

STR-V55

US Model
Canadian Model



FM-STEREO / FM-AM RECEIVER



SPECIFICATIONS

GENERAL

Power Requirements:	120 V ac, 60 Hz
Power Consumption:	US model: 125W Canadian model: 195W
AC Outlet:	1 switched, 100W 1 unswitched, 300W
Dimensions:	US model: Approx. 430 (w) x 135 (h) x 380 (d) mm 17 (w) x 5 ¹ / ₄ (h) x 14 ⁷ / ₈ (d) inches Canadian model: Approx. 460 (w) x 135 (h) x 380 (d) mm 18 (w) x 5 ¹ / ₄ (h) x 14 ⁷ / ₈ (d) inches including projecting parts and controls
Weight:	US model: Approx. 6.8 kg, 15 lb (net) Approx. 8.0 kg, 17 lb 11 oz (in shipping carton) Canadian model: Approx. 7.6 kg, 16 lb 13 oz (net) Approx. 8.8 kg, 19 lb 7 oz (in shipping carton)

FM TUNER SECTION

Antenna:	300Ω balanced 75Ω unbalanced
Frequency Range:	87.5–107.9 MHz
Intermediate Frequency:	10.7 MHz
Sensitivity at 50 dB Quieting:	16.1 dBf, 3.5μV (12 dB) (MONO) 36.1 dBf, 35μV (30.8 dB) (STEREO)

— 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 EXPLODÉES 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

Usable Sensitivity: 10.3 dBf, IHF 1.8 μ V (5 dB)

S/N Ratio: 75 dB (MONO)

70 dB (STEREO)

Harmonic Distortion:	MONO	STEREO
100 Hz	0.1%	0.2%
1 kHz	0.1%	0.15%
6 kHz	0.15%	0.2%

Separation: 40 dB at 100 Hz

45 dB at 1 kHz

35 dB at 10 kHz

Frequency Response: 30 Hz–15 kHz $+0.5$ dB
 -1.5 dB

Alternate Channel Selectivity: 80 dB at 400 kHz

Capture Ratio: 1.0 dB

AM Suppression Ratio: 50 dB

Image Response Ratio: 85 dB

IF Response Ratio: 100 dB

Spurious Response Ratio: 95 dB

RF Intermodulation: 65 dB

Sub-carrier Product Ratio: 40 dB

Muting Threshold: Approx. 20 dBf, 5.5 μ V

Auto Tuning Level: LOW: 25 dBf

MID: 40 dBf

HIGH: 60 dBf

AM TUNER SECTION

Antenna: Built-in ferrite-rod antenna
External antenna terminals

Frequency Range: 530–1,610 kHz
(522–1,602 kHz)

Intermediate Frequency: 450 kHz

Usable Sensitivity: 300 μ V/m (49.5 dB/m), built-in antenna
100 μ V (40 dB), external antenna
at 1,000 kHz

S/N Ratio: 50 dB at 50 mV/m

Harmonic Distortion: 0.5% at 50 mV/m, 400 Hz

Alternate Channel Selectivity: 40 dB at 10 kHz

AUDIO AMPLIFIER SECTION

Power Output and Total

Harmonic Distortion: With 8 Ω loads, both channels driven
from 20–20,000 Hz, rated 55W per
channel minimum RMS power, with no
more than 0.02% total harmonic distortion
from 250 mW to rated output.

Damping Factor: 50 at 1 kHz, 8 Ω

Dynamic Headroom: 0.5 dB

IM Distortion: Less than 0.02% at rated output

(60 Hz: 7 kHz = 4:1)

Residual Noise: Less than 0.23 mV at 8 Ω

Frequency Response: Power Amp Section:
dc–40 kHz $+0$ dB
 -1 dB

Preamp Section:

PHONO: RIAA equalization curve $+0.5$ dB

AUX, TAPE 1, 2: 5 Hz–200 kHz $+0$ dB
 -1 dB

Inputs: Measured with rated output power into
8 Ω loads (both channels driven
simultaneously) at 1 kHz.

	Sensitivity	Impedance	S/N	Weighting Network
POWER IN	1.0V	50 k Ω	116 dB	A
PHONO MC	0.25 mV	100 Ω	70 dB 68 dB*	A
PHONO MM	2.5 mV	50 k Ω	85 dB 78 dB*	A
AUX TAPE 1, 2	150 mV (–14.5 dB)	50 k Ω	98 dB 86 dB*	A

*: 1978 IHF

Outputs: With rated input, FM 30% modulation,
speaker rated output.

