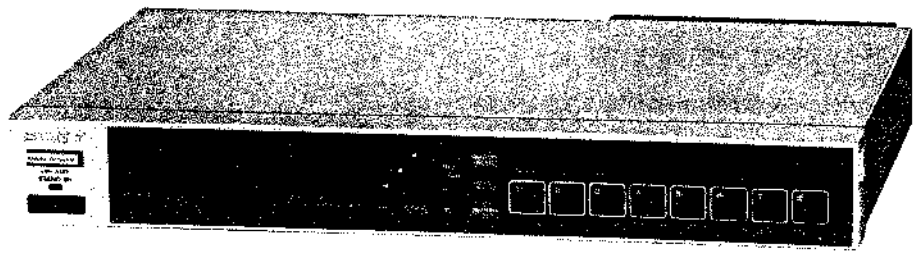
ST-V7

US Model
E Model



FM STEREO/FM-AM SYSTEM CONTROL TUNER

SPECIFICATIONS

FM tuner section

Tuning range 87.5 MHz - 108 MHz
Antenna terminals 300 ohms, balanced
75 ohms, unbalanced

Intermediate frequency
10.7 MHz

Sensitivity	at 50 dB quieting 16.1 dBf, 3.5 µV (mono) 37.9 dBf, 43 µV (stereo)
Usable sensitivity	10.3 dBf, 1.8 µV (IHF)
Signal-to-noise ratio	84 dB (mono) 78 dB (stereo)
Harmonic distortion at 1 kHz	0.08% (mono) 0.15% (stereo)
IM distortion	0.08% (mono) 0.15% (stereo)
Separation at 1 kHz	50 dB
Frequency response	30 Hz - 15 kHz $^{+0.5}_{-2.0}$ dB

Selectivity	at 400 kHz 80 dB
Capture ratio	1.0 dB
AM suppression ratio	60 dB
Image response ratio	80 dB
IF response ratio	90 dB
Spurious response ratio	100 dB
RF intermodulation	74 dB (IHF)
Sub-carrier product ratio	65 dB
Muting threshold	approx. 25 dBf,
Output level/ impedance	at 75 kHz deviation 750 mV, 4.7 k ohms

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®
SERVICE MANUAL

ST-V7

AM tuner section

Tuning range	522 - 1,602 kHz (with the AM channel plan selector set at 9 kHz) 530 - 1,610 kHz (with the AM channel plan selector set at 10 kHz)
Antenna	Ferrite-bar antenna External antenna terminal
Intermediate frequency	450 kHz
Usable sensitivity	46 dB/m, ferrite-bar antenna (at 999 or 1,000 kHz) 30 μV, external antenna (at 999 or 1,000 kHz)
Signal-to-noise ratio	55 dB
Harmonic distortion	0.3%
Selectivity	35 dB (9 kHz), 38 dB (10 kHz)
Image response ratio	45 dB (at 999 or 1,000 kHz)

General

System	PLL quartz-locked digital synthesizer system
Power requirements	US model: 120 Vac, 60 Hz 120V-E model: 120 Vac, 50/60 Hz 220V-E model: 220–240 Vac, 50/60 Hz
Power consumption	US model: 17 watts E model: 18 watts
AC outlet	1 switches, 500 watts max
Dimensions	Approx. 355 × 55 × 270 mm (w/h/d) (14 × 2⅛ × 10⅝ inches) including projecting parts and controls
Weight	US model: Approx. 3 kg (6 lbs 10 oz) net E model: Approx. 3.1 kg (6 lbs 14 oz) net

FEATURES

The quartz-locked digital frequency-synthesizer system allows accurate and stable tuning that is not affected by temperature variations or long period usage.

Quick and accurate station selection is possible with an electronic digital readout on the frequency display window.
Two methods of tuning are available:
Manual tuning, in which each band can be scanned either rapidly or step-by-step.
Memory preset tuning, in which the frequency of up to eight stations can be stored in the memory. Various reception conditions can also be memorized for each station to permit one-touch reception.

The MEMORY SCAN key allows you to scan automatically the preset stations only, listening to each one for a few seconds to check if there is anything you would like to listen to.

The supplied remote commander allows you to control all components connected to the tuner remotely.

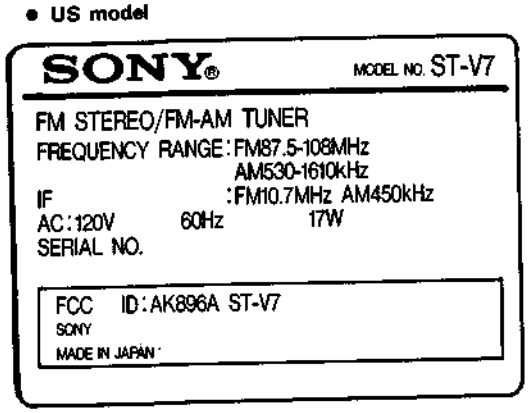
The memory contents are retained by a lithium manganese battery incorporated in the tuner when the power is turned off. This battery also allows the last station tuned in to be held in the memory.

The three-step LED signal strength indicator provides an easy readout of the received signal strength.

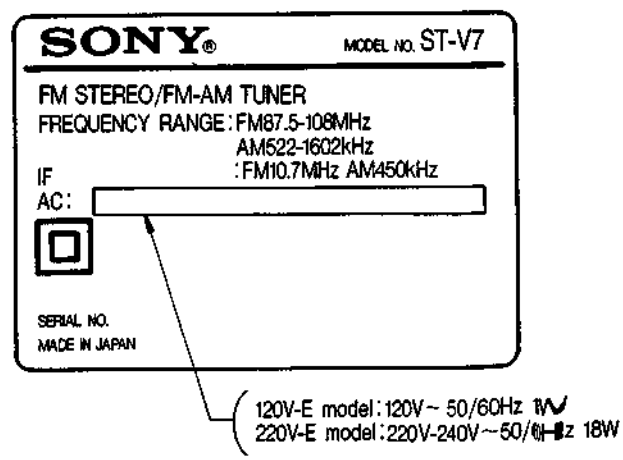
An FM muting circuit is incorporated to eliminate any interstation noise. The setting of the STEREO /MUTING key can also be memorized for each station, and permits one-touch reception with a suitable mode/FM muting setting.

MODEL IDENTIFICATION
— Specification Label —

● **US model**



● **120V-E model, 220V-E model**



SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

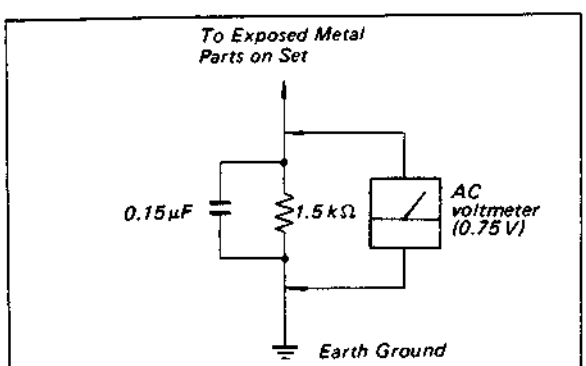
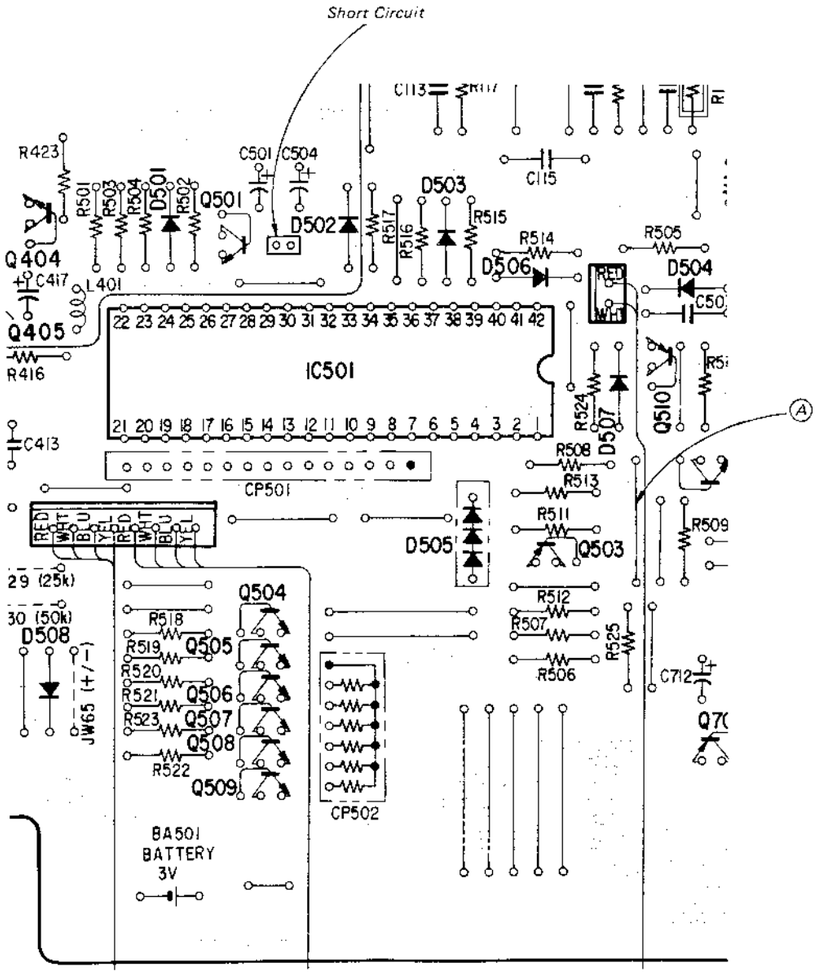


Fig. A. Using an AC voltmeter to check AC leakage.

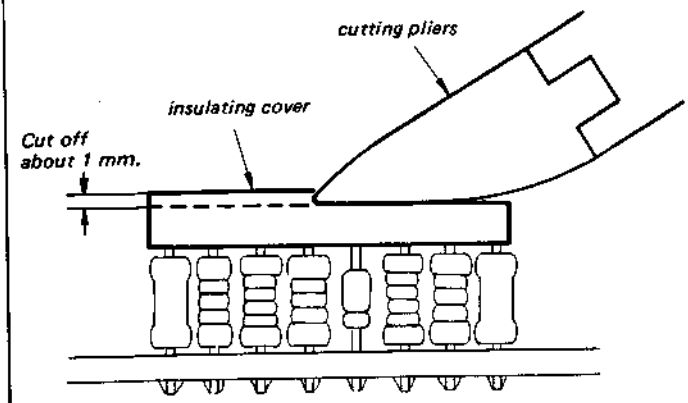
REPAIRING PRECAUTIONS

When changing IC501 or the parts surrounding IC501, perform as follows:

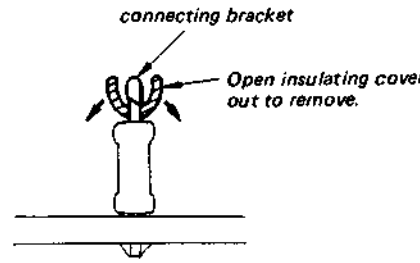
1. Remove jumper wire (A) .
2. Replace the IC, transistor, or battery.
3. Connect jumper wire (A) .
4. Turn the power ON.
5. Short-circuit terminal pin momentarily. (reset)

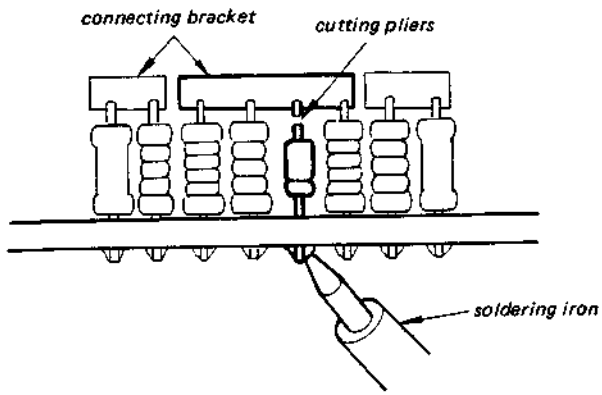


REPAIR METHOD FOR HYBRID CIRCUIT BLOCK

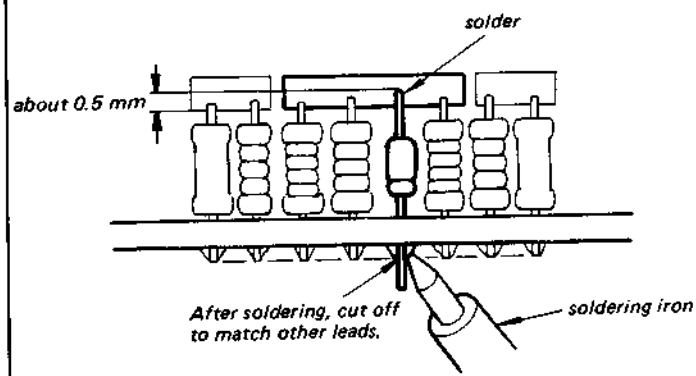


Using a cutting pliers, cut off the upper portion of the insulating cover about 1 mm, exposing the top of the connecting brackets.

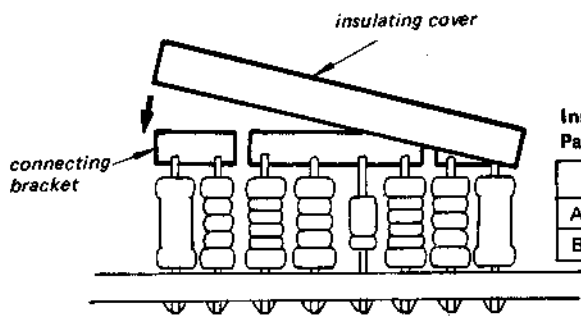




Cut off the lead of the defective part with cutting pliers. Remove solder and take out the defective part.



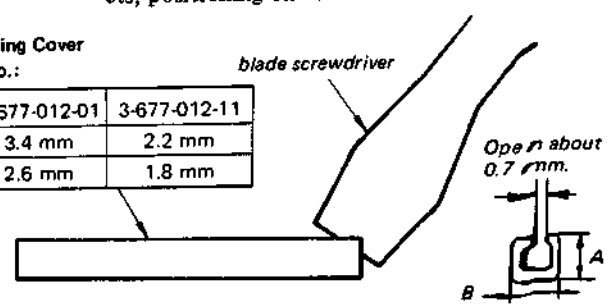
Insert the new part on the board and solder the lead to the board. Cut off the lead on the connecting bracket side so that it overlaps by about 0.5 mm, and solder to the connecting bracket.



Open the insulating cover groove about 0.7 mm and place over the connecting brackets, positioning one end first.

Insulating Cover Part No.:

	3-677-012-01	3-677-012-11
A	3.4 mm	2.2 mm
B	2.6 mm	1.8 mm

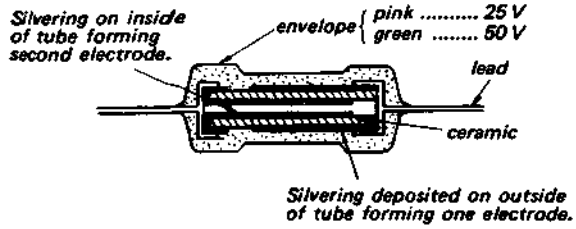


• THE CERAMIC CAPACITORS

This set uses tube-type ceramic capacitors whose shape is identical with the carbon resistors. Be careful not to use resistors instead of capacitors in repairing.

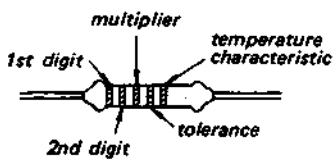
Disc-type ceramic capacitors can be used for replacing those originally used in the set.

Two kinds of drilled holes are provided in some patterns for mounting the tube-type and disc-type ceramic capacitors. Use appropriate holes where applicable.

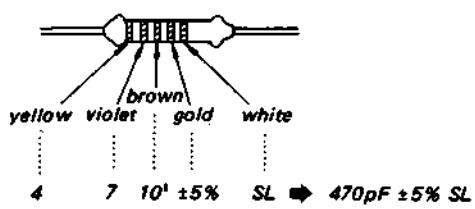


COLOR CODE (in pF)

Color	1st or 2nd Digit	Multiplier	Tolerance	Temperature characteristic
brown	1	10^1		Y
red	2	10^2		D
orange	3	10^3		
yellow	4	10^4		RH
green	5			
blue	6			
violet	7			UJ
gray	8		±30%	X
white	9			SL
black	0	10^0	±20%	CH
gold		10^{-1}	± 5%	V
silver		10^{-2}	±10%	B



Example:



• IF OFFSET ADJUSTMENT:

Circuit Connections Depending on the Ceramic Filter (CF101 – 103)

This set employs five types of ceramic filter (CF101 – 103) which have different center frequency. Therefore FM IF offset adjustment by jumper wire connection is necessary to match the center frequency of the ceramic filter used with FM intermediate frequency.

Ceramic filter		Jumper wire connection			FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	JW29 (25k)	JW30 (50k)	JW65 (+/–)	
White	10.750	X	O	X	10.750
Orange	10.725	O	X	X	10.725
Red	10.700	X	X	X	10.700
Blue	10.675	O	X	O	10.675
Black	10.650	X	O	O	10.650

O : connected
X : not connected

FM intermediate frequency is determined by five types as shown above with specifing the state at terminal 24, 25, and 26 of IC402 (PLL controller) by Jumper wire connection.

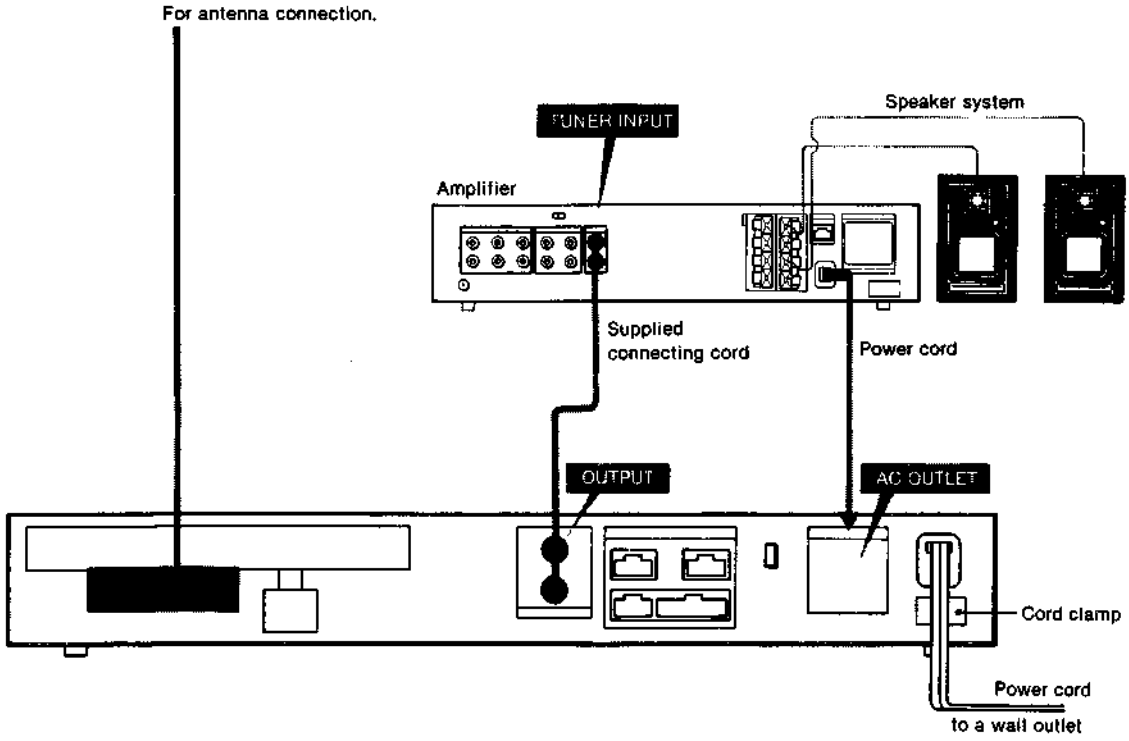
* CF101, 102 and 103 should be used the ceramic filters of same center frequency.

SYSTEM CONNECTIONS

The power cord should be connected last of all, first making sure that the MAIN POWER switch is turned off.

CONNECTION DIAGRAM

Connection to the amplifier

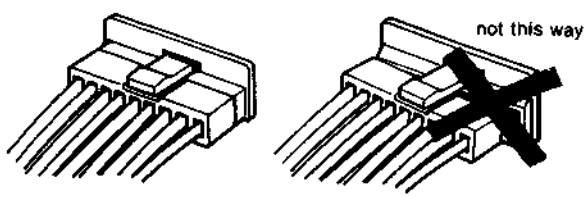


REMOTE CONTROL CORD CONNECTION

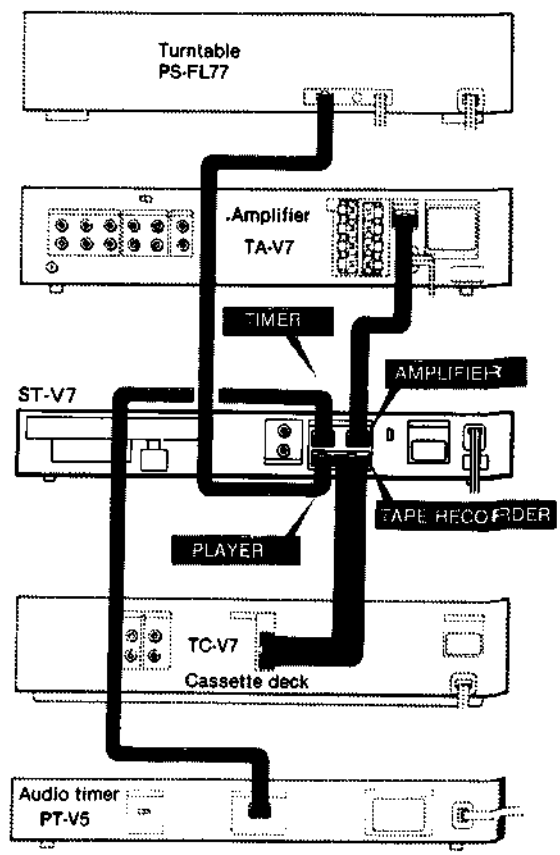
Control signals from the remote commander RM-V70 in the form of infrared rays are received by the remote sensor provided on the front panel of the tuner. The control signals should be delivered to all components through the supplied cords.

