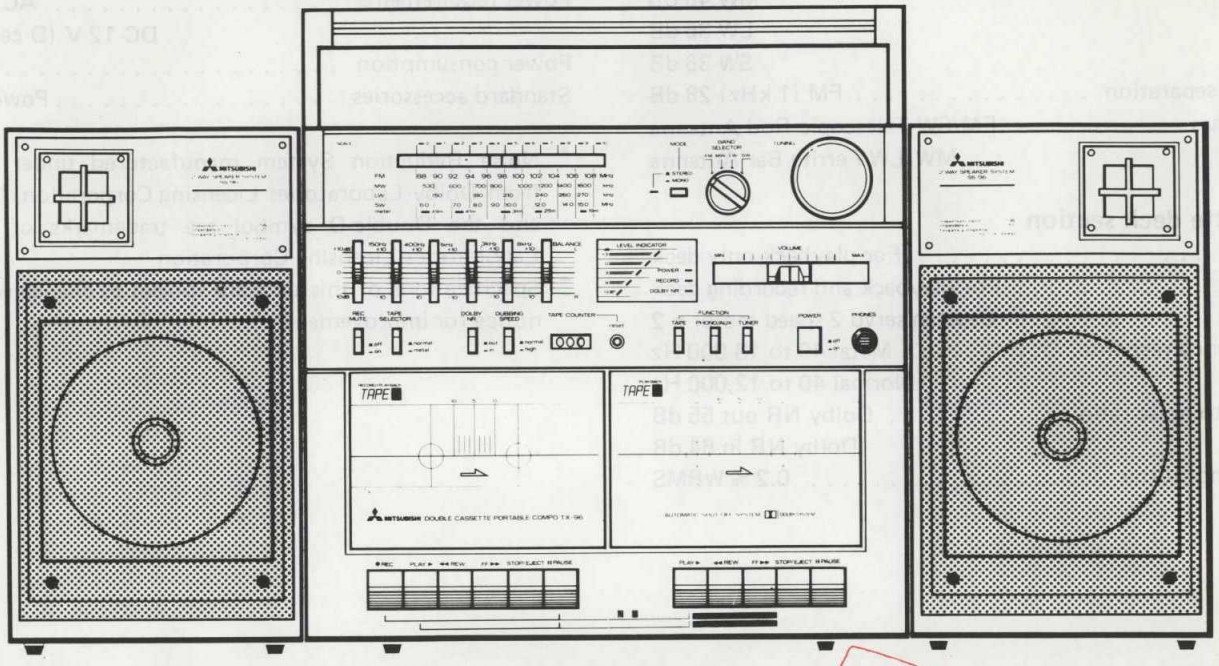
MITSUBISHI AUDIO SYSTEMS

SERVICE MANUAL

DOUBLE CASSETTE PORTABLE COMPO

MODEL TX-96



CONTENTS

MITSUBISHI ELECTRIC CORPORATION

SPECIFICATIONS

Tuner section

Frequency ranges	FM 87.5 MHz to 108 MHz
	MW 525 kHz to 1,605 kHz
	LW 145 kHz to 270 kHz
	SW 5.9 MHz to 15.4 MHz
Usable sensitivity	FM 6 μV
	MW 300 μV/m
	LW 1,000 μV/m
	SW 79 μV
Signal to noise ratio	FM 53 dB
	MW 40 dB
	LW 36 dB
	SW 36 dB
Stereo separation	FM (1 kHz) 28 dB
Antennas	FM/SW Telescopic Rod Antenna
	MW/LW Ferrite Bar Antenna

Cassette deck section

Tape 1	For playback only deck
Tape 2	For playback and recording deck
Motors	Capstan servo 2 speed motor x 2
Frequency response	Metal 40 to 13,000 Hz
	Normal 40 to 12,000 Hz
Signal to noise ratio	Dolby NR out 55 dB
	Dolby NR in 64 dB
Wow and flutter	0.2 % WRMS

Speaker section

Type	2 way speaker system
Speakers	12 cm woofer and 2 cm tweeter
Rated impedance	2 ohms
Maximum input	10 W