	Voltage	Impedance
REC OUT 1, 2	150 mV (–14.5 dB)	10 k Ω
PRE OUT	1.5 V (5.5 dB)	2 k Ω
HEADPHONES	Accepts low-impedance headphones	
SPEAKERS	8 Ω to 16 Ω speakers are suitable	

Tone Controls: BASS: ± 10 dB at 50 Hz
TREBLE: ± 10 dB at 20 kHz

Loudness Control: $+10$ dB at 50 Hz (automatic)
(att. 30 dB) $+3$ dB at 10 kHz

Filter: LOW: 12 dB/octave attenuation below
15 Hz

Audio Muting: Att. 20 dB

SERVICING NOTES

INSTALLATION PRECAUTION

The epoxy resin used in a light-emitting diode is a kind of thermosetting resin, but as a light-emitting must let the light pass through, its heat resistance cannot be raised by mixing silica or glass fiber.

Thus, the resin used in the light-emitting diodes is usually weak against heat. As the tensile strength is not so strong while it is heated, note the following precautions during soldering.

- 1) Perform the soldering within 5 seconds with a soldering iron below 25W. The clearance between the end of the diode's body and the circuit board should be more than 3 mm ($1/8$ " (Fig. 1).
- 2) When changing the position of the light-emitting diode, do not move it right after soldering, but move it after it naturally cools off.
- 3) When bending the lead terminals, be sure to bend the point 2 mm ($3/32$ " farther from the end of the diode's body. At this time, fix the foot of the terminal with a round nose plier and be sure that no force is applied to the diode's body. If not, a crack may occur (Fig. 2).

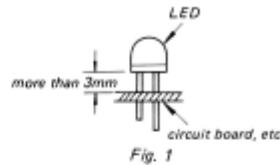


Fig. 1

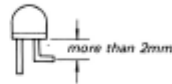


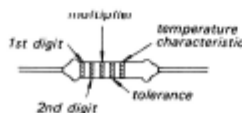
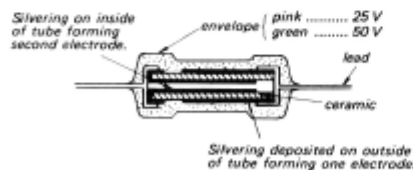
Fig. 2

THE CERAMIC CAPACITORS

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

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

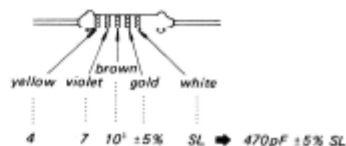
Two kinds of drilled holes are provided in some patterns for mounting the tube-type and disc-type ceramic capacitors. Use appropriate holes where applicable.



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			U1
gray	8		$\pm 30\%$	X
white	9			SL
black	0	10^0	$\pm 20\%$	CH
gold		10^{-1}	$\pm 5\%$	V
silver		10^{-2}	$\pm 10\%$	B

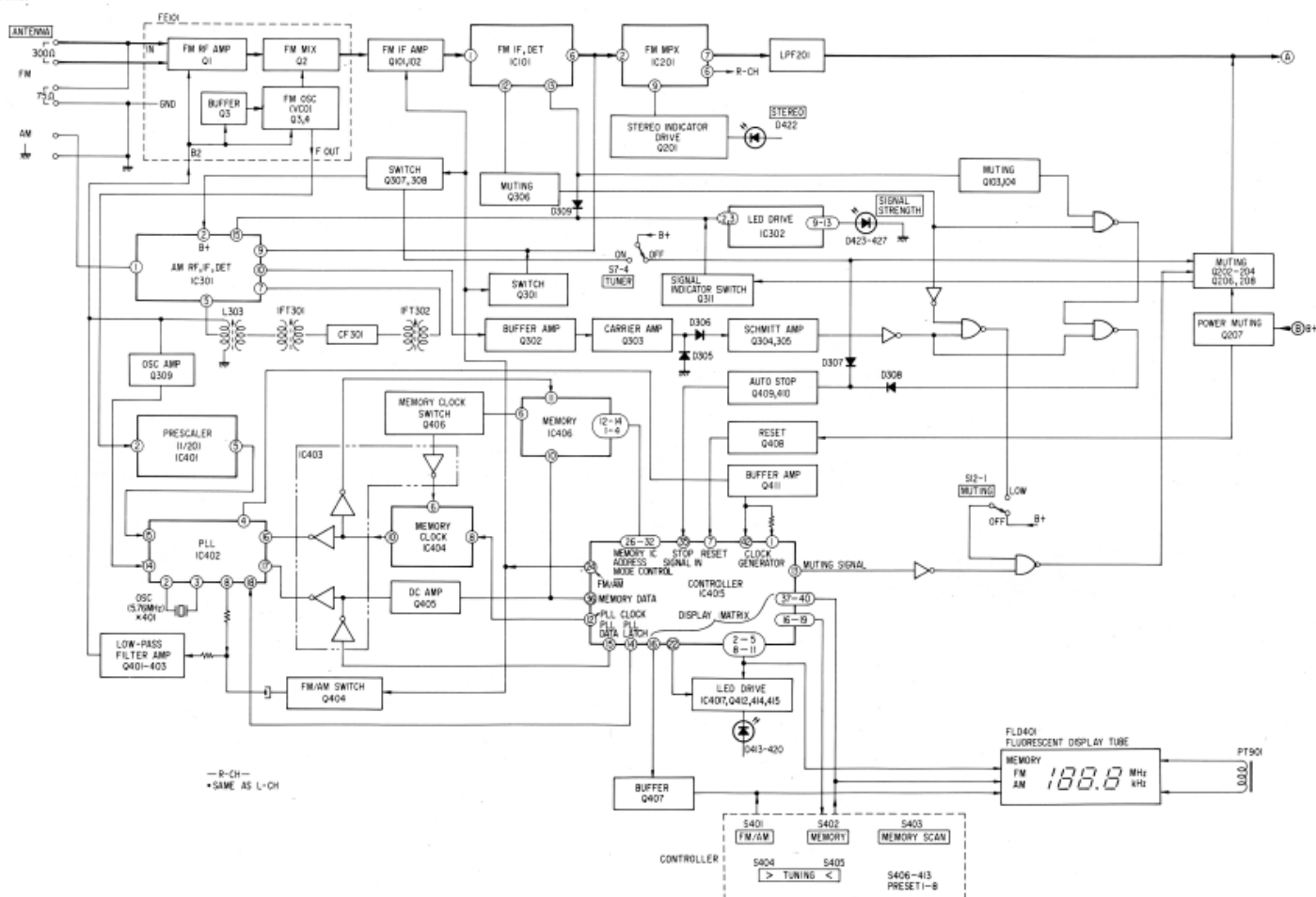
Example:



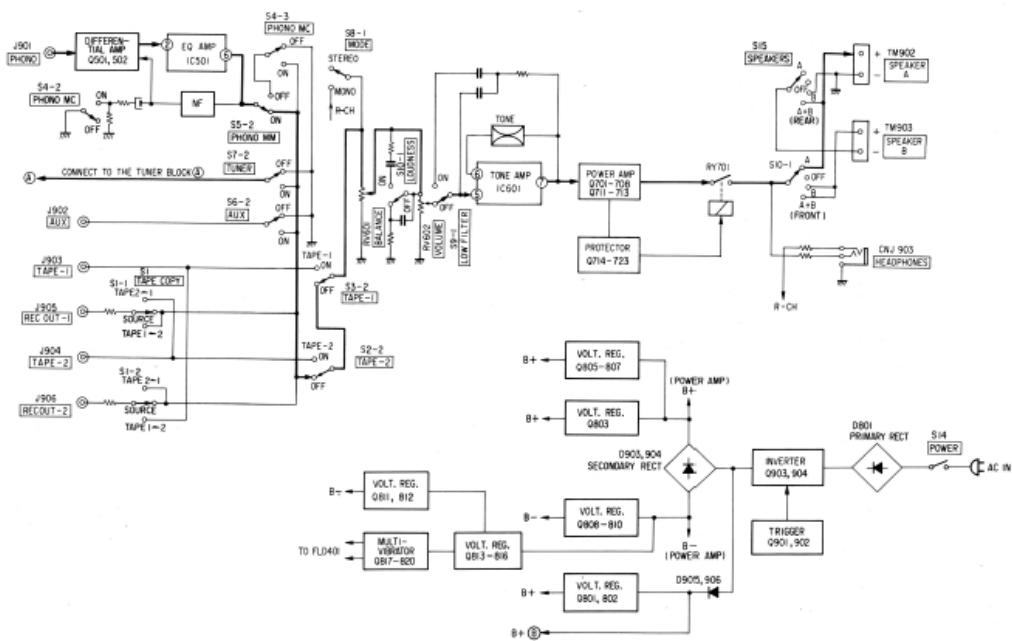
SECTION 1 OUTLINE

1-1. BLOCK DIAGRAMS

(1) Tuner Section



(2) Amp Section



Outline of μ PD552C037 (IC405):

This is a four-bit control microcomputer composed of ALU, ROM, RAM, I/O Ports and control circuit all of which are processed in four-bit parallel manner and are included on a small single chip.

P-channel MOS

ROM (100 x 8-bits)

RAM (64 x 4-bits)

Input Ports

A and B

Input/output Ports four-bits each except for Port I which is three bits

Output Ports

E, F, G, H, and I

Clock Frequency: 360 kHz

Input signal is obtained from terminal 4 of the divider output in PLL μ PD2819C.

