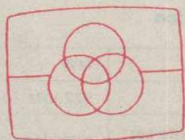


## STR-VX10L



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AEP Model  
UK Model



## FM STEREO / FM-AM RECEIVER

## SPECIFICATIONS

## Amplifier section

## Continuous RMS power output

(both channels driven  
simultaneously)

At 20 Hz - 20 kHz

20 + 20 watts (0.08% THD, 8 ohms)

According to DIN 45500

25 + 25 watts (8 ohms)

At 1 kHz

34 + 34 watts (5% THD, 8 ohms)

Dynamic headroom 1.4 dB (78 IHF)

Harmonic distortion Less than 0.08% at rated output

Intermodulation (IM) distortion

Less than 0.08% at rated output

Frequency response PHONO: RIAA equalization curve  $\pm 0.5$  dB

CD/AUX ) 10 Hz - 50 kHz  $\pm 0_{-3}$  dB

TAPE ) Less than 200  $\mu$ V (8 ohms, network A)

Residual noise

Damping factor

Inputs

30 (8 ohms, 1 kHz)

## Outputs

## REC OUT

Voltage 150 mV

Impedance 10 k ohms

## SPEAKER A, B

Accepts speakers of 8 to 16 ohms.

## HEADPHONES

Accepts low and high impedance headphones.

## Tone controls

## BASS

$\pm 8$  dB at 100 Hz

## TREBLE

$\pm 8$  dB at 10 kHz

Loudness (att. 30 dB) + 8 dB at 100 Hz

— Continued on page 2 —

	Sensitivity	Impedance	Maximum input capability (1 kHz)	S/N (weighting network, input level)
PHONO	2.5 mV	50 k $\Omega$	150 mV	74 dB (A, 2.5 mV)
CD/AUX TAPE	150 mV	50 k $\Omega$	—	90 dB (A, 150 mV)

## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  $\Delta$  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.



MICROFILM

SONY<sup>®</sup>  
SERVICE MANUAL

**FM tuner section**

Tuning range 87.5 MHz- 108 MHz  
 Antenna terminal 75 ohms, unbalanced  
 300 ohms, balanced  
 Intermediate frequency 10.7 MHz  
 Sensitivity at 46 dB quieting (40 kHz deviation)  
 4.5  $\mu$ V (mono)  
 45  $\mu$ V (stereo)  
 Usable sensitivity 1.7  $\mu$ V (S/N = 26 dB, 40 kHz deviation)  
 11.2 dBf, 2  $\mu$ V (IHF)  
 Signal-to-noise ratio (40 kHz deviation)  
 70 dB (mono), 65 dB (stereo)  
 Harmonic distortion (40 kHz deviation)  
 0.2% (mono), 0.3% (stereo) at 1 kHz  
 IM distortion (40 kHz deviation)  
 0.2% (mono), 0.3% (stereo)  
 Separation 45 dB at 1 kHz  
 Frequency response 44 Hz- 12.5 kHz <sup>+0.5</sup><sub>-1</sub> dB  
 Selectivity 60 dB at 300 kHz  
 Capture ratio 1.5 dB  
 AM suppression ratio 48 dB  
 Image response ratio 45 dB  
 IF response ratio 90 dB  
 Spurious response ratio 70 dB  
 RF intermodulation 60 dB (IHF)  
 Auto-tuning threshold Approx. 45 dBf

**MW/LW tuner section**

		MW	LW
Tuning range		522 kHz - 1,602 kHz	153 kHz - 344 kHz
Antenna	ferrite-bar antenna	provided	provided
	external antenna terminal	provided	provided
Intermediate frequency		450 kHz	450 kHz
Usable sensitivity	ferrite-bar antenna	300 $\mu$ V/m (at 1,000 kHz)	500 $\mu$ V/m (at 230 kHz)
	external antenna	100 $\mu$ V (at 1,000 kHz)	100 $\mu$ V (at 230 kHz)
Signal-to-noise ratio		54 dB	54 dB
Harmonic distortion		0.3%	0.3%
Selectivity		35 dB (9 kHz)	35 dB (9 kHz)

**General**

**System** Tuner section: PLL quartz-locked digital synthesizer system  
 Preamplifier section: low-noise NF type equalizer amp.  
 Power amplifier section: quasi-complementary SEPP

**Power requirements** AEP model: 220 V ac (or 240 V ac adjustable by authorized Sony personnel), 50 Hz  
 UK model: 240 V ac, 50 Hz  
 Memory back-up power: 3 V dc, two batteries, IEC designation R6 (size AA)  
 Battery life: approx. 1 year with Sony SUM-3(NS) New Super Batteries

**Power consumption** 75 watts

**AC outlets** 2 switched total 100 watts

**Dimensions** Approx. 430 x 105 x 300 mm (w/h/d)  
 (17 x 4 1/4 x 11 7/8 inches)  
 including projecting parts and controls

**Weight** Approx. 6.3 kg (13 lbs 14 oz) net  
 Approx. 7.6 kg (16 lbs 12 oz) in shipping carton

**FEATURES**

The STR-VX10L with its Direct Access System, makes station selection easier than ever. The STR-VX10L also employs the quartz-locked digital synthesizer system in a separate state-of-the-art tuner section and provides medium-high power output for your home audio system from its amplifier section.

- Phono amplifier stage, which employs an IC, is carefully designed to improve stereo separation and signal-to-noise ratio.
  - The quartz-locked digital synthesizer system with a sophisticated Phase Locked Loop (PLL) circuit allows extremely precise tuning of FM and MW/LW stations with an electronic digital readout on the frequency display.
- A new IC recently developed by Sony allows the high comparison frequency thus eliminating the tendency for a low comparison frequency, which had been previously generally employed, to slip into the audio range and degrade the signal-to-noise ratio.

● Four methods of tuning are available:

**Direct access tuning:** FM or MW/LW stations can be directly tuned in by inputting the station frequency with the DIRECT TUNING buttons.

**Automatic tuning:** the FM band is scanned automatically until a signal is received.

**Manual tuning:** MW/LW tuning can be accomplished either by changing the frequency display reading step by step or slowly to monitor the frequency.

**Memory preset tuning:** a desired memorized station can be instantly received by pressing the PRESET TUNING button.

● The memorized stations are retained in memory by two back-up batteries when the power is turned off. These back-up batteries also allow the last station tuned in to be held in memory.

**OPERATING VOLTAGE**

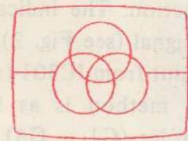
Before connecting the unit to the power source, check that the operating voltage of your unit is the same as the local power line voltage.

The AEP model operates on 220 V ac (or 240 V ac adjustable by authorized Sony personnel).

The UK model operates on 240 V ac.

## LOCATION AND FUNCTION OF CONTROLS

Before plugging in or attempting to operate this receiver, 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.

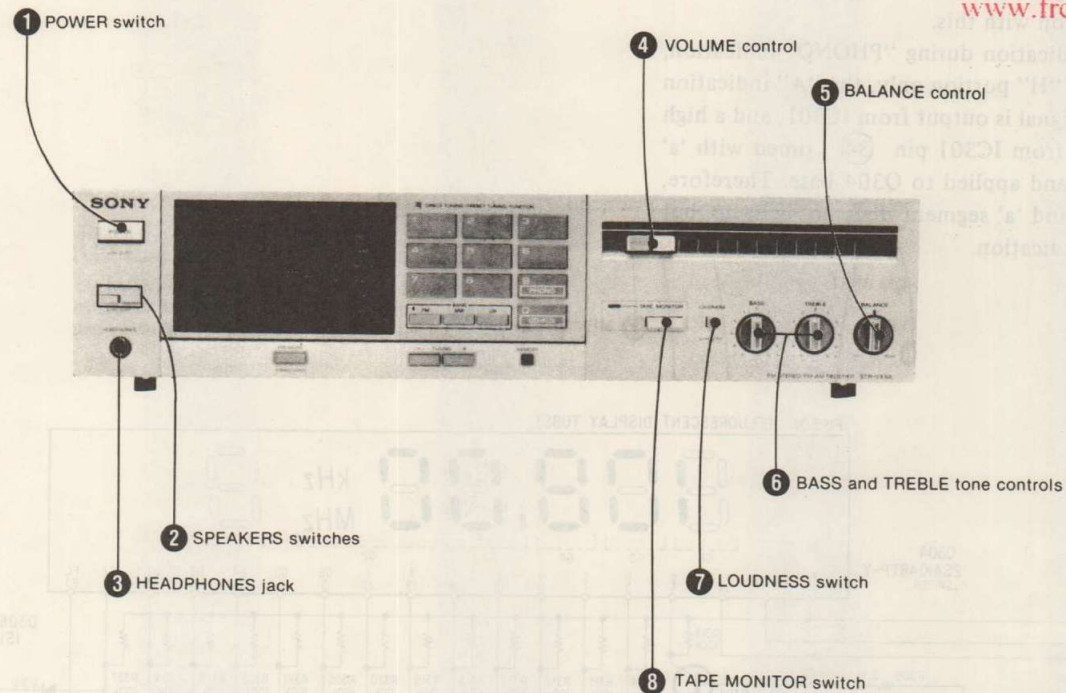


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## Amplifier section



## 1 POWER switch

Depress to turn on the power. To turn the power off, press the switch again.

## 2 SPEAKERS switches

To drive speaker system A, depress the A switch.  
To drive speaker system B, depress the B switch.  
To drive both speaker systems A and B, depress both A and B switches.

## 3 HEADPHONES jack

Accepts any low or high impedance stereo headphones.  
For headphone monitoring only, keep the SPEAKERS switches released.

## 4 VOLUME control

Regulates the overall sound level.  
Sliding the lever to the right increases the volume and sliding it to the left decreases the volume. Be sure to lower the volume whenever you turn the receiver on or off or make system connections.

## 5 BALANCE control

Governs the amount of sound coming from each paired speaker to get optimum stereo effect. When you turn the BALANCE control to the right, the left channel volume is decreased, and vice versa.

## 4 VOLUME control

## 5 BALANCE control

## 6 BASS and TREBLE tone controls

## 6 BASS and TREBLE tone controls

These knobs control the prominence of bass and treble response. Clockwise rotation increases response; counterclockwise rotation decreases it. Normally keep these at the "0" position. Adjust the tone to the acoustic condition of the listening room or to your preference.

## 7 LOUDNESS switch

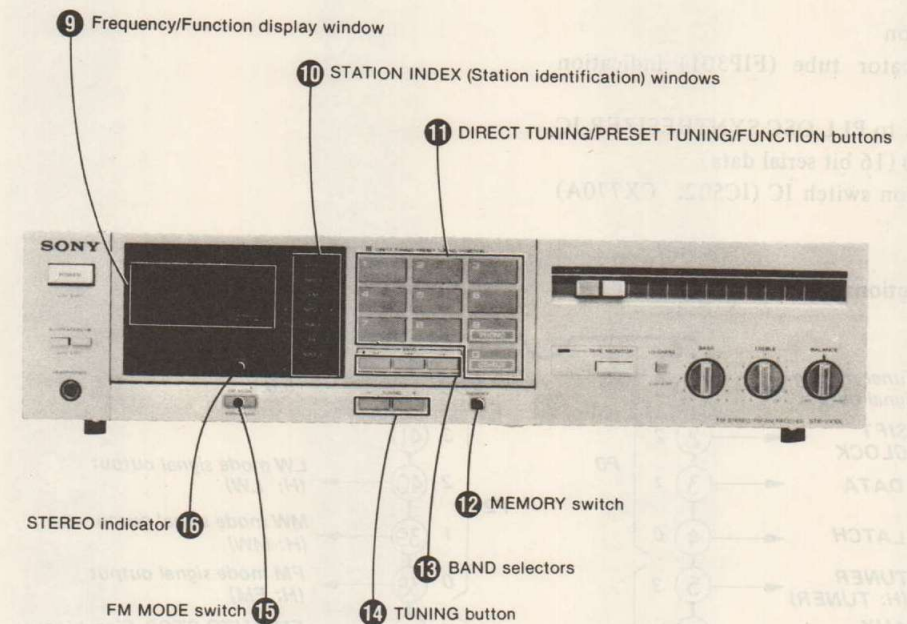
Normally keep the switch released (OFF). When listening to program sources at a low VOLUME control setting, depress the switch (ON).

This loudness control compensates for the human ear's decreased response to very low and high frequency sound at low volume levels, and provides an apparently uniform response. The effect of this control gradually decreases as the volume is increased by the VOLUME control.

## 8 TAPE MONITOR switch

To listen to a taped program, depress this switch. The indication above this switch will light up, indicating that a playback output from the tape recorder connected to the TAPE jacks can be heard.

## Tuner section



## 9 Frequency/function display window

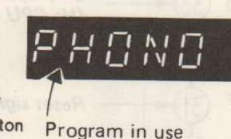
During broadcast reception



Frequency being received

The PRESET TUNING button at which the frequency is memorized.

During reproduction of record source or auxiliary input source.



Program in use

## 10 STATION INDEX (station identification) windows

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

## 11 DIRECT TUNING/PRESET TUNING/FUNCTION buttons

Press the buttons according to the following desired purposes. The pressed figures will be displayed on the frequency/function display window.

## For direct access tuning

(the 1 to 0 buttons serve as DIRECT TUNING buttons)  
To tune in the frequency directly, press the BAND selector and the buttons.

## For memory preset tuning

(the 1 to 8 buttons serve as PRESET TUNING buttons)  
To call up a memorized station, press the appropriate button.

## For reproduction of record and auxiliary sources

(the 9 and 0 buttons serve as FUNCTION buttons)  
Press to select between PHONO(9) or CD/AUX(0).

## 12 MEMORY switch

Press to operate memory circuit. The "0" indicator will appear on the band/frequency-display window for a few seconds indicating that the memory circuit is standing by.

## 13 Band selectors

Depress the appropriate selector to select the desired band: FM, MW, or LW.

## 14 TUNING buttons

Press either the "+" or "-" button to change the frequency: Press the "-" button to go to a lower frequency and the "+" button to go to a higher.

## During FM reception:

Press to start the automatic frequency scanning (in 0.05 MHz steps).

## During MW/LW reception:

Press and keep the button depressed to change the frequency continuously. To change the frequency rapidly, press and release the button immediately.

## 15 FM MODE switch

During FM reception, when a stereo signal of sufficient strength is received, the receiver operates in the stereo mode. (The STEREO indicator will illuminate.)

When you want to tune in a very weak FM station, or when an FM program is too noisy, press this switch. (The STEREO indicator illumination will go out.) Press it again to return to the stereo mode. The mode will automatically return to the stereo mode when the frequency is changed.

