

**705**  
RECEIVER

# SERVICE MANUAL

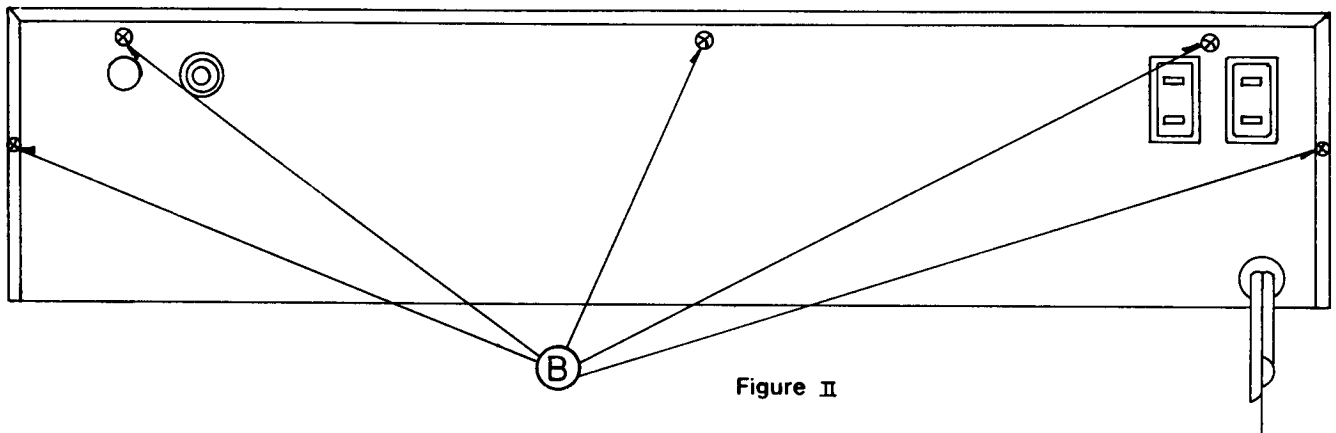
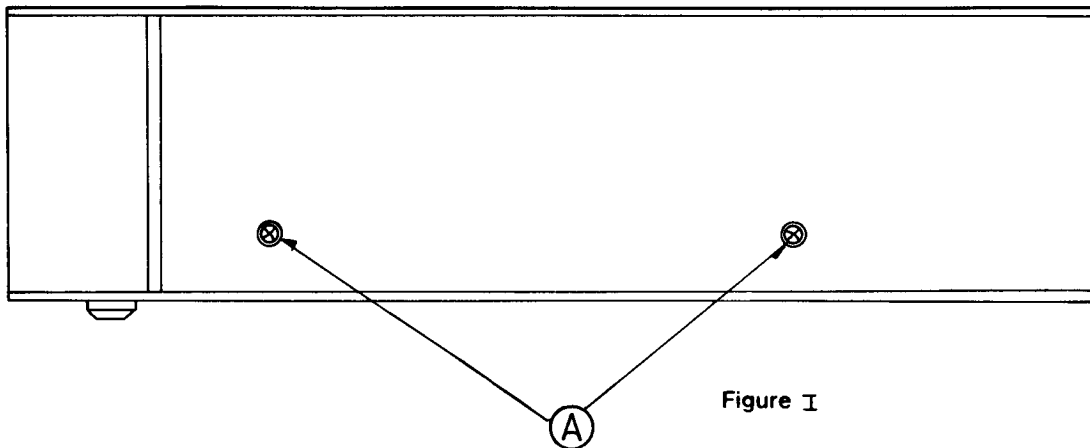
**705**  
RECEIVER



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## Service Instructions



### TO REMOVE TOP COVER

1. Remove 4 screws (A) from the left and right sides of the top cover. (See figure I)
2. Remove 5 screws (B) from the rear panel. (See figure II)
3. Top cover can now be removed.

## SPECIFICATIONS

### NAD 705 STEREO RECEIVER

Standard Test Conditions

Reference Output: 1.0W Into 8 ohm Load

AM Antenna: Firsthand Input

FM Antenna: 75 ohm Balanced

FM Standard Signal: 1 kHz, 75 kHz Deviation At 98 MHz

### AM TUNER SECTION

|                                    |                                       |
|------------------------------------|---------------------------------------|
| Tuning Range                       | : 522 kHz-1611 kHz (520 kHz-1610 kHz) |
| Intermediate Frequency Sensitivity | : 450 kHz                             |
| 20dB Quieting Sensitivity          | : 5uV                                 |
| IF Rejection                       | : 35dB                                |
| S/N Ratio 1.0mV Input              | : 50dB                                |
| T.H.D. 1.0mV Input                 | : 0.3%                                |
| AM Stop Sensitivity (At 1000 kHz)  | : 50dB                                |

### FM TUNER SECTION

|                                 |                  |
|---------------------------------|------------------|
| Tuning Range                    | : 88 MHz-108 MHz |
| Intermediate Frequency          | : 10.7 MHz       |
| 50dB Quieting Sensitivity       | : 1.4mV          |
| IF Rejection                    | : 90dB           |
| S/N Ratio 1mV Input 75 kHz DEV. | : 80dB           |
| MPX Separation (At 1 kHz)       | : 50dB           |
| MPX S/N Ratio 1mV               | : 77dB           |
| FM Stop Sensitivity (At 98 MHz) | : 30dB           |

### PRE-AMPLIFIER SECTION

|                                |          |
|--------------------------------|----------|
| Sensitivity At 1 kHz Output=1V | : 180mV  |
| Frequency Response             | : 0dB    |
| Loudness Control (20 Hz)       | : +12dB  |
| Volume=30dB (20 kHz)           | : +4dB   |
| Base 1 Boost (50 Hz)           | : +9.5dB |
| Cut (50 Hz)                    | : -9.5dB |
| Boost (10 kHz)                 | : +7.0dB |
| Midrange Cut (10 kHz)          | : -7.0dB |

### POWER AMPLIFIER SECTION

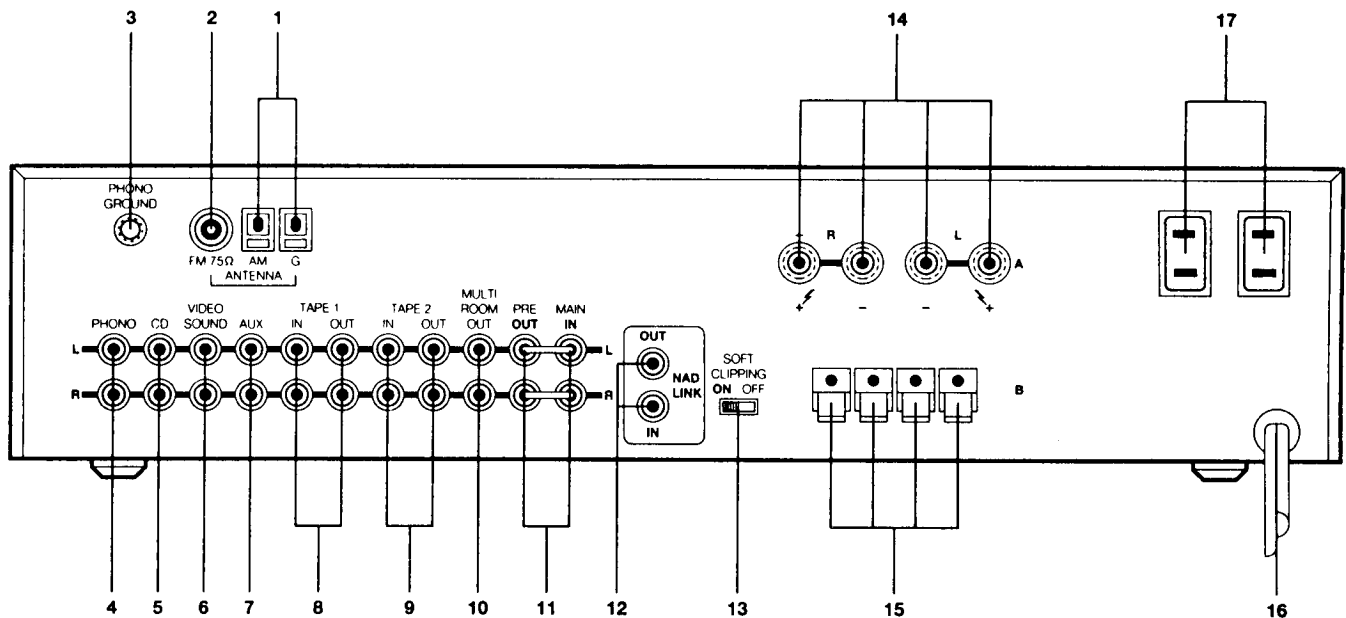
|   |               |
|---|---------------|
| Rated T.H.D.                            | : 0.01%       |
| Channel Separation (At 10 kHz)          | : 70dB        |
| Sensitivity At 1 kHz For 40W Output     | : 1.05V       |
| Frequency Response 20 Hz                | : +0dB/-1.0dB |
| 50-20 kHz                               | : 0±0.5dB     |
| S/N Ratio 1W Output A-WTD               | : -102dB      |
| Damping Factor At 50 Hz, output=1W      | : 70          |
| 0.03% T.H.D. Power Output At 8 ohm Load | : 44W         |

### PHYSICAL SPECIFICATIONS

|                        |  |
|------------------------|--|
| Width x Height x Depth | : 42x9.5x28.5 cm<br>16.5x3.7x11.2 inch                                       |
| Net Weight             | : 6kg (13.2 lbs)   |
| Supply Voltage         | : AC 230V, 50Hz (For UK, VDE, SAA VERSION)<br>AC 115V, 60Hz (For UL Version) |

## REAR PANEL CONNECTIONS

**WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.

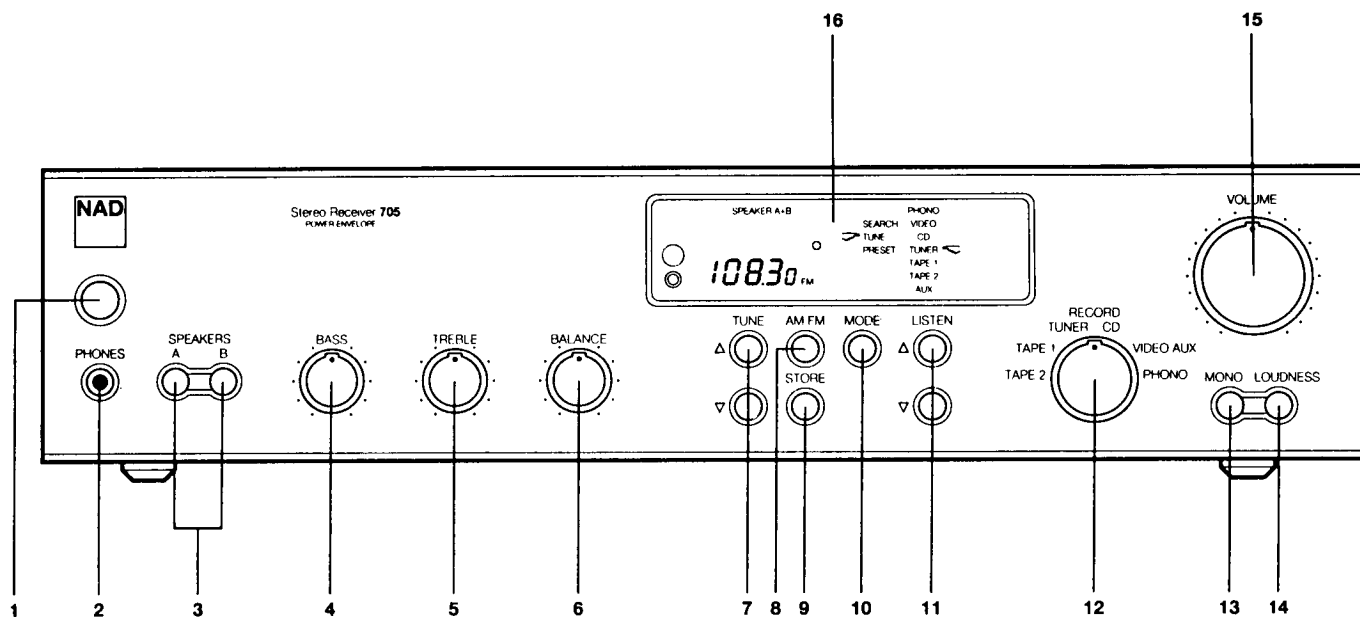


The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### REAR PANEL CONNECTIONS

- |                           |                            |
|---------------------------|----------------------------|
| 1. AM ANTENNA TERMINALS.  | 9. TAPE 2 IN/OUT.          |
| 2. FM ANTENNA INPUT.      | 10. MULTI-ROOM OUTPUT.     |
| 3. PHONO GROUND.          | 11. PREAMP OUT/MAIN IN.    |
| 4. PHONO INPUT.           | 12. NAD LINK IN/OUT.       |
| 5. CD INPUT.              | 13. SOFT CLIPPING.         |
| 6. VIDEO SOUND INPUT.     | 14. "A" SPEAKER TERMINALS. |
| 7. AUX (AUXILIARY INPUT). | 15. "B" SPEAKER TERMINALS. |
| 8. TAPE 1 IN/OUT.         | 16. AC POWER CORD.         |
|                           | 17. AC OUTLETS             |

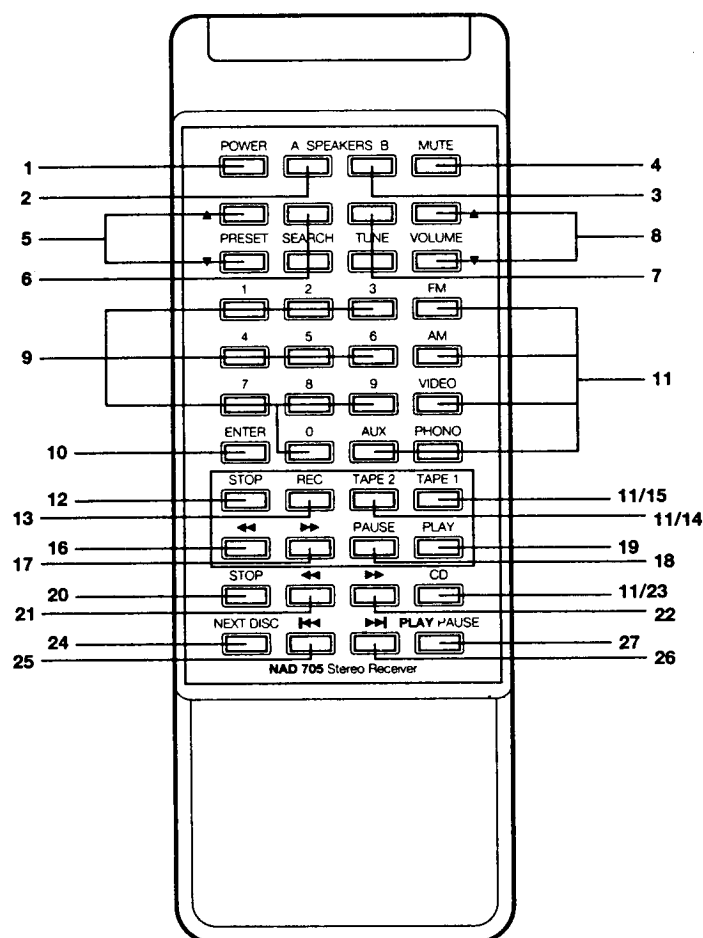
# FRONT PANEL



## FRONT PANEL CONTROLS

- |                          |   |
|--------------------------|---|
| 1. POWER.                | 8. AM/FM SELECT.                        |
| 2. PHONES.               | 9. STORE PRESET.                        |
| 3. A/B SPEAKER SELECTOR. | 10. TUNING MODE.                        |
| 4. BASS.                 | 11. LISTEN (CHOOSE INPUT FOR LISTENING) |
| 5. TREBLE.               | 12. RECORD (CHOOSE INPUT FOR RECORDING) |
| 6. BALANCE.              | 13. MONO.                               |
| 7. UP/DOWN TUNING.       | 14. LOUDNESS COMPENSATION.              |
|                          | 15. VOLUME.                             |
|                          | 16. DISPLAY.                            |

# REMOTE CONTROL TRANSMITTER



## CD PLAYER CONTROLS

The following buttons operate the corresponding functions on certain NAD compact disc players.

- 20. **Stop.**
- 21. **<< (Scan Back).**
- 22. **>> (Scan Forward).**
- 23. **CD.** Selects the receiver's CD input for listening.
- 24. **Next Disc.** Selects the next disc in a CD changer.
- 25. **<< (Skip Back).**
- 26. **>> (Skip Forward).**
- 27. **Play/Pause.**

## BATTERIES.

Batteries must be installed before the remote control can be used. In the future, if the receiver does not respond to remote commands, the batteries may be weak and should be replaced. The unit requires two 1.5-volt AA-size (or R6) penlight cells. Alkaline cells are recommended, for maximum operating life.

To open the battery compartment, press the small release lever between the ribbed areas on the back of the handset. When installing fresh AA cells, take care to orient them as shown on the diagram within the compartment.

## REMOTE CONTROL

Since the 705 remote is a multi-product controller, its buttons are arranged by product category.

## RECEIVER CONTROLS

- 1. **Power.** This button duplicates the function of the green Power On/Off button on the front of the receiver. Press to switch on the power. Press again to switch off the power, leaving the receiver in Standby mode.
- 2. **Speakers A.** Press to engage or disengage the "A" speakers.
- 3. **Speakers B.** Press to engage or disengage the "B" speakers.
- 4. **Mute.** Press to shut off the sound temporarily, when you want to answer the telephone for example. (A little sound may still be audible.) Press MUTE again to restore the sound to its previous volume level.
- 5. **Preset Up/Down.** Skips to the next higher or lower numbered preset station.
- 6. **Search Up/Down.** Auto-seek tuning; scans up or down in frequency and stops at the next strong station.
- 7. **Tune Up/Down.** Tunes up or down in frequency by small steps. These buttons also alter the preset number when you are storing frequencies in the presets.
- 8. **Volume Up/Down.** These buttons activate a small motor to rotate the receiver's Volume control.
- 9. **Numeric Keypad (0 to 9).** Press these buttons to enter a preset number or a tuning frequency. Then press ENTER to tell the receiver that you have completed your selection. The tuning logic recognizes two-digit entries as preset numbers and 3 to 5 digit numbers as broadcast frequencies. If the entry is invalid (e.g. a preset number above 39), the tuned frequency will not change.
- 10. **Enter.** Press this button to complete a numeric keypad entry.
- 11. **Input Select (FM, AM, Video, Phono, Aux, Tape 1, Tape 2, CD).** These white buttons select the input for listening.

## TAPE RECORDER CONTROLS

These buttons operate the corresponding functions on certain NAD tape recorders.

- 12. **Stop.**
- 13. **Rec (Recording).**
- 14. **Tape 2.** Selects the receiver's Tape 2 input for listening.
- 15. **Tape 1.** Selects the receiver's Tape 1 input for listening.
- 16. **<< (Rewind).**
- 17. **>> (Fast Forward).**
- 18. **Pause.**
- 19. **Play.**

