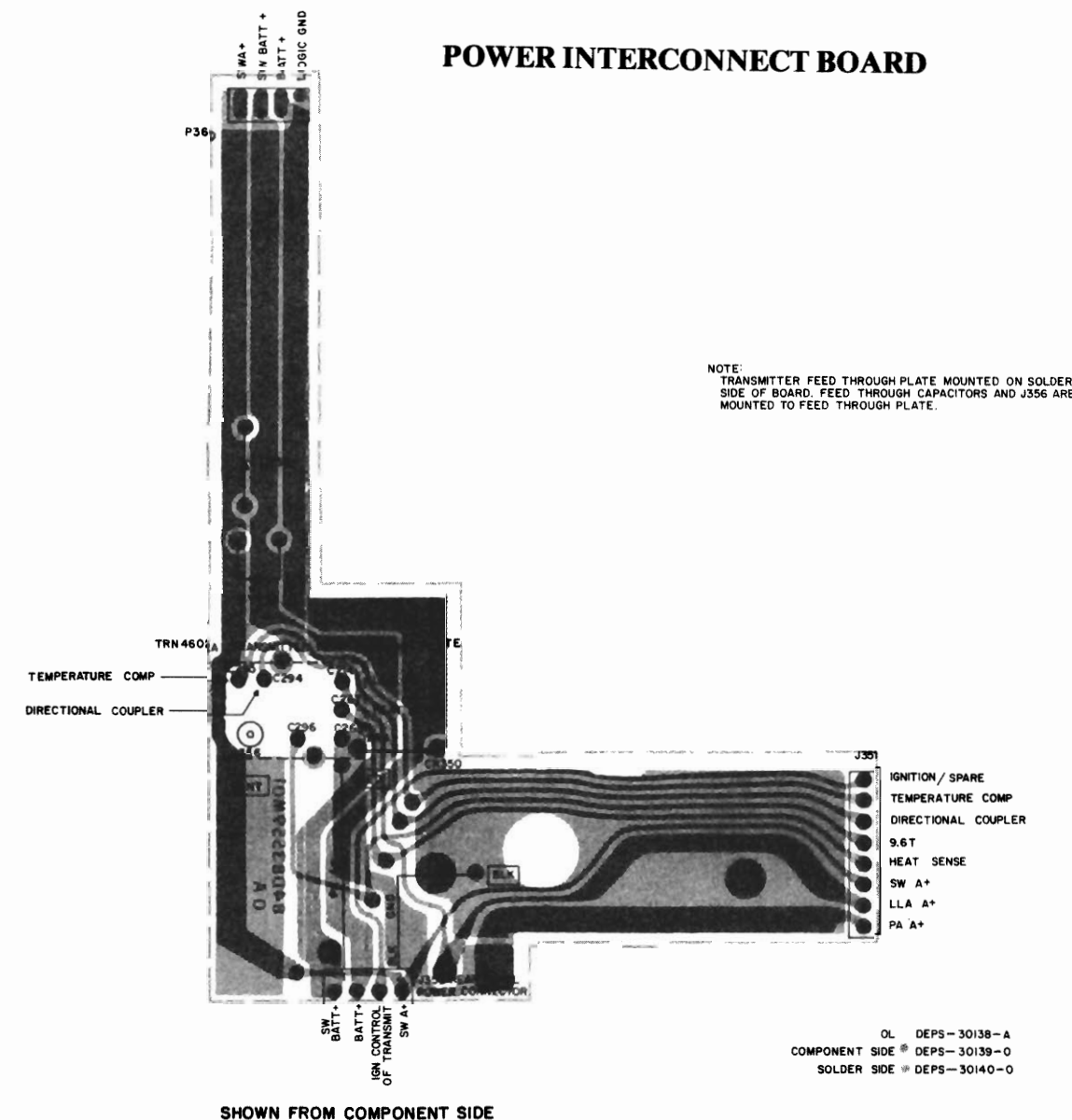
## ASSEMBLY org. wire and terminal (long)

includes:  
RECEPTACLE, contact; female  
ASSEMBLY, org. wire and terminal (short)  
includes:  
CLIP, fuseholder  
BODY, fuseholder  
CAP, fuseholder  
SPRING, fuseholder  
STRAP, cable harness  
CLIP, fuseholder

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

## MAIN BOARD AND POWER INTERCONNECT BOARD CIRCUIT BOARD DETAILS

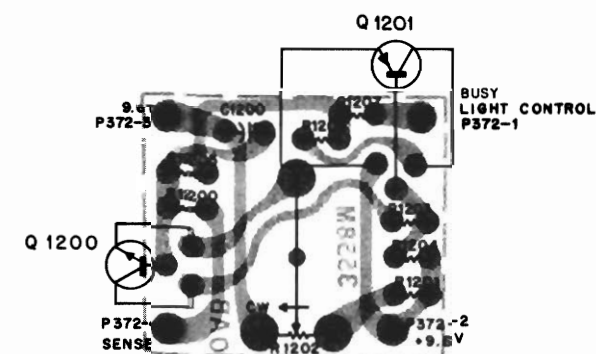
## POWER INTERCONNECT BOARD



NOTE:  
TRANSMITTER FEED THROUGH PLATE MOUNTED ON SOLDER  
SIDE OF BOARD. FEED THROUGH CAPACITORS AND J356 ARE  
MOUNTED TO FEED THROUGH PLATE.

SHOWN FROM COMPONENT SIDE

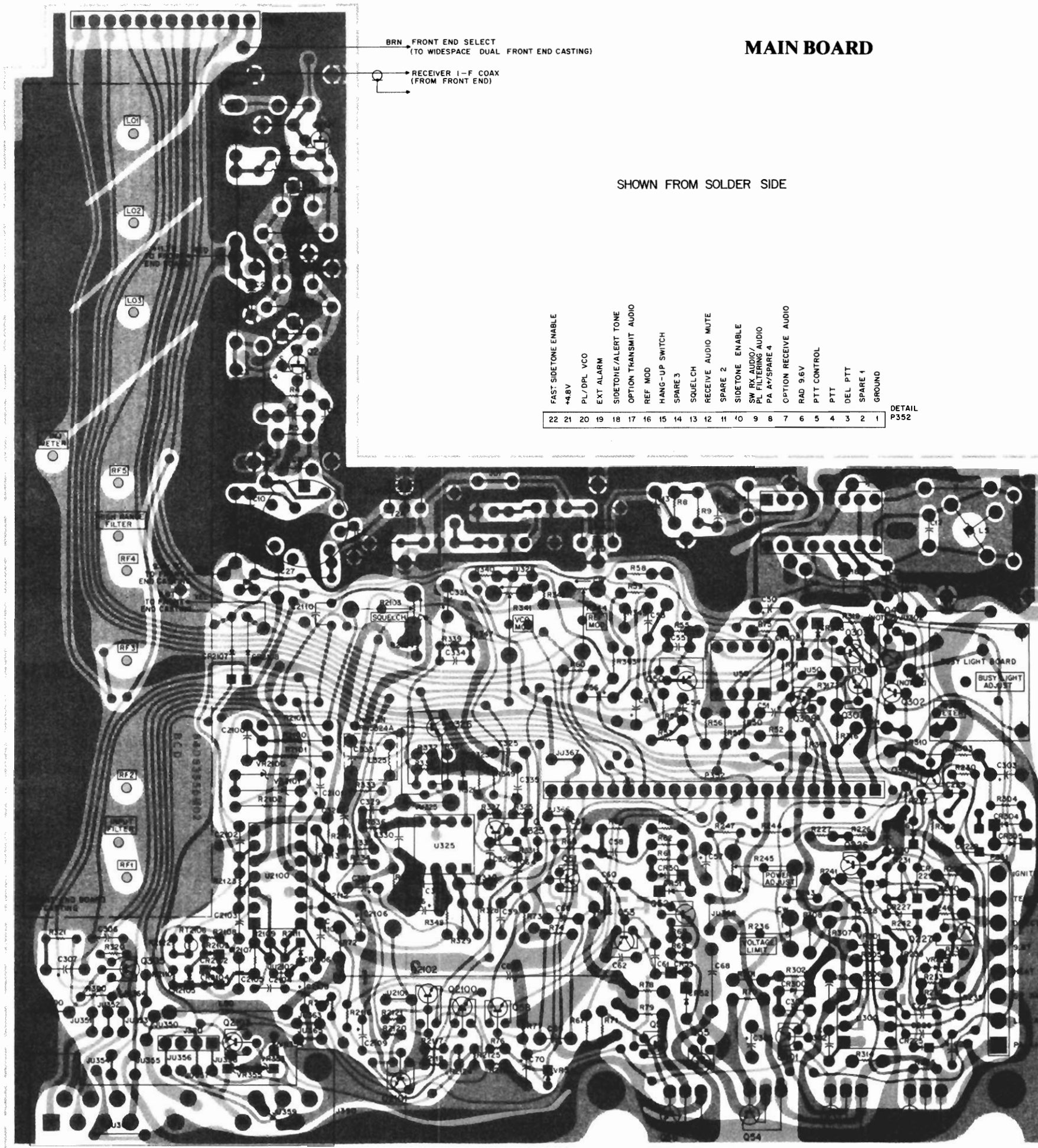
## BUSY LIGHT BOARD



SHOWN FROM COMPONENT SIDE

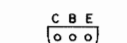
SOLDER SIDE  BEPS - 30156-0  
COMPONENT SIDE  BEPS - 30155-0  
OL BEPS - 30154-0

## MAIN BOARD

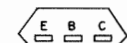


SHOWN FROM SOLDER SIDE

TRANSISTOR DETAILS  
( SHOWN FROM  
WIRE LEAD SIDE )



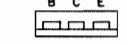
ALL PLASTIC ENCASED  
TRANSISTORS EXCEPT Q302, Q1, Q2



Q302



Q1,Q2



Q54,Q56,Q300,Q225

NOTES:

1. TEST POINTS AND SPARE PADS ARE IDENTIFIED ON CIRCUIT BOARD.
2. Q304 AND R313 ARE PART OF IGNITION CONTROL OPTION 8113.
3. ALL JUMPERS EXCEPT JU328, JU368, AND JU2100 ARE PLATING CUT JUMPERS. TO REMOVE JUMPERS, CUT THE PLATING.
4. PIN#4 OF INTEGRATED CIRCUITS AND CONNECTORS AND "CATHODE" OF DIODES DESIGNATED BY SQUARE PADS.

