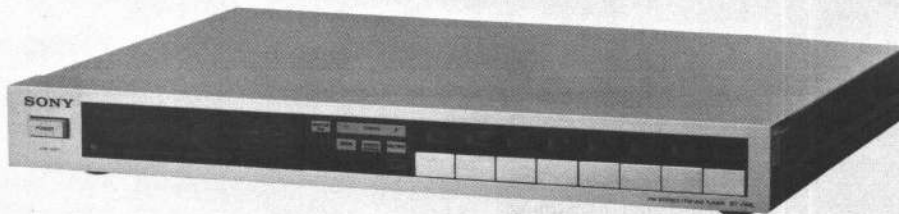


ST-JX4L

AEP Model
UK Model



FM STEREO / FM-AM 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 46 dB quieting (40 kHz deviation)	4 μ V (mono) 43 μ V (30 μ V)* (stereo)
Usable sensitivity	1.4 μ V (S/N = 26 dB, 40 kHz deviation) 1.8 μ V, 10.3 dBf (IHF)
Limiting threshold	1 μ V
Signal-to-noise ratio (40 kHz deviation)	80 dB (mono), 75 dB (stereo)
Harmonic distortion (40 kHz deviation)	0.08% (mono), 0.12% (stereo) at 100 Hz 0.08% (mono), 0.12% (stereo) at 1 kHz 0.1% (mono), 0.2% (stereo) at 10 kHz
IM distortion (40 kHz deviation)	0.08% (mono), 0.12% (stereo)
Separation	45 dB at 100 Hz 50 dB (17 dB)* at 1 kHz 40 dB at 10 kHz

Frequency response	40 Hz - 12.5 kHz ± 0.2 dB 30 Hz - 15 kHz ± 0.2 dB
Selectivity	80 dB at 300 kHz
Capture ratio	1.0 dB
AM suppression ratio	60 dB
Image response ratio	80 dB
IF response ratio	100 dB
Spurious response ratio	100 dB

— Continued on page 2 —

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES ÉCLATÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS 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

RF intermodulation 74 dB (IHF), 88 dB (2.4 MHz)
Sub-carrier product ratio 55 dB
Muting threshold Approx. 25.2 dBf, 10 μV
Output level/impedance (75 kHz deviation) 750 mV, 4.7 k ohms
Calibrating tone level 50% modulation (37.5 kHz deviation), 400 Hz

() * measured with the SENS switch engaged

MW/LW tuner section

		MW	LW
Tuning range		522 - 1,602 kHz	155 - 344 kHz
Antenna		Ferrite rod antenna External antenna terminal	
Intermediate frequency		450 kHz	
Usable sensitivity	ferrite rod antenna	46 (42)* dB/m (at 999 kHz)	54 (50)* dB/m (at 230 kHz)
	external antenna	40 (30)* μV (at 999 kHz)	50 (40)* μV (at 230 kHz)
Signal-to-noise ratio		55 (58)* dB	55 (58)* dB
Harmonic distortion		0.3%	0.3%
Selectivity		45 dB (9 kHz)	45 dB (9 kHz)
Image response ratio		45 dB (at 999 kHz)	75 dB (at 230 kHz)

() * measured with the SENS switch engaged

General

System PLL quartz-locked digital synthesizer system
Power requirements UK model: 240 V ac ~ (or 220 V ac ~ adjustable by authorized Sony personnel), 50/60 Hz
AEP model: 220 V ac ~ (or 240 V ac ~ adjustable by authorized Sony personnel), 50/60 Hz
Power consumption 12 W
Dimensions Approx. 430 × 55 × 330 mm (w/h/d) (17 × 2 1/4 × 13 inches) including projecting parts and controls
Weight Approx. 3.6 kg (7 lbs 15 oz) net
Approx. 4.1 kg (9 lbs 1 oz) in shipping carton

MODEL IDENTIFICATION

— Specification Label —

• AEP model



MODEL NO. ST-JX4L
FM STEREO/FM-AM TUNER
FREQUENCY RANGE:
FM 87.5-108 MHz MW 522-1602 kHz
LW 155-344 kHz
IF : FM 10.7 MHz AM 450 kHz
AC: 220V ~ 50/60 Hz 12W
FTZ-PRÜFNUMMER U185
SERIAL NO.
MADE IN JAPAN 4-875-305-01

• UK model



MODEL NO. ST-JX4L
FM STEREO/FM-AM TUNER
FREQUENCY RANGE:
FM 87.5-108 MHz MW 522-1602 kHz
LW 155-344 kHz
IF : FM 10.7 MHz AM 450 kHz
AC: 240V ~ 50/60 Hz 12W
SERIAL NO.
MADE IN JAPAN 4-875-306-01

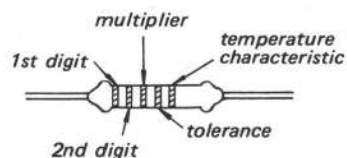
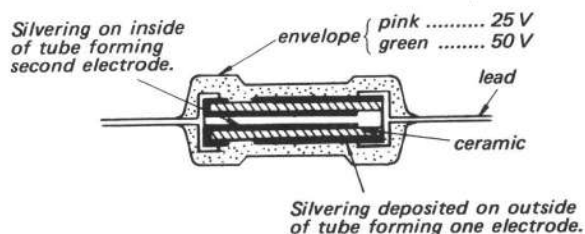
SERVICING NOTES

• THE CERAMIC CAPACITORS

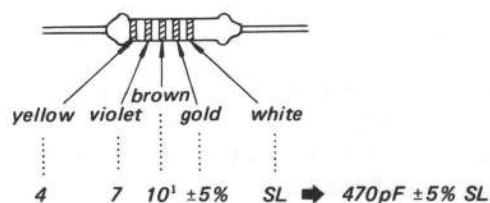
This set uses tube-type ceramic capacitors whose shape is identical with the carbon resistors. Be careful not to use resistors instead of capacitors in repairing.

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.



Example:



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

● Handling Precautions for MOS ICs

Generally, the insulation resistance of the oxide layer in MOS IC structures is very high, and the oxide layer is very thin. Because of this, it is possible that the static voltages usually present on clothes and the human body will be enough to generate a potential difference across the insulator, high enough to cause a breakdown of the insulating layer.

The following precautions should be taken while handling these ICs.

(Particular care should be taken under conditions of low humidity.)

Precautions in Replacing MOS ICs

1. Store new ICs by inserting them into a urethane-polyester cushion (which is somewhat conductive), or wrapping it in aluminum foil, so that all the pins are at the same potential. (The ICs should be stored in that manner until mounted on the circuit board.)

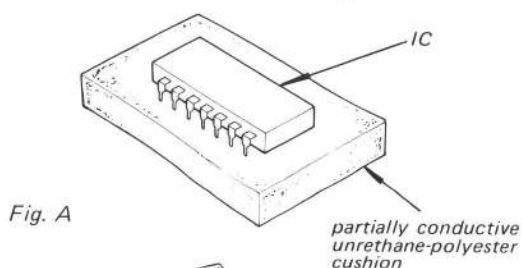


Fig. A

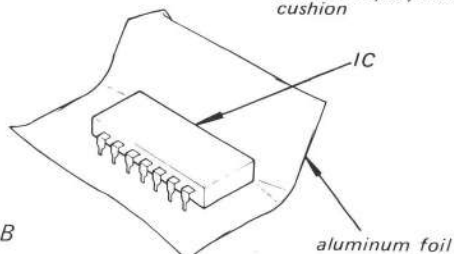


Fig. B

2. Check the soldering iron for possible power-line leakage current. Make sure that there is no leakage path by connecting an ohmmeter to the tip of the soldering iron and the plug as shown in Fig. C. If there is a leakage path, use some other soldering iron.

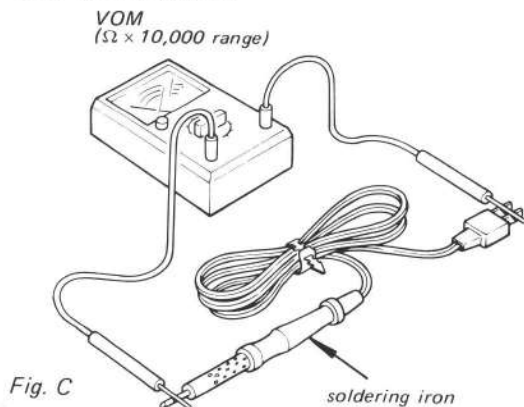


Fig. C

3. Equalize any potential difference between the clothes, the tools in use, the work bench, the set being worked on, and the packaged IC by touching them all in succession with the hands or a conductive wire or tool.
4. The following are effective methods for handling ICs that remove the potential difference across the oxide layer.
 - Use a paper clip modified by soldering in a wire braid insert.

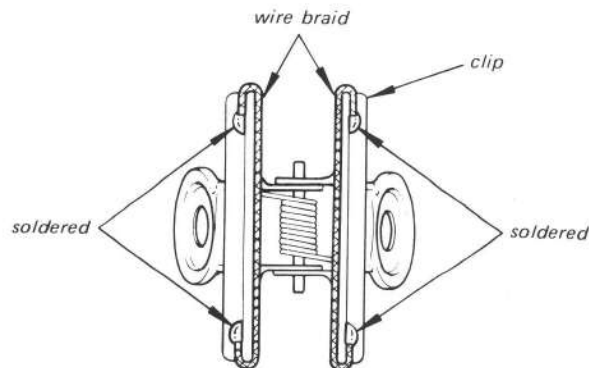


Fig. D

Make sure that there is no solder on the inside.

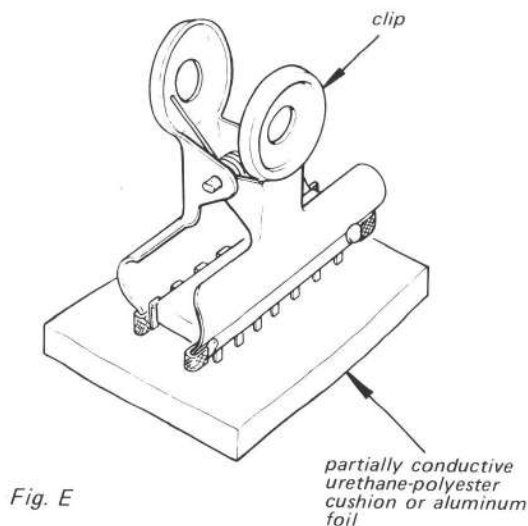


Fig. E

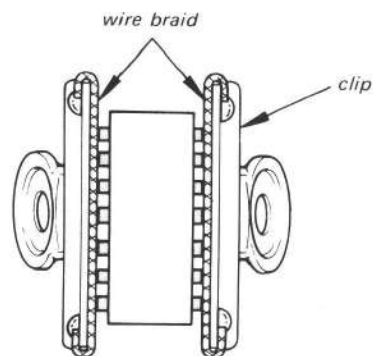


Fig. F

Make sure that all the pins are in contact with the wire braid (all the pins will then be at the same potential.).

