

# ST-H300

## SERVICE MANUAL

*E Model  
Australian Model*



This set is the tuner section in FH-E828/E929.

### SPECIFICATIONS

|                         |                                                                   |
|-------------------------|-------------------------------------------------------------------|
| System                  | FM stereo, FM/AM<br>superheterodyne tuner                         |
| <b>FM tuner section</b> |                                                                   |
| Tuning range            | 87.5 – 108 MHz                                                    |
| Antenna                 | Telescopic antenna                                                |
| Antenna terminals       | 75 ohms unbalanced                                                |
| Intermediate frequency  | 10.7 MHz                                                          |
| <b>AM tuner section</b> |                                                                   |
| Tuning range            | MW: 531 – 1,602 kHz<br>SW1: 3.2 – 7.3 MHz<br>SW2: 9.5 – 21.75 MHz |
| Antenna                 | AM loop antenna,<br>External antenna<br>terminals                 |
| Intermediate frequency  | 450 kHz                                                           |

FM-AM TIMER TUNER  
**SONY**®

## • Power supply for service

Since this machine has no power source in itself, the power is supplied from AMP TA-818 or TA-818M used for this series.

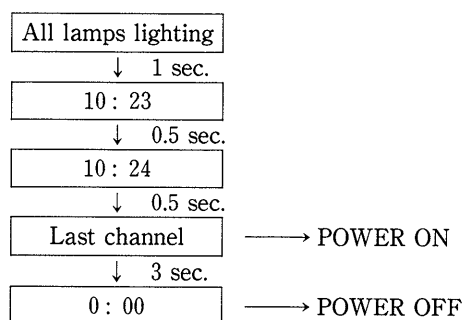
As shown in the following table, this machine requires 4 types of voltage, and supplying each type of voltage separately makes complicated connections.

Accordingly, make connection with TA-818/818M at time of service, such as electrifying repair.

|         |                                        |
|---------|----------------------------------------|
| AC 3.9V | FL-tube filament voltage               |
| DC -24V | Display controller IC701, grid voltage |
| DC 5V   | Display controller IC701, $V_{cc}$     |
| DC 13V  | PLL control voltage                    |

## • Service mode for checking the timer ON/OFF

- 1) Connect with AMP TA-H300 and set the power switch of TA-H300 to the state of STANDBY.
- 2) Set the time of tuner to a proper time (any time).
- 3) Press 3 switches simultaneously, namely, TUNING-, SHIFT and ENTER.
- 4) FL-tube display



- 5) End

## —Caution for Service—

### • Reset of IC701

The display controller IC701 is reset by short-circuiting both edges of C702 (0.47 $\mu$ F) while power OFF and discharging electricity.

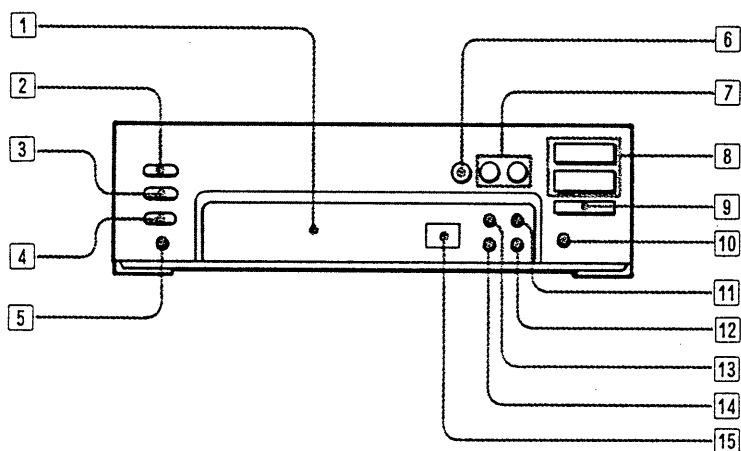
After resetting, the following frequencies are pre-set to the memory.

When the repair is completed, return the memory to the preceding state (content).

| FM |           | MW |           | SW1 |         | SW2 |           |
|----|-----------|----|-----------|-----|---------|-----|-----------|
| A1 | 87.5 MHz  | A6 | 531 kHz   | B1  | 3.2 MHz | B6  | 9.5 MHz   |
| A2 | 88.0 MHz  | A7 | 603 kHz   | B2  | 3.5 MHz | B7  | 10.0 MHz  |
| A3 | 98.0 MHz  | A8 | 999 kHz   | B3  | 5.0 MHz | B8  | 15.0 MHz  |
| A4 | 100.0 MHz | A9 | 1,404 kHz | B4  | 6.5 MHz | B9  | 20.0 MHz  |
| A5 | 108.0 MHz | A0 | 1,602 kHz | B5  | 7.3 MHz | B0  | 21.75 MHz |

## SECTION 1 GENERAL

### 1-1. PARTS IDENTIFICATION



#### Tuner Section

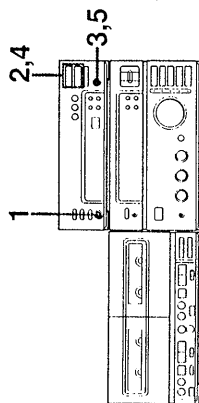
- 1 Display window
- 2 TIMER CONTROL button
- 3 SLEEP timer button
- 4 TIMER SET button
- 5 CLOCK button
- 6 BAND selector
- 7 TUNING +/- buttons
- 8 PRESET/TIMER +/- buttons
- 9 SHIFT (memory page select) button
- 10 ENTER/NEXT button
- 11 STEREO/MUTING button
- 12 MEMORY button
- 13 AUTO/MANUAL tuning button
- 14 TIME/FREQUENCY button
- 15 Remote control sensor

## 1-2. CLOCK SETTING

## Setting the Clock

Example: Set to 9:25 in the morning.

- 1 Press CLOCK.
- 2 Set the hour with PRESET/TIMER +/- buttons.
- 3 Press ENTER/NEXT.
- 4 Set the minutes with PRESET/TIMER +/- buttons.
- 5 Press ENTER/NEXT.  
The clock starts operating.



1  
CLOCK

2  
PRESET/TIMER  
+  
-

3  
ENTER  
NEXT

4  
PRESET/TIMER  
+  
-

5  
ENTER  
NEXT

## When a power interruption occurs

The time will blink and the clock will be behind by the length of time of the power interruption. After the power is restored, the display must be reset to the proper time. (Timer setting is not cancelled by power interruption.)

## To change the frequency display into the time display

Press TIME/FREQUENCY. Each time you press TIME/FREQUENCY, the display changes.

## 1-3. RADIO

POWER  
→ ON

1  
TUNER

2  
BAND

3  
AUTO/  
MANUAL

4  
TUNING

A

The automatic tuning allows you to receive stations whose signals are strong sufficiently.  
When the signal is too weak, tune in the station manually.

## Tuning in Automatically

- 1 Press TUNER.
- 2 Press BAND repeatedly until the desired band appears.  
As you press BAND, the band changes as follows: FM → SW → MW
- 3 Press AUTO/MANUAL.  
Make sure that AUTO appears in the display.
- 4 Select the station with TUNING + or -.
- 5 For receiving FM stations with the stereo effect, press STEREO/MUTING so that MUTING appears.

## Tuning in Manually

- 1 Press TUNER.
- 2 Select the band by pressing BAND.
- 3 Press AUTO/MANUAL so that AUTO disappears from the display.
- 4 Select the station with TUNING + or -.

## Indicator on the display

TUNED: Appears when a station of sufficient signal strength is tuned in.  
STEREO: Appears when an FM stereo program of sufficient signal strength is received.

## When an FM stereo program is noisy or hard to receive

Press STEREO/MUTING so that MUTING disappears from the display.  
There will be no stereo effect, but the reception will be improved.  
Press again to restore the stereo effect.

## Antenna adjustment

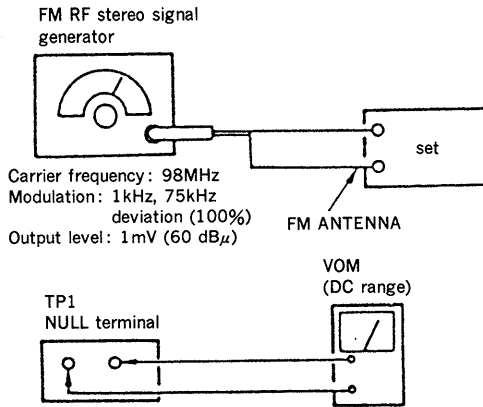
For MW and SW reception, find the best location for the AM loop antenna.

## SECTION 2 ELECTRICAL ADJUSTMENTS

### FM SECTION

#### • FM Discriminator Alignment (NULL check)

Setting :

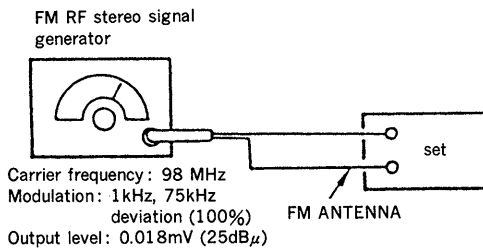


#### Procedure :

1. Tune the set to 98 MHz.
  2. Adjust T21 for 0 V reading on the VOM.
- Note: FM tuning level adjustment should be made after FM discriminator alignment.