SOLDER SIDE EPS-34997-0  
COMPONENT SIDE EPS-34996-0  
OL EEPS-36018-0

| DETAIL             |    |
|--------------------|----|
| P355               |    |
| VOL CONT WIPER     | 1  |
| +9.6V              | 2  |
| SQUELCH SWITCH     | 3  |
| VCO MOD            | 4  |
| 9.6T               | 5  |
| BUSY LIGHT CONTROL | 6  |
| REF MOD            | 7  |
| VOL CONT GROUND    | 8  |
| VOL CONT HI        | 9  |
| LOCK DET           | 10 |
| GROUND             | 11 |
| FRONT END SELECT   | 12 |

|                        |   |   |   |  |
|------------------------|---|---|---|--|
| MIC AUDIO +            |   |   |   |  |
| KEY                    |   |   |   |  |
| HANG- $\bar{P}$ SWITCH |   |   |   |  |
| MIC PTT                |   |   |   |  |
| 4                      | 3 | 2 | 1 |  |

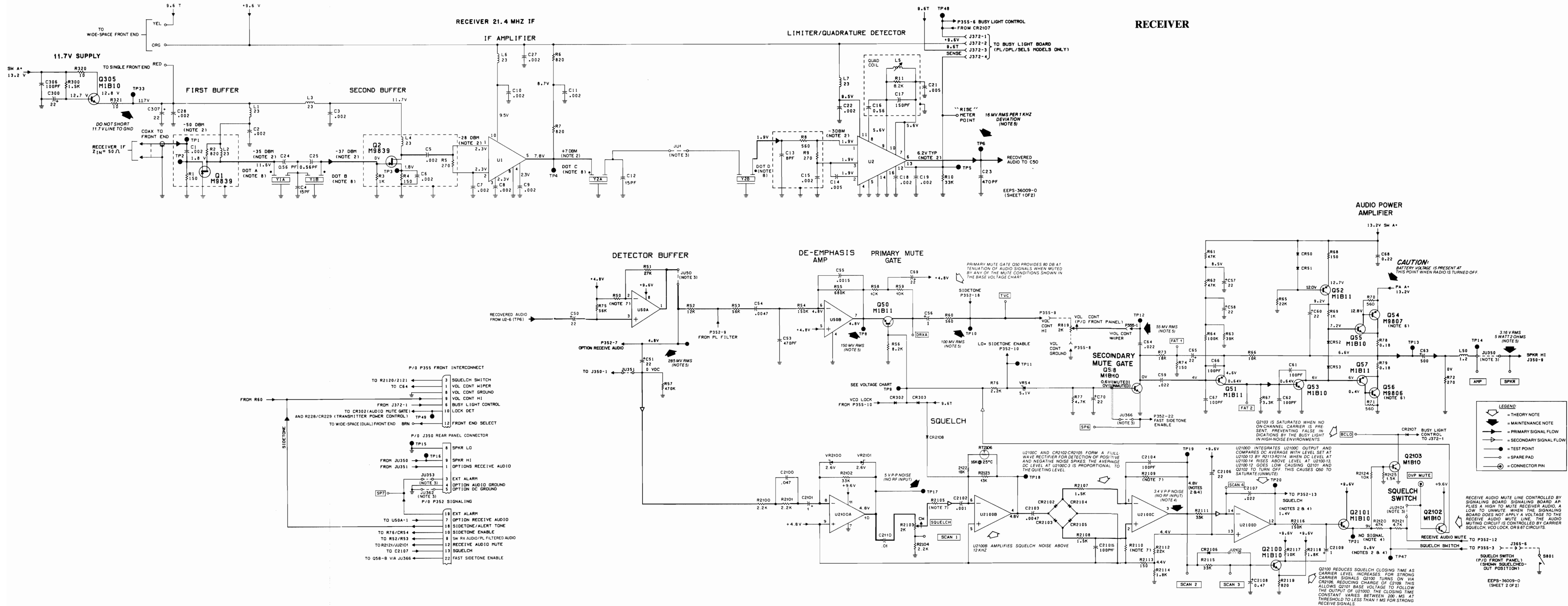
DETAIL J380

|                       | DETAIL<br>J350 |   |
|-----------------------|----------------|---|
| OPTION RECEIVE AUDIO  | 1              |   |
| OPTION TRANSMIT AUDIO | 2              |   |
| OPTION EXT ALARM      | 3              | 4 |
| OPTION AUDIO GROUND   | 5              |   |
| OPTION DC GROUND      | 5              |   |
| PTT                   | 6              |   |
| SW A+                 | 7              |   |
| SPKR LO               | 8              |   |
| SPKR HI               | 9              |   |
| HANG UP SWITCH        | 10             |   |
| AUDIO GROUND          | 11             |   |
| MIC AUDIO +           | 12             |   |
| GROUND                | 13             |   |
| MIC PTT               | 14             |   |

**68P81064E17-O**  
(Sheet 3 of 4)  
3/15/83- *PHI*

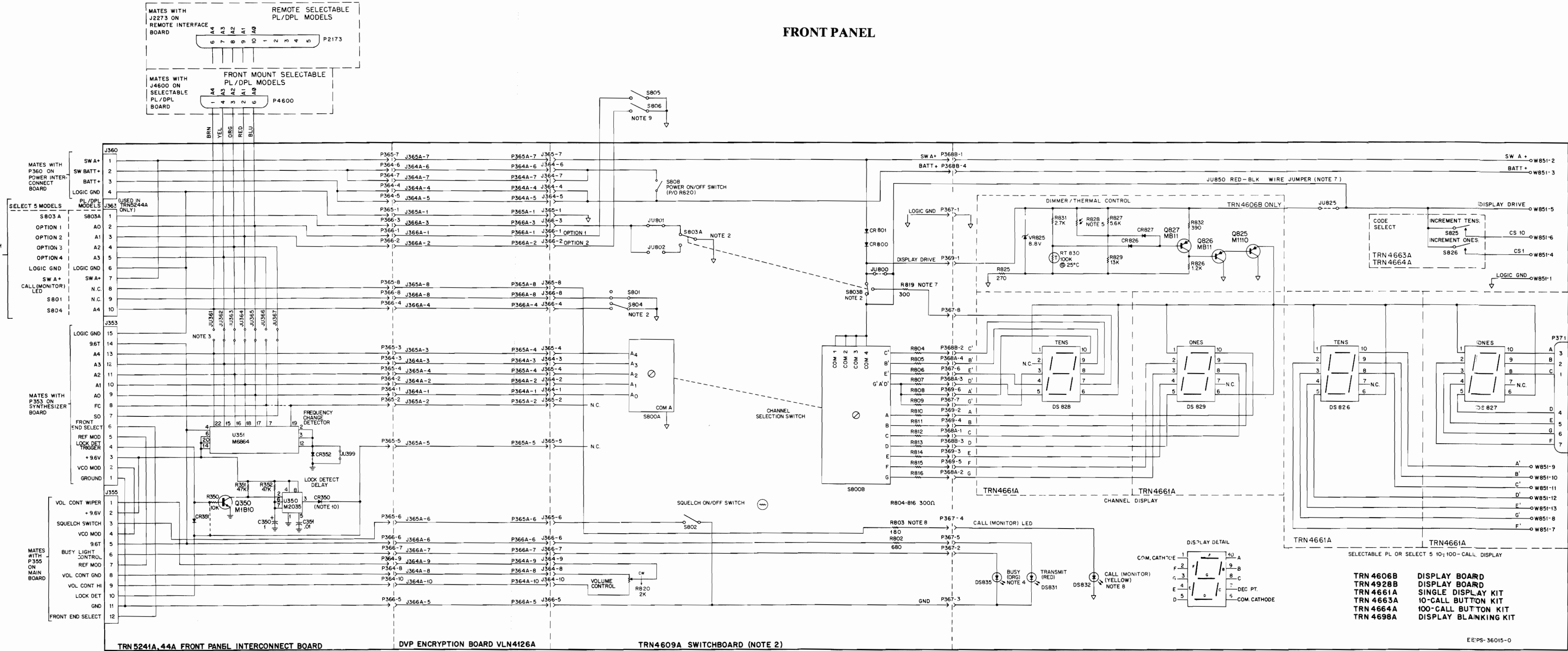
## MAIN BOARD AND POWER INTERCONNECT BOARD

MAIN BOARD AND  
POWER INTERCONNECT BOARD  
RECEIVER



FRONT PANEL BOARDS  
SCHEMATIC DIAGRAM

FRONT PANEL



NOTES:

1. Resistor values given in ohms.
2. All pushbutton switches are shown in the "OUT" position. Function and position of switches designated S801, S803, and S804 change with option/model configuration. Refer to signaling switch chart.
3. Refer to jumper chart.
4. Busy light not used in carrier squelch or encode only models. DS835 is part of Busy Light Kit TRN4604A.
5. R828 value is greater than 200k when dark, nominal 30k at 1 footcandle.
6. DS826 and DS827 used in models with Select 5 signaling 100-call option or selectable PL/DPL squelch 30-code option. DS827 used in models with Select 5 signaling 10-call option or selectable PL/DPL squelch 10-code option.
7. For display blanking JU800 and JU825 are cut, and wire jumper JU850 is added between display board and switch board. Resistor R819 is added (p/o TRN4698A Display Blanking Kit).
8. Call light DS832 and resistor R803 are part of Select 5 and PL/DPL Scan Base option board kits. DS832 is referenced CALL for Select 5 and MONITOR for Scan Base.
9. S805 and S806 are mounted directly to front panel. Refer to thumbwheel switch manual section for kit and part numbers.
10. CR350 removed for use with FAST-LOK Synthesizer.