# TUNER ADJUSTMENT POINTS

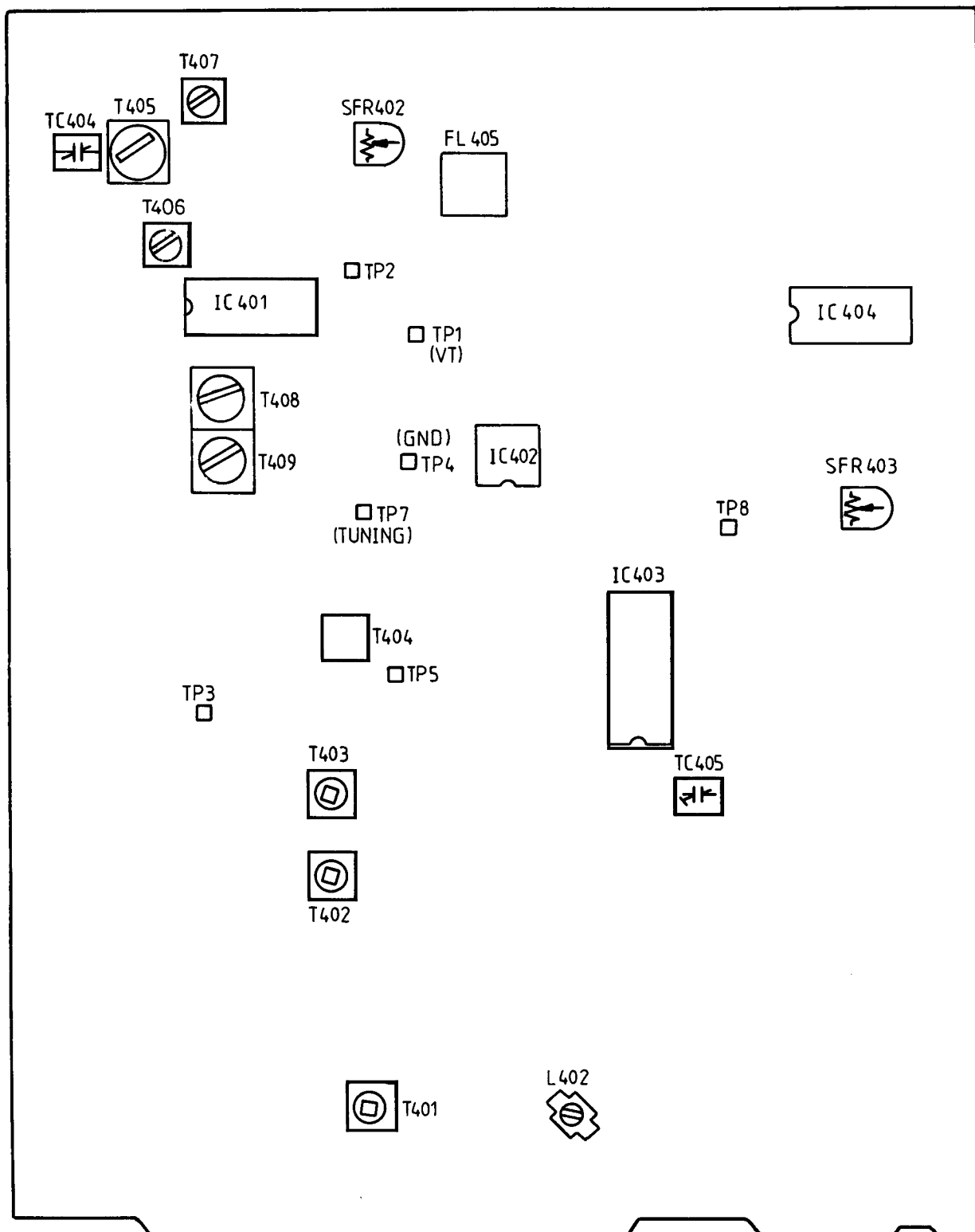


Figure 1



## MAIN ADJUSTMENT POINTS

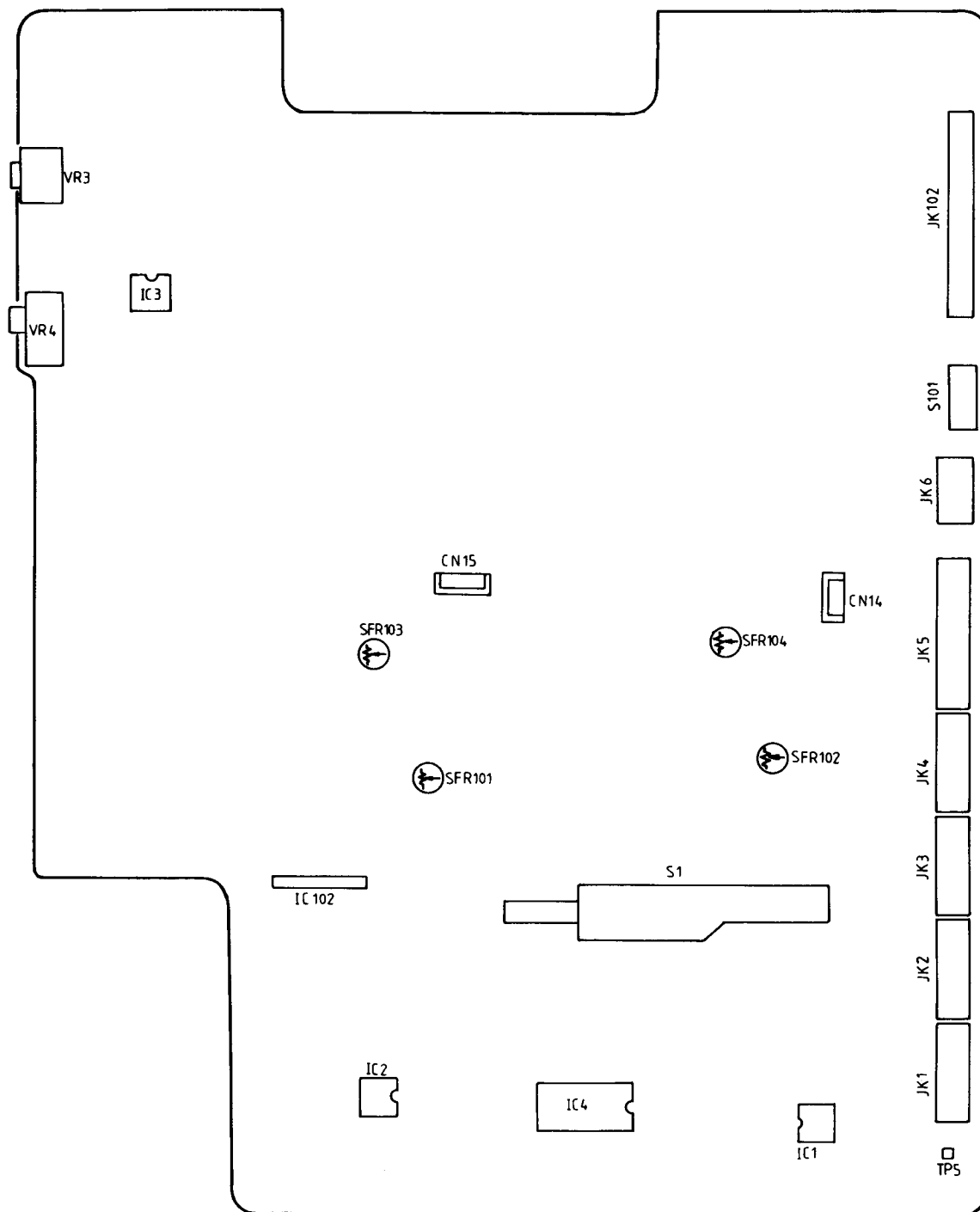


Figure 2.

### Amplifier Section

#### 1. Power output offset adjustment

- a. At open load, DC meter connected to speaker terminal A, speaker switch to "A" position.
- b. Adjust SFR101, let the reading as  $0 \pm 25\text{mV}$ . (L-channel). (Fig. 2)
- c. Adjust SFR102, let the reading as  $0 \pm 25\text{mV}$ . (R-channel). (Fig. 2)

#### 2. Quiescent Current Adjustment

- a. Allow at least 3 minutes burn in before performing this adjustment.
- b. At open load, DC meter connected to CN-15 base. (Fig. 2)
- c. Adjust SFR103, let the reading as  $4.4\text{mV}$ . ( $I=20\text{mA}$ ,  $\pm 5\text{mA}$ ), (L-channel) (Fig. 11)
- d. At open load, DC meter connected to CN-14 base. (Fig. 2)
- e. Adjust SFR104, let the reading as  $4.4\text{mV}$ . ( $I=20\text{mA}$ ,  $\pm 5\text{mA}$ ), (L-channel) (Fig. 11)

# INSTRUMENTATION CONNECTION DIAGRAM

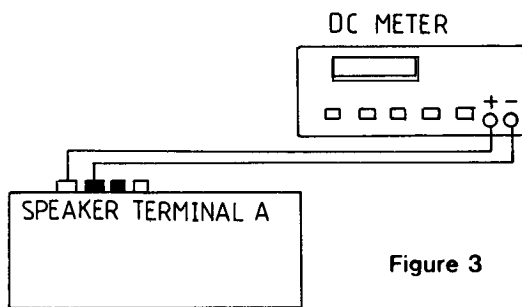


Figure 3

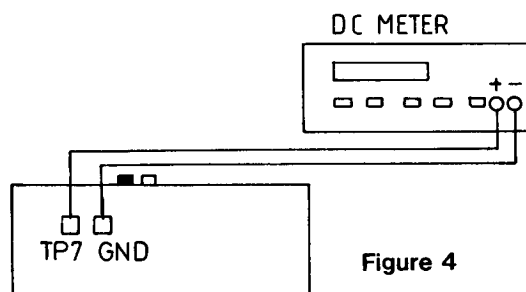


Figure 4

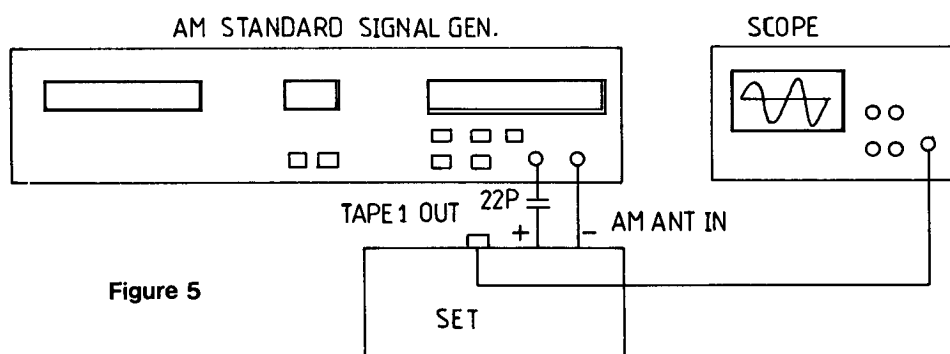


Figure 5

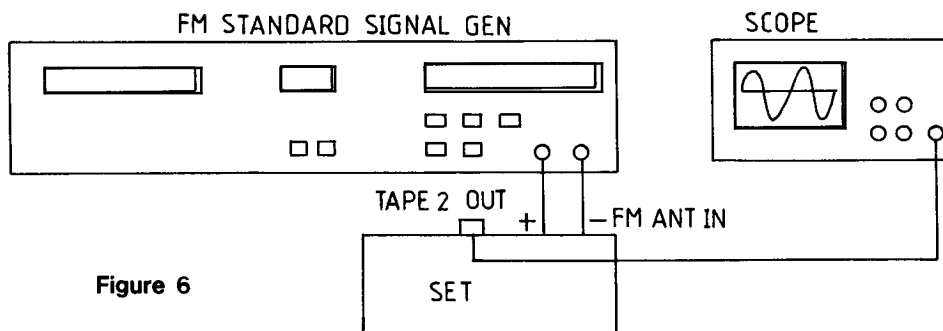


Figure 6

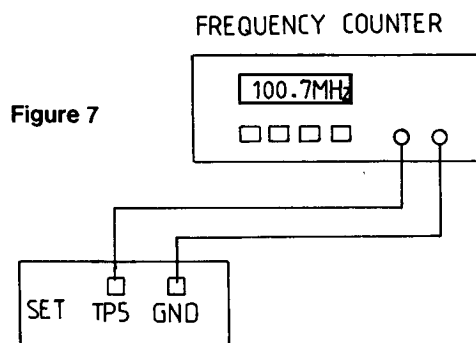


Figure 7

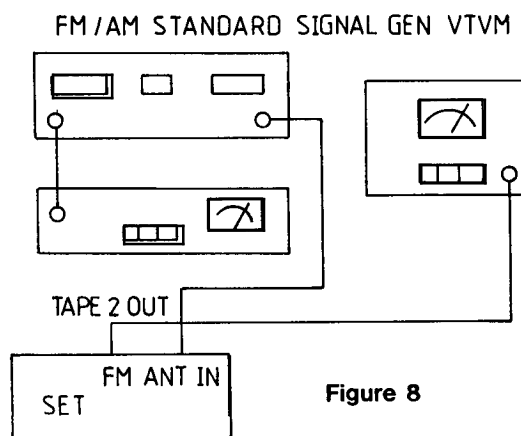


Figure 8

# INSTRUMENTATION CONNECTION DIAGRAM (Cont)

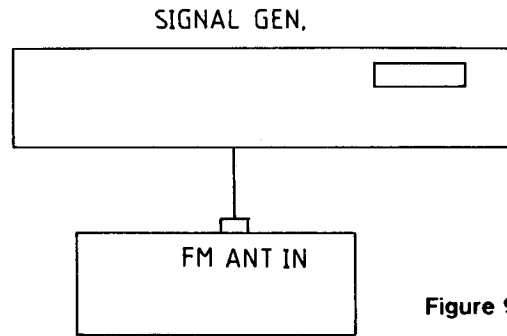


Figure 9

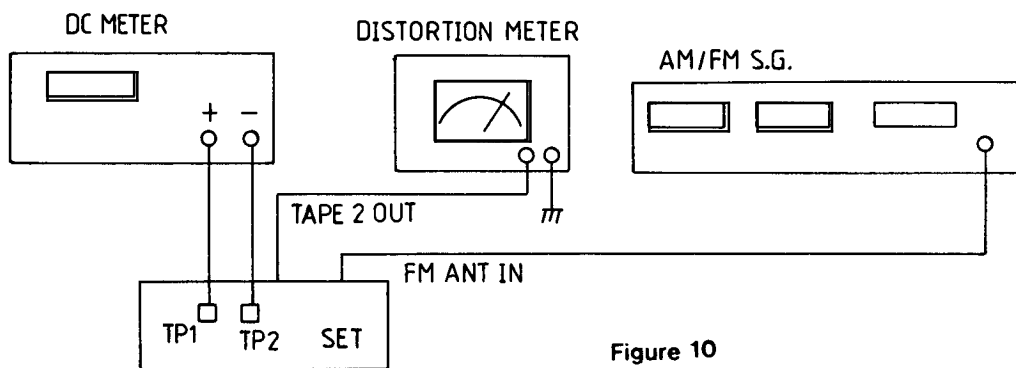


Figure 10

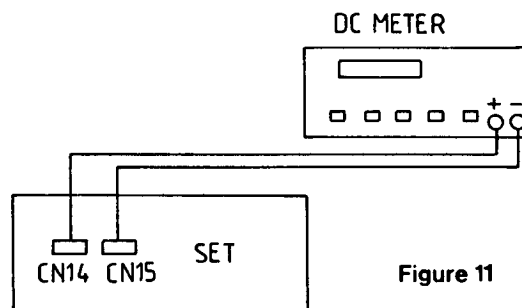


Figure 11

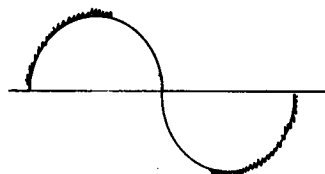


Figure 12

## ADJUSTMENT PROCEDURE

### A: AM SECTION

#### 1. V.C.O. ADJUSTMENT.

- A. MEASURE THE VOLTAGE BETWEEN TP7 AND TP4 (GROUND). (FIG 4).
- B. SELECT AM MODE, AND SET THE UNIT UNDER TEST TO 520 KHZ (UL, CSA). (522 KHZ UK, AY, EU).
- C. ADJUST T406 UNTIL THE VOLTAGE BETWEEN TP7 AND TP4 IS IN THE RANGE 0.9 V TO 1.1 V.
- D. SET THE UNIT UNDER TEST TO 1610 KHZ (UL, CSA) (1611 KHZ UK, AY, EU).  
CHECK THAT THE VOLTAGE BETWEEN TP4 AND TP7 IS IN THE RANGE 7.35 V TO 7.65 V.

#### 2. SENSITIVITY ADJUSTMENT.

- A. CONNECT THE UNIT UNDER TEST AS SHOWN IN FIG. 5. MAKE SURE THAT THE SIGNAL GENERATOR IS CONNECTED VIA A 22P CAPACITOR.
- B. SET THE SIGNAL GENERATOR AND UNIT UNDER TEST TO 600 KHZ (UL, CSA) (603 KHZ UK, AY, EU), 30dBV.
- C. ADJUST T405 FOR MAXIMUM OUTPUT LEVEL.
- D. SET THE SIGNAL GENERATOR AND UNIT UNDER TEST TO 1400KHZ (UL, CSA) (1404 KHZ UK, AY, EU).
- E. ADJUST TC404 FOR MAXIMUM OUTPUT.

#### 3. IF TRACKING

- A. USING THE TEST SET-UP DESCRIBED ABOVE (FIG. 5) SET THE SIGNAL GENERATOR AND UNIT UNDER TEST TO 600 KHZ (UL, CSA) (603 KHZ UK, AY, EU), 30dBV.
- B. ADJUST T407 FOR MAXIMUM OUTPUT.

### B: FM SECTION.

#### 1. V.C.O. ADJUSTMENT.

- A. CONNECT A DC VOLTMETER TO TP7 AND TP4 (GND) (FIG. 4).
- B. SET THE UNIT UNDER TEST TO 87.5 MHZ FM MODE.
- C. ADJUST L402 UNTIL THE VOLTAGE MEASURED IS IN THE RANGE 3.0 V TO 3.1 V.
- D. SET THE UNIT UNDER TEST TO 108 MHZ. CHECK THE VOLTAGE MEASURED IS IN THE RANGE 22 V TO 25 V.

#### 2. 7.2 MHZ REFERENCE FREQUENCY ADJUSTMENT.

- A. CONNECT A FREQUENCY COUNTER TO TP5 (FM OSC) AND GROUND (FIG 7).
- B. SET THE UNIT UNDER TEST TO 90 MHZ FM MODE.
- C. ADJUST TC405 FOR A MEASURED FREQUENCY OF 100.7 MHZ +/- 3HZ.

## ADJUSTMENT PROCEDURE (Cont.)

### 3. SENSITIVITY ADJUSTMENT

- A. SET THE SIGNAL GENERATOR AND UNIT UNDER TEST TO 98MHZ FM MODE. CONNECT THE SIGNAL GENERATOR TO THE FM INPUT JACK (FIG 6). SET THE SIGNAL GENERATOR OUTPUT TO 6dBuV, 1 KHZ MODULATION.
- B. CONNECT AN OSCILLOSCOPE TO TAPE 2 OUTPUT.
- C. ADJUST T401, T402, T403 FOR MAXIMUM OUTPUT. REDUCE THE SIGNAL GENERATOR OUTPUT LEVEL IF NECESSARY.

### 4. IF TRACKING.

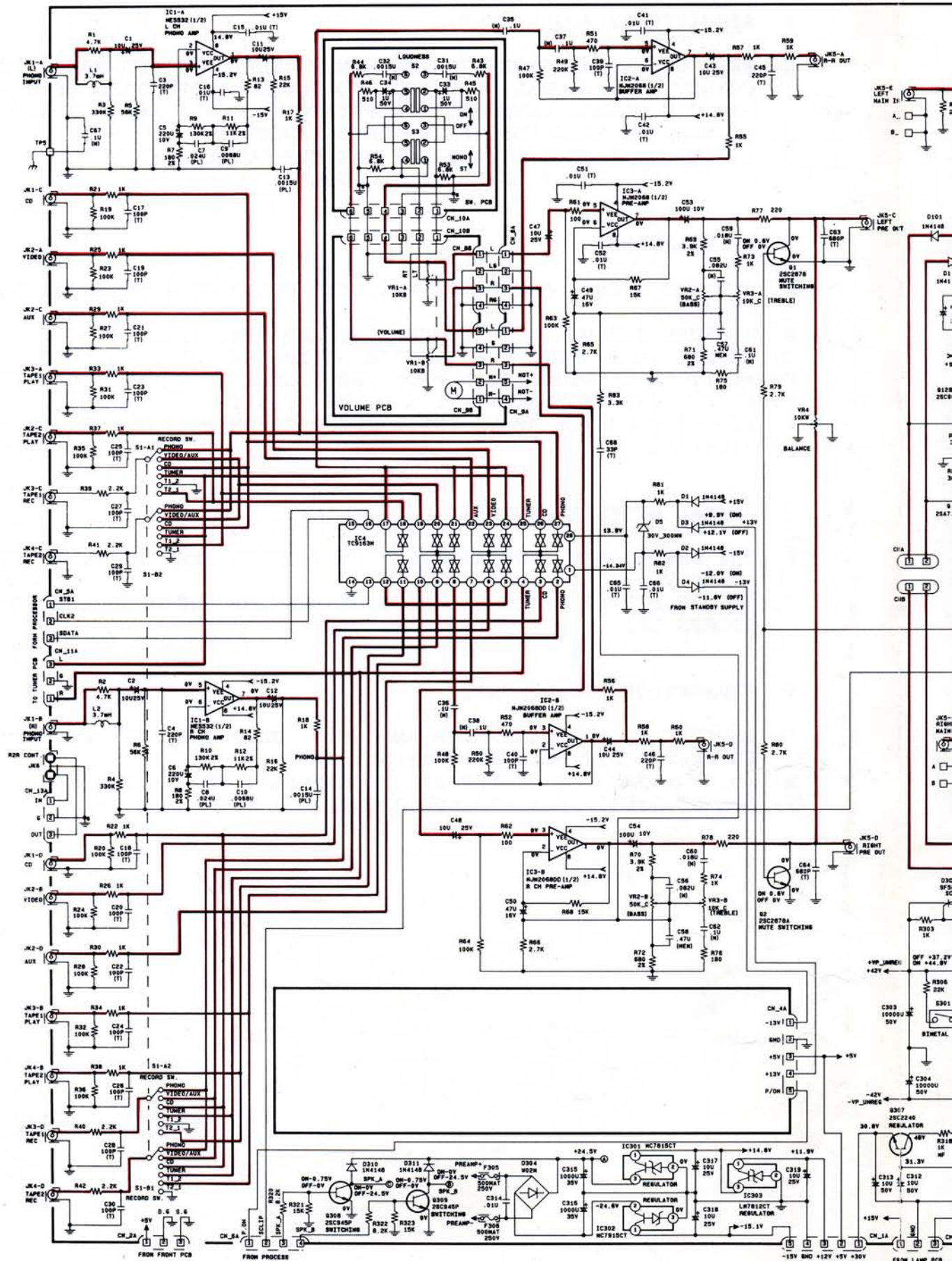
- A. SET THE SIGNAL GENERATOR AND UNIT UNDER TEST TO 98MHZ FM MODE, 60 dBuV.
- B. MEASURE THE VOLTAGE BETWEEN TP1 AND TP2. (FIG 10).
- C. ADJUST T408 UNTIL THE VOLTAGE IS IN THE RANGE -50mV TO +50mV.
- D. MONITOR THE DISTORTION FROM THE SIGNAL AT TAPE 2 (FIG 10).
- E. ADJUST T409 FOR DISTORTION UNDER 0.15%.
- F. REPEAT FROM (C) ABOVE UNTIL THE OPTIMUM DISTORTION HAS BEEN ACHIEVED.

### 5. SIGNAL METER ADJUSTMENT.

- A. SET THE SIGNAL GENERATOR AND UNIT UNDER TEST TO 98MHZ FM MODE, 60 dBuV.
- B. ADJUST SFR402 UNTIL THE LAST SEGMENT OF THE SIGNAL METER JUST LIGHTS UP.