#### • FM Tuning Level Adjustment

Setting :

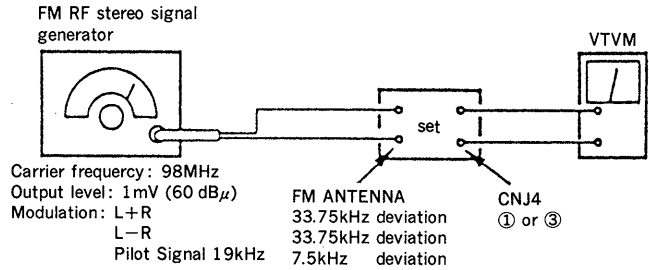


#### Procedure :

1. Tune the set to 98 MHz.
2. Adjust RV23 so that the TUNED LED goes on.

#### • FM Stereo Separation Adjustment

Setting :



#### Procedure :

Tune the set to 98 MHz

| FM stereo<br>Signal generator<br>Output channel | VTVM<br>connection | VTVM<br>reading (dB)                     |
|-------------------------------------------------|--------------------|------------------------------------------|
| L-CH                                            | L-CH               | Ⓐ                                        |
| R-CH                                            | L-CH               | Ⓑ<br>Adjust RV21 for<br>minimum reading. |
| R-CH                                            | R-CH               | Ⓒ                                        |
| L-CH                                            | R-CH               | Ⓓ<br>Adjust RV21 for<br>minimum reading. |

L-CH Stereo separation : Ⓐ—Ⓑ

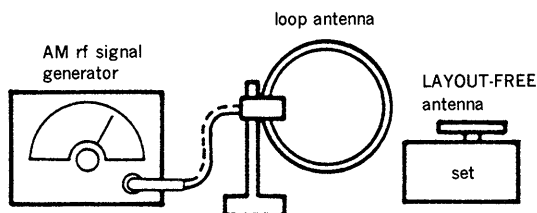
R-CH Stereo separation : Ⓒ—Ⓓ

The separations of both channels should be equal.

## AM SECTION

### • MW Tuning Level Adjustment

Setting :



Carrier frequency: 999 kHz  
Modulation: 400 Hz, 30% modulation

Procedure :

1. Set loop antenna so that the LAYOUT-FREE antenna input level becomes 58 dB $\mu$ .
2. Tune the set to 999 kHz.
3. Adjust the RV22 so that the TUNED LED goes on.

### • SW1/SW2 Control Voltage Adjustment (Frequency Coverage Adjustment)

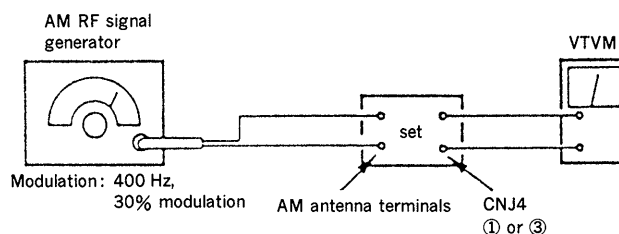
Procedure :

1. Connect digital voltmeter to diode D77 center lead and ground.
2. Adjust for a following value reading on digital voltmeter.

|     | Set frequency    | Adjustment part | Reading on digital voltmeter |
|-----|------------------|-----------------|------------------------------|
| SW1 | f min. 3.2 MHz   | T62             | 1.05 V                       |
|     | f max. 7.3 MHz   | CT62            | 8.7 V                        |
| SW2 | f min. 9.5 MHz   | T64             | 1.05 V                       |
|     | f max. 21.75 MHz | CT64            | 8.7 V                        |

### • SW1/SW2 Tracking Adjustment

Setting :



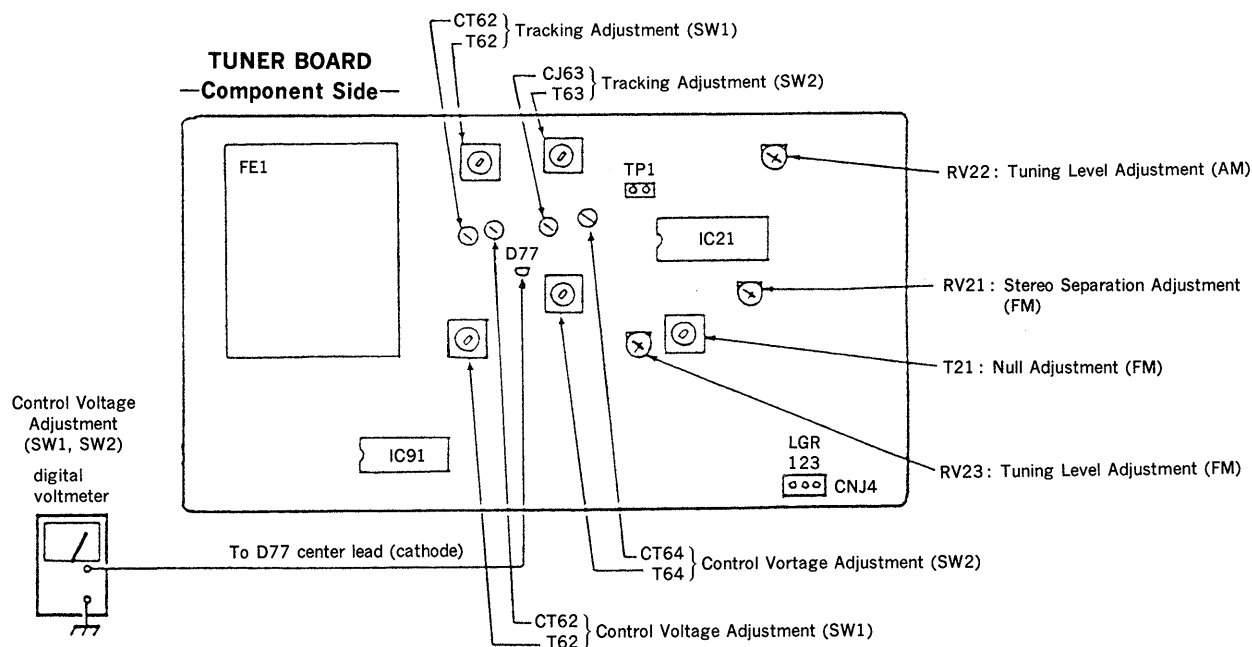
Procedure :

Adjust for a maximum reading on VTVM.

|     | Set frequency    | Adjustment part |
|-----|------------------|-----------------|
| SW1 | f low. 3.5 MHz   | T61             |
|     | f high. 6.5 MHz  | CT61            |
| SW2 | f low. 10.0 MHz  | T63             |
|     | f high. 20.0 MHz | CT63            |

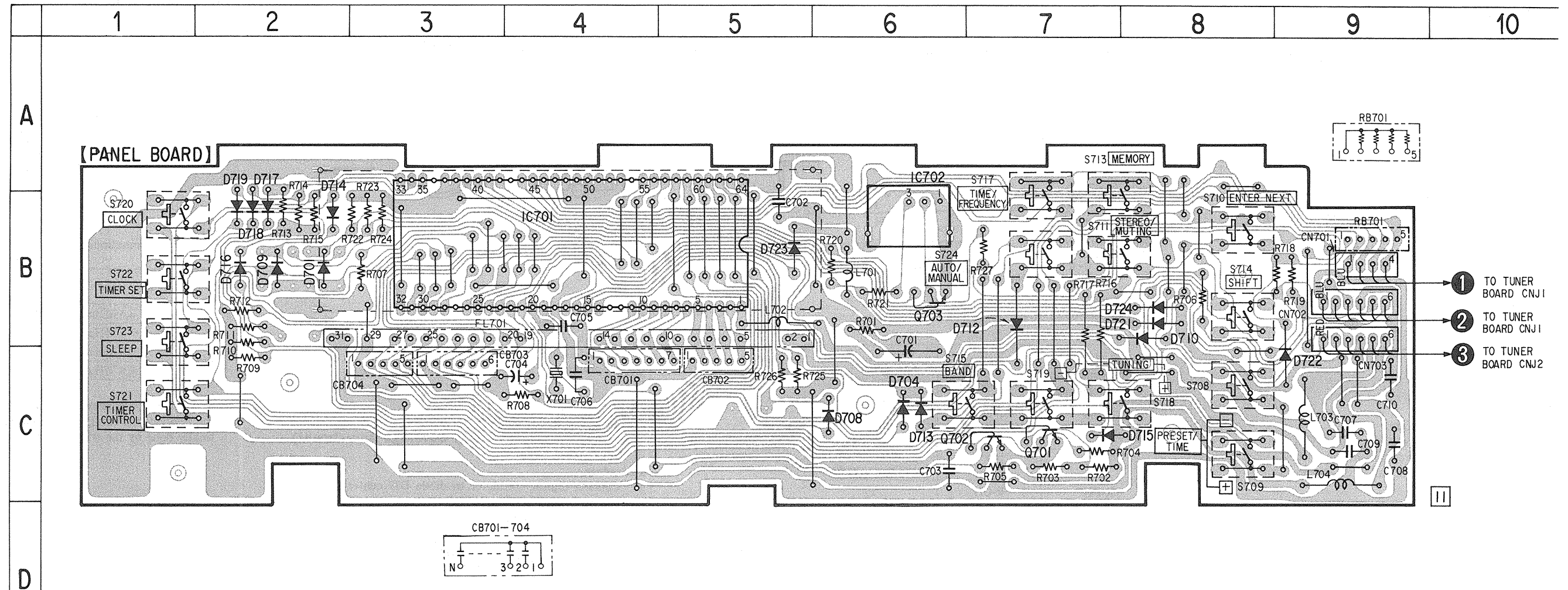
- Repeat the procedures is each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