Notes

- Insert the cords firmly by depressing the small tab on the plug. A loose connection may cause faulty operation of the remote control.

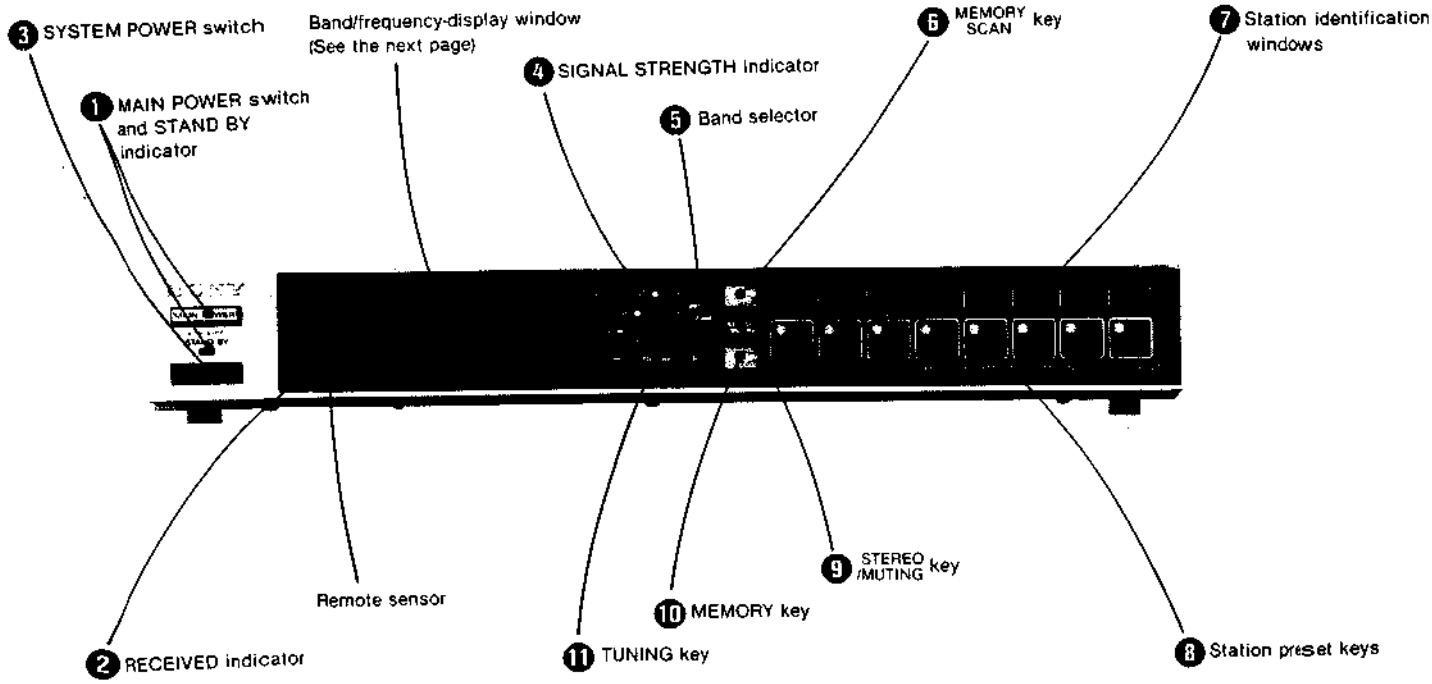


- To remove the cord from the connector, depress the small tab on the plug and pull it out. Never pull out the plug forcibly.



LOCATION AND FUNCTION OF CONTROLS

Before plugging in or attempting to operate this tuner, it is suggested that you familiarize yourself with all its switches and the purpose of each.
Each number in the photo is keyed to the descriptive text.



❶ MAIN POWER switch and STAND BY indicator
Depress this switch to turn the mains power on (The STAND BY indicator lights up). If the power has not been turned on, even if you press the SYSTEM POWER switch, you cannot turn the connected components on or operate them with the supplied remote commander RM-V70.

❷ RECEIVED indicator
When the signals from the remote commander are received, this indicator will blink.

❸ SYSTEM POWER switch
Press this switch to turn the connected components on and off. You can operate the switch from a distance with the remote commander.

❹ SIGNAL STRENGTH indicator
Indicates the strength of the tuned signal by the amount of indicator illumination. The fullest illumination means the antenna input signal is strong. When the indicator illuminates only at the low end, it means the antenna input signal is weak.

❺ Band selector
Selects the desired band: FM, AM. Each time the selector is pressed, the band will change and the selected band will be indicated in the band/frequency-display window.

❻ MEMORY SCAN key
Press for automatic scanning of the stations memorized on the station preset keys. For details, refer to page 11.

❼ Station identification windows
Station labels (supplied) identifying memorized stations can be placed in these windows.

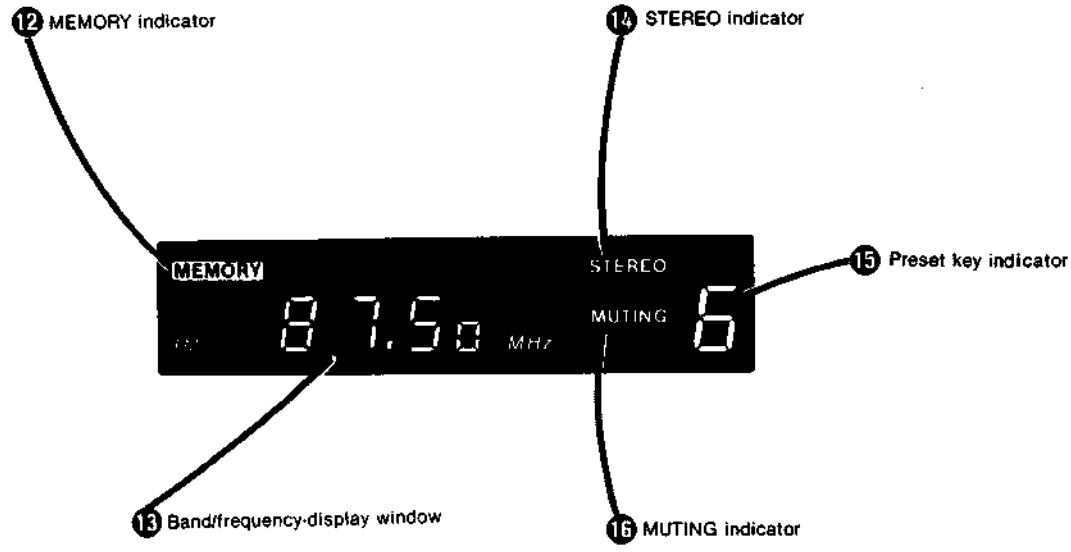
❽ Station preset keys
To call up a memorized station, press the appropriate key.

❾ STEREO /MUTING key
This key serves the dual purpose of a mode and FM muting switch. Normally keep this key engaged (the MUTING indicator illuminates) to eliminate FM interstation noise while tuning from station to station. The tuner operates in stereo mode for stereo sound sources and will be automatically switched to mono mode for monaural sound sources.
When you want to tune in a very weak station, or when an FM program is too noisy, press the key to disengage it. (The MUTING indicator illumination will go out.) This will enable the tuner to receive weak stations, although the stereo feature is sacrificed. In this case, keep the amplifier volume down to avoid speaker damage caused by the interstation noise.

❿ MEMORY key
Press to operate memory circuit. The MEMORY indicator will appear on the band/frequency-display window for a few seconds indicating that the memory circuit is standing by.

⓫ TUNING key
Press either side of this key to change the received frequency. Press the left side [−] to go to a lower frequency and the right side [+] to go to a higher.
To change the frequency continuously until the desired frequency is received, keep the key pressed.
The frequency figures will change rapidly. To change the frequency slowly to tune in a station accurately, press the key and release immediately.

BAND/FREQUENCY-DISPLAY WINDOW AND INDICATORS



⑫ MEMORY indicator
When the MEMORY key is engaged, "MEMORY" will appear for a few seconds indicating that the memory circuit is standing by.

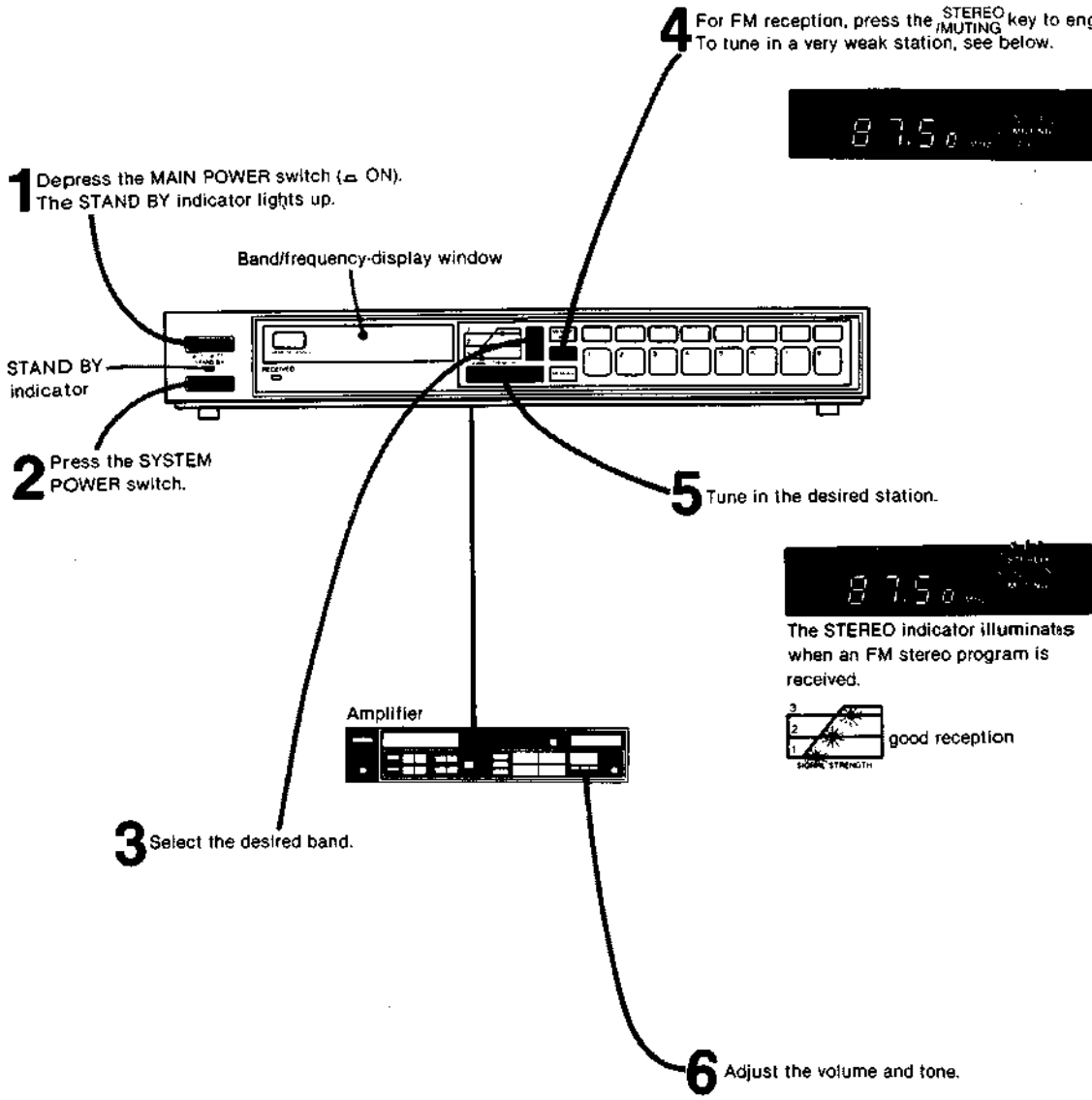
⑬ Band/frequency-display window
The frequency being received is displayed here in digits.

⑭ STEREO indicator
This indicator will light when an FM stereo program of sufficient signal strength is tuned in with the STEREO/MUTING key engaged.

⑮ Preset key indicator
When the station preset key is pressed, a figure from 1 to 8 corresponding to the pressed key will appear.
When the MEMORY SCAN key is pressed, the figures will change in sequence.

⑯ MUTING indicator
This indicator illuminates when the STEREO/MUTING key is engaged.

MANUAL TUNING



When the frequency figures reach the end of the tuning range of each band, the frequency will then be scanned from the opposite end of the tuning range.

To tune in a weak or noisy station

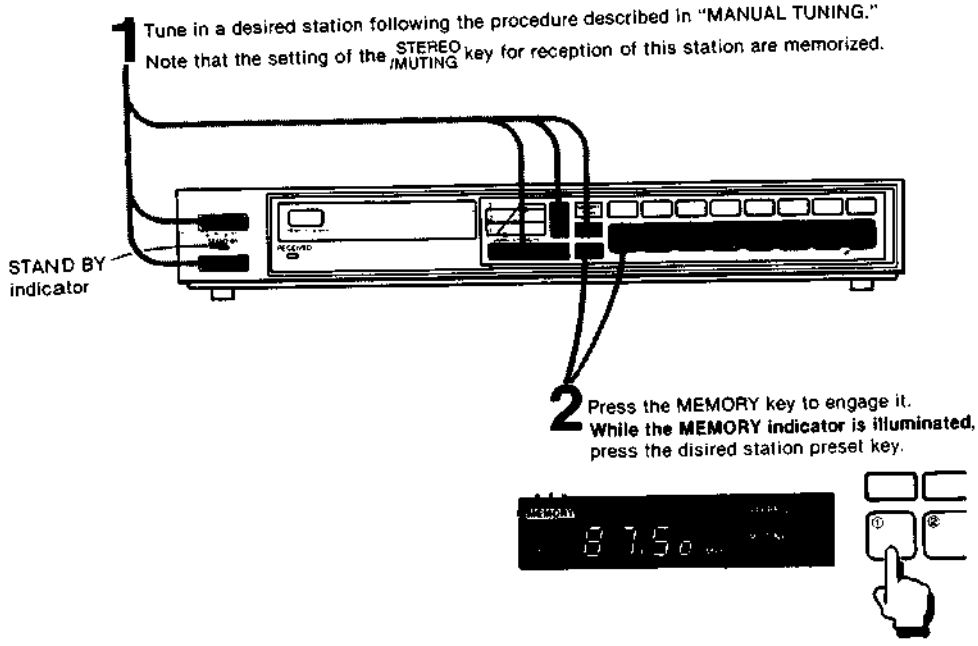
When FM stereo signals are noisy, or to tune in a very weak FM station, lower the volume and disengage the STEREO/MUTING key. The MUTING indicator will go out. This will result in better reception, at the sacrifice of the stereo effect.

MEMORY PRESET TUNING

This tuner's electronic tuning system (utilizing a PLL—Phase Locked Loop—synthesizer) and a memory circuit make tuning very easy. Once the frequencies of the stations you want to tune in are memorized, all you have to do is press a key.

TO MEMORIZE STATION FREQUENCIES

Preparation: A total of eight station preset keys can be preset for FM, AM in any desired sequence. Arrange the order of stations for each station preset key and note the band and the frequency of each in advance.



Repeat these steps for each station preset key.
Replace the station labels to conform to the selected memorized stations.

Notes

- The MEMORY indicator will go off automatically after a few seconds. When the indicator is out, the memory circuit does not operate to memorize the station.
- The previous memory will be erased when a new frequency is committed to the memory of the same key. An erasure cannot be made without a new input.

TO CHECK A MEMORIZED FREQUENCY

After the memory procedure is completed, confirm the memorized frequency. Press the TUNING key and change the frequency display indication. Press the station preset key to be checked. The frequency which had been memorized should then be indicated in the band/frequency display window.

TO RECEIVE A MEMORIZED STATION

Depress the MAIN POWER switch, press the SYSTEM POWER switch to turn it on and press the desired station preset key.

Memory of the last received station

This tuner includes a memory circuit to remember the station which had been received for more than one second just before the power was turned off. This station will be automatically tuned in when the power is turned on again. This memory system enables you to make a timer-activated recording from the tuner.

To change temporarily the setting of the STEREO /MUTING key. for memorized station

Simply press the STEREO /MUTING key.
You can recall the original settings later by pressing the station preset key. See page 8 for STEREO /MUTING key

MEMORY SCANNING

The MEMORY SCAN key allows you to quickly hear what kind of programs are being broadcast by the memorized stations.
When you press the MEMORY SCAN key, the memorized stations are automatically received in order from the memorized station to the immediate right of the station being received for about 4 seconds each.
Pressing a particular station preset key stops the scanning.
When you press the MEMORY SCAN key during manual tuning, scanning will start from the station memorized on the leftmost station preset key.

SECTION 1
OUTLINE

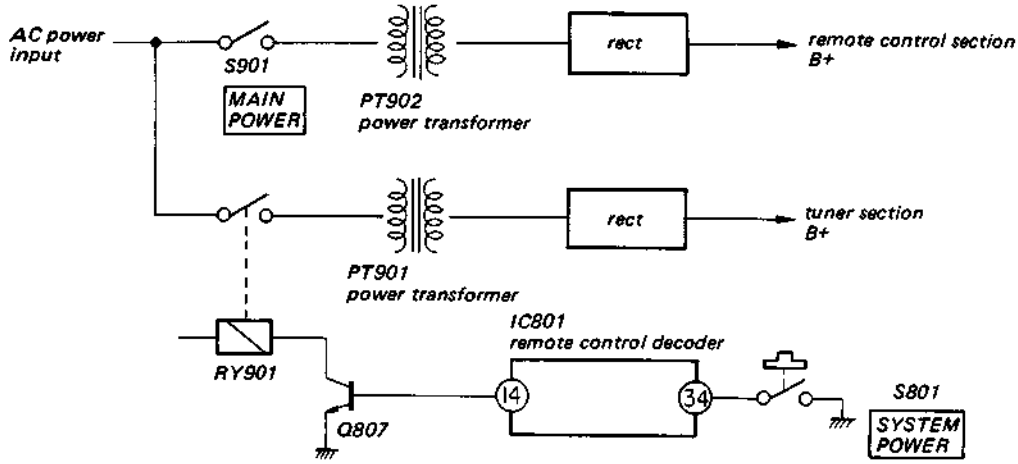
1-1. CIRCUIT DISCRIPTION

POWER SUPPLY SECTION

When the MAIN POWER switch (S901) goes ON, power is supplied to the remote control section and the STAND BY display LED lights up. In this state, the remote control operation of amp, player, tape recorder, and timer become possible.

When the SYSTEM POWER switch (S801) is pushed, pin (34) of the remote control decoder IC801 goes low and output pin (14) goes low from high level, then Q807 turns ON. The power switch relay (RY901) operates and power is supplied to a power outlet and the tuner section.

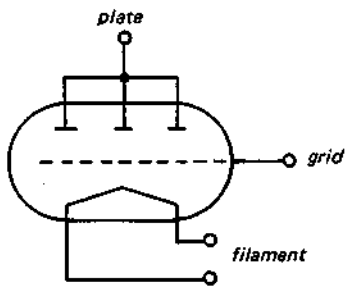
When the SYSTEM POWER switch is pushed again, output pin (14) goes "H" and Q807 goes OFF, then the power supply to the tuner section is cut off.



THE DISPLAY CIRCUIT

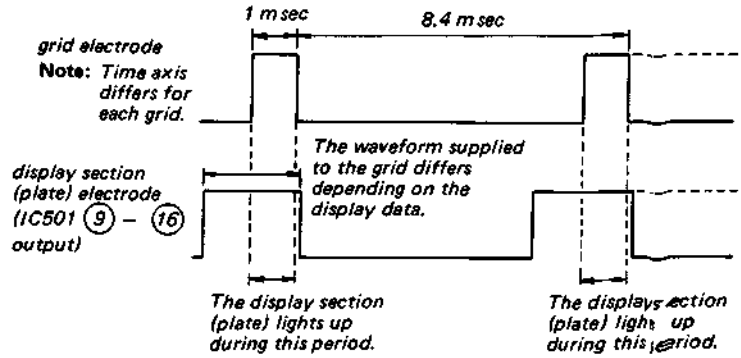
Fluorescent Display Tube

The fluorescent display structure is as shown below. The grid separates in each block. If B– voltage is supplied to the grid, the display tube will not light up. If B+ voltage is supplied to the grid and a voltage equal to that of the grid, or a larger voltage is supplied to the display section (plate), then current flows and that portion lights up.