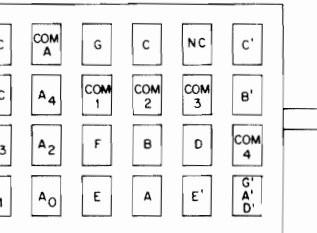
Jumper Chart

|       |                                            |
|-------|--------------------------------------------|
| JU361 | In for 17-32 channel, multi PL/DPL only    |
| JU362 | Cut for selectable PL/DPL squelch option   |
| JU363 | Cut for selectable PL/DPL squelch option   |
| JU364 | Cut for selectable PL/DPL squelch option   |
| JU365 | Cut for selectable PL/DPL squelch option   |
| JU366 | In for special applications                |
| JU367 | Cut for special applications               |
| JU399 | Cut for dash mount Channel-Scan radios     |
| JU800 | Cut for display blanking with TRN4698A Kit |
| JU825 | Cut for display blanking with TRN4698A Kit |
| JU850 | In for display blanking (p/o TRN4698A Kit) |
| JU801 | In when S803 is latching switch            |
| JU802 | In when S803 is momentary contact switch   |

| SWITCH CONTACT TABLE |                  |                |                |                |              |    |    |    |   |              |   |   |   |   |   |  |  |  |
|----------------------|------------------|----------------|----------------|----------------|--------------|----|----|----|---|--------------|---|---|---|---|---|--|--|--|
| SWITCH POSITION      | S800A            |                |                |                | S800B        |    |    |    |   |              |   |   |   |   |   |  |  |  |
|                      | SYNTHESIZER CODE |                |                |                | TENS DISPLAY |    |    |    |   | ONES DISPLAY |   |   |   |   |   |  |  |  |
|                      | A <sub>0</sub>   | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> | G<br>A<br>D  | B' | C' | E' | A | B            | C | D | E | F | G |  |  |  |
| 1                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 2                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 3                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 4                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 5                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 6                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 7                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 8                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 9                    | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 10                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 11                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 12                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 13                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 14                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 15                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 16                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 17                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 18                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 19                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 20                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 21                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 22                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 23                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 24                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 25                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 26                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 27                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 28                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 29                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 30                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 31                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |
| 32                   | •                | •              | •              | •              |              |    |    |    |   | •            | • | • | • | • | • |  |  |  |

• DENOTES CONTACT CONNECTED TO COM LEAD (CLOSED).  
SYNTHESIZER CODE PINS CONNECT TO COM A  
DISPLAY PINS CONNECTED TO COM 1,2,3,4

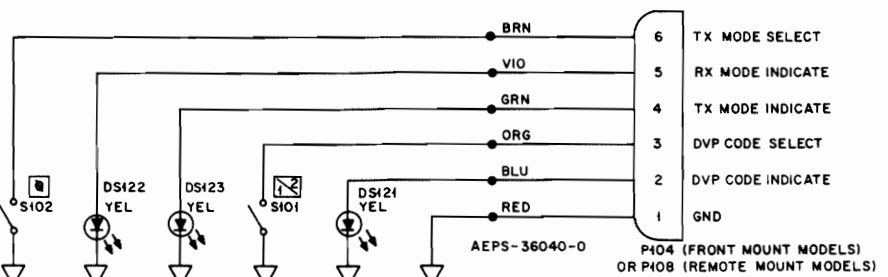
SWITCH CONNECTION DETAIL



VIEWED FROM PIN SIDE  
NOTE:  
1. NC DENOTES NOT CONNECTED.

CEPS-36150-0

CONTROL BOARD



| SIGNALING SWITCH CHART |          |           |                               |
|------------------------|----------|-----------|-------------------------------|
| SWITCH DESIGNATION     | SYMBOL   | TYPE      | FUNCTION                      |
| S801                   | (Symbol) | LATCHING  | SELECT 5 MONITOR              |
| S803                   | (Symbol) | LATCHING  | PL/DPL MONITOR                |
| S804                   | (Symbol) | LATCHING  | SECONDARY CALL EXTERNAL ALARM |
| S805                   | (Symbol) | MOMENTARY | SELECT 5 CALL                 |
| S806                   | (Symbol) | MOMENTARY | SINGLE TONE REPEATER          |

VLN4123A DVP Front Panel  
VLN4124A Dual Code Front Panel PL-8358-C

VLN4147A Volume and Frequency Switch PL-8354-OTRN4606B Display Board, 2-32F

**notes:**

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

TRN4609A Front Mount Switch Board,32 Channel PL-8420-C

**notes:**

1. For optimum performance, diodes, transistors, and integrated circuits must be ordered by Motorola part numbers.
2. For parts not listed in the above parts list refer to the radio set mechanical parts list section.

TRN4698A Display Blanking Kit PL-7516-1

|                                                     |          |
|-----------------------------------------------------|----------|
| TRN5241A Front Panel Interconnect Board (Standard)  |          |
| TRN5244A Front Panel Interconnect Board (Signaling) | PL-7809- |

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

|                                                        |           |
|--------------------------------------------------------|-----------|
| TRN4656A Secondary Call/External Alarm Switch w/Button |           |
| TRN4657A Single Tone Repeater Switch w/Button          |           |
| TRN4658A <i>Select</i> 5 Call Switch w/Button          |           |
| TRN4659A 5-Tone Repeater Access Switch w/Button        |           |
| TRN4660A Monitor Switch w/Button                       | PL-7200-B |

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION               |
|------------------|-------------------|---------------------------|
| S801 or 803      | 40-84330M02       | switch:<br>dpdt, latching |
| S803, 804        | 40-84330M01       | dpdt, momentary contact   |

**note:** Refer to exploded view details for button illustration and part numbers.

TRN4661A Single Display PL-8421-C

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                        |
|------------------|-------------------|------------------------------------|
| DS828, 829       | 48-83477K04       | light emitting diode:<br>7-segment |

**note:** For parts not listed in the above parts list refer to the radio set mechanical parts list section.

TRN4663A 10-Call Button w/Switch  
TRN4664A 100-Call Button w/Switch

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                      |
|------------------|-------------------|--------------------------------------------------|
| P371             | 28-82502M03       | connector, plug:<br>male; 7-contact              |
| S805, 806        | 40-82473N01       | switch:<br>dual spst; circuit board dome contact |

**note:** Refer to *Select 5* signaling exploded view detail for mechanical parts.

[illegible][illegible]

**Provides channel selection and display, and all controls and indicators.**

83CD8478

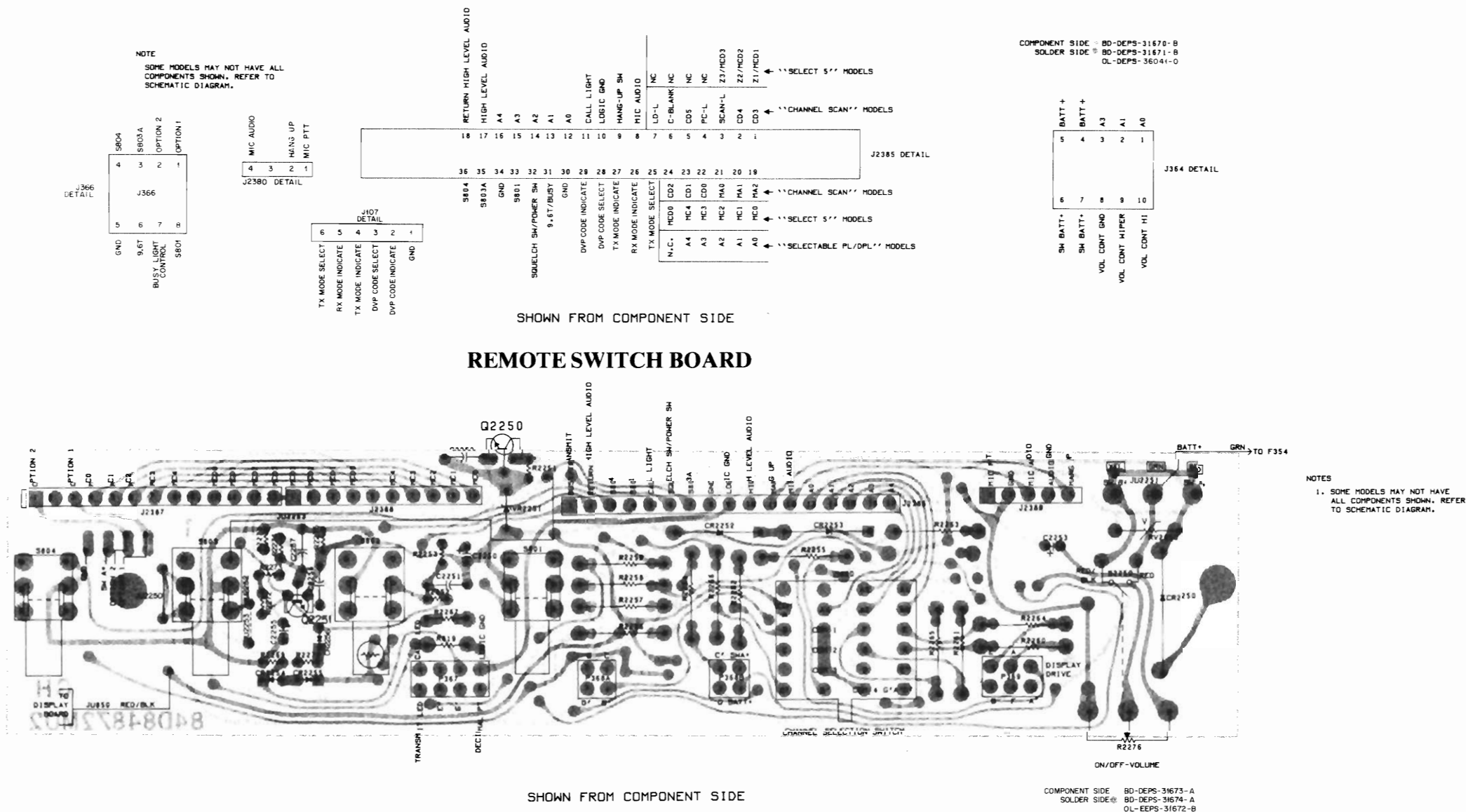
PI04 (FRONT MOUNT MODELS ONLY)  
OR  
PI08 (REMOTE MOUNT MODELS ONLY)