### [Parts Arrangement Diagram for Adjustments]



# SECTION 3 DIAGRAMS

## 3-1. PRINTED WIRING BOARD—CONTROL SECTION—



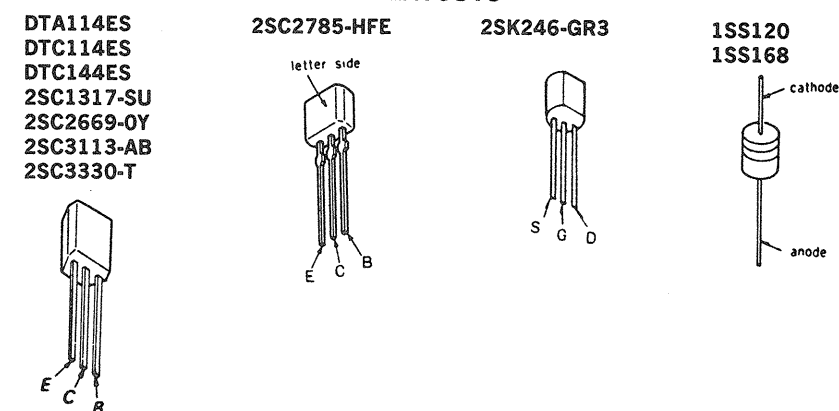
### • Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D701     | B-2      |
| D704     | C-6      |
| D708     | C-6      |
| D709     | B-2      |
| D710     | B-8      |
| D712     | B-7      |
| D713     | C-6      |
| D714     | B-2      |
| D715     | C-6      |
| D716     | B-2      |
| D717     | B-2      |
| D718     | B-2      |
| D719     | B-2      |
| D721     | B-8      |
| D722     | C-9      |
| D723     | B-5      |
| D724     | B-8      |
| IC701    | B-4      |
| IC702    | B-6      |
| Q701     | C-1      |
| Q702     | C-7      |
| Q703     | B-6      |

### Note:

• — : parts extracted from the component side.

### 3-2. SEMICONDUCTOR LEAD LAYOUTS



**[PANEL BOARD]**

FL701 FLUORESCENT INDICATOR TUBE  
9G 8G 7G 6G 5G 4G 3G 2G 1G

h-TIMER  
a-ON OFF  
f-SLEEP  
g-TUNER  
c-CD TAPE  
REC  
AUTO  
MUTING  
TUNED  
STEREO  
PRESET  
MEMORY

IC701  
TMP47C670N - 1204  
DISPLAY CONTROL

IC702  
A10H3020S  
REMOTE SENSOR

Q701, 702 HOLD  
Q701 2SC3399  
Q702 2SC3399

R706 56k  
R707 33k  
R705 22k  
R704 10k  
R702 56k  
R703 33k  
R718 10k  
R719 10k  
R720 10k  
R727 2.2k  
R721 330

C703 0.01  
C708 0.47µ 50V  
L704 100µH 275MA  
L703 100µH 275MA  
C709 0.1µ 50V  
C707 0.47µ 50V

D723  
D722  
D715  
D721  
D724  
D701 AREA A  
D708 ST/ MUTE  
D712  
D713  
D709 TIMER  
D714  
D720  
D716  
D717  
D718  
D719

S708 PRESET TIME  
S709  
S710 ENTER NEXT  
S713 MEMORY  
S714 SHIFT  
S715 BAND  
S717 TIME/FREQUENCY  
S721 TIMER CONTROL  
S722 TIMER SET  
S723 SLEEP  
S718 +  
S719 -  
S716  
S711 STEREO MUTING  
S712 AUTO/MANUAL  
S724

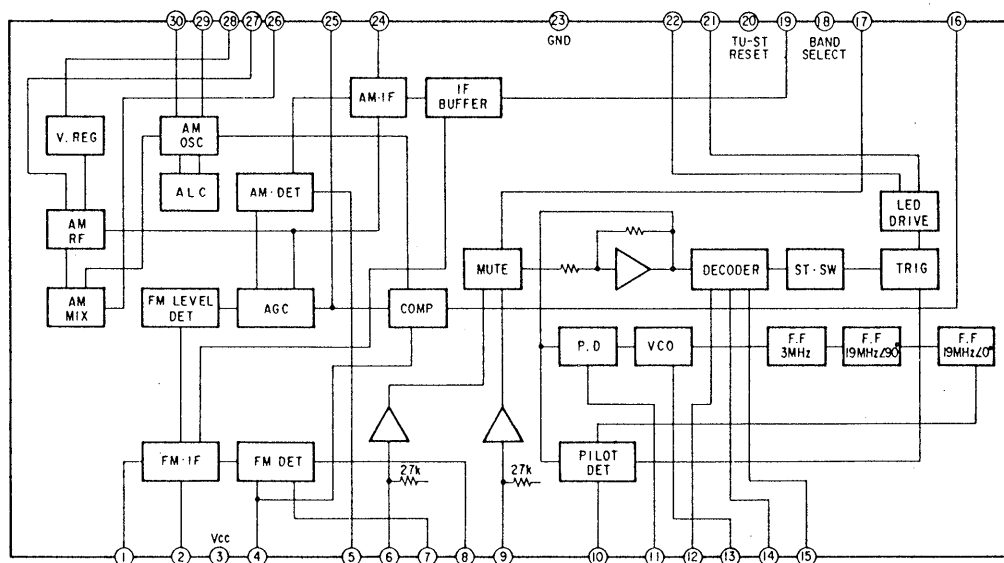
TO TUNER BOARD CNJ1  
TO TUNER BOARD CNJ1  
TO TUNER BOARD CNJ2

Note:  
• All capacitors are in µF unless otherwise noted. pF: µµF  
50WV or less are not indicated except for electrolytics and tantalums.  
• All resistors are in Ω and 1/4W or less unless otherwise specified.  
• Power voltage is supply from TA-H300  
• Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.  
no mark: FM  
• Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

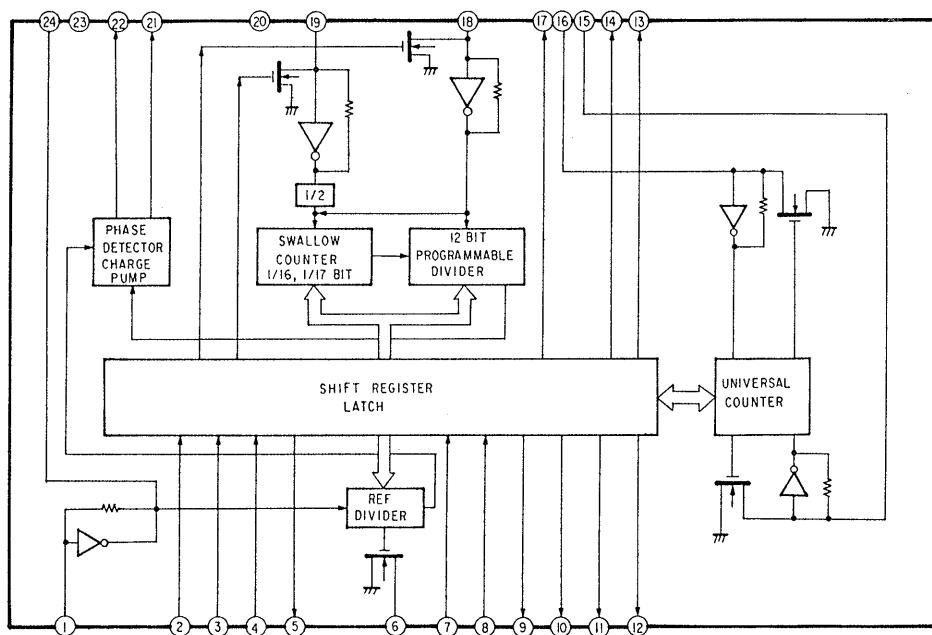
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- Power voltage is supply from TA-H300
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.  
no mark : FM
- Voltages are taken with a VOM (Input Impedance  $10\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.