The Waveforms Supplied to the Grid and the Plate

The drive signal of the grid electrode switches the grid drive transistor Q504 – Q509 by the digit signal from (8), (17), (18), (19), (20), (22) pins of IC501 for control. When the grid drive transistor is OFF, the grid electrode of the fluorescent display tube becomes negative potential (–28 V) through the emitter resistor and the display section (plate) does not light up. When the grid drive transistor is ON, the grid electrode of the fluorescent display tube becomes positive potential (4 V). When both the grid electrode and the display section (plate) are positive potential, the display section lights up. The drive signal of the plate electrode is controlled by segment display data output from (9), (10), (11), (12), (13), (14), (15), (16) pins of the IC501 for control.



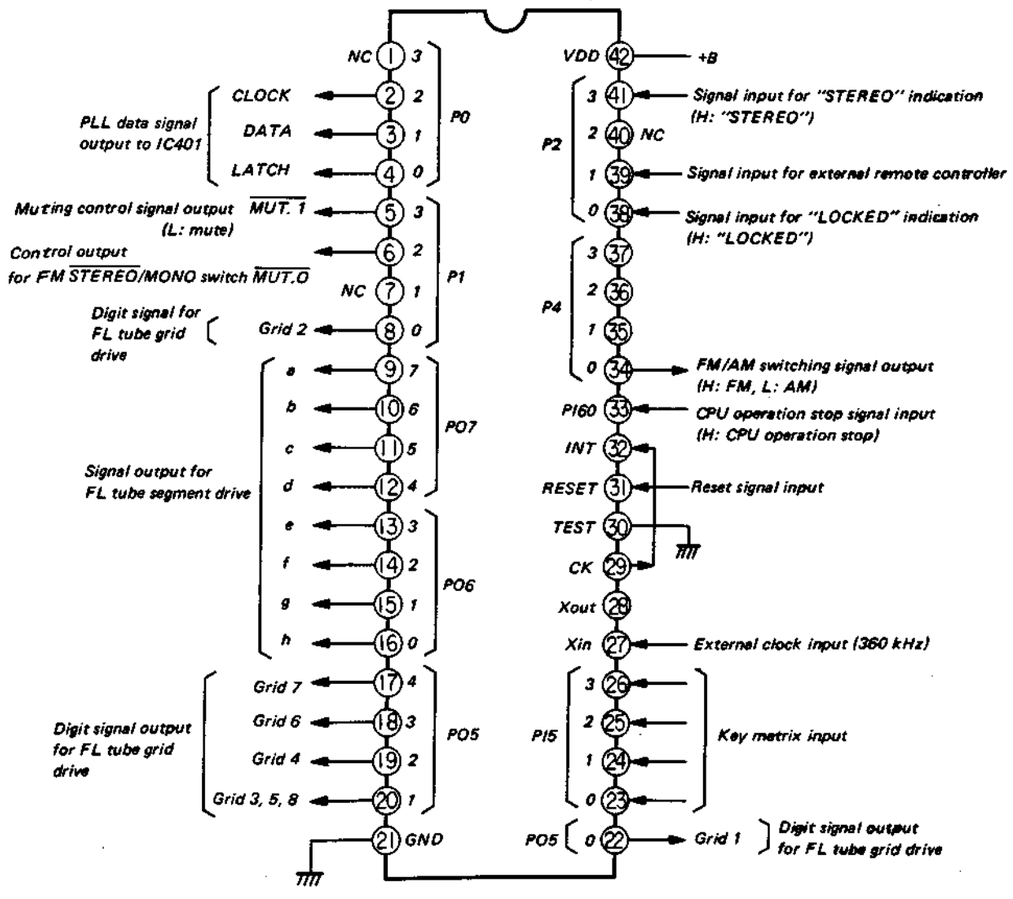
• CONTROLLER IC TCP4621BP-6505

IC501 (TCP4621BP-6505) is a microcomputer IC.
The terminal functions are as follows:
Main Functions:

- Key input detection
- Fluorescent indicator tube (FL501) indication output
- Data transmission to PLL frequency synthesizer IC (IC401: CX778A) (16 bit serial data)

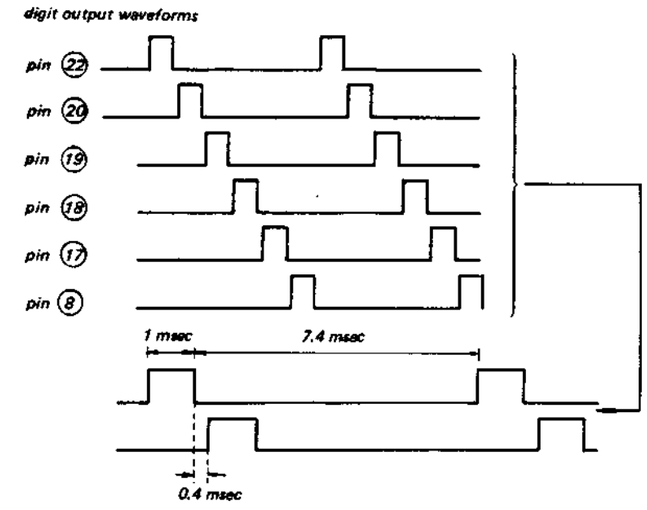
IC501 Terminal Functions

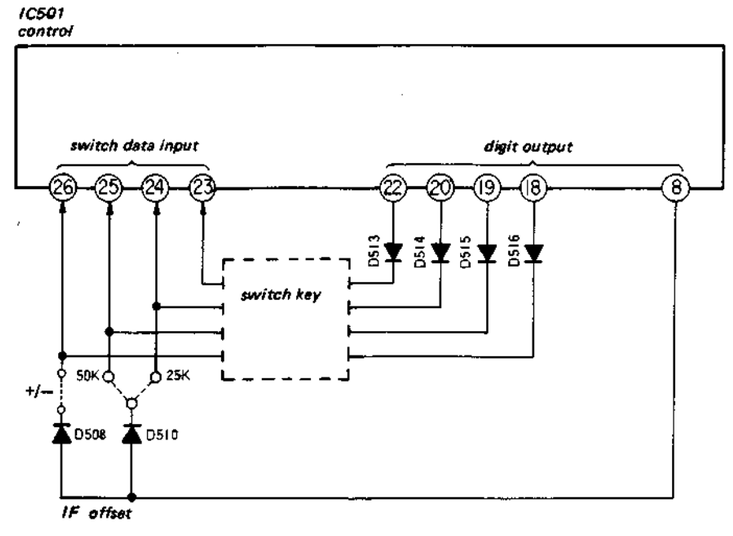
FL tube . . . Fluorescent Display Tube



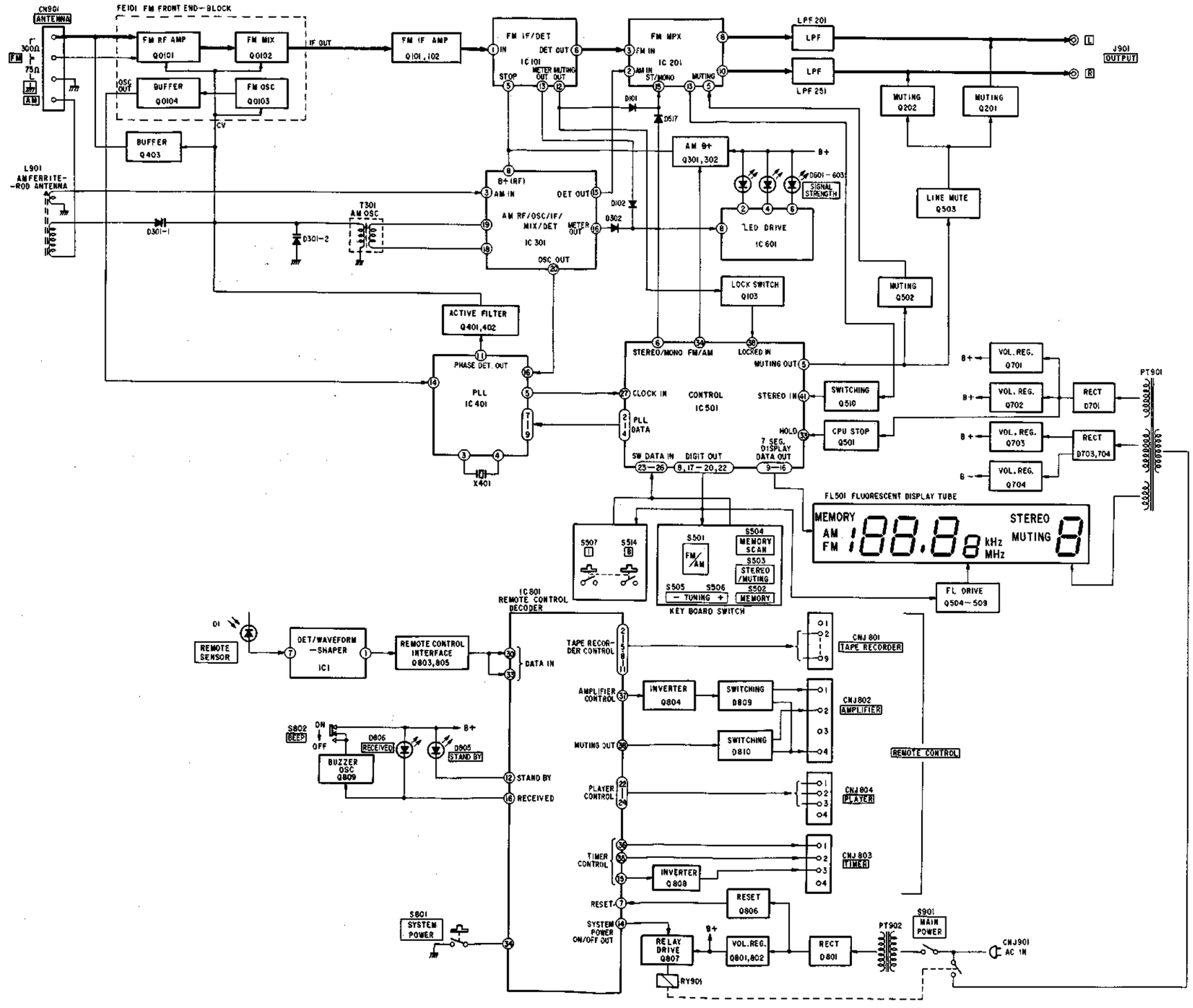
SWITCH DATA INPUT

The digit output from IC501 for tuner control is input into IC501 as each switch data by the key switch matrix, then each control output of tuner section is output.





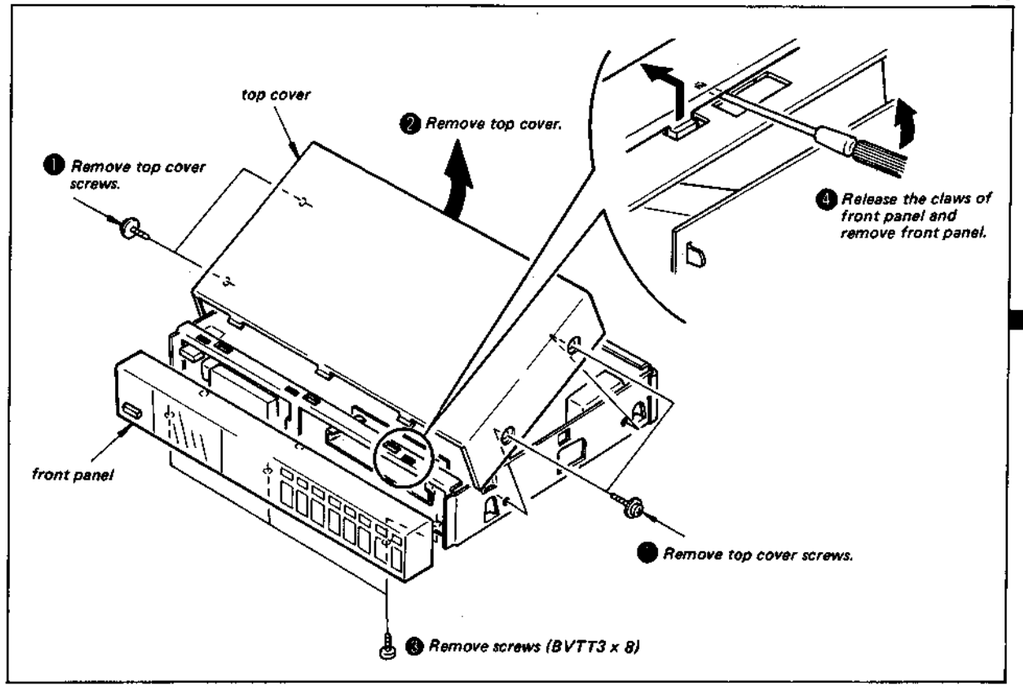
1-2. BLOCK DIAGRAM



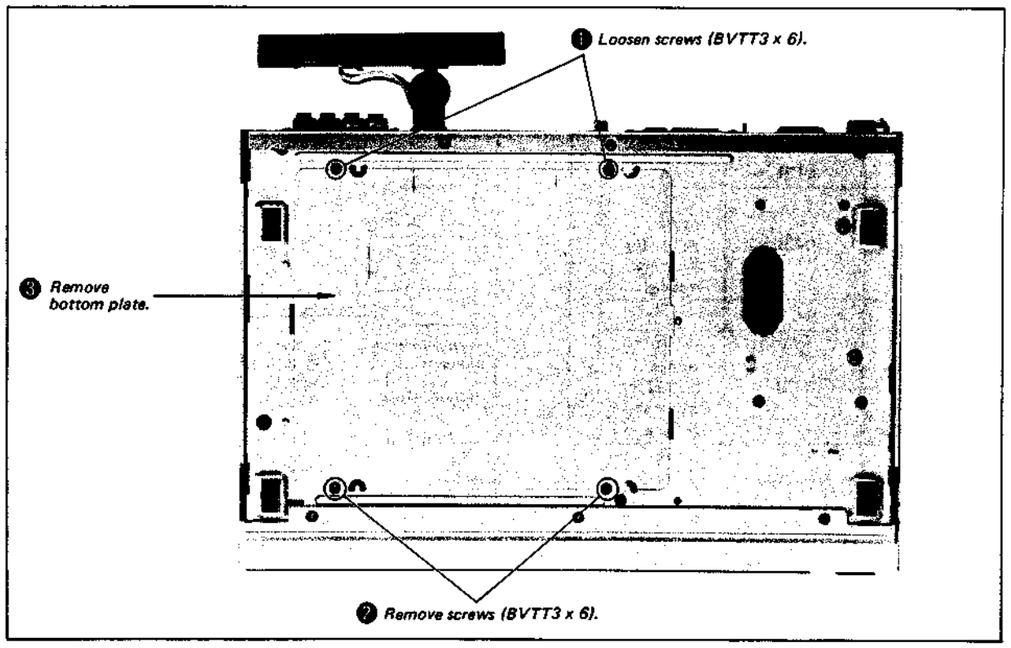
SECTION 2
DISASSEMBLY

2-1. TOP COVER AND FRONT PANEL REMOVAL

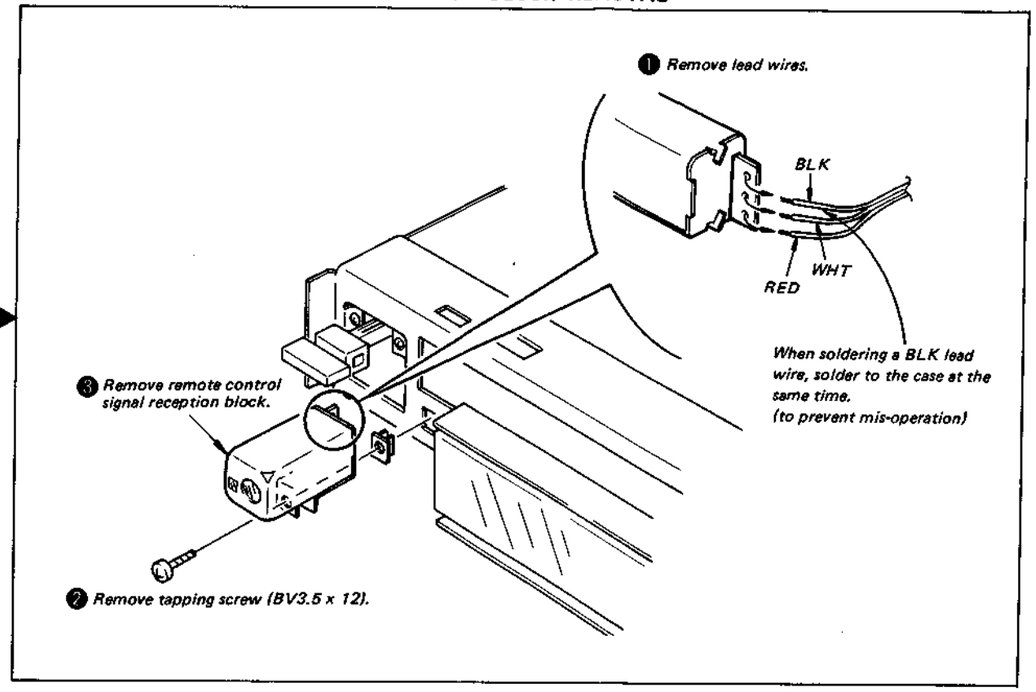
• Follow the disassembly procedure in the numerical order given.



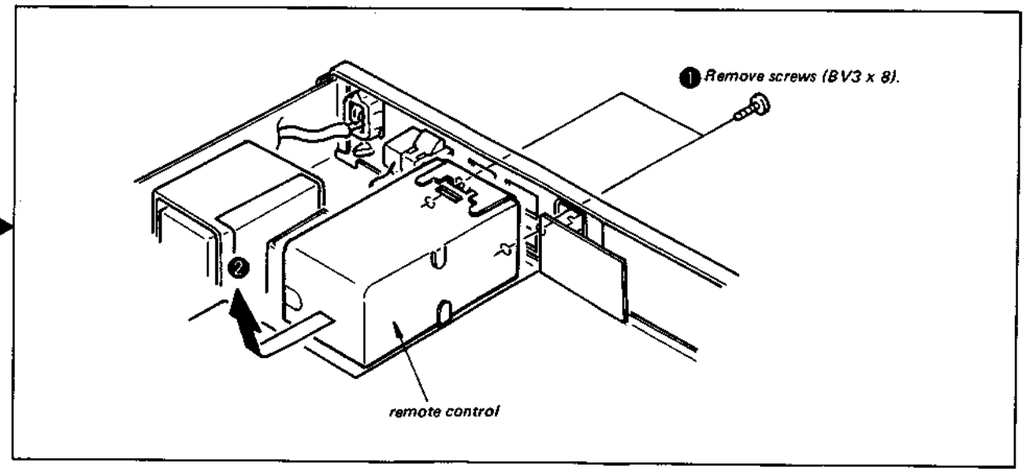
2-2. BOTTOM PLATE REMOVAL



2-3. REMOTE CONTROL SIGNAL RECEPTION BLOCK REMOVAL



2-4. REMOTE CONTROL OUTPUT SECTION REMOVAL



SECTION 3
ADJUSTMENTS

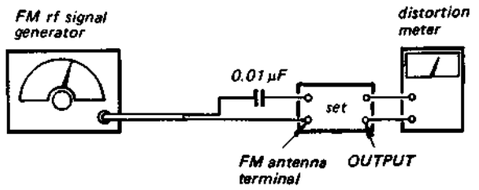
FM SECTION

FM Discriminator Alignment

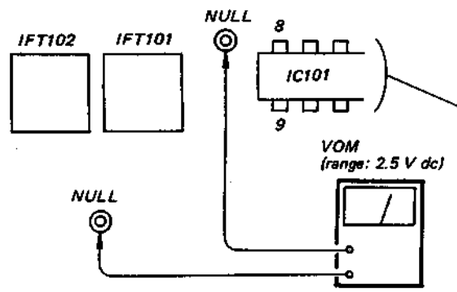
Setting:

STEREO/MUTING switch: OFF

Procedure:



Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation: 1 kHz, 75 kHz deviation (100 %)



1. Tune the set to 98MHz.
2. Connect a VOM to NULL test point and adjust the primary-side core (IFT101) for 0V DC reading on the VOM.
3. Adjust the secondary-side core (IFT102) for a minimum reading on the distortion meter.

Note: Repeat the secondary-side and primary-side adjustments several times.
For step 3, adjust after removing VOM.

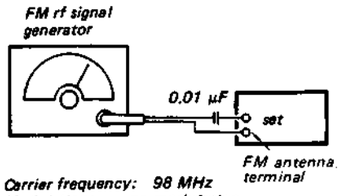
VCO Adjustment

Setting:

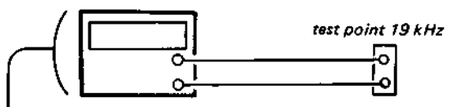
STEREO/MUTING Switch: ON

A) Regular Method

Procedure:



Carrier frequency: 98 MHz
Modulation: no modulation
Output level: 1 mV (60 dB)

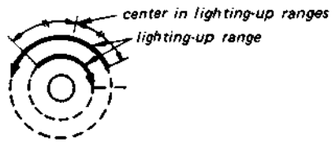


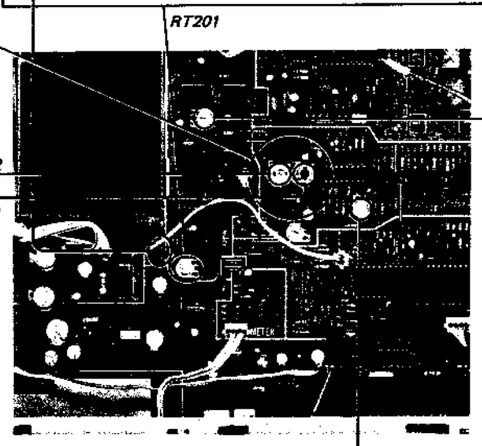
1. Tune the set to 98 MHz.
2. Adjust RT201 for 19 kHz ± 50 Hz on the counter.