BRN 6 TRANSMIT MODE SELECTOR  
VIO 5 RECEIVE MODE INDICATOR  
GRN 4 TRANSMIT MODE INDICATOR  
ORG 3 DVP CODE SELECTOR  
BLU 2 DVP CODE SELECT INDICATOR  
RED 1  
GND

DS121  
DS123  
DS122  
S101  
S102

COMPONENT SIDE ● BD - BEPS - 36019-0  
SOLDER SIDE ● BD - BEPS - 36020-0  
OL - BEPS - 36021-0

## CIRCUIT BOARD DETAILS AND PARTS LISTS



VKN4031A Remote Control Cable (8 ft.)  
VKN4032A Remote Control Cable (17 ft.)

| REFERENCE SYMBOL        | MOTOROLA PART NO. | DESCRIPTION                                      |
|-------------------------|-------------------|--------------------------------------------------|
| P106                    | 14-84277D29       | connector, plug;<br>housing, 6 contact           |
|                         | 9-84273D03        | CONTACT, receptacle, 6 used                      |
| P2385                   | 28-82004M01       | male, flat; 36 contact                           |
|                         | 15-84994M1        | PLUGS, covers                                    |
| P2386                   | 9-84319M04        | female, 17 contact                               |
| P2387                   | 9-84319M05        | female, 13 contact                               |
| <b>mechanical parts</b> |                   |                                                  |
|                         | 42-10217A02       | STRAP, cable; 5 used                             |
|                         | 42-84995M01       | RETAINER, plug only                              |
|                         | 42-10217A14       | STRAP, tie, .140 x 5.50 nylon<br>(VRN4032A only) |

TRN4767A Remote Switch Board, 32 Channel PL-8422-C

| REFERENCE SYMBOL   | MOTOROLA PART NO. | DESCRIPTION              |
|--------------------|-------------------|--------------------------|
|                    |                   | <b>capacitor, fixed:</b> |
| C2250              | 23-11037A27       | 22 uF $\pm$ 20%; 25 V    |
| C2251              | 8-11017B08        | 0.1 uF $\pm$ 10%; 50 V   |
| C2252              | 21-11022M42       | 100 pF $\pm$ 5%; 50 V    |
| C2253, 2254, 2255  | 23-11037A27       | 22 uF $\pm$ 20%; 25 V    |
| C2256              | 21-11022M42       | 100 pF $\pm$ 5%; 50 V    |
| C2257              | 21-11021E09       | 470 pF $\pm$ 10%; 50 V   |
|                    |                   | <b>diode: (see note)</b> |
| CR2250             | 48-92526G13       | silicon                  |
| CR2252, 2253       | 48-92484H19       | silicon                  |
| CR2254, 2255, 2256 | 48-84399M01       | silicon                  |

|             |             |                               |
|-------------|-------------|-------------------------------|
| J2386       | 28-84318M13 | <b>connector, plug:</b>       |
| J2387       | 28-84318M12 | male, 17-contact              |
| J2388       | 28-84318M03 | male, 13-contact              |
| J2389       | 28-84318M11 | male, 13-contact              |
| P367        | 28-84528K15 | male, 5-contact               |
| P368A, 368B | 28-84528K17 | male, 8-contact               |
| P369        | 28-84528K16 | male, 4-contact               |
|             |             | male, 6-contact               |
|             |             | <b>transistor: (see note)</b> |
| Q2250       | 48-869648   | NPN; type M9648               |
| Q2251       | 48-02081B10 | NPN; type M1B10               |

|                  |             |                                      |  |
|------------------|-------------|--------------------------------------|--|
| R2251            | 6-11020A43  | 560                                  |  |
| R2252            | 6-11020A49  | 1k                                   |  |
| R2253            | 6-11020A73  | 10k                                  |  |
| R2254, Z2255     | 6-11009C36  | 300                                  |  |
| R2256 thru Z2259 | 6-11009C36  | 300                                  |  |
| R2260 thru Z2266 | 6-11009C36  | 300                                  |  |
| R2267            | 6-11020A34  | 240                                  |  |
| R2269, Z2270     | 6-11020A37  | 330                                  |  |
| R2271, Z2272     | 6-11020A89  | 47k                                  |  |
| R2273            | 6-11020A73  | 10k                                  |  |
| R2274            | 6-11020A49  | 1k                                   |  |
| R2275            | 6-11020A73  | 10k                                  |  |
| Z2276            | 18-84075M01 | variable; 2k (includes switch S2250) |  |

|        |            |                          |
|--------|------------|--------------------------|
| RV2250 | 6-84357M01 | varistor:<br>metal oxide |
|--------|------------|--------------------------|

|       |             |             |
|-------|-------------|-------------|
| S800  | 40-82270M02 | switch:     |
| S801  | 40-84330M02 | 32 position |
| S2250 | —           | latching    |
|       |             | p/o R2276   |

|        |             |                                                   |
|--------|-------------|---------------------------------------------------|
| VR2251 | 48-82256C11 | Voltage regulator. (see note)<br>Zener type; 10 V |
|--------|-------------|---------------------------------------------------|

| mechanical part |                     |
|-----------------|---------------------|
| 39-10184A10     | PIN, bubble; 3 used |

| TKN8195-A Cable Remote Multicall Interconnect |                   | PL-7530-A                                 |
|-----------------------------------------------|-------------------|-------------------------------------------|
| REFERENCE SYMBOL                              | MOTOROLA PART NO. | DESCRIPTION                               |
| P2273, 2373                                   | 9-84319M02        | connector, receptacle: female, 10-contact |
| <b>mechanical part</b>                        |                   |                                           |
|                                               | 42-10217A02       | STRAP, cable harness WHT; 2 used          |

TKN8196, Cable, Remote Channel Scan Interconnect PL-7541-0

| REFERENCE SYMBOL            | MOTOROLA PART NO. | DESCRIPTION                                                                                                                             |
|-----------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| P2283                       | 9-84319M07        | connector, receptacle:<br>female; 11-contact                                                                                            |
| P2284                       | 9-84319M08        | female; 12-contact                                                                                                                      |
| P2383                       | 9-84319M07        | female; 11-contact                                                                                                                      |
| P2384                       | 9-84319M08        | female; 12-contact                                                                                                                      |
| J2383                       | 28-83186M04       | connector, plug<br>male, right angle; 11-contact                                                                                        |
| J2384                       | 28-83186M05       | male, right angle; 12-contact                                                                                                           |
| <b>non-referenced items</b> |                   |                                                                                                                                         |
|                             | 1-80732D48        | CABLE, remote <i>Channel Scan</i> interconnect<br>11-cord; includes ref. items P2383, P2283,<br>and<br>STRAP, cable harness WHT; 2 used |
|                             | 42-10217A02       | CABLE, remote <i>Channel Scan</i> interconnect<br>12-cord; includes ref. items P2384, P2284,<br>and<br>STRAP, cable harness WHT; 2 used |
|                             | 1-80732D49        |                                                                                                                                         |
|                             | 42-10217A02       |                                                                                                                                         |

VKN4030, A Remote Interface Cable Kit PL-8360-0

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                      |
|------------------|-------------------|----------------------------------|
| P104, 107        | 14-84277D29       | connector:<br>housing, 6 contact |
|                  |                   | <b>mechanical parts</b>          |
|                  | 9-84279D03        | CONTACT, receptacle; 12 used     |
|                  | 42-10217A02       | STRAP, cable                     |

VLN4148/A Remote Interconnect Board Kit PL-8353-0

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                             |
|------------------|-------------------|-----------------------------------------|
| J106, 108        | 28-84528K48       | connector, plug;<br>male, 2 x 6 contact |

TRN4763B Basic Remote Interface Board  
TRN4764B Universal Remote Interface Board

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION            |
|------------------|-------------------|------------------------|
|                  |                   | capacitor:             |
| C2200            | 21-11022M42       | 100 pF $\pm$ 5%; 50 V  |
| C2201, 2202      | 23-11037A27       | 22 uF $\pm$ 20%; 25 V  |
| C2203            | 21-11022M42       | 100 pF $\pm$ 5%; 50 V  |
| C2204            | 8-11017B14        | .047 uF 10%, 50 V      |
| C2205            | 23-11037A27       | 22 uF $\pm$ 20%; 25 V  |
| C2206-2208       | 21-11022M42       | 100 pF $\pm$ 5%; 50 V  |
| C2209-2213       | 21-11025A01       | .01 uF $\pm$ 20%; 25 V |

|                    |             |                                     |
|--------------------|-------------|-------------------------------------|
| CR2200, 2201, 2203 | 48-84399M01 | <b>diode: (see note)</b><br>silicon |
| CR2204             | 48-82525G19 | silicon                             |
| CR2205             | 48-84399M01 | silicon                             |

|           |             |                                  |
|-----------|-------------|----------------------------------|
| J364      | 9-83680M01  | <b>connector, receptacle:</b>    |
| J365, 366 | 9-83890M02  | female; 10-contact               |
| J2273     | 28-84318M03 | female; 8-contact                |
| J2283     | 28-84318M14 | male; 10-contact (TRN4764B only) |
| J2284     | 28-84318M15 | male; 11-contact (TRN4764B only) |
| J2380     | 28-84318M10 | male; 12-contact (TRN4764B only) |
| J2385     | 9-82003N01  | male; 4-contact                  |
|           |             | female; 36-contact               |