## • IC Block Diagrams

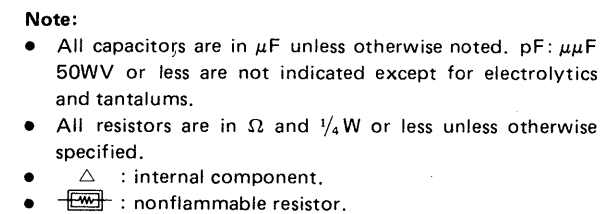
## IC21 LA1858N



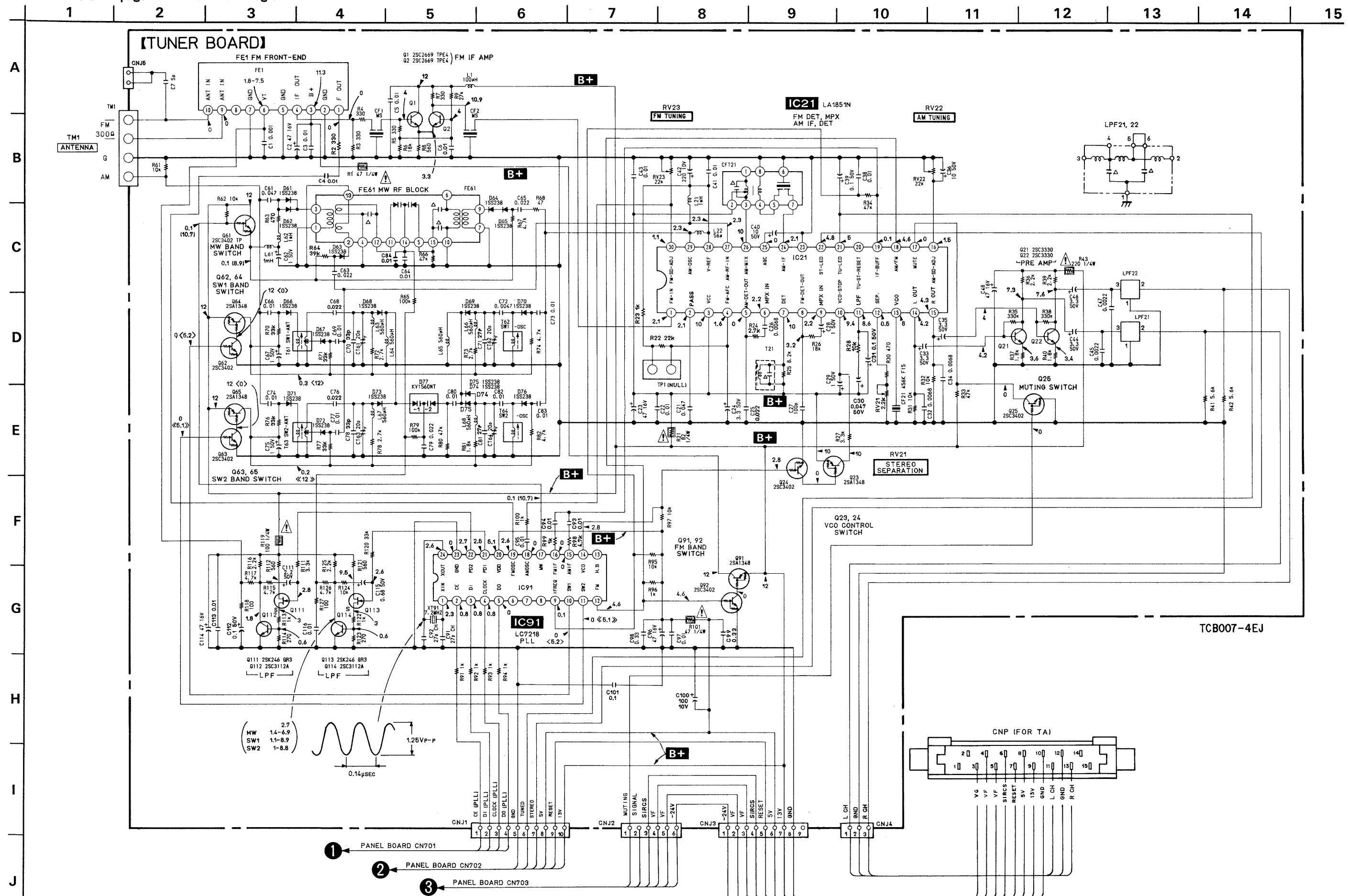
## IC81 LC7218



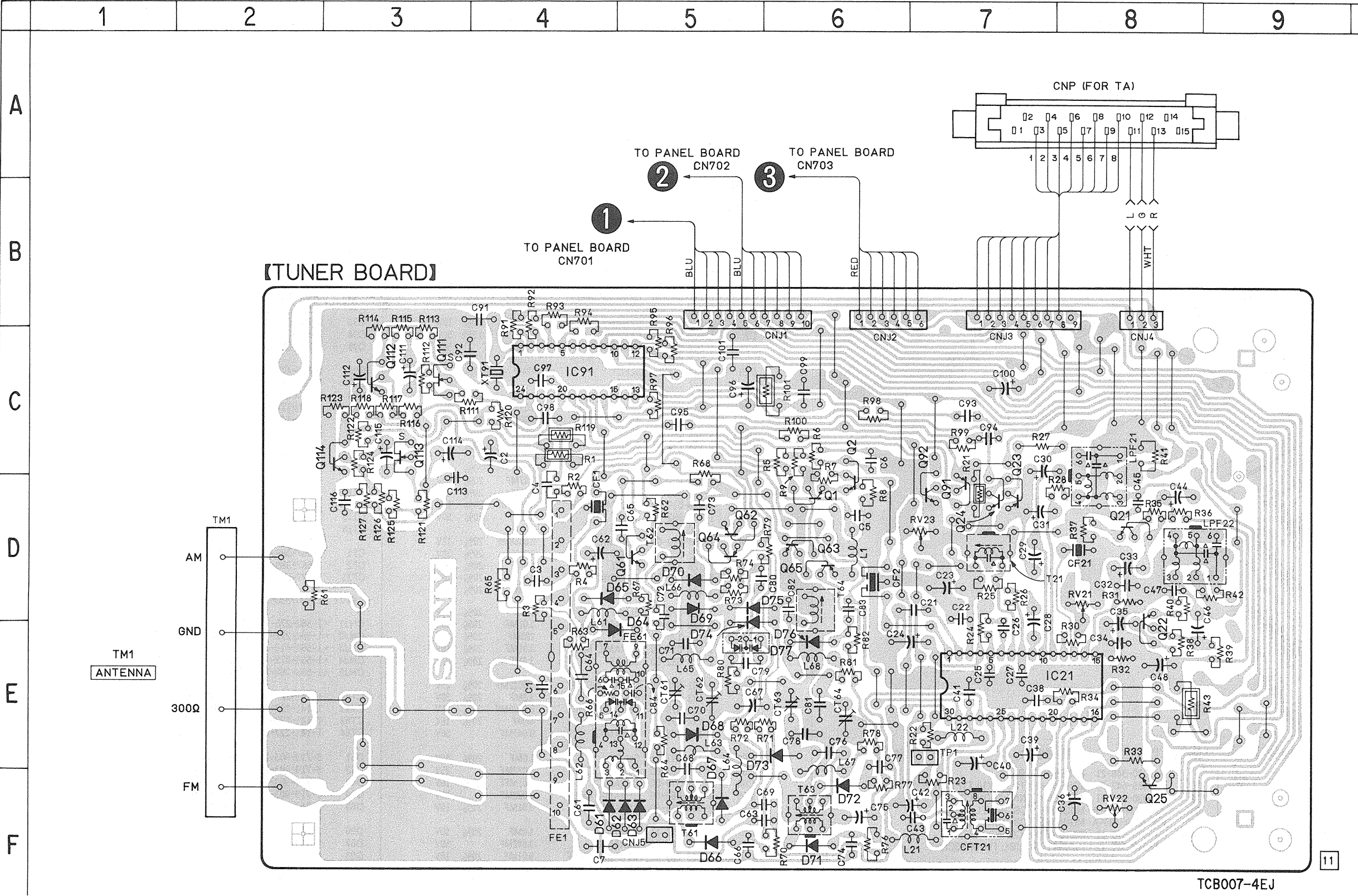
**3-5. SCHEMATIC DIAGRAM—TUNER SECTION—**  
• Refer to page 11 for IC Block Diagrams



-  : adjustment for repair.
- Power voltage is supply from TA-H300
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- (     ): WM
- <     > : SW1
- <     > : SW2
- Voltages are taken with a VOM (Input Impedance 10M  $\Omega$ )
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
- ⇒ : FM



3-6. PRINTED WIRING BOARD—TUNER SECTION—



• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D61      | F-5      |
| D62      | F-5      |
| D63      | F-5      |
| D64      | E-5      |
| D65      | D-5      |
| D66      | F-5      |
| D67      | F-5      |
| D68      | E-5      |
| D69      | D-5      |
| D70      | D-5      |
| D71      | F-6      |
| D72      | F-6      |
| D73      | E-6      |
| D74      | E-5      |
| D75      | D-5      |
| D76      | E-6      |
| D77      | E-5      |
| IC21     | E-7      |
| IC91     | C-4      |
| Q1       | D-6      |
| Q2       | D-6      |
| Q21      | D-8      |
| Q22      | E-8      |
| Q23      | D-7      |
| Q24      | D-7      |
| Q25      | F-8      |
| Q61      | D-5      |
| Q62      | D-5      |
| Q63      | D-6      |
| Q64      | D-5      |
| Q65      | D-6      |
| Q91      | D-7      |
| Q92      | D-7      |
| Q111     | C-3      |
| Q112     | C-3      |
| Q113     | C-3      |
| Q114     | C-3      |

Note:

- : parts extracted from the component side.
- : indicates side identified with part number.