## 16 STEREO indicator

This indicator will light when an FM stereo program of sufficient signal strength is tuned in with the FM MODE switch engaged.

1-2. CIRCUIT DESCRIPTION

IC301 (Microcomputer)

IC301 (TCP4621BP-6502) is a microcomputer IC. The terminal functions are as follows:

Main Functions:

- Key input detection
- Fluorescent indicator tube (FIP301) indication output
- Data transmission to PLL OSC SYNTHESIZER IC (IC203: CX778A) (16 bit serial data)
- Control of function switch IC (IC502: CX770A) control signal

IC301 Terminal Functions

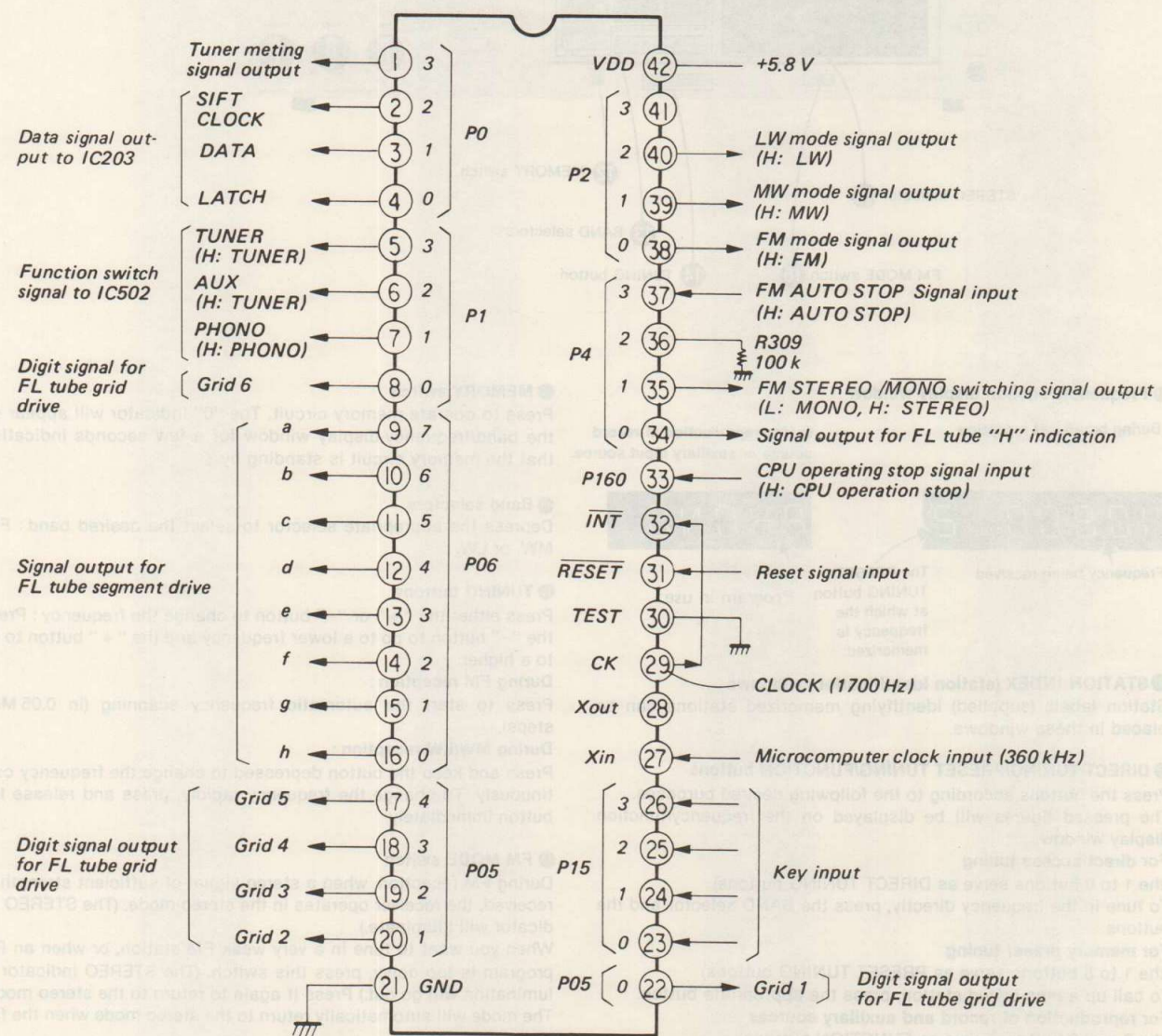


Fig. 1

FL tube - - - Fluorescent Indicator Tube

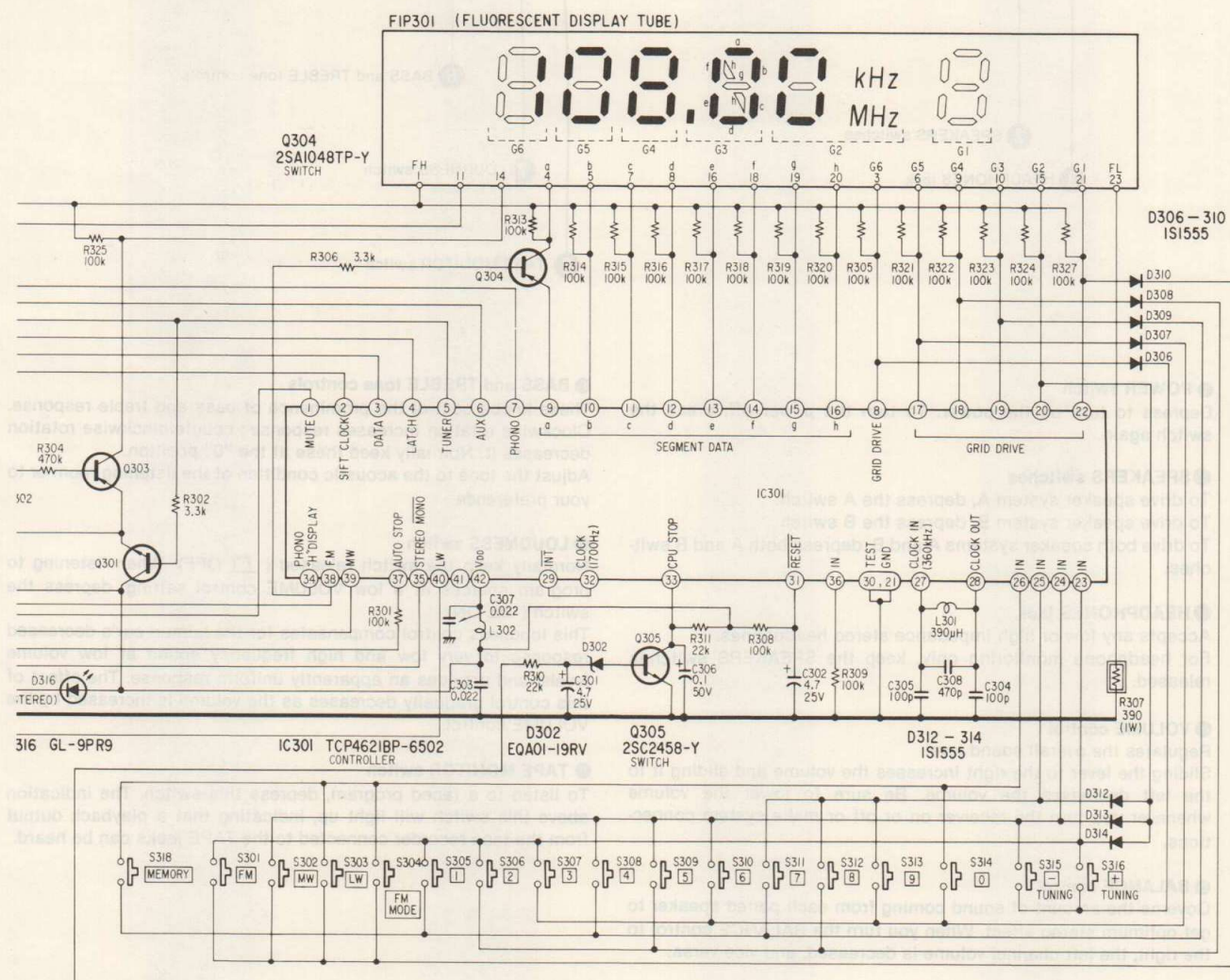
Fluorescent Indicator Tube (FL Tube)

The FL tube performs indication of frequency received and function. The indication is done by the segment drive signal (see Fig. 2) and grid drive signal (see Fig. 3) output from IC301 (microcomputer).

The indication method is as follows. The grid is turned on in order (G1 - G6), by time sharing, by the grid drive signal, and the a-h segment drive is sent out in conjunction with this.

For the "H" indication during "PHONO" indication, considering the "H" portion only, the "A" indication segment drive signal is output from IC301, and a high pulse is output from IC301 pin (34), timed with 'a' segment drive, and applied to Q304 base. Therefore, Q304 goes off and 'a' segment does not light up, but becomes "H" indication.

(see Fig. 2)



"H" Indication during "PHONO" Indication and Segment Waveforms for "PHONO" Indication