|            |            |                                       |
|------------|------------|---------------------------------------|
| B380, 2380 | 0.84210M06 | connector, plug:<br>female, 4 contact |
|------------|------------|---------------------------------------|

|             |             |                 |
|-------------|-------------|-----------------|
| Q2200, 2201 | 48-02081B10 | NPN; type M1B10 |
| Q2202       | 48-869806   | NPN; type M9806 |
| Q2203       | 48-02081B11 | PNP; type M1B11 |
| Q2204, 2205 | 48-02081B10 | NPN; type M1B10 |

resistor, fixed:  $\pm 5\%$ ; 1/4 W:  
unless otherwise stated

|             |            | less otherwise stated |
|-------------|------------|-----------------------|
| R2200       | 6-11020A49 | 1k                    |
| R2201       | 6-11020A65 | 4.7k                  |
| R2202       | 6-11020A21 | 68                    |
| R2203       | 6-11020A85 | 4.7k                  |
| R2204       | 6-11020A73 | 10k                   |
| R2205       | 6-11020A75 | 12k                   |
| R2206       | 6-11020A73 | 10k                   |
| R2207       | 6-11020A61 | 3.3k                  |
| R2208       | 6-11020A45 | 680                   |
| R2209       | 6-11020A57 | 2.2k                  |
| R2210       | 6-11020A45 | 680                   |
| R2211, 2212 | 6-11020A73 | 10k                   |
| R2213       | 6-11020A75 | 12k                   |
| R2214       | 6-11020A49 | 1k                    |
| R2215       | 6-11020A43 | 560                   |
| R2216       | 6-11020A57 | 2.2k                  |
| R2217       | 6-11020A73 | 10k                   |
| R2218       | 6-11020A81 | 22k                   |
| R2219       | 6-11020A76 | 13k                   |
| R2220       | 6-11020A51 | 1.2k                  |
| R2221       | 6-11020A33 | 220                   |
| R2222       | 6-11020A51 | 1.2k                  |
| R2223       | 6-11020A61 | 3.3k                  |
| R2224       | 6-11020A83 | 27k                   |
| R2225       | 6-11020A45 | 680                   |
| R2226       | 6-11020A61 | 3.3k                  |
| R2227       | 6-11020A73 | 10k                   |
| R2228-2234  | 6-11020A89 | 47k (TRN4764B only)   |
| R2235-2239  | 6-11020A25 | 100                   |

|       |             |                                                           |
|-------|-------------|-----------------------------------------------------------|
| U2200 | 51-83629M06 | integrated circuit: (see note)<br>type 29M06; quad op amp |
| U2201 | 51-83627M62 | three-state buffer (TRN4764B only)                        |

|             |             | <b>voltage regulator: (see note)</b> |
|-------------|-------------|--------------------------------------|
| VR2202      | 48-82256C15 | Zener type; 5.1 V                    |
| VR2204-2218 | 48-82256C11 | Zener type; 10 V                     |
| VR2219      | 48-82256C14 | Zener type; 15 V (TRN4764B only)     |
| VR2220-2231 | 48-82256C11 | Zener type; 10 V (TRN4764B only)     |
| VR2232      | 48-82256C26 | Zener type; 3.3 V                    |

| mechanical parts |                                                                       |
|------------------|-----------------------------------------------------------------------|
| 1-80732D47       | ASSEMBLY INTERCONNECT CABLE;<br>includes:                             |
| 42-10217A02      | STRAP, cable harness; 3 used; includes<br>reference items P380, P2380 |

TKN8175A Remote Control Head Power Cable (CUA and EXA Models) PL-7466-A

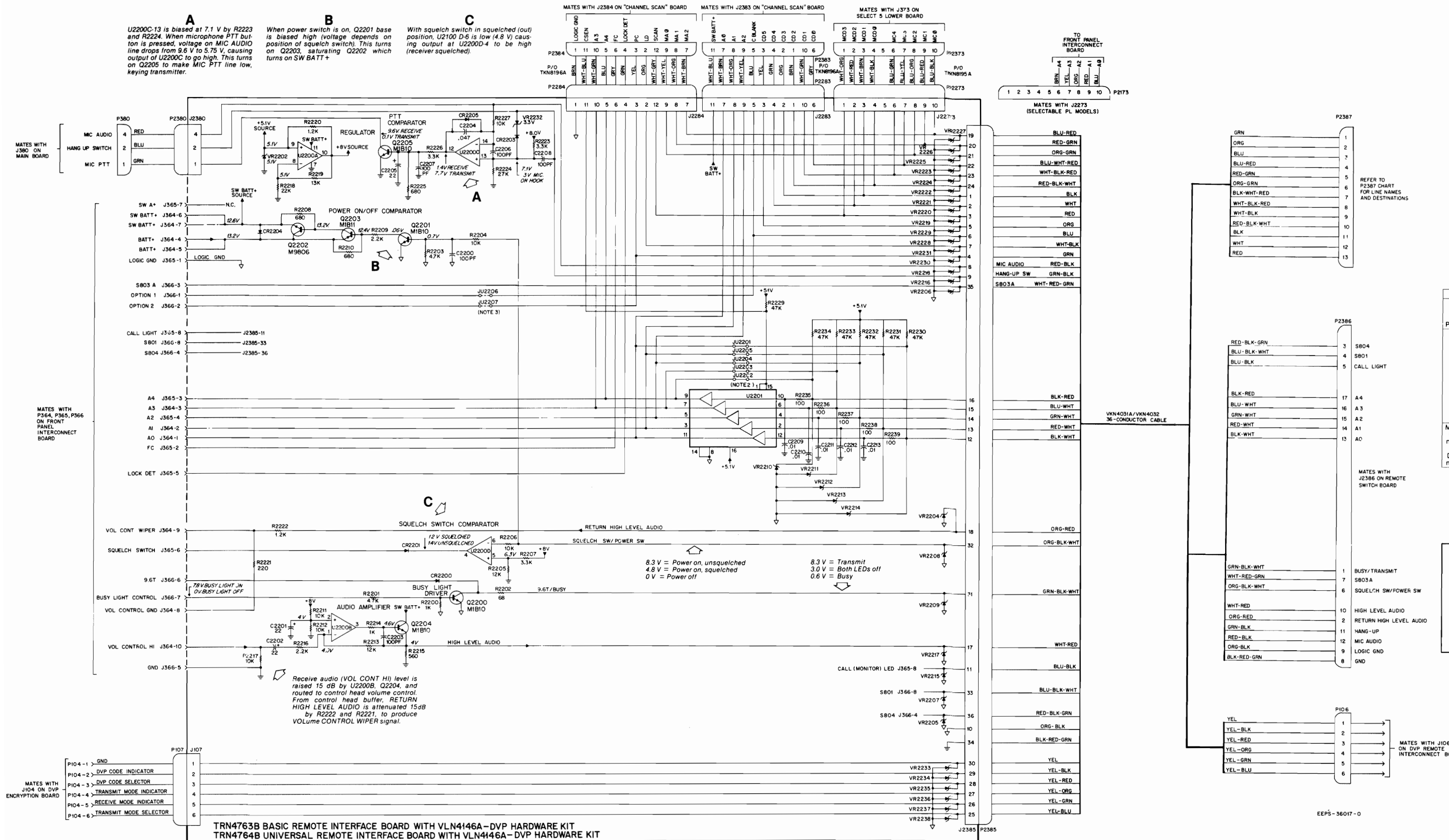
| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                         |
|------------------|-------------------|-----------------------------------------------------|
| F351             | 65-52281          | fuse:<br>1A                                         |
|                  |                   | <b>mechanical parts</b>                             |
|                  | 1-80733D14        | ASSEMBLY, green wire and terminal (short) includes: |
|                  | 14-82882A01       | BODY, fuse holder                                   |
|                  | 29-865065         | LUG, ring tongue (3/8" stud)                        |
|                  | 41-82885A01       | SPRING, fuse holder                                 |
|                  | 42-82884A01       | CLIP, fuse holder                                   |
|                  | 1-80734D01        | ASSEMBLY, green wire long remote; includes:         |
|                  | 29-82141N01       | TERMINAL                                            |
|                  | 14-82883A01       | CAP, fuse holder                                    |
|                  | 42-82884A01       | CLIP, fuse holder                                   |

VLN4146A Remote Hardware Kit PL-8362-O

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                        |
|------------------|-------------------|----------------------------------------------------|
| J107             | 28-84318M29       | connector:<br>male; 6 contact                      |
| VR2233 thru 2238 | 48-82256C11       | voltage, regulator: (see note)<br>Zener type; 10 V |

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

# REMOTE INTERFACE BOARD AND CABLE



# REMOTE FRONT PANEL BOARDS

REMOTE INTERFACE BOARD  
MODELS VLN1011A and VLN1012A

## FUNCTION

Allows radio set to be mounted in remote location such as under seat or in trunk, and be controlled from the vehicle dashboard.

Refer to Front Panel Boards section for information on Front Panel Interconnect Board and Display Boards. These are the same in Remote Mount radios as those used in Front Mount Radios.