B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT201 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RT201 at the center of the lighting-up range of both turns as shown below.



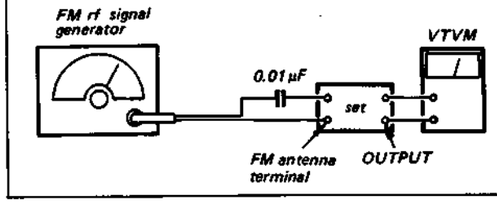


FM Muting Level Adjustment

Setting:

STEREO/MUTING switch: ON

Procedure:



Carrier frequency: 98 MHz
Modulation: 1 kHz, 75 kHz deviation (100 %)
Output level: 17.8µV (25 dB)

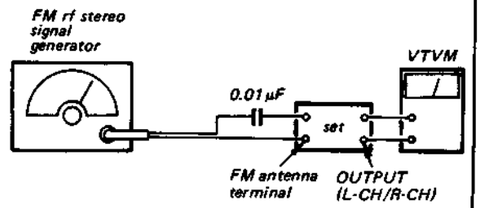
1. Tune the set to 98MHz by pressing the TUNING key.
2. Adjust RT101 for a 0V reading on the VTVM.

FM Stereo Separation Adjustment

Setting:

STEREO/MUTING switch: ON

Procedure:



Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation:

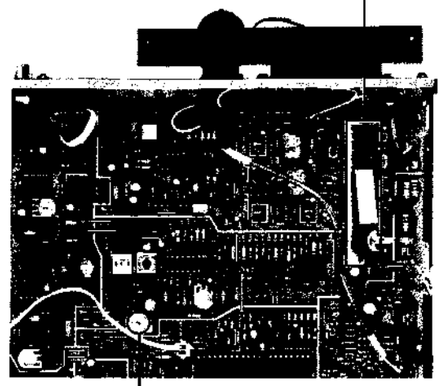
Audio (1 kHz): 33.75 kHz deviation (45 %)
Pilot (19 kHz): 7.5 kHz deviation (10 %)
Sub-channel: 33.75 kHz deviation (45 %)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT202 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT202 for minimum reading.

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

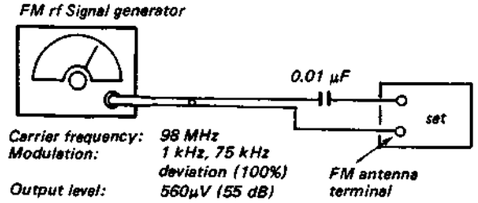


Meter Calibration

Setting:

STEREO/MUTING switch: ON

Procedure:

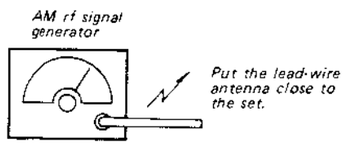


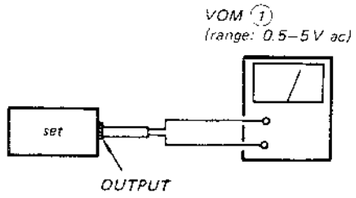
Carrier frequency: 98 MHz
Modulation: 1 kHz, 75 kHz deviation (100%)
Output level: 560µV (55 dB)

1. Tune the set to 98 MHz by pressing the TUNING key.
2. Adjust RT102 for a location where the third LED of the SIGNAL STRENGTH display lights up.
3. Confirm that the first point lights up when the signal generator output level is 10 µV (20 dB).

AM SECTION

Setting:
Band Selector: AM
AM CH: 9 kHz

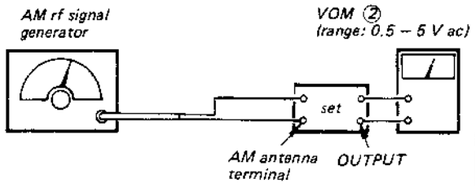




- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ALIGNMENT

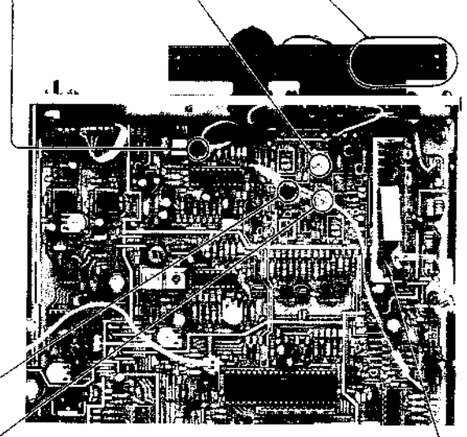
Procedure:



Carrier frequency: 450 kHz
30 % amplitude modulation by 400 Hz signal
Output level: as low as possible

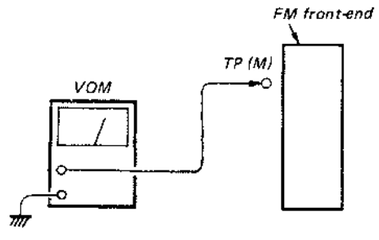
1. Tune the set to 450 kHz and adjust IFT301 for a maximum reading on VOM (2).

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM (1).	
CT301	L901
1,404 kHz	603 kHz



AM FREQUENCY COVERAGE ADJUSTMENT

Frequency Display	1,602kHz	522 kHz
Voltage at TP (M)	22 V	1.6 V
Adjustment Parts	CT302	T301

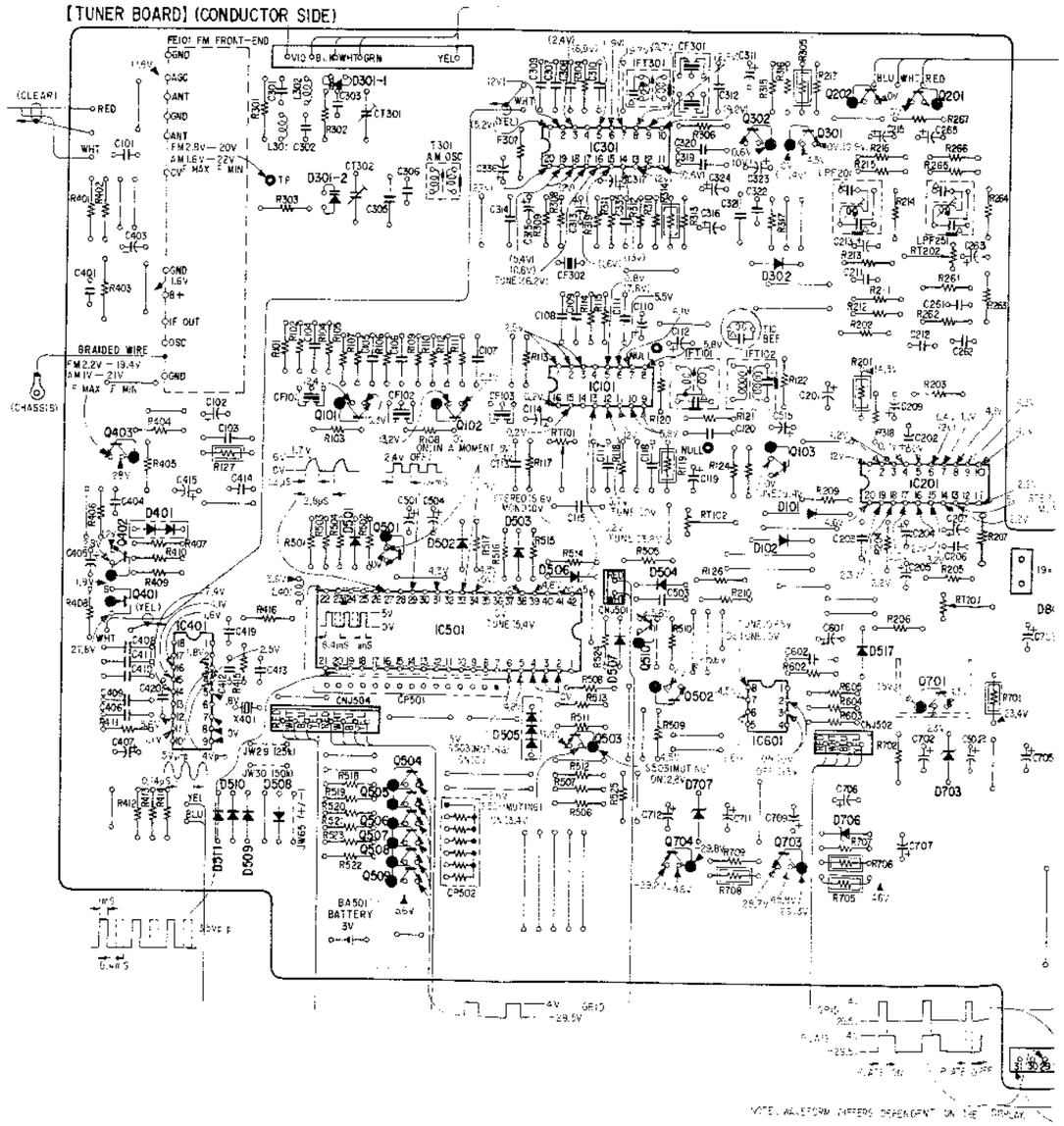


4-1. MOUNTING DIAGRAM
– TUNER BOARD –
– Conductor Side –

SECTION 4
DIAGRAMS

	A	B	C	D	E	F	G	H
1	Q	403 402		101	504 501 505 506 507 508 509	102 IC501	IC301 IC101 510 503 502 704	302 301 202 201 IC201 103 701 IC601 703
2	IC	401 IC401						
3	D	401	301-1 511 510 508 509 301-2 501		502 503 505	506 507 504 707	101 517 302 703 102 706	

[TUNER BOARD] (CONDUCTOR SIDE)



4-1. MOUNTING DIAGRAM
— TUNER BOARD —
— Conductor Side —

SECTION 4
DIAGRAMS

A B C D E F G H I J K L M N O

1 2 3 4 5 6 7 8 9 10

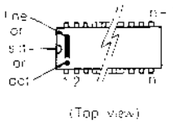
	A	B	C	D	E	F	G	H	I	J	K
Q IC		403 402 401	IC401	101 501 504 505 506 507 508	102 IC501 509	IC301 IC101 510 502 503 704	302 301 202 103 IC601 703	201 IC201 701	801 702	802	
D			401 511 510 509 508	301-1 301-2 501	502 503 505 506	507 504 707	101 302 102 517 706	703	802 702	803 800	801 701 704 705 708

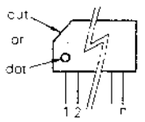
Note:

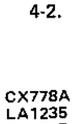
- Color code of sleeving over the end of the jacket.

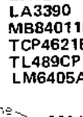
- ○— : parts extracted from the component side.
- ■ : part mounted on the conductor side.
- [ ]→ : indicates side identified with part number.
- Ⓕ : fusible resistor.
- : B + pattern

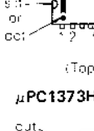
- ━━➡━━ : signal path
- ━━━▬▬➡ : L-CH signal path
- ━━━▪▪➡ : R-CH signal path

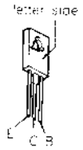


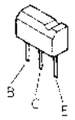


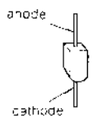


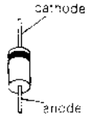


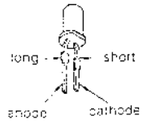


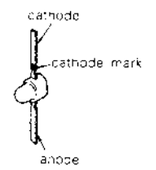


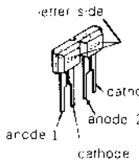


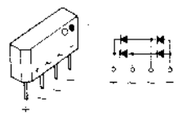


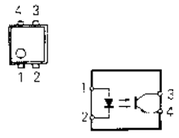


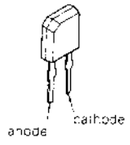


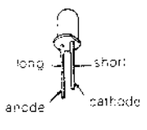


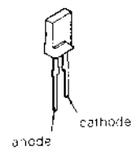


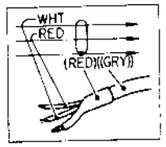


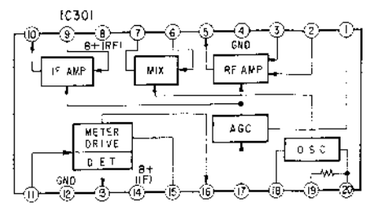


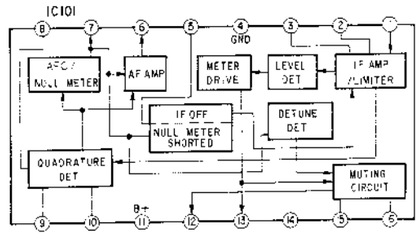


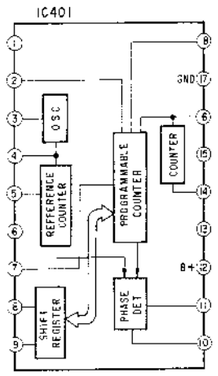


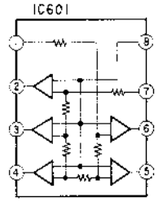


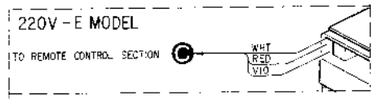


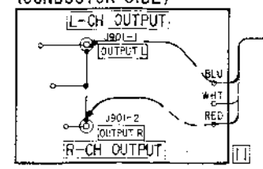


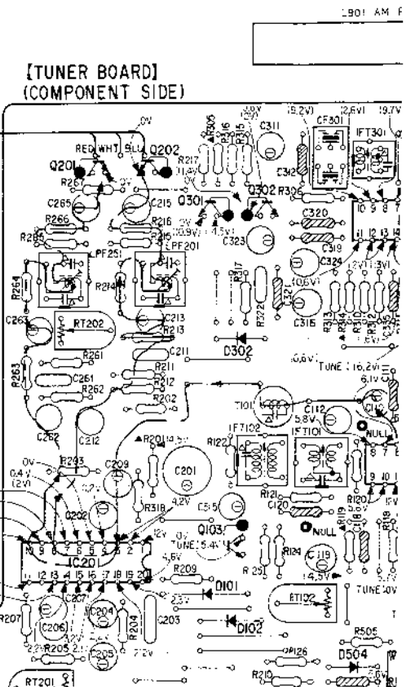












4-2. MOUNTING DIAGRAM – TUNER BOARD –

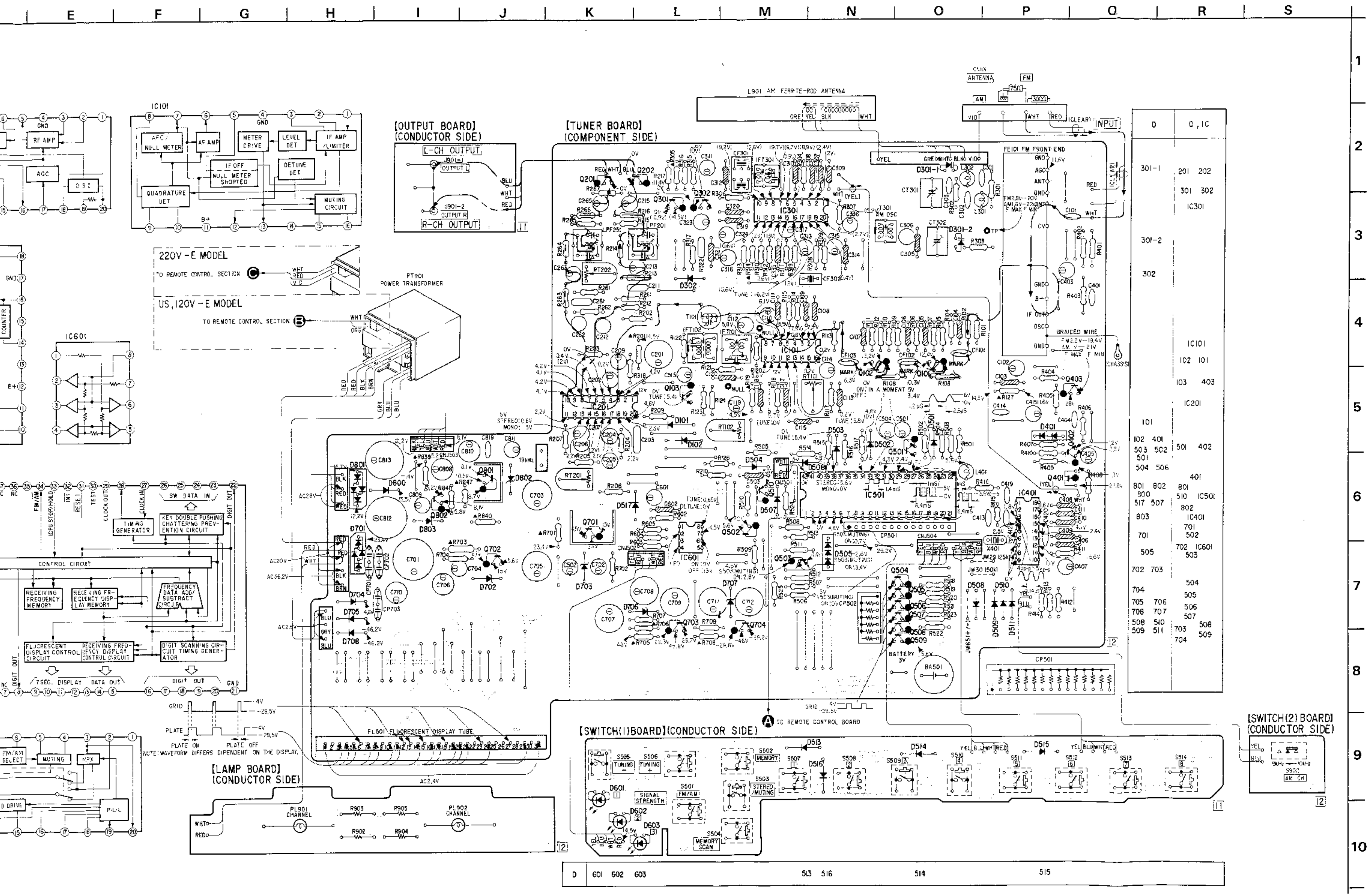
– Component Side –

- Semiconductor Lead Layouts

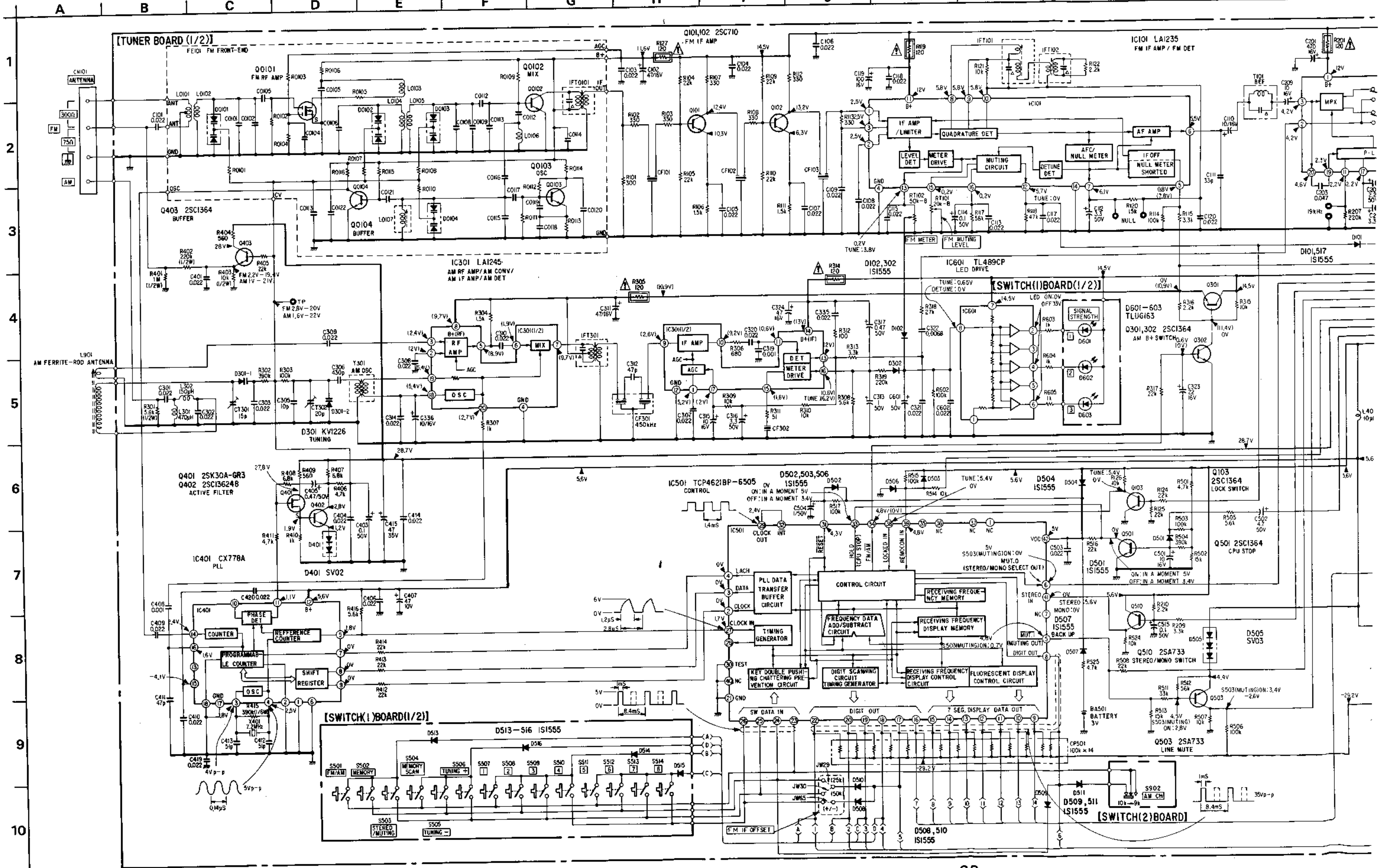
Note:

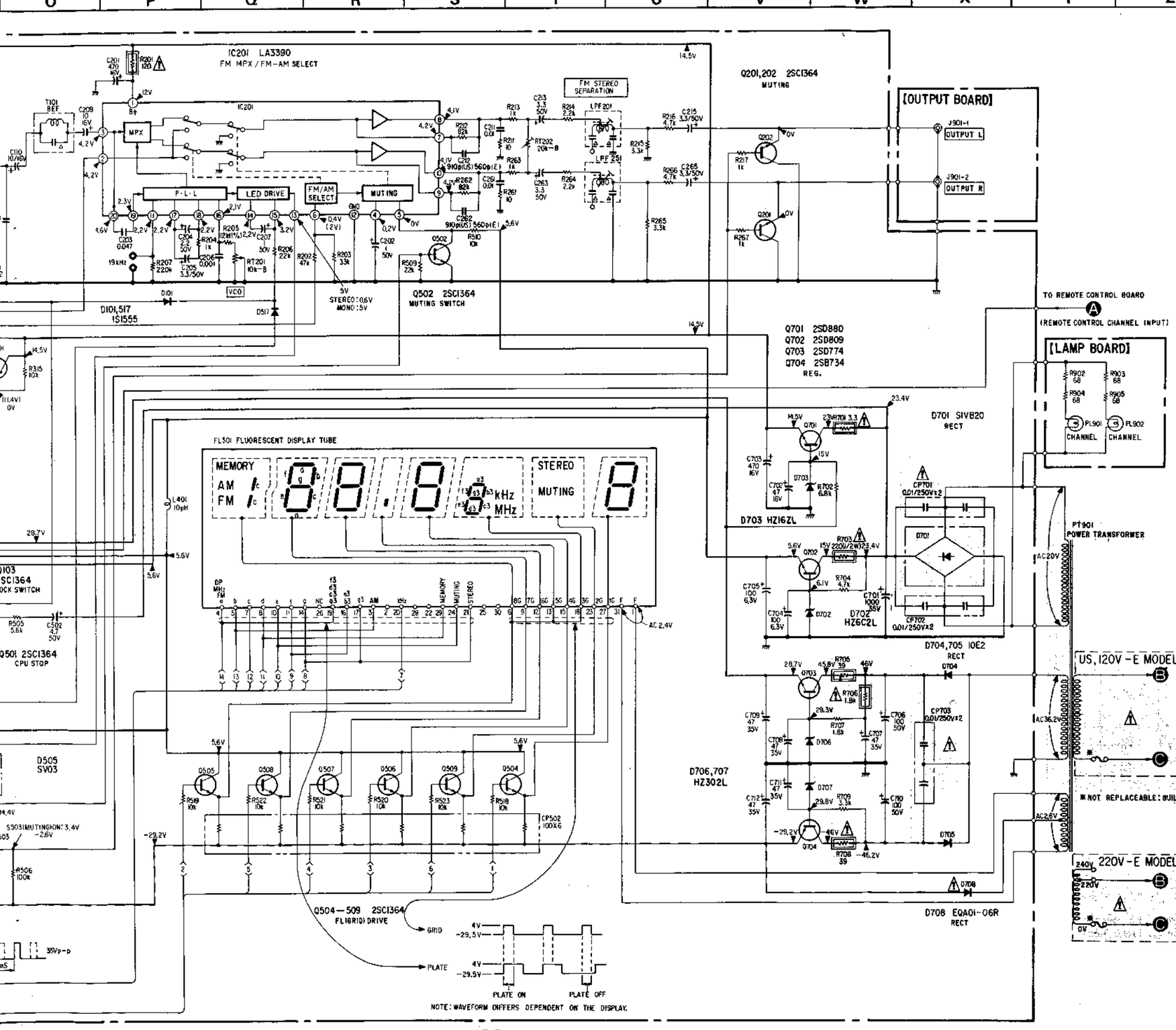
- Color code of sleeving over the end of the jacket.

- ○— : parts extracted from the component side.
- ■ : part mounted on the conductor side.
- [ ]← : indicates side identified with part number.
- Ⓕ : fusible resistor.
- : B + pattern
- ━━▶━ : signal path
- ━━━▶ : L-CH signal path
- ━·━▶ : R-CH signal path



[OUTPUT BOARD]
(CONDUCTOR SIDE)
[TUNER BOARD]
(COMPONENT SIDE)
L-CH OUTPUT
R-CH OUTPUT
220V-E MODEL
US, 120V-E MODEL
TO REMOTE CONTROL SECTION
PT901
POWER TRANSFORMER
IC101
IC601
L901 AM FERRITE-ROD ANTENNA
ANTENNA
AM
FM
INPUT
FE101 FM FRONT END
BRAIDED WIRE
CHASSIS
CONTROL CIRCUIT
TIMING GENERATOR
KEY DOUBLE PUSHING CHATTERING PREVENTION CIRCUIT
SW DATA IN
RECEIVING FREQUENCY MEMORY
RECEIVING FREQUENCY DISPLAY MEMORY
FREQUENCY DATA ADD/SUBSTRACT CIRCUIT
FLUORESCENT DISPLAY CONTROL CIRCUIT
RECEIVING FREQUENCY DISPLAY CONTROL CIRCUIT
DIGIT SCANNING CIRCUIT TIMING GENERATOR
7SEG. DISPLAY DATA OUT
DIGIT OUT
RF AMP
AGC
OSC
AFC/NULL METER
AF AMP
METER DRIVE
LEVEL DET
IF AMP/LIMITER
IF OFF NULL METER SHORTED
DETUNE DET
QUADRATURE DET
MUTING CIRCUIT
FL501 FLUORESCENT DISPLAY TUBE
[LAMP BOARD]
(CONDUCTOR SIDE)
PL901 CHANNEL
PL902 CHANNEL
[SWITCH(1)BOARD](CONDUCTOR SIDE)
TO REMOTE CONTROL BOARD
[SWITCH(2) BOARD]
(CONDUCTOR SIDE)
NOTE: WAVEFORM DIFFERS DEPENDENT ON THE DISPLAY.
BATTERY 3V


[TUNER BOARD (1/2)]
FE101 FM FRONT-END
Q0101 FM RF AMP
Q0102 MIX
Q0103 OSC
Q0104 BUFFER
Q101,102 2SC710 FM IF AMP
IC101 LA1235 FM IF AMP / FM DET
IF AMP /LIMITER
QUADRATURE DET
AF AMP
LEVEL DET
METER DRIVE
MUTING CIRCUIT
DETUNE DET
AFC/ NULL METER
IF OFF NULL METER SHORTED
MPX
Q403 2SC1364 BUFFER
IC301 LA1245 AM RF AMP/AM CONV/ AM IF AMP/AM DET
IC601 TL489CP LED DRIVE
[SWITCH(1)BOARD(1/2)]
SIGNAL STRENGTH
D601–603 TLUG163
Q301,302 2SC1364 AM B+ SWITCH
AM FERRITE-ROD ANTENNA
D301 KV1226 TUNING
Q401 2SK30A-GR3
Q402 2SC1624B ACTIVE FILTER
IC401 CX778A PLL
D401 SV02
PHASE DET
REFFERENCE COUNTER
COUNTER
PROGRAMMABLE COUNTER
SHIFT REGISTER
OSC
IC501 TCP4621BP-6505 CONTROL
PLL DATA TRANSFER BUFFER CIRCUIT
CONTROL CIRCUIT
RECEIVING FREQUENCY MEMORY
FREQUENCY DATA ADD/SUBTRACT CIRCUIT
RECEIVING FREQUENCY DISPLAY MEMORY
TIMING GENERATOR
KEY DOUBLE PUSHING CHATTERING PREVENTION CIRCUIT
DIGIT SCANNING CIRCUIT TIMING GENERATOR
RECEIVING FREQUENCY DISPLAY CONTROL CIRCUIT
FLUORESCENT DISPLAY CONTROL CIRCUIT
SW DATA IN
DIGIT OUT
7 SEG. DISPLAY DATA OUT
[SWITCH(1)BOARD(1/2)]
D513–516 1S1555
S501 FM/AM
S502 MEMORY
S504 MEMORY SCAN
S506 TUNING +
S503 STEREO /MUTING
S505 TUNING –
Q103 2SC1364 LOCK SWITCH
Q501 2SC1364 CPU STOP
Q510 2SA733 STEREO/MONO SWITCH
Q503 2SA733 LINE MUTE
D505 SV03
BA501 BATTERY 3V
S902 AM CH
[SWITCH(2)BOARD]
D509,511 1S1555
D508,510 1S1555
FM IF OFFSET



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 ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation.
- : adjustment for repair.
- ——: B+ bus.
- ——: B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50kΩ/V).
  No Mark: FM
  ( ): AM
- Voltage variations may be noted due to normal production tolerances.
- Switch

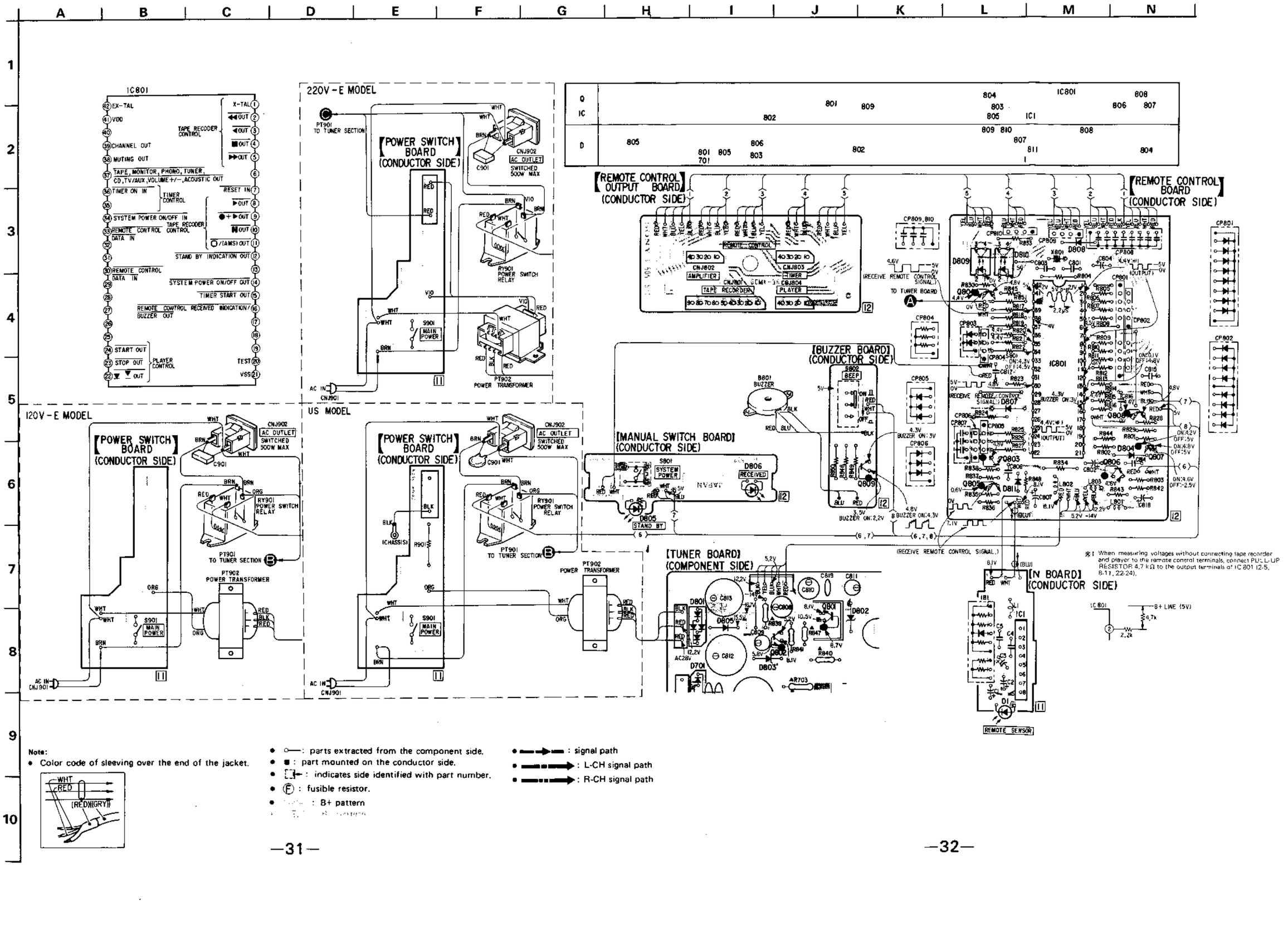
Ref. No.	Switch	Position
S501	FM/AM	OFF
S502	MEMORY	OFF
S503	STEREO/MUTING	OFF
S504	MEMORY SCAN	OFF
S505	TUNING +	OFF
S506	TUNING —	OFF
S507	1	OFF
S508	2	OFF
S509	3	OFF
S510	4	OFF
S511	5	OFF
S512	6	OFF
S513	7	OFF
S514	8	OFF
S801	SYSTEM POWER	OFF
S802	BEEP	ON
S901	MAIN POWER	OFF

Note: Voltages are measured with a VOM (50kΩ/V).

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

4-4. MOUNTING DIAGRAM

– REMOTE CONTROL/POWER SUPPLY SECTION –



※ When measuring voltages without connecting tape recorder and player to the remote control terminals, connect PULL-UP RESISTOR 4.7 kΩ to the output terminals of IC 801 (2-5, 8-11, 22-24).

Note:

- Color code of sleeving over the end of the jacket.

- ○—: parts extracted from the component side.
- ■: part mounted on the conductor side.
- [ ]—: indicates side identified with part number.
- Ⓕ: fusible resistor.
- : 8+ pattern
- ▬▶▬: signal path
- ▬▶▬: L-CH signal path
- ▬▶▬: R-CH signal path

4-5. SCHEMATIC DIAGRAM

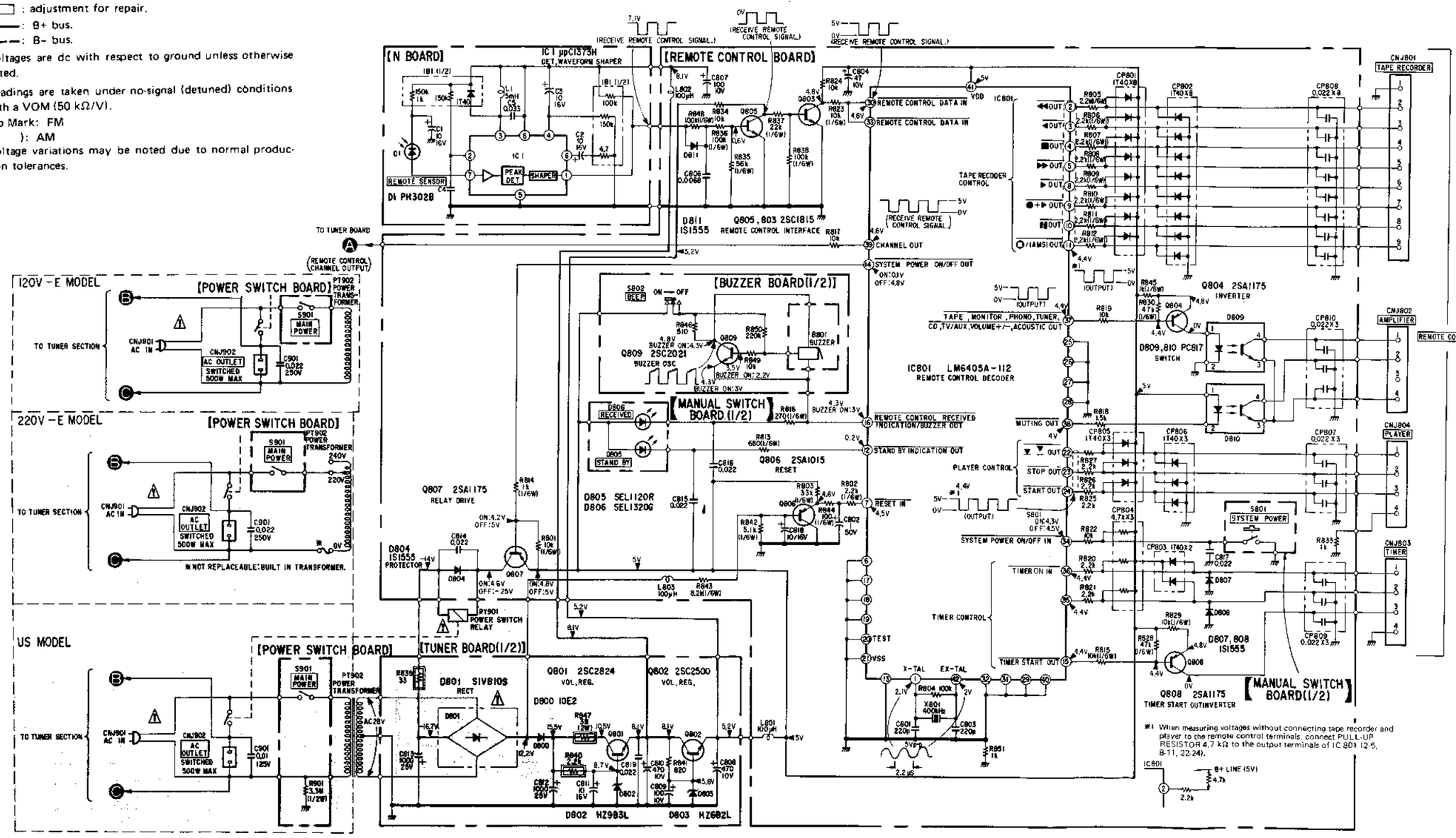
– REMOTE CONTROL/POWER SUPPLY SECTION –

Note:

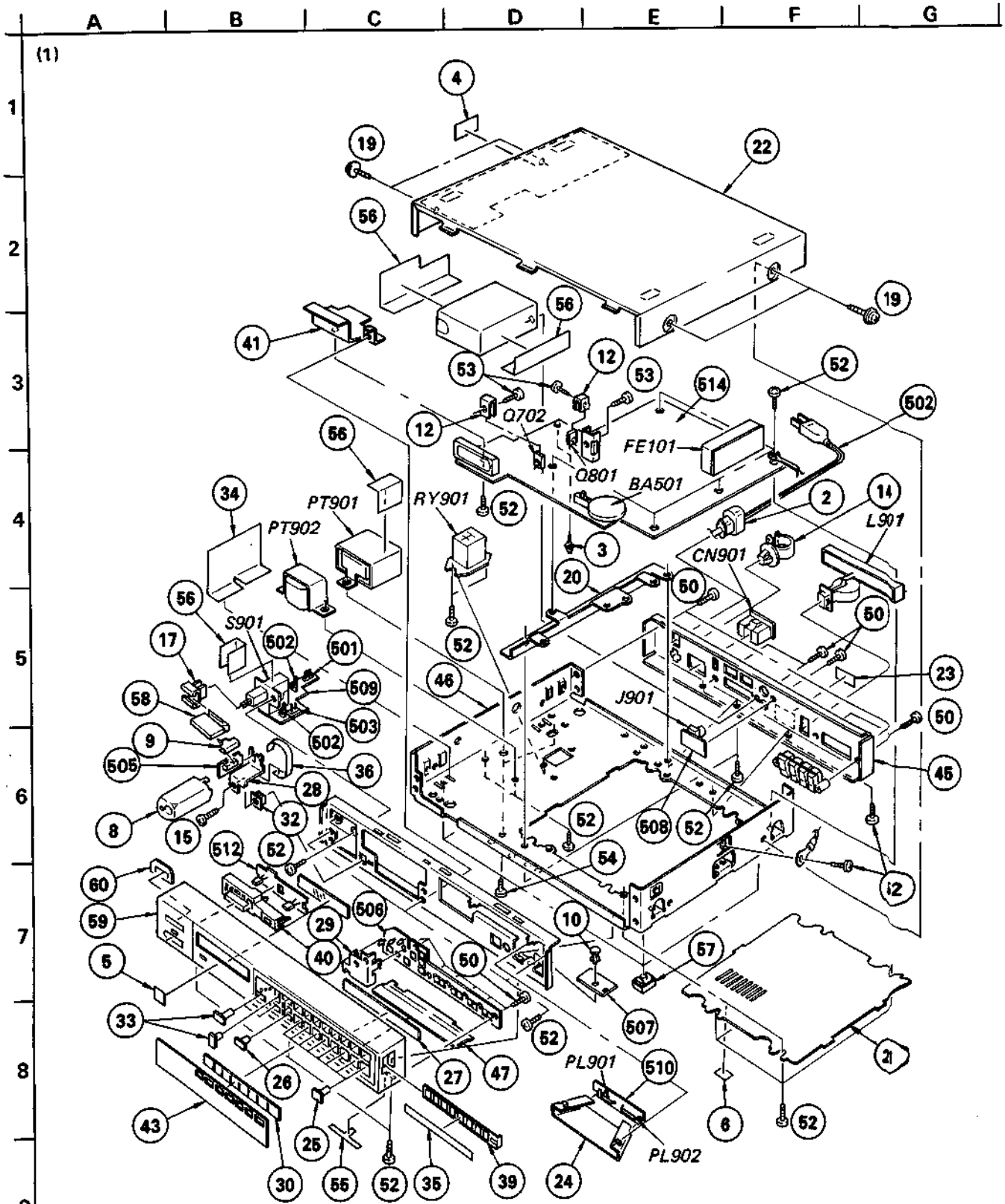
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation.
- : adjustment for repair.
- : B+ bus.
- : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 kΩ/V).
  No Mark: FM
  ( ): AM
- Voltage variations may be noted due to normal production tolerances.