- Take a short length of fine bare wire and wind it around the IC so that it shorts all the pins of the IC, while it is still in the urethane-polyester cushion or aluminum foil. This ensures that all the pins are at the same potential.

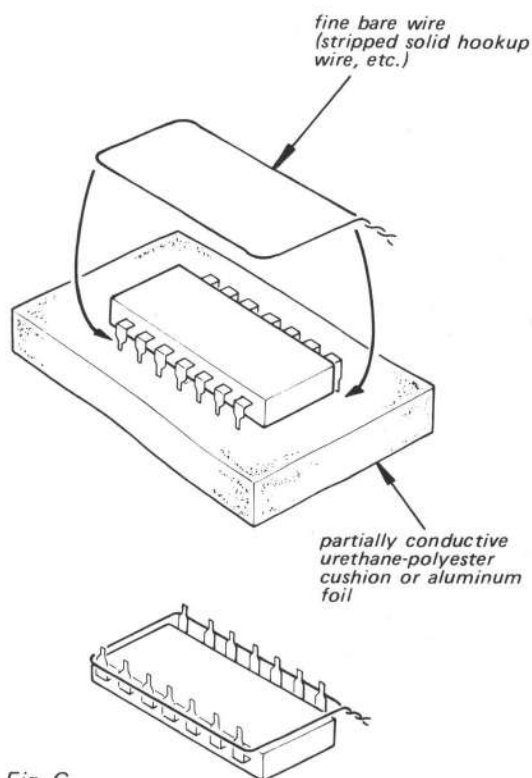


Fig. G

- When it is necessary to handle the IC with the fingers, do not touch any pin, and hold the IC at the ends of its plastic-package case as shown in Fig. H.

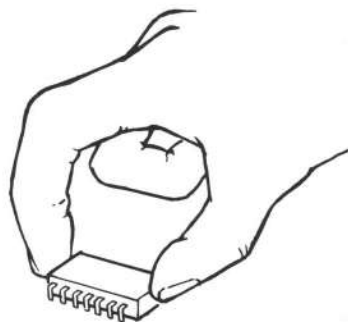


Fig. H

5. Method of Mounting

Insert the IC while holding it with the modified clip, and solder all the pins with the clip still shorting the pins. (Similarly, solder all the pins while the bare shorting wire is still wound around them.). Remove the clip or the bare shorting wire only after all the pins have been soldered.

Precaution while Checking C-MOS ICs

The C-MOS ICs (Complementary MOS) are MOS ICs that have their output sections made up of N-channel and P-channel push-pull stages to increase their speed of operation. If the output terminal of these ICs comes into contact with B+ or B- voltage, then the FET which is ON at that time will either become shorted or open.

This is valid for all the output sections that are connected together by the interconnections. Even the circuits that are physically separated (and not on the same board) can be destroyed simultaneously.

Example:

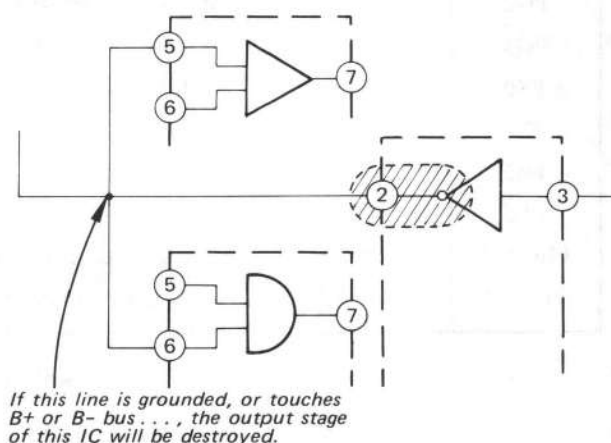


Fig. I

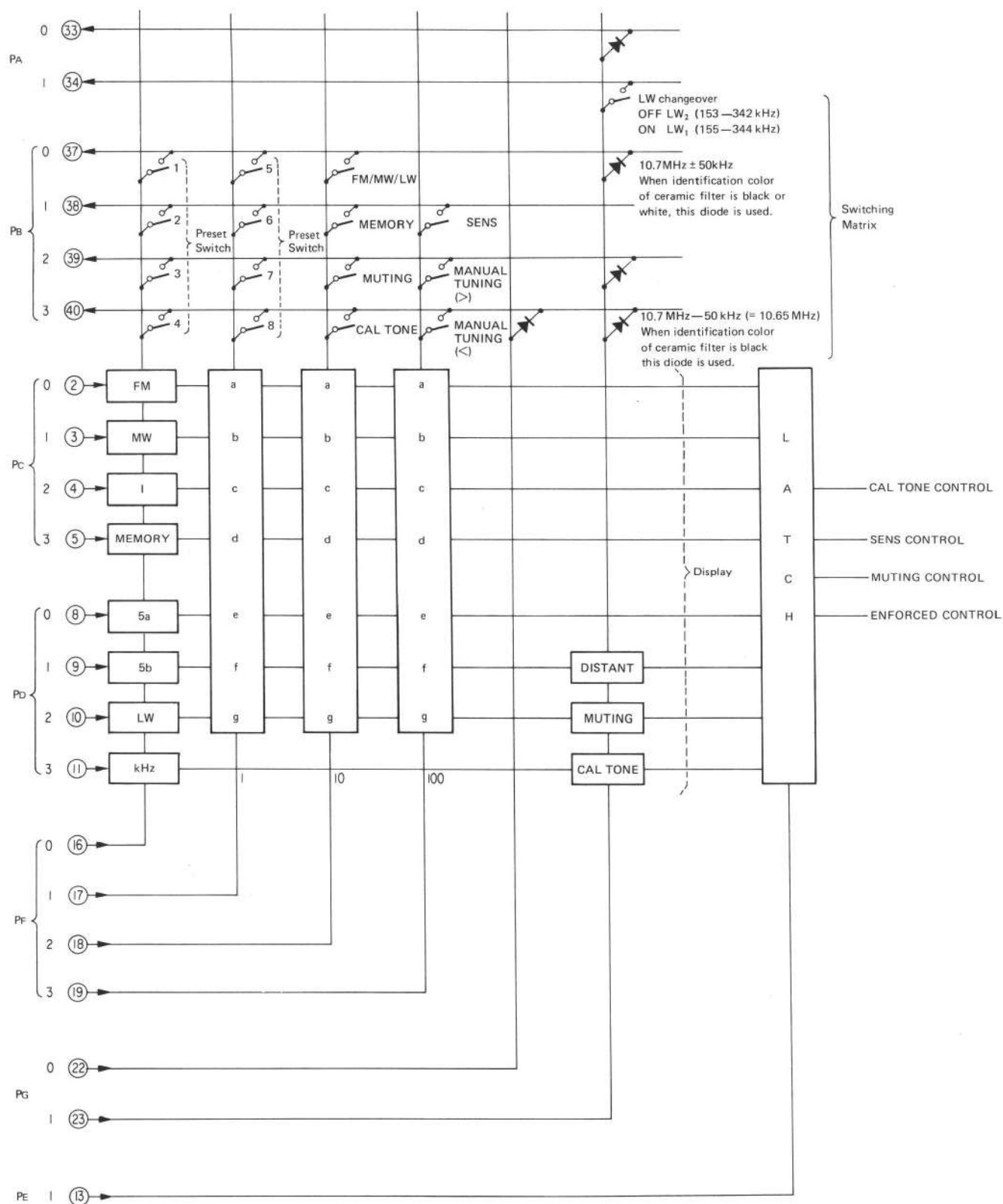
SECTION 1

OUTLINE

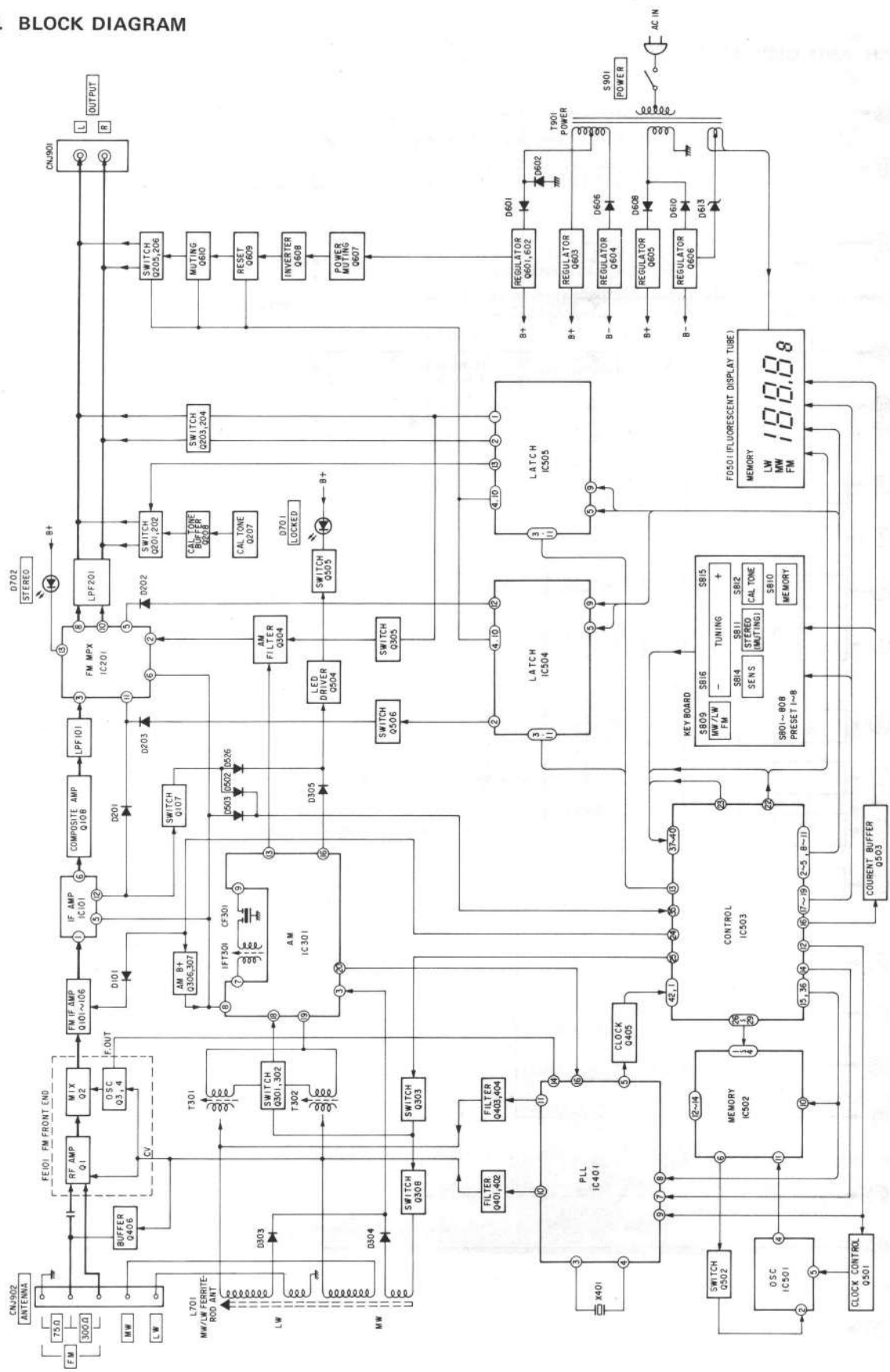
1-1. CONTROLLER IC503 (μ PD553C-137): I/O (Input/Output) PORT'S FUNCTION