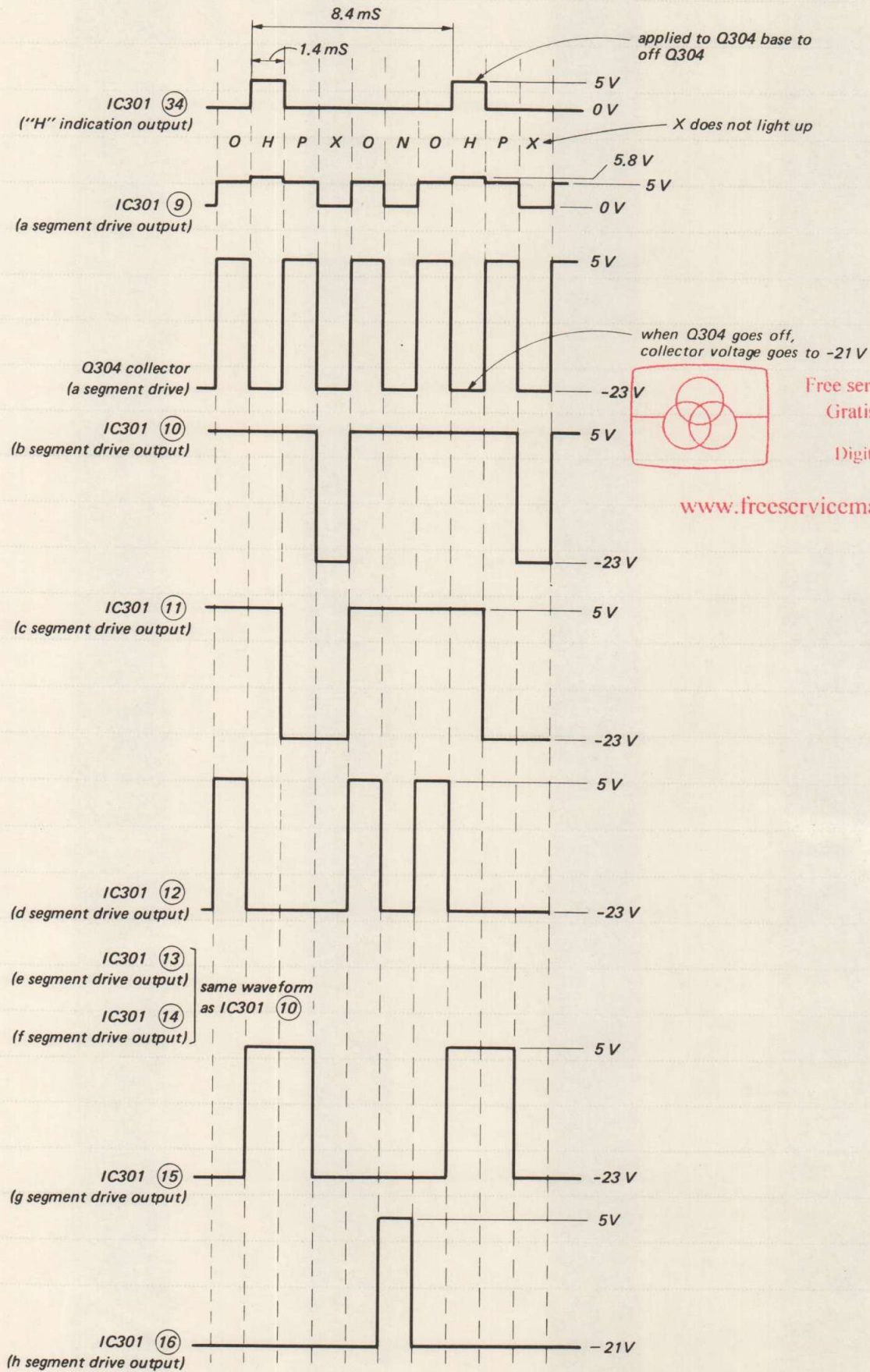


Fig. 3

Grid Drive Signal

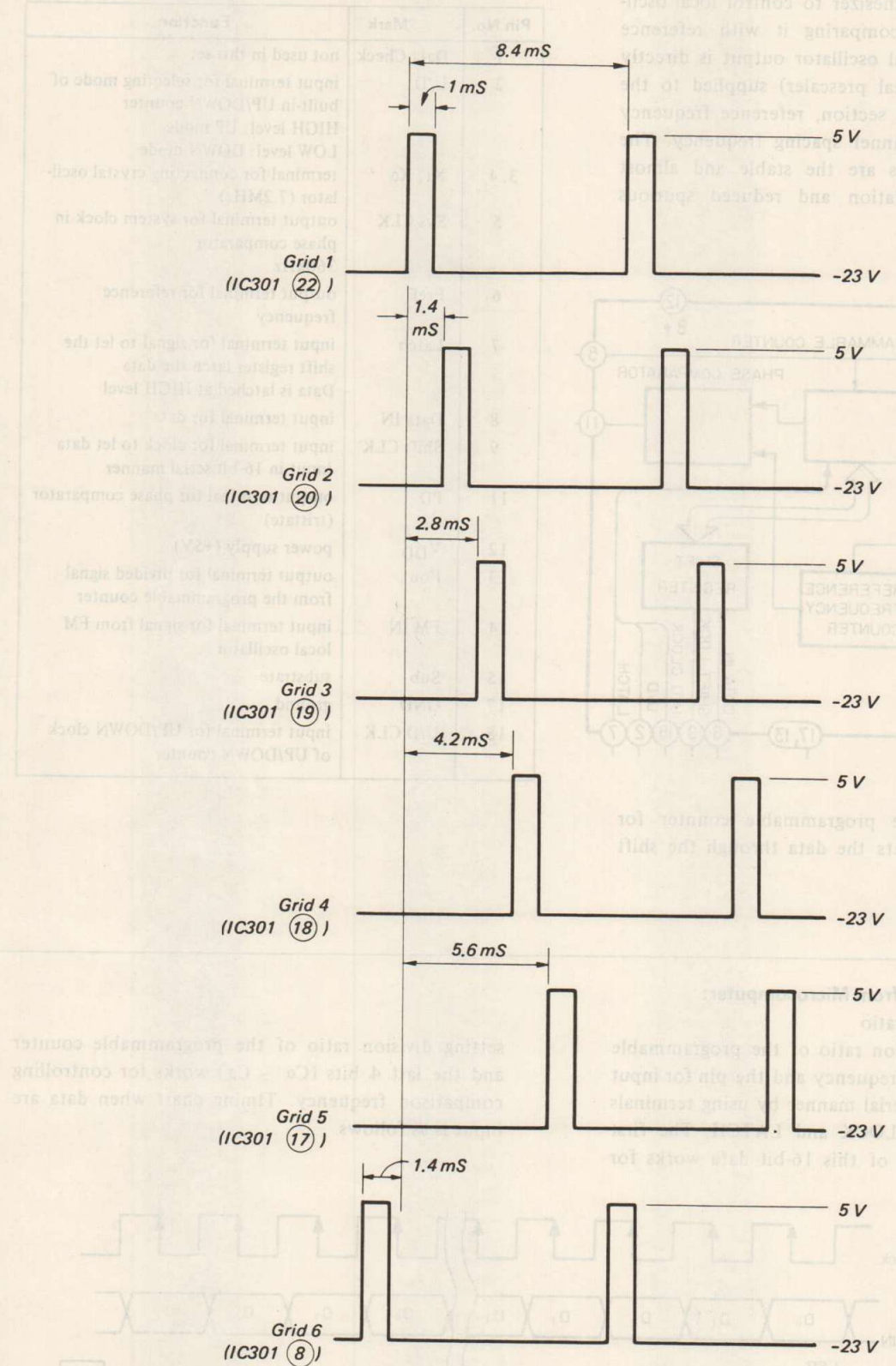
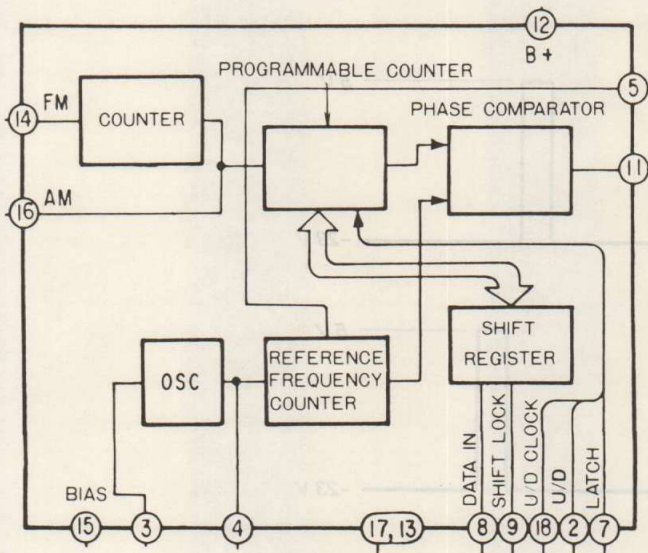


Fig. 4

**IC203 (CX778A)**

IC203 is the PLL synthesizer to control local oscillator frequency by comparing it with reference frequency. As the local oscillator output is directly (without any additional prescaler) supplied to the programmable counter section, reference frequency is as high as the channel spacing frequency. The benefits owing to this are the stable and almost ripple-less local oscillation and reduced spurious radiation.



**Function of Terminals**

Pin No.	Mark	Function
1	Data Check	not used in this set
2	U/D	input terminal for selecting mode of built-in UP/DOWN counter HIGH level: UP mode LOW level: DOWN mode
3, 4	X1, X0	terminal for connecting crystal oscillator (7.2MHz)
5	Sys CLK	output terminal for system clock in phase comparator 360kHz
6	Fref	output terminal for reference frequency
7	Latch	input terminal for signal to let the shift register latch the data Data is latched at HIGH level
8	Data IN	input terminal for data
9	Shift CLK	input terminal for clock to let data input in 16-bit serial manner
11	PD	output terminal for phase comparator (tristate)
12	V <sub>DD</sub>	power supply (+5V)
13	Fout	output terminal for divided signal from the programmable counter
14	FM IN	input terminal for signal from FM local oscillator
15	Sub	substrate
17	GND	ground
18	U/D CLK	input terminal for UP/DOWN clock of UP/DOWN counter

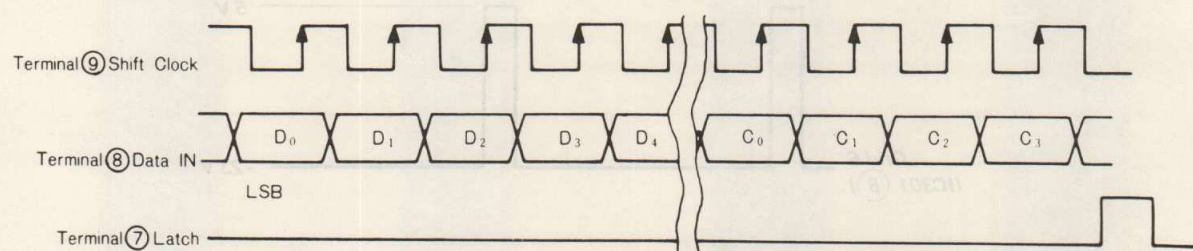
As shown above, the programmable counter for changing frequency gets the data through the shift register.

**Data Input Procedure from Microcomputer:**

- Setting of division ratio

Data for setting division ratio of the programmable counter, comparison frequency and the pin for input are input by 16-bit serial manner by using terminals DATA IN, SHIFT CLOCK and LATCH. The first 12 bits (D<sub>0</sub> - D<sub>11</sub>) of this 16-bit data works for

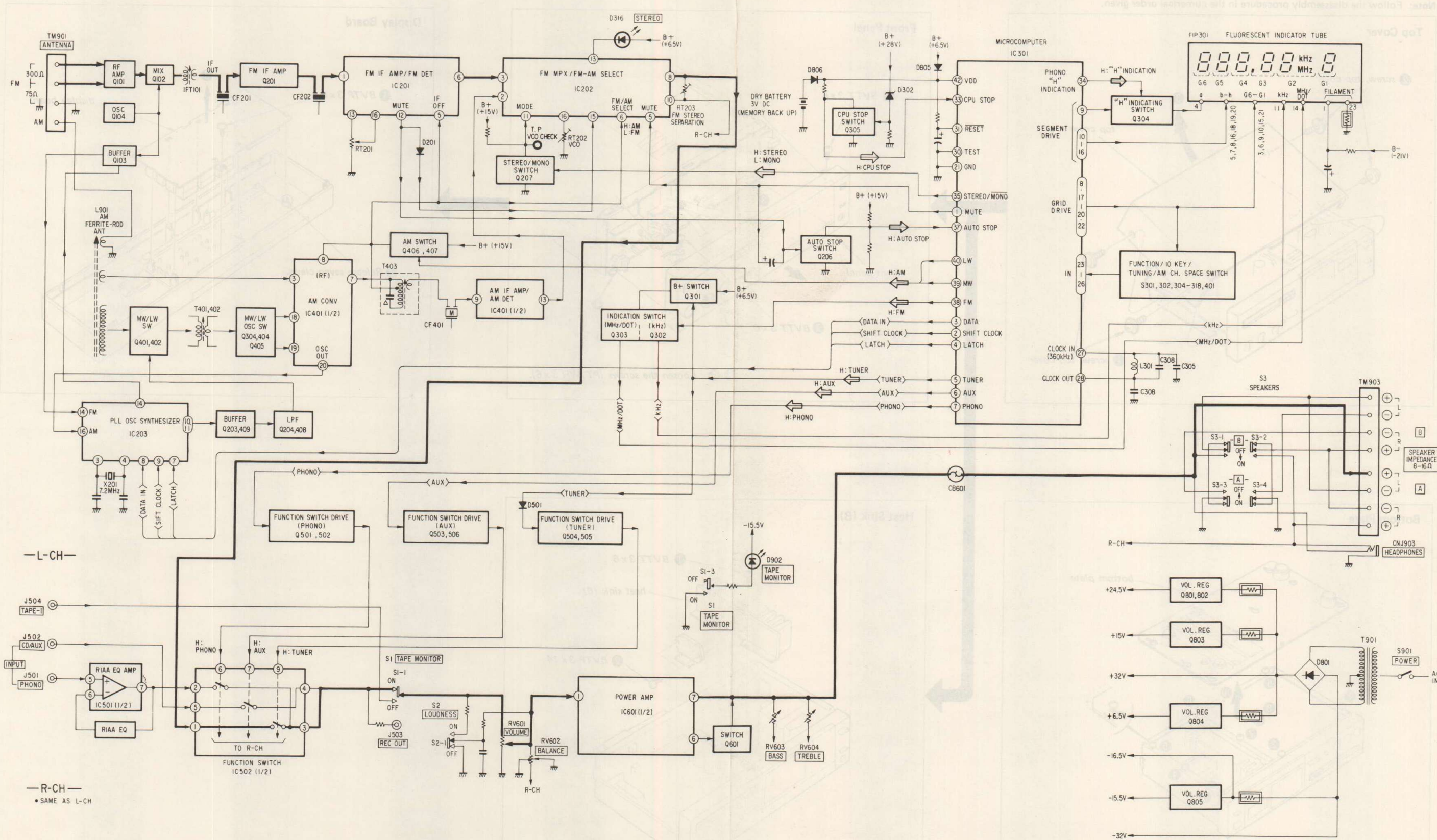
setting division ratio of the programmable counter and the last 4 bits (C<sub>0</sub> - C<sub>3</sub>) works for controlling comparison frequency. Timing chart when data are input is as follows.