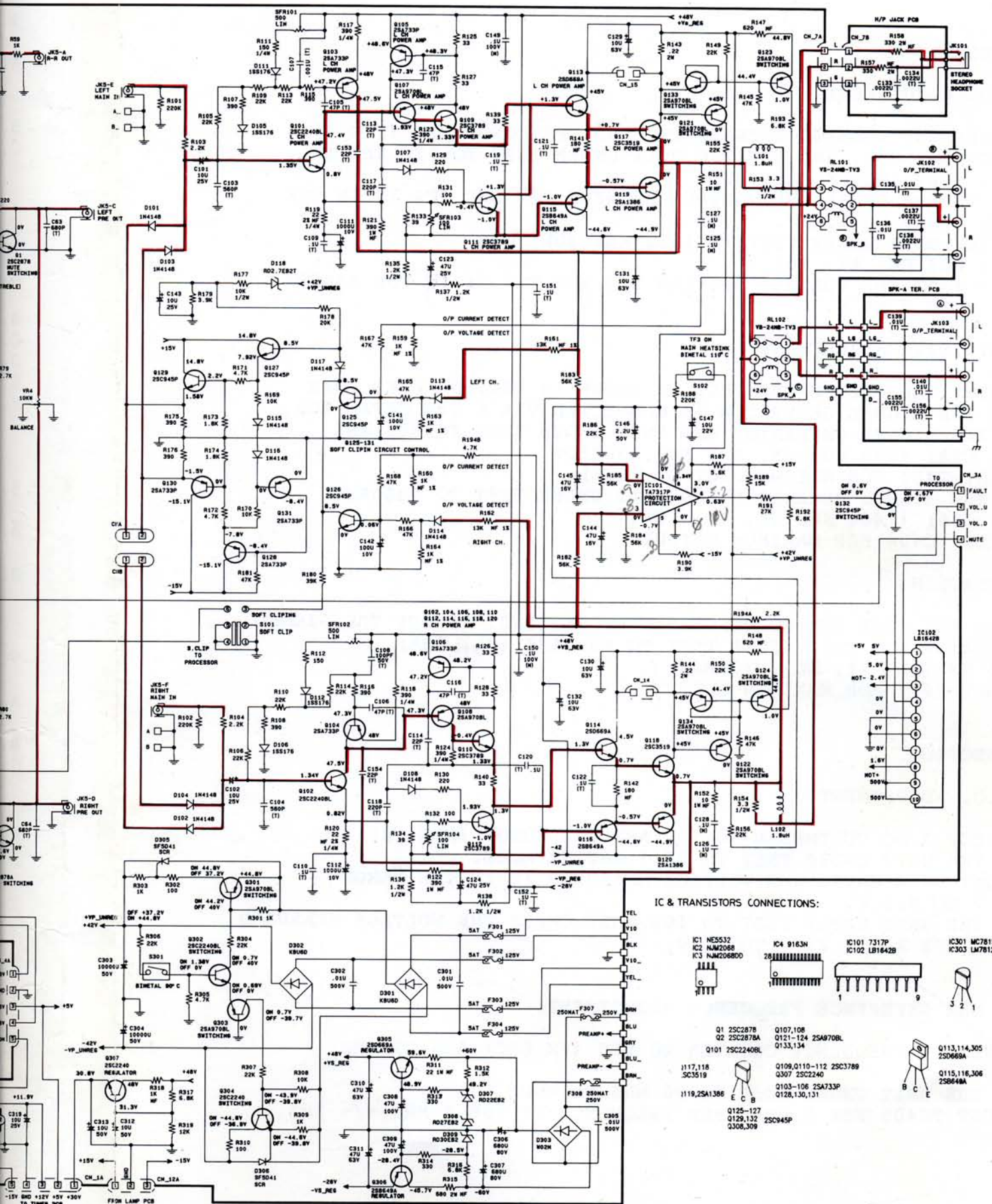
### 6. SEPARATION ADJUSTMENT.

- A. SET THE SIGNAL GENERATOR AND UNIT UNDER TEST TO 98MHZ FM MODE, 60 dBuV, LEFT ONLY MODULATION.
- B. MONITOR THE OUT OF THE RIGHT CHANNEL TAPE 2. (FIG 8)
- C. ADJUST SFR403 FOR MINIMUM SIGNAL.

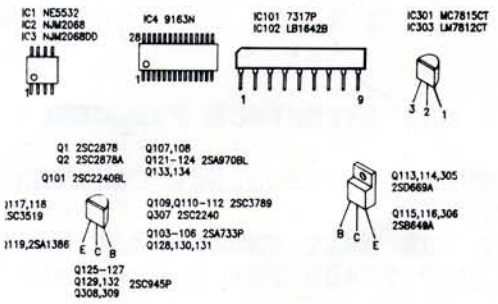




# Main Schematic Diagram

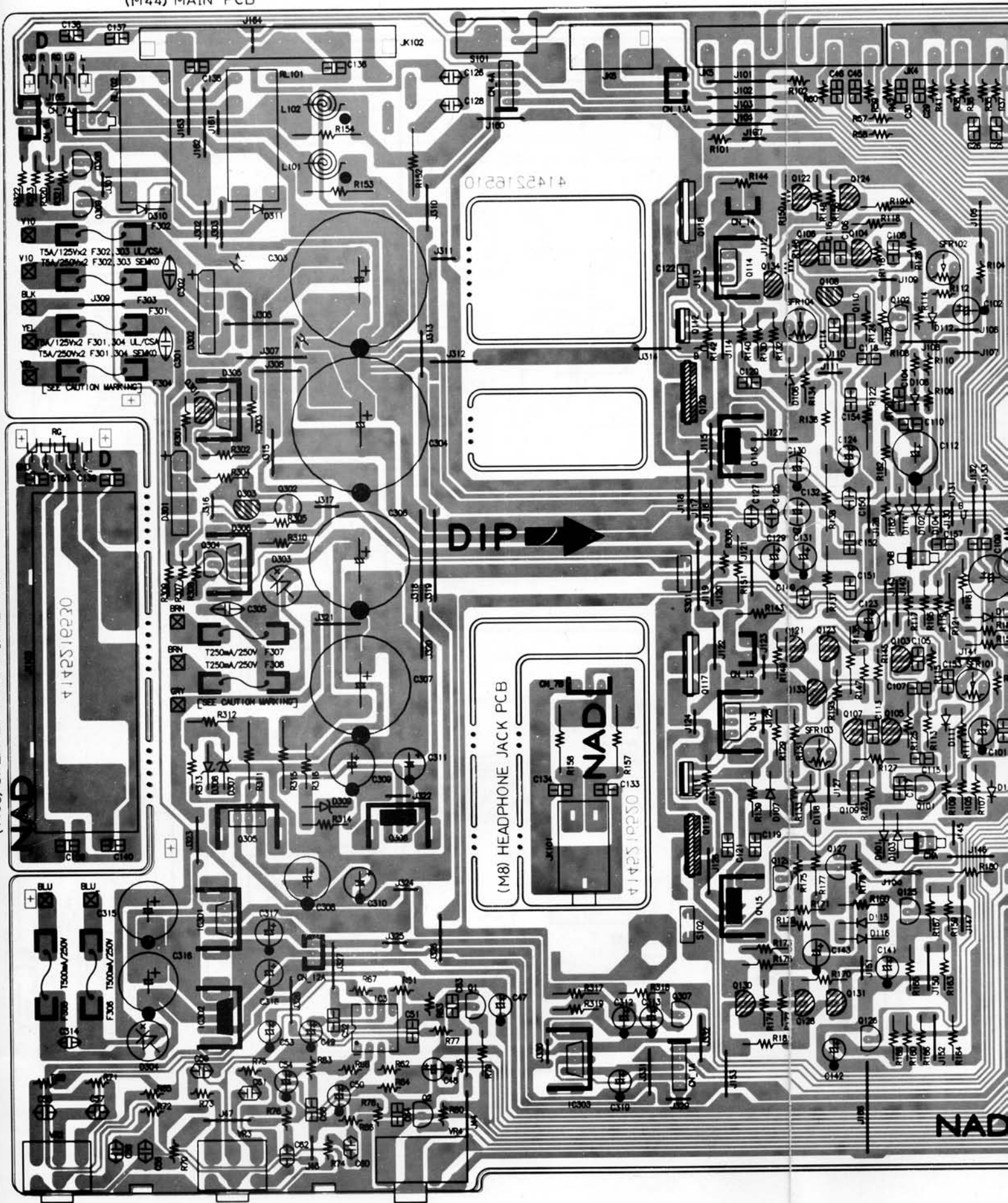


## IC & TRANSISTORS CONNECTIONS:



(M44) MAIN PCB

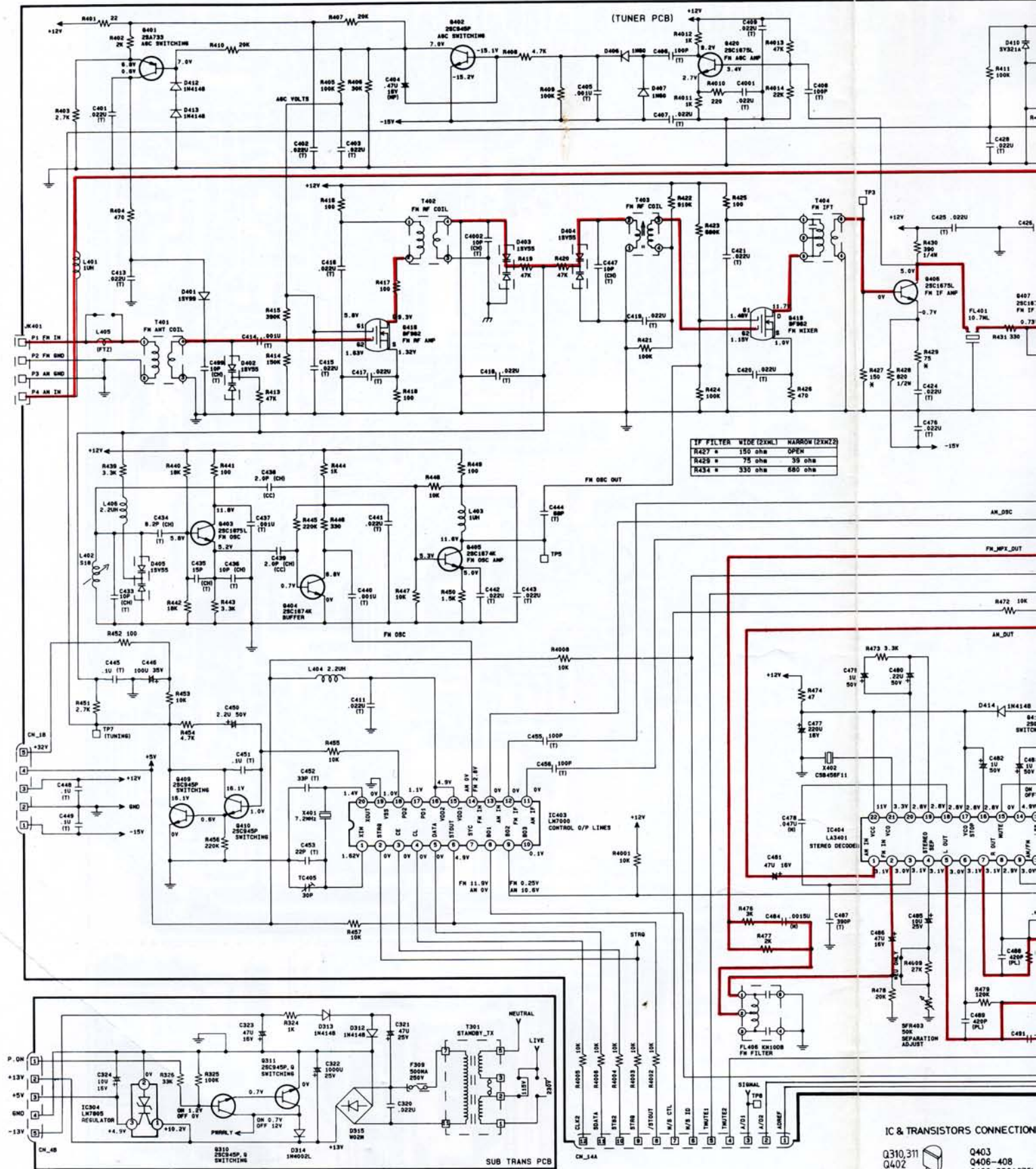
(M60) SPEAKER A TERMINAL PCB







# Tuner Schematic Diagram

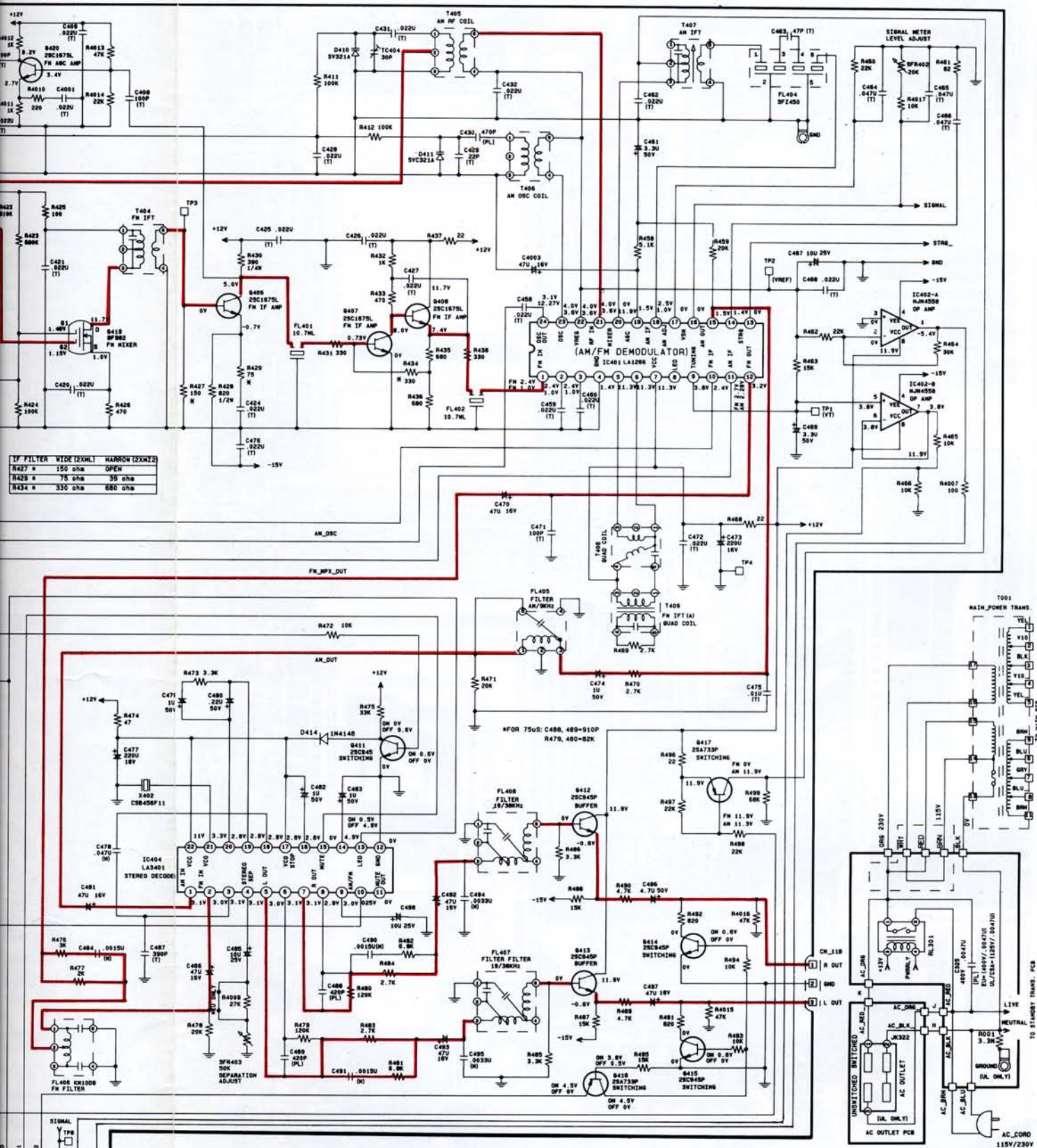


IC & TRANSISTORS CONNECTION

- Q310,311
- Q402
- Q409
- 2SC945 E C B
- Q403
- Q406-408
- Q420 2SC1675L
- Q401,416,417 2SC1675L
- Q404,405 2SC1675L
- Q418 BF982



# Tuner Schematic Diagram



## IC & TRANSISTORS CONNECTIONS:

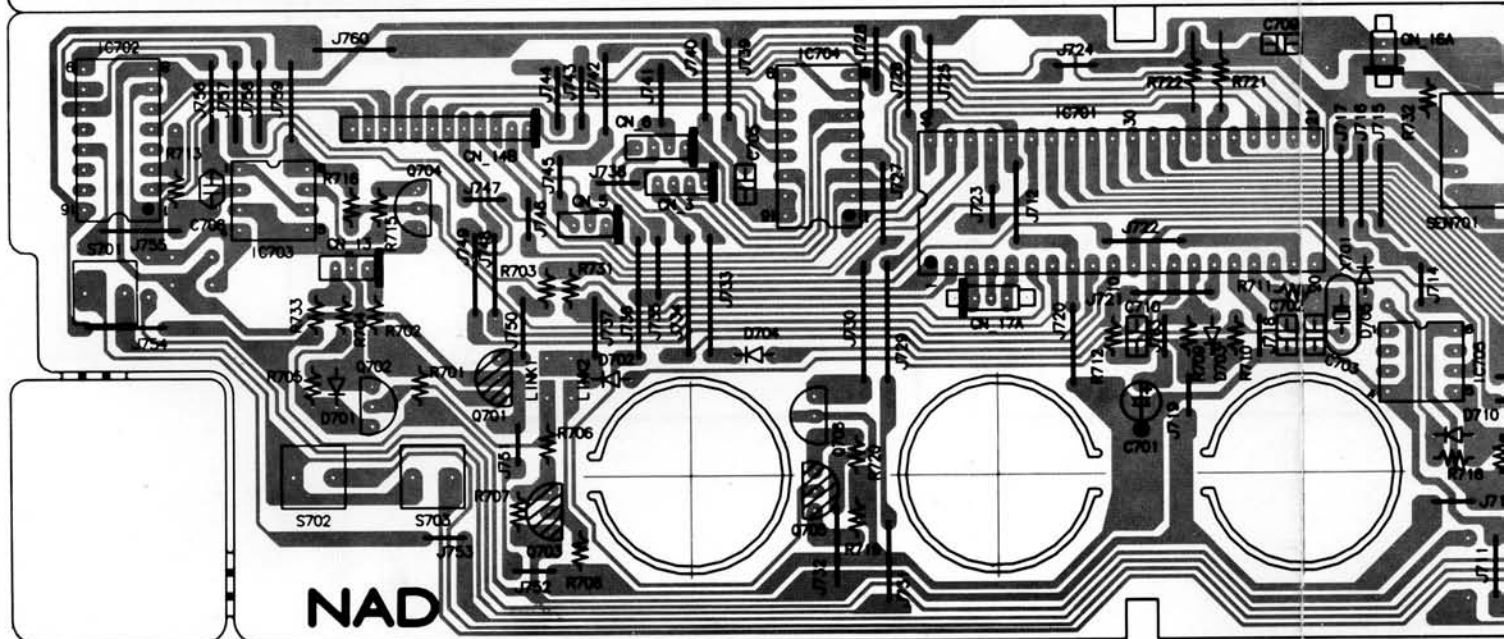
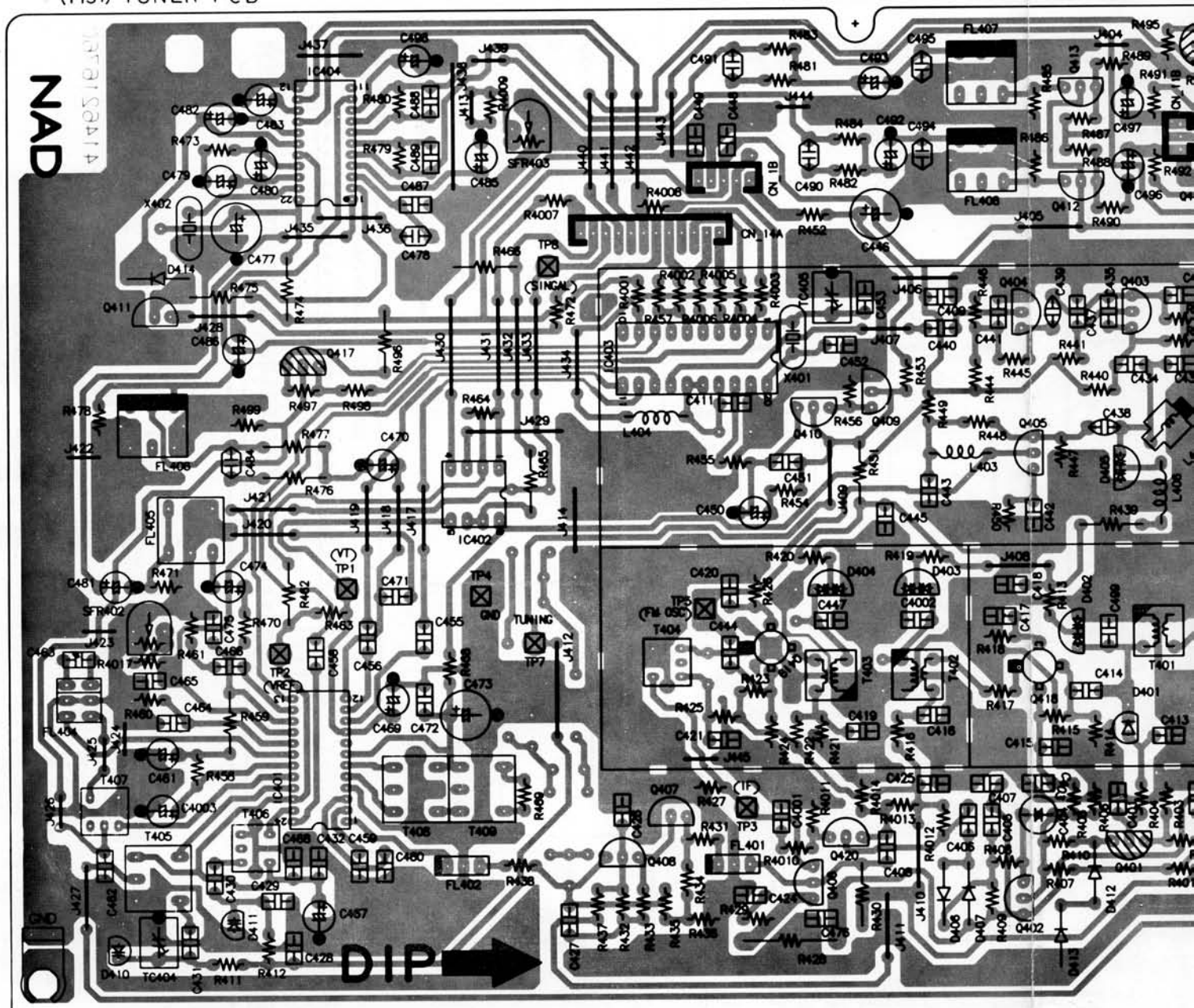
Q310,311  
Q402  
Q409  
2SC945 E C B