Port	Pin No. of IC	Function
PA2	35	FM Muting ON/OFF Signal. ● Level is always H at AM mode.
PA3	36	Memory IC Data Input
PB0 ~ 3	37 ~ 40	See next page.
PC0 ~ 3	2 ~ 5	
PD0 ~ 3	8 ~ 11	
PF0 ~ 3	16 ~ 19	
PG0 ~ 1	22 ~ 23	
PG2	24	FM/AM Control Output (FM: 1, AM: 0)
PG3	25	MW/LW Control Output (MW: 1, LW: 0)
PE0	12	Clock Output for PLL/MEMORY IC
PE1	13	See next page.
PE2	14	PLL Latch Output
PE3	15	Data Output for PLL MEMORY IC
PH0 ~ 3	26 ~ 29	Address Output for Memory IC
PI0 ~ 2	30 ~ 32	Mode Control Output for Memory IC

• SWITCH AND DISPLAY MATRIX



1-2. BLOCK DIAGRAM



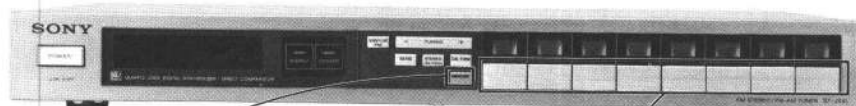
1-3. TUNING WITH THE STATION PRESET BUTTONS

With this tuner, owing to an electronic tuning system using a PLL (Phase Locked Loop) synthesizer and a memory circuit, the reception of a station is much simplified. Once you commit the frequencies to memory, pushing a button is all you need do to select a desired station. There is no need to search for the station with the TUNING button each time you wish to tune in a station.

TO MEMORIZE THE STATION FREQUENCIES

Preparation: A total of eight station preset buttons can be preset for either FM, MW or LW in any desired sequence. Arrange the order of stations for each station preset button and note the band and the frequency of each in advance.

Follow the numbered sequence.



Tune in the desired station.

Note that the setting of the ^{STEREO} (MUTING) and SENS switches for reception of this station is memorized.



Illuminates for a few seconds.

2 *While the MEMORY indicator is illuminated, press the desired station preset button.*



The indicator will go out, and the band, frequency and setting of the ^{STEREO} (MUTING) and SENS switches will be memorized.

Repeat these steps for each station preset button.

Replace the station labels to conform to the selected prememorized 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 button. An erasure cannot be made without a new input.

To memorize a weak station

To memorize MW and LW stations whose signals are weak or whose strength is variable, tune with the SENS switch engaged. To memorize weak FM stations, tune with the SENS switch engaged and the ^{STEREO} (MUTING) switch disengaged. This will ensure the onetouch memory reception of those stations.

TO CHECK THE PRESET FREQUENCY

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

TO RECEIVE A PRE-MEMORIZED STATION

Turn the POWER switch on and simply press the desired station preset button.

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.

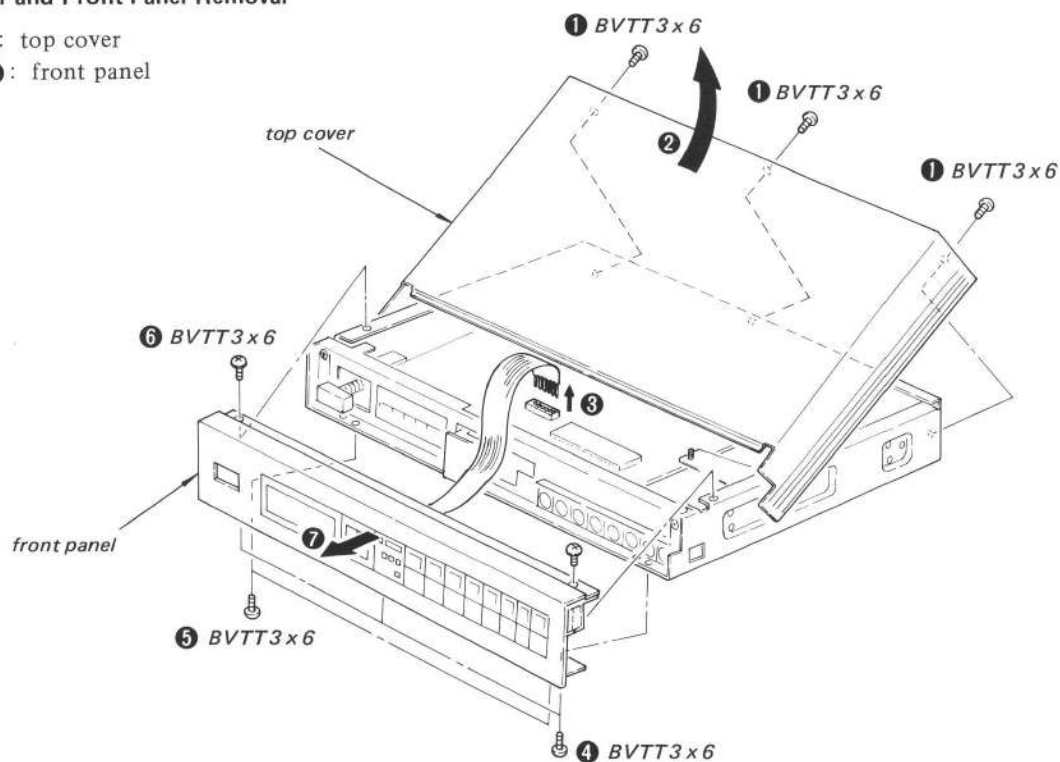
This memory system enables you to make a timer-activated recording from the tuner.

SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

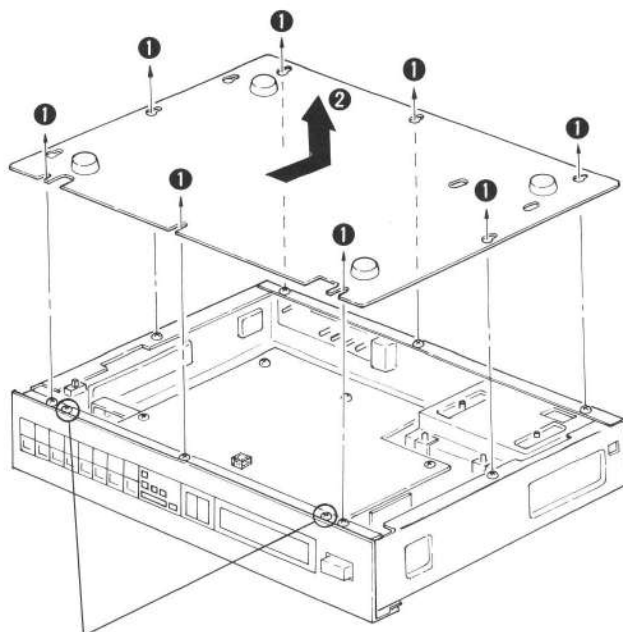
Top Cover and Front Panel Removal

- ①, ②: top cover
- ① - ⑦: front panel



Bottom Plate Removal

- (1): Loosen the eight screws (BVTT 3 x 6).
- (2): Remove in the direction of arrow.



Note: Do not loose these screws.