42-pin Plastic Dual-in-Line Package

I/O Ports:

Table 1		
Port	Terminal	Function
PA0	33	AUTO/MANUAL
PA1	34	9kHz/10kHz
PA2	35	Input for AUTO TUNING stop signal
PA3	36	Input for memory IC's data
PB0-3	37-40	Refer to Fig. 3
PC0-3	2-5	
PD0-3	8-11	
PF0-3	16-19	
PG0	22	N/A
PG1	23	N/A
PG2	24	FM/AM
PG3	25	N/A
PE0	12	Clock output for PLL memory IC
PE1	13	Output for muting pulse
PE2	14	Output for PLL latch
PE3	15	Output for PLL and memory IC
PH0	26	Outputs for memory IC address
PH1	27	
PH2	28	
PH3	29	
PI0	30	Outputs for memory IC mode control
PI1	31	
PI2	32	

SECTION 3
ADJUSTMENTS

(MEMO)

3-1. AMPLIFIER SECTION

Note:

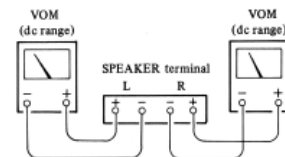
1. DC bias and DC balance adjustments should be made several minutes later after the POWER switch is turned on (POWER ON.).
2. Make DC bias adjustment first.
3. Repeat DC bias and DC balance adjustments two or three times.
4. After replacing the power transistors, DC bias and DC balance adjustments should be made.

DC Balance Adjustment
(With no signal input)

-L-CH-

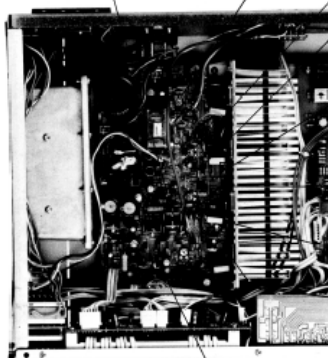
Adjust RT701 for 0V
dc reading on VOM.

-R-CH-

Adjust RT751 for 0V
dc reading on VOM.

RT701 (L-CH)

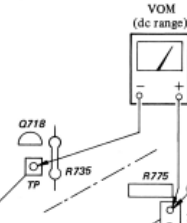
RT751 (R-CH)



Power amp board

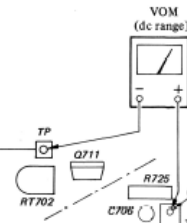
DC Bias Adjustment
(With no signal input)

-R-CH-

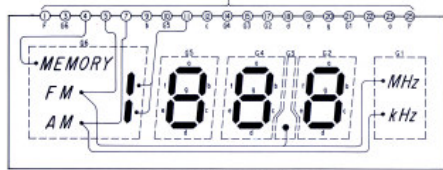
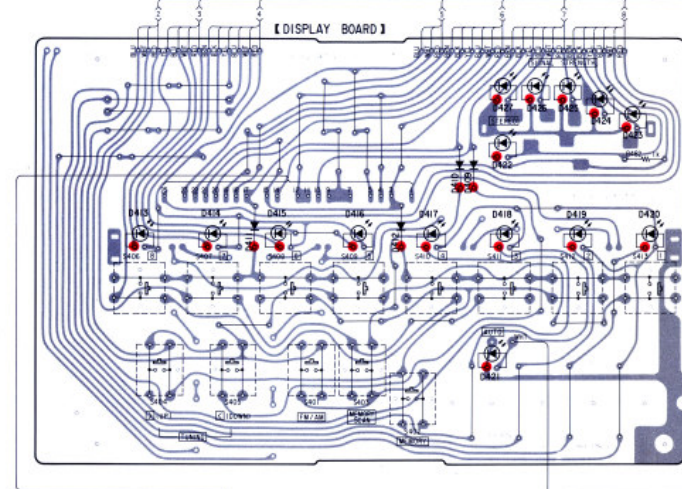
Adjust RT752 for 10mV
dc reading on VOM.

RT752 (R-CH)

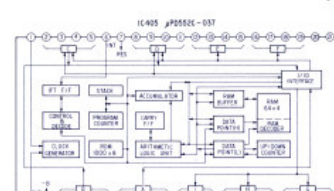
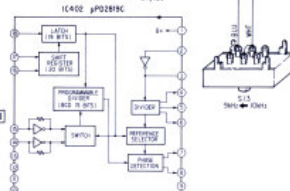
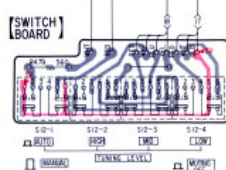
-L-CH-

Adjust RT702 for 10mV
dc reading on VOM.