Q403  
Q406-408  
Q420 2SC1675L  
Q401,416,417 2SA733  
Q404,405 2SC1674  
Q418 BF982

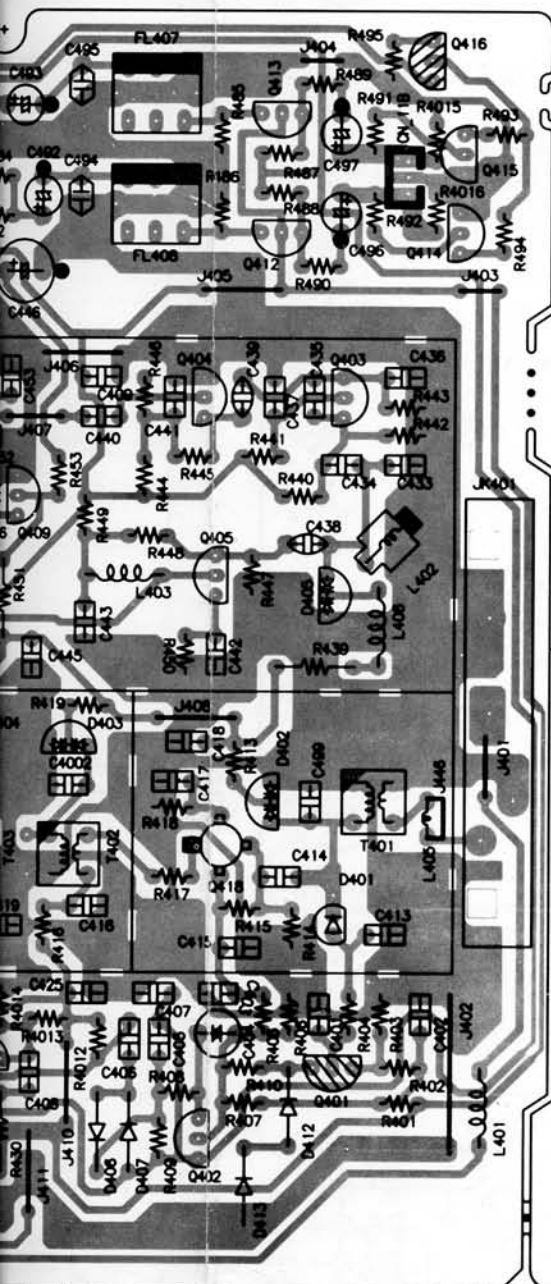
IC401 LA1266  
24  
1

IC402 NJM4558  
20  
1

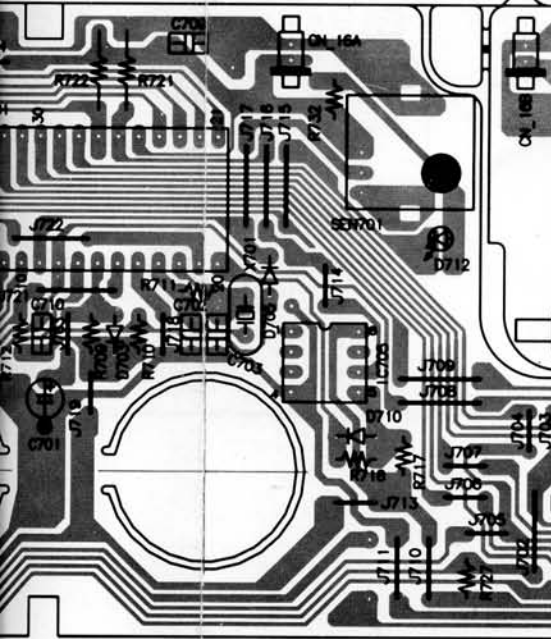
IC403 LM7000  
20  
1



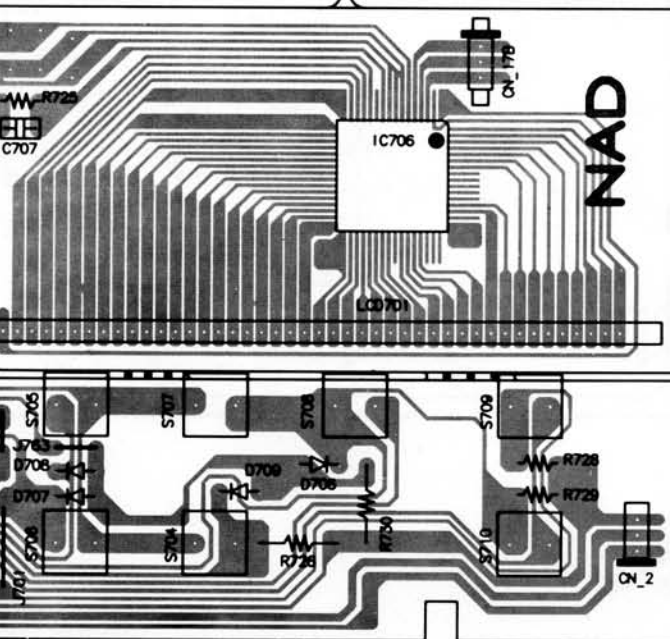




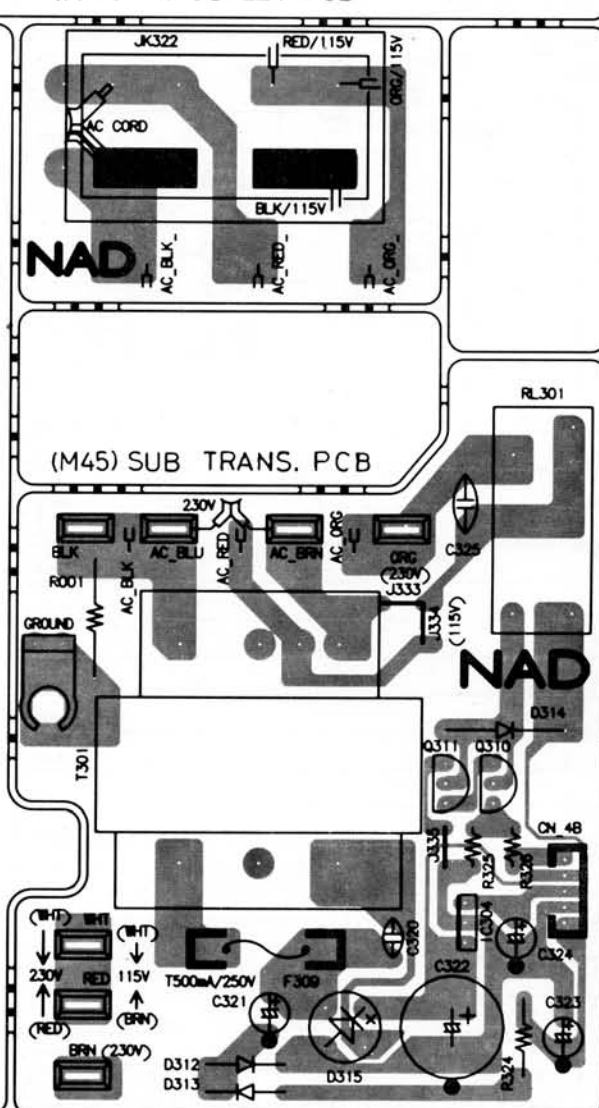
(M9a) DISPLAY PCB



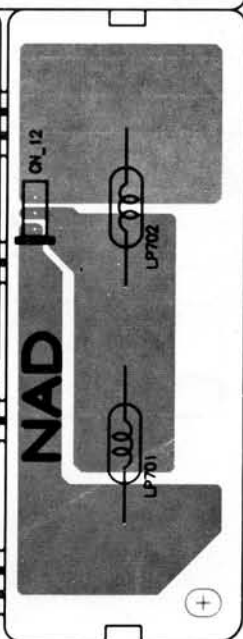
(M24) FRONT PCB



(M70) AC OUTLET PCB

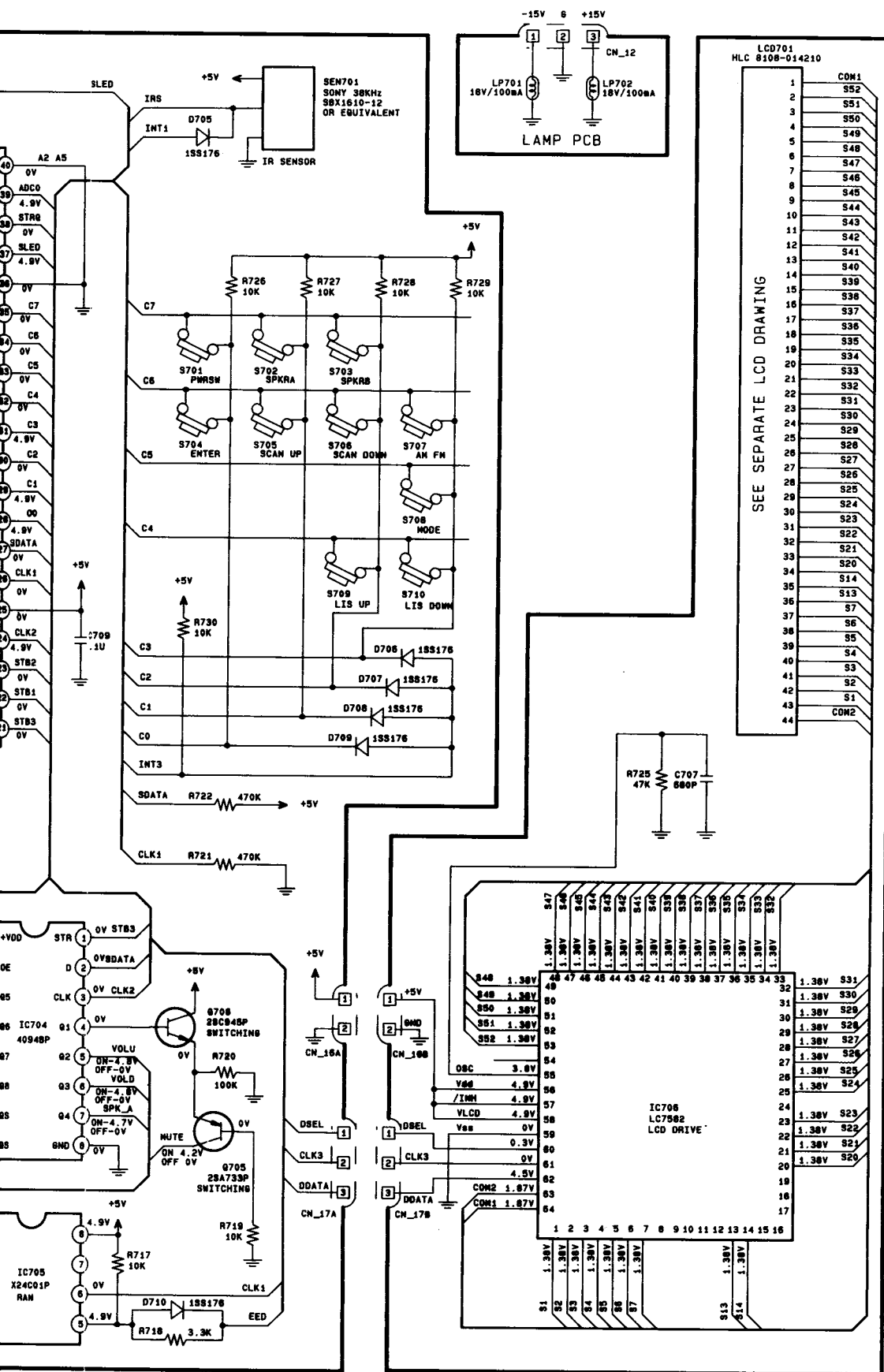


(M45) SUB TRANS. PCB



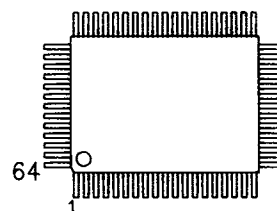
(M9C) LAMP PCB



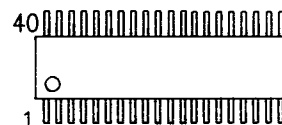


# IC & TRANSISTORS CONNECTIONS:

IC706 C25411NU

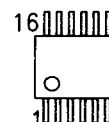


IC701 C25411NU

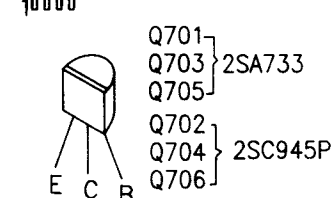


IC702 4052BP

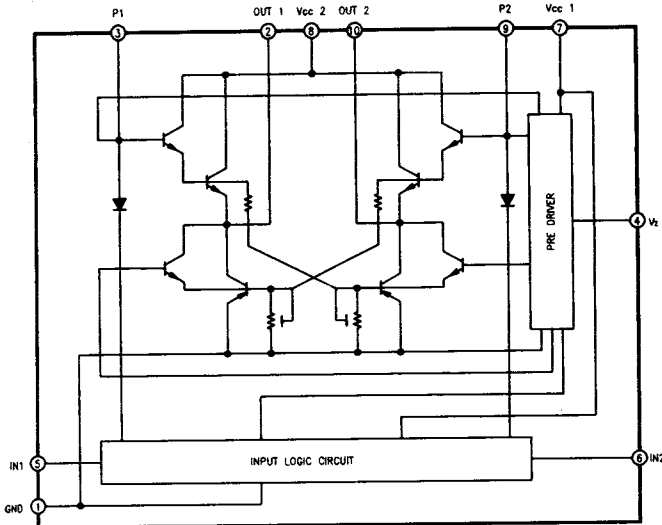
IC704 4094BP



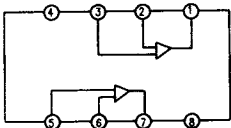
IC703A TL062  
IC703B TL062  
IC705 X24C01P