**MEMO**

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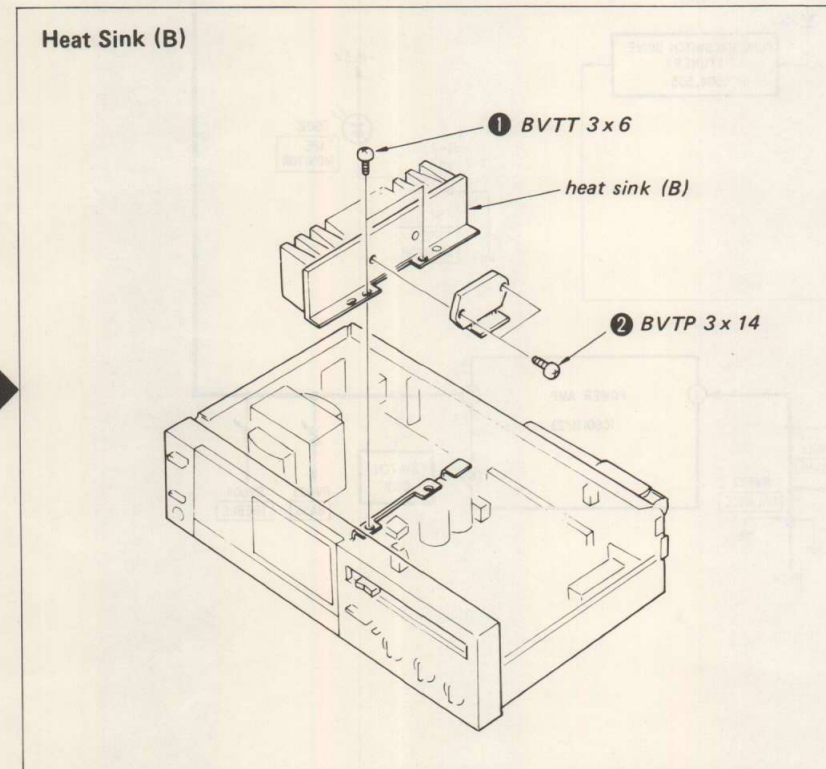
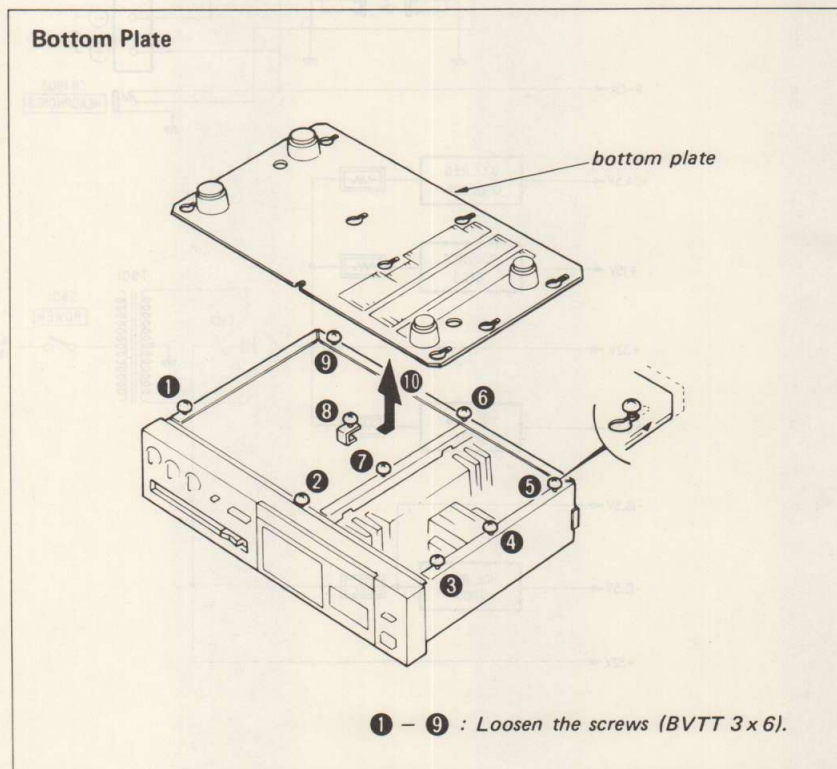
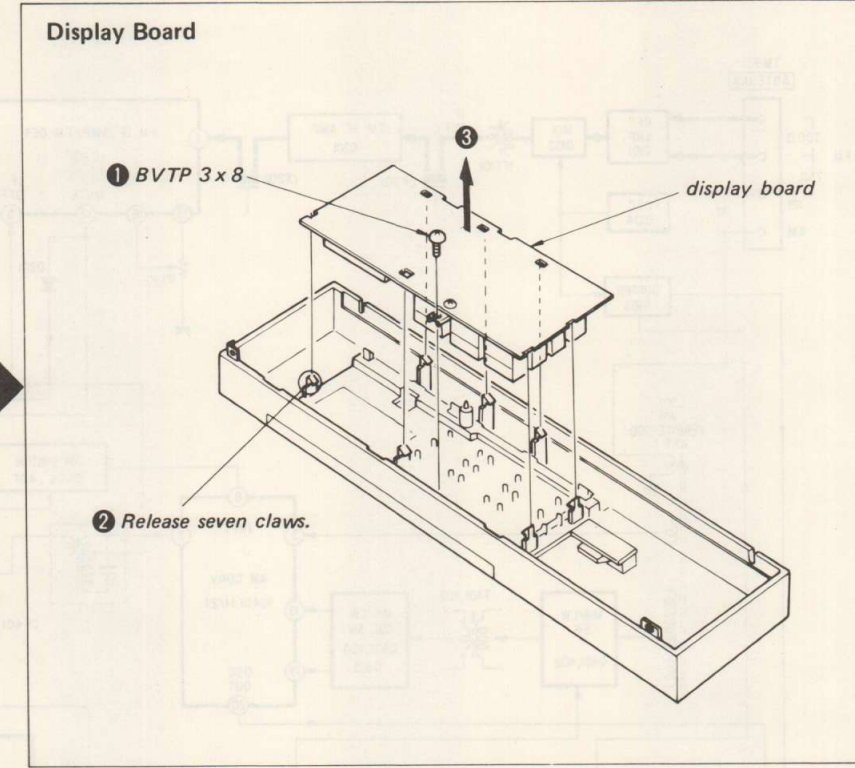
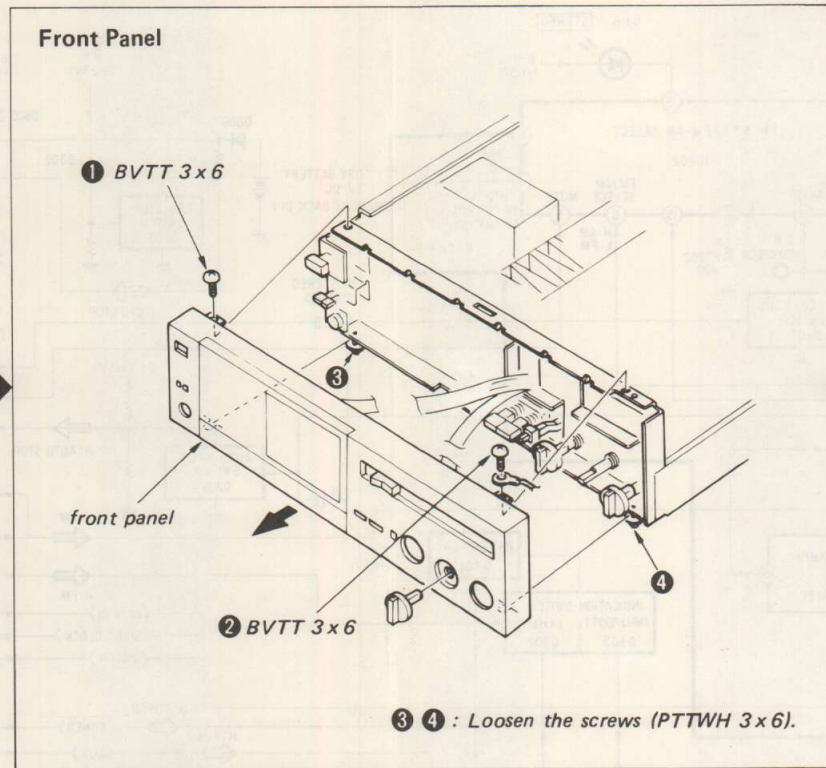
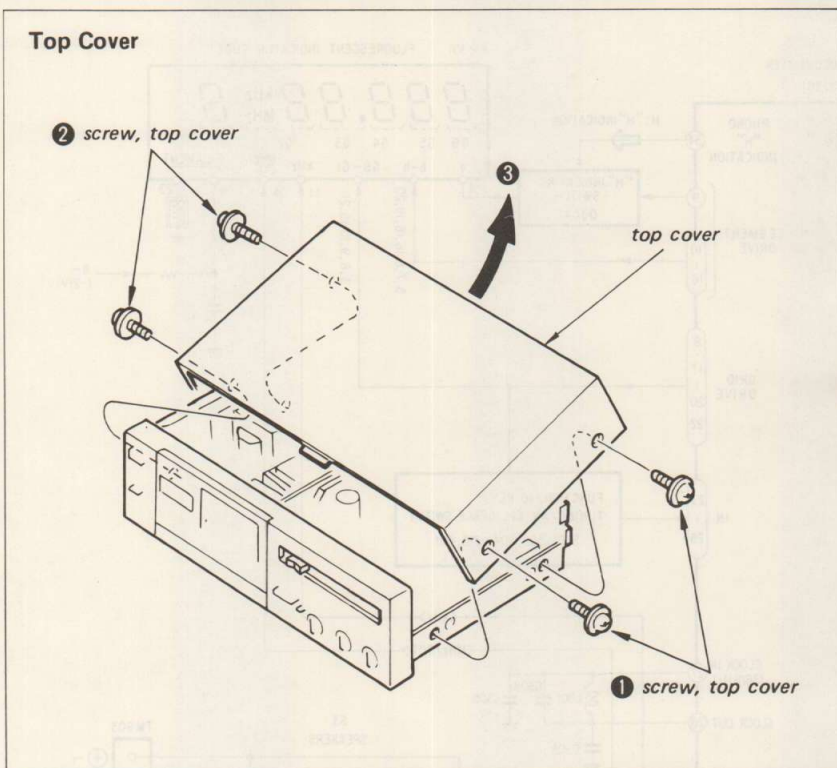
## 1-3. BLOCK DIAGRAM



### SECTION 2 DISASSEMBLY

#### 2-1. REMOVAL

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





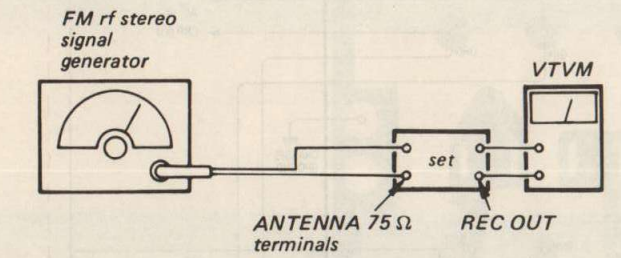
SECTION 3  
ADJUSTMENTS

STR-VX10L STR-VX10L STR-VX10L STR-VX10L

FM SECTION

FM Stereo Separation Adjustment

Procedures:



Carrier frequency: 98 MHz  
Output level: 1 mV (60 dB)  
Modulation: Audio 400 Hz: 16.25 kHz deviation (40.5%)  
Sub channel 38 kHz: 16.25 kHz deviation (40.5%)  
Pilot signal 19 kHz: 7.5 kHz deviation (19%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RT203 for minimum reading.
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RT203 for minimum reading.

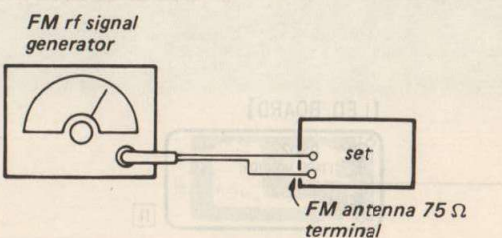
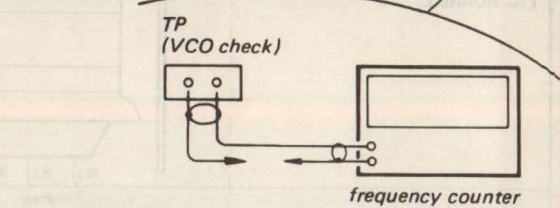
L-CH Stereo separation: (A) - (B)  
R-CH Stereo separation: (C) - (D)

The separations of both channels should be equal.

VCO Adjustment

A) Regular Method

Procedure:

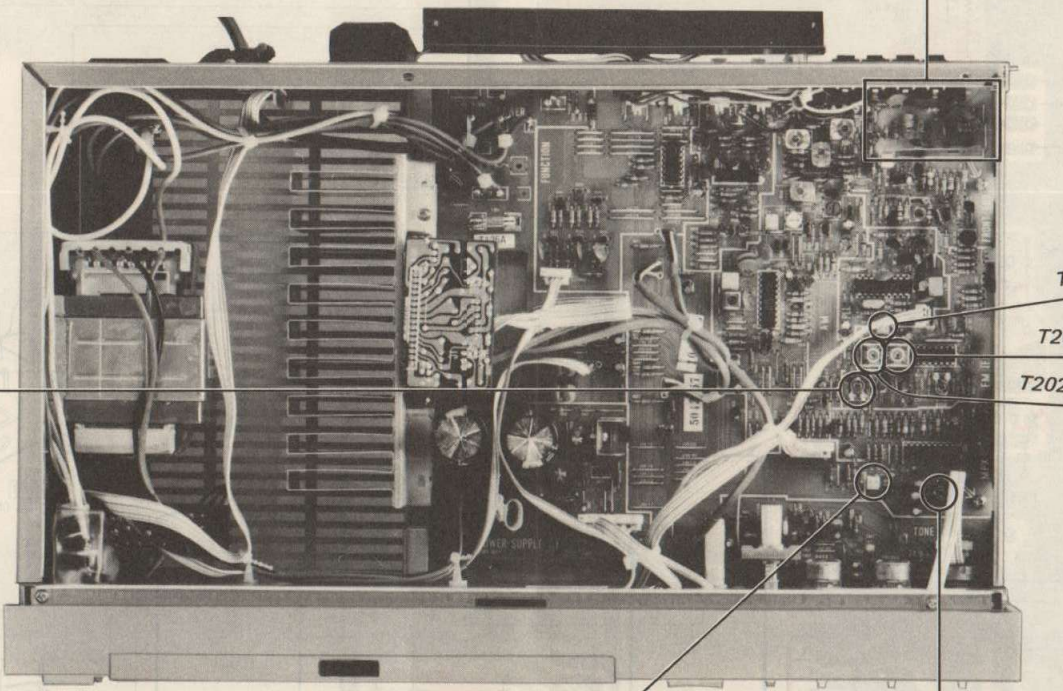


Carrier frequency: 98 MHz  
Modulation: no modulation  
Output level: 1 mV (60 dB)

1. Tune the set to 98 MHz.
2. Adjust RT202 for 19 kHz ± 50 Hz on the counter.

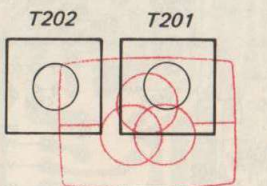
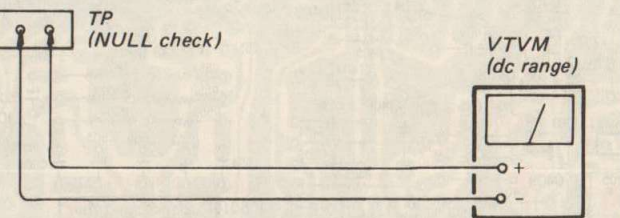
FM Frequency Coverage and Tracking Adjustment

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



FM Discriminator Alignment 1

Setting:



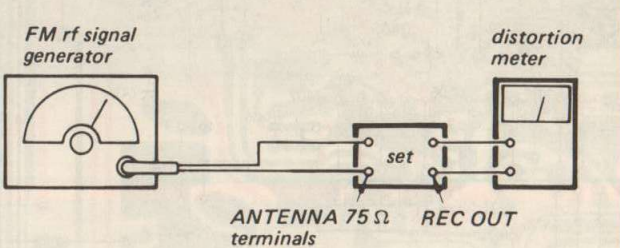
Procedure:

1. Tune the set in the strong station signal.
2. Adjust the black core (primary-side) of T201 for 0 V reading on VOM.

Note: When replacing the ceramic filter, perform this alignment.

FM Discriminator Alignment 2

Setting:

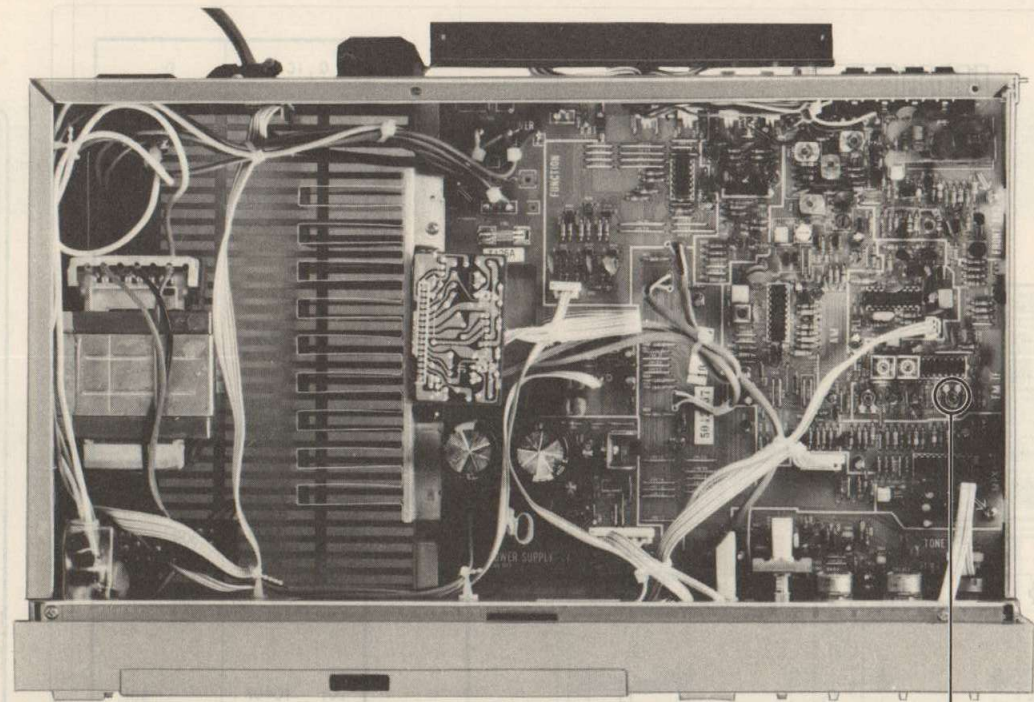


Carrier frequency: 98 MHz  
Modulation: 400 Hz, 40 kHz deviation (100%)  
Output level: 10 μV (20 dB)

Procedure:

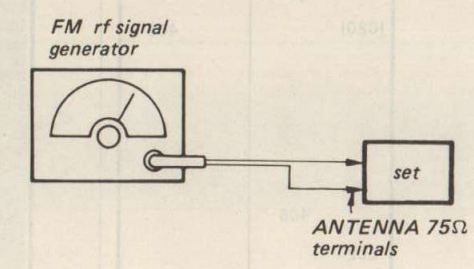
Adjust the white core (secondary side) of T202 for minimum distortion.