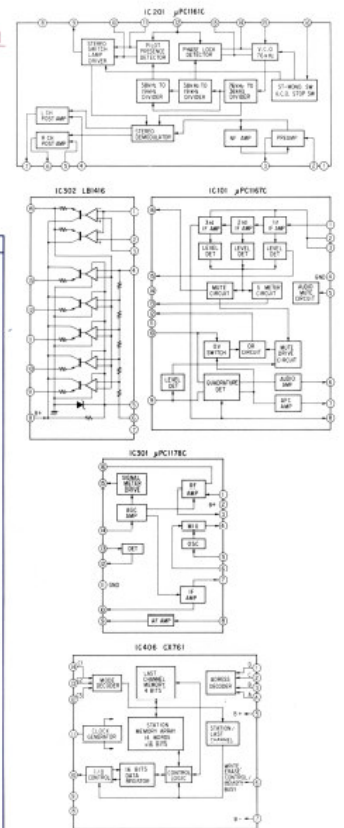
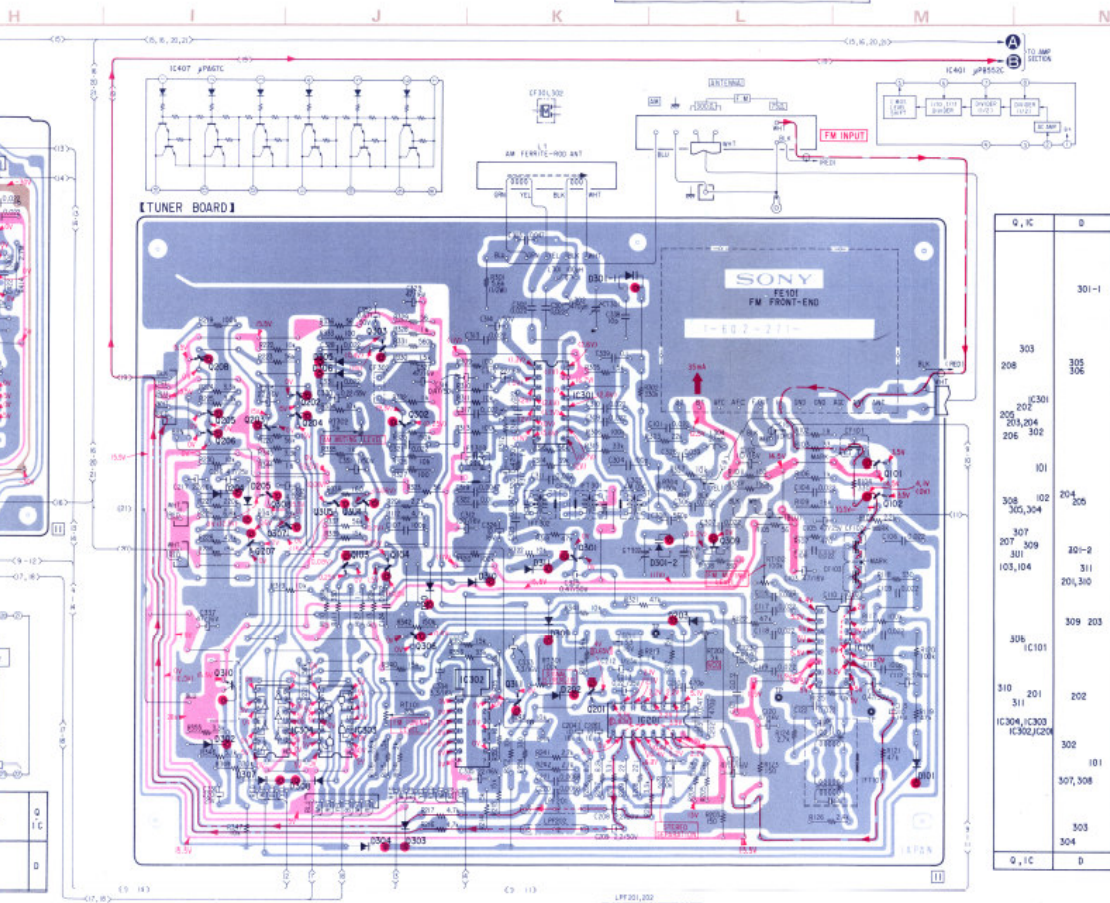
RT702 (L-CH)