## Model Complement Chart

| Model    | DVP Basic Remote Interface Board | Basic Remote Interface Board | DVP Remote Hardware Kit | DVP Universal Remote Interface Board | Universal Remote Interface Board | DVP Remote Hardware Kit |
|----------|----------------------------------|------------------------------|-------------------------|--------------------------------------|----------------------------------|-------------------------|
| VLN1011A | TRN4763B                         | VLN4146A                     | VLN1021A                | TRN4764B                             | VLN4146A                         |                         |

## REMOTE SWITCH BOARD AND REMOTE RADIO SET CABLING DIAGRAMS

**REMOTE RADIO SET CABLEING DIAGRAMS**

**MATES WITH P237 FROM THUMBWHEEL SWITCHES (NOTE 4)**

**OPTION 2**

**OPTION 1**

**NOTE 6**

**SW A+**

**BATT+**

**P367-1 LOGIC GND**

**P368B-1**

**P368B-4**

**P367-1**

**P369-1 DISPLAY DRIVE**

**P367-8 DECIMAL PT**

**R819 300 (NOTE 5)**

**P368B-2**

**P368A-4**

**P367-6**

**P368A-3**

**P369-6**

**P367-7**

**P369-2**

**P369-4**

**P368A-1**

**P368B-3**

**P369-3**

**P369-5**

**P368A-2**

**P367-4 CALL LED**

**R2254-2266 300Ω**

**R2267 240**

**BUSY/TRANSMIT LOGIC**

**P367-5 TRANSMIT LED**

**J3690 RED-BLK (NOTE 5)**

**P367-2 BUSY LED (NOTE 2)**

**P367-3 TRANSMIT/BUSY COMMON**

**9.0V REGULATOR**

**CR2255**

**CR2254**

**CR2253**

**CR2252**

**CR2251**

**CR2250**

**CR2249**

**CR2248**

**CR2247**

**CR2246**

**CR2245**

**CR2244**

**CR2243**

**CR2242**

**CR2241**

**CR2240**

**CR2239**

**CR2238**

**CR2237**

**CR2236**

**CR2235**

**CR2234**

**CR2233**

**CR2232**

**CR2231**

**CR2230**

**CR2229**

**CR2228**

**CR2227**

**CR2226**

**CR2225**

**CR2224**

**CR2223**

**CR2222**

**CR2221**

**CR2220**

**CR2219**

**CR2218**

**CR2217**

**CR2216**

**CR2215**

**CR2214**

**CR2213**

**CR2212**

**CR2211**

**CR2210**

**CR2209**

**CR2208**

**CR2207**

**CR2206**

**CR2205**

**CR2204**

**CR2203**

**CR2202**

**CR2201**

**CR2200**

**CR2199**

**CR2198**

**CR2197**

**CR2196**

**CR2195**

**CR2194**

**CR2193**

**CR2192**

**CR2191**

**CR2190**

**CR2189**

**CR2188**

**CR2187**

**CR2186**

**CR2185**

**CR2184**

**CR2183**

**CR2182**

**CR2181**

**CR2180**

**CR2179**

**CR2178**

**CR2177**

**CR2176**

**CR2175**

**CR2174**

**CR2173**

**CR2172**

**CR2171**

**CR2170**

**CR2169**

**CR2168**

**CR2167**

**CR2166**

**CR2165**

**CR2164**

**CR2163**

**CR2162**

**CR2161**

**CR2160**

**CR2159**

**CR2158**

**CR2157**

**CR2156**

**CR2155**

**CR2154**

**CR2153**

**CR2152**

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**CR2126**

**CR2125**

**CR2124**

**CR2123**

**CR2122**

**CR2121**

**CR2120**

**CR2119**

**CR2118**

**CR2117**

**CR2116**

**CR2115**

**CR2114**

**CR2113**

**CR2112**

**CR2111**

**CR2110**

**CR2109**

**CR2108**

**CR2107**

**CR2106**

**CR2105**

**CR2104**

**CR2103**

**CR2102**

**CR2101**

**CR2100**

**CR2099**

**CR2098**

**CR2097**

**CR2096**

**CR2095**

**CR2094**

**CR2093**

**CR2092**

**CR2091**

**CR2090**

**CR2089**

**CR2088**

**CR2087**

**CR2086**

**CR2085**

**CR2084**

**CR2083**

**CR2082**

**CR2081**

**CR2080**

**CR2079**

**CR2078**

**CR2077**

**CR2076**

**CR2075**

**CR2074**

**CR2073**

**CR2072**

**CR2071**

**CR2070**

**CR2069**

**CR2068**

**CR2067**

**CR2066**

**CR2065**

**CR2064**

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**CR2042**

**CR2041**

**CR2040**

**CR2039**

**CR2038**

**CR2037**

**CR2036**

**CR2035**

**CR2034**

**CR2033**

**CR2032**

**CR2031**

**CR2030**

**CR2029**

**CR2028**

**CR2027**

**68P81064E19-O**  
(Sheet 3 of 4)  
3/15/83-PHI

**1. ALL REMOTE RADIOS**

1-80732D47 REMOTE INTERFACE CABLE  
P/O REMOTE INTER-FACE BOARD KIT

MAIN BOARD

FRONT PANEL INTERCONNECT BOARD (EDGE VIEW)

DVP INTERFACE BOARD (EDGE VIEW)

DVP ENCRYPTION BOARD

DVP REMOTE INTERFACE BOARD

P/O VKN4031/VKN4032 DVP REMOTE CABLE

**2. REMOTE SELECTABLE PL/DPL SQUELCH**

PL/DPL BOARD

FRONT PANEL INTERCONNECT BOARD (EDGE VIEW)

DVP INTERFACE BOARD (EDGE VIEW)

DVP ENCRYPTION BOARD

DVP REMOTE INTERFACE BOARD

P/O VKN4031/VKN4032 DVP REMOTE CABLE

1-80761025 CABLE  
P/O REMOTE SELECTABLE PL/DPL BOARD KIT

**3. REMOTE CHANNEL SCAN MONITOR**

CHANNEL SCAN UPPER BOARD

FRONT PANEL INTERCONNECT BOARD (EDGE VIEW)

DVP INTERFACE BOARD (EDGE VIEW)

DVP ENCRYPTION BOARD

DVP REMOTE INTERFACE BOARD

P/O VKN4031/VKN4032 DVP REMOTE CABLE

1-80732D48 REMOTE CHANNEL SCAN CABLE (A)

1-80732D49 REMOTE CHANNEL SCAN CABLE (B)

**4. REMOTE SELECT 5 SIGNALING WITH MULTICALL**

SELECT 5 LOWER BOARD

FRONT PANEL INTERCONNECT BOARD (EDGE VIEW)

DVP INTERFACE BOARD (EDGE VIEW)