Note: When replacing the ceramic filter, perform this alignment. Repeat the secondary-side and primary-side alignments several times.



FM Auto Stop Level Adjustment

Setting:



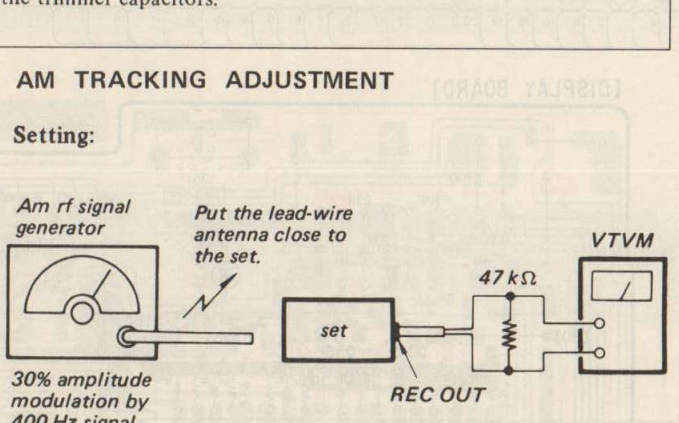
Procedure:

- Carrier frequency: 98 MHz  
Modulation: 400 Hz, 40 kHz deviation (100%)  
Output level: 8 μV (18 dB)
1. Tune the set to 98 MHz by pressing the TUNING buttons.
  2. Adjust RT201 so that the STEREO lamp goes on.

AM SECTION

AM TRACKING ADJUSTMENT

Setting:



Procedure:

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

Procedure:

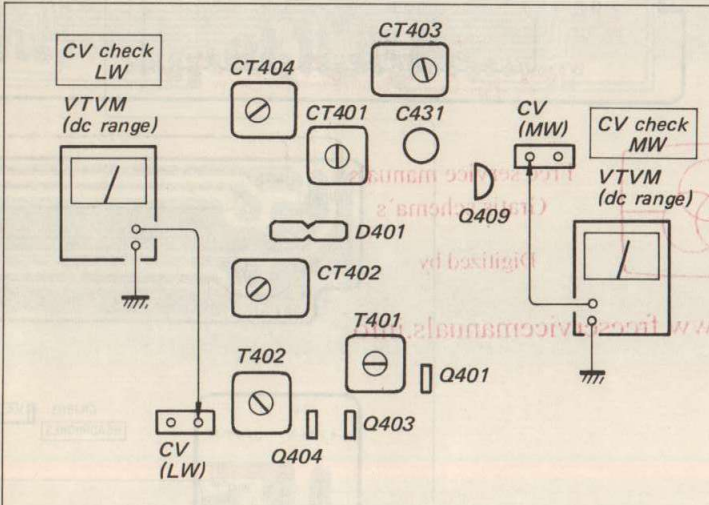
1. Tune the set to the SG signal.
2. Adjust for a maximum reading on VTVM.

MW

SG and set frequency	Adjustment part	Reading on VTVM
1,404 kHz	CT401	Maximum

LW

SG and set frequency	Adjustment part	Reading on VTVM
310 kHz	CT403	Maximum

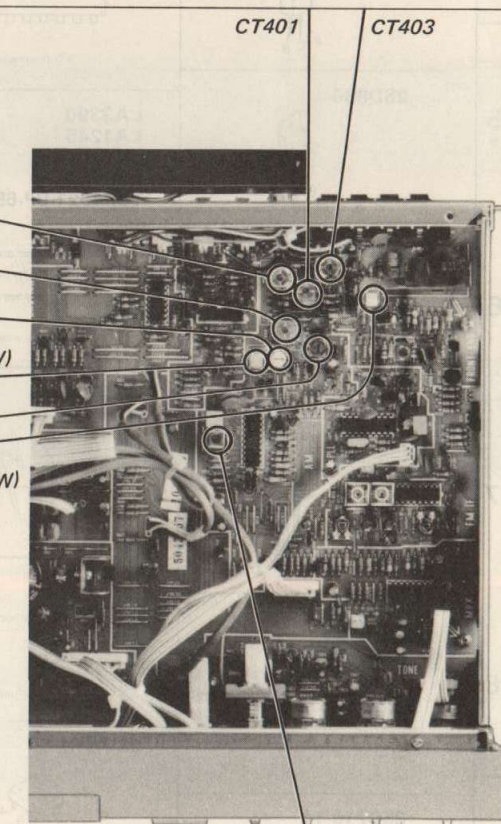


MW FREQUENCY COVERAGE ADJUSTMENT

frequency display in set	522 kHz (9 kHz step)	1,602 kHz (9 kHz step)
Voltage at test point (CV CHECK)	1.6 V ± 0.1 V	22 V ± 0.2 V
Adjustment part	T401	CT402

LW FREQUENCY COVERAGE ADJUSTMENT

frequency display in set	153 kHz (1 kHz step)	344 kHz (1 kHz step)
Voltage at test point (CV CHECK)	2.2 V ± 0.1 V	18.5 V ± 0.2 V
Adjustment part	T402	CT404



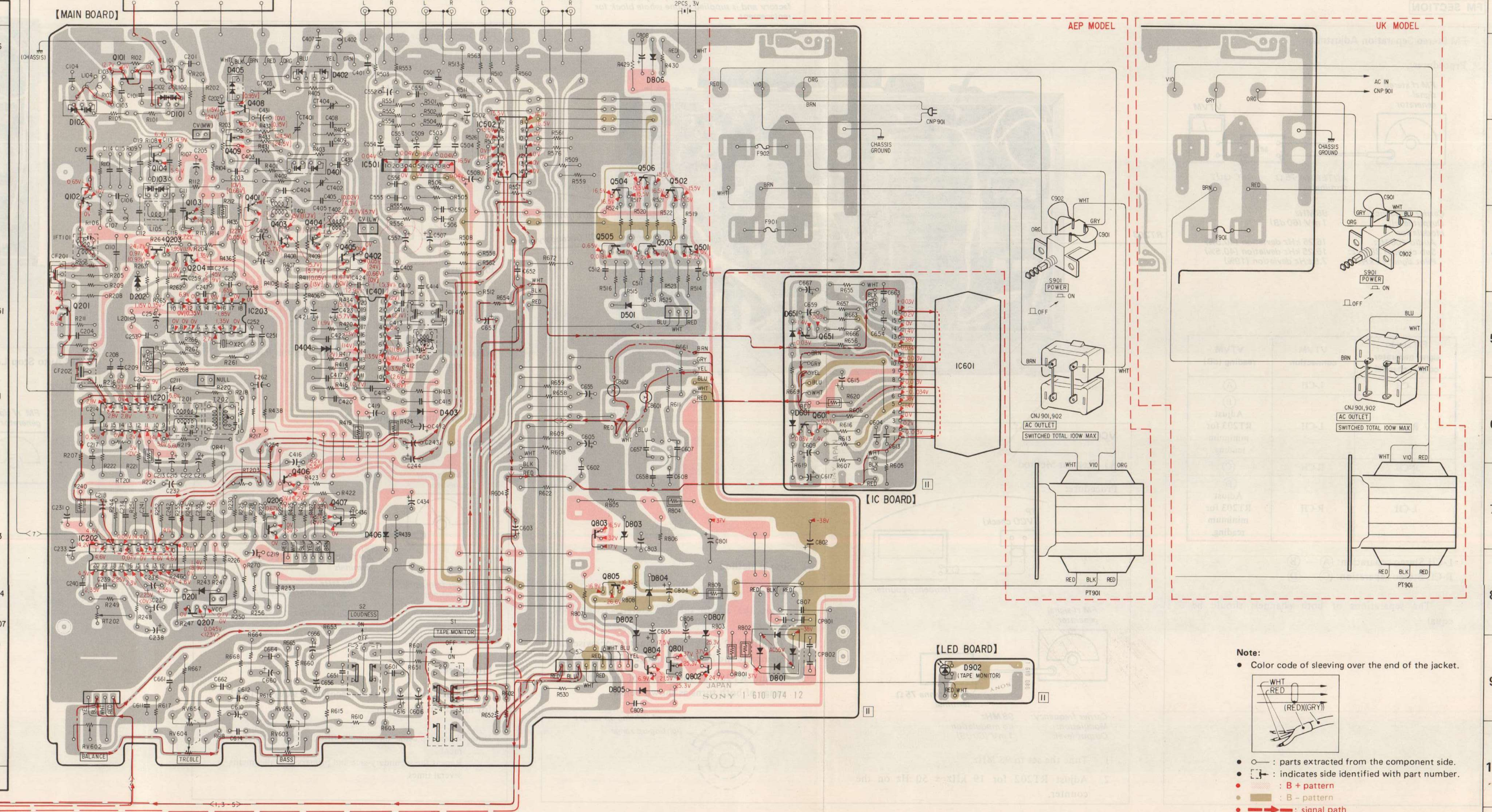
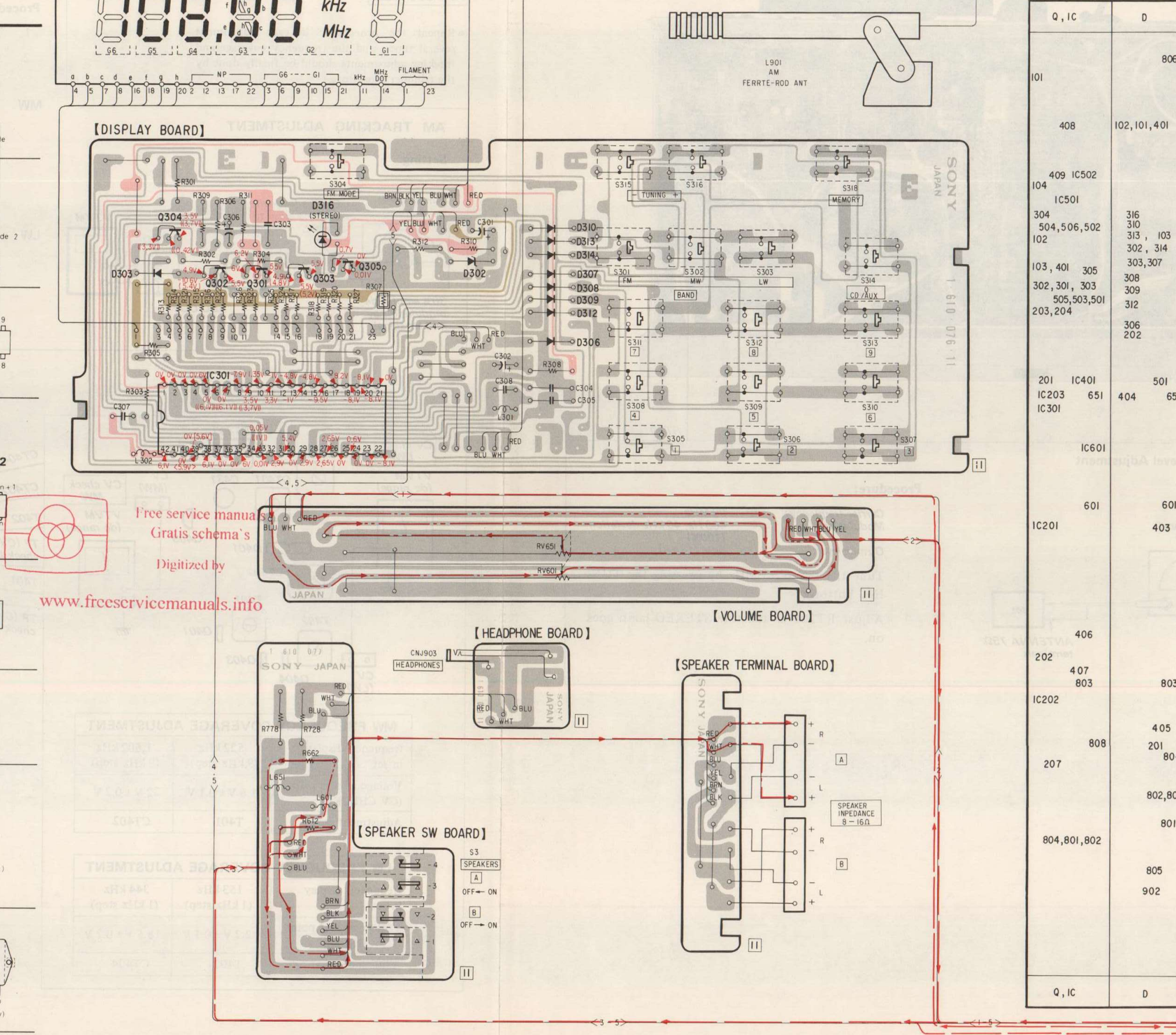
450 kHz	T403
Adjust for a maximum reading on VOM.	
AM IF ALIGNMENT	