SECTION 4
DIAGRAMS4-1. MOUNTING DIAGRAM — Tuner Section —
— Conductor Side —

FL401 FLUORESCENT DISPLAY TUBE



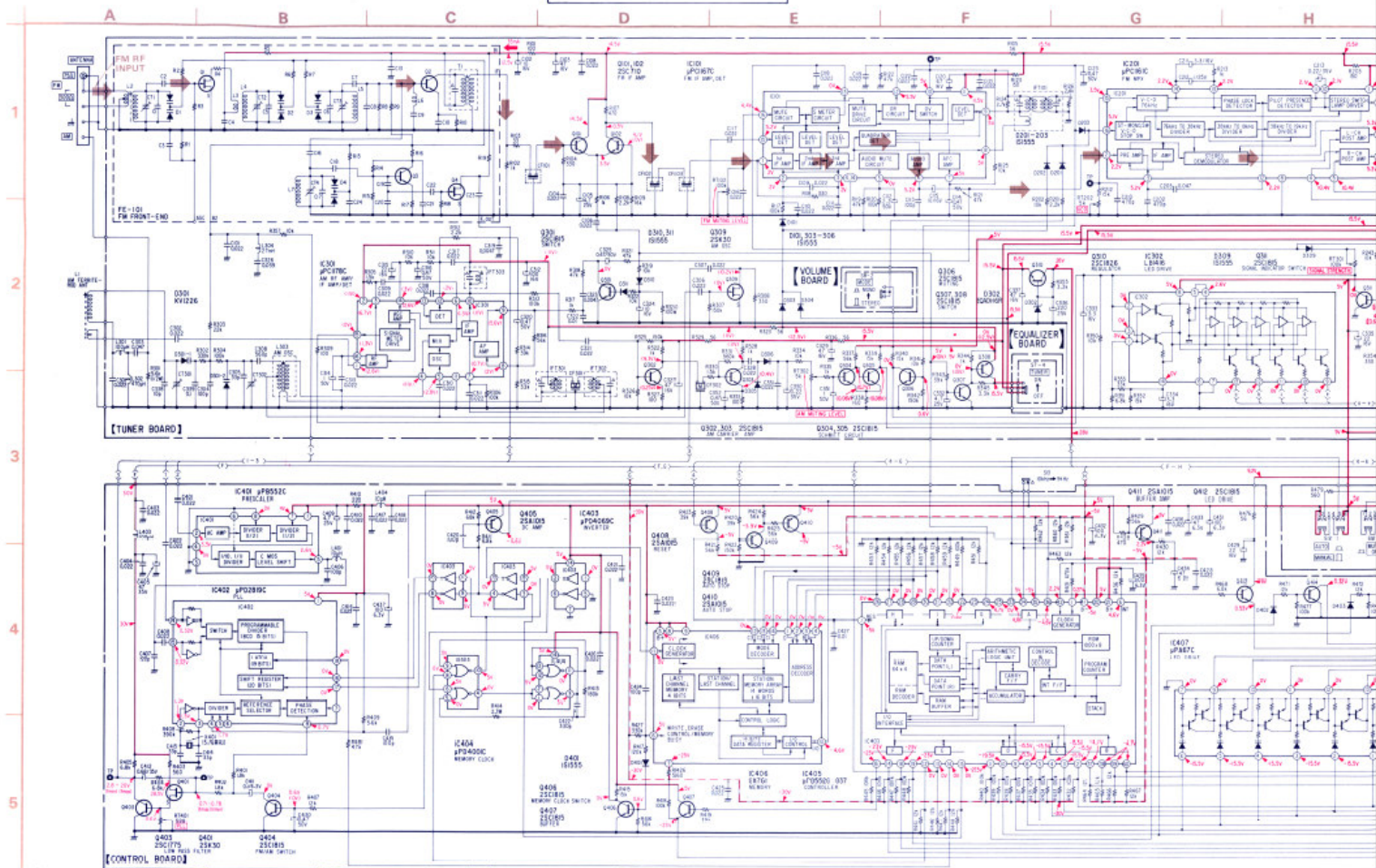
Q IC																								Q IC		
																	IC402 IC401	415 414	IC407 403	412 408			407 406	IC404 IC403		
D	413	414	411	415	416	412	417	410	409	427 422 418	426	425	424	423	420			404	401	405 400	406 409					
										421			419								403 402			401		