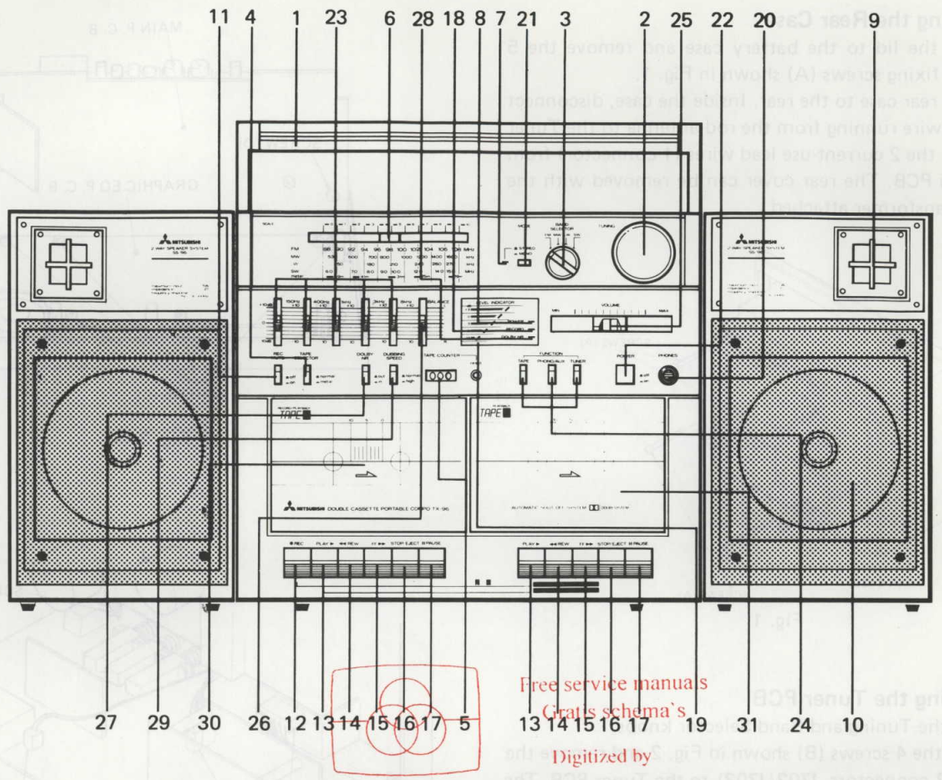
General

Dimensions	580(W) x 240(H) x 161(D) mm
	22-7/8''(W) x 9-1/2''(H) x 6-3/8''(D)
Weight	6.1 kg (13 lbs. 7 oz) without batteries
Power requirements	AC 220 V
	DC 12 V (D cells x 8)
Power consumption	45 W
Standard accessories	Power cord

* Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation. 'Dolby' and the Double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

* Specifications of this unit are subject to change without notice for improvement.

FRONT PANEL TERMINOLOGY AND FUNCTIONS



1. CARRYING HANDLE

2. TUNING
Knob used for selecting broadcasting stations.

3. BAND SELECTOR (Band Selection Switch)
This switch is for selecting FM, MW, LW, SW band reception.
FM For receiving FM broadcasts.
MW For receiving MW broadcasts.
LW For receiving LW broadcasts.
SW For receiving SW broadcasts.

4. TAPE (Tape Select Switch)
This switch is for "TAPE 2" to select the optimur bias current in recording and the equalizer characteristics in recording and playback according to the tape being used.

5. TAPE COUNTER and RESET BUTTON
At the start of recording, push the reset button to set the indications of the tape counter to "000" If you list the recorded programs and the counter indexing figures, you can easily "cue" a program which you want to hear again.

6. DIAL INDICATOR

7. STEREO (Stereo Indicator)
This indicator is illuminated when an FM stereo broadcast is being received. If the MODE switch is in the MONO position, this indicator will not illuminate even when a stereo station is tuned.

8. POWER (Power Indicator)
This indicator is illuminated when power is ON. If the indicator does not illuminate during battery operation the batteries are exhausted and must be replaced with fresh ones.

9. SPEAKER (Tweeter)
High frequency speaker.

10. SPEAKER (Woofer)
Low frequency speaker.

11. REC MUTING
When recording is in progress press this button to create a blank recording space. It is convenient for making lead space before entering a new program.