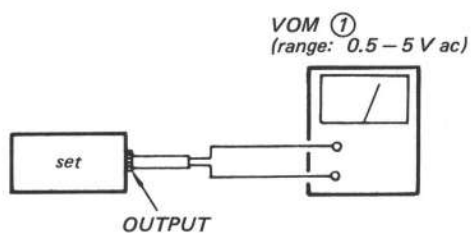
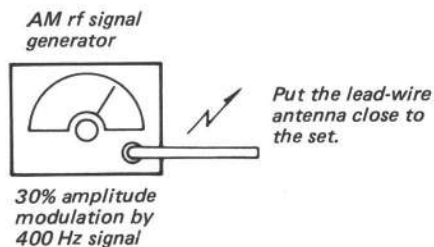
SECTION 3 ADJUSTMENTS

MW/LW SECTION

Setting:

Band Selector: MW/LW

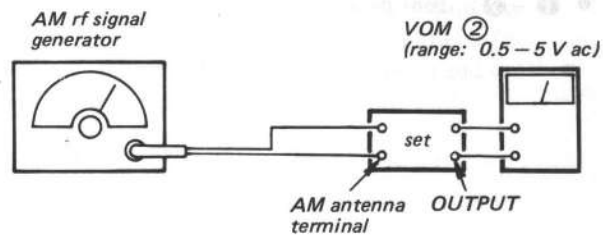
Setup: before tracking and frequency coverage adjustments



- 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

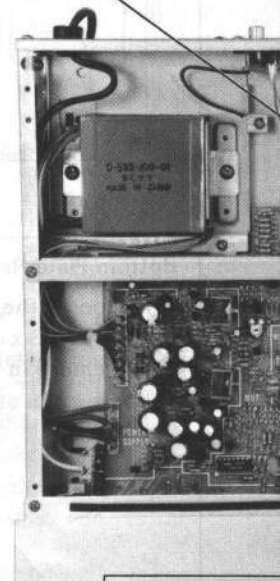
Procedure:



Carrier frequency: 999 kHz
30% amplitude modulation by
400 Hz signal
Output level: as low as possible

1. Tune the set to 999 kHz and adjust IFT301 for a maximum reading on VOM ②.

IFT301



MW/LW FR

• MW

Frequency D
Voltage at T
Adjustment

• LW

Frequency D
Voltage at T
Adjustment

MW TRACKING ADJUSTMENT

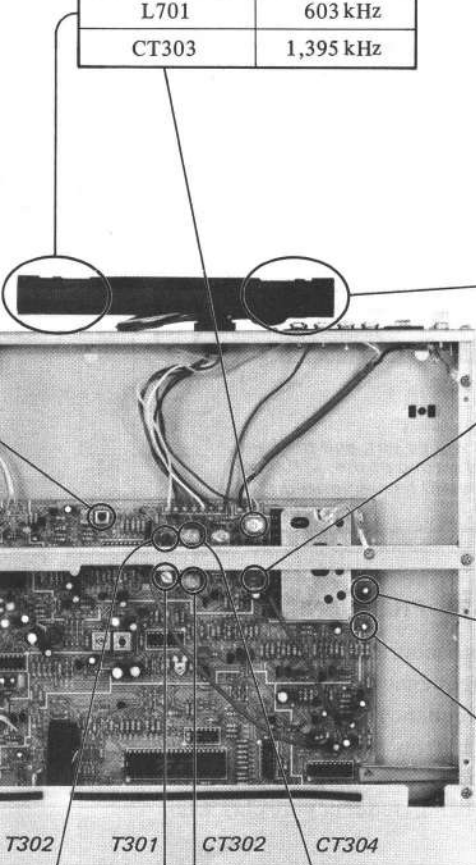
Adjust for a maximum reading on VOM ①.

L701	603 kHz
CT303	1,395 kHz

LW TRACKING ADJUSTMENT

Adjust for a maximum reading on VOM ①.

L701	173 kHz
CT301	308 kHz



FREQUENCY COVERAGE ADJUSTMENT

ay	1,602 kHz	522 kHz
	22 V	1.5 V
s	CT304	T302

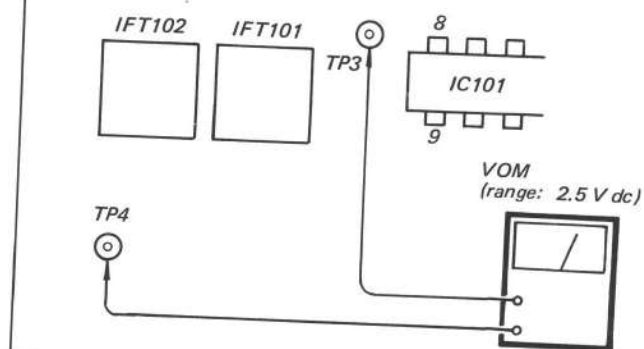
ay	344 kHz	155 kHz
	18.5 V	2.3 V
s	CT302	T301

FM SECTION

Setting:

Band Selector: FM

FM Discriminator Alignment 1



Setting:

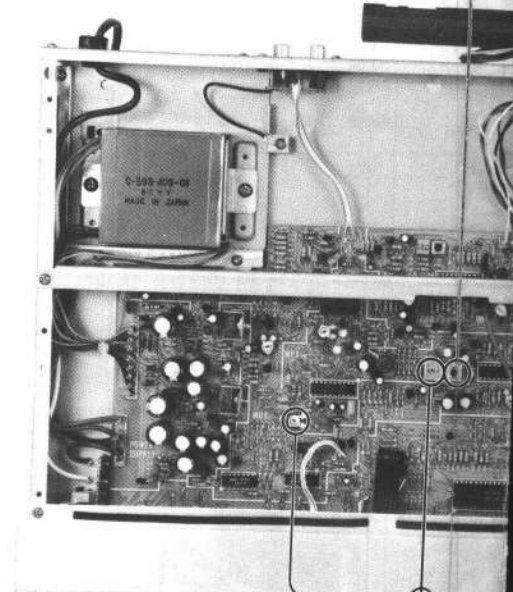
STEREO/MUTING switch:

Procedure:

1. Tune the set in the strong s
2. Adjust the black core (prim for 0 V reading on VOM.

Note: When replacing the ceramic filter form this alignment. Repeat the secondary-side and ments several times.

IFT101
(primary side: black core)

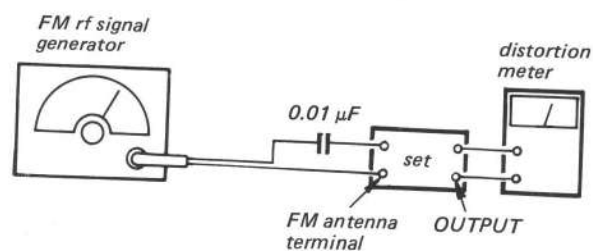


IFT102
(second

FM Discriminator Alignment 2

Setting:

STEREO/MUTING switch: OFF



Carrier frequency: 98 MHz
Output level: 1 mV (60 dB)
Modulation: 400 Hz, 40 kHz deviation (100%)

Procedure:

Adjust the white core (see IFT102 for minimum distortion.

Note: When replacing the ceramic filter form this alignment. Repeat the secondary-side and ments several times.

OFF

station-signal.

ary-side) of IFT101

er (CF101 - 104), per-

primary-side adjust-

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

VCO Adjustment

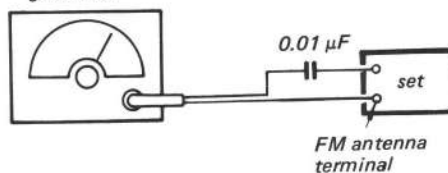
A) Regular Method

Setting:

STEREO/MUTING switch: OFF

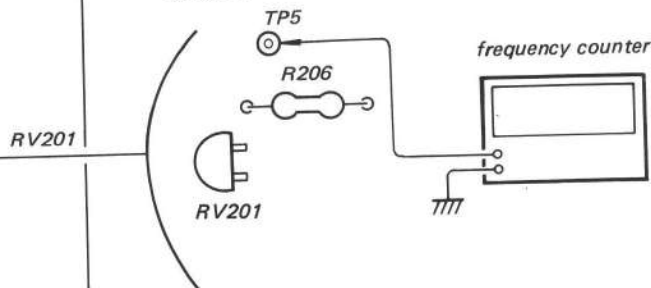
Procedure:

FM rf signal generator



Carrier frequency: 98 MHz
Modulation: 400 Hz, 40 kHz deviation (100%)
Output level: 1 mV (60 dB)

1. Tune the set to 98 MHz by pressing the MANUAL TUNING switches.
2. Adjust RV201 for 19 kHz $\pm$ 100 Hz on the counter.



FM SECTION

Setting:

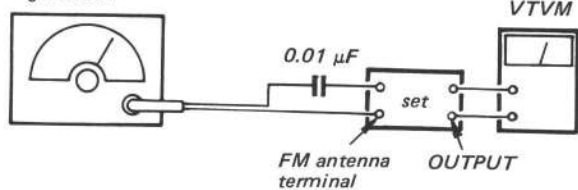
Band Selector: FM

FM Stereo Separation Adjustment

Setting:

STEREO/MUTING switch: ON

Procedures:

FM rf stereo
signal
generator

Carrier frequency: 98 MHz

Output level: 1 mV (60 dB)

Modulation:

Audio (400 Hz): 16.25 kHz deviation (40%)

Pilot (19 kHz): 7.5 kHz deviation (19%)

Sub-channel: 16.25 kHz deviation (40%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV202 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV202 for minimum reading.

L-CH Stereo separation: Ⓐ - Ⓑ

R-CH Stereo separation: Ⓒ - Ⓓ

The separations of both channels should be equal.

RV202

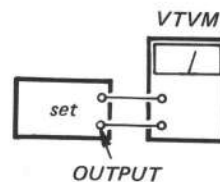
RV203

CAL TONE Level Adjustment

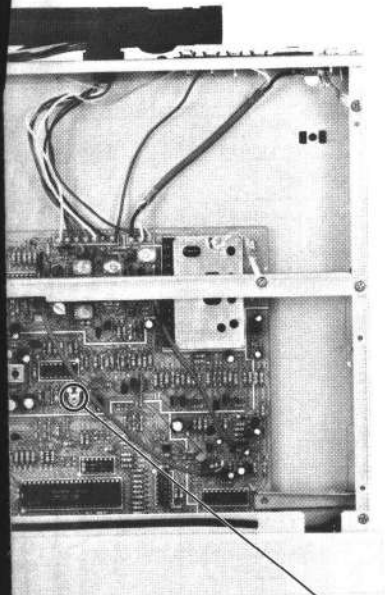
Setting:

CAL TONE switch: ON

Procedure:



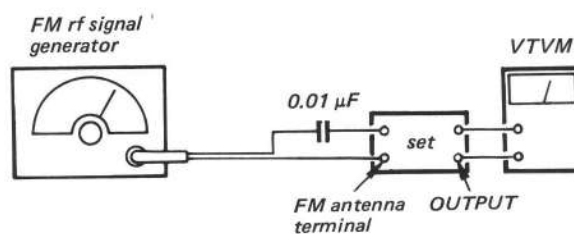
Adjust RV203 for 0.39 V (-6 dB) reading on the VTVM.