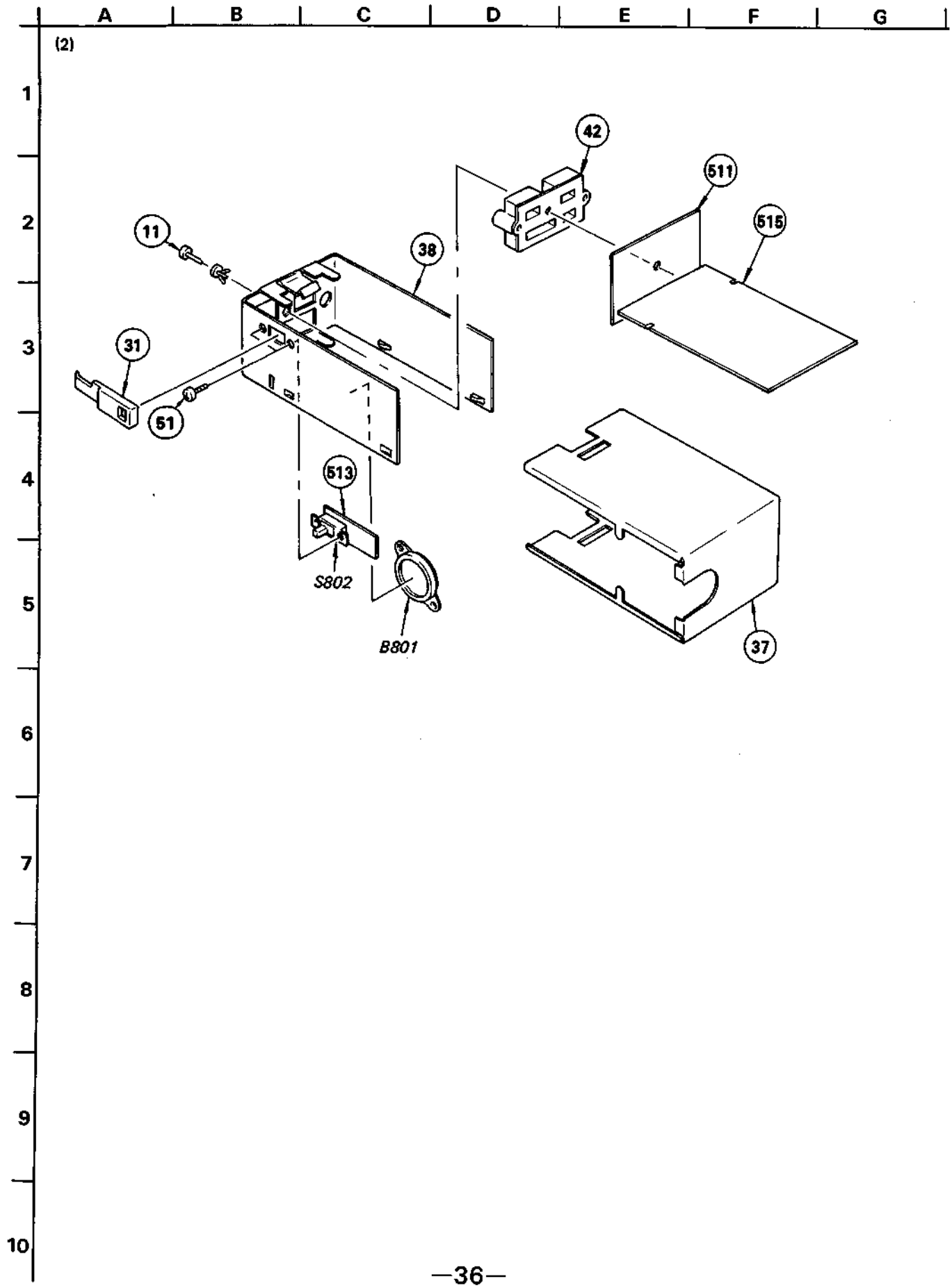
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Voltages are measured with a VOM (50kΩ/V).



SECTION 5
EXPLODED VIEWS AND PARTS LIST




A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
(2)
42
511
515
11
38
31
51
513
S802
B801
37

GENERAL SECTION

No.	Part No.	Description
1	.....	
2	3-703-244-00	BUSHING, CORD
3 ♦	3-703-353-02	SUPPORT, PC BOARD
4 ♦	3-703-677-00	(US)...LABEL, CAUTION, MAIN NEW UL
5	3-703-713-01	STICKER, SONY SYMBOL (10)
6 ♦	3-703-680-00	(US)...LABEL, CAUTION, SUB, NEW UL
7	.....	
8 ♦	4-342-117-00	CASE, SHIELD (MAIN), R
9 ♦	4-348-551-00	PLATE, SHIELD
10	4-812-134-00	RIVET NYLON, 3.5
11	4-812-134-11	RIVET NYLON, 3.5
12 ♦	4-866-080-00	HEAT SINK
13	.....	
14	4-869-217-00	CLIP, CORD
15	4-874-614-31	SCREW, TAPPING, BV (+) (3.5)
16 ♦	4-875-327-01	HEAT SINK
17	4-875-466-00	JOINT (F2), KNOB
18	.....	
19	4-886-821-11	SCREW, M3 CASE
20 ♦	4-886-836-00	CHANNEL
21 ♦	4-886-844-01	PLATE, BOTTOM
22	4-886-845-11	TOP COVER
23	4-886-902-00	(US).....LABEL, MODEL NUMBER
23	4-886-906-00	(220V-E)...LABEL, MODEL NUMBER
23	4-888-220-00	(120V-E)...LABEL, MODEL NUMBER
24 ♦	4-886-917-00	HOUSE, LAMP
25 ♦	4-886-918-00	PUSH BLOCK (A)
26 ♦	4-886-919-00	PUSH BLOCK (B)
27 ♦	4-886-920-00	ILLUMINATOR
28 ♦	4-886-921-00	LID, SHIELD CASE
29 ♦	4-886-922-00	HOLDER, LED
30	4-886-923-00	ESCUTCHEON, INDICATION PLATE
31	4-886-924-00	LINK, BUZZER
32 ♦	4-886-925-00	GROMMET
33 ♦	4-886-926-00	PUSH BLOCK (C)
34 ♦	4-886-927-00	INSULATOR (A)
35	4-886-932-00	LABEL (E), INDICATOR
36 ♦	4-886-934-00	INSULATOR (H)
37 ♦	4-886-936-00	CASE (A), SHIELD
38 ♦	4-886-937-00	CASE (B), SHIELD
39	4-886-938-00	HOLDER, INDICATION PLATE
40	4-886-939-00	KNOB, SYSTEM
41 ♦	4-886-940-00	HOLDER, TUBE, INDICATION
42	4-886-944-00	HOLDER, CONNECTOR
43	4-886-942-00	SHEET, FUNCTION
44 ♦	4-886-946-00	PANEL, SUB

GENERAL SECTION

No.	Part No.	Description
45 ♦	4-886-948-11	(US)...PLATE, JACK
45 ♦	4-886-948-41	(E)....PLATE, JACK
46 ♦	4-886-953-01	CHASSIS
47 ♦	4-886-974-00	PLATE, SHIELD
48	7-685-104-14	TOTSU PTPWH 2X6 NON-SLIT, TYPE2
49	7-685-646-01	SCREW +BVTP 3X8 TYPE1
50	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S
51	7-685-853-01	SCREW +BVTT 2X6 (S)
52	7-685-871-01	SCREW +BVTT 3X6 (S)
53	7-685-872-01	SCREW +BVTT 3X8 (S)
54	7-685-881-01	SCREW +BVTT 4X8 (S)
55	4-886-935-00	LABEL, 9K-10K
56	9-911-863-XX	INSULATOR (B)
57	X-4886-405-1	FOOT ASSY
58	X-4886-904-0	KNOB (M.P) ASSY, POWER
59	X-4886-906-1	PANEL ASSY
60	4-886-976-00	ESCUTCHEON, POWER KNOB

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- 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 numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101	1-501-161-00	ANTENNA,FEEDER
102	1-526-565-00	(220V-E)....AC PLUG ADAPTOR
103	1-556-372-21	CORD, CONNECTION (4 CORE)
104	1-556-372-31	CORD, CONNECTION (4 CORE)
105	1-556-783-00	CORD, CONNECTION 9P
106	1-556-793-21	CORD, CONNECTION
107	2-375-002-00	SLIDER
108	2-375-012-00	BAG, POLYETHYLENE
109	3-701-630-00	BAG, POLYETHYLENE
110	3-703-390-01	(US)....INSTRUCTION
111	3-773-302-11	(E).....MANUAL, INSTRUCTION
112	3-773-302-21	(US)....MANUAL, INSTRUCTION
113 ♦	4-875-574-00	SHEET PROTECTION
114	4-886-969-00	(E)....LABEL (F2), INDICATOR
115	4-886-970-00	(E)....LABEL (A9), INDICATOR
116	4-886-971-00	(US)....LABEL (A10), INDICATOR
117	4-886-973-00	(US)....LABEL (F1), INDICATOR
118	4-886-991-00	(E).....SPACER
119	4-886-997-00	CUSHION (RIGHT-E), UPPER
120	4-886-998-00	CUSHION (LEFT-E), UPPER
121	4-886-999-00	CUSHION (RIGHT-E), LOWER
122	4-888-044-00	(220V-E)...LABEL, CAUTION
123	4-888-045-00	(120V-E)...LABEL, CAUTION
124	4-888-201-00	CUSHION (LEFT-E), LOWER
125	4-888-202-00	INDIVIDUAL CARTON
126	4-888-219-00	SPACER, FERRITE-ROD ANTENNA
127	A-4372-011-A	COMMANDER ASSY

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
⚠501 ♦	;1-535-135-00	BASE POST 14MM (10MM PITCH)			
⚠502 ♦	;1-535-416-00	TERMINAL			
⚠503 ♦	;1-535-444-00	TERMINAL			
504 ⚠	;1-554-472-00	(E).....CORD, POWER			
504 ⚠	;1-561-628-00	(US).....CORD, POWER			
505 ♦	;1-603-976-00	PC BOARD, N			
506 ♦	;1-609-561-00	PC BOARD, S-1			
507 ♦	;1-609-564-00	PC BOARD, S-2			
508 ♦	;1-609-565-00	PC BOARD, OUTPUT			
[illegible]	;1-609-566-[illegible]	PC [illegible]			
510 ♦	;1-609-567-00	PC BOARD, LAMP			
511 ♦	;1-609-571-00	PC BOARD, R OUTPUT			
512 ♦	;1-609-572-00	PC BOARD, M SWITCH			
513 ♦	;1-609-573-00	PC BOARD, B			
514 ♦	;A-4351-339-A	(US)...MOUNTED PCB, TUNER			
514 ♦	;A-4351-341-A	(E)....MOUNTED PCB, TUNER			
515 ♦	;A-4409-714-A	MOUNTED PCB, REMOTE CONTROL			
B801	1-529-014-00	BUZZER, PIEZOELECTRIC			
BA501	1-528-120-00	BATTERY, LITHIUM (CR-2025)			
C1	1-123-617-00	ELECT	10MF	20%	16V
C2	1-123-617-00	ELECT	10MF	20%	16V
C3	1-123-617-00	ELECT	10MF	20%	16V
C4	1-161-019-00	CERAMIC	0.033MF	10%	25V
C5	1-108-567-00	MYLAR	0.0033MF	5%	50V
C101	1-101-005-00	CERAMIC	0.022MF		50V
C102	1-123-319-00	ELECT	47MF	20%	16V
C103	1-161-494-00	CERAMIC	0.022MF	30%	25V
C104	1-161-494-00	CERAMIC	0.022MF	30%	25V
C105	1-161-494-00	CERAMIC	0.022MF	30%	25V
C106	1-161-494-00	CERAMIC	0.022MF	30%	25V
C107	1-161-494-00	CERAMIC	0.022MF	30%	25V
C108	1-161-494-00	CERAMIC	0.022MF	30%	25V
C109	1-161-494-00	CERAMIC	0.022MF	30%	25V
C110	1-123-356-00	ELECT	10MF	20%	16V
C111	1-161-265-00	CERAMIC	33PF	5%	50V
C112	1-123-354-00	ELECT	3.3MF	20%	50V
C113	1-161-494-00	CERAMIC	0.022MF	30%	25V
C114	1-123-607-00	ELECT	0.1MF	20%	50V
C115	1-161-494-00	CERAMIC	0.022MF	30%	25V
C117	1-161-494-00	CERAMIC	0.022MF	30%	25V
C118	1-161-494-00	CERAMIC	0.022MF	30%	25V
C119	1-123-320-00	ELECT	100MF	20%	16V
C120	1-161-494-00	CERAMIC	0.022MF	30%	25V

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- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C201	1-123-323-00	ELECT	470MF	20%	16V
C202	1-123-380-00	ELECT	1MF	20%	50V
C203	1-108-246-00	MYLAR	0.047MF	10%	50V
C204	1-123-353-00	ELECT	2.2MF	20%	50V
C205	1-123-354-00	ELECT	3.3MF	20%	50V
C206	1-104-077-00	POLYSTYRENE	0.001MF	5%	50V
C207	1-123-380-00	ELECT	1MF	20%	50V
C209	1-123-356-00	ELECT	10MF	20%	16V
C211	1-108-239-00	MYLAR	0.01MF	10%	50V
C212	1-104-071-00	(E)....CAP, STYROL	560PF	5%	50V
C212	1-104-075-00	(US)...POLYSTYRENE	820PF	5%	50V
C213	1-123-354-00	ELECT	3.3MF	20%	50V
C215	1-123-354-00	ELECT	3.3MF	20%	50V
C261	1-108-239-00	MYLAR	0.01MF	10%	50V
C262	1-104-075-00	(US)...POLYSTYRENE	820PF	5%	50V
C262	1-104-071-00	(E)....CAP, STYROL	560PF	5%	50V
C263	1-123-354-00	ELECT	3.3MF	20%	50V
C265	1-123-354-00	ELECT	3.3MF	20%	50V
C301	1-101-005-00	CERAMIC	0.022MF		50V
C302	1-101-005-00	CERAMIC	0.022MF		50V
C303	1-101-005-00	CERAMIC	0.022MF		50V
C305	1-161-259-00	CERAMIC	10PF	5%	50V
C306	1-103-716-00	POLYSTYRENE	430PF	5%	50V
C307	1-161-494-00	CERAMIC	0.022MF	30%	25V
C308	1-161-494-00	CERAMIC	0.022MF	30%	25V
C309	1-161-494-00	CERAMIC	0.022MF	30%	25V
C310	1-161-494-00	CERAMIC	0.022MF	30%	25V
C311	1-123-319-00	ELECT	47MF	20%	16V
C312	1-161-267-00	CERAMIC	47PF	5%	50V
C313	1-123-380-00	ELECT	1MF	20%	50V
C314	1-161-494-00	CERAMIC	0.022MF	30%	25V
C315	1-123-356-00	ELECT	10MF	20%	16V
C316	1-123-354-00	ELECT	3.3MF	20%	50V
C317	1-123-351-00	ELECT	0.47MF	20%	50V
C319	1-161-323-00	CERAMIC	0.001MF	10%	50V
C320	1-161-494-00	CERAMIC	0.022MF	30%	25V
C321	1-161-494-00	CERAMIC	0.022MF	30%	25V
C322	1-108-237-00	MYLAR	0.0068MF	10%	50V
C323	1-123-317-00	ELECT	22MF	20%	16V
C324	1-123-319-00	ELECT	47MF	20%	16V
C335	1-161-494-00	CERAMIC	0.022MF	30%	25V
C336	1-123-356-00	ELECT	10MF	20%	16V
C401	1-101-005-00	CERAMIC	0.022MF		50V
C403	1-123-607-00	ELECT	0.1MF	20%	50V
C404	1-101-005-00	CERAMIC	0.022MF		50V
C405	1-123-351-00	ELECT	0.47MF	20%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C406	1-161-494-00	CERAMIC	0.022MF	30%	25V
C407	1-123-306-00	ELECT	47MF	20%	10V
C408	1-161-323-00	CERAMIC	0.001MF	10%	50V
C409	1-161-494-00	CERAMIC	0.022MF	30%	25V
C410	1-161-494-00	CERAMIC	0.022MF	30%	25V
C411	1-161-267-00	CERAMIC	47PF	5%	50V
C412	1-102-522-00	CERAMIC	51PF	5%	50V
C413	1-102-522-00	CERAMIC	51PF	5%	50V
C414	1-101-005-00	CERAMIC	0.022MF		50V
C415	1-123-359-00	ELECT	47MF	20%	35V
C416	1-123-607-00	ELECT	0.1MF	20%	50V
C417	1-123-351-00	ELECT	0.47MF	20%	50V
C418	1-123-351-00	ELECT	0.47MF	20%	50V
C419	1-101-005-00	CERAMIC	0.022MF		50V
C420	1-101-005-00	CERAMIC	0.022MF		50V
C501	1-123-356-00	ELECT	10MF	20%	16V
C502	1-123-369-00	ELECT	4.7MF	20%	50V
C503	1-161-494-00	CERAMIC	0.022MF	30%	25V
C504	1-123-380-00	ELECT	1MF	20%	50V
C515	1-123-607-00	ELECT	0.1MF	20%	50V
C601	1-123-380-00	ELECT	1MF	20%	50V
C602	1-161-494-00	CERAMIC	0.022MF	30%	25V
[illegible]					
C702	1-123-319-00	ELECT	47MF	20%	16V
C703	1-123-323-00	ELECT	470MF	20%	16V
C704	1-123-295-00	ELECT	100MF	20%	6.3V
C705	1-123-295-00	ELECT	100MF	20%	6.3V
[illegible]					
C707	1-123-359-00	ELECT	47MF	20%	35V
C708	1-123-359-00	ELECT	47MF	20%	35V
C709	1-123-359-00	ELECT	47MF	20%	35V
[illegible]					
C711	1-123-359-00	ELECT	47MF	20%	35V
C712	1-123-359-00	ELECT	47MF	20%	35V
C801	1-102-110-00	CERAMIC	220PF	10%	50V
C802	1-123-380-00	ELECT	1MF	20%	50V
C803	1-102-110-00	CERAMIC	220PF	10%	50V
C804	1-123-306-00	ELECT	47MF	20%	10V
C806	1-108-237-00	MYLAR	0.0068MF	10%	50V
C807	1-123-474-00	ELECT	100MF	20%	10V
C808	1-123-477-00	ELECT	470MF	20%	10V
C809	1-123-474-00	ELECT	100MF	20%	10V
C810	1-123-477-00	ELECT	470MF	20%	10V
C811	1-123-356-00	ELECT	10MF	20%	16V
[illegible]					

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- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS

- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SEMICONDUCTORS

In each case, U : μ, for example: UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C813	1-123-498-00	ELECT	1000MF	20%	25V
C814	1-101-005-00	CERAMIC	0.022MF		50V
C815	1-101-005-00	CERAMIC	0.022MF		50V
C816	1-101-005-00	CERAMIC	0.022MF		50V
C817	1-101-005-00	CERAMIC	0.022MF		50V
C818	1-101-005-00	CERAMIC	0.022MF		50V
C901 ⚠	1-130-456-00	(E)...CAP, FILM	0.022MF	20%	250V
C901 ⚠	1-161-749-00	(US)...CAP, CERAMIC	10000PF		125V
CF101	1-527-964-00	FILTER, CERAMIC			
CF102	1-527-964-00	FILTER, CERAMIC			
CF103	1-527-964-00	FILTER, CERAMIC			
CF301	1-527-937-00	FILTER, CERAMIC			
CF302	1-527-981-00	FILTER, CERAMIC			
CN101	1-536-705-41	TERMINAL BOARD (SP)			
♦CNJ501	1-560-060-00	PIN, CONNECTOR 2P			
♦CNJ502	1-560-062-00	PIN, CONNECTOR 4P			
♦CNJ503	1-560-063-00	PIN, CONNECTOR 5P			
♦CNJ504	1-560-065-00	PIN, CONNECTOR 8P			
♦CNJ801	1-560-263-00	CONNECTOR PIN 9P			
♦CNJ802	1-560-039-00	PIN, CONNECTOR			
⚠♦CNJ803	1-560-039-00	PIN, CONNECTOR			
⚠♦CNJ804	1-560-039-00	PIN, CONNECTOR			
⚠ CNJ902	1-526-609-00	CONNECTOR, AC OUTLET			
CP502	1-231-849-00	COMPOSITION CIRCUIT BLOCK			
⚠ CP701	1-102-394-00	CERAMIC			250V
⚠ CP702	1-102-394-00	CERAMIC			250V
⚠ [illegible]	[illegible]	[illegible]			
CP803	1-231-908-00	COMPOSITION CIRCUIT BLOCK			
CP804	1-231-810-00	COMPOSITION CIRCUIT BLOCK			
CP805	1-232-256-00	COMPOSITION CIRCUIT BLOCK			
CP806	1-232-096-00	COMPOSITION CIRCUIT BLOCK			
CT301	1-141-180-00	CAP, TRIMMER 15P			
CT302	1-141-171-00	CAP, TRIMMER 20P			
D101	8-719-815-55	DIODE 1S1555			
D102	8-719-815-55	DIODE 1S1555			
D301	8-719-912-27	DIODE KV1226			
D302	8-719-912-27	DIODE KV1226			
D303	8-719-912-27	DIODE KV1226			
D401	8-719-300-02	DIODE SV02			
D402	8-719-300-02	DIODE SV02			
D501	8-719-815-55	DIODE 1S1555			
D502	8-719-815-55	DIODE 1S1555			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D503	8-719-815-55	DIODE 1S1555
D504	8-719-815-55	DIODE 1S1555
D505	8-719-300-03	DIODE SV03
D506	8-719-815-55	DIODE 1S1555
D507	8-719-815-55	DIODE 1S1555
D508	8-719-815-55	DIODE 1S1555
D509	8-719-815-55	DIODE 1S1555
D510	8-719-815-55	DIODE 1S1555
D511	8-719-815-55	DIODE 1S1555
D513	8-719-815-55	DIODE 1S1555
D514	8-719-815-55	DIODE 1S1555
D515	8-719-815-55	DIODE 1S1555
D516	8-719-815-55	DIODE 1S1555
D517	8-719-815-55	DIODE 1S1555
D601	8-719-800-14	DIODE TLUG163
D602	8-719-800-14	DIODE TLUG163
D603	8-719-800-14	DIODE TLUG163
[illegible]	[illegible]	[illegible]
D702	8-719-910-68	DIODE HZ6C2L
D703	8-719-901-62	DIODE HZ16-2L
D704 ⚠	8-719-200-02	DIODE 10E2
D705 ⚠	8-719-200-02	DIODE 10E2
D706	8-719-913-02	DIODE HZ30-2L
D707	8-719-913-02	DIODE HZ30-2L
[illegible]	[illegible]	[illegible]
D800	8-719-200-02	DIODE 10E2
D801	8-719-511-20	DIODE S1VB20
D802	8-719-910-96	DIODE HZ9B3L
D803	8-719-910-68	DIODE HZ6B2L
D804	8-719-815-55	DIODE 1S1555
D805	8-719-311-20	DIODE SEL1120R
D806	8-719-313-20	DIODE SEL1320G
D807	8-719-815-55	DIODE 1S1555
D808	8-719-815-55	DIODE 1S1555
D809	8-719-902-56	DIODE PC817
D810	8-719-902-56	DIODE PC817
D811	8-719-815-55	DIODE 1S1555
D834	8-719-110-32	DIODE PH302B
D836	8-719-200-02	DIODE 10E2
D904	8-719-311-20	DIODE SEL1120R
D905	8-719-313-20	DIODE SEL1320G
FE101	A-4344-031-A	FM FRONTEND

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- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
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- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC ···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description
FL501	1-519-263-00	INDICATOR TUBE, FLUORESCENT
IB1	1-232-004-00	COMPOSITION CIRCUIT BLOCK
IC101	8-759-812-35	IC LA1235
IC201	8-759-833-90	IC LA3390
IC301	8-759-812-45	IC LA1245
IC401	8-759-617-78	IC CX778A
IC501	8-759-201-26	IC TC4621BP-6505
IC601	8-759-904-89	IC TL489CP
IC801	8-759-800-50	IC LM6405A-112
IC802	8-759-113-73	IC UPC1373H
IFT101	1-404-327-00	TRANSFORMER, DISCRIMINATOR
IFT102	1-404-328-00	TRANSFORMER, DISCRIMINATOR
IFT301	1-404-413-00	TRANSFORMER, IF
J901	1-507-843-00	JACK, PIN 2P
L1	1-404-310-00	COIL
L101	1-404-310-00	COIL
L301	1-407-177-XX	MICRO INDUCTOR 470UH
L302	1-407-171-XX	MICRO INDUCTOR 150UH
L303	1-407-173-XX	MICRO INDUCTOR 220UH
L401	1-407-157-XX	MICRO INDUCTOR 10UH
L801	1-407-169-XX	MICRO INDUCTOR 100UH
L802	1-407-169-XX	MICRO INDUCTOR 100UH
L803	1-407-169-XX	MICRO INDUCTOR 100UH
L901	1-402-012-00	ANTENNA, FERRITE-ROD (MW)
LPF201	1-235-164-00	FILTER, LOW PASS
LPF251	1-235-164-00	FILTER, LOW PASS
PL901	1-518-466-00	LAMP, PILOT
PL902	1-518-466-00	LAMP, PILOT
⚠PT901	1-447-500-00	(US,120V-E)...TRANSFORMER, POWER
⚠PT901	1-447-501-00	(220V-E).....TRANSFORMER, POWER
⚠PT902	1-447-503-00	(US,120V-E)...TRANSFORMER, POWER
⚠PT902	1-447-504-00	(220V-E).....TRANSFORMER, POWER
Q101	8-729-671-14	TRANSISTOR 2SC710-14
Q102	8-729-671-14	TRANSISTOR 2SC710-14
Q103	8-729-663-47	TRANSISTOR 2SC1364
Q201	8-729-663-47	TRANSISTOR 2SC1364
Q202	8-729-663-47	TRANSISTOR 2SC1364
Q301	8-729-663-47	TRANSISTOR 2SC1364
Q302	8-729-663-47	TRANSISTOR 2SC1364
Q401	8-729-203-04	TRANSISTOR 2SK30A
Q402	8-729-665-47	TRANSISTOR 2SC1362
Q403	8-729-663-47	TRANSISTOR 2SC1364
Q501	8-729-663-47	TRANSISTOR 2SC1364
Q502	8-729-663-47	TRANSISTOR 2SC1364

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q503	8-729-612-77	TRANSISTOR 2SA1027R
Q504	8-729-663-47	TRANSISTOR 2SC1364
Q505	8-729-663-47	TRANSISTOR 2SC1364
Q506	8-729-663-47	TRANSISTOR 2SC1364
Q507	8-729-663-47	TRANSISTOR 2SC1364
Q508	8-729-663-47	TRANSISTOR 2SC1364
Q509	8-729-663-47	TRANSISTOR 2SC1364
Q510	8-729-612-77	TRANSISTOR 2SA1027R
Q701	8-729-288-02	TRANSISTOR 2SD880
Q702	8-729-180-93	TRANSISTOR 2SD809
Q703	8-729-177-43	TRANSISTOR 2SD774
Q704	8-729-103-43	TRANSISTOR 2SB734
Q801	8-729-282-42	TRANSISTOR 2SC2824
Q802	8-729-200-02	TRANSISTOR 2SC2500
Q803	8-729-663-47	TRANSISTOR 2SC1364
Q804	8-729-201-52	TRANSISTOR 2SA1015
Q805	8-729-663-47	TRANSISTOR 2SC1364
Q806	8-729-201-52	TRANSISTOR 2SA1015
Q807	8-729-201-52	TRANSISTOR 2SA1015
Q808	8-729-201-52	TRANSISTOR 2SA1015
Q809	8-729-902-11	TRANSISTOR 2SC2021

R101	1-246-460-00	CARBON	300	5%	1/4W
R102	1-246-461-00	CARBON	330	5%	1/4W
R103	1-246-461-00	CARBON	330	5%	1/4W
R104	1-246-505-00	CARBON	22K	5%	1/4W
R105	1-246-505-00	CARBON	22K	5%	1/4W
R106	1-246-477-00	CARBON	1.5K	5%	1/4W
R107	1-246-461-00	CARBON	330	5%	1/4W
R108	1-246-461-00	CARBON	330	5%	1/4W
R109	1-246-505-00	CARBON	22K	5%	1/4W
R110	1-246-505-00	CARBON	22K	5%	1/4W
R111	1-246-477-00	CARBON	1.5K	5%	1/4W
R112	1-246-461-00	CARBON	330	5%	1/4W
R113	1-246-461-00	CARBON	330	5%	1/4W
R114	1-246-521-00	CARBON	100K	5%	1/4W
R115	1-246-485-00	CARBON	3.3K	5%	1/4W
R117	1-246-515-00	CARBON	56K	5%	1/4W
R118	1-246-513-00	CARBON	47K	5%	1/4W
R119⚠	1-247-109-00	CARBON	12Ω	5%	1/4W F
R120	1-246-501-00	CARBON	15K	5%	1/4W
R121	1-246-497-00	CARBON	10K	5%	1/4W
R122	1-246-481-00	CARBON	2.2K	5%	1/4W
R124	1-246-505-00	CARBON	22K	5%	1/4W
R125	1-246-505-00	CARBON	22K	5%	1/4W
R126	1-246-497-00	CARBON	10K	5%	1/4W

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- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R127 ⚠	1-247-109-00	CARBON	120	5%	1/4W F
R201 ⚠	1-247-109-00	CARBON	120	5%	1/4W F
R202	1-246-513-00	CARBON	47K	5%	1/4W
R203	1-246-509-00	CARBON	33K	5%	1/4W
R204	1-246-473-00	CARBON	1K	5%	1/4W
R205	1-214-755-00	METAL	12K	1%	1/4W
R206	1-246-505-00	CARBON	22K	5%	1/4W
R207	1-246-529-00	CARBON	220K	5%	1/4W
R209	1-246-485-00	CARBON	3.3K	5%	1/4W
R210	1-246-481-00	CARBON	2.2K	5%	1/4W
R211	1-246-425-00	CARBON	10	5%	1/4W
R212	1-246-519-00	CARBON	82K	5%	1/4W
R213	1-246-473-00	CARBON	1K	5%	1/4W
R214	1-246-481-00	CARBON	2.2K	5%	1/4W
R215	1-246-485-00	CARBON	3.3K	5%	1/4W
R216	1-246-489-00	CARBON	4.7K	5%	1/4W
R217	1-246-473-00	CARBON	1K	5%	1/4W
R261	1-246-425-00	CARBON	10	5%	1/4W
R262	1-246-519-00	CARBON	82K	5%	1/4W
R263	1-246-473-00	CARBON	1K	5%	1/4W
R264	1-246-481-00	CARBON	2.2K	5%	1/4W
R265	1-246-485-00	CARBON	3.3K	5%	1/4W
R266	1-246-489-00	CARBON	4.7K	5%	1/4W
R267	1-246-473-00	CARBON	1K	5%	1/4W
R301	1-244-891-00	CARBON	5.6K	5%	1/2W
R302	1-246-535-00	CARBON	390K	5%	1/4W
R303	1-246-521-00	CARBON	100K	5%	1/4W
R304	1-246-477-00	CARBON	1.5K	5%	1/4W
R305	1-246-481-00	CARBON	120	5%	1/4W
R306	1-246-469-00	CARBON	680	5%	1/4W
R307	1-246-473-00	CARBON	1K	5%	1/4W
R308	1-246-491-00	CARBON	5.6K	5%	1/4W
R309	1-246-497-00	CARBON	10K	5%	1/4W
R310	1-246-497-00	CARBON	10K	5%	1/4W
R311	1-246-442-00	CARBON	51	5%	1/4W
R312	1-246-449-00	CARBON	100	5%	1/4W
R313	1-246-485-00	CARBON	3.3K	5%	1/4W
R314	1-246-497-00	CARBON	10K	5%	1/4W
R315	1-246-497-00	CARBON	10K	5%	1/4W
R316	1-246-481-00	CARBON	2.2K	5%	1/4W
R317	1-246-505-00	CARBON	22K	5%	1/4W
R318	1-246-507-00	CARBON	27K	5%	1/4W
R319	1-246-529-00	CARBON	220K	5%	1/4W
R320	1-246-535-00	CARBON	390K	5%	1/4W
R321	1-246-521-00	CARBON	100K	5%	1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R322	1-246-505-00	CARBON	22K	5%	1/4W
R323	1-246-505-00	CARBON	22K	5%	1/4W
R324	1-246-505-00	CARBON	22K	5%	1/4W
R325	1-246-505-00	CARBON	22K	5%	1/4W
R326	1-246-497-00	CARBON	10K	5%	1/4W
R327	1-246-545-00	CARBON	1M	5%	1/4W
R328	1-246-481-00	CARBON	2.2K	5%	1/4W
R401	1-244-945-00	CARBON	1M	5%	1/2W
R402	1-244-929-00	CARBON	220K	5%	1/2W
R403	1-244-897-00	CARBON	10K	5%	1/2W
R404	1-246-467-00	CARBON	560	5%	1/4W
R405	1-246-505-00	CARBON	22K	5%	1/4W
R406	1-246-489-00	CARBON	4.7K	5%	1/4W
R407	1-246-493-00	CARBON	6.8K	5%	1/4W
R408	1-246-493-00	CARBON	6.8K	5%	1/4W
R409	1-246-467-00	CARBON	560	5%	1/4W
R410	1-246-473-00	CARBON	1K	5%	1/4W
R411	1-246-489-00	CARBON	4.7K	5%	1/4W
R412	1-246-505-00	CARBON	22K	5%	1/4W
R413	1-246-505-00	CARBON	22K	5%	1/4W
R414	1-246-505-00	CARBON	22K	5%	1/4W
R415	1-247-893-00	CARBON	390K	5%	1/6W
R416	1-246-491-00	CARBON	5.6K	5%	1/4W
R417	1-246-493-00	CARBON	6.8K	5%	1/4W
R418	1-246-467-00	CARBON	560	5%	1/4W
R419	1-246-515-00	CARBON	56K	5%	1/4W
R420	1-246-473-00	CARBON	1K	5%	1/4W
R421	1-246-481-00	CARBON	2.2K	5%	1/4W
R422	1-246-481-00	CARBON	2.2K	5%	1/4W
R423	1-246-489-00	CARBON	4.7K	5%	1/4W
R501	1-246-489-00	CARBON	4.7K	5%	1/4W
R502	1-246-501-00	CARBON	15K	5%	1/4W
R503	1-246-521-00	CARBON	100K	5%	1/4W
R504	1-246-535-00	CARBON	390K	5%	1/4W
R505	1-246-491-00	CARBON	5.6K	5%	1/4W
R506	1-246-521-00	CARBON	100K	5%	1/4W
R507	1-246-497-00	CARBON	10K	5%	1/4W
R508	1-246-505-00	CARBON	22K	5%	1/4W
R509	1-246-505-00	CARBON	22K	5%	1/4W
R510	1-246-497-00	CARBON	10K	5%	1/4W
R511	1-246-509-00	CARBON	33K	5%	1/4W
R512	1-246-515-00	CARBON	56K	5%	1/4W
R513	1-246-501-00	CARBON	15K	5%	1/4W
R514	1-246-497-00	CARBON	10K	5%	1/4W
R515	1-246-521-00	CARBON	100K	5%	1/4W

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R516	1-246-505-00	CARBON	22K	5%	1/4W
R517	1-246-521-00	CARBON	100K	5%	1/4W
R518	1-246-497-00	CARBON	10K	5%	1/4W
R519	1-246-497-00	CARBON	10K	5%	1/4W
R520	1-246-497-00	CARBON	10K	5%	1/4W
R521	1-246-497-00	CARBON	10K	5%	1/4W
R522	1-246-497-00	CARBON	10K	5%	1/4W
R523	1-246-497-00	CARBON	10K	5%	1/4W
R524	1-246-497-00	CARBON	10K	5%	1/4W
R525	1-246-489-00	CARBON	4.7K	5%	1/4W
R602	1-246-521-00	CARBON	100K	5%	1/4W
R603	1-246-473-00	CARBON	1K	5%	1/4W
R604	1-246-473-00	CARBON	1K	5%	1/4W
R605	1-246-473-00	CARBON	1K	5%	1/4W
[illegible]					
R702	1-246-493-00	CARBON	6.8K	5%	1/4W
[illegible]					
R704	1-246-489-00	CARBON	4.7K	5%	1/4W
[illegible]					
R707	1-246-479-00	CARBON	1.8K	5%	1/4W
[illegible]					
R709	1-246-485-00	CARBON	3.3K	5%	1/4W
R801	1-247-855-00	CARBON	10K	5%	1/6W
R802	1-247-839-00	CARBON	2.2K	5%	1/6W
R803	1-247-867-00	CARBON	33K	5%	1/6W
R804	1-246-521-00	CARBON	100K	5%	1/4W
R805	1-247-839-00	CARBON	2.2K	5%	1/6W
R806	1-247-839-00	CARBON	2.2K	5%	1/6W
R807	1-247-839-00	CARBON	2.2K	5%	1/6W
R808	1-247-839-00	CARBON	2.2K	5%	1/6W
R809	1-247-839-00	CARBON	2.2K	5%	1/6W
R810	1-247-839-00	CARBON	2.2K	5%	1/6W
R811	1-247-839-00	CARBON	2.2K	5%	1/6W
R812	1-247-839-00	CARBON	2.2K	5%	1/6W
R813	1-247-827-00	CARBON	680	5%	1/6W
R814	1-247-831-00	CARBON	1K	5%	1/6W
R815	1-247-855-00	CARBON	10K	5%	1/6W
R816	1-247-817-00	CARBON	270	5%	1/6W
R817	1-246-497-00	CARBON	10K	5%	1/4W
R818	1-246-477-00	CARBON	1.5K	5%	1/4W
R819	1-246-497-00	CARBON	10K	5%	1/4W
R820	1-246-481-00	CARBON	2.2K	5%	1/4W
R821	1-246-481-00	CARBON	2.2K	5%	1/4W
R822	1-246-497-00	CARBON	10K	5%	1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R823	1-247-855-00	CARBON	10K	5%	1/6W
R824	1-246-497-00	CARBON	10K	5%	1/4W
R825	1-246-481-00	CARBON	2.2K	5%	1/4W
R826	1-246-481-00	CARBON	2.2K	5%	1/4W
R827	1-246-481-00	CARBON	2.2K	5%	1/4W
R828	1-247-871-00	CARBON	47K	5%	1/6W
R829	1-247-855-00	CARBON	10K	5%	1/6W
R830	1-247-871-00	CARBON	47K	5%	1/6W
R833	1-246-473-00	CARBON	1K	5%	1/4W
R834	1-246-497-00	CARBON	10K	5%	1/4W
R835	1-247-873-00	CARBON	56K	5%	1/6W
R836	1-247-879-00	CARBON	100K	5%	1/6W
R837	1-247-863-00	CARBON	22K	5%	1/6W
R838	1-247-879-00	CARBON	100K	5%	1/6W
[illegible]					
[illegible]					
R841	1-246-471-00	CARBON	820	5%	1/4W
R842	1-247-848-00	CARBON	5.1K	5%	1/6W
R843	1-247-853-00	CARBON	8.2K	5%	1/6W
R844	1-247-807-00	CARBON	100	5%	1/6W
R845	1-247-831-00	CARBON	1K	5%	1/6W
R846	1-246-466-00	CARBON	510	5%	1/4W
[illegible]					
R848	1-247-879-00	CARBON	100K	5%	1/6W
R849	1-246-497-00	CARBON	10K	5%	1/4W
R850	1-246-529-00	CARBON	220K	5%	1/4W
R851	1-246-473-00	CARBON	1K	5%	1/4W
[illegible]					
R902	1-246-445-00	CARBON	68	5%	1/4W
R903	1-246-445-00	CARBON	68	5%	1/4W
R904	1-246-445-00	CARBON	68	5%	1/4W
R905	1-246-445-00	CARBON	68	5%	1/4W
RT101	1-226-237-00	RES, ADJ, CARBON 20K			
RT102	1-226-238-00	RES, ADJ, CARBON 50K			
RT201	1-228-505-00	RES, ADJ, METAL GLAZE 10			
RT202	1-226-237-00	RES, ADJ, CARBON 20K			
[illegible]					
S501	1-554-303-00	SWITCH, KEY BOARD			
S502	1-554-303-00	SWITCH, KEY BOARD			
S503	1-554-303-00	SWITCH, KEY BOARD			
S504	1-554-303-00	SWITCH, KEY BOARD			
S505	1-554-303-00	SWITCH, KEY BOARD			
S506	1-554-303-00	SWITCH, KEY BOARD			
S507	1-554-303-00	SWITCH, KEY BOARD			
S508	1-554-303-00	SWITCH, KEY BOARD			
S509	1-554-303-00	SWITCH, KEY BOARD			