DVP ENCRYPTION BOARD

DVP REMOTE INTERFACE BOARD

P/O VKN4031/VKN4032 DVP REMOTE CABLE

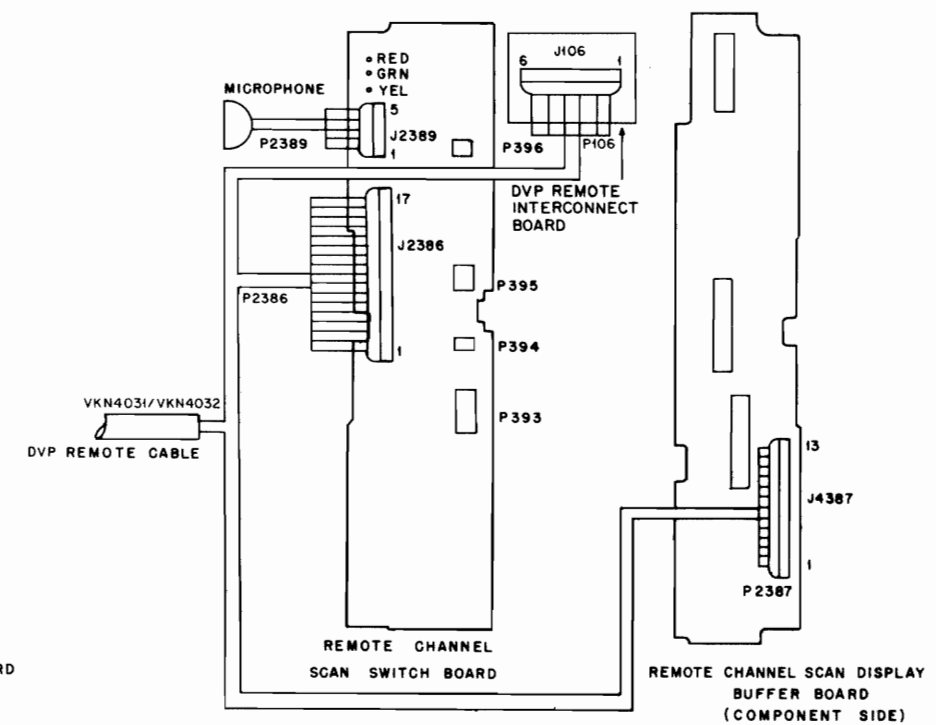
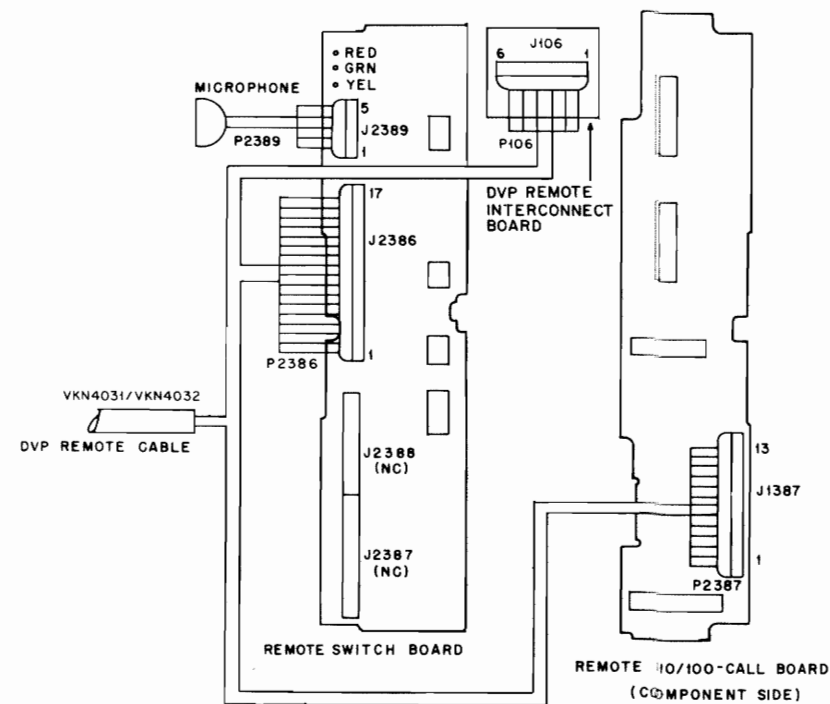
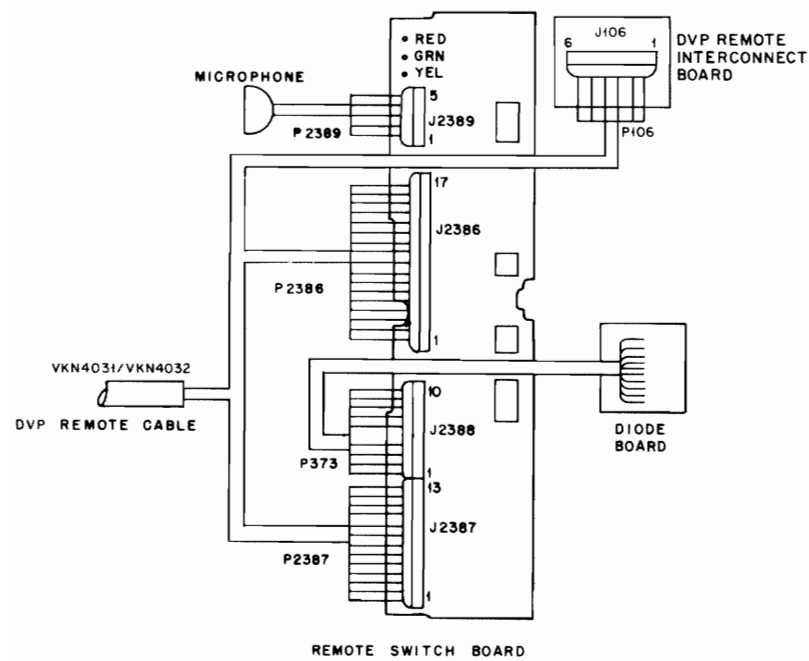
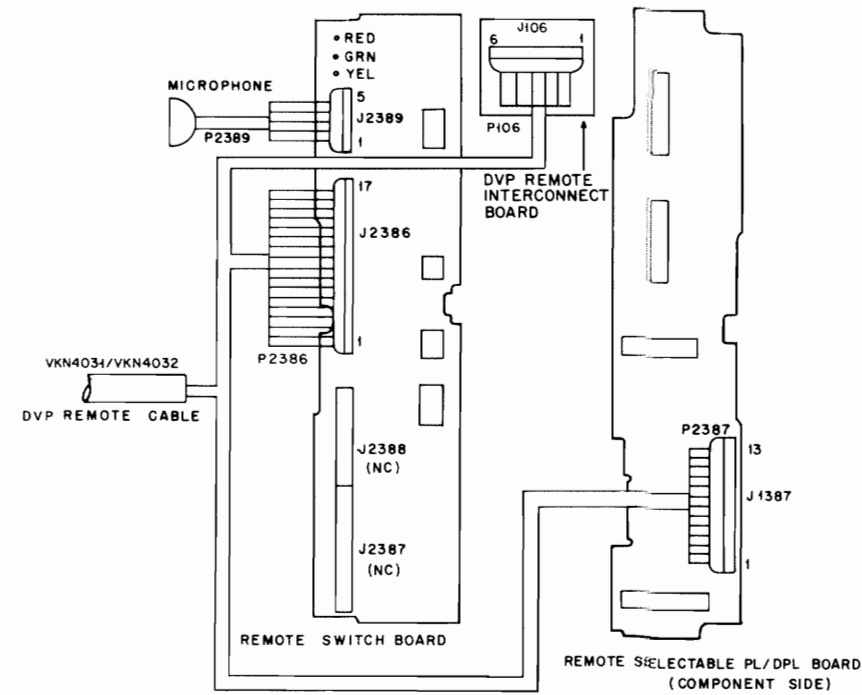
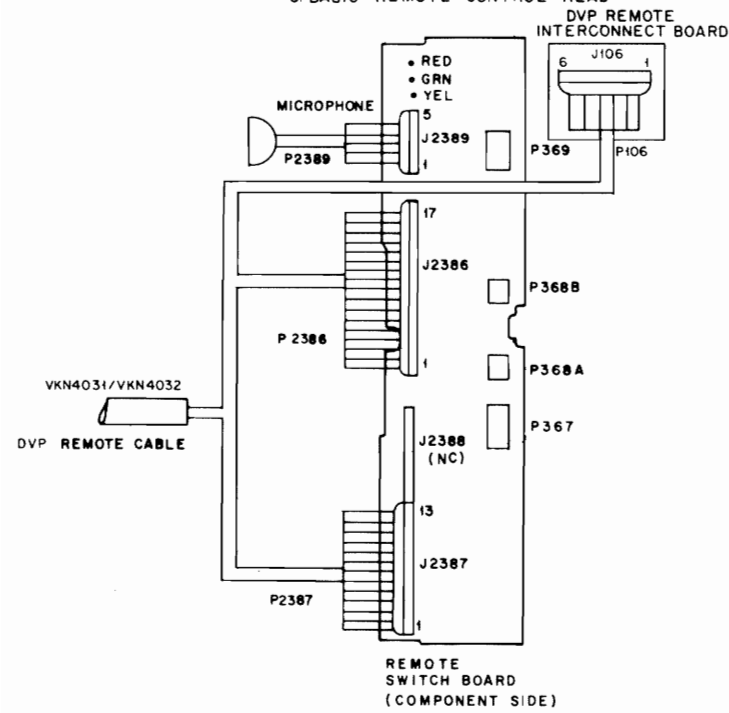
TKN8195A REMOTE MULTICALL CABLE KIT

**NOTES:**

- REFER TO APPROPRIATE SCHEMATIC DIAGRAMS FOR CABLE WIRE COLORS, SIGNAL NAMES, AND PARTS LISTS.
- THIS DRAWING ILLUSTRATES REMOTE RADIO INTERCABLE AND INTERCONNECTION. NON-RELATED CONNECTIONS NOT SHOWN. PARTS SHOWN ARE FOR ORIENTATION.

EEPS-35764-0  
SHEET 1 OF 2

## REMOTE FRONT PANEL BOARDS



EEPS-35764-0  
SHEET 2 OF 2

HARMONIC FILTER

parts list

| TRN4905A Heat Sink, 30 Watt PA (136-174 MHz) |                   |                                                      | PL-8423-O      |
|----------------------------------------------|-------------------|------------------------------------------------------|----------------|
| REFERENCE SYMBOL                             | MOTOROLA PART NO. | DESCRIPTION                                          |                |
| C1415                                        | 21-82812H03       | capacitor, fixed: 1000 pF ± 100-0%; 500 V; feed-thru |                |
| C1416                                        | 21-821474         | 470 pF ± 20%; 500 V; feed-thru                       |                |
| L1403                                        | 24-82190C15       | coll, rf: 1.2 uH (wound on R1401)                    |                |
| R1401                                        | 6-125B82          | resistor, fixed: 4.7 ohm, 1/2 W, 5%                  |                |
|                                              |                   | mechanical part                                      |                |
|                                              |                   | 29-84775M01                                          | LUG, soldering |

note: For parts not listed in the above parts list, refer to the exploded view mechanical parts list.

| TLD9142A Power Amplifier, 10 Watt, 136-162 MHz (L) |  |  |           |
|----------------------------------------------------|--|--|-----------|
| TLD9143A Power Amplifier, 10 Watt, 146-174 MHz (H) |  |  | PL-8424-O |

| REFERENCE SYMBOL  | MOTOROLA PART NO. | DESCRIPTION                                               |
|-------------------|-------------------|-----------------------------------------------------------|
|                   |                   | capacitor, fixed: pF ± 5%; 50 V; unless otherwise stated: |
| C250 (L)          | 21-84873H80       | 60 ± 2%                                                   |
| C250 (H)          | 21-84873H85       | 56                                                        |
| C251              | 21-84873H59       | 100                                                       |
| C252              | 21-84873H68       | 200                                                       |
| C253              | 21-84547A22       | 47 nF ± 10%; 25 V                                         |
| C254 (L), 255 (L) | 21-84873H50       | 33                                                        |
| C254 (H), 255 (H) | 21-84873H57       | 27                                                        |
| C256 (L), 257 (L) | 21-84873H91       | 50                                                        |
| C256 (H), 257 (H) | 21-84873H88       | 43                                                        |
| C258 (L), 259 (L) | 21-84873H85       | 56                                                        |
| C258 (H), 259 (H) | 21-84873H91       | 50                                                        |
| C260 (L)          | 21-84873H89       | 20 ± 2%                                                   |
| C260 (H)          | 21-84873H86       | 18 ± 2%                                                   |
| C261              | 21-84873H61       | 22                                                        |
| C262              | 21-84873H98       | 330 ± 10%                                                 |
| C263              | 21-84547A23       | .018 uF ± 20%                                             |
| C264, 266         | 21-84873H98       | 330 ± 10%                                                 |

|       |             |                              |
|-------|-------------|------------------------------|
| CR250 | 48-83654H01 | diode: (see note)<br>silicon |
|-------|-------------|------------------------------|

|          |             |        |
|----------|-------------|--------|
| L250     | 24-84331M16 | 14 nH  |
| L254     | 24-84331M17 | 34 nH  |
| L255     | 24-84331M18 | 27 nH  |
| L256     | 24-84331M22 | 6 nH   |
| L257 (L) | 24-84331M05 | 10 nH  |
| L257 (H) | 21-84331M13 | 12 nH  |
| L258     | 24-84331M10 | 13 nH  |
| L259     | 24-82723H11 | 200 nH |

|      |             |                                           |
|------|-------------|-------------------------------------------|
| Q250 | 48-84411L90 | transistor: (see note)<br>NPN; type M1190 |
|------|-------------|-------------------------------------------|

| TLD9132A Low Level Amplifier |  |  | PL-7179-A |
|------------------------------|--|--|-----------|
|------------------------------|--|--|-----------|