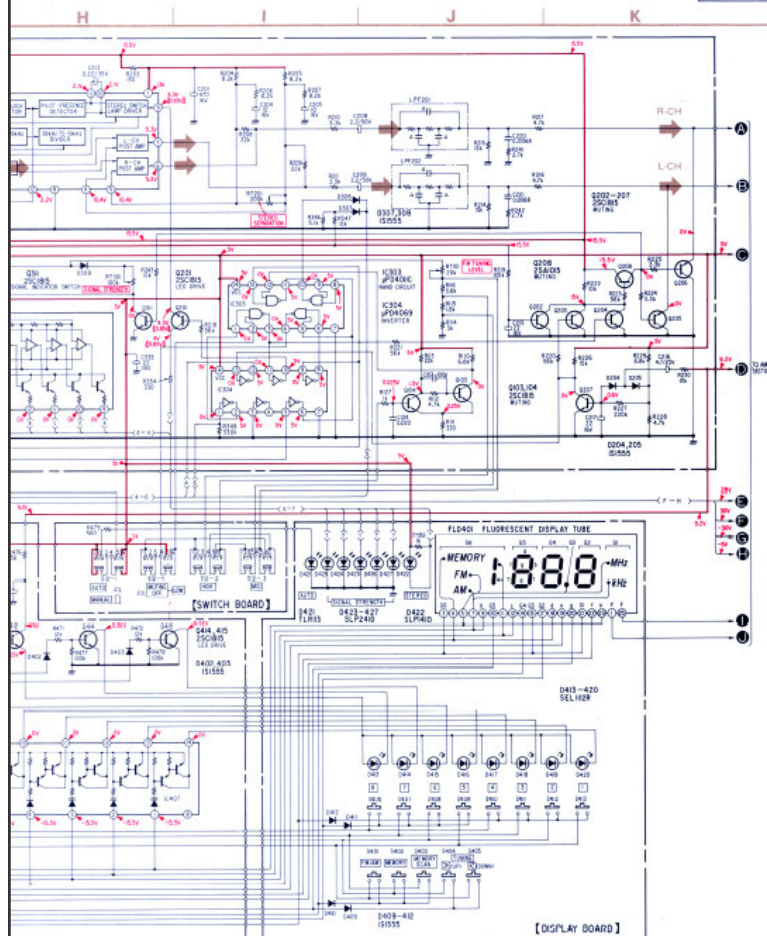


- Color code of sleeving over the end of the jacket.



- : indicates side identified with part number.





— Conductor Side —

For replacement, use semiconductors except in ().

(2SA733)

Q711, 761: 2S852

Q712, 762: ZSC26

Q722: 2SA1027F

0000-0001-9786-400X

100

Q801, 805; ZSC1173

0804 805 809

Q808, 813: ZSA473

.....