## SECTION 4 EXPLODED VIEW

### NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

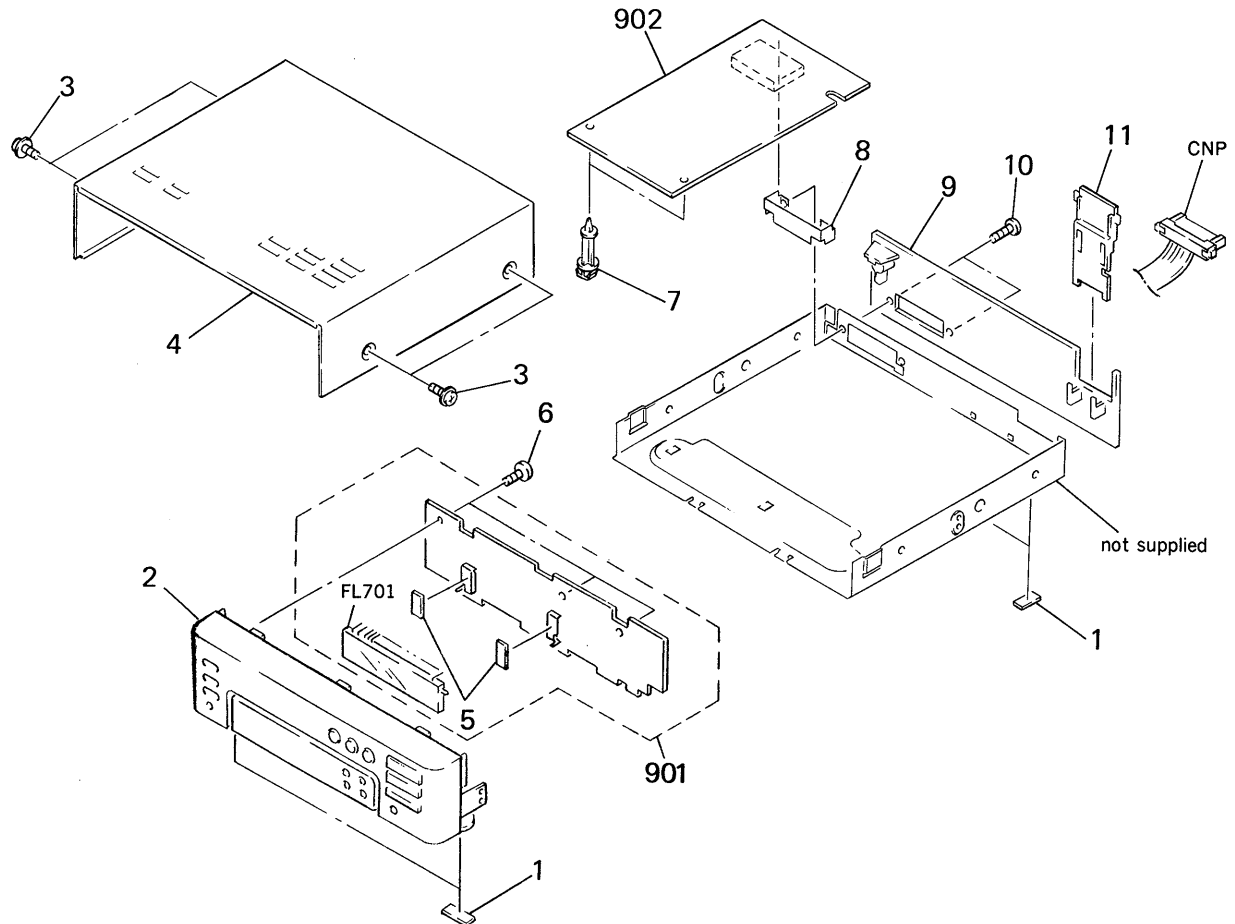
- Color Indication of Appearance Parts  
Example:

(RED) ... KNOB, BALANCE (WHITE)

↑  
Cabinet's Color

↑  
Parts Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.



| Ref.No | Part No.      | Description                | Remarks | Ref.No | Part No.      | Description                     | Remarks |
|--------|---------------|----------------------------|---------|--------|---------------|---------------------------------|---------|
| 1      | 4-930-336-01  | FOOT (FELT)                |         | 9      | *4-930-346-21 | PANEL (ST), BACK                |         |
| 2      | X-4930-316-1  | PANEL ASSY (EX), FRONT     |         | 10     | 7-685-647-79  | SCREW +BVTP 3X10 TYPE2 N-S      |         |
| 3      | 3-704-366-01  | SCREW (CASE) (M3X8)        |         | 11     | *4-930-344-01 | HOLDER (CONNECTION CORD)        |         |
| 4      | 4-932-844-11  | CASE                       |         | 901    | *A-4334-656-A | MOUNTED PCB, PANEL              |         |
| 5      | *4-932-810-01 | CUSHION (FL)               |         | 902    | *A-4303-189-A | MOUNTED PCB, TUNER (TCB007-4EJ) |         |
| 6      | 7-685-534-19  | SCREW +BTP 2.6X8 TYPE2 N-S |         | CNP    | 1-575-679-11  | CORD (WITH CONNECTOR)           |         |
| 7      | *4-914-008-01 | HOLDER, PCB                |         | FL701  | 1-519-517-11  | INDICATOR TUBE, FLUORESCENT     |         |
| 8      | *4-924-988-11 | PLATE (ST), GROUND         |         |        |               |                                 |         |

## SECTION 5 ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**MF:  $\mu$ F, PF:  $\mu$ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

**COILS**

- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**In each case, U:  $\mu$ , for example:UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