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z A1 B1 C1 D1 E1

SECTION 4 DIAGRAMS

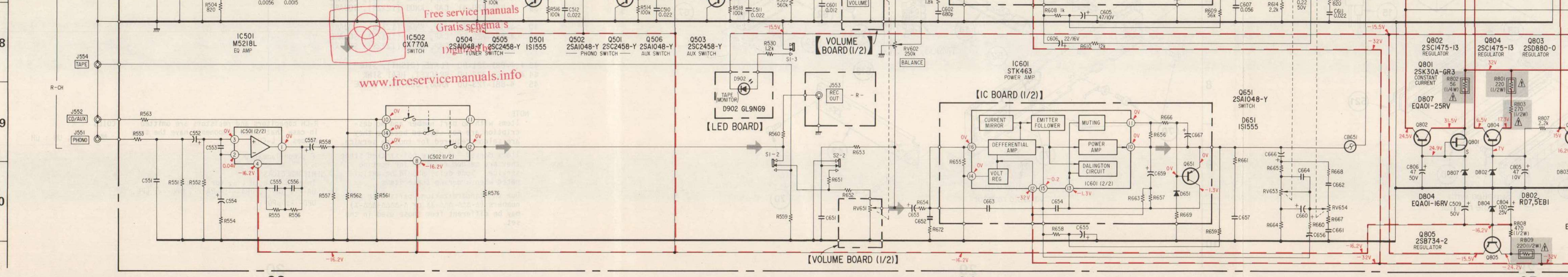
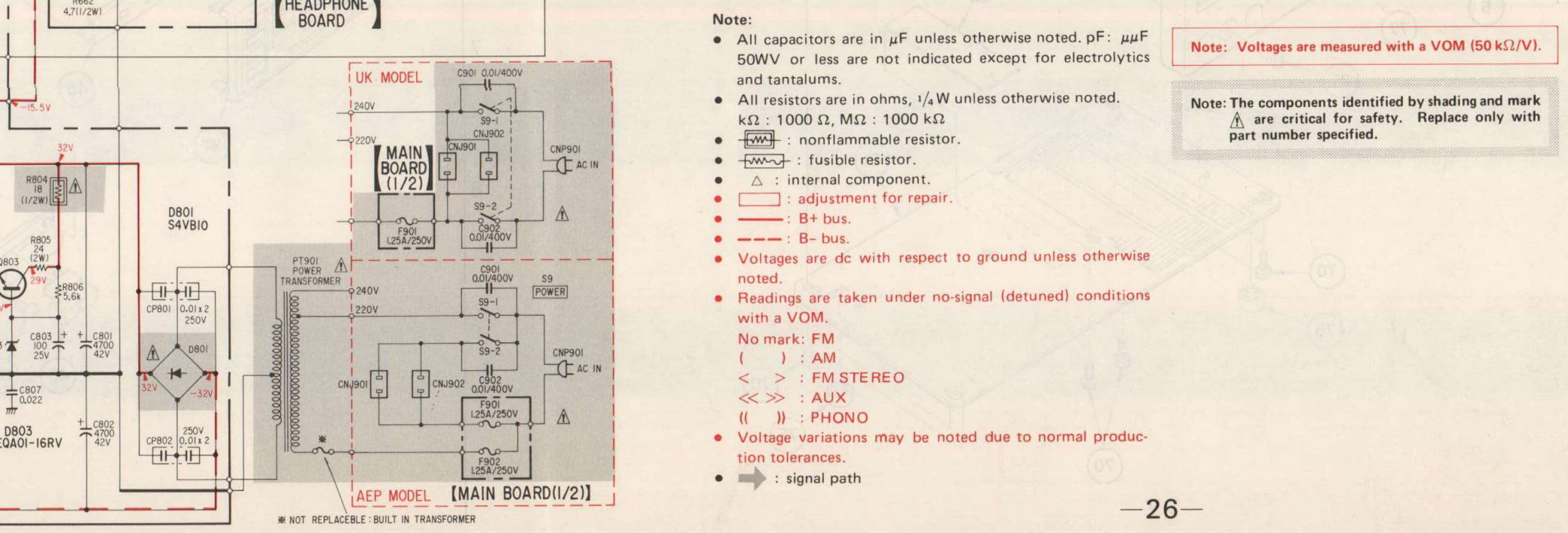
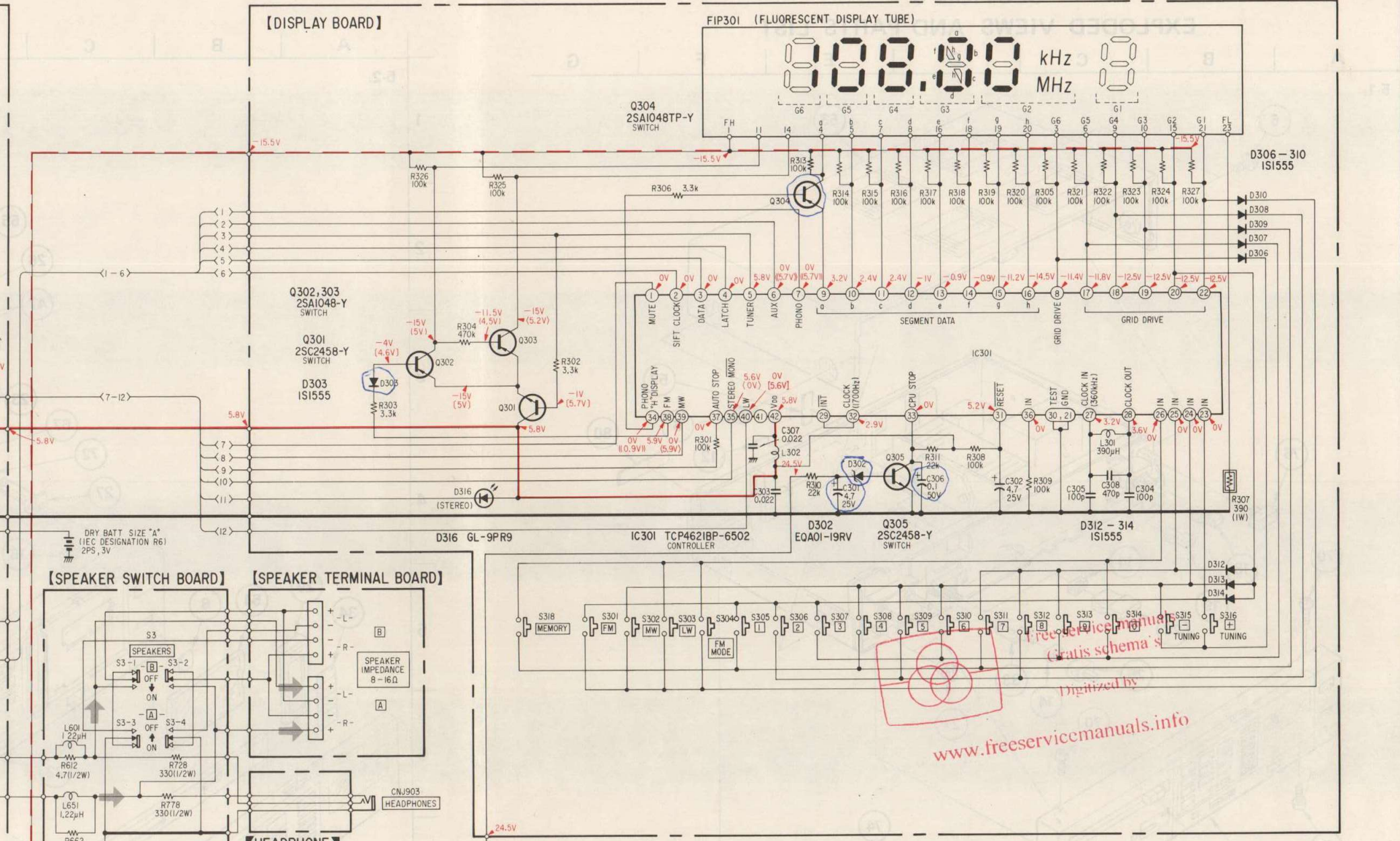
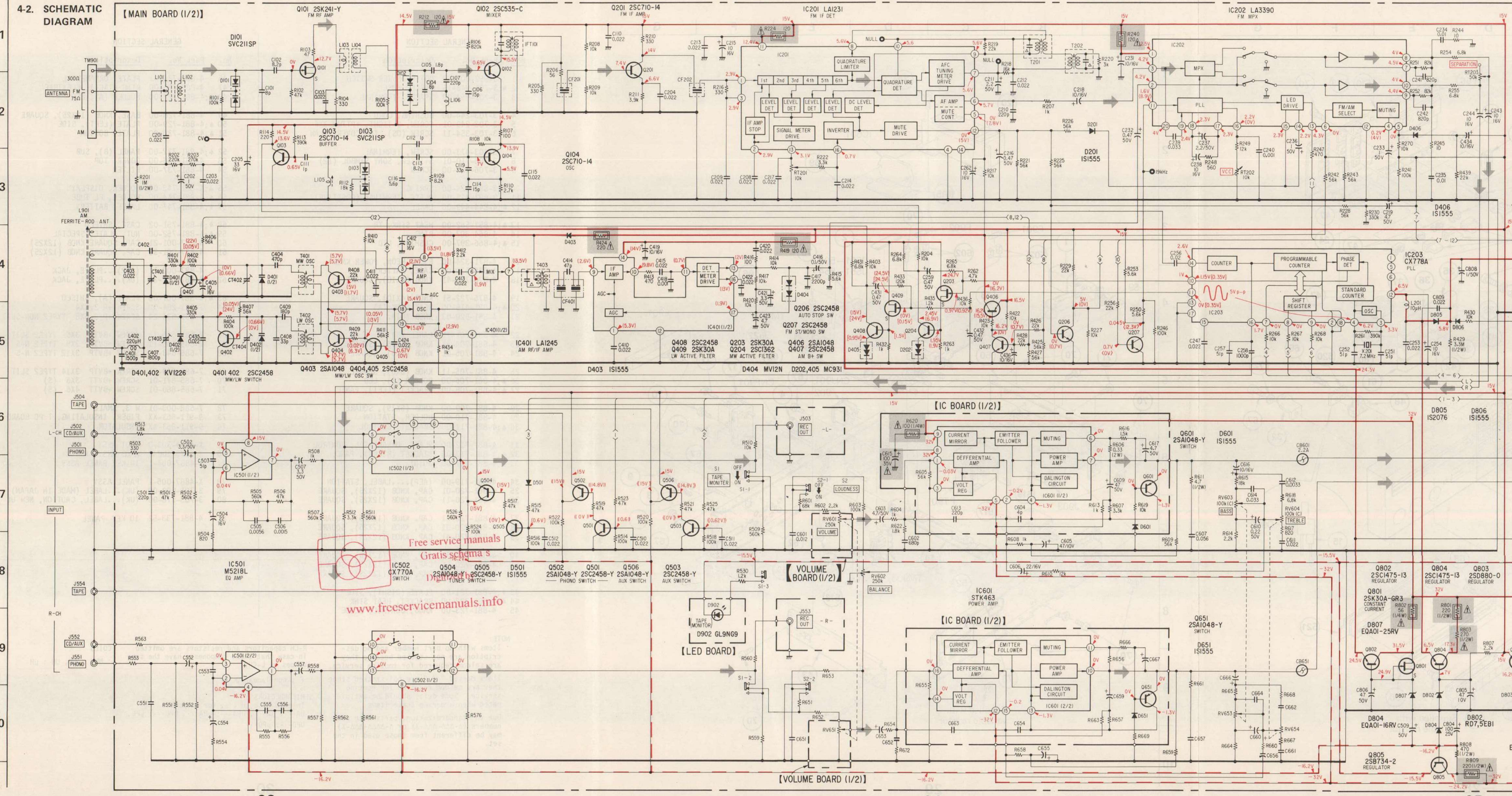
- Semiconductor Lead Layouts
- 1S1555, RD7.5EB1, EQA01-19R, EQA01-25R, EQB01-16R, 1S1585, SVC211-SP, 1S5119, 1S5120
- GL-9PR9, GL-9NG9
- KV1226-F
- 2SA1027R, 2SA1048
- LA1231
- 2SB734
- 2SD880
- LA3390, LA1245, CX770A, CX778A, TCP4621-BP-6502
- 2SK30A-GR3
- M5218L
- 2SK241-Y
- MV12N
- 2SC535, 2SC1362, 2SC1475-13
- S4VB10
- 2SC710-14
- 2SC2458, 2SC2785
- STK463

4-1. MOUNTING DIAGRAM



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- Note:
- Color code of sleeving over the end of the jacket.
  - : parts extracted from the component side.
  - : indicates side identified with part number.
  - : B + pattern
  - : B - pattern
  - : signal path
  - : L-CH signal path
  - : R-CH signal path