RV101

FM Muting Level Adjustment**Setting:**

STEREO/MUTING switch: ON

Procedure:

Carrier frequency: 98 MHz
Modulation: 400 Hz, 40 kHz deviation (100%)
Output level: 10 μ V (20 dB)

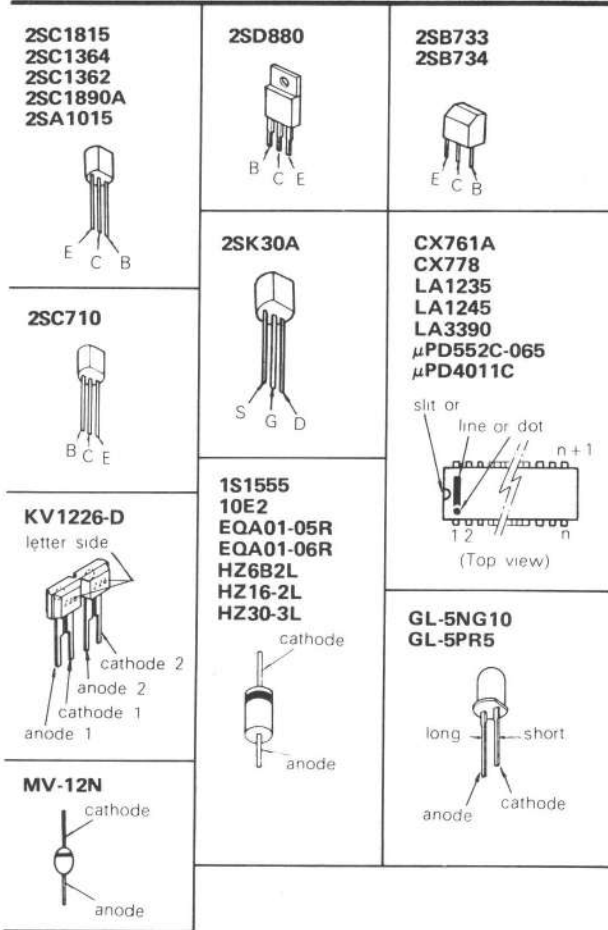
1. Tune the set to 98 MHz by pressing the MANUAL TUNING switches.
2. Adjust RV101 for a 0 V reading on the VTVM.

SECTION 4 DIAGRAMS

4-1. MOUNTING DIAGRAM

— Conductor Side —

Semiconductor Lead Layouts



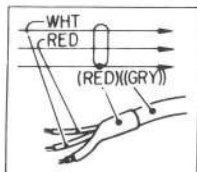
FM Ceramic Filter Adjustment

Identification color of FM ceramic filters (CF101-104)	D517	D518
black	○	○
red	X	○
white	○	X

○: to be connected, X: to be removed

Notes:

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

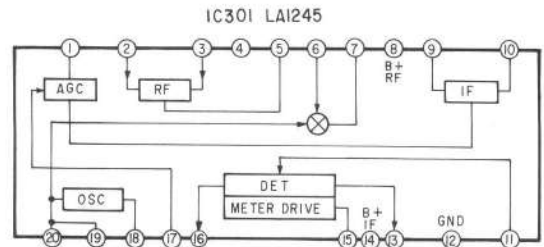


- [] : indicates side identified with part number.
- [] : B+ pattern
- [] : B- pattern
- [] : signal path
- [] : L-CH signal path
- [] : R-CH signal path

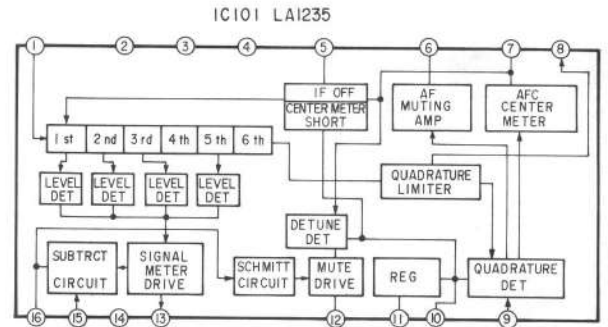
A

B

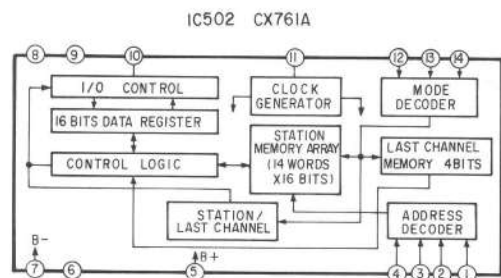
1



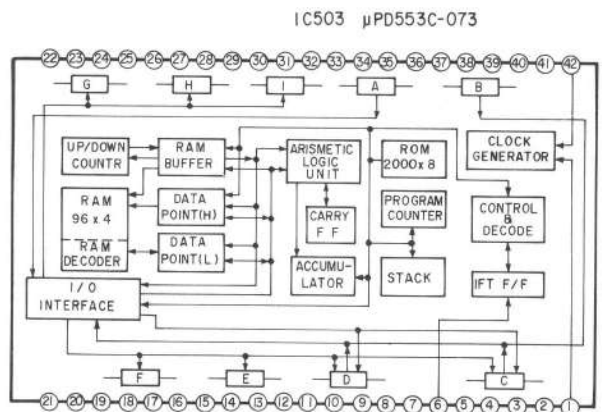
2



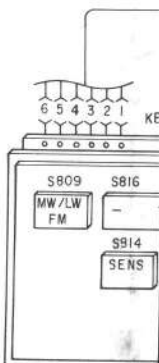
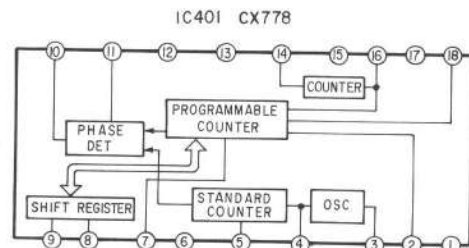
3