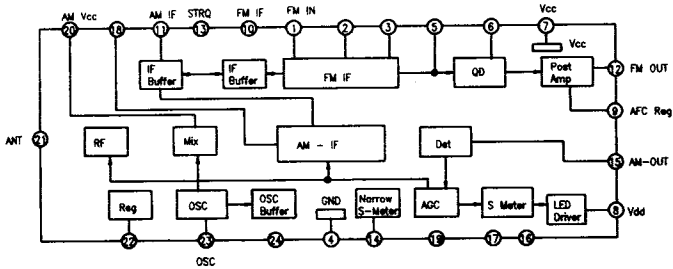
IC102 LB1642



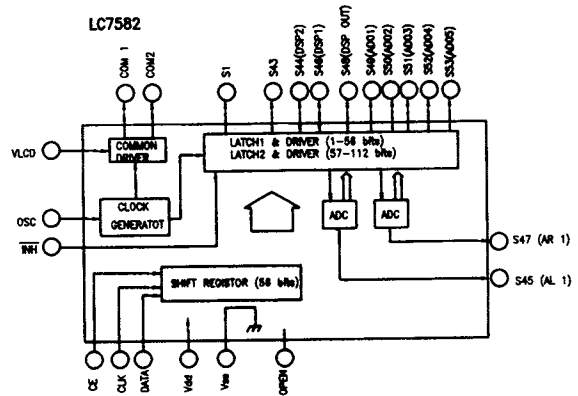
NJM4558



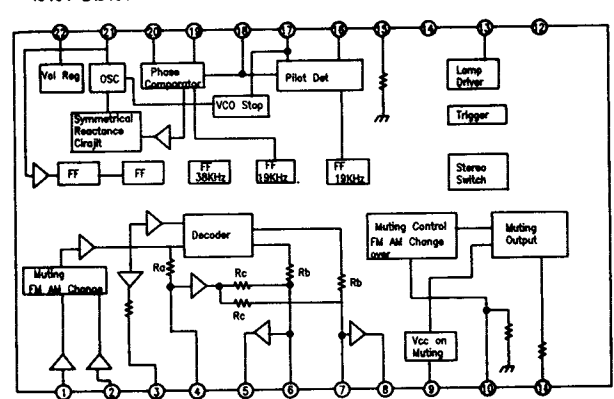
IC401 LA1266



LC7582



IC404 LA3401

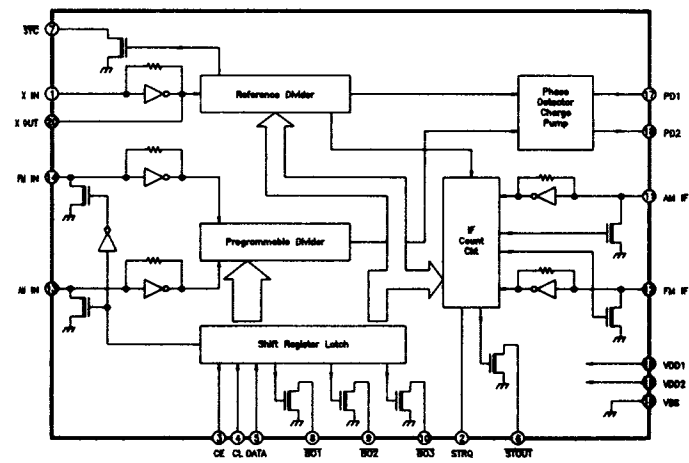


LA1266

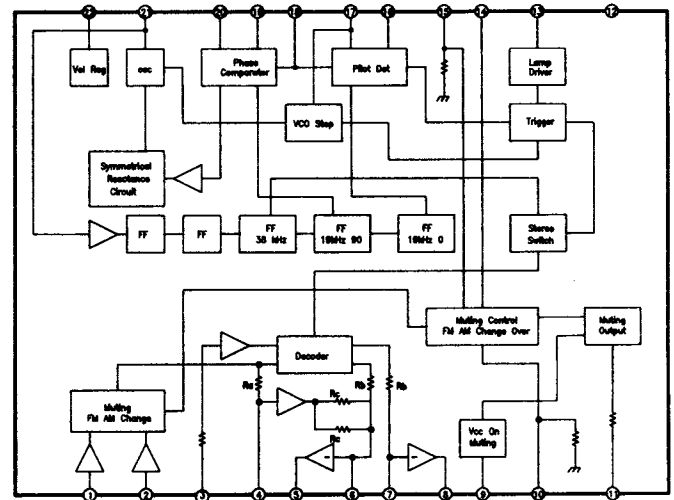




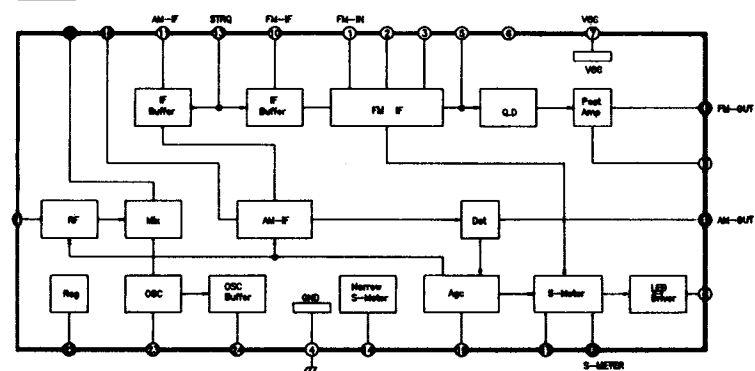
LM7000



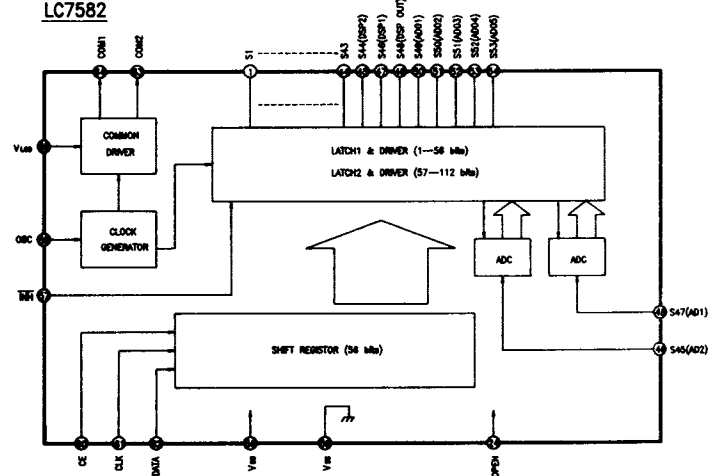
LA3401



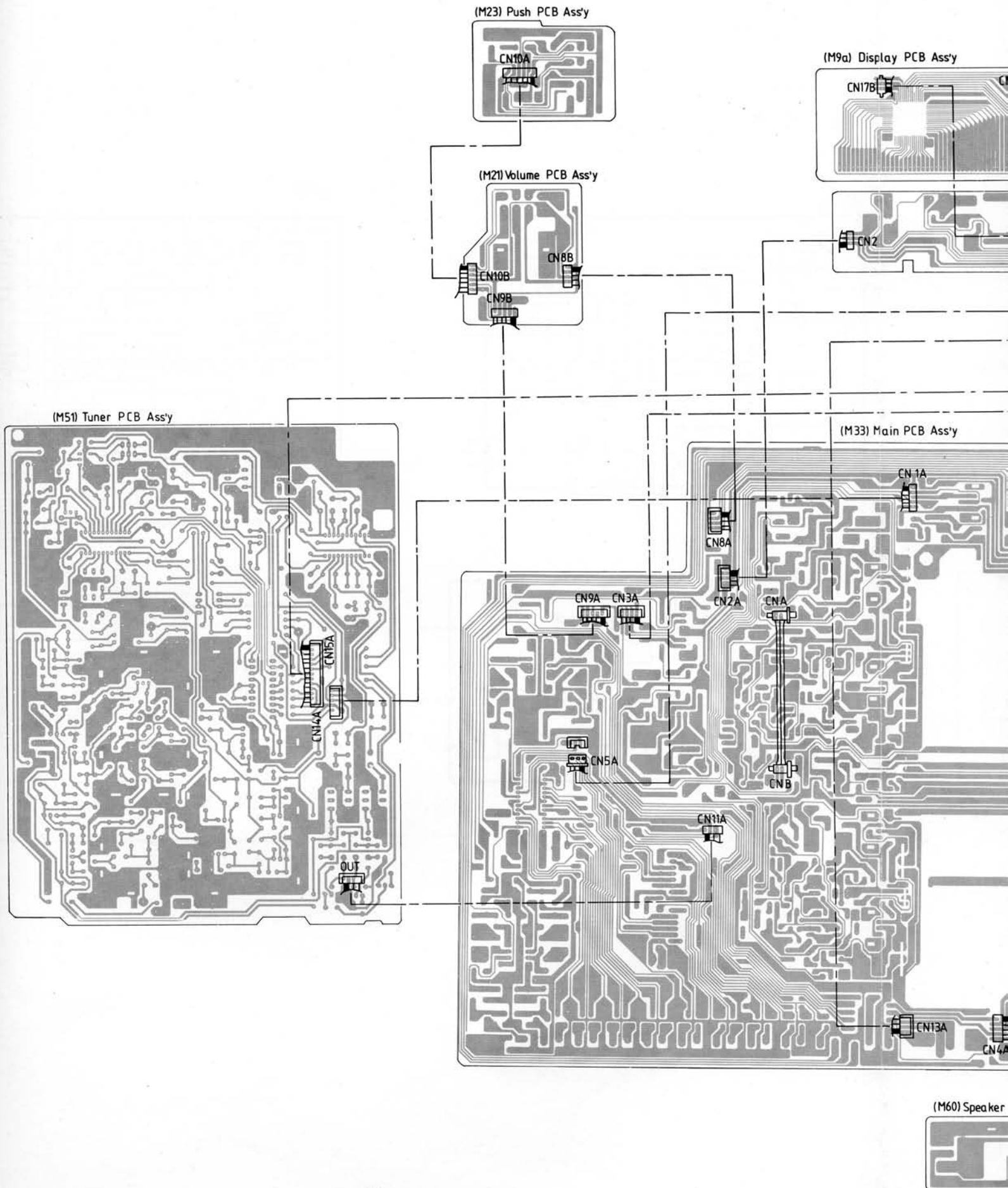
LA1266



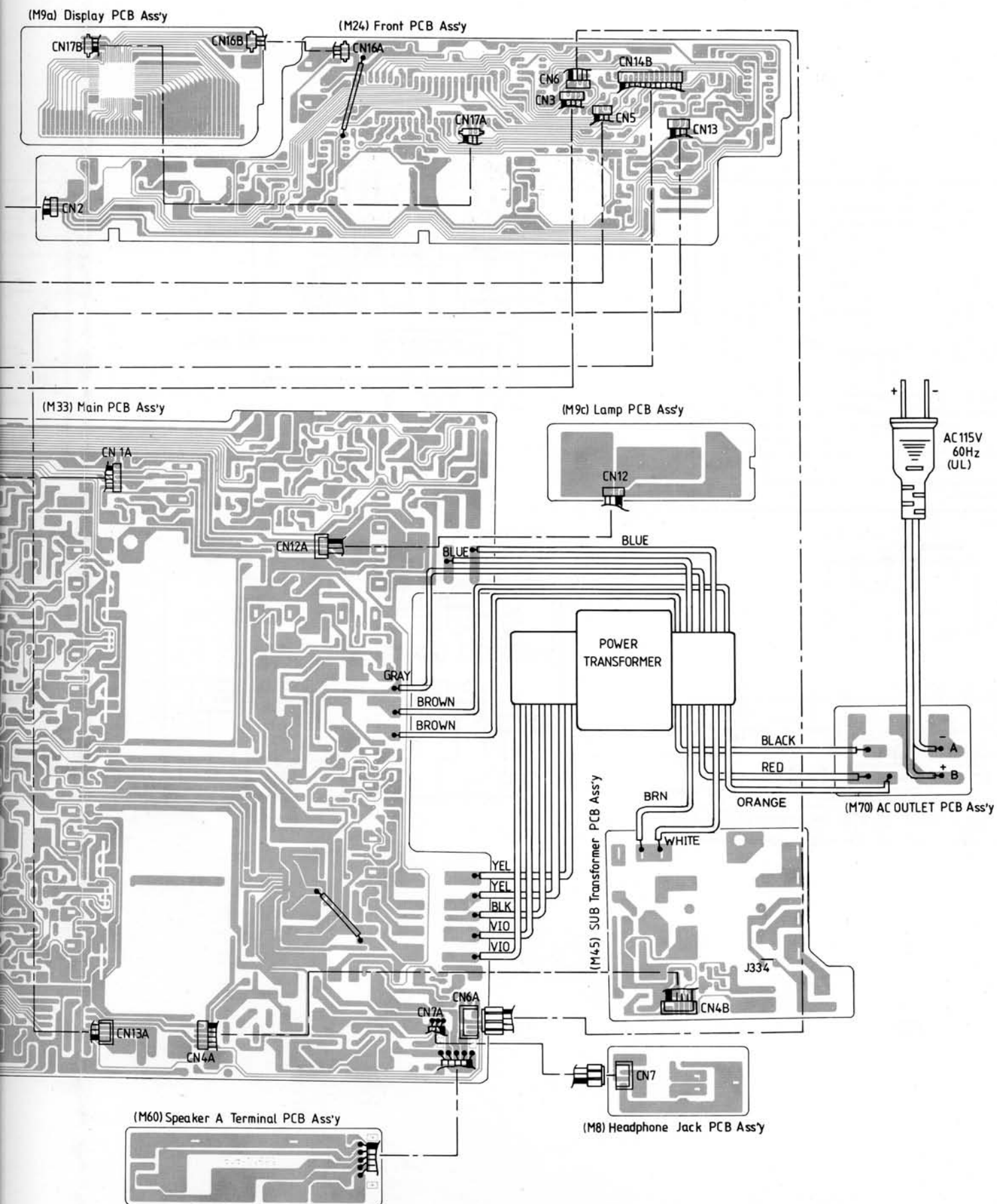
LC7582



# Wiring Diagram (A)-Component Side (For

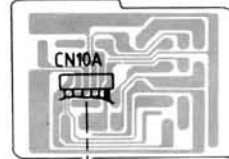


# Component Side (For UL VERSION)

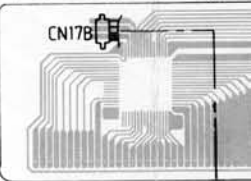


# Wiring Diagram (B) -Component Side (F

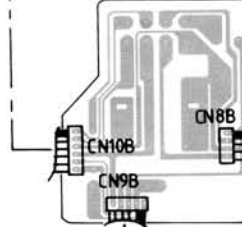
(M23) Push PCB Ass'y



(M9a) Display PCB Ass'y



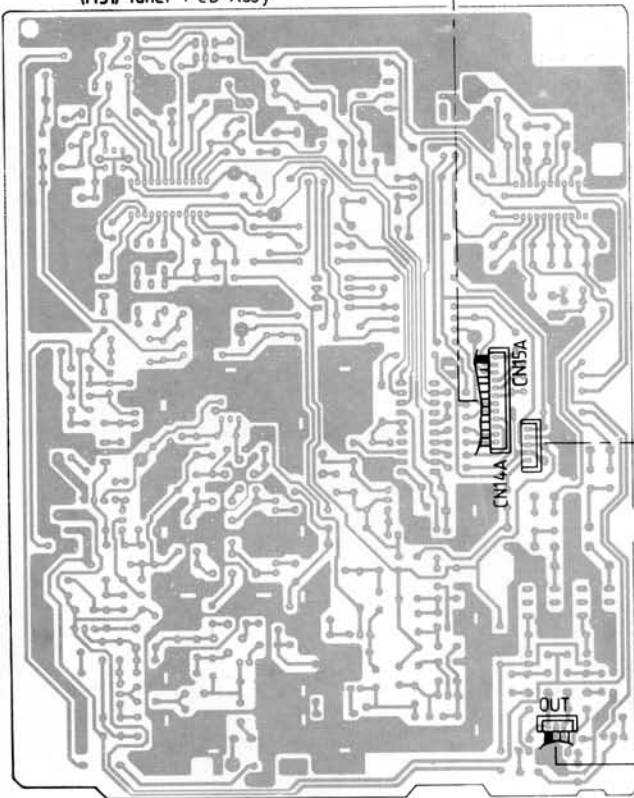
(M21) Volume PCB Ass'y



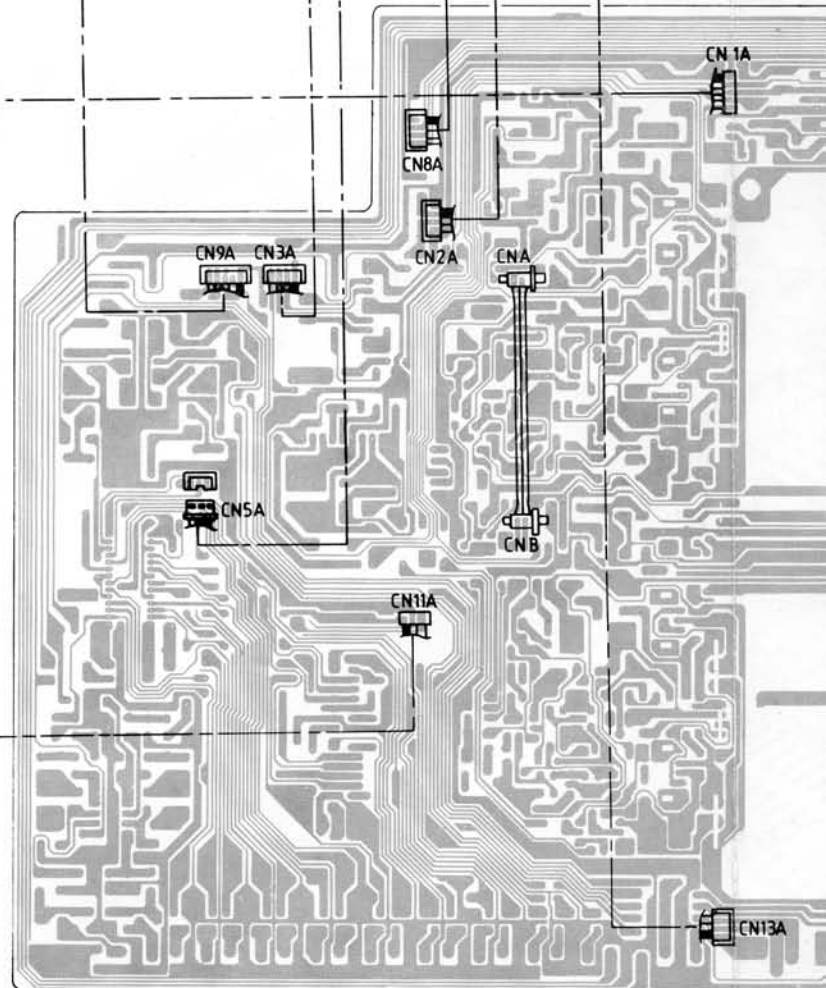
CN2



(M51) Tuner PCB Ass'y



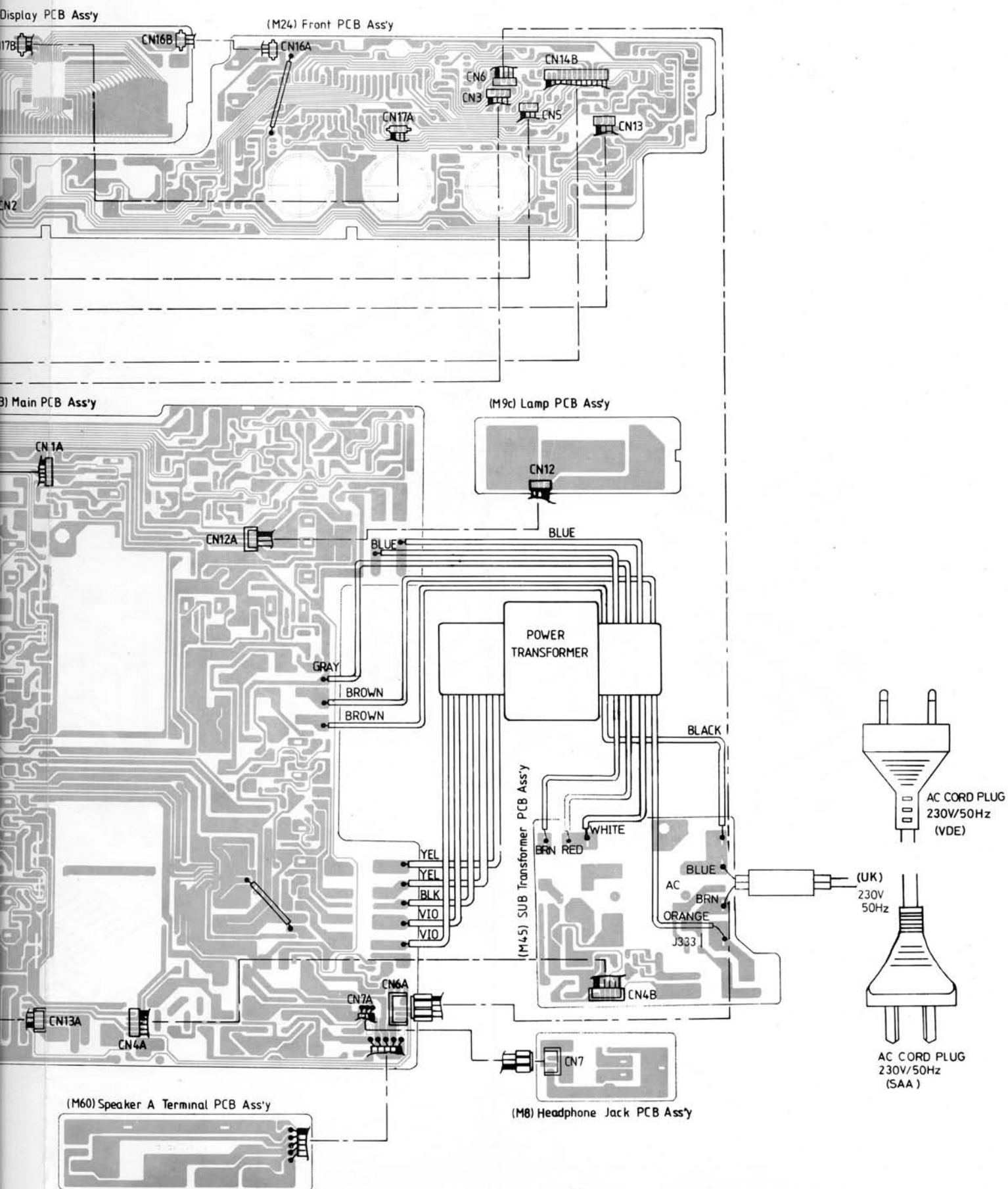
(M33) Main PCB Ass'y



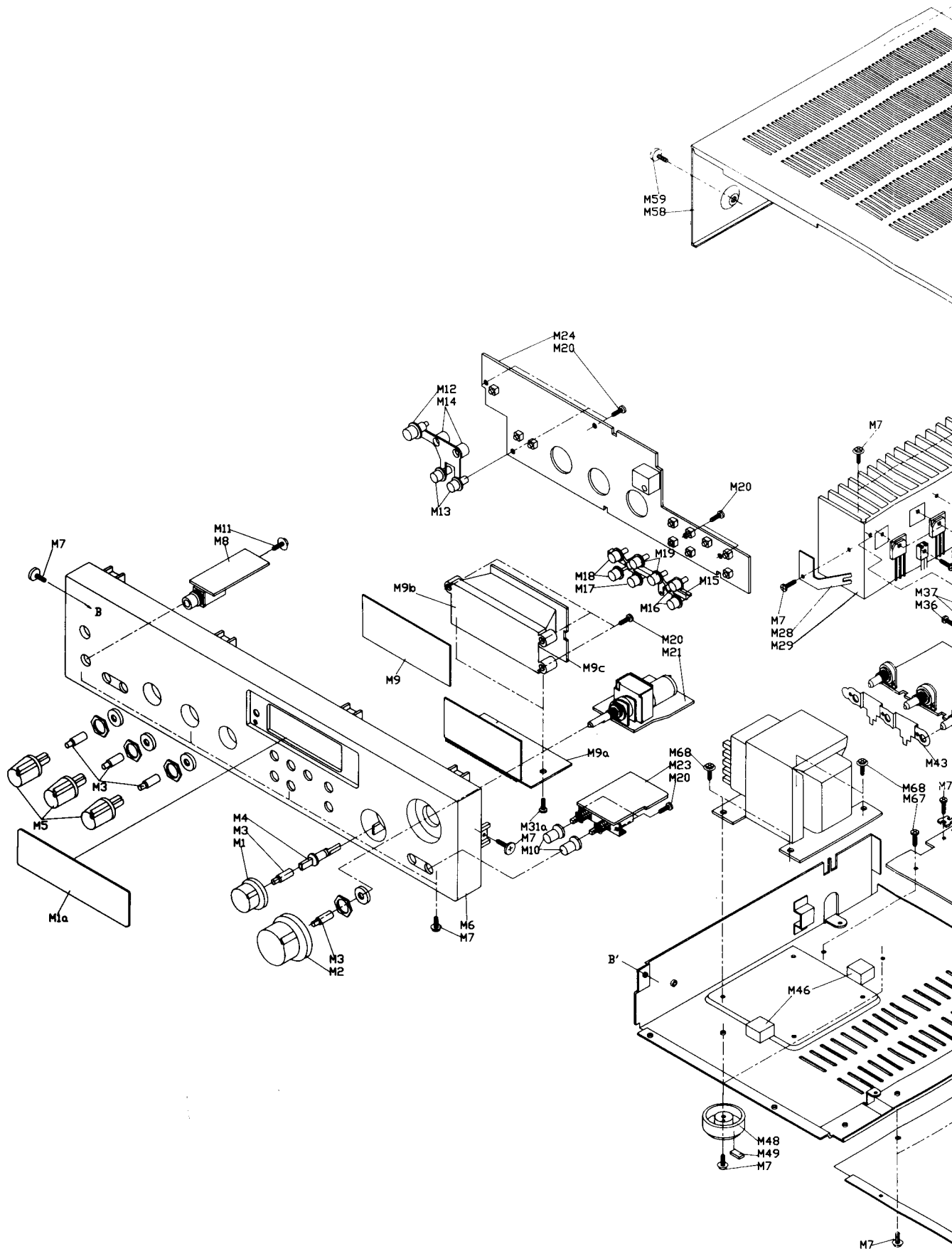
(M60) Sp



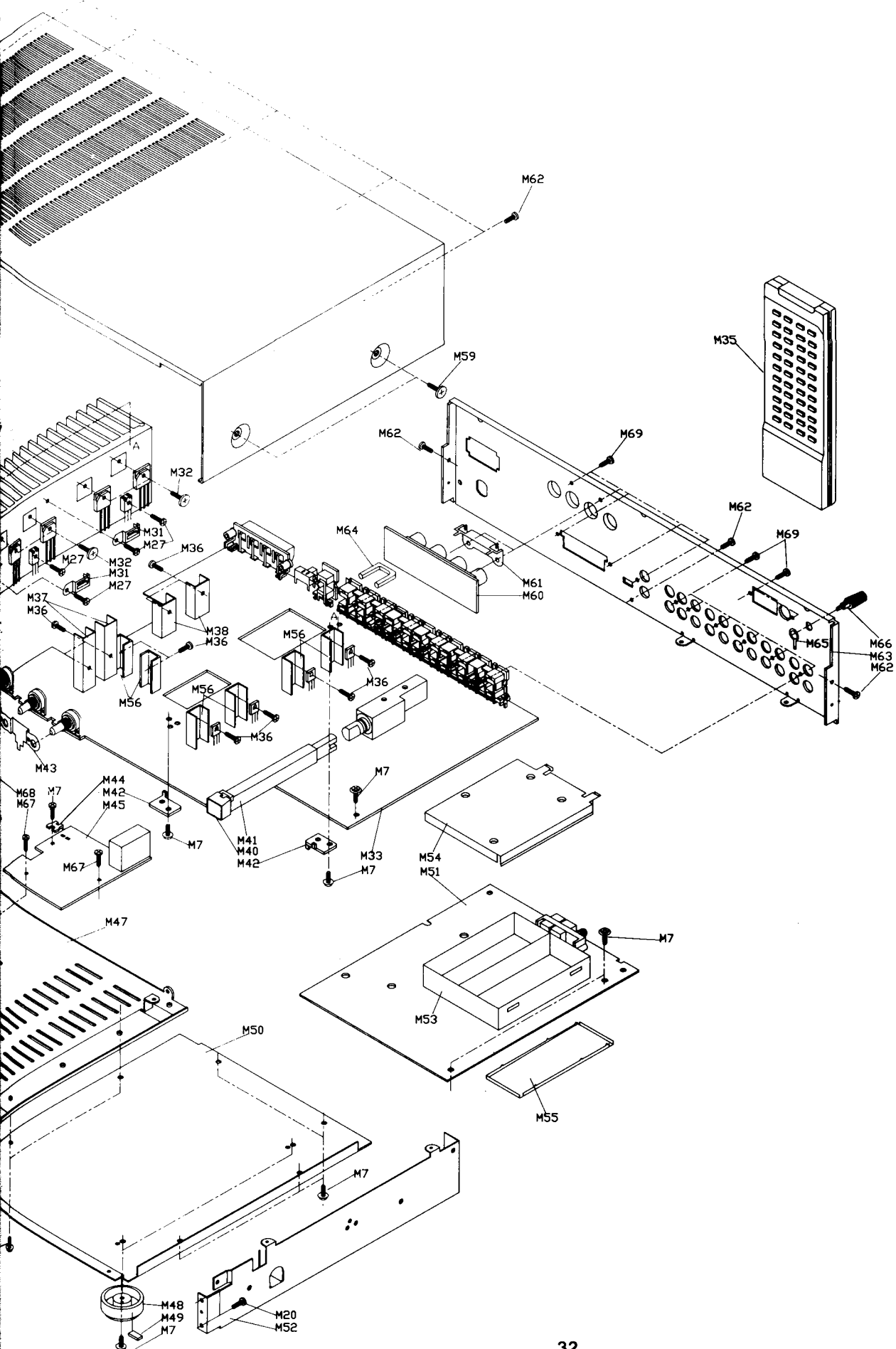
ment Side (For UK ,VDE ,SAA ,VERSION)