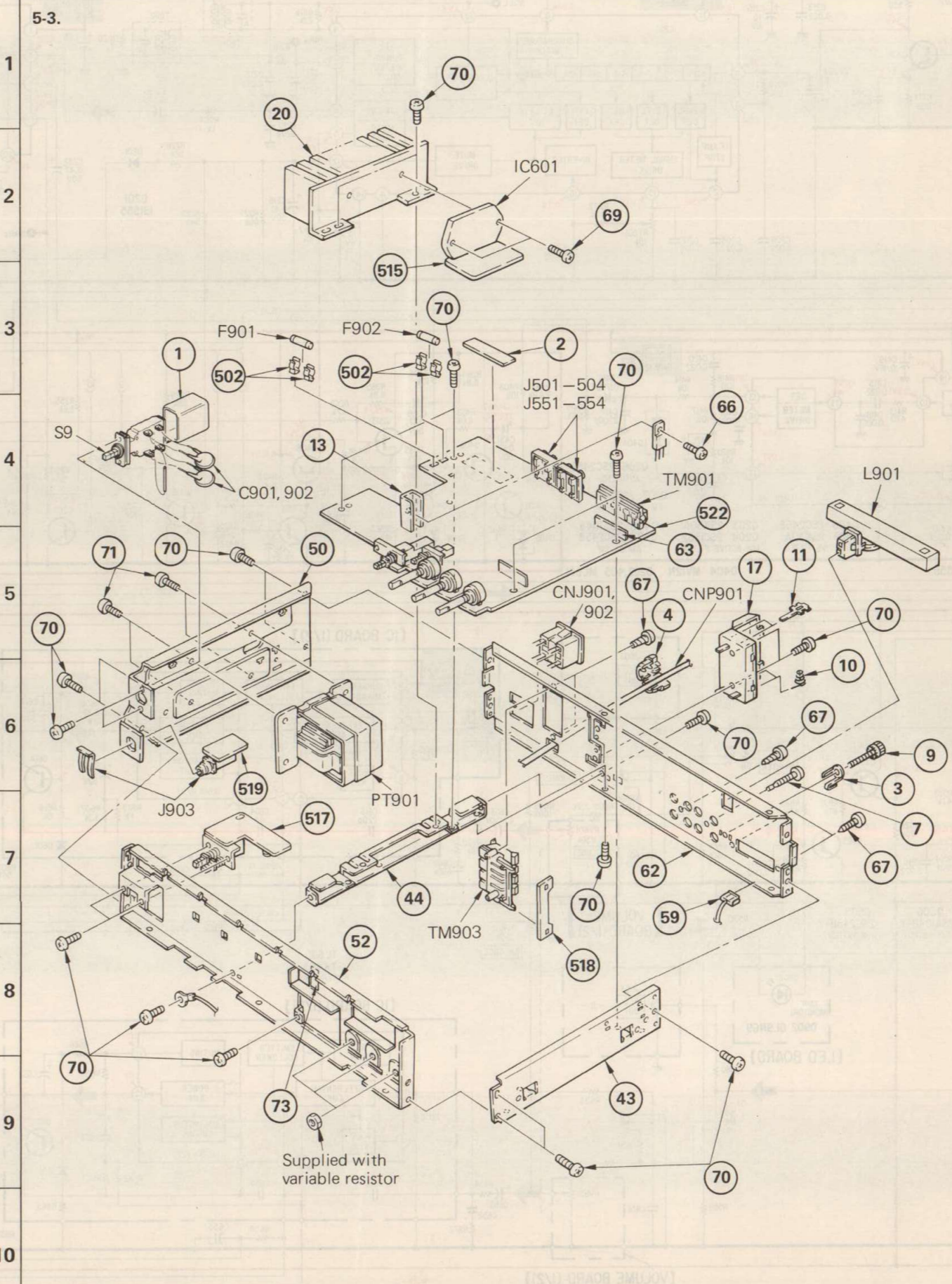
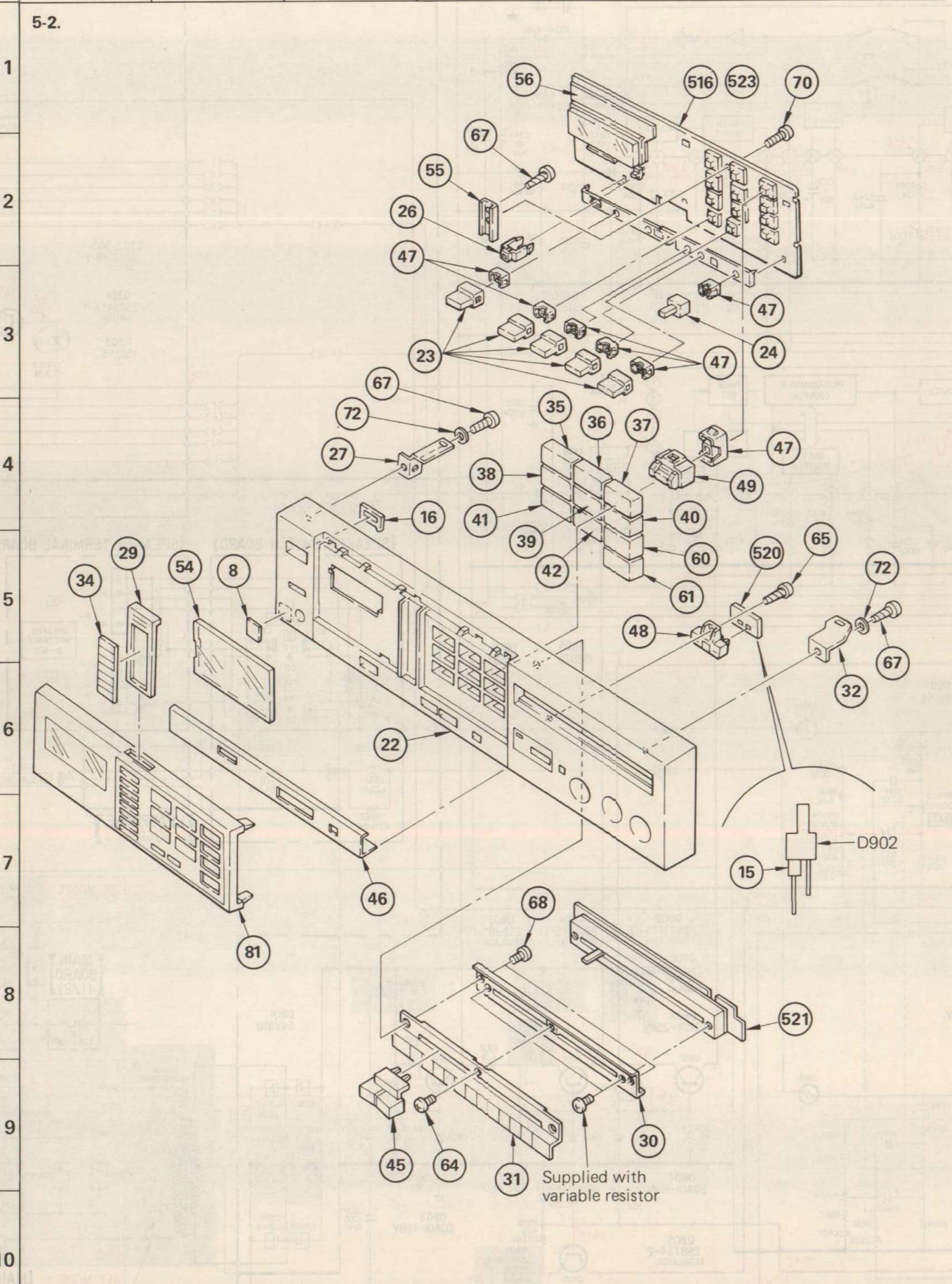
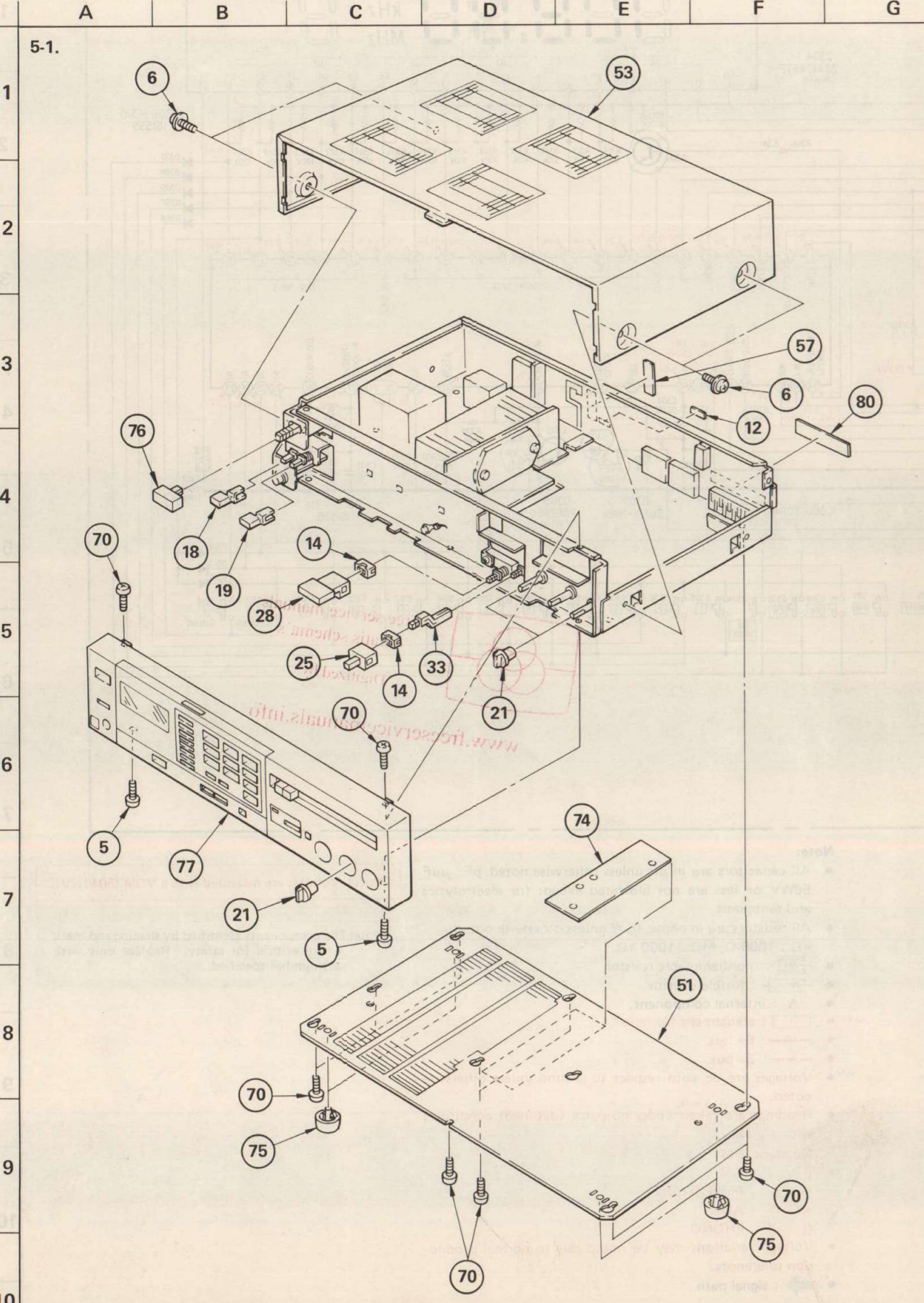


- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in ohms,  $\frac{1}{4}\text{W}$  unless otherwise noted.  $\text{k}\Omega$ : 1000  $\Omega$ ,  $\text{M}\Omega$ : 1000  $\text{k}\Omega$ .
  - $\square$ : nonflammable resistor.
  - $\square$ : fusible resistor.
  - $\square$ : internal component.
  - $\square$ : adjustment for repair.
  - $\square$ : B+ bus.
  - $\square$ : B- bus.
  - Voltages are dc with respect to ground unless otherwise noted.
  - Readings are taken under no-signal (detuned) conditions with a VOM.
  - No mark: FM
  - ( ) : AM
  - < > : FM STEREO
  - <<>> : AUX
  - ( ) : PHONO
  - Voltage variations may be noted due to normal production tolerances.
  - $\rightarrow$  : signal path
- Note:** Voltages are measured with a VOM (50  $\text{k}\Omega/\text{V}$ ).
- Note:** The components identified by shading and mark are critical for safety. Replace only with part number specified.

STR-VX10L STR-VX10L

STR-VX10L STR-VX10L

SECTION 5  
EXPLODED VIEWS AND PARTS LIST



GENERAL SECTION		
No.	Part No.	Description
1	3-559-001-00	COVER, POWER SWITCH
2	3-701-948-15	LABEL, FUSE
3	3-701-993-00	SPACER, TERMINAL
4	3-703-244-00	BUSHING, CORD
5	3-703-249-01	SCREW, S TIGHT, +PTMH 3X6
6	3-703-354-11	SCREW (OS), TOP COVER, CLAW
7	3-703-473-00	SCREW, TERMINAL
8	3-703-710-01	STICKER, SONY SYMBOL (12)
9	3-706-165-00	SCREW
10	3-883-424-00	SPRING
11	3-883-428-00	PLATE, TERMINAL (POSITIVE)
12	4-844-449-00	LABEL
13	4-857-562-00	HEAT SINK, TR
14	4-864-307-00	RING
15	4-866-397-00	CUSHION, LED
16	4-871-324-00	ESCUTCHEON, POWER KNOB
17	4-875-530-00	CASE, BATTERY
18	4-876-722-41	KNOB (4X10), SQUARE
19	4-876-722-51	KNOB (4X10), SQUARE
20	4-881-415-00	HEAT SINK (A)
21	4-881-520-03	KNOB (DIA. 18)
22	4-881-701-71	PANEL (B)
23	4-881-704-81	KNOB (5X16), SQUARE
24	4-881-705-01	KNOB (5X6), SQUARE
25	4-881-705-11	KNOB (5X6), SQUARE
26	4-881-706-00	HOLDER (B), LED
27	4-881-708-00	BRACKET (LEFT), PANEL
28	4-881-709-00	KNOB (5X19), SQUARE
29	4-881-710-00	HOLDER, STATION
30	4-881-711-00	BRACKET, CONTROL
31	4-881-712-00	PLATE, ORNAMENTAL, CONTROL
32	4-881-713-00	BRACKET (RIGHT), PANEL
33	4-881-717-00	JOINT
34	4-881-719-00	(AEP)...LABEL, STATION
35	4-881-720-01	CAP, KNOB (12X25), SQUARE
36	4-881-720-11	CAP, KNOB (12X25), SQUARE
37	4-881-720-21	CAP, KNOB (12X25), SQUARE
38	4-881-720-31	CAP, KNOB (12X25), SQUARE
39	4-881-720-41	CAP, KNOB (12X25), SQUARE
40	4-881-720-51	CAP, KNOB (12X25), SQUARE
41	4-881-720-61	CAP, KNOB (12X25), SQUARE
42	4-881-720-71	CAP, KNOB (12X25), SQUARE
43	4-881-721-00	PLATE (RIGHT), SIDE
44	4-881-722-00	BRACKET, HEAT SINK
45	4-881-723-00	KNOB, CONTROL, SLIDE

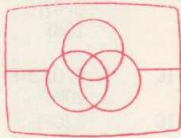
NOTE:  
 \* Items with no part number and no description are not stocked because they are seldom required for routine service.  
 \* Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.  
 \* Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

GENERAL SECTION		
No.	Part No.	Description
46	4-881-724-41	PLATE, ORNAMENTAL
47	4-881-725-00	RING (TACT), FLEXIBLE
48	4-881-727-00	HOLDER (A), LED
49	4-881-728-00	BASE, KNOB (12X25), SQUARE
50	4-881-729-00	PLATE (LEFT), SIDE
51	4-881-730-00	PLATE, BOTTOM
52	4-881-732-00	PANEL (B), SUB
53	4-881-736-00	COVER, TOP
54	4-881-737-00	FILTER
55	4-881-743-00	HOLDER, DISPLAY
56	4-881-744-00	HOLDER, FL TUBE
57	4-881-747-00	LABEL, BATTERY
58	4-881-751-02	CASE, SHIELD
59	4-881-752-00	NUT, PLATE, SPECIAL
60	4-887-001-21	CAP, SQUARE KNOB (12X25)
61	4-887-001-31	CAP, SQUARE KNOB (12X25)
62	4-887-002-11	(AEP)...PLATE, JACK
62	4-887-022-22	(UK)...PLATE, JACK
63	4-887-007-00	PLATE (A), SHIELD
64	7-621-284-XX	SCREW +P 2.6X4
65	7-685-534-24	SCREW +P 2.6X8 TYPE2 NON-SL IT
66	7-685-645-71	SCREW +BVTP 3X6 TYPE2 SLIT
67	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S
68	7-685-648-11	SCREW +BVTP 3X12 TYPE2 N-S
69	7-685-649-21	SCREW +BVTP 3X14 TYPE2 SLIT
70	7-685-871-01	SCREW +BVTT 3X6 (S)
71	7-685-880-01	SCREW +BVTT 4X6 (S)
72	7-688-003-01	W 3, SMALL
73	9-911-863-XX	FIBER, INSULATING, T PC BOARD
74	9-911-863-XX	INSULATOR
75	X-4864-303-0	FOOT ASSY
76	X-4875-108-0	KNOB ASSY, POWER
77	X-4887-004-1	10 KEY PANEL ASSY
78	X-4887-005-1	PANEL ASSY
79	3-701-690-00	(UK)...LABEL (MADE IN JAPAN)
80	3-703-678-00	(UK)...LABEL, CAUTION, NEW UL
81	4-881-733-52	10 KEY PANEL

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH.  
 ♦ : nonflammable  
 SEMICONDUCTORS  
 In each case, U : μ, for example:  
 UA... : μA..., UPA... : μPA..., UPC... : μPC, UPD... : μPD...