**TUNER**

| Ref.No           | Part No.     | Description                   | Ref.No | Part No.      | Description                     |
|------------------|--------------|-------------------------------|--------|---------------|---------------------------------|
| <b>CAPACITOR</b> |              |                               | C80    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C1               | 1-162-294-31 | CERAMIC CHIP 0.001MF 20% 25V  | C81    | 1-102-961-00  | CERAMIC 27PF 5% 50V             |
| C2               | 1-124-477-11 | ELECT 47MF 20% 16V            | C82    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C3               | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | C83    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C4               | 1-162-294-31 | CERAMIC CHIP 0.001MF 20% 25V  | C84    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C5               | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | C91    | 1-102-961-00  | CERAMIC 27PF 5% 50V             |
| C6               | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | C92    | 1-102-961-00  | CERAMIC 27PF 5% 50V             |
| C7               | 1-102-942-00 | CERAMIC 5PF 0.5PF 50V         | C93    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C21              | 1-101-006-00 | CERAMIC 0.047MF 50V           | C94    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C22              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | C95    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C23              | 1-124-477-11 | ELECT 47MF 20% 16V            | C96    | 1-124-477-11  | ELECT 47MF 20% 16V              |
| C24              | 1-123-382-00 | ELECT 3.3MF 20% 50V           | C97    | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C25              | 1-163-063-00 | CERAMIC CHIP 0.022MF 25V      | C98    | 1-136-171-00  | FILM 0.33MF 5% 50V              |
| C26              | 1-163-019-00 | CERAMIC CHIP 0.0068MF 20% 12V | C99    | 1-136-171-00  | FILM 0.33MF 5% 50V              |
| C27              | 1-162-516-11 | CERAMIC CHIP 100PF 10% 50V    | C100   | 1-124-443-00  | ELECT 100MF 20% 10V             |
| C28              | 1-124-791-11 | ELECT 1MF 20% 50V             | C101   | 1-164-159-11  | CERAMIC 0.1MF 50V               |
| C29              | 1-124-791-11 | ELECT 1MF 20% 50V             | C111   | 1-124-257-00  | ELECT 2.2MF 20% 50V             |
| C30              | 1-124-902-00 | ELECT 0.47MF 20% 50V          | C112   | 1-124-463-00  | ELECT 0.1MF 20% 50V             |
| C31              | 1-124-463-00 | ELECT 0.1MF 20% 50V           | C113   | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C32              | 1-163-019-00 | CERAMIC CHIP 0.0068MF 20% 12V | C114   | 1-124-477-11  | ELECT 47MF 20% 16V              |
| C33              | 1-123-382-00 | ELECT 3.3MF 20% 50V           | C115   | 1-124-254-00  | ELECT 0.68MF 20% 50V            |
| C34              | 1-163-019-00 | CERAMIC CHIP 0.0068MF 20% 12V | C116   | 1-163-059-00  | CERAMIC MELF 0.01MF 20% 16V     |
| C35              | 1-123-382-00 | ELECT 3.3MF 20% 50V           | CF1    | 1-567-389-11  | FILTER, CERAMIC                 |
| C36              | 1-123-875-11 | ELECT 10MF 20% 50V            | CF2    | 1-567-389-11  | FILTER, CERAMIC                 |
| C38              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | CF21   | 1-577-075-11  | OSCILLATOR, CERAMIC (456kHz)    |
| C39              | 1-124-463-00 | ELECT 0.1MF 20% 50V           | CFT21  | 1-404-853-11  | TRANSFORMER, IF(CERAMIC FILTER) |
| C40              | 1-123-875-11 | ELECT 10MF 20% 50V            | CNJ1   | *1-568-276-11 | SOCKET, CONNECTOR 10P           |
| C41              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | CNJ2   | *1-568-272-11 | SOCKET, CONNECTOR 6P            |
| C42              | 1-126-176-11 | ELECT 220MF 20% 10V           | CNJ3   | *1-568-419-11 | PIN, CONNECTOR 9P               |
| C43              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | CNJ4   | *1-568-372-11 | PIN, CONNECTOR 3P               |
| C44              | 1-123-382-00 | ELECT 3.3MF 20% 50V           | CNJ5   | *1-568-268-11 | SOCKET, CONNECTOR 2P            |
| C45              | 1-161-375-00 | CERAMIC CHIP 0.0022MF 20% 25V | CT61   | 1-141-227-00  | CAP, TRIMMER                    |
| C46              | 1-123-382-00 | ELECT 3.3MF 20% 50V           | CT62   | 1-141-227-00  | CAP, TRIMMER                    |
| C47              | 1-161-375-00 | CERAMIC CHIP 0.0022MF 20% 25V | CT63   | 1-141-227-00  | CAP, TRIMMER                    |
| C48              | 1-124-477-11 | ELECT 47MF 20% 16V            | CT64   | 1-141-227-00  | CAP, TRIMMER                    |
| C61              | 1-101-006-00 | CERAMIC 0.047MF 50V           | D61    | 8-719-903-27  | DIODE 1SS168                    |
| C62              | 1-124-791-11 | ELECT 1.0MF 20% 50V           | D62    | 8-719-903-27  | DIODE 1SS168                    |
| C63              | 1-163-063-00 | CERAMIC CHIP 0.022MF 25V      | D63    | 8-719-903-27  | DIODE 1SS168                    |
| C64              | 1-161-379-00 | CERAMIC 0.01MFF 30% 16V       | D64    | 8-719-903-27  | DIODE 1SS168                    |
| C65              | 1-163-063-00 | CERAMIC CHIP 0.022MF 25V      | D65    | 8-719-903-27  | DIODE 1SS168                    |
| C66              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | D66    | 8-719-903-27  | DIODE 1SS168                    |
| C67              | 1-124-791-11 | ELECT 1.0MF 20% 50V           | D67    | 8-719-903-27  | DIODE 1SS168                    |
| C68              | 1-101-005-00 | CERAMIC 0.022MF 50V           | D68    | 8-719-903-27  | DIODE 1SS168                    |
| C69              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | D69    | 8-719-903-27  | DIODE 1SS168                    |
| C70              | 1-102-963-00 | CERAMIC 33PF 5% 50V           | D70    | 8-719-903-27  | DIODE 1SS168                    |
| C71              | 1-102-961-00 | CERAMIC 27PF 5% 50V           | D71    | 8-719-903-27  | DIODE 1SS168                    |
| C72              | 1-163-017-00 | CERAMIC CHIP 0.0047MF 20% 12V | D72    | 8-719-903-27  | DIODE 1SS168                    |
| C73              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | D73    | 8-719-903-27  | DIODE 1SS168                    |
| C74              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | D74    | 8-719-903-27  | DIODE 1SS168                    |
| C75              | 1-124-791-11 | ELECT 1.0MF 20% 50V           | D75    | 8-719-903-27  | DIODE 1SS168                    |
| C76              | 1-101-005-00 | CERAMIC 0.022MF 50V           | D76    | 8-719-903-27  | DIODE 1SS168                    |
| C77              | 1-163-059-00 | CERAMIC MELF 0.01MF 20% 16V   | D77    | 8-719-976-30  | DIODE KV1560N                   |
| C78              | 1-102-963-00 | CERAMIC 33PF 5% 50V           |        |               |                                 |
| C79              | 1-101-005-00 | CERAMIC 0.022MF 50V           |        |               |                                 |

| Ref.No | Part No.     | Description            |
|--------|--------------|------------------------|
| FE1    | 1-463-862-21 | FRONT END, FM          |
| FE61   | 1-236-464-11 | ENCAPSULATED COMPONENT |

|      |              |            |
|------|--------------|------------|
| IC21 | 8-759-821-45 | IC LA1851N |
| IC91 | 8-759-820-91 | IC LC7218  |

|     |              |                      |
|-----|--------------|----------------------|
| L1  | 1-410-521-11 | MICRO INDUCTOR 100UH |
| L21 | 1-410-171-11 | MICRO INDUCTOR 1MMH  |
| L22 | 1-410-518-41 | MICRO INDUCTOR 56UH  |
| L61 | 1-410-171-11 | MICRO INDUCTOR 1MMH  |
| L62 | 1-410-171-11 | MICRO INDUCTOR 1MMH  |

|     |              |                      |
|-----|--------------|----------------------|
| L63 | 1-410-624-11 | MICRO INDUCTOR 560UH |
| L64 | 1-410-624-11 | MICRO INDUCTOR 560UH |
| L65 | 1-410-624-11 | MICRO INDUCTOR 560UH |
| L66 | 1-410-624-11 | MICRO INDUCTOR 560UH |
| L67 | 1-410-624-11 | MICRO INDUCTOR 560UH |

|     |              |                      |
|-----|--------------|----------------------|
| L68 | 1-410-624-11 | MICRO INDUCTOR 560UH |
|-----|--------------|----------------------|

|       |              |                  |
|-------|--------------|------------------|
| LPF21 | 1-235-164-00 | FILTER, LOW PASS |
| LPF22 | 1-235-164-00 | FILTER, LOW PASS |

|     |              |                       |
|-----|--------------|-----------------------|
| Q1  | 8-729-230-99 | TRANSISTOR 2SC2669-OY |
| Q2  | 8-729-230-99 | TRANSISTOR 2SC2669-OY |
| Q21 | 8-729-820-24 | TRANSISTOR 2SC3330-T  |
| Q22 | 8-729-820-24 | TRANSISTOR 2SC3330-T  |
| Q23 | 8-729-900-61 | TRANSISTOR DTA114ES   |

|     |              |                     |
|-----|--------------|---------------------|
| Q24 | 8-729-900-80 | TRANSISTOR DTC114ES |
| Q25 | 8-729-900-80 | TRANSISTOR DTC114ES |
| Q61 | 8-729-900-80 | TRANSISTOR DTC114ES |
| Q62 | 8-729-900-80 | TRANSISTOR DTC114ES |
| Q63 | 8-729-900-80 | TRANSISTOR DTC114ES |

|      |              |                      |
|------|--------------|----------------------|
| Q64  | 8-729-900-61 | TRANSISTOR DTA114ES  |
| Q65  | 8-729-900-61 | TRANSISTOR DTA114ES  |
| Q91  | 8-729-900-61 | TRANSISTOR DTA114ES  |
| Q92  | 8-729-900-80 | TRANSISTOR DTC114ES  |
| Q111 | 8-729-202-67 | TRANSISTOR 2SK246GR3 |

|      |              |                       |
|------|--------------|-----------------------|
| Q112 | 8-729-230-93 | TRANSISTOR 2SC3113-AB |
| Q113 | 8-729-202-67 | TRANSISTOR 2SK246GR3  |
| Q114 | 8-729-230-93 | TRANSISTOR 2SC3113-AB |