# Mechanical Exploded



# Exploded View



## EXPLODED VIEW PARTS

| Ref. No. | Part No.   | Description                              |
|----------|------------|--|
| M1a      | 0001079705 | Display window assembly                  |
| M1       | 1006079705 | Function knob                            |
| M2       | 1005079705 | Volume knob                              |
| M3       | 1013079705 | Series indicator (5 Pieces)              |
| M4       | 2010079705 | Function shaft                           |
| M5       | 1007079705 | Balance/Bass/Treble knob (3 Pieces)      |
| M6       | 1001079705 | Front panel                              |
| M7       | 8961300800 | 9 (Taptite-B) CUP3008 ZN3A (25 Pieces)   |
| M8       | C145216520 | Headphone jack PCB assembly              |
| M9       | 1015079705 | Display plate                            |
| M9a      | C146216720 | Display PCB assembly                     |
| M9b      | 2006079705 | Display holder                           |
| M9c      | C046216730 | Lamp PCB assembly                        |
| M10      | 1012079705 | Push button (B) (2 Pieces)               |
| M11      | 8741301014 | 7 (Taptite-P) BID3010 WF14 ZN3A          |
| M12      | 1008079705 | Power button                             |
| M13      | 1017079705 | Push button (C) (2 Pieces)               |
| M14      | 2002079705 | Power spring                             |
| M15      | 2001079705 | Main spring                              |
| M16      | 1011079705 | Push button (A) (2 Pieces)               |
| M17      | 1010079705 | Enter button                             |
| M18      | 1014079705 | Scan button (2 Pieces)                   |
| M19      | 1009079705 | Standard button (3 Pieces)               |
| M20      | 8741301000 | 7 (Taptite-P) BID3010 ZN3A (12 Pieces)   |
| M21      | C145216550 | Volume PCB assembly                      |
| M23      | C145216540 | Push PCB assembly                        |
| M24      | C146216710 | Front PCB assembly                       |
| M27      | 8941300800 | 9 (Taptite-B) BID3008 ZN3A (4 Pieces)    |
| M28      | 2008079705 | Tuning PCB bracket                       |
| M29      | 2013079705 | Main heat sink                           |
| M31      | 2021079705 | Ther switch holder (2 Pieces)            |
| M31a     | 8741300800 | 7 (Taptite-P) BID3008 ZN3A (2 Pieces)    |
| M32      | 8961301200 | 9 (Taptite-B) CUP3012 ZN3A (4 Pieces)    |
| M33      | C145216510 | Main PCB assembly                        |
| M35      | 7159705001 | Remote transmitter assembly              |
| M36      | 8241300800 | 2 (Machine-ISO) BID3008 ZN3A (10 Pieces) |
| M37      | 2016040082 | Heat sink LL (2 Pieces)                  |
| M38      | 2010011200 | Heat sink (2 Pieces)                     |
| M40      | 2016079705 | Bush                                     |
| M41      | 2012079705 | Shaft                                    |
| M42      | 2020079705 | PCB washer (2 Pieces)                    |
| M43      | 2015079705 | Earth plate                              |
| M44      | C145216510 | Main PCB assembly                        |
| M45      | C146216740 | SUB transformer PCB assembly             |
| M46      | 2007079336 | PCB support (2 Pieces)                   |
| M47      | 2004079705 | Bottom chassis L                         |
| M48      | 1016079705 | Foot (4 Pieces)                          |
| M49      | 2022079705 | Foot cushion (4 Pieces)                  |
| M50      | 2005079705 | Bottom chassis R                         |
| M51      | C146216740 | Tuner PCB assembly                       |
| M52      | 2007079705 | Side bracket                             |
| M53      | 2024079705 | Shield case                              |



| Ref. No. | Part No.   | Description                            |
|----------|------------|--|
| M54      | 2025079705 | Shield cover                           |
| M55      | 2026079705 | Shield plate                           |
| M56      | 2017079705 | Heat sink A (6 Pieces)                 |
| M57      | 2000000908 | Insulator SIL. TO-3P                   |
| M58      | 1003079705 | Top cover                              |
| M59      | 8642400600 | 6 (Taptite-S) BID4006 ZN3K (4 Pieces)  |
| M60      | C145216530 | Speaker A terminal PCB assembly        |
| M61      | 2019079705 | Speaker earth plate                    |
| M62      | 8942300800 | 9 (Taptite-B) BID3008 ZN3K (8 Pieces)  |
| M63      | 1002079705 | Rear panel                             |
| M64      | 2059068803 | Short pin (2 Pieces)                   |
| M65      | 2047068801 | Lug terminal 7.2Q                      |
| M66      | 0009068801 | Gnd terminal assembly                  |
| M67      | 8641300800 | 6 (Taptite-S) BID3008 ZN3A (2 Pieces)  |
| M68      | 8661400600 | 6 (Taptite-S) CUP4006 ZN3A (4 Pieces)  |
| M69      | 8742301000 | 7 (Taptite-P) BID3010 ZN3K (13 Pieces) |
| M70      | C046216750 | AC outlet PCB                          |

VERSIONS CHART:

| VERSION | VOLTAGE | COUNTRY               |
|---------|---------|-----------------------|
| UL, CSA | 120V    | North America         |
| UK      | 240V    | United Kingdom        |
| AY      | 240V    | Australia/New Zealand |
| EU      | 220V    | Scandinavia           |

# ELECTRICAL PARTS LIST

## Main PCB Assembly

| <u>Symbol No.</u>  | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>          |
|--------------------|-----------------|-----------------|-----------------------------|
| <u>PC BOARD</u>    |                 |                 |                             |
|                    | 4145216511      | 4145216511      | PCB no components           |
|                    | C145216511      | C145216511      | PCB assembly                |
| ICS                |                 |                 |                             |
| IC1                | NE5532DD        | 41595532AN      | IC,Phono Amp.               |
| IC2                | NJM2068DD       | 4159020684      | IC,Buffer Amp               |
| IC3                | NJM2068DD       | 4159020684      | IC,Pre Amp                  |
| IC4                | TC9163N         | 415309163N      | IC,Function Switch          |
| IC101              | TA7317P         | 415307317P      | IC,Protection Circuit       |
| IC102              | LB1642B         | 415201642B      | IC,Motor Drive              |
| IC301              | MC7815CT        | 4157078153      | IC,Regulator                |
| IC302              | MC7915CT        | 4157079153      | IC,Regulator                |
| IC303              | MC7812CT        | 4157078123      | IC,Regulator                |
| <u>TRANSISTORS</u> |                 |                 |                             |
| Q1,2               | 2SC2878A        | 410522878A      | Mute switching              |
| Q101,102           | 2SC2240BL       | 4105222402      | R CH power Amp              |
| Q103               | 2SA733P         | 410000733P      | L CH power Amp              |
| Q104               | 2SA733P         | 410000733P      | R CH power Amp              |
| Q105               | 2SA733P         | 410000733P      | L CH power Amp              |
| Q106               | 2SA733P         | 410000733P      | R CH power Amp              |
| Q107               | 2SA970BL        | 4105009702      | L CH power Amp              |
| Q108               | 2SA970BL        | 4105009702      | R CH power Amp              |
| Q109               | 2SC3789         | 4100237890      | L CH power Amp              |
| Q110               | 2SC3789         | 4100237890      | R CH power Amp              |
| Q111               | 2SC3789         | 4100237890      | L CH power Amp              |
| Q112               | 2SC3789         | 4100237890      | R CH power Amp              |
| Q113               | 2SD669A         | 410030669A      | L CH power Amp              |
| Q114               | 2SD669A         | 410030669A      | R CH power Amp              |
| Q115               | 2SB649A         | 410010649A      | L CH power Amp              |
| Q116               | 2SB649A         | 410010649A      | R CH power Amp              |
| Q117               | 2SC3519         | 4100023519      | L CH power Amp              |
| Q118               | 2SC3519         | 4100023519      | R CH power Amp              |
| Q119               | 2SA1386         | 4100013860      | L CH power Amp              |
| Q120               | 2SA1386         | 4100013860      | R CH power Amp              |
| Q121               | 2SA970BL        | 4105009702      | Switching                   |
| Q122               | 2SA970BL        | 4105009702      | Switching                   |
| Q123               | 2SA970BL        | 4105009702      | Switching                   |
| Q124               | 2SA970BL        | 4105009702      | Switching                   |
| Q125-127           | 2SC945P         | 410020945P      | Soft clipin circuit control |
| Q128               | 2SA733P         | 410000733P      | L CH power Amp              |
| Q129               | 2SC945P         | 410020945P      | Soft clipin circuit         |
| Q130               | 2SA733P         | 410000733P      | L CH power Amp              |
| Q131               | 2SA733P         | 410000733P      | L CH power Amp              |
| Q132               | 2SC945P         | 410020945P      | Soft clipin circuit         |
| Q133,134           | 2SA970BL        | 4105009702      | Switching                   |
| Q301               | 2SA970BL        | 4105009702      | Switching                   |
| Q302,304           | 2SC2240BL       | 4105222402      | R CH power Amp              |
| Q303               | 2SA970BL        | 4105009702      | Switching                   |
| Q305               | 2SD669A         | 410030669A      | L CH power Amp              |
| Q306               | 2SB649A         | 410010649A      | R CH power Amp              |
| Q307               | 2SC2240BL       | 4105222402      | L CH power Amp              |
| Q308,309           | 2SC945P         | 410020945P      | Soft clipin circuit         |
| <u>DIODES</u>      |                 |                 |                             |
| D1-4               | 1N4148          | 4120141480      | 1N4148                      |

| <u>Symbol No.</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>        |
|-------------------|-----------------|-----------------|---------------------------|
| D5                | RD30EB2         | 4120523005      | Zener, RD30EB2            |
| D101-104          | 1N4148          | 4120141480      | 1N4148                    |
| D105-106          | 1SS176          | 4120901760      | 1SS176                    |
| D107,108          | 1N4148          | 4120141480      | 1N4148                    |
| D111,112          | 1SS176          | 4120901760      | 1SS176                    |
| D113-116          | 1N4148          | 4120141480      | 1N4148                    |
| D118              | RD2.7EB2        | 4120520275      | Zener, RD2.7EB2           |
| D118              | or RD2.7EB1     | 4120510275      | Zener, RD2.7EB1           |
| D301,302          | GBU6D           | 41300GBU6D      | GBU6D                     |
| D303,304          | W02M            | 4130150022      | W02M                      |
| D305,306          | SF5D41          | 410405D410      | SCR. SF5D41               |
| D307              | RD22EB2         | 4120522205      | Zener, RD22EB2            |
| D308              | RD27EB2         | 4120522705      | Zener, RD27EB2            |
| D309              | RD30EB2         | 4120523005      | Zener, RD30EB2            |
| D310,311          | 1N4148          | 4120141480      | 1N4148                    |
| D412-414          | 1N4148          | 4120141480      | 1N4148                    |
| <u>COILS</u>      |                 |                 |                           |
| L1,2              | 3.7mH           | 7089705098      | Ring coil                 |
| L101,102          | 1.8uH PC9901    | 4320189131      | Audio coil                |
| <u>FUSES</u>      |                 |                 |                           |
| F305,306          | T500mA/250V     | 5266050060      | Fuse UL/CSA (UL,CSA)      |
| F305,306          | T500mA/250V     | 5267050060      | Fuse semk (UK)            |
| F307,308          | T250mA/250V     | 5266025060      | Fuse UL/CSA (UL,CSA)      |
| F307,308          | T250mA/250V     | 5267025060      | Fuse semk (UK)            |
| F309              | T500mA/250V     | 5266050060      | Fuse UL/CSA (UL,CSA)      |
| F309              | T500mA/250V     | 5267050060      | Fuse semk T500mA/250 (UK) |
| <u>CAPACITORS</u> |                 |                 |                           |
| C1,2              | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%     |
| C3,4              | 7306522115      | 7306522115      | Mult. CAP 220uF/50V,+10%  |
| C5,6              | 5154221210      | 5154221210      | EL. CAP 220uF/10V,+20%    |
| C7,8              | 5091243513      | 5091243513      | PL. CAP .024uF,+5%        |
| C9,10             | 5091682513      | 5091682513      | PL. CAP .0068uF,+5%       |
| C11,12            | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%     |
| C13,14            | 5091152513      | 5091152513      | PL. CAP .0015uF,+5%       |
| C15,16            | 7307110315      | 7307110315      | Mult. CAP .01uF/16V,+10%  |
| C17-30            | 7306510115      | 7306510115      | Mult. CAP 100uF/50V,+10%  |
| C35-38            | 5114104550      | 5114104550      | Mylar. CAP .1uF,+5%       |
| C39,40            | 7306510115      | 7306510115      | Mult. CAP 100uF/50V,+10%  |
| C41,42            | 7307110315      | 7307110315      | Mult. CAP .01uF/50V,+10%  |
| C43,44            | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%     |
| C45,46            | 7306522115      | 7306522115      | Mult. CAP 220uF/50V,+10%  |
| C47,48            | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%     |
| C49,50            | 5154470216      | 5154470216      | EL. CAP 47uF/16V,+20%     |
| C51,52            | 7307110315      | 7307110315      | Mult. CAP .01uF/16V,+10%  |
| C53,54            | 5154101210      | 5154101210      | EL. CAP 100uF/10V,+20%    |
| C55,56            | 5114183550      | 5114183550      | Mylar. CAP .018uF/50V,+5% |
| C57,58            | 5113474563      | 5113474563      | EL. CAP .47uF/63V,+5%     |
| C59,60            | 5114183550      | 5114183550      | Mylar. CAP .018uF/50V,+5% |
| C61,62            | 5114104550      | 5114104550      | Mylar. CAP .1uF/50V,+5%   |
| C63,64            | 7306568115      | 7306568115      | Mult. CAP 680uF/50V,+10%  |
| C65,66            | 7307110315      | 7307110315      | Mult. CAP .01uF/16V,+10%  |
| C67               | 5114104550      | 5114104550      | Mylar. CAP .1uF/50V,+5%   |

| <u>Symbol No.</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>         |
|-------------------|-----------------|-----------------|----------------------------|
| C68               | 7306933052      | 7306933052      | Mult. CAP 33uF/50V,+20%    |
| C101,102          | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%      |
| C103,104          | 7306556115      | 7306556115      | Mult. CAP 560uF/50V,+10%   |
| C105,106          | 7306947052      | 7306947052      | Mult. CAP 47uF/50V,+5%     |
| C107,108          | 7306510215      | 7306510215      | Mult. CAP .001uF/50V,+5%   |
| C109,110          | 7306610445      | 7306610445      | Mult. CAP .1uF/50V,+5%     |
| C111,112          | 5154102210      | 5154102210      | EL. CAP 1000uF/10V,+20%    |
| C113,114          | 7306922052      | 7306922052      | Mult. CAP 22uF/50V,+5%     |
| C115,116          | 7306922052      | 7306922052      | Mult. CAP 22uF/50V,+5%     |
| C117,118          | 7306522115      | 7306522115      | Mult. CAP 220uF/50V,+10%   |
| C123,124          | 5154470225      | 5154470225      | EL. CAP 47uF/25V,+20%      |
| C125-128          | 5114104550      | 5114104550      | Mylar. CAP .1uF,+5%        |
| C129-132          | 5154100263      | 5154100263      | EL. CAP 10uF/63V,+20%      |
| C135,136          | 7307110315      | 7307110315      | Mult. CAP .01uF/16V,+10%   |
| C137,138          | 7307822215      | 7307822215      | Mult. CAP .0022uF/16V,+10% |
| C141,142          | 5154101210      | 5154101210      | EL. CAP 100uF/10V,+20%     |
| C143              | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%      |
| C144,145          | 5154470216      | 5154470216      | EL. CAP 47uF/16V,+20%      |
| C146              | 5154229250      | 5154229250      | EL. CAP 2.2uF/50V,+20%     |
| C147              | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%      |
| C149,150          | 5114104511      | 5114104511      | Mylar CAP .1uF/100V,+5%    |
| C153,154          | 7306922052      | 7306922052      | Mult. CAP 22uF/50V,+5%     |
| C301,302          | 5104103441      | 5104103441      | CER. CAP .01uF/500V,+20%   |
| C303,304          | 5154103250      | 5154103250      | EL. CAP 10000uF/50V,+20%   |
| C305              | 5104103441      | 5104103441      | CER. CAP .01uF/500V,+20%   |
| C306,307          | 5154102210      | 5154102210      | EL. CAP 680uF/80V,+20%     |
| C308,309          | 5154470210      | 5154470210      | EL. CAP 47uF/100V,+20%     |
| C310,311          | 5154470263      | 5154470263      | EL. CAP 47uF/63V,+20%      |
| C312,313          | 5154100250      | 5154100250      | EL. CAP 10uF/50V,+20%      |
| C314              | 5104103452      | 5104103452      | CER. CAP .01uF,+80/-20%    |
| C315,316          | 5154102235      | 5154102235      | EL. CAP 1000uF/35V,+20%    |
| C317-319          | 5154100225      | 5154100225      | EL. CAP 10uF/25V,+20%      |
| <u>RESISTORS</u>  |                 |                 |                            |
| R1,2              | 4050122252      | 4050122252      | RES. 2.2K ohm, 1/6W        |
| R3,4              | 4050133452      | 4050133452      | RES. 330K ohm, 1/6W        |
| R5,6              | 4050156352      | 4050156352      | RES. 56K ohm, 1/6W         |
| R7,8              | 4050118162      | 4050118162      | RES. 180 ohm, 1/6W         |
| R9,10             | 4050113462      | 4050113462      | RES. 130K ohm, 1/6W        |
| R11,12            | 4050111362      | 4050111362      | RES. 11K ohm, 1/6W         |
| R13,14            | 4050182052      | 4050182052      | RES. 82 ohm, 1/6W          |
| R15,16            | 4050122352      | 4050122352      | RES. 22K ohm, 1/6W         |
| R17,18            | 4050110252      | 4050110252      | RES. 1K ohm, 1/6W          |
| R19,20            | 4050110452      | 4050110452      | RES. 100K ohm, 1/6W        |
| R21,22            | 4050110252      | 4050110252      | RES. 1K ohm, 1/6W          |
| R23,24            | 4050110452      | 4050110452      | RES. 100K ohm, 1/6W        |
| R25,26            | 4050110252      | 4050110252      | RES. 1K ohm, 1/6W          |
| R27,28            | 4050110452      | 4050110452      | RES. 100K ohm, 1/6W        |
| R29,30            | 4050110252      | 4050110252      | RES. 1K ohm, 1/6W          |
| R31,32            | 4050110452      | 4050110452      | RES. 100K ohm, 1/6W        |
| R33,34            | 4050110252      | 4050110252      | RES. 1K ohm, 1/6W          |
| R35,36            | 4050110452      | 4050110452      | RES. 100K ohm, 1/6W        |
| R37,38            | 4050110252      | 4050110252      | RES. 1K ohm, 1/6W          |
| R39-42            | 4050122252      | 4050122252      | RES. 2.2K ohm, 1/6W        |
| R47,48            | 4050110452      | 4050110452      | RES. 100K ohm, 1/6W        |
| R49,50            | 4050122452      | 4050122452      | RES. 220K ohm, 1/6W        |
| R51,52            | 4050147152      | 4050147152      | RES. 470 ohm, 1/6W         |