## ACCESSORY &amp; PACKING MATERIAL

No.	Part No.	Description
101	1-501-224-21	ANTENNA, FEEDER
102	1-528-027-11	BATTERY, NEW SUPER (SUM-3)(NS)
103	3-701-630-00	BAG, POLYETHYLENE
104	3-773-415-11	MANUAL, INSTRUCTION
105	3-795-424-11	CARD, CONTROL
106	4-858-078-00	SHEET, PROTECTION
107	4-881-738-00	CUSHION, UPPER
108	4-881-739-00	CUSHION, LOWER
109	4-887-011-00	INDIVIDUAL CARTON
110	4-887-014-00	(UK).....LABEL, STATION
111	X-4881-901-0	(AEP)....LABEL ASSY (EP), STATION
111	X-4887-001-1	(UK).....LABEL ASSY, STATION



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## ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501	♣;1-508-808-00	14MM BASE POST			
502	1-533-131-00	HOLDER, FUSE			
503	♣;1-535-115-00	TERMINAL			
504	♣;1-535-116-00	TERMINAL			
505	♣;1-535-118-00	TERMINAL			
506	♣;1-535-139-00	BASE POST 19MM (10MM PITCH) 2P			
507	♣;1-535-416-00	TERMINAL			
508	♣;1-560-060-00	PIN, CONNECTOR 2P			
509	♣;1-560-602-00	PIN, CONNECTOR 3P			
510	♣;1-561-439-00	SOCKET, CONNECTOR 3P			
511	♣;1-561-440-00	SOCKET, CONNECTOR 4P			
512	♣;1-561-442-00	SOCKET, CONNECTOR 6P			
513	♣;1-561-445-00	SOCKET, CONNECTOR 9P			
514	♣;1-610-074-00	PC BOARD, MAIN			
515	♣;1-610-075-00	PC BOARD, IC			
516	♣;1-610-076-00	PC BOARD, DISPLAY			
517	♣;1-610-077-00	PC BOARD, SPEAKER SW			
518	♣;1-610-078-00	PC BOARD, SPEAKER TERMINAL			
519	♣;1-610-079-00	PC BOARD, HEADPHONE			
520	♣;1-610-080-00	PC BOARD, LED			
521	♣;1-610-081-00	PC BOARD, VOLUME			
522	♣;A-4409-746-A	(AEP)...MOUNTED PCB, MAIN			
522	♣;A-4409-771-A	(UK)....MOUNTED PCB, MAIN			
523	♣;A-4472-113-A	MOUNTED PCB, DISPLAY			
C101	1-102-945-00	CERAMIC	8PF	0.5PF	50V
C102	1-161-258-00	CERAMIC	8.2PF	10%	50V
C103	1-101-005-00	CERAMIC	0.022MF		50V
C104	1-102-945-00	CERAMIC	8PF	0.5PF	50V
C105	1-161-250-00	CERAMIC	1.8PF	20%	50V
C106	1-102-951-00	CERAMIC	15PF	10%	50V
C107	1-102-983-00	CERAMIC	220PF	10%	50V
C110	1-161-494-00	CERAMIC	0.022MF	30%	25V
C111	1-161-247-00	CERAMIC	1PF	20%	50V
C112	1-161-247-00	CERAMIC	1PF	20%	50V
C113	1-161-258-00	CERAMIC	8.2PF	10%	50V
C114	1-161-261-00	CERAMIC	15PF	5%	50V
C115	1-161-494-00	CERAMIC	0.022MF	30%	25V
C116	1-161-290-00	CERAMIC	5.6PF	10%	50V
C119	1-161-265-00	CERAMIC	33PF	5%	50V
C201	1-101-005-00	CERAMIC	0.022MF		50V
C202	1-123-380-00	ELECT	1MF	20%	50V
C203	1-101-005-00	CERAMIC	0.022MF		50V
C204	1-161-494-00	CERAMIC	0.022MF	30%	25V
C205	1-123-318-00	ELECT	33MF	20%	16V
C208	1-101-005-00	CERAMIC	0.022MF		50V

## 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.

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH.

F : nonflammable

## SEMICONDUCTORS

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

COILS

MMH : mH, UH : μH

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, and values. Includes parts like C209, C210, C211, etc.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, and values. Includes parts like C402, C403, C404, etc.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, and values. Includes parts like C601, C602, C603, etc.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, and values. Includes parts like CF201, CF202, etc.

NOTE: Items with no part number and no description are not stocked because they are seldom required for routine service.

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH. F: nonflammable. SEMICONDUCTORS

NOTE: Items with no part number and no description are not stocked because they are seldom required for routine service.

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH. F: nonflammable. COILS

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

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like D806 DIODE ISS119, F901 FUSE, TIME-LAG, FIP301 INDICATOR TUBE, IC201 IC LA1231, J501 JACK, PIN 4P, L101 COIL, AIR-CORE, L201 MICRO INDUCTOR, L601 COIL, AIR CORE, PT901 TRANSFORMER, POWER, Q101 TRANSISTOR 2SK241-Y, Q202 TRANSISTOR 2SC2458.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like Q203 TRANSISTOR 2SK30A-GR3, Q204 TRANSISTOR 2SC1362, Q207 TRANSISTOR 2SC2458, Q301 TRANSISTOR 2SC2458, Q302 TRANSISTOR 2SA1027R, Q303 TRANSISTOR 2SA1027R, Q304 TRANSISTOR 2SA1027R, Q305 TRANSISTOR 2SC2458, Q401 TRANSISTOR 2SC2458, Q402 TRANSISTOR 2SC2458, Q403 TRANSISTOR 2SA1027R, Q404 TRANSISTOR 2SC2458, Q405 TRANSISTOR 2SC2785, Q406 TRANSISTOR 2SA1027R, Q407 TRANSISTOR 2SC2458, Q408 TRANSISTOR 2SC2785, Q409 TRANSISTOR 2SK30A-GR3, Q501 TRANSISTOR 2SC2785, Q502 TRANSISTOR 2SA1027R, Q503 TRANSISTOR 2SC2785, Q504 TRANSISTOR 2SA1027R, Q505 TRANSISTOR 2SC2785, Q506 TRANSISTOR 2SA1027R, Q601 TRANSISTOR 2SA1027R, Q651 TRANSISTOR 2SA1027R, Q801 TRANSISTOR 2SK30A-GR3, Q802 TRANSISTOR 2SC1475-13, Q803 TRANSISTOR 2SD880, Q804 TRANSISTOR 2SC1475-13, Q805 TRANSISTOR 2SB734, R101 CARBON 100K 5% 1/4W, R102 CARBON 47K 5% 1/4W, R103 CARBON 47 5% 1/4W, R104 CARBON 330 5% 1/4W, R105 CARBON 100K 5% 1/4W, R106 CARBON 820K 5% 1/4W, R107 CARBON 100 5% 1/4W, R108 CARBON 10K 5% 1/4W, R109 CARBON 8.2K 5% 1/4W, R110 CARBON 2.7K 5% 1/4W, R112 CARBON 18K 5% 1/4W, R113 CARBON 390K 5% 1/4W, R114 CARBON 220 5% 1/4W, R201 CARBON 1M 5% 1/2W, R202 CARBON 220K 5% 1/4W.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like R203 CARBON 270K 5% 1/4W, R204 CARBON 10K 5% 1/4W, R205 CARBON 330 5% 1/4W, R206 CARBON 56 5% 1/4W, R207 CARBON 1K 5% 1/4W, R208 CARBON 10K 5% 1/4W, R209 CARBON 10K 5% 1/4W, R210 CARBON 330 5% 1/4W, R211 CARBON 3.9K 5% 1/4W, R212 CARBON 120 5% 1/4W F, R216 CARBON 330 5% 1/4W, R217 CARBON 10K 5% 1/4W, R218 CARBON 16K 5% 1/4W, R219 CARBON 22K 5% 1/4W, R220 CARBON 3K 5% 1/4W, R221 CARBON 56K 5% 1/4W, R222 CARBON 3.3K 5% 1/4W, R224 CARBON 120 5% 1/4W F, R225 CARBON 56K 5% 1/4W, R226 CARBON 56K 5% 1/4W, R227 CARBON 10K 5% 1/4W, R228 CARBON 56K 5% 1/4W, R229 CARBON 22K 5% 1/4W, R230 CARBON 330K 5% 1/4W, R240 CARBON 120 5% 1/4W F, R241 CARBON 100K 5% 1/4W, R242 CARBON 56K 5% 1/4W, R243 CARBON 56K 5% 1/4W, R244 CARBON 10 5% 1/4W, R245 CARBON 10 5% 1/4W, R246 CARBON 100K 5% 1/4W, R247 CARBON 470 5% 1/4W, R248 CARBON 560 5% 1/4W, R249 CARBON 12K 5% 1/4W, R250 CARBON 5.6K 5% 1/4W, R251 CARBON 82K 5% 1/4W, R252 CARBON 82K 5% 1/4W, R253 CARBON 5.6K 5% 1/4W, R254 CARBON 6.8K 5% 1/4W, R255 CARBON 6.8K 5% 1/4W, R256 CARBON 22K 5% 1/4W, R261 CARBON 390K 5% 1/4W, R262 CARBON 4.7K 5% 1/4W, R263 CARBON 1K 5% 1/4W, R264 CARBON 6.8K 5% 1/4W.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description. Includes parts like R265 CARBON 6.8K 5% 1/4W, R266 CARBON 10K 5% 1/4W, R267 CARBON 10K 5% 1/4W, R268 CARBON 10K 5% 1/4W, R270 CARBON 10K 5% 1/4W, R301 CARBON 100K 5% 1/4W, R302 CARBON 3.3K 5% 1/4W, R303 CARBON 3.3K 5% 1/4W, R304 CARBON 470K 5% 1/4W, R305 CARBON 100K 5% 1/6W, R306 CARBON 3.3K 5% 1/4W, R307 METAL OXIDE 390 5% 1W F, R308 CARBON 100K 5% 1/4W, R309 CARBON 100K 5% 1/4W, R310 CARBON 22K 5% 1/4W, R311 CARBON 22K 5% 1/4W, R312 CARBON 100K 5% 1/4W, R313 CARBON 100K 5% 1/6W, R314 CARBON 100K 5% 1/6W, R315 CARBON 100K 5% 1/6W, R316 CARBON 100K 5% 1/6W, R317 CARBON 100K 5% 1/6W, R318 CARBON 100K 5% 1/6W, R319 CARBON 100K 5% 1/6W, R320 CARBON 100K 5% 1/6W, R321 CARBON 100K 5% 1/6W, R322 CARBON 100K 5% 1/6W, R323 CARBON 100K 5% 1/6W, R324 CARBON 100K 5% 1/6W, R325 CARBON 100K 5% 1/6W, R326 CARBON 100K 5% 1/6W, R327 CARBON 100K 5% 1/6W, R330 CARBON 10K 5% 1/4W, R331 CARBON 10K 5% 1/4W, R401 CARBON 330K 5% 1/4W, R402 CARBON 100K 5% 1/4W, R403 CARBON 10K 5% 1/4W, R404 CARBON 100K 5% 1/4W, R405 CARBON 330K 5% 1/4W, R406 CARBON 56K 5% 1/6W, R407 CARBON 56K 5% 1/4W, R408 CARBON 22K 5% 1/4W, R409 CARBON 22K 5% 1/4W, R410 CARBON 10K 5% 1/4W, R411 CARBON 56K 5% 1/4W.

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.

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH.
F : nonflammable
COILS
MMH : mH, UH : μH
SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

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

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.

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH.
F : nonflammable
COILS
MMH : mH, UH : μH
SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

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

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, Value, Tolerance, Lead Time. Includes parts R412 through R520.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, Value, Tolerance, Lead Time. Includes parts R521 through R652.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, Value, Tolerance, Lead Time. Includes parts R653 through S302.

ELECTRICAL PARTS

Table with columns: Ref.No., Part No., Description, Value, Tolerance, Lead Time. Includes parts S303 through X201.

NOTE: Items with no part number and no description are not stocked because they are seldom required for routine service.

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH. F: nonflammable. COILS: MMH: mH, UH: uH. SEMICONDUCTORS: In each case, U: u, for example: UA...: uA...

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

NOTE: Items with no part number and no description are not stocked because they are seldom required for routine service.

R-CH capacitors and resistors are omitted in case that these components have the same values as L-CH. F: nonflammable. COILS: MMH: mH, UH: uH. SEMICONDUCTORS: In each case, U: u, for example: UA...: uA...

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



## TROUBLE CHECKS

The following checks will assist in the correction of most problems which you may encounter with your unit. Should any problem persist after you have made these checks, consult your nearest Sony service facility. Before going through the check list below, first refer back to the connection and operating procedures.

### OFF-THE-AIR PROGRAMS

**STEREO indicator does not light when receiving stereo programs.**

- Adjust the antenna.
- Press the FM MODE switch.

**STEREO indicator flickers.**

- Adjust the antenna or connect an external FM antenna.
- Press the FM MODE switch to disengage the stereo mode.

**The function/frequency display figures do not stop at the desired station during automatic tuning.**

- The signal strength is too weak for automatic tuning.
- Adjust the antenna for optimum reception or tune in the station with the direct access tuning system.

**Tuning cannot be done correctly when the station preset button is pressed.**

- Memorize the frequency correctly.
- Install or replace with new batteries for memory back-up.

**Incorrect figure appear on the function/frequency display window.**

- Install the batteries again. (Page 9)

**Severe hum or noise**

- Use shielded connecting cords.
- Ground the receiver.
- Avoid long horizontal runs of antenna lead.
- Keep connecting cords (or antenna lead-in) away from transformers or motors, and at least 3 meters (10 feet) from TV sets and fluorescent lights.
- Adjust the antenna.
- Keep the speaker cords, connecting cords and power cords from the ferrite-bar antenna at the rear.

**Ignition noise**

- Install the outdoor antenna away from heavy traffic.
- Use a shielded or coaxial lead-in for the antenna.

**Electrostatic charge.**

- Ground the receiver.

### GENERAL

**No audio**

- Check speaker and program source connections.
- Check the settings of the TAPE MONITOR switches.
- Check the SPEAKERS switches setting.
- Turn up the volume.

**No audio from one channel or unbalanced left and right volume**

- Adjust the BALANCE control.
- Check the speaker and input connections of the inoperative channel.

**Abrupt loss of sound from one or both of the speakers\***

- Check the speaker terminals or speaker cord for a short.
- Remove any object on the top of the cabinet which might prevent normal air circulation.

**Reversed left and right sound**

- Check the speaker cord connection and speaker location.

**Lack of bass sound or obscure instrument position**

- Check the speaker connection for proper phasing.

**Severe hum or noise**

- Use shielded connecting cords.
- Keep the connecting cords away from transformers or motors and at least 3 meters (10 feet) from TV sets and fluorescent lights.
- Ground the receiver.

**Rustling noise**

- Make secure connections.
- Wipe the plugs and jacks with a cloth lightly dampened with methanol.

\* This symptom may be caused when the protection circuits activate.