4



5

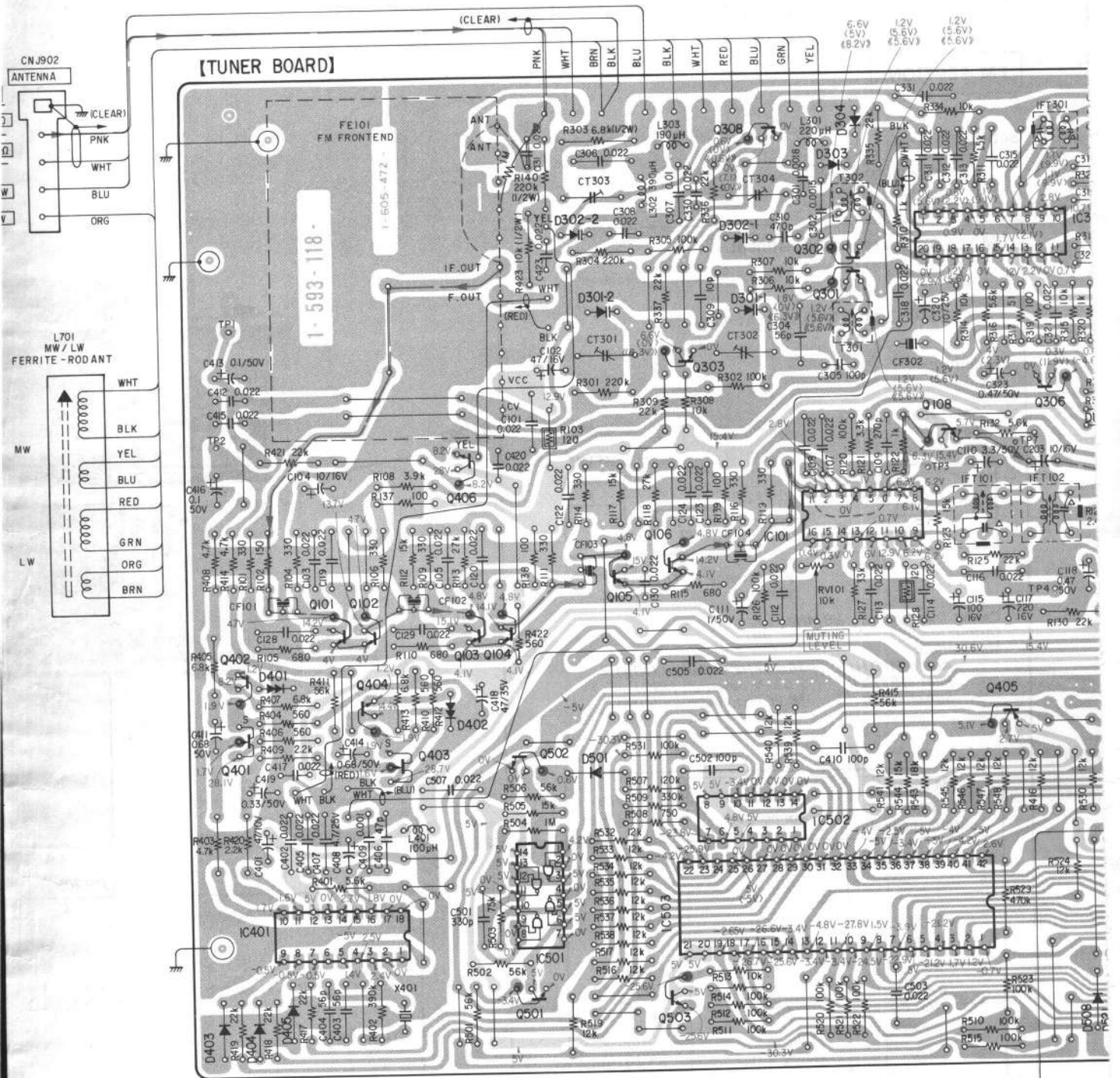


C

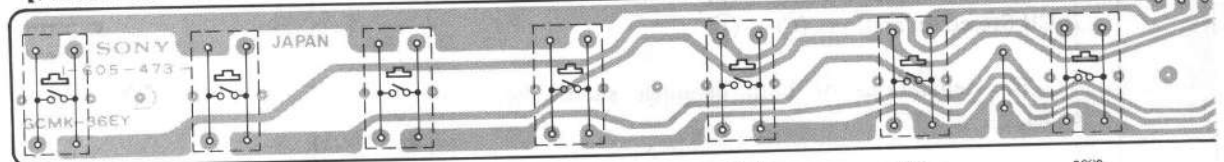
D

E

F

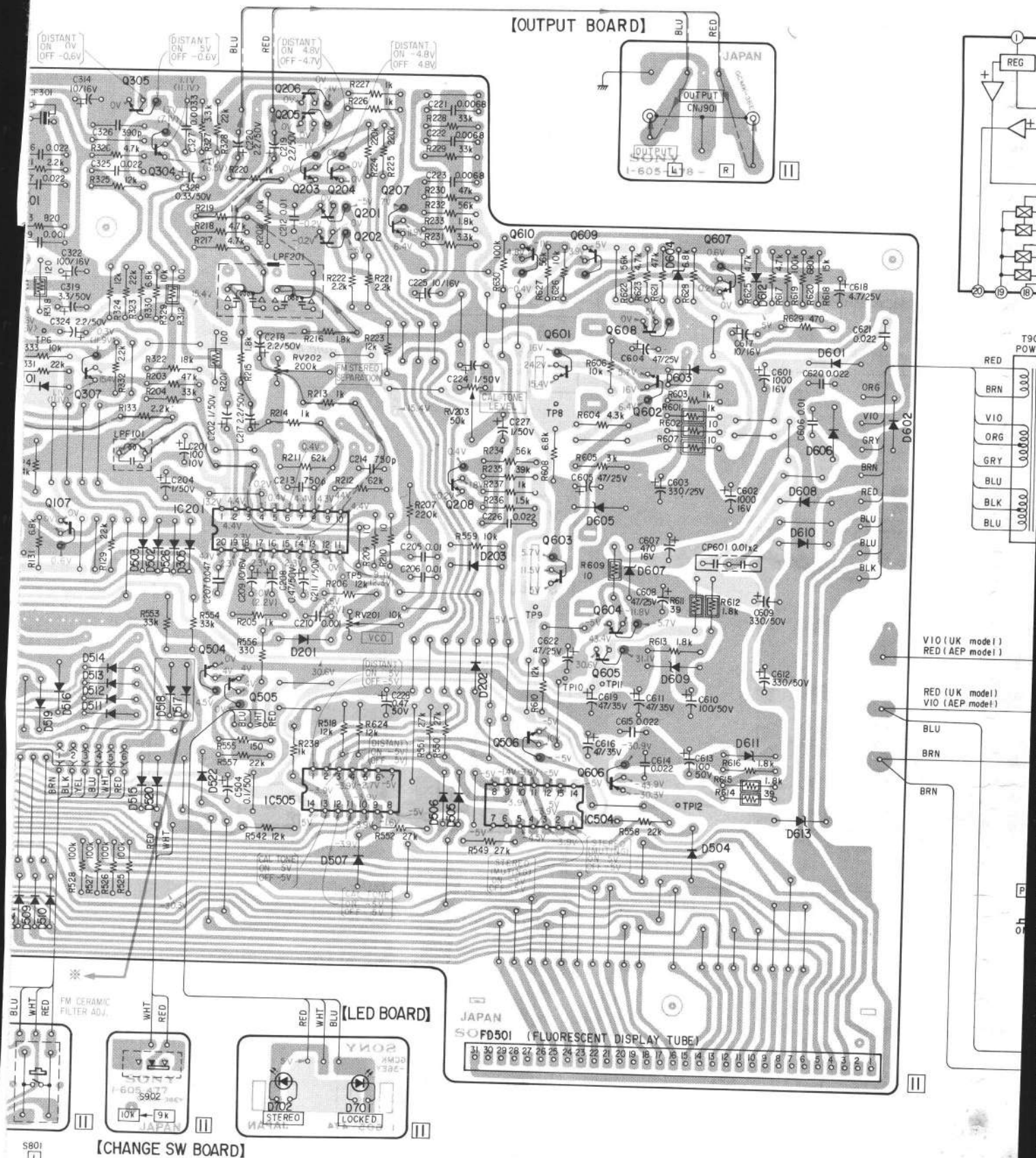


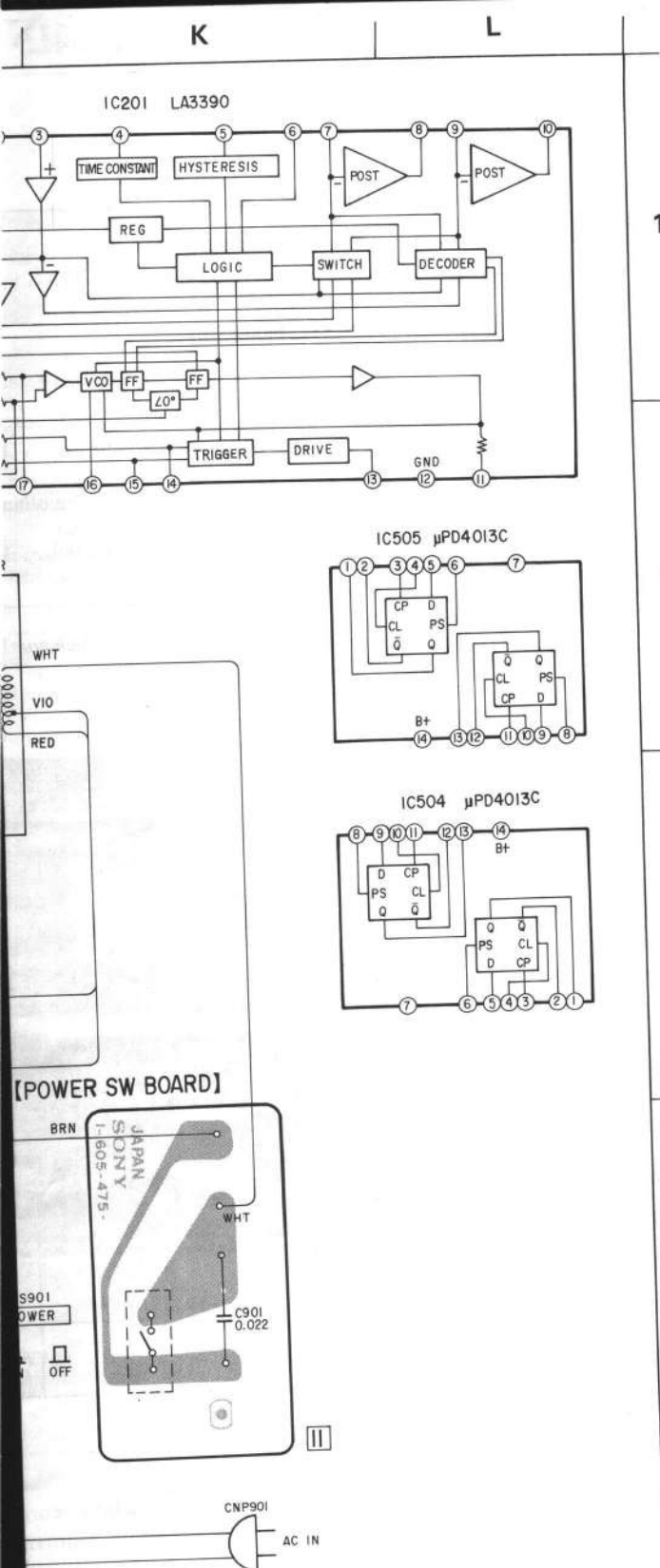
[PRESET BOARD]



Q	402	401	101	102	404	403	406	103	104	502	501	105	303	106	503	308	302	301	108	405	306
IC	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401	IC401
D	401	403	404	405	402	402	402	402	402	402	402	402	402	402	402	402	402	402	402	402	402

[OUTPUT BOARD]





1

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Note on Schematic Diagram

- All capacitors are in μ F unless otherwise noted. pF: μ F 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $\frac{1}{4}$ W unless otherwise noted. k Ω : 1000 Ω , M Ω : 1000 k Ω
- : nonflammable resistor.
- Δ : internal component.
- : adjustment for repair.
- : B+ bus.
- : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under detuned conditions with a VOM (20 k Ω /V).
- no mark: FM
- < >: AM
- << >>: FM ... STEREO/MUTING: ON position
- [] : Tuned in FM stereo signal
- Voltage variations may be noted due to normal production tolerances.
- Switch

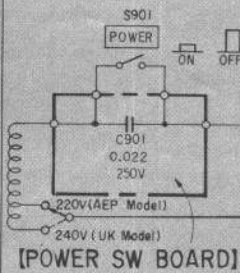
Ref. No.	Switch	Position
S701	MANUAL TUNING (UP)	OFF
S702	MANUAL TUNING (DOWN)	OFF
S703	AUTO TUNING (DOWN)	OFF
S704	AUTO TUNING (UP)	OFF
S705	STEREO/MUTING	OFF
S706	CAL TONE	OFF
S707	MEMORY	OFF
S708	FM/MW/LW	OFF
S709 - 716	PRESET (1 - 8)	OFF
S801	POWER	OFF

- : signal path

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

Note: Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.





SECTION 5

EXPLODED VIEWS & PARTS LIST

A

B

C

D

5-1.