| Symbol No. | Ref. No.   | Part No.   | Description           |
|------------|------------|------------|-----------------------|
| R55,56     | 4050410252 | 4050410252 | RES. 1K ohm,1/4W      |
| R58-60     | 4050110252 | 4050110252 | RES. 1K ohm, 1/6W     |
| R61,62     | 4050110152 | 4050110152 | RES. 100 ohm, 1/6W    |
| R63,64     | 4050110452 | 4050110452 | RES. 100K ohm,1/6W    |
| R65,66     | 4050122252 | 4050122252 | RES. 2.2K ohm, 1/6W   |
| R67,68     | 4050115352 | 4050115352 | RES. 15K ohm, 1/6W    |
| R69,70     | 4050139262 | 4050139262 | RES. 3.9K ohm, 1/6W   |
| R71,72     | 4050168162 | 4050168162 | RES. 680 ohm, 1/6W    |
| R73,74     | 4050110252 | 4050110252 | RES. 1K ohm,1/6W      |
| R75,76     | 4050118152 | 4050118152 | RES. 180 ohm, 1/6W    |
| R77,78     | 4050122152 | 4050122152 | RES. 220 ohm, 1/6W    |
| R79        | 4050427252 | 4050427252 | RES. 2.7K ohm, 1/4W   |
| R80        | 4050122252 | 4050122252 | RES. 2.2K ohm, 1/6W   |
| R81,82     | 4050410252 | 4050410252 | RES. 1K ohm,1/4W      |
| R83        | 4050133252 | 4050133252 | RES. 13K ohm, 1/6W    |
| R101,102   | 4050122452 | 4050122452 | RES. 220K ohm, 1/6W   |
| R103,104   | 4050122252 | 4050122252 | RES. 2.2K ohm, 1/6W   |
| R105,109   | 4050422352 | 4050422352 | RES. 22K ohm, 1/4W    |
| R106       | 4050122352 | 4050122352 | RES. 22K ohm,1/6W     |
| R107       | 4050439152 | 4050439152 | RES. 390 ohm,1/4W     |
| R108       | 4050139152 | 4050139152 | RES. 390 ohm, 1/6W    |
| R110       | 4050122352 | 4050122352 | RES. 22K ohm, 1/6W    |
| R112       | 4050115152 | 4050115152 | RES. 150 ohm, 1/6W    |
| R113       | 4050422352 | 4050422352 | RES. 22K ohm, 1/4W    |
| R114       | 4050122352 | 4050122352 | RES. 22K ohm, 1/6W    |
| R115,116   | 4050139152 | 4050139152 | RES. 390 ohm, 1/6W    |
| R117,118   | 4050439152 | 4050439152 | RES. 390 ohm, 1/4W    |
| R119,120   | 4070422074 | 4070422074 | RN .2 ohm, 1/4W       |
| R121,122   | 4271039155 | 4271039155 | RES. 390 ohm,1W       |
| R123,124   | 4050439152 | 4050439152 | RES. 390 ohm,1/4W     |
| R125-128   | 4050433052 | 4050433052 | RES. 33 ohm,1/4W      |
| R129,130   | 4050422152 | 4050422152 | RES. 220 ohm,1/4W,+5% |
| R131,132   | 4050410152 | 4050410152 | RES. 100 ohm, 1/4W    |
| R133,134   | 4050439052 | 4050439052 | RES. 39 ohm,1/4W      |
| R135-138   | 4050212252 | 4050212252 | RES. 1.2k ohm, 1/2W   |
| R139,140   | 4050433052 | 4050433052 | RES. 33 ohm, 1/4W     |
| R141,142   | 4170418155 | 4170418155 | RES. 180 ohm, 1/4W    |
| R143,144   | 7192022855 | 7192022855 | RES. MPC70 .22 ohm    |
| R145,146   | 4050447352 | 4050447352 | RES. 47K ohm, 1/4W    |
| R147,148   | 4070462174 | 4070462174 | RN. 620 ohm, 1/4W     |
| R149,150   | 4050422352 | 4050422352 | RES. 22K ohm, 1/4W    |
| R151,152   | 4271010055 | 4271010055 | RES. 10 ohm, 1W       |
| R153,154   | 4050233952 | 4050233952 | RES. .33 ohm, 1/2W    |
| R155,156   | 4050447352 | 4050447352 | RES. 47K ohm, 1/4W    |
| R159,160   | 4070410274 | 4070410274 | RN. 1K ohm,1/4W       |
| R161,162   | 4070413374 | 4070413374 | RN. 13K ohm,1/4W      |
| R163,164   | 4070410274 | 4070410274 | RN. 1K ohm, 1/4W      |
| R165-168   | 4050447352 | 4050447352 | RES. 47K ohm, 1/4W    |
| R169,170   | 4050410352 | 4050410352 | RES. 10K ohm,1//4W    |
| R171,172   | 4050447252 | 4050447252 | RES. 4.7K ohm,1/4W    |
| R173,174   | 4050418252 | 4050418252 | RES. 1.8K ohm,1/4W    |
| R175,176   | 4050439152 | 4050439152 | RES. 390 ohm, 1/4W    |
| R177       | 4050210352 | 4050210352 | RES. 10K ohm, 1/2W    |
| R178       | 4050420352 | 4050420352 | RES. 20K ohm,1/4W     |
| R179       | 4050447252 | 4050447252 | RES. 4.7K ohm, 1/4W   |
| R180       | 4050439352 | 4050439352 | RES. 39K ohm, 1/4W    |
| R181       | 4050447352 | 4050447352 | RES. 47K ohm,1/4W     |

| <u>Symbol No.</u>    | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>       |
|----------------------|-----------------|-----------------|--------------------------|
| R182-185             | 4050456352      | 4050456352      | RES. 56K ohm, 1/4W       |
| R186                 | 4050422352      | 4050422352      | RES. 22K ohm, 1/4W       |
| R187                 | 4050456252      | 4050456252      | RES. 5.6K ohm, 1/4W      |
| R188                 | 4050422452      | 4050422452      | RES. 220K ohm, 1/4W      |
| R189                 | 4050415352      | 4050415352      | RES. 15K ohm, 1/4W       |
| R190                 | 4050439252      | 4050439252      | RES. 3.9K ohm, 1/4W      |
| R191                 | 4050427352      | 4050427352      | RES. 27K ohm, 1/4W       |
| R192,193             | 4050468252      | 4050468252      | RES. 6.8K ohm, 1/4W      |
| R194A                | 4050422252      | 4050422252      | RES. 2.2K ohm, 1/4W      |
| R194B                | 4050447252      | 4050447252      | RES. 4.7K ohm, 1/4W      |
| R301,303             | 4050410252      | 4050410252      | RES. 1K ohm, 1/4W        |
| R304                 | 4050422352      | 4050422352      | RES. 22K ohm, 1/4W       |
| R305                 | 4050447252      | 4050447252      | RES. 4.7K ohm, 1/4W      |
| R306                 | 4050122352      | 4050122352      | RES. 22K ohm, 1/6W       |
| R307                 | 4050422352      | 4050422352      | RES. 22K ohm, 1/4W       |
| R308                 | 4050410352      | 4050410352      | RES. 10K ohm, 1/4W       |
| R309                 | 4050410252      | 4050410252      | RES. 1K ohm, 1/4W        |
| R311                 | 4271022055      | 4271022055      | RES. 22 ohm, 1W          |
| R312                 | 4050415252      | 4050415252      | RES. 1.5K ohm, 1/4W      |
| R313,314             | 4050433152      | 4050433152      | RES. 330 ohm, 1/4W       |
| R315                 | 4272068155      | 4272068155      | RES. 680 ohm, 2W         |
| R316,317             | 4050468252      | 4050468252      | RES. 6.8K ohm, 1/4W      |
| R318                 | 4170410255      | 4170410255      | RES. 1K ohm, 1/4W        |
| R319                 | 4050412352      | 4050412352      | RES. 12K ohm, 1/4W       |
| R320,322             | 4050482252      | 4050482252      | RES. 8.2K ohm, 1/4W      |
| R321,323             | 4050415352      | 4050415352      | RES. 15K ohm, 1/4W       |
| <u>VARIABLE RES.</u> |                 |                 |                          |
| VR2                  | RK163121A144    | 5020254102      | VAR. RES 50kCx2, Bass    |
| VR3                  | RK163121A161    | 5020214188      | VAR. RES 10kCx2, Treble  |
| VR4                  | RK163111E293    | 5020114187      | VAR. 10kW, Balance       |
| SFR101,102           | VZ068TLT        | 5226501T56      | SFR 0.5Kx, Line          |
| SFR101,102           | or 5226501177   | 5226501177      | SFR 0.5Kx, Line          |
| SFR103,104           | VZ068TLT        | 5226101T56      | SFR .1Kx, Line           |
| SFR103,104           | or 5226101177   | 5226101177      | SFR .1Kx, Line           |
| <u>SWITCHES</u>      |                 |                 |                          |
| S1                   | SRRZV46N21      | 442046152B      | Record Switch            |
| S101                 | SN-22T          | 4410202127      | Slide Switch SN-22T      |
| S102                 | UP62110PM5      | 4400000178      | Ther Switch              |
| S301                 | UP6290PM5       | 4400000176      | Ther Switch              |
| <u>JACKS</u>         |                 |                 |                          |
| JK1                  | RJ1018-010GD1   | 4500800364      | RCA jack 4 Pin           |
| JK2-4                | 4P RCA jack     | 4500800250      | RCA jack 4 Pin           |
| JK5                  | CPS-046         | 4500800331      | RCA jack 6 Pin           |
| JK6                  | RJ-1020-050     | 4500800277      | 2P RCA jack              |
| JK101                | JY-6318-01-030  | 4500500272      | Headphone jack           |
| JK102                | HSP-304V-01     | 4560004079      | SPK TER. 4 pin           |
| JK322                | HJC-031-01      | 4570101340      | AC outlet (UL, CSA only) |
| JK401                | 2P terminal     | 4560002087      | FM antenna               |
| <u>MISCELLANEOUS</u> |                 |                 |                          |
| CNA,B                | 4490200261      | 4490200261      | Wire holder 2P20         |
| CN2A,5A,12A,13A      | 4490301004      | 4490301004      | Male connector PH 3P     |
| RL101,102            | VB-24MBU        | 4390000020      | Relay ,VB-24MBU          |

| <u>Symbol No.</u>  | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>           |
|--------------------|-----------------|-----------------|------------------------------|
| CN3A,6A            | 4490401004      | 4490401004      | Male connector PH 4P         |
| CN7A               | 4490300261      | 4490300261      | Wire holder 3P20             |
| CN8A               | 4490401004      | 4490401004      | Male connector PH 4P         |
| CN9A               | 4490501004      | 4490501004      | Male connector PH 5P         |
| CN14,15            | 4490201002      | 4490201002      | Male connector EH 2P         |
| FRONT PCB ASSEMBLY |                 |                 |                              |
| <u>PC BOARD</u>    |                 |                 |                              |
|                    | 4146216710      | 4146216710      | PCB no components            |
|                    | C146216710      | C146216710      | PCB assembly                 |
| <u>ICS</u>         |                 |                 |                              |
| IC701              | C25411NU        | 4155C25411      | CPU                          |
| IC702              | HEF4052BP       | 415D040522      | A-D convertor                |
| IC703              | NJM062D         | 415900062D      | A-D convertor                |
| IC704              | HEF4094BP       | 415D040942      | Mute IC                      |
| IC705              | X24C01P         | 415X24C01P      | RAM IC                       |
| <u>TRANSISTORS</u> |                 |                 |                              |
| Q701               | 2SA733P         | 410000733P      | Switching                    |
| Q702               | 2SC945P         | 410020945P      | Switching                    |
| Q703               | 2SA733P         | 410000733P      | Switching                    |
| Q704               | 2SC945P         | 410020945P      | Switching                    |
| Q705               | 2SA733P         | 410000733P      | Switching                    |
| Q706               | 2SC945P         | 410020945P      | Switching                    |
| <u>DIODES</u>      |                 |                 |                              |
| D701-710           | 1SS176          | 4120901760      | 1SS176                       |
| D712               | LTL-4231        | 4120642315      | LED GRN                      |
| <u>CAPACITORS</u>  |                 |                 |                              |
| C701               | 5154109250      | 5154109250      | EL. CAP. .1uF/50V,+80/-20%   |
| C702,703           | 7306933052      | 7306933052      | Mult. CAP. 33uF/50V,+5%      |
| C705               | 7306610445      | 7306610445      | Mult. CAP. .1uF/50V,+80/-20% |
| C708               | 5114682550      | 5114682550      | Mylar. CAP. .0068uF/50V,+5%  |
| C709               | 7306610445      | 7306610445      | Mult. CAP. .1uF/50V,+80/-20% |
| C710               | 7306510215      | 7306510215      | Mult. CAP. .001uF/50V,+10%   |
| <u>RESISTORS</u>   |                 |                 |                              |
| R701               | 4050118252      | 4050118252      | RES. 1.8K ohm,1/6W           |
| R702,703           | 4050110152      | 4050110152      | RES. 100 ohm,1/6W            |
| R704-707           | 4050147252      | 4050147252      | RES. 4.7K ohm,1/6W           |
| R708               | 4050118252      | 4050118252      | RES. 1.8K ohm,1/6W           |
| R709               | 4050110452      | 4050110452      | RES. 100K ohm,1/6W           |
| R710               | 4050122352      | 4050122352      | RES. 22K ohm,1/6W            |

| Symbol No.           | Ref. No.                 | Part No.                 | Description                       |
|----------------------|--------------------------|--------------------------|-----------------------------------|
| R711                 | 4050110552               | 4050110552               | RES. 1M ohm,1/6W                  |
| R712                 | 4050110452               | 4050110452               | RES. 100K ohm,1/6W                |
| R713                 | 4070110574               | 4070110574               | RES. 1M ohm,1/6W                  |
| R715-717             | 4050110352               | 4050110352               | RES. 10K ohm,1/6W                 |
| R718                 | 4050133252               | 4050133252               | RES. 3.3K ohm,1/6W                |
| R719                 | 4050110352               | 4050110352               | RES. 10K ohm,1/6W                 |
| R720                 | 4050110452               | 4050110452               | RES. 100K ohm,1/6W                |
| R721,722             | 4050447452               | 4050447452               | RES. 470K ohm,1/4W                |
| R726                 | 4050110552               | 4050110552               | RES. 1M ohm,1/6W                  |
| R727,729             | 4050110352               | 4050110352               | RES. 10K ohm,1/6W                 |
| R730                 | 4050110552               | 4050110552               | RES. 1M ohm,1/6W                  |
| R731                 | 4050110352               | 4050110352               | RES. 10K ohm,1/6W                 |
| R732                 | 4050110252               | 4050110252               | RES. 1K ohm,1/6W                  |
| R733                 | 4050110352               | 4050110352               | RES. 10K ohm,1/6W                 |
| SWITCHES<br>S701-710 | SKHVB3520-CP             | 4400000156               | Tack switch                       |
| MISCELLANEOUS        |                          |                          |                                   |
| CN-16A               | 4490200261               | 4490200261               | Wire holder 2P20                  |
| CN-17A               | 4490300261               | 4490300261               | Wire holder 3P20                  |
| SEN701               | LTM-9052A4               | 71409052A4               | Remote receiver                   |
| X701                 | CSA 4.91MG               | 416090491M               | Resonator                         |
| Lamp PCB assembly    |                          |                          |                                   |
| PC BOARD             | 4046216730<br>C046216730 | 4046216730<br>C046216730 | PCB no components<br>PCB assembly |
| LAMPS<br>LP701,702   | 18V/100mA                | 4700300005               | Fuse lamp                         |
| Tuner PCB assembly   |                          |                          |                                   |
| PC BOARD             | 4146216760<br>C146216760 | 4146216760<br>C146216760 | PCB no components<br>PCB assembly |
| ICS                  |                          |                          |                                   |
| IC401                | LA1266                   | 4152012660               | AM/FM demodulator                 |
| IC402                | NJM4558DD                | 4159045584               | O/P Amp                           |
| IC403                | LM7000                   | 4152070000               | Control O/P lines                 |
| IC404                | LA3401                   | 4152034010               | Stereo decoder                    |
| TRANSISTORS          |                          |                          |                                   |
| Q401                 | 2SA733P,Q                | 410000733P,Q             | AGC switching                     |
| Q402                 | 2SC945P,Q                | 410020945P,Q             | AGC switching                     |
| Q403                 | 2SC1675L                 | 410021675L               | FM Oscillator                     |
| Q404                 | 2SC1674K                 | 410021674K               | Buffer                            |
| Q405                 | 2SC1674K                 | 410021674K               | FM Oscillator Amp                 |
| Q406-408             | 2SC1675L                 | 410020675L               | FM IF AMP                         |
| Q409-411             | 2SC945P,Q                | 410020945P,Q             | Switching                         |
| Q412,413             | 2SC945P,Q                | 410020945P,Q             | Buffer                            |
| Q414,415             | Switching                | 410000733P,Q             | 2SA733P,Q                         |
| Q416,417             | 2SA733P,Q                | 410000733P,Q             | 2SA733P,Q                         |
| Q418                 | FET BF982                | 4104309820               | FM RF Amp                         |
| Q419                 | FET BF982                | 4104309820               | FM mixer                          |
| Q420                 | 2SC1675L                 | 410020675L               | 2SC1675L                          |



| <u>Symbol No.</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>             |
|-------------------|-----------------|-----------------|--------------------------------|
| <u>CAPACITORS</u> |                 |                 |                                |
| C401              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C402              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C403              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C404              | 5165478250      | 5165478250      | EL. CAP. .47uF/50V,+20%        |
| C405              | 7306510215      | 7306510215      | Mult. CAP. .001uF/50V,+10%     |
| C406              | 7306510115      | 7306510115      | Mult. CAP. 100pF/50V,+10%      |
| C407              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C408              | 7306510115      | 7306510115      | Mult. CAP. 100pF/50V,+10%      |
| C409              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C411              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C413              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C414              | 7306510215      | 7306510215      | Mult. CAP. .001uF/50V,+10%z    |
| C415              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C416-421          | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C424-428          | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C429              | 7306922055      | 7306922055      | Mult. CAP. 22pF/50V,+5%        |
| C430              | 5091471513      | 5091471513      | PL. CAP. 470pF,+5%             |
| C431              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C432              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C433              | 7306010055      | 7306010055      | Mult. CAP. 10pF/50V,+5%        |
| C434              | 7306082915      | 7306082915      | Mult. CAP. 8.2uF/50V,+10%      |
| C435              | 7306015055      | 7306015055      | Mult. CAP. 15pF/50V,+5%        |
| C436              | 7306010055      | 7306010055      | Mult. CAP. 10pF/50V,+5%        |
| C437              | 7306510215      | 7306510215      | Mult. CAP. .001uF/50V,+10%     |
| C438,439          | 5121209752      | 5121209752      | Cer CAP. 2P,CH,+0.25P          |
| C440              | 7306510215      | 7306510215      | Mult. CAP. .001uF/50V,+10%     |
| C441-443          | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C444              | 7306968055      | 7306968055      | Mult. CAP. 68pF/50V,+5%        |
| C445              | 7306610445      | 7306610445      | Mult. CAP. .1uF/50V,+80/-20%   |
| C446              | 5154101235      | 5154101235      | EL. CAP. 100uF/35V,+20%        |
| C447              | 5121100852      | 5121100852      | Cer CAP. 10pF,CH,+0.5P         |
| C448              | 7306610445      | 7306610445      | Mult. CAP. .1uF/50V,+80/-20%   |
| C449              | 7306610445      | 7306610445      | Mult. CAP. .1uF/50V,+80/-20%   |
| C450              | 5154229250      | 5154229250      | EL. CAP. 2.2uF/50V,+20%        |
| C451              | 7306610445      | 7306610445      | Mult. CAP. .1uF/50V,+80/-20%   |
| C452              | 7306933052      | 7306933052      | Mult. CAP. 33pF/50V,+5%        |
| C453              | 7306922055      | 7306922055      | Mult. CAP. 22pF/50V,+5%        |
| C455              | 7306510115      | 7306510115      | Mult. CAP. 100pF/50V,+10%      |
| C456              | 7306510115      | 7306510115      | Mult. CAP. 100pF/50V,+10%      |
| C458-460          | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C461              | 5154339250      | 5154339250      | EL. CAP. 3.3uF/50V,+20%        |
| C462              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C463              | 7306947055      | 7306947055      | Mult. CAP. 47pF,+5%            |
| C464              | 7306647345      | 7306647345      | Mult. CAP. .047uF/50V,+80/-20% |
| C465,466          | 7306647345      | 7306647345      | Mult. CAP. .047uF/50V,+80/-20% |
| C467              | 5154100225      | 5154100225      | EL. CAP. 10uF/25V,+20%         |
| C468              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C470              | 5154470216      | 5154470216      | EL. CAP. 47uF/16V,+20%         |
| C471              | 7306510115      | 7306510115      | Mult. CAP. 100pF/50V,+10%      |
| C472              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |
| C473              | 5154221216      | 5154221216      | EL. CAP. 220uF/16V,+20%        |
| C474              | 5154109250      | 5154109250      | EL. CAP. 1uF/50V,+20%          |
| C475              | 7307110315      | 7307110315      | Mult. CAP. .01uF/50V,+10%      |
| C476              | 7308622345      | 7308622345      | Mult. CAP. .022uF/16V,+80/-20% |

| Symbol No.       | Ref. No.   | Part No.   | Description                    |
|------------------|------------|------------|--------------------------------|
| C477             | 5154221216 | 5154221216 | EL. CAP. 220uF/16V,+/-20%      |
| C478             | 5116473550 | 5116473550 | EL. CAP. .047uF/50V,+/-5%      |
| C479             | 5154109250 | 5154109250 | EL. CAP. 1uF/50V,+/-20%        |
| C480             | 5154228250 | 5154228250 | EL. CAP. .22uF/50V,+/-20%      |
| C481             | 5154470216 | 5154470216 | EL. CAP. 47uF/16V,+/-20%       |
| C482,483         | 5154109250 | 5154109250 | EL. CAP. 1uF/50V,+/-20%        |
| C484             | 5114152550 | 5114152550 | Mylar. CAP. .0015uF/50V,+/-5%  |
| C485             | 5154100225 | 5154100225 | EL. CAP. 10uF/25V,+/-20%       |
| C486             | 5154470216 | 5154470216 | EL. CAP. 47uF/16V,+/-20%       |
| C487             | 7306539115 | 7306539115 | Mult. CAP. 390pF/50V,+/-10%    |
| C488,489         | 5091911513 | 5091911513 | PL. CAP. 910pF,+/-5%           |
| C490,491         | 5114152550 | 5114152550 | Mylar. CAP. .0015uF/50V,+/-5%  |
| C492,493         | 5154470216 | 5154470216 | EL. CAP. 47uF/16V,+/-20%       |
| C494,495         | 5114332550 | 5114332550 | Mylar CAP. .0033uF/50V,+/-5%   |
| C496,497         | 5154479250 | 5154479250 | EL. CAP. 4.7uF/50V,+/-20%      |
| C498             | 5154100225 | 5154100225 | EL. CAP. 10uF/25V,+/-20%       |
| C499             | 7306010055 | 7306010055 | EL. CAP. 10pF/50V,+/-5%        |
| C4001            | 7308622345 | 7308622345 | Mult. CAP. .022uF/16V,+80/-20% |
| C4002            | 5121100852 | 5121100852 | EL. CAP. 10pF,+/-0.5PF         |
| C4003            | 5154479250 | 5154479250 | EL. CAP. 4.7uF/50V,+/-20%      |
| <b>RESISTORS</b> |            |            |                                |
| R401             | 4050122052 | 4050122052 | RES. 22 ohm,1/6W               |
| R402             | 4050120252 | 4050120252 | RES. 2K ohm,1/6W               |
| R404             | 4050147152 | 4050147152 | RES. 470 ohm,1/6W              |
| R405             | 4050110452 | 4050110452 | RES. 100K ohm,1/6W             |
| R406             | 4050130352 | 4050130352 | RES. 30K ohm,1/6W              |
| R408             | 4050147252 | 4050147252 | RES. 4.7K ohm,1/6W             |
| R409             | 4050110452 | 4050110452 | RES. 100K ohm,1/6W             |
| R410             | 4050120352 | 4050120352 | RES. 20K ohm,1/6W              |
| R411,412         | 4050110452 | 4050110452 | RES. 100K ohm,1/6W             |
| R413             | 4050147352 | 4050147352 | RES. 47K ohm,1/6W              |
| R414             | 4050115452 | 4050115452 | RES. 150K ohm,1/6W             |
| R415             | 4050139452 | 4050139452 | RES. 390K ohm,1/6W             |
| R416-418         | 4050110152 | 4050110152 | RES. 100 ohm,1/6W              |
| R419,420         | 4050147352 | 4050147352 | RES. 47K ohm,1/6W              |
| R421             | 4050110452 | 4050110452 | RES. 100K ohm,1/6W             |
| R422             | 4050191452 | 4050191452 | RES. 910K ohm,1/6W             |
| R423             | 4050168452 | 4050168452 | RES. 680K ohm,1/6W             |
| R424             | 4050110452 | 4050110452 | RES. 100K ohm,1/6W             |
| R425             | 4050110152 | 4050110152 | RES. 100 ohm,1/6W              |
| R426             | 4050147152 | 4050147152 | RES. 470 ohm,1/6W              |
| R427             | 4050115152 | 4050115152 | RES. 150 ohm,1/6W              |
| R428             | 4050282159 | 4050282159 | RES. 820 ohm,1/2W              |
| R429             | 4050175052 | 4050175052 | RES. 75 ohm,1/6W               |
| R430             | 4050439152 | 4050439152 | RES. 390 ohm,1/6W              |
| R431             | 4050133152 | 4050133152 | RES. 330 ohm,1/6W              |
| R432             | 4050110252 | 4050110252 | RES. 1K ohm,1/6W               |
| R433             | 4050147152 | 4050147152 | RES. 470 ohm,1/6W              |
| R434             | 4050133152 | 4050133152 | RES. 330 ohm,1/6W              |
| R435             | 4050168152 | 4050168152 | RES. 680 ohm,1/6W              |
| R436             | 4050175052 | 4050175052 | RES. 75 ohm,1/6W               |
| R437             | 4050122052 | 4050122052 | RES. 22 ohm,1/6W               |
| R438             | 4050133152 | 4050133152 | RES. 330 ohm,1/6W              |
| R439             | 4050433252 | 4050433252 | RES. 3.3K ohm,1/4W             |
| R440             | 4050118352 | 4050118352 | RES. 18K ohm,1/6W              |