LC504 - NUM4500

D805, 807: EQB01-3
D806: EQB01-24 (EC

11. *anode*

D701, 751: MV-12N

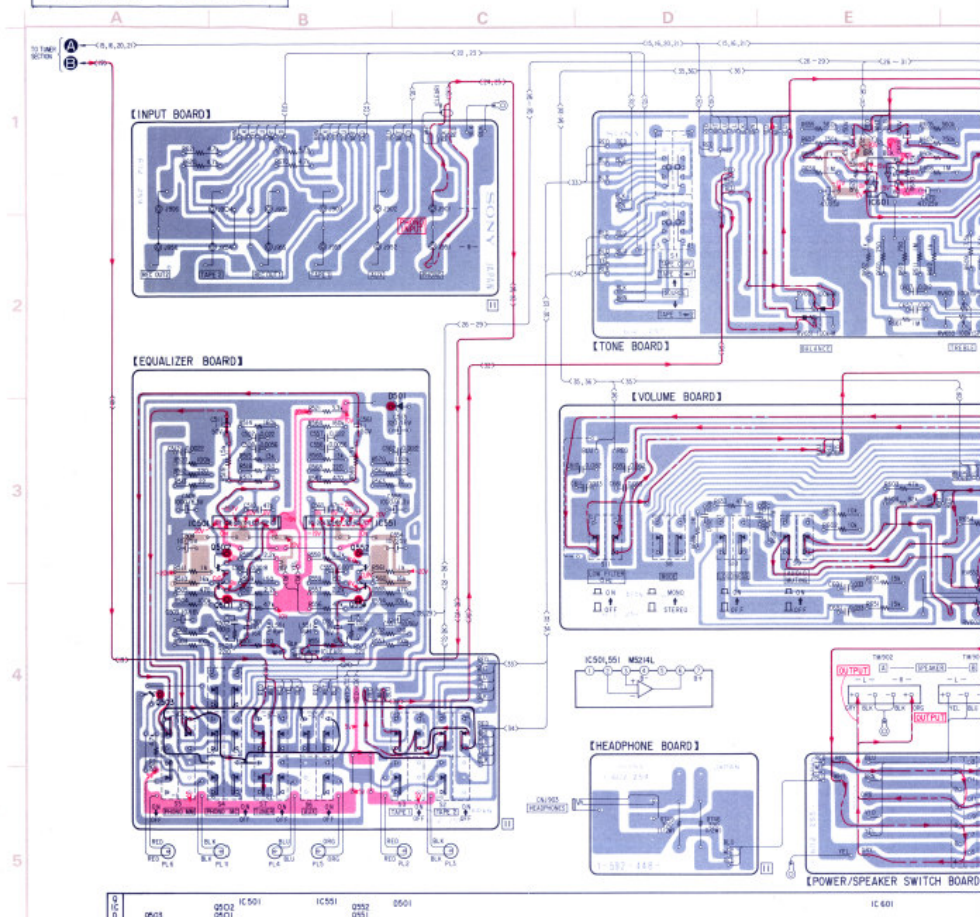
Abstract

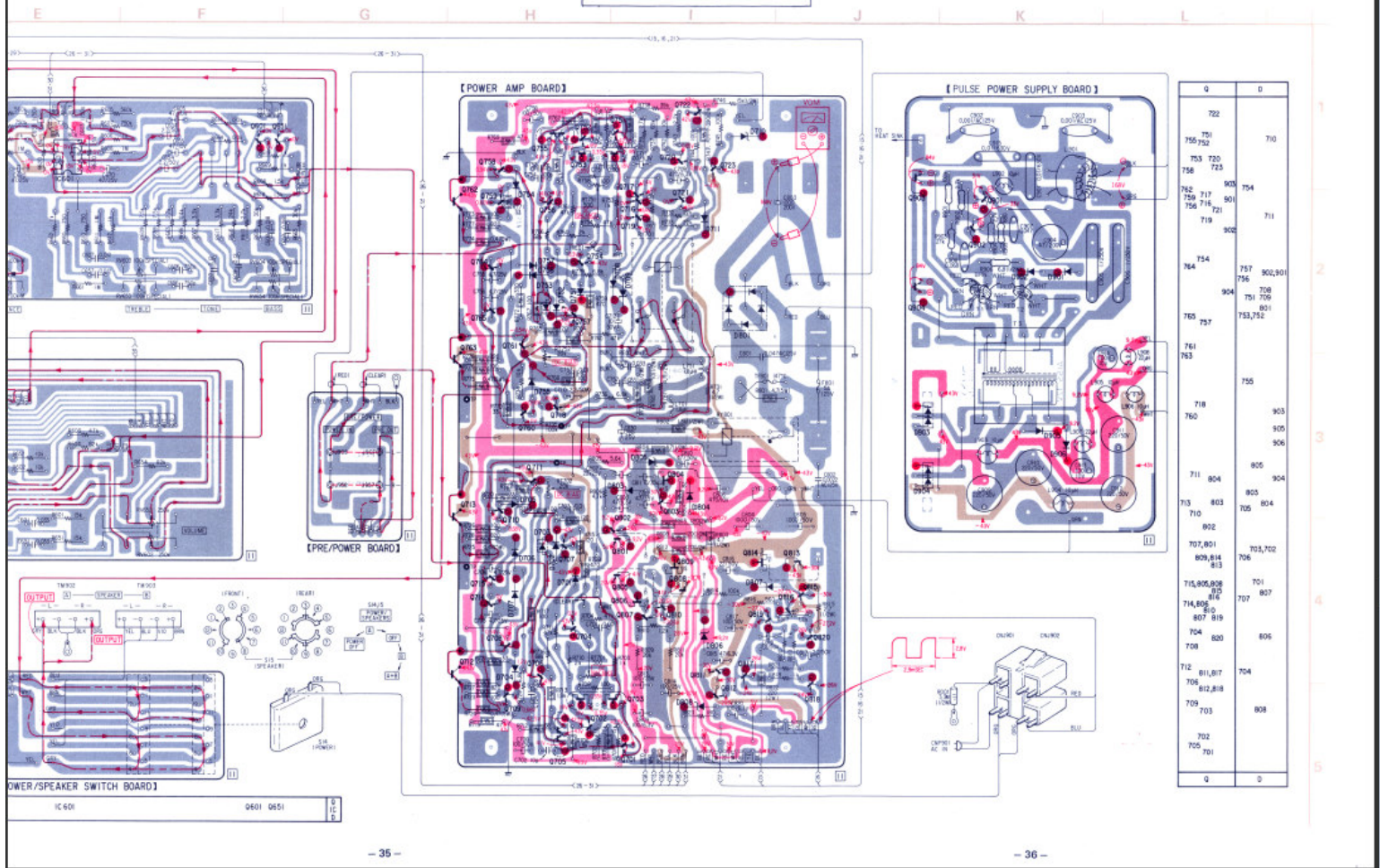
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A diagram of a simple pendulum. A horizontal line represents the ceiling or support. A vertical line (string) hangs from a point on this ceiling. At the end of the string is a small circle representing the mass. The mass is slightly to the right of the vertical line, indicating it is in motion or about to move.

A01-30R)
34R)

STR-V55 STR-V55





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