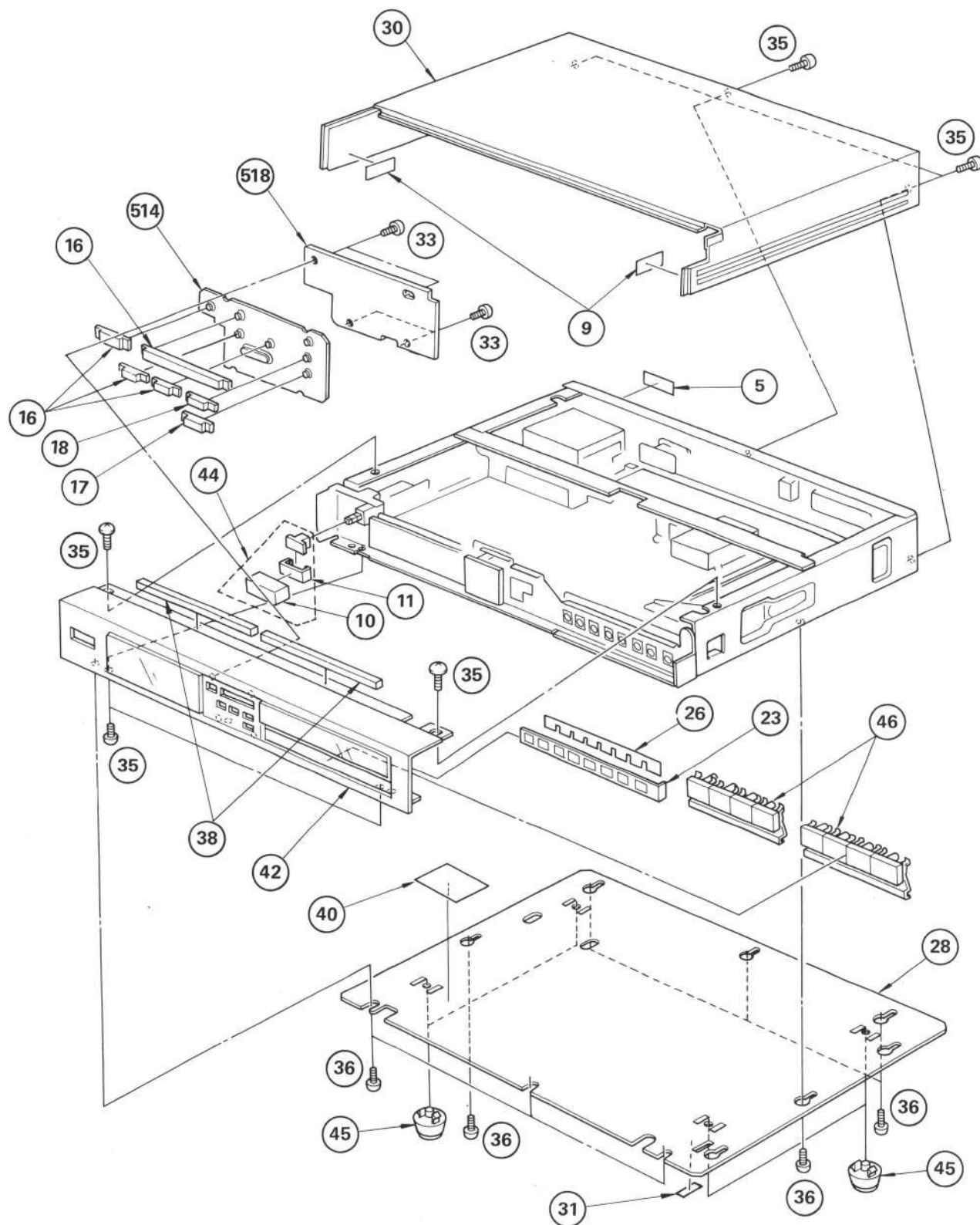
1

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A

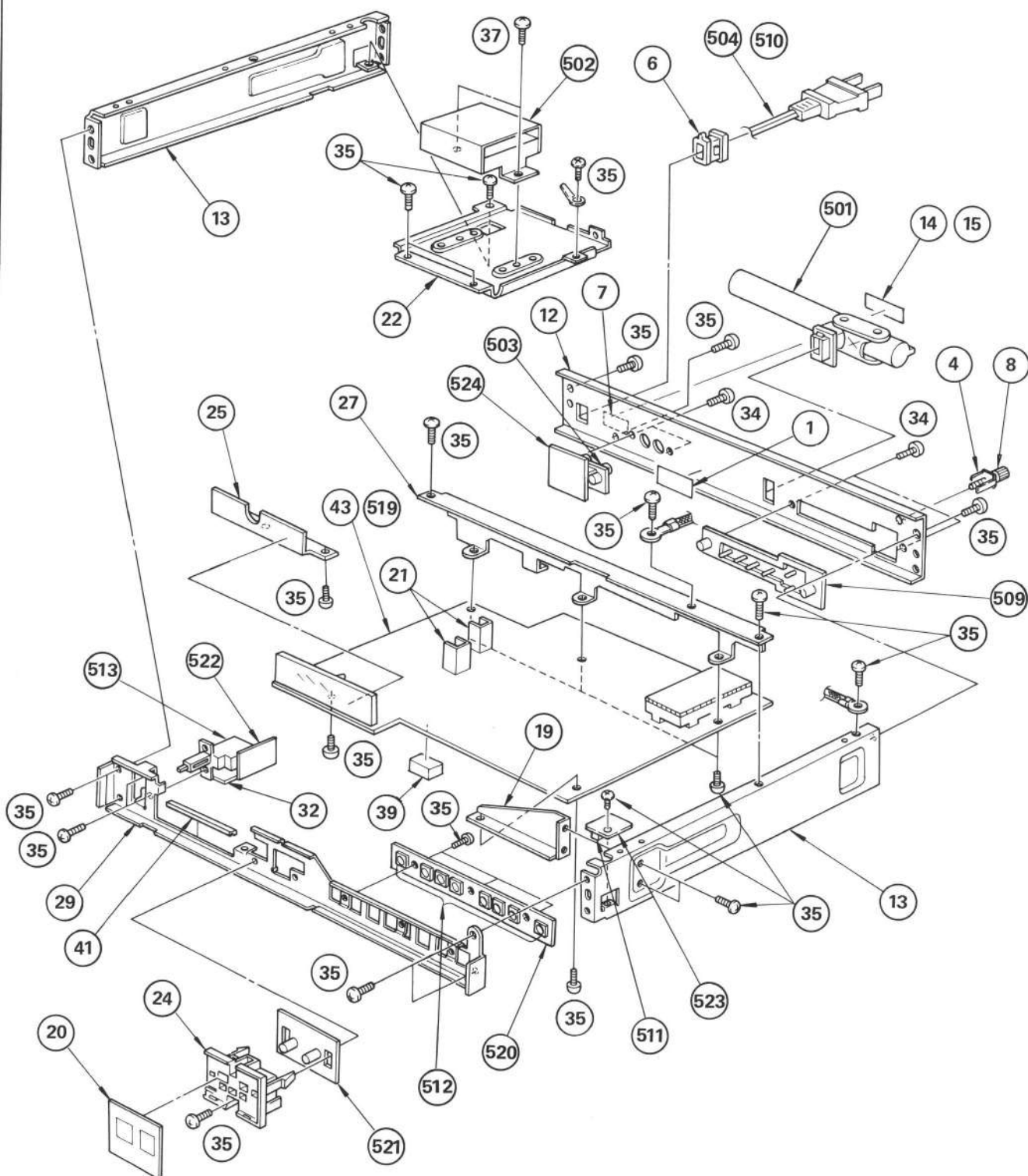
B

C

D

5-2.

1
2
3
4
5



GENERAL SECTION

No.	Part No.	Description
1	3-701-030-00	LABEL, SERIAL NUMBER
2	3-701-690-00	LABEL (MADE IN JAPAN)
3	3-701-748-00	CLAMP
4	3-701-993-00	SPACER, TERMINAL
5	3-703-043-21	LABEL, CAUTION, MAIN
6	3-703-244-00	BUSHING, CORD
7	3-703-328-00	(AEP)....LABEL, APPROVAL 4 COUNTRIES
8	3-706-165-00	SCREW
9	3-831-441-XX	CUSHION, SPEAKER
10	4-871-322-01	CAP, POWER KNOB
11	4-871-323-00	BASE, POWER KNOB
12	▲;4-875-004-31	PLATE, JACK
13	▲;4-875-017-00	PLATE (L), SIDE
14	4-875-305-00	(AEP)....LABEL, MODEL NUMBER
15	4-875-306-00	LABEL, MODEL NUMBER (UK)
16	4-875-319-21	KNOB (3), PROGRAM
17	4-875-319-51	KNOB (6), PROGRAM
18	4-875-319-71	KNOB (8), PROGRAM
19	▲;4-875-325-00	BRACKET, CHASSIS
20	4-875-326-01	WINDOW (C), DIGITAL
21	▲;4-875-327-01	HEAT SINK
22	▲;4-875-329-00	BASE, TRANSFORMER
23	4-875-330-00	HOLDER (81), SCALE, DIAL
24	▲;4-875-332-00	HOUSE, SIGNAL
25	▲;4-875-333-00	RETAINER, TUBE, INDICATION
26	4-875-335-00	LABEL (D), INDICATOR
27	▲;4-875-336-02	CHASSIS, CENTER
28	▲;4-875-337-00	PLATE, BOTTOM
29	▲;4-875-340-00	CHASSIS, SUB
30	4-875-341-00	CASE
31	4-875-343-00	LABEL, LW SELECTION
32	4-875-354-00	INSULATOR
33	7-685-132-11	SCREW +P 2.6X5 TYPE2 NON-SLIT
34	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S
35	7-685-871-01	SCREW +BVTT 3X6 (S)
36	7-685-871-09	SCREW +BVTT 3X6 (S)
37	7-685-880-01	SCREW +BVTT 4X6 (S)
38	9-911-845-XX	CUSHION
39	9-911-846-XX	CUSHION
40	9-911-863-XX	INSULATOR (TRANSFORMER)
41	9-911-863-XX	COVER, EDGE
42	A-4322-339-A	PANEL ASSY, FRONT
43	▲;A-4351-250-A	MOUNTED PCB, TUNER
44	A-4447-064-A	KNOB ASSY, POWER
45	X-3701-069-0	FOOT ASSY, M.F
46	X-4875-301-0	KNOB ASSY, PRESET

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
51	1-501-161-00	ANTENNA, FEEDER
52	1-551-734-11	CORD, CONNECTION (RK- 74A)
53	3-701-630-00	BAG, POLYETHYLENE
54	3-783-531-11	MANUAL, INSTRUCTION
55	3-795-186-11	(AEP)...MANUAL, INSTRUCTION (DUTCH & SWEDISH)
56	4-875-040-00	SHEET, PROTECTION
57	4-875-042-00	CUSHION, LOWER
58	4-875-043-00	CUSHION, UPPER
59	4-875-313-00	LABEL (EP), INDICATOR
60	4-875-355-00	INDIVIDUAL CARTON
61	9-910-999-47	LABEL, SEAL

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: μpF .

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.