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                              |
|------------------|-------------------|----------------------------------------------------------|
|                  |                   | capacitor, fixed: pF ± 5%; 50 V; unless otherwise stated |
| C200             | 21-84873H98       | 330 ± 10%                                                |
| C201, 202        | 21-84873H58       | 51                                                       |
| C203             | 21-84873H68       | 200                                                      |
| C204             | 21-84873H77       | 12: 25 V                                                 |
| C205             | 21-84873H68       | 200                                                      |
| C206             | 21-84873H80       | 60 ± 2%                                                  |
| C207             | 21-84873H81       | 110                                                      |
| C208             | 21-84873H98       | 330 ± 10%                                                |
| C209             | 21-84547A22       | 47 nF ± 10%; 25 V                                        |
| C210             | 21-84873H89       | 20                                                       |
| C211             | 21-84873H23       | 27                                                       |
| C212             | 21-84873H84       | 160                                                      |
| C213             | 21-84547A24       | 0.1 uF ± 20%; 25 V                                       |
|                  |                   | diode: (see note)<br>silicon                             |
| CR200            | 48-83654H01       |                                                          |
|                  |                   | coll, rf:                                                |
| L200             | 24-84331M11       | 13 nH                                                    |
| L201             | 24-82723H27       | 1.2 uH                                                   |
| L202             | 24-84331M12       | 28 nH                                                    |
| L203             | 24-84331M13       | 12 nH                                                    |
| L205             | 1-80702T04        | assembly bead                                            |
| L206             | 24-84331M14       | 58 nH                                                    |
| L207             | 24-84331M12       | 29 nH                                                    |
| L208             | 24-84331M15       | 20 nH                                                    |
|                  |                   | transistor: (see note)<br>NPN; type M9657                |
| Q200             | 48-869657         |                                                          |
| Q201             | 48-869859         | NPN; type M9859                                          |

| TFD6431A Harmonic Filter, Range 1 (136-162 MHz) (L) |  |  |           |
|-----------------------------------------------------|--|--|-----------|
| TFD6432A Harmonic Filter, Range 2 (146-174 MHz) (H) |  |  | PL-7180-C |

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                                |
|------------------|-------------------|------------------------------------------------------------|
|                  |                   | capacitor, fixed: pF ± 10%; 50 V; unless otherwise stated: |
| C275, 276        | 21-84873H98       | 330                                                        |
| C278 (L)         | 21-84873H94       | 24 (TFD6431A)                                              |
| C278 (H)         | 21-84873H89       | 20 (TFD6432A)                                              |
| C279, 280        | 21-84873H98       | 330                                                        |
| C281             | 21-84873H76       | 10                                                         |
| C282             | 21-84873H98       | 330                                                        |
| C283 (H)         | 21-84736E35       | 20                                                         |
| C283 (L)         | 21-84736E37       | 24                                                         |
| C284 (H)         | 21-84736E10       | 25.5                                                       |
| C284 (L)         | 21-84736E32       | 27                                                         |
| C285 (H)         | 21-84736E10       | 25.5                                                       |
| C285 (L)         | 21-84736E32       | 27                                                         |
| C286             | 21-84736E29       | 7.5                                                        |
| C287             | 21-84873H98       | 330                                                        |
| C288             | 21-84873H76       | 10                                                         |
| C289, 290, 291   | 21-84873H98       | 330                                                        |
| C292             | 21-84873H76       | 10                                                         |
| C293             | 21-84547A11       | .01 uF                                                     |

|                 |             |                              |
|-----------------|-------------|------------------------------|
| CR275, 276, 277 | 48-83510F04 | diode: (see note)<br>silicon |
| CR278, 279      | 48-84939C35 | silicon                      |

|           |             |               |
|-----------|-------------|---------------|
| L275      | 24-82723H27 | choke: 1.2 uH |
| L276, 277 | 24-84331M05 | 10 nH         |
| L278 (L)  | 24-84331M41 | 55 nH         |
| L278 (H)  | 24-84331M32 | 51 nH         |
| L279 (H)  | 24-84331M30 | 46 nH         |
| L279 (L)  | 24-84331M29 | 45 nH         |
| L280 (H)  | 24-84331M35 | 63 nH         |
| L280 (L)  | 21-84331M34 | 64 nH         |
| L281 (H)  | 21-84331M27 | 78 nH         |
| L281 (L)  | 21-84331M25 | 80 nH         |
| L282 (H)  | 24-84331M37 | 55 nH         |
| L282 (L)  | 24-84331M36 | 56 nH         |

note: L299 and C299 are part of TRN4672A. Refer to Radio Set Hardware Kit Parts List

| TLD9151A Power Amplifier, 30 Watt (136-174 MHz) |  |  | PL-8425-O |
|-------------------------------------------------|--|--|-----------|
|-------------------------------------------------|--|--|-----------|

| REFERENCE SYMBOL | MOTOROLA PART NO. | DESCRIPTION                                               |
|------------------|-------------------|-----------------------------------------------------------|
|                  |                   | capacitor, fixed: pF ± 5%; 50 V; unless otherwise stated: |
| C1400            | 21-84873H51       | 180                                                       |
| C1401            | 21-84873H86       | 18 ± 2%                                                   |
| C1402            | 21-84873H73       | 75                                                        |
| C1403, 1404      | 21-84736E21       | 100                                                       |
| C1405            | 21-84547A23       | .018 uF ± 20%                                             |
| C1406            | 21-84873H74       | 300                                                       |
| C1410, 1411      | 21-84736E41       | 140                                                       |
| C1412            | 21-84736E21       | 100                                                       |
| C1413            | 21-84736E10       | 25.5                                                      |
| C1414            | 21-84773H52       | 470                                                       |

|        |             |                              |
|--------|-------------|------------------------------|
| CR1400 | 48-83654H01 | diode: (see note)<br>silicon |
|--------|-------------|------------------------------|

|       |            |                     |
|-------|------------|---------------------|
| E1400 | 1-80739D84 | ferrite bead:<br>rf |
|-------|------------|---------------------|

|       |             |                    |
|-------|-------------|--------------------|
| L1400 | 24-84331M02 | coll, rf:<br>22 nH |
| L1401 | 24-84331M42 | 240 nH             |
| L1402 | 24-84331M03 | 33 nH              |
| L1404 | 24-84331M43 | 28 nH              |

|       |             |                                           |
|-------|-------------|-------------------------------------------|
| Q1400 | 48-84411L56 | transistor: (see note)<br>NPN; type M1156 |
|-------|-------------|-------------------------------------------|

|       |          |                                       |
|-------|----------|---------------------------------------|
| R1400 | 6-185B81 | resistor, fixed:<br>1.5k ± 10%; 1/8 W |
|-------|----------|---------------------------------------|

|        |          |                             |
|--------|----------|-----------------------------|
| RT1400 | 6-867628 | thermistor:<br>195k @ 25° C |
|--------|----------|-----------------------------|

| mechanical part |                             |
|-----------------|-----------------------------|
| 64-82287N01     | PLATE, strap ground; 2 used |

| TRN4695A Power Amplifier Interconnect Board, Low Power 6/10 W   |  |  |           |
|-----------------------------------------------------------------|--|--|-----------|
| TRN4696A Power Amplifier Interconnect Board, High Power 25/30 W |  |  | PL-7181-A |

| REFERENCE SYMBOL                 | MOTOROLA PART NO. | DESCRIPTION                                             |
|----------------------------------|-------------------|---------------------------------------------------------|
|                                  |                   | capacitor, fixed:                                       |
| C1417                            | 23-83908L02       | 15 uF ± 20%; 100 V                                      |
| C1451                            | 21-11022G35       | 16 pF ± 5%; 50 V                                        |
| C1452                            | 21-84511B06       | 5.1 pF ± 5%; 50 V                                       |
| C1453                            | 21-84736E21       | 100 pF ± 5%; 50 V                                       |
| C1454                            | 8-82317B01        | 0.1 uF ± 10%; 100 V (TRN4696A)                          |
|                                  |                   | diode: (see note)<br>silicon                            |
| CR1451                           | 48-83654H01       |                                                         |
|                                  |                   | bead:<br>ferrite, short                                 |
| E1450, 1451,<br>1452, 1453, 1454 | 76-83960B01       |                                                         |
|                                  |                   | coll, rf:                                               |
| L1451, 1452                      | 24-83884G04       | 70 nH                                                   |
| L1453, 1454                      | 24-82723H11       | 200 nH                                                  |
| L1455                            | 24-84346A02       | 170 nH (TRN4696A)                                       |
|                                  |                   | resistor, fixed:                                        |
| R1451, 1452                      | 6-124B67          | 8.2 ± 5%; 1/4 W                                         |
| R1453                            | 6-11009C29        | 150 ± 5%; 1/4 W                                         |
| R1454, 1455                      | 6-125A48          | 910 ± 5%; 1/2 W (TRN4696A)                              |
| R1454, 1455                      |                   | NOT USED (TRN4695A)                                     |
| R1456, 1457                      | 6-125A01          | 10 ± 5%; 1/2 W (TRN4696A)                               |
| R1456, 1457                      | 6-125A12          | 30 ± 5%; 1/2 W (TRN4695A)                               |
|                                  |                   | mechanical part                                         |
| 29-84322M02                      |                   | TERMINAL, pin; 22 used (TRN4696A)<br>16 used (TRN4695A) |

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

POWER AMPLIFIERS

FUNCTION

Power amplifier hybrids, except the 30 W PA are mounted to PA interconnect board. Low level amplifier provides amplification at synthesizer output, and power regulation as controlled by main board power circuitry. Harmonic Filter/Antenna Switch attenuates harmonics and switches antenna between transmitter and receiver.

| 30 Watt Power Amplifier Model Complement Chart |                              |  |
|------------------------------------------------|------------------------------|--|
| TLD9151A                                       | 30 W PA Hybrid               |  |
| TRN4905A                                       | 30 W PA Heat Sink & Hardware |  |