12. REC (Recording Button)
Press this button for recording.

13. PLAY (Playback Button)
Press this button for playback.

14. REW (Rewinding Button)
Press to rewind the tape at high speed from the right to the left.

15. FF (Fast-Forward Winding Button)
Press to forward wind the tape at high speed from the left to the right.

16. STOP/EJECT
Press this button to eject the cassette holder and to stop tape motion.

17. PAUSE (Temporary Stop Button)
Press this button to stop tape motion temporarily in recording or playback. By pressing the button again, the lock of the button is released and recording or playback is restarted.

18. RECORD (Recording Indicator)
This indicator is illuminated red in the recording mode.

19. LEVEL INDICATOR
These indicators show the peak level of the input signal during recording and the output signal during playback.

20. PHONES (Headphones Jack)
Connect low impedance (8 ohm) headphones here for private listening.

21. MODE (FM STEREO/MONO)
Set to STEREO for listening to FM stereo broadcasts. When listening to weak or distant FM stereo broadcasts background hiss noise may increase. Set to MONO to reduce the background hiss noise.

22. POWER (Power Switch)
CAUTION: When using an AC power source, some power is supplied to the unit even when the POWER switch is set to the OFF position.

23. GRAPHIC EQUALIZER
The graphic equalizer adjusts the quality of the play-back sound by frequency. (1 kHz for human voice, 8 kHz for the tone of a violin, etc.)
Adjust to suit the music and room conditions.

24. FUNCTION
This switch selects the desired program source.
TUNER For listening to broadcast.
TAPE For playing cassette tape.
PHONO/AUX For playing phono or other AUX source which is input from the PHONO/AUX terminal (36). The usage of this function is selected by the PHONO/AUX SELECTOR SWITCH (37) located in the rear of the cabinet. Phono use is specially for an MM type cartridge of an equivalent cartridge.

25. VOLUME (Volume Control)
This control adjusts the sound volume from the speakers. The volume is increased by moving toward MAX, and decreased by moving toward MIN.

26. BALANCE (Balance Control)
This control adjusts the balance between the two channels. The sound image is normally balanced at the center, shifted to the right side when this control is moved to the R, and to the left side when moved to the L. Adjust the control to match the position of the speaker systems and your listening position.

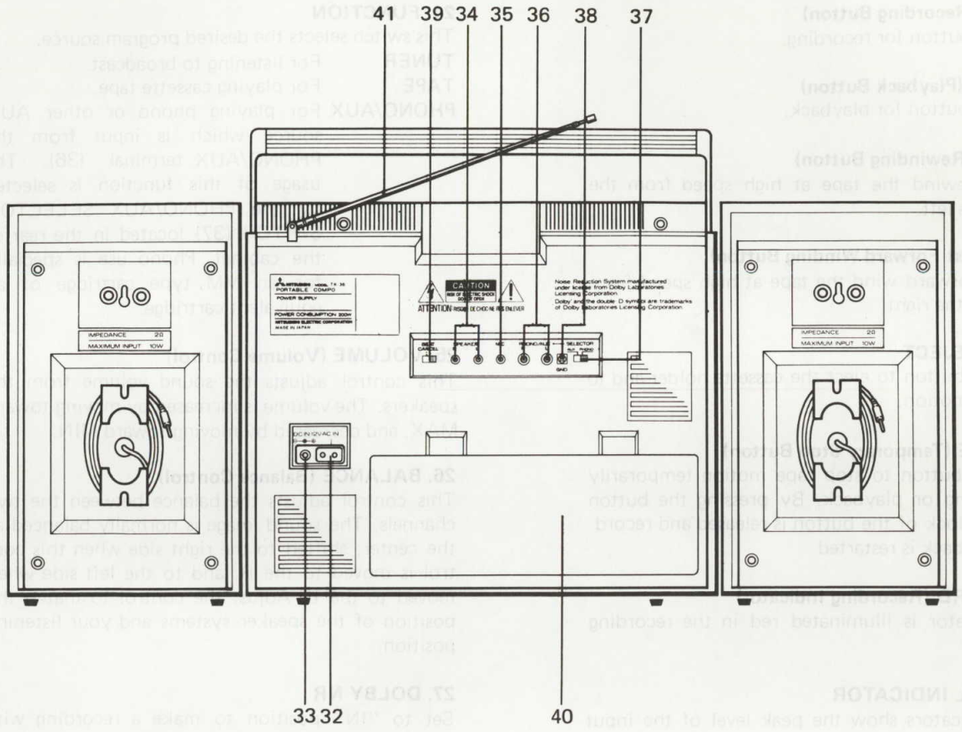
27. DOLBY NR
Set to "IN" position to make a recording with DOLBY NR or to playback a tape recorded with DOLBY NR.