NOTE:
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- 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 numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S510	1-554-303-00	SWITCH, KEY BOARD
S511	1-554-303-00	SWITCH, KEY BOARD
S512	1-554-303-00	SWITCH, KEY BOARD
S513	1-554-303-00	SWITCH, KEY BOARD
S514	1-554-303-00	SWITCH, KEY BOARD
S801	1-554-303-00	SWITCH, KEY BOARD
S802	1-554-391-00	SWITCH, SLIDE
S901 ⚠	1-553-318-00	(E)...SWITCH, PUSH (AC POWER)
S901 ⚠	1-553-319-00	(US)...SWITCH, PUSH (AC POWER)
S902	1-552-430-00	SWITCH, SLIDE
T101	1-235-069-00	ENCAPSULATED COMPONENT (B.E.F)
T301	1-405-927-00	COIL, MW OSC
T302	1-405-914-00	COIL, LW OSC
X101	1-527-476-00	OSCILLATOR, CERAMIC
X401	1-527-731-00	OSCILLATOR, CRYSTAL
X801	1-527-532-00	OSCILLATOR, CERAMIC

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- MMH : mH, UH : μH

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UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

9-951-080-11
(with RM-V70)

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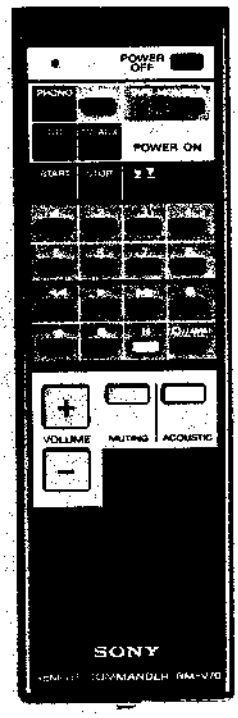
RM-V70

AEP Model
UK Model
US Model
E Model



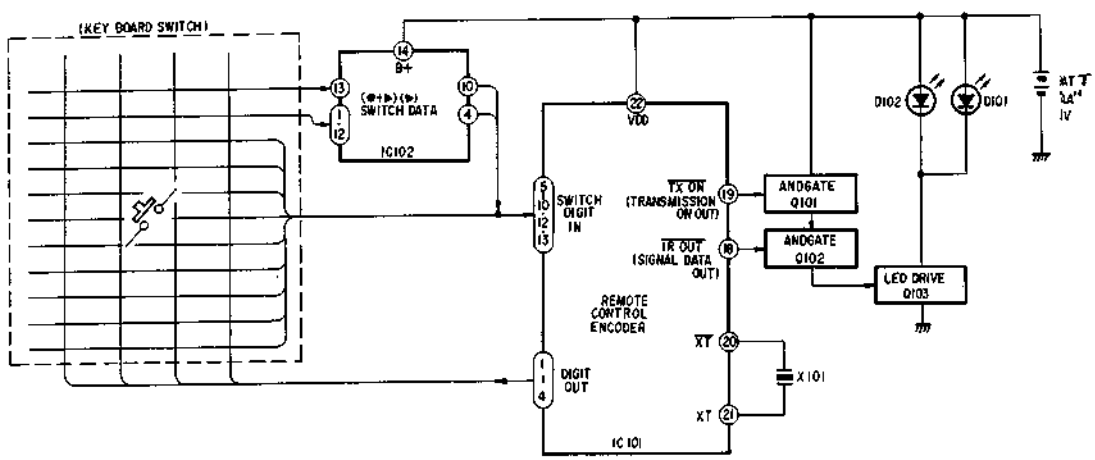
REMOTE COMMANDER

SPECIFICATIONS

Power consumption	3 V dc with two batteries IEC designation R6 (size AA)
Remote control system	Infrared control
Dimensions	Approx. 55 × 25 × 175 mm (w/h/d) (2 1/8 × 1 × 6 7/8 inches)
Weight	Approx. 125 g (4 oz)

1. OUTLINE

1-1. BLOCK DIAGRAM



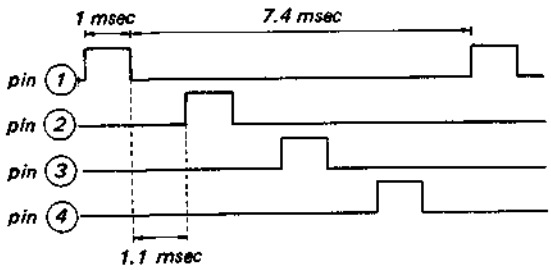
MICROFILM

SONY
SERVICE MANUAL

1-2. SWITCH DATA INPUT

When the commander key switch is not pressed, the clock generator of remote control encoder IC101 turns off and the IC is initialized. When the key switch goes ON, the clock generator operates.

When the clock generator operates, a pulse is output to the digit output pins ① – ④, and each switch data is read into pins ⑤, ⑥, ⑦, ⑧, ⑨, ⑩, ⑫, and ⑬ by the key switch matrix.



Read in of Recording (● + ▶) Switch Data

When the key switches ● and ▶ go ON at the same time, the pulse from pin ① is input to gate input pins ⑬ and ⑫ of IC102. The inverted pulse is output to output pin ⑪ (gate input ⑧ and ⑨). The pulse from pin ⑩ is input to pin ⑫ as recording switch data via the inverter.

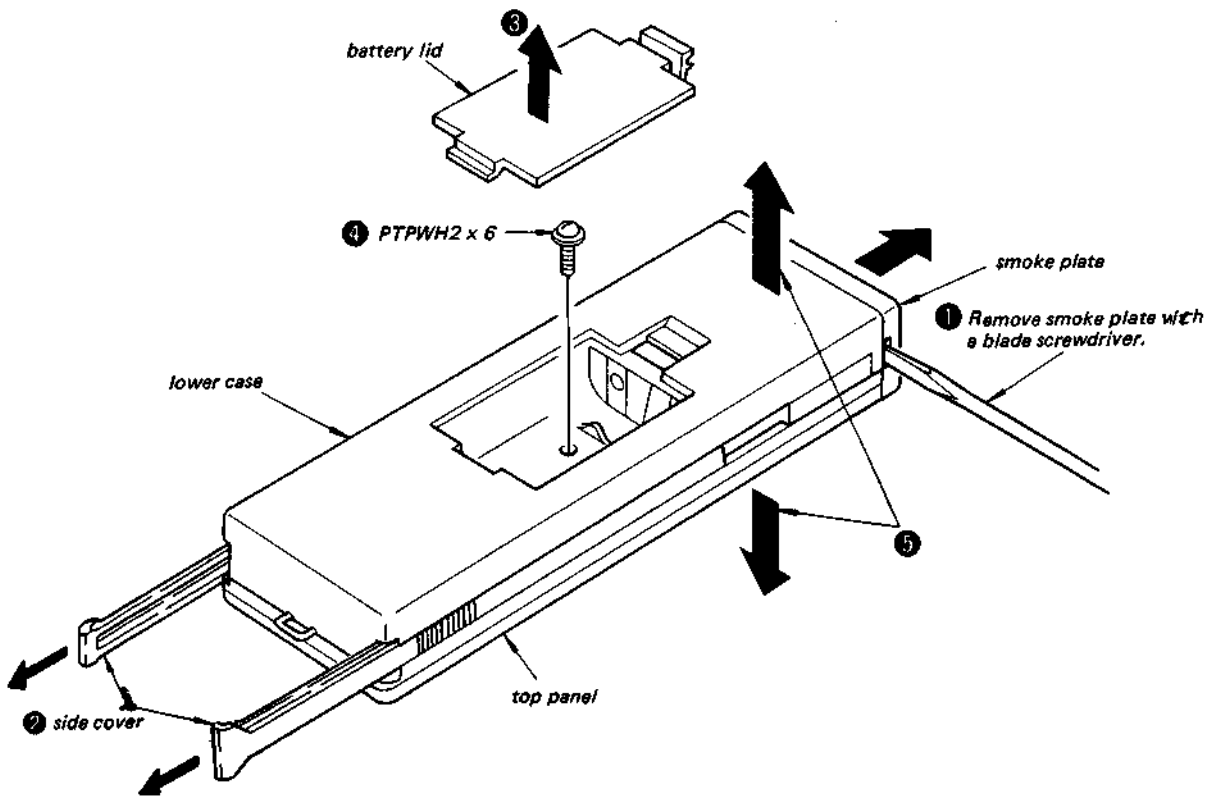
When only the key switch ● goes ON, the pulse is input to gate input pin ⑬ of IC102 only. As gate input pin ⑫ is "L" level, output pin ⑪ goes high and output pin ⑩ goes low regardless of the input pulse of pin ⑬, so recording switch data is not input.

Read in of Playback (▶) Switch Data

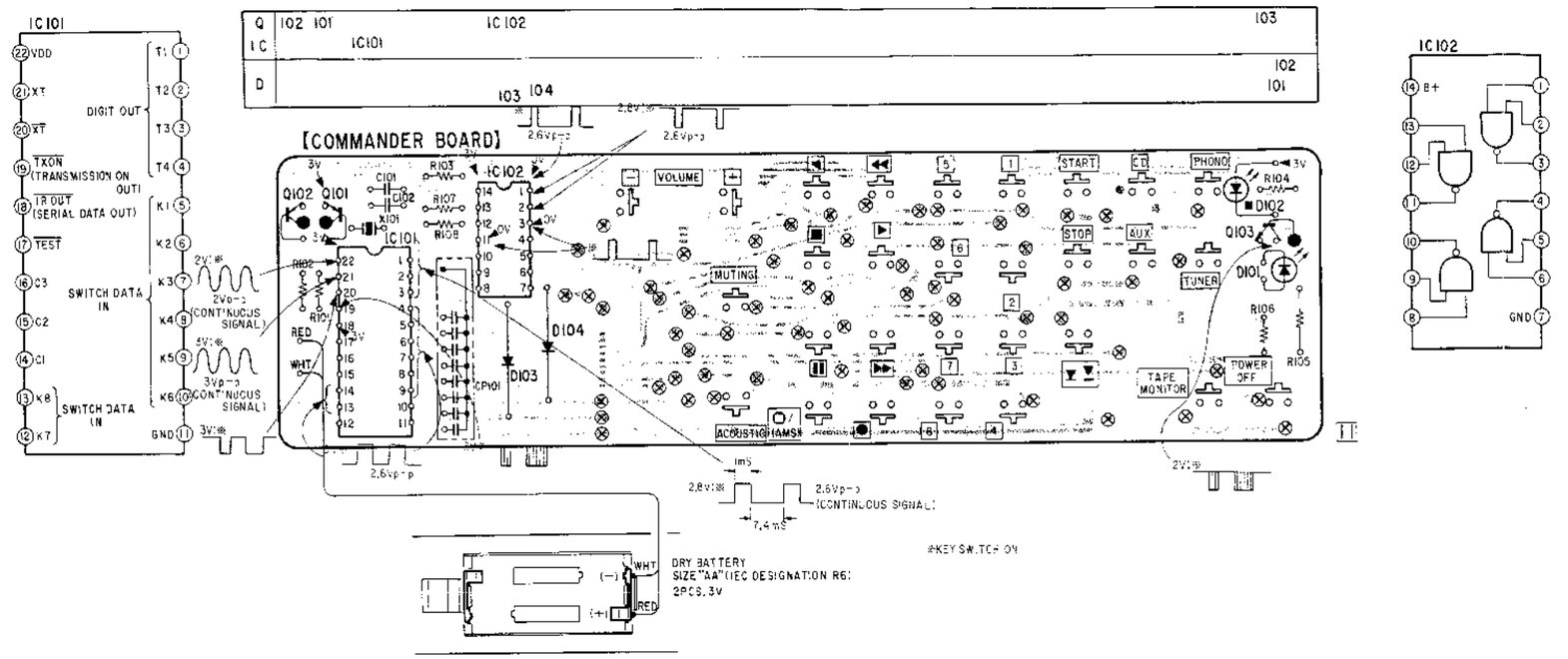
When the key switch ▶ goes ON, the pulse is input to pin ① of IC102. As pin ⑬ of IC102 is "L" level, output pin ⑪ goes high and gate input pin ② goes high. The pulse of pin ① is output to pin ③ as an inverted pulse. The pulse from pin ④ is input to pin ⑩ as playback switch data via the inverter.

2. DISASSEMBLY

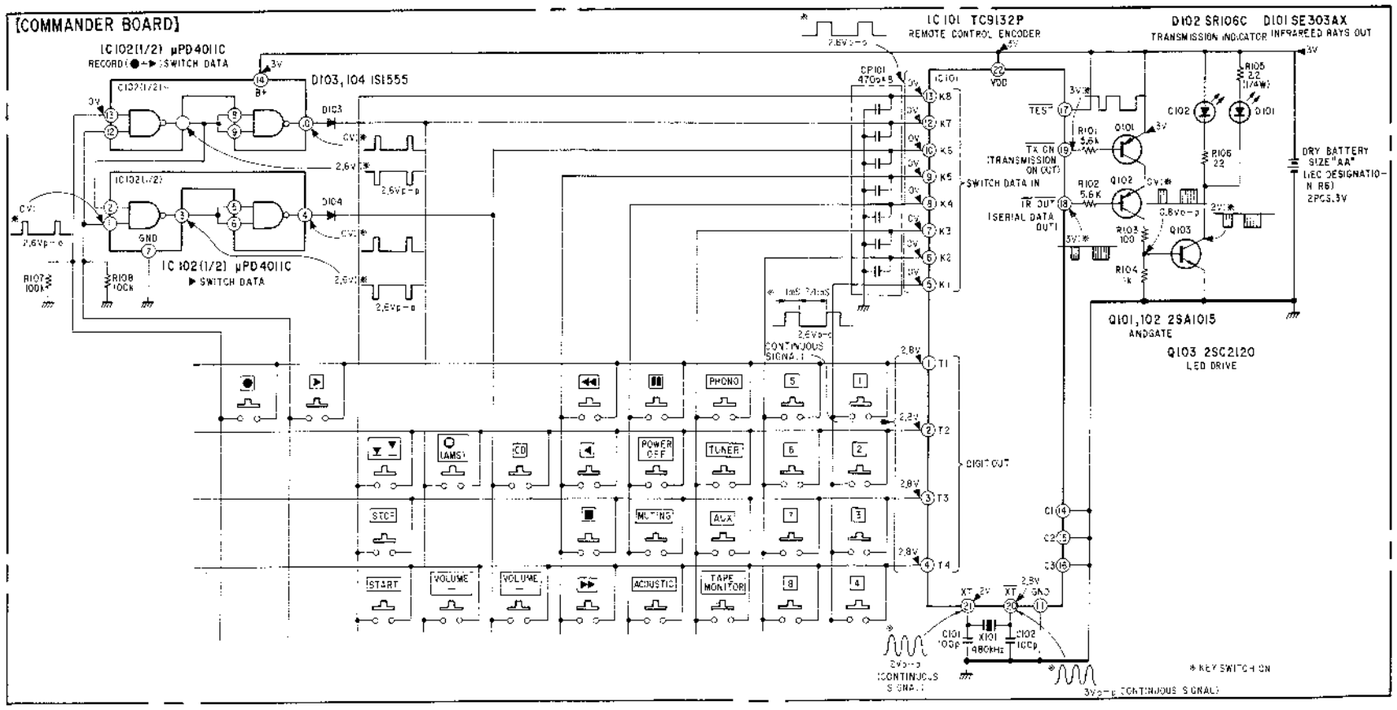
• Follow the disassembly procedure in the numerical order given.



3. MOUNTING DIAGRAM



4. SCHEMATIC DIAGRAM

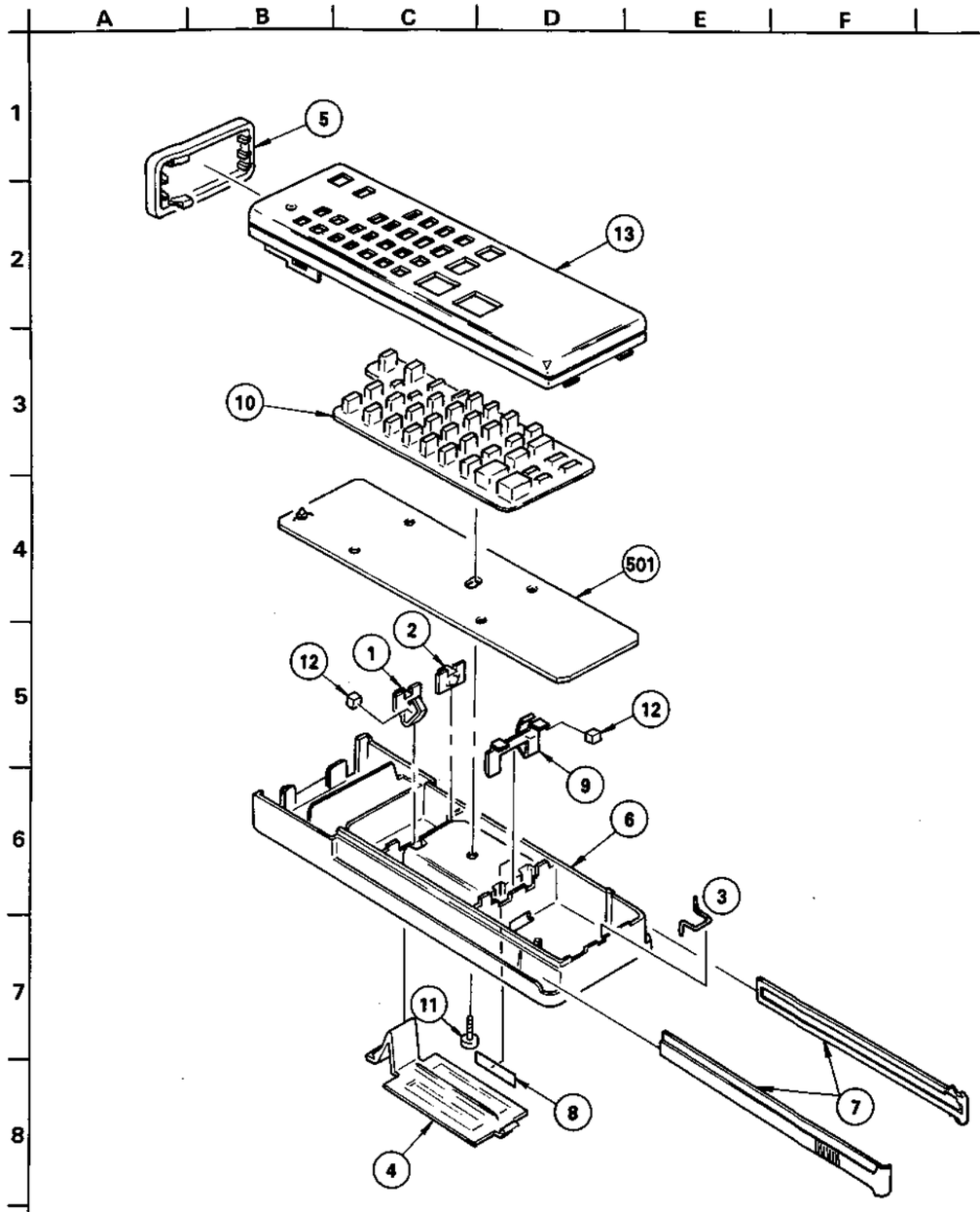


Note:

- 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 ohms, 1/6 W unless otherwie noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM.
- Voltage variations may be noted due to normal production tolerances.

Note: Voltages are measured with a VOM (50kΩ/V).

5. EXPLODED VIEW AND PARTS LIST



GENERAL SECTION

No.	Part No.	Description
1	2-290-601-00	TERMINAL (A), BATTERY
2	2-290-602-00	TERMINAL (B), BATTERY
3 ♦	2-375-001-00	HOOK
4	2-375-003-00	LID, BATTERY CASE
5	2-375-004-00	PLATE, FROSTED
6	2-375-008-00	CASE, LOWER
7 ♦	2-375-013-00	COVER, SIDE
8	3-701-999-00	LABEL, SERIAL NUMBER
9	4-350-925-00	TERMINAL (C), BATTERY
10	4-886-947-00	RUBBER (L), CONTACT
11	7-687-204-11	PTPWH 2X6
12	9-911-845-XX	CUSHION
13	X-4886-908-0	PANEL ASSY, TOP

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	1-609-570-00	PC BOARD, REMOTE CONTROL
C101	1-102-106-00	CERAMIC 100PF 10% 50V
C102	1-102-106-00	CERAMIC 100PF 10% 50V
D101	8-719-193-03	DIODE SE303AX
D102	8-719-100-06	DIODE SR106C
D103	8-719-815-55	DIODE 1S1555
D104	8-719-815-55	DIODE 1S1555
IC101	8-759-200-00	IC TC9132P
IC102	8-759-984-11	IC MB84011B
Q101	8-729-201-52	TRANSISTOR 2SA1025
Q102	8-729-201-52	TRANSISTOR 2SA1025
Q103	8-729-413-10	TRANSISTOR 2SC1475
R101	1-247-849-00	CARBON 5.6K 5% 1/6W
R102	1-247-849-00	CARBON 5.6K 5% 1/6W
R103	1-247-807-00	CARBON 100 5% 1/6W
R104	1-247-831-00	CARBON 1K 5% 1/6W
R105	1-246-409-00	CARBON 2.2 5% 1/4W
R106	1-247-791-00	CARBON 22 5% 1/6W
R107	1-247-879-00	CARBON 100K 5% 1/6W
R108	1-247-879-00	CARBON 100K 5% 1/6W
X101	1-527-476-00	OSCILLATOR, CERAMIC

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- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

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- MMH : mH, UH : μH

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