## RESISTOR

|    |                |                   |    |      |   |
|----|----------------|-------------------|----|------|---|
| R1 | △.1-249-401-11 | CARBON (SMALL) 47 | 5% | 1/4W | F |
| R2 | 1-249-329-11   | CARBON MELF 330   | 5% | 1/8W |   |
| R3 | 1-249-329-11   | CARBON MELF 330   | 5% | 1/8W |   |
| R4 | 1-249-329-11   | CARBON MELF 330   | 5% | 1/8W |   |
| R5 | 1-249-329-11   | CARBON MELF 330   | 5% | 1/8W |   |

|     |                |                   |    |      |   |
|-----|----------------|-------------------|----|------|---|
| R6  | 1-249-350-11   | CARBON MELF 18K   | 5% | 1/8W |   |
| R7  | 1-249-329-11   | CARBON MELF 330   | 5% | 1/8W |   |
| R8  | 1-249-332-11   | CARBON MELF 560   | 5% | 1/8W |   |
| R9  | 1-249-352-11   | CARBON MELF 27K   | 5% | 1/8W |   |
| R21 | △.1-249-404-00 | CARBON (SMALL) 82 | 5% | 1/4W | F |

|     |              |                  |    |      |  |
|-----|--------------|------------------|----|------|--|
| R22 | 1-249-351-11 | CARBON MELF 22K  | 5% | 1/8W |  |
| R23 | 1-249-335-11 | CARBON MELF 1K   | 5% | 1/8W |  |
| R24 | 1-249-340-11 | CARBON MELF 2.7K | 5% | 1/8W |  |
| R25 | 1-249-346-11 | CARBON MELF 8.2K | 5% | 1/8W |  |
| R26 | 1-249-350-11 | CARBON MELF 18K  | 5% | 1/8W |  |

|     |              |                     |    |      |  |
|-----|--------------|---------------------|----|------|--|
| R27 | 1-249-423-11 | CARBON (SMALL) 3.3K | 5% | 1/4W |  |
| R28 | 1-249-347-11 | CARBON MELF 10K     | 5% | 1/8W |  |
| R30 | 1-249-331-11 | CARBON MELF 470     | 5% | 1/8W |  |
| R31 | 1-249-347-11 | CARBON MELF 10K     | 5% | 1/8W |  |
| R32 | 1-249-347-11 | CARBON MELF 10K     | 5% | 1/8W |  |

|     |                |                    |    |      |   |
|-----|----------------|--------------------|----|------|---|
| R33 | △.1-249-437-11 | CARBON (SMALL) 47K | 5% | 1/4W | F |
| R34 | 1-249-355-11   | CARBON MELF 47K    | 5% | 1/8W |   |
| R35 | 1-249-365-11   | CARBON MELF 330    | 5% | 1/8W |   |
| R36 | 1-249-339-11   | CARBON MELF 2.2K   | 5% | 1/8W |   |
| R37 | 1-249-338-11   | CARBON MELF 1.8K   | 5% | 1/8W |   |

|     |              |                 |    |      |  |
|-----|--------------|-----------------|----|------|--|
| R38 | 1-249-365-11 | CARBON MELF 330 | 5% | 1/8W |  |
|-----|--------------|-----------------|----|------|--|

|     |                |                    |    |      |   |
|-----|----------------|--------------------|----|------|---|
| R39 | 1-249-339-11   | CARBON MELF 2.2K   | 5% | 1/8W |   |
| R40 | 1-249-338-11   | CARBON MELF 1.8K   | 5% | 1/8W |   |
| R41 | 1-249-344-11   | CARBON MELF 5.6K   | 5% | 1/8W |   |
| R42 | 1-249-344-11   | CARBON MELF 5.6K   | 5% | 1/8W |   |
| R43 | △.1-249-409-11 | CARBON (SMALL) 220 | 5% | 1/4W | F |

|     |              |                  |    |      |  |
|-----|--------------|------------------|----|------|--|
| R61 | 1-249-347-11 | CARBON MELF 10K  | 5% | 1/8W |  |
| R62 | 1-249-347-11 | CARBON MELF 10K  | 5% | 1/8W |  |
| R63 | 1-249-331-11 | CARBON MELF 470  | 5% | 1/8W |  |
| R64 | 1-249-354-11 | CARBON MELF 39K  | 5% | 1/8W |  |
| R65 | 1-249-359-11 | CARBON MELF 100K | 5% | 1/8W |  |

|     |              |                  |    |      |  |
|-----|--------------|------------------|----|------|--|
| R66 | 1-249-355-11 | CARBON MELF 47K  | 5% | 1/8W |  |
| R67 | 1-249-343-11 | CARBON MELF 4.7K | 5% | 1/8W |  |
| R68 | 1-249-319-11 | CARBON MELF 47   | 5% | 1/8W |  |
| R70 | 1-249-353-11 | CARBON MELF 33K  | 5% | 1/8W |  |
| R71 | 1-249-353-11 | CARBON MELF 33K  | 5% | 1/8W |  |

|     |              |                  |    |      |  |
|-----|--------------|------------------|----|------|--|
| R72 | 1-249-340-11 | CARBON MELF 2.7K | 5% | 1/8W |  |
| R73 | 1-249-340-11 | CARBON MELF 2.7K | 5% | 1/8W |  |
| R74 | 1-249-343-11 | CARBON MELF 4.7K | 5% | 1/8W |  |
| R76 | 1-249-353-11 | CARBON MELF 33K  | 5% | 1/8W |  |
| R77 | 1-249-353-11 | CARBON MELF 33K  | 5% | 1/8W |  |

|     |              |                  |    |      |  |
|-----|--------------|------------------|----|------|--|
| R78 | 1-249-340-11 | CARBON MELF 2.7K | 5% | 1/8W |  |
| R79 | 1-249-359-11 | CARBON MELF 100K | 5% | 1/8W |  |
| R80 | 1-249-355-11 | CARBON MELF 47K  | 5% | 1/8W |  |
| R81 | 1-249-338-11 | CARBON MELF 1.8K | 5% | 1/8W |  |
| R82 | 1-249-343-11 | CARBON MELF 4.7K | 5% | 1/8W |  |

|     |              |                 |    |      |  |
|-----|--------------|-----------------|----|------|--|
| R91 | 1-249-335-11 | CARBON MELF 1K  | 5% | 1/8W |  |
| R92 | 1-249-335-11 | CARBON MELF 1K  | 5% | 1/8W |  |
| R93 | 1-249-335-11 | CARBON MELF 1K  | 5% | 1/8W |  |
| R94 | 1-249-335-11 | CARBON MELF 1K  | 5% | 1/8W |  |
| R95 | 1-249-347-11 | CARBON MELF 10K | 5% | 1/8W |  |

|      |              |                  |    |      |  |
|------|--------------|------------------|----|------|--|
| R96  | 1-249-335-11 | CARBON MELF 1K   | 5% | 1/8W |  |
| R97  | 1-249-347-11 | CARBON MELF 10K  | 5% | 1/8W |  |
| R98  | 1-249-343-11 | CARBON MELF 4.7K | 5% | 1/8W |  |
| R99  | 1-249-335-11 | CARBON MELF 1K   | 5% | 1/8W |  |
| R100 | 1-249-335-11 | CARBON MELF 1K   | 5% | 1/8W |  |

|      |                |                   |    |      |   |
|------|----------------|-------------------|----|------|---|
| R101 | △.1-249-401-11 | CARBON (SMALL) 47 | 5% | 1/4W | F |
| R111 | 1-249-341-11   | CARBON MELF 3.3K  | 5% | 1/8W |   |
| R112 | 1-249-332-11   | CARBON MELF 560   | 5% | 1/8W |   |
| R113 | 1-249-335-11   | CARBON MELF 1K    | 5% | 1/8W |   |
| R114 | 1-249-328-11   | CARBON MELF 270   | 5% | 1/8W |   |

|      |                |                    |    |      |   |
|------|----------------|--------------------|----|------|---|
| R115 | 1-249-343-11   | CARBON MELF 4.7K   | 5% | 1/8W |   |
| R116 | 1-249-339-11   | CARBON MELF 2.2K   | 5% | 1/8W |   |
| R117 | 1-249-343-11   | CARBON MELF 4.7K   | 5% | 1/8W |   |
| R118 | 1-249-323-11   | CARBON MELF 100    | 5% | 1/8W |   |
| R119 | △.1-249-405-11 | CARBON (SMALL) 100 | 5% | 1/4W | F |

|      |              |                 |    |      |  |
|------|--------------|-----------------|----|------|--|
| R120 | 1-249-353-11 | CARBON MELF 33K | 5% | 1/8W |  |
| R121 | 1-249-332-11 | CARBON MELF 560 | 5% | 1/8W |  |
| R122 | 1-249-335-11 | CARBON MELF 1K  | 5% | 1/8W |  |
| R123 | 1-249-328-11 | CARBON MELF 270 | 5% | 1/8W |  |
| R124 | 1-249-347-11 | CARBON MELF 10K | 5% | 1/8W |  |

|      |              |                  |    |      |  |
|------|--------------|------------------|----|------|--|
| R125 | 1-249-339-11 | CARBON MELF 2.2K | 5% | 1/8W |  |
| R126 | 1-249-343-11 | CARBON MELF 4.7K | 5% | 1/8W |  |
| R127 | 1-249-323-11 | CARBON MELF 100  | 5% | 1/8W |  |

|      |              |                       |  |  |  |
|------|--------------|-----------------------|--|--|--|
| RV21 | 1-238-598-61 | RES, ADJ, CARBON 2.2K |  |  |  |
| RV22 | 1-238-601-11 | RES, ADJ, CARBON 22K  |  |  |  |
| RV23 | 1-238-601-11 | RES, ADJ, CARBON 22K  |  |  |  |

|     |              |                            |  |  |  |
|-----|--------------|----------------------------|--|--|--|
| T21 | 1-404-807-11 | TRANSFORMER, DISCRIMINATOR |  |  |  |
| T61 | 1-402-447-11 | COIL (ANT SW1)             |  |  |  |
| T62 | 1-402-448-11 | COIL (ANT SW2)             |  |  |  |
| T62 | 1-406-345-11 | COIL (OSC SW1)             |  |  |  |
| T64 | 1-406-346-11 | COIL (OSC SW2)             |  |  |  |

|     |              |                                   |  |  |  |
|-----|--------------|-----------------------------------|--|--|--|
| TM1 | 1-536-708-00 | TERMINAL BOARD, PUSH 4P (ANTENNA) |  |  |  |
|-----|--------------|-----------------------------------|--|--|--|

|     |               |                   |  |  |  |
|-----|---------------|-------------------|--|--|--|
| TP1 | *1-560-060-00 | PIN, CONNECTOR 2P |  |  |  |
|-----|---------------|-------------------|--|--|--|