28. DOLBY NR INDICATOR
This indicator is illuminated green when the Dolby NR switch is set to the "IN" position.

29. DUBBING SPEED
Press this switch for high speed dubbing. During high speed dubbing, Dolby NR is turned off automatically.

30. TAPE 2
This deck is used for playback and recording. You may use a normal tape or metal tape which is selected by the TAPE SELECTOR SWITCH (4).

31. TAPE 1
This deck is used for playback only. Equalizers for Normal/Chrome/Metal tapes are switched automatically by the tape sensor. When used in continuous playback, this deck operates first and playback equalization for both Tape 1 and Tape 2 decks is automatically set by the Tape 1 deck.



32. AC IN (AC Input Socket)
Connect one end of the power cord to this unit and the other end to the AC outlet.
The batteries are automatically disconnected when the power cord is plugged into this unit.

33. DC (External Power Jack DC)
Connect the DC power source here. The batteries are automatically disconnected when an external DC power source is used.

34. SPEAKER (External Speaker Outputs)
The speaker leads are connected here.

35. MIC (Microphone Input)
Live recording with microphone can be made using the rear panel microphone inputs.

36. PHONO/AUX INPUT TERMINALS
PHONO (MM type) or AUX INPUT selected by switch (37).

37. PHONO/AUX SELECTOR SWITCH
This switch selects the INPUT TERMINALS (36) for PHONO or AUX. AUX is suitable for a high output source like a TV, TUNER, TAPE DECK, CD PLAYER etc. In the PHONO position, the signal will go through the RIAA playback equalizer. It is suitable for a turntable with an MM (magnetic) type cartridge.

38. GND.
Connect the ground lead from a turntable here.

39. BEAT (Beat Cancel Switch)
When recording LW, MW or SW broadcasts, an irritating beat sound caused from interaction betwen the radio frequency and the recording bias frequency may sometimes occur. Set this BEAT CANCEL switch to the other position to decrease this beat sound.

40. BATTERY COMPARTMENT

41. TELESCOPIC ROD ANTENNA
For listening to FM or SW, it is necessary to fully extend the TELESCOPIC ROD ANTENNA.

DISASSEMBLY PROCEDURES

1. Removing the Rear Case

1) Remove the lid to the battery case and remove the 5 rear case fixing screws (A) shown in Fig. 1.
2) Slide the rear case to the rear. Inside the case, disconnect the lead wire running from the rod antenna to the Tuner PCB and the 2 current-use lead wires (1 connector) from the Main PCB. The rear cover can be removed with the power transformer attached.

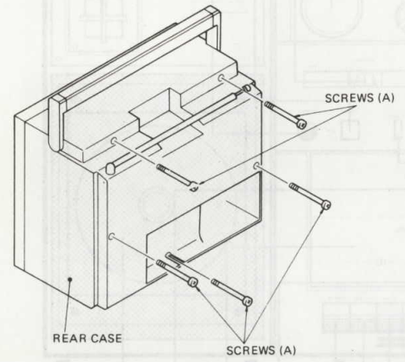


Fig. 1

2. Removing the Tuner PCB

1) Pull off the Tuning and Band Selector knobs.
2) Remove the 4 screws (B) shown in Fig. 2 and remove the wiring (2 connectors J702/J703) to the Tuner PCB. The Tuner PCB can be removed.