Les composants identifiés par une trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	1-401-888-00	ANTENNA, FERRITE-ROD (LW/MW) (L701)
502	Δ.1-447-064-00	TRANSFORMER, POWER (T901)
503	1-507-699-00	JACK, PIN 2P (CNJ901)
504	Δ.1-534-817-XX	(AEP)....CORD, POWER
505	Δ;1-535-116-00	TERMINAL
506	Δ;1-535-120-00	TERMINAL
507	Δ;1-535-121-00	TERMINAL
508	Δ;1-535-140-00	BASE POST 19MM (10MM PITCH) 3P
509	1-536-663-00	TERMINAL BOARD (ANTENNA)
510	Δ.1-551-884-00	(UK)....CORD, POWER
511	1-552-430-00	SWITCH, SLIDE (S902)
512	1-552-539-00	SWITCH, KEY BOARD (S801-S808)
513	Δ.1-553-318-00	SWITCH, PUSH (AC POWER) (S901)
514	1-553-742-00	SWITCH, RUBBER KEY (S809-S816)
515	Δ;1-560-595-00	TERMINAL (WITH BASE)
516	Δ;1-561-471-00	SOCKET, CONNECTOR 6P
517		
518	Δ;1-605-035-00	PC BOARD, RUBBER SHEET KEY SW
519	1-605-472-00	PC BOARD, TUNER
520	1-605-473-00	PC BOARD, PRESET
521	1-605-474-00	PC BOARD, LED
522	1-605-475-00	PC BOARD, POWER SW
523	1-605-477-00	PC BOARD, CHANGE SW
524	1-605-478-00	PC BOARD, OUTPUT
C302	1-161-380-00	CERAMIC 0.0015MF 10% 50V
C304	1-108-352-00	MYLAR 0.0018MF 10% 50V
C326	1-161-318-00	CERAMIC 390PF 10% 50V
C411	0-593-565-	CAP, ELECT 0.68MF
C414	0-593-565-	CAP, ELECT 0.68MF
C901	Δ.1-102-394-00	CERAMIC 0.022MF 250V
CF101	1-527-836-00	FILTER, CERAMIC
CF102	1-527-836-00	FILTER, CERAMIC
CF103	1-527-836-00	FILTER, CERAMIC
CF104	1-527-836-00	FILTER, CERAMIC
CF301	1-527-826-00	FILTER, CERAMIC
CF302	1-527-817-00	FILTER, CERAMIC
CT301	1-141-171-00	CAP, TRIMMER
CT302	1-141-171-00	CAP, TRIMMER
CT303	1-141-180-00	CAP, TRIMMER
CT304	1-141-171-00	CAP, TRIMMER
D201	8-719-815-55	DIODE 1S1555
D202	8-719-815-55	DIODE 1S1555
D203	8-719-815-55	DIODE 1S1555
D301	8-719-912-27	DIODE KV1226
D302	8-719-912-27	DIODE KV1226
D303	8-712-600-00	DIODE 1T26
D304	8-712-600-00	DIODE 1T26
D305	8-719-815-55	DIODE 1S1555
D306	8-719-815-55	DIODE 1S1555
D307	8-719-815-55	DIODE 1S1555

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D308	8-719-815-55	DIODE 1S1555
D309	8-719-815-55	DIODE 1S1555
D401	8-719-912-00	DIODE MV-12N
D402	8-719-912-00	DIODE MV-12N
D403	8-719-815-55	DIODE 1S1555
D404	8-719-815-55	DIODE 1S1555
D405	8-719-815-55	DIODE 1S1555
D501	8-719-815-55	DIODE 1S1555
D502	8-719-815-55	DIODE 1S1555
D503	8-719-815-55	DIODE 1S1555
D504	8-719-815-55	DIODE 1S1555
D505	8-719-815-55	DIODE 1S1555
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
D512	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
D518	8-719-815-55	DIODE 1S1555
D519	8-719-815-55	DIODE 1S1555
D520	8-719-815-55	DIODE 1S1555
D521	8-719-815-55	DIODE 1S1555
D522	8-719-815-55	DIODE 1S1555
D526	8-719-815-55	DIODE 1S1555
D601	Δ.8-719-200-02	DIODE 10E2
D602	Δ.8-719-200-02	DIODE 10E2
D603	8-719-910-64	DIODE HZ6B1L
D604	8-719-936-05	DIODE EQA01-05R
D605	8-719-910-64	DIODE HZ6B1L
D606	Δ.8-719-200-02	DIODE 10E2
D607	8-719-910-64	DIODE HZ6B1L
D608	Δ.8-719-200-02	DIODE 10E2
D609	8-719-913-02	DIODE HZ30-2L
D610	Δ.8-719-200-02	DIODE 10E2
D611	8-719-913-02	DIODE HZ30-2L
D612	8-719-815-55	DIODE 1S1555
D613	8-719-936-06	DIODE EQA01-06R
D701	8-719-951-00	DIODE GL-5NG10
D702	8-719-900-56	DIODE GL-5PR5
FE101	1-463-369-00	FRONT END
FL501	1-519-229-00	INDICATOR TUBE, FLUORESCENT

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked "Δ" 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 Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
IC101	8-759-812-35	IC LA1235
IC201	8-759-833-90	IC LA3390
IC301	8-759-812-45	IC LA1245
IC401	8-759-607-78	IC CX-778
IC501	8-759-140-11	IC UPD4011C
IC502	8-757-611-00	IC CX-761A
IC503	8-759-131-37	IC UPD553C-137
IC504	8-759-140-13	IC UPD4013C
IC505	8-759-140-13	IC UPD4013C
IFT101	1-404-339-00	TRANSFORMER, DISCRIMINATOR
IFT102	1-404-338-00	TRANSFORMER, DISCRIMINATOR (FM)
IFT301	1-404-326-00	TRANSFORMER, IF
L301	1-407-173-XX	MICRO INDUCTOR 220UH
L302	1-407-176-XX	MICRO INDUCTOR 390UH
L303	1-407-172-XX	MICRO INDUCTOR 180UH
L401	1-407-169-XX	MICRO INDUCTOR 100UH
LPF101	1-235-046-00	ENCAPSULATED COMPONENT (B.E.F)
LPF201	1-235-045-00	ENCAPSULATED COMPONENT (L.P.F)
Q101	8-729-671-14	TRANSISTOR 2SC710
Q102	8-729-671-14	TRANSISTOR 2SC710
Q103	8-729-671-14	TRANSISTOR 2SC710
Q104	8-729-671-14	TRANSISTOR 2SC710
Q105	8-729-671-14	TRANSISTOR 2SC710
Q106	8-729-671-14	TRANSISTOR 2SC710
Q107	8-729-663-47	TRANSISTOR 2SC1364
Q108	8-729-663-47	TRANSISTOR 2SC1364
Q201	8-729-663-47	TRANSISTOR 2SC1364
Q202	8-729-663-47	TRANSISTOR 2SC1364
Q203	8-729-663-47	TRANSISTOR 2SC1364
Q204	8-729-201-52	TRANSISTOR 2SA1015
Q205	8-729-389-09	TRANSISTOR 2SC1890
Q206	8-729-389-09	TRANSISTOR 2SC1890
Q207	8-729-389-09	TRANSISTOR 2SC1890
Q208	8-729-663-47	TRANSISTOR 2SC1364
Q301	8-729-663-47	TRANSISTOR 2SC1364
Q302	8-729-201-52	TRANSISTOR 2SA1015
Q303	8-729-663-47	TRANSISTOR 2SC1364
Q304	8-729-663-47	TRANSISTOR 2SC1364
Q305	8-729-663-47	TRANSISTOR 2SC1364
Q306	8-729-663-47	TRANSISTOR 2SC1364
Q307	8-729-663-47	TRANSISTOR 2SC1364
Q308	8-729-663-47	TRANSISTOR 2SC1364
Q309	8-729-663-47	TRANSISTOR 2SC1364
Q310	8-729-663-47	TRANSISTOR 2SC1364
Q401	8-729-203-04	TRANSISTOR 2SK30A
Q402	8-729-665-47	TRANSISTOR 2SC1362
Q403	8-729-203-05	TRANSISTOR 2SK30A
Q404	8-729-665-47	TRANSISTOR 2SC1362

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 (▲-△△△-△△△-XX or ▲-△△△△-△△△-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: $\mu\mu\text{F}$.

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

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q405	8-729-201-52	TRANSISTOR 2SA1015
Q406	8-729-663-47	TRANSISTOR 2SC1364
Q501	8-729-663-47	TRANSISTOR 2SC1364
Q502	8-729-663-47	TRANSISTOR 2SC1364
Q503	8-729-663-47	TRANSISTOR 2SC1364
Q504	8-729-663-47	TRANSISTOR 2SC1364
Q505	8-729-663-47	TRANSISTOR 2SC1364
Q506	8-729-663-47	TRANSISTOR 2SC1364
Q601	8-729-288-02	TRANSISTOR 2SD880
Q602	8-729-663-47	TRANSISTOR 2SC1364
Q603	8-729-288-02	TRANSISTOR 2SD880
Q604	8-729-113-32	TRANSISTOR 2SB733
Q605	8-729-177-43	TRANSISTOR 2SD774
Q606	8-729-103-43	TRANSISTOR 2SB734
Q607	8-729-389-09	TRANSISTOR 2SC1890
Q608	8-729-663-47	TRANSISTOR 2SC1364
Q609	8-729-201-52	TRANSISTOR 2SA1015
Q610	8-729-663-47	TRANSISTOR 2SC1364
R103	▲.1-247-109-00	CARBON 230 5% 1/4W F
R128	▲.1-247-109-00	CARBON 230 5% 1/4W F
R201	▲.1-247-107-00	CARBON 100 5% 1/4W F
R312	▲.1-247-107-00	CARBON 100 5% 1/4W F
R318	▲.1-247-109-00	CARBON 230 5% 1/4W F
R601	▲.1-247-131-00	CARBON 1K 5% 1/4W F
R602	▲.1-247-083-00	CARBON 10 5% 1/4W F
R607	▲.1-247-083-00	CARBON 10 5% 1/4W F
R609	▲.1-247-083-00	CARBON 10 5% 1/4W F
R611	▲.1-247-097-00	CARBON 39 5% 1/4W F
R612	▲.1-247-137-00	CARBON 1.8K 5% 1/4W F
R614	▲.1-247-097-00	CARBON 39 5% 1/4W F
R615	▲.1-247-137-00	CARBON 1.8K 5% 1/4W F
RT101	1-226-236-00	RES, ADJ, CARBON 10K
RT201	1-226-236-00	RES, ADJ, CARBON 10K
RT202	1-226-240-00	RES, ADJ, CARBON 200K
RT203	1-226-239-00	RES, ADJ, CARBON 100K
T301	1-405-914-00	COIL, LW OSC
T302	1-405-927-00	COIL, MW OSC
X401	1-527-731-00	OSCILLATOR, CRYSTAL
X401	1-527-731-00	OSCILLATOR, CRYSTAL

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

Les composants identifiés par une trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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