**Note:** The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

## EXCEPT FOR TUNER

| Ref.No | Part No. | Description |
|--------|----------|-------------|
|--------|----------|-------------|

|     |               |                                 |
|-----|---------------|---------------------------------|
| 901 | *A-4334-656-A | MOUNTED PCB, PANEL              |
| 902 | *A-4303-189-A | MOUNTED PCB, TUNER (TCB007-4EJ) |

## CAPACITOR

|      |              |               |        |     |      |
|------|--------------|---------------|--------|-----|------|
| C701 | 1-125-486-11 | DOUBLE LAYERS | 0.22F  |     | 5.5V |
| C702 | 1-136-173-00 | FILM          | 0.47MF | 5%  | 50V  |
| C703 | 1-162-306-11 | CERAMIC       | 0.01MF | 20% | 16V  |
| C704 | 1-126-094-11 | ELECT         | 4.7MF  | 20% | 25V  |
| C705 | 1-162-200-31 | CERAMIC       | 11PF   | 5%  | 50V  |
| C706 | 1-162-200-31 | CERAMIC       | 11PF   | 5%  | 50V  |
| C707 | 1-136-173-00 | FILM          | 0.47MF | 5%  | 50V  |
| C708 | 1-136-173-00 | FILM          | 0.47MF | 5%  | 50V  |
| C709 | 1-164-159-11 | CERAMIC       | 0.1MF  |     | 50V  |
| C710 | 1-164-159-11 | CERAMIC       | 0.1MF  |     | 50V  |

|       |              |                           |
|-------|--------------|---------------------------|
| CB701 | 1-233-130-11 | COMPOSITION CIRCUIT BLOCK |
| CB702 | 1-233-148-11 | COMPOSITION CIRCUIT BLOCK |
| CB703 | 1-233-187-11 | COMPOSITION CIRCUIT BLOCK |
| CB704 | 1-233-148-11 | COMPOSITION CIRCUIT BLOCK |

|       |               |                      |
|-------|---------------|----------------------|
| CN701 | *1-568-279-11 | SOCKET, CONNECTOR 4P |
| CN702 | *1-568-281-11 | SOCKET, CONNECTOR 6P |
| CN703 | *1-568-281-11 | SOCKET, CONNECTOR 6P |

|     |              |                       |
|-----|--------------|-----------------------|
| CNP | 1-575-679-11 | CORD (WITH CONNECTOR) |
|-----|--------------|-----------------------|

|      |              |              |
|------|--------------|--------------|
| D701 | 8-719-912-20 | DIODE 1SS120 |
| D704 | 8-719-912-20 | DIODE 1SS120 |
| D708 | 8-719-912-20 | DIODE 1SS120 |
| D709 | 8-719-912-20 | DIODE 1SS120 |
| D710 | 8-719-912-20 | DIODE 1SS120 |

|      |              |              |
|------|--------------|--------------|
| D712 | 8-719-912-20 | DIODE 1SS120 |
| D713 | 8-719-912-20 | DIODE 1SS120 |
| D714 | 8-719-912-20 | DIODE 1SS120 |
| D715 | 8-719-912-20 | DIODE 1SS120 |
| D716 | 8-719-912-20 | DIODE 1SS120 |

|      |              |              |
|------|--------------|--------------|
| D717 | 8-719-912-20 | DIODE 1SS120 |
| D718 | 8-719-912-20 | DIODE 1SS120 |
| D719 | 8-719-912-20 | DIODE 1SS120 |
| D720 | 8-719-912-20 | DIODE 1SS120 |
| D721 | 8-719-912-20 | DIODE 1SS120 |

|      |              |              |
|------|--------------|--------------|
| D722 | 8-719-912-20 | DIODE 1SS120 |
| D723 | 8-719-912-20 | DIODE 1SS120 |
| D724 | 8-719-912-20 | DIODE 1SS120 |

|       |              |                             |
|-------|--------------|-----------------------------|
| FL701 | 1-519-517-11 | INDICATOR TUBE, FLUORESCENT |
|-------|--------------|-----------------------------|

|       |              |                    |
|-------|--------------|--------------------|
| IC701 | 8-759-239-79 | IC TMP47C670N-1204 |
| IC702 | 8-749-920-59 | IC A1QH3020S       |

|      |              |          |       |
|------|--------------|----------|-------|
| L701 | 1-410-521-11 | INDUCTOR | 100UH |
| L702 | 1-410-521-11 | INDUCTOR | 100UH |
| L703 | 1-408-080-00 | INDUCTOR | 100UH |
| L704 | 1-408-080-00 | INDUCTOR | 100UH |

|      |              |                     |
|------|--------------|---------------------|
| Q701 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q702 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q703 | 8-729-900-80 | TRANSISTOR DTC114ES |

| Ref.No | Part No. | Description |
|--------|----------|-------------|
|--------|----------|-------------|

## RESISTOR

|      |              |        |     |    |      |
|------|--------------|--------|-----|----|------|
| R701 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R702 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R703 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R704 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R705 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |

|      |              |        |      |    |      |
|------|--------------|--------|------|----|------|
| R706 | 1-249-438-11 | CARBON | 56K  | 5% | 1/4W |
| R707 | 1-249-435-11 | CARBON | 33K  | 5% | 1/4W |
| R708 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R709 | 1-249-429-11 | CARBON | 10K  | 5% | 1/4W |
| R710 | 1-249-429-11 | CARBON | 10K  | 5% | 1/4W |

|      |              |        |     |    |      |
|------|--------------|--------|-----|----|------|
| R711 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R712 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R713 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R714 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R715 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

|      |              |        |      |    |      |
|------|--------------|--------|------|----|------|
| R716 | 1-249-429-11 | CARBON | 10K  | 5% | 1/4W |
| R717 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R718 | 1-249-429-11 | CARBON | 10K  | 5% | 1/4W |
| R719 | 1-249-429-11 | CARBON | 10K  | 5% | 1/4W |
| R720 | 1-249-429-11 | CARBON | 10K  | 5% | 1/4W |

|      |              |        |      |    |      |
|------|--------------|--------|------|----|------|
| R721 | 1-249-411-11 | CARBON | 330  | 5% | 1/4W |
| R722 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R723 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R724 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R725 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |

|      |              |        |      |    |      |
|------|--------------|--------|------|----|------|
| R726 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R727 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |

|       |              |                           |
|-------|--------------|---------------------------|
| RB701 | 1-233-125-11 | COMPOSITION CIRCUIT BLOCK |
|-------|--------------|---------------------------|

|      |              |                                   |
|------|--------------|-----------------------------------|
| S708 | 1-554-596-21 | SWITCH, KEY BOARD (PRESET TIME -) |
| S709 | 1-554-596-21 | SWITCH, KEY BOARD (PRESET TIME +) |
| S710 | 1-554-596-21 | SWITCH, KEY BOARD (ENTER NEXT)    |
| S711 | 1-554-596-21 | SWITCH, KEY BOARD (STEREO/MUTING) |
| S713 | 1-554-596-21 | SWITCH, KEY BOARD (MEMORY)        |

|      |              |                                    |
|------|--------------|------------------------------------|
| S714 | 1-554-596-21 | SWITCH, KEY BOARD (SHIFT)          |
| S715 | 1-554-596-21 | SWITCH, KEY BOARD (BAND)           |
| S717 | 1-554-596-21 | SWITCH, KEY BOARD (TIME/FREQUENCY) |
| S718 | 1-554-596-21 | SWITCH, KEY BOARD (TUNING +)       |
| S719 | 1-554-596-21 | SWITCH, KEY BOARD (TUNING -)       |

|      |              |                                   |
|------|--------------|-----------------------------------|
| S720 | 1-554-596-21 | SWITCH, KEY BOARD (CLOCK)         |
| S721 | 1-554-596-21 | SWITCH, KEY BOARD (TIMER CONTROL) |
| S722 | 1-554-596-21 | SWITCH, KEY BOARD (TIMER SET)     |
| S723 | 1-554-596-21 | SWITCH, KEY BOARD (SLEEP)         |
| S724 | 1-554-596-21 | SWITCH, KEY BOARD (AUTO/MANUAL)   |

|      |              |                                      |
|------|--------------|--------------------------------------|
| X701 | 1-567-821-21 | VIBRATOR, CRYSTAL (4.19MHz) (7.2MHz) |
|------|--------------|--------------------------------------|

|      |              |                            |
|------|--------------|----------------------------|
| XT91 | 1-577-126-11 | VIBRATOR, CRYSTAL (7.2MHz) |
|------|--------------|----------------------------|