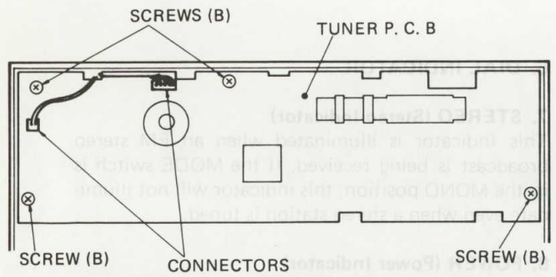


Fig. 2

3. Removing the Main PCB

1) After removing the Tuner PCB, remove the 5 screws (C) and 1 screw (D) shown in Fig. 3.
2) Remove the wiring (4 connectors) running from the Main PCB to the cassette mechanism shown in Fig. 4.
3) Remove the 1 screw (E) shown in Fig. 4. The Main PCB can be removed while remaining connected to the Graphic EQ PCB.
4) When removing the REC SW wire running from the TAPE 2 to the REC switch (S102), remove the wire from the S102 lever after first taking hold of the S102 wire holder and removing the ring as shown in Fig. 5.

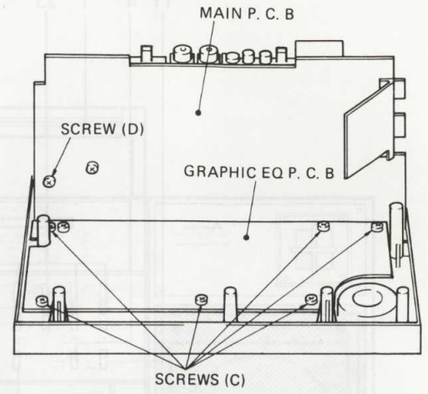


Fig. 3

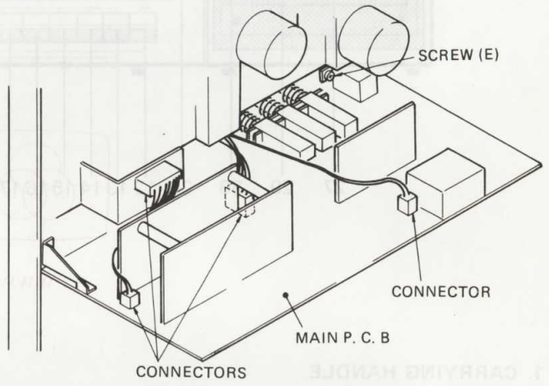


Fig. 4

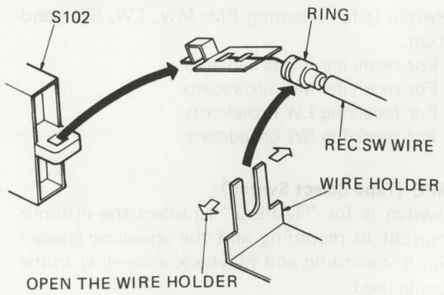


Fig. 5

4. Removing the Cassette Mechanism Ass'y

1) Remove the Main PCB.
2) Remove the 7 cassette mechanism fixing screws (F) shown in Fig. 6.
3) After removing the belt to the tape counter, press the STOP/EJECT buttons for both TAPE 1 and TAPE 2 to open the cassette holder. The cassette mechanism assembly can be removed.

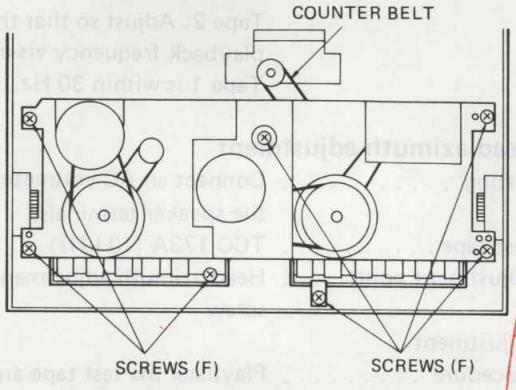


Fig. 6

4-1. Removing the Main Motor and Flywheel (TAPE 2)

1) Remove the P kick lever (B) by removing 1 fixing screw.
2) Remove the motor bracket by removing 6 fixing screws.
3) Replacement of the TAPE 2 main belt can now be carried out.
4) The main motor can be removed by removing 3 fixing screws.
5) When the flywheel shaft washer is removed from the front of the mechanism, the flywheel can be pulled out from the back. Replacement of the RF belt can now be carried out.