| Symbol No.  | Ref. No.   | Part No.   | Description        |
|-------------|------------|------------|--------------------|
| R441        | 4050110152 | 4050110152 | RES. 100K ohm,1/6W |
| R442        | 4050118352 | 4050118352 | RES. 18K ohm,1/6W  |
| R443        | 4050133252 | 4050133252 | RES. 3.3K ohm,1/6W |
| R444        | 4050110252 | 4050110252 | RES. 1K ohm,1/6W   |
| R445        | 4050122452 | 4050122452 | RES. 220K ohm,1/6W |
| R446        | 4050133152 | 4050133152 | RES. 330 ohm,1/6W  |
| R447,448    | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R449        | 4050110152 | 4050110152 | RES. 100 ohm,1/6W  |
| R450        | 4050115252 | 4050115252 | RES. 1.5K ohm,1/6W |
| R451        | 4050427252 | 4050427252 | RES. 2.7K ohm,1/6W |
| R453        | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R454        | 4050147252 | 4050147252 | RES. 4.7K ohm,1/6W |
| R455        | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R456        | 4050122452 | 4050122452 | RES. 220K ohm,1/6W |
| R457        | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R458        | 4050151252 | 4050151252 | RES. 5.1K ohm,1/6W |
| R459        | 4050420352 | 4050420352 | RES. 20K ohm,1/4W  |
| R460        | 4050122352 | 4050122352 | RES. 22K ohm,1/6W  |
| R461        | 4050182052 | 4050182052 | RES. 82 ohm,1/6W   |
| R462        | 4050422352 | 4050422352 | RES. 22K ohm,1/6W  |
| R463        | 4050115352 | 4050115352 | RES. 15K ohm,1/6W  |
| R464        | 4050130352 | 4050130352 | RES. 30K ohm,1/6W  |
| R465,466    | 4050410352 | 4050410352 | RES. 10K ohm,1/4W  |
| R468        | 4050122052 | 4050122052 | RES. 22 ohm,1/6W   |
| R469        | 4050127252 | 4050127252 | RES. 2.7K ohm,1/6W |
| R470        | 4050127252 | 4050127252 | RES. 2.7K ohm,1/6W |
| R471        | 4050120352 | 4050120352 | RES. 20K ohm,1/6W  |
| R472        | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R473        | 4050133252 | 4050133252 | RES. 3.3K ohm,1/6W |
| R474        | 4050447052 | 4050447052 | RES. 47 ohm,1/4W   |
| R475        | 4050433352 | 4050433352 | RES. 33K ohm,1/4W  |
| R476        | 4050430252 | 4050430252 | RES. 30K ohm,1/4W  |
| R477        | 4050420252 | 4050420252 | RES. 2K ohm,1/4W   |
| R478        | 4050120352 | 4050120352 | RES. 20K ohm,1/6W  |
| R479,480    | 4050182352 | 4050182352 | RES. 82K ohm,1/6W  |
| R481,482    | 4050168252 | 4050168252 | RES. 6.8K ohm,1/6W |
| R483,484    | 4050127252 | 4050127252 | RES. 2.7K ohm,1/6W |
| R485,486    | 4050133252 | 4050133252 | RES. 3.3K ohm,1/6W |
| R487,488    | 4050115352 | 4050115352 | RES. 15K ohm,1/6W  |
| R489,490    | 4050147252 | 4050147252 | RES. 4.7K ohm,1/6W |
| R491,492    | 4050182152 | 4050182152 | RES. 820 ohm,1/6W  |
| R493,494    | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R495        | 4050115352 | 4050115352 | RES. 15K ohm,1/6W  |
| R496        | 4050422052 | 4050422052 | RES. 22 ohm,1/4W   |
| R497,498    | 4050122352 | 4050122352 | RES. 22K ohm,1/6W  |
| R499        | 4050168352 | 4050168352 | RES. 68K ohm,1/6W  |
| R4001-4006  | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R4008       | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |
| R4009       | 4050127352 | 4050127352 | RES. 27K ohm,1/6W  |
| R4010       | 4050122152 | 4050122152 | RES. 220 ohm,1/6W  |
| R4011,R4012 | 4050110252 | 4050110252 | RES. 1K ohm,1/6W   |
| R4013       | 4050147352 | 4050147352 | RES. 47K ohm,1/6W  |
| R4014       | 4050122352 | 4050122352 | RES. 22K ohm,1/6W  |
| R4015       | 4050147352 | 4050147352 | RES. 47K ohm,1/6W  |
| R4016       | 4050147352 | 4050147352 | RES. 47K ohm,1/6W  |
| R4017       | 4050110352 | 4050110352 | RES. 10K ohm,1/6W  |

| Symbol No.                      | Ref. No.                 | Part No.                 | Description  |
|---------------------------------|--------------------------|--------------------------|--|
| VARIABLE RES.<br>SFR402         | VZ068TLT                 | 5226203T56               | VAR. RES. 20KX ,Signal meter<br>level adjustment       |
| SFR402<br>SFR403                | or VZ068TLT<br>VZ068TLT  | 5226203177<br>5226503T56 | VAR. RES. 20KX<br>VAR. RES. 50KX,Separation adjustment |
| TRIMMER<br>TC404,405            | 5010300055               | 5010300055               | Trimmer 30p  |
| DIODES                          |                          |                          |  |
| D401                            | 1SV099                   | 41201SV099               | 1SV099   |
| D402-405                        | 1SV55                    | 4120400550               | 1SV55  |
| D406,407                        | 1N60                     | 4120100600               | 1N60   |
| D410,411                        | SVC321-SPA               | 413000321S               | SVC321-SPA   |
| COILS                           |                          |                          |  |
| L401                            | 1uH                      | 4325010992               | Peaking coil   |
| L402                            | FM OSC coil              | 4330400830               | FM OSC coil  |
| L403                            | 1uH                      | 4325010992               | Peaking coil   |
| L404                            | 2.2uH                    | 4325022992               | Peaking coil   |
| L406                            | 2.2uH                    | 4325022992               | Peaking coil   |
| FL401,402                       | SFE10.7ML-A              | 4160200157               | Ceramic filter   |
| FL404                           | SFZ450G3L                | 4160500155               | Ceramic filter   |
| FL405                           | TWS-358-736              | 4169705233               | AM filter  |
| FL406                           | TWS-358-735              | 4169705224               | Mpx filter   |
| FL407,408                       | Mpx filter               | 4360400510               | Mpx filter   |
| T401-403                        | E525HNS-200055           | 4310400880               | FM RF coil   |
| T404                            | 119AC-30099R             | 4340201570               | FM IFT   |
| T405                            | TWS-358-732              | 4310100870               | AM RF coil   |
| T406                            | TWS-358-731              | 4330101960               | AM OSC coil  |
| T407                            | TWS-358-730              | 4340101360               | AM IFT coil  |
| T408                            | TWS-358-734              | 4340201550               | FM IFT (A),Quad coil                                   |
| T409                            | TWS-358-733              | 4340201560               | FM IFT (B),Quad coil                                   |
| MISCELLANEOUS                   |                          |                          |  |
| CN-1B                           | 4490501004               | 4490501004               | Male connector PH 5P                                   |
| CN-11B                          | 4490301004               | 4490301004               | Male connector PH 3P                                   |
| CN-14A                          | 4491201004               | 4491201004               | Male connector PH 12P                                  |
| X401                            | 7.2MHz                   | 4100903240               | Crytal   |
| X402                            | CSB456F11                | 4160500161               | Ceramic filter   |
| Speaker-A terminal PCB assembly |                          |                          |  |
| PC BOARD                        | 4145216530<br>C145216530 | 4145216530<br>C145216530 | PCB no components<br>PCB assembly                      |
| CAPACITORS                      |                          |                          |  |
| C139,140                        | 7307110315               | 7307110315               | Mult. CAP. .01uF/16V                                   |
| C155,156                        | 7307822215               | 7307822215               | Mult. CAP. .0022uF/16V                                 |
| JACKS                           |                          |                          |  |
| JK103                           | 4560004083               | 4560004083               | 4P speaker terminal (For speaker A)                    |

Push PCB assembly

| <u>Symbol No.</u>    | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>      |
|----------------------|-----------------|-----------------|-------------------------|
| <u>PC BOARD</u>      |                 |                 |                         |
|                      | 4145216540      | 4145216540      | PCB no components       |
|                      | C145216540      | C145216540      | PCB assembly            |
| <u>CAPACITORS</u>    |                 |                 |                         |
| C31,32               | 5114152550      | 5114152550      | Mylar. CAP. .0015uF/50V |
| C33,34               | 5154109250      | 5154109250      | EL. CAP. 1uF/50V        |
| <u>RESISTORS</u>     |                 |                 |                         |
| R43,44               | 4050168252      | 4050168252      | RES. 6.8K ohm,1/6W      |
| R45,46               | 4050151152      | 4050151152      | RES. 510 ohm,1/6W       |
| R53,54               | 4050168252      | 4050168252      | RES. 6.8K ohm,1/6W      |
| <u>SWITCHES</u>      |                 |                 |                         |
| S2A,B                | SPUN22A208      | 4432000635      | Push switch             |
| <u>MISCELLANEOUS</u> |                 |                 |                         |
| CN-10A               | 4490600261      | 4490600261      | Wire holder 6P20        |
| Volume PCB assembly  |                 |                 |                         |
| <u>PC BOARD</u>      |                 |                 |                         |
|                      | 4145216550      | 4145216550      | PCB no components       |
|                      | C145216550      | C145216550      | PCB assembly            |
| <u>VARIABLE RES.</u> |                 |                 |                         |
| VR1                  | RK16312MC019    | 5025214185      | VR 10KBx2, Volume       |
| <u>MISCELLANEOUS</u> |                 |                 |                         |
| CN-10B               | 4490600261      | 4490600261      | Wire holder 6P20        |
| Display PCB assembly |                 |                 |                         |
| <u>PC BOARD</u>      |                 |                 |                         |
|                      | 4146216720      | 4146216720      | PCB no components       |
|                      | C146216720      | C146216720      | PCB assembly            |
| <u>ICS</u>           |                 |                 |                         |
| IC706                | LC7582          | 4152075820      | LCD Drive               |
| <u>LCD</u>           |                 |                 |                         |
| LCD701               | HLC8108-014210  | 4110440179      | LCD display             |
| <u>CAPACITORS</u>    |                 |                 |                         |
| C707                 | 7306568115      | 7306568115      | Mult. CAP. 680pF/50V    |
| <u>RESISTORS</u>     |                 |                 |                         |
| R725                 | 4050147352      | 4050147352      | RES. 47K ohm,1/6W       |
| <u>MISCELLANEOUS</u> |                 |                 |                         |
| CN-16B               | 4490200261      | 4490200261      | Wire holder 2P20        |
| CN-17B               | 4490300261      | 4490300261      | Wire holder 3P20        |

## SUB Transformer PCB assembly

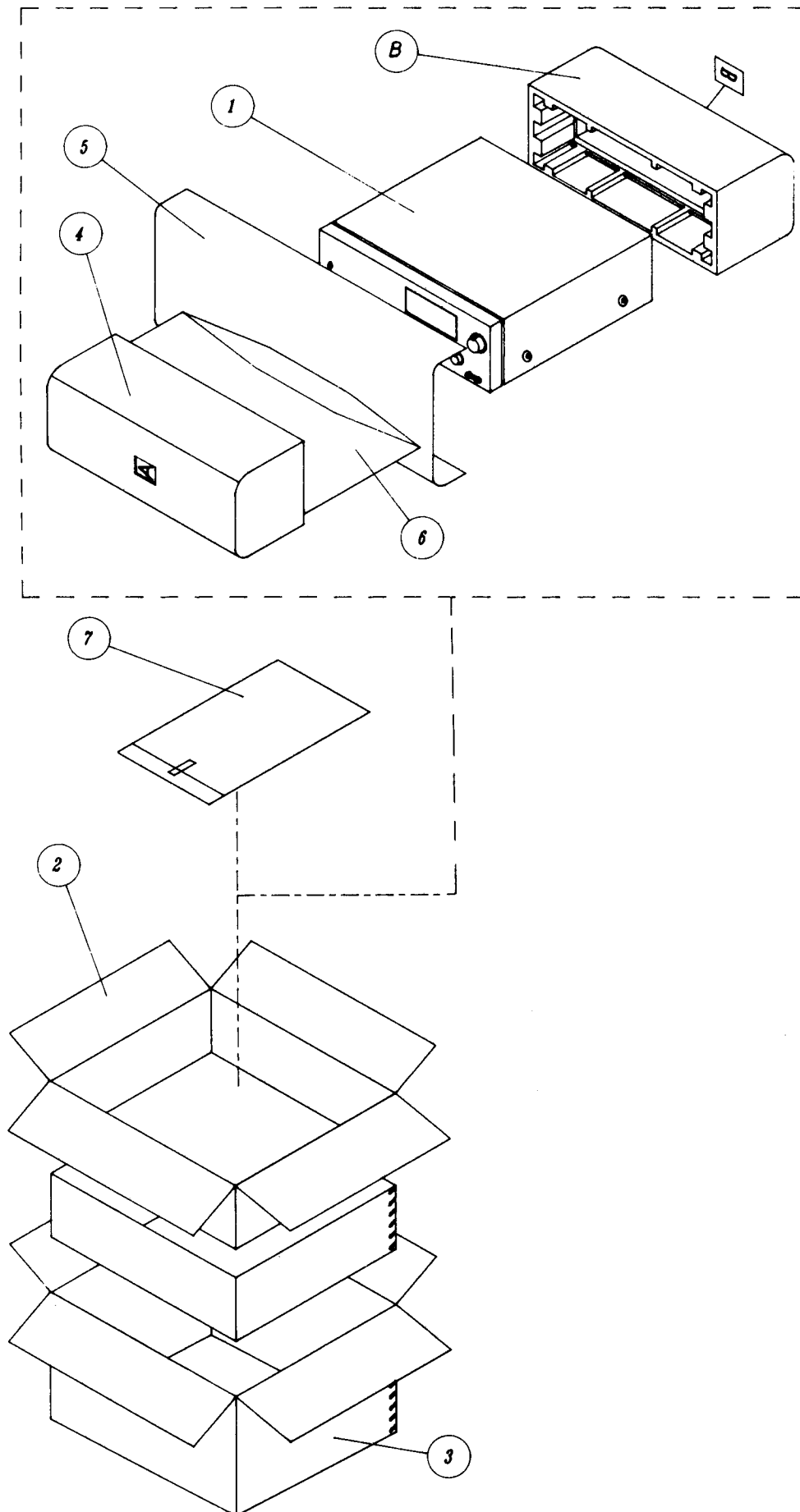
| <u>Symbol No.</u>    | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u>                 |
|----------------------|-----------------|-----------------|------------------------------------|
| <u>PC BOARD</u>      | 4146216740      | 4146216740      | PCB no components                  |
|                      | C146216740      | C146216740      | PCB assembly                       |
| <u>ICS</u>           |                 |                 |                                    |
| IC304                | MC7805CT        | 4157078053      | Regulator                          |
| <u>TRANSISTORS</u>   |                 |                 |                                    |
| Q310,311             | 2SC945P         | 410020945P      | Switching                          |
| <u>DIODES</u>        |                 |                 |                                    |
| D312,313             | 1N4148          | 4120141480      | 1N4148                             |
| D314                 | 1N4002L         | 4138104002      | 1N4002L                            |
| D315                 | W02M            | 4130150022      | W02M                               |
| <u>CAPACITORS</u>    |                 |                 |                                    |
| C320                 | 5104223452      | 5104223452      | Cer CAP. .022uF/50V,+80/-20%       |
| C321                 | 5154470225      | 5154470225      | EL. CAP. 47uF/25V,+20%             |
| C322                 | 5154102225      | 5154102225      | EL. CAP. 1000uF/25V,+20%           |
| C323                 | 5154470216      | 5154470216      | EL. CAP. 47uF/16V,+20%             |
| C324                 | 5154100225      | 5154100225      | EL. CAP. 10uF/25V,+20%             |
| <u>RESISTORS</u>     |                 |                 |                                    |
| R001                 | 4060233519      | 4060233519      | RES. 3.3M ohm,1/2W,Solder          |
| R324                 | 4050410252      | 4050410252      | RES. 1K ohm,1/4W                   |
| R325                 | 4050110452      | 4050110452      | RES. 100K ohm,1/6W                 |
| R326                 | 4050133352      | 4050133352      | RES. 33K,1/6W                      |
| <u>COILS</u>         |                 |                 |                                    |
| T301                 | EI-41           | 420A419280      | SUB Transformer                    |
| <u>MISCELLANEOUS</u> |                 |                 |                                    |
| CN-4B                | 4490501004      | 4490501004      | Male connector PH 5P               |
| E1                   | 4692000034      | 4692000034      | Fuse holder PFC5000-0202T          |
| E2                   | 4631372070      | 4631372070      | AC cord F type (UL,CSA)            |
| E3                   | 4631372070      | 4631372070      | AC cord Din type (UK)              |
| E4                   | 4634212080      | 4634212080      | AC cord Din type (AY)              |
| E5                   | 4632212075      | 4632212075      | AC cord VDE 7.5F BLK               |
| E6                   | 4679500023      | 4679500023      | Antenna Converter AJ-2010 (UL,CSA) |
| E7                   | 4679705033      | 4679705033      | Antenna Converter AJ-2020 (UK)     |
| RL 301               | VS-12MB-VD3     | 4390000022      | Relay                              |



# TROUBLESHOOTING GUIDE

| CIRCUIT  | SYMPTOM                              | CAUSE                                       | REMEDY   |
|--|--------------------------------------|---|--|
| GENERAL  | NO SOUND (Unit does not work at all) | Defective ON/OFF switch.                    | Replace or repair as required.   |
|  |                                      | Defective band selector switch.             | Replace or repair as required.   |
|  |                                      | Defective volume control.                   | Check volume control resistance for continuous operation. Replace if necessary.  |
|  |                                      | Defective speaker.                          | Replace speaker.   |
|  |                                      | Defective speaker jack.                     | Replace or repair jack.  |
| AM   | NO SOUND                             | Defective band selector switch.             | Replace or repair switch.  |
|  |                                      | Defect in IFT T407                          | Check voltage and current for this circuit.  |
|  |                                      | Open circuit of AM IF transformer.          | Check resistance.  |
|  |                                      | Defective AM ant. coil, or OSC. coil.       | Replace if necessary.  |
|  | WEAK SOUND (Low sensitivity)         | IF tuning faulty.                           | Readjust (see Alignment instructions).   |
|  |                                      | RF tracking faulty.                         | Readjust (see Alignment instructions).   |
|  |                                      | Defective IC401                             | Check voltages. Replace if necessary.  |
|  |                                      | Poor contact in antenna circuit.            | Check resistance. and resolder.  |
| FM<br>●No FM MPX separation<br>●No stereo light or FM stereo does not work | NO SOUND                             | Defective band selector switch.             | Replace or repair the switch.  |
|  |                                      | Open circuit of FM ant. coil, or OSC. coil. | Check resistance. Replace if necessary.  |
|  | WEAK SOUND (Low sensitivity)         | Defect in FM tuner circuit.                 | Check RF, IF and detector circuit. Check voltage and current of transistors. Replace parts if necessary and readjust FM tuner. |
|  |                                      | IF tuning faulty.                           | Check the function of IC401.   |
|  |                                      | RF tracking faulty.                         | Readjust (see Alignment instructions).   |
|  |                                      | Defective IC401                             | Check voltage and current.   |
|  |                                      | Poor contact in FM antenna circuit.         | Resolder or repair as required.  |

## Packing Diagram



PACKING LIST FOR NAD-705

| ITEM | PARTS NO.  | NAME             |
|------|------------|------------------|
| 1    | 9705-1,5   | SET              |
| 2    | 9002079705 | GIFT BOX         |
| 3    | 9003079705 | MASTER CARTON    |
| 4    | 9001079705 | SNOW BOX (F)     |
| 5    | 9004038401 | SOFT SHEET       |
| 6    | 9906006040 | POLY BAG 60x60   |
| 7    | 9080019150 | INSTRUCTION BOOK |
| 8    | 9004079705 | SNOW BOX (B)     |

# SERVICE MANUAL

# 705

RECEIVER

**NAD ELECTRONICS**  
LONDON