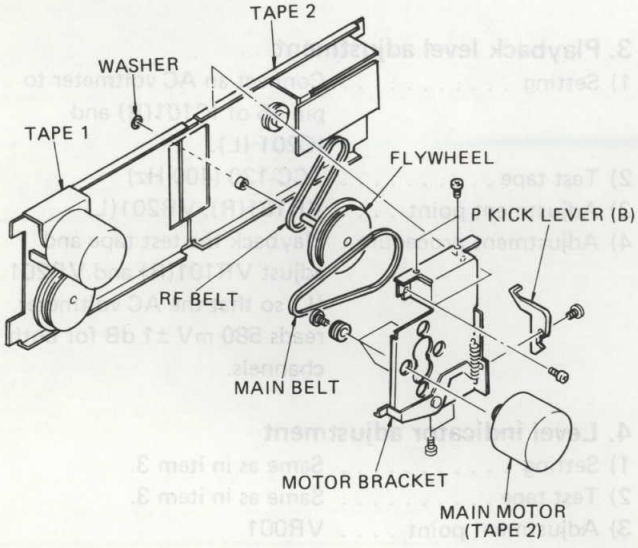


Fig. 7

4-2. Removal of the Main Motor and Flywheel (TAPE 1)

1) Remove the Tape 1 motor bracket by removing 2 fixing screws.
2) The Tape 1 main belt can be replaced.
3) The main motor can be removed by removing 2 fixing screws.
4) In the same way as with Tape 2, the flywheel can be pulled out from the back when the shaft washer is removed. Replacement of the RF belt, too, can be carried out in the same way as with Tape 2.

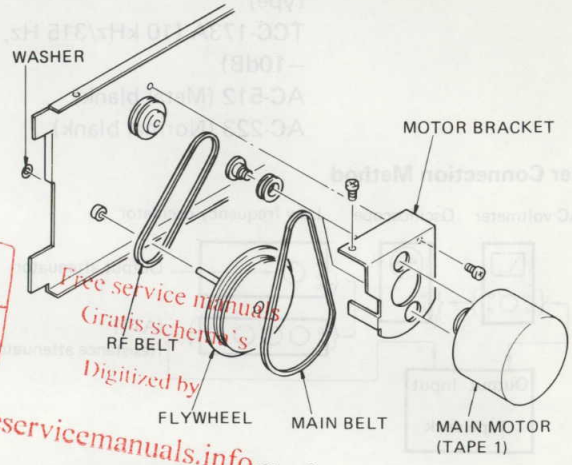


Fig. 8

4-3. Removal of the Head and Pinch Roller (for TAPE 1 and TAPE 2).

1) Remove the button Ass'y by removing 2 fixing screws.
2) The pinch roller can be removed by removing 1 fixing screw.
3) The Erase head (for Tape 2 only) can be removed by removing 2 fixing screws.
4) The R/P head can be removed by removing 2 fixing screws. When replacing the R/P head, always carry out a Head Azimuth adjustment and secure the adjustment with the lock screw.

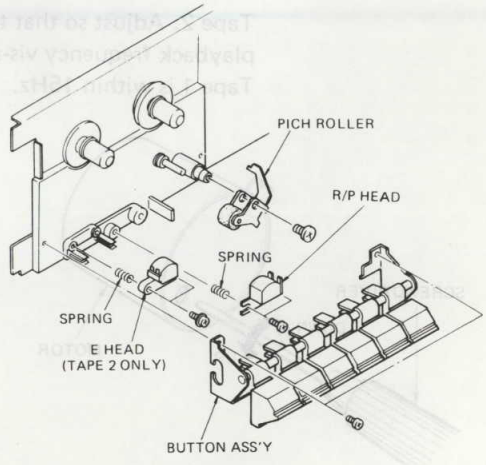


Fig. 9

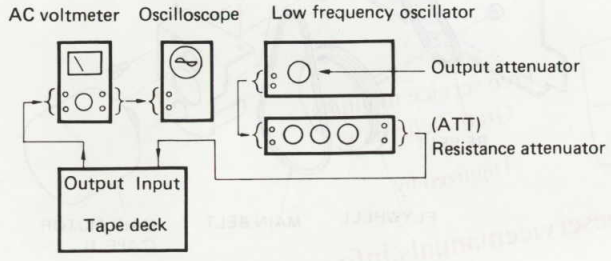
ADJUSTMENTS

• Adjusting the tape deck section

Measurement devices required

1) Low frequency oscillator . . . . . 20 Hz to 20 kHz or more
2) Resistive attenuator . . 0 dB to 90 dB, in 0.1 or 0.5 dB steps
3) AC voltmeter . . . . . 20 Hz to 100 kHz or more
4) Frequency counter
5) Test tape . . . . . TCC-112 (3 kHz, −10 dB)
   TCC-130 (400 Hz, Dolby-B type)
   TCC-173A (10 kHz/315 Hz, −10dB)
   AC-512 (Metal blank)
   AC-223 (Normal blank)

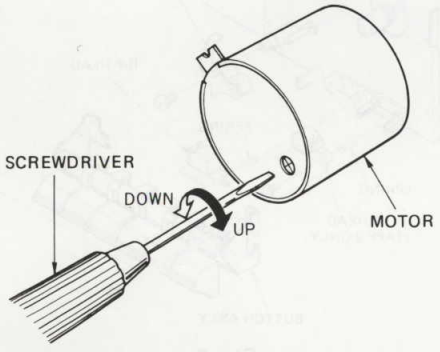
Meter Connection Method



1. Tape speed adjustment

1-1. Normal speed

1) Setting . . . . . Connect the frequency counter to the speaker terminals.
2) Test tape . . . . . TCC-112 (3 kHz)
3) Adjustment point . . . . Capstan motor (Tape 1, Tape 2)
4) Adjustment procedure . Tape 1: Playback the test tape and use a minus screwdriver to adjust the motor adjustment slot so that the frequency counter reads 3,000 Hz +20, −15 Hz.
   Tape 2: Adjust so that the playback frequency vis-a-vis Tape 1 is within 15Hz.

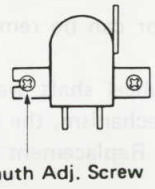


1-2. High speed

1) Setting . . . . . Same as in item 1-1.
2) Test tape . . . . . Same as in item 1-1.
3) Adjustment point . . . . Tape 1:VR003
   Tape 2:VR002
4) Adjustment procedure . Tape 1: Playback the test tape, adjusting VR003 so that the frequency counter reads 6,000 Hz +40, −20 Hz.
   Tape 2: Adjust so that the playback frequency vis-a-vis Tape 1 is within 30 Hz.

2. Head azimuth adjustment

1) Setting . . . . . Connect an AC voltmeter to the speaker terminals.
2) Test tape . . . . . TCC-173A (10 kHz)
3) Adjustment point . . . . Head azimuth adjustment screw
4) Adjustment procedure . . . . . Playback the test tape and adjust the head azimuth adjustment screw so that the output level of both channels is equal and at the maximun possible setting.



3. Playback level adjustment

1) Setting . . . . . Connect an AC voltmeter to pin 15 of IC101(R) and IC201 (L).
2) Test tape . . . . . TCC-130 (400 Hz)
3) Adjustment point . . . . VR101(R), VR201(L)
4) Adjustment procedure . Playback the test tape and adjust VR101(R) and VR201 (L) so that the AC voltmeter reads 580 mV ±1 dB for both channels.

4. Level indicator adjustment

1) Setting . . . . . Same as in item 3.
2) Test tape . . . . . Same as in item 3.
3) Adjustment point VR001
4) Adjustment procedure . Playback the test tape and adjust VR001 so that the four LEDs of the level meter (0 dB) light up.

5. Bias current adjustment

1) Setting . . . . ● Set the Dolby NR switch to the OFF position.
● Connect an AC voltmeter to the speaker terminals.

2) Test tape . . . . AC-512 (Metal blank)
AC-223 (Normal blank)

3) Adjustment point . . . . VR401(R), VR402(L)

4) Adjustment procedure Input a 400Hz and 10kHz signal at −33.5 dB (21 mV) from the AUX, record, and playback. Using the 400Hz signal as the standard of reference, adjust so that the 10kHz playback level is within +1, −0 dB.

6. Recording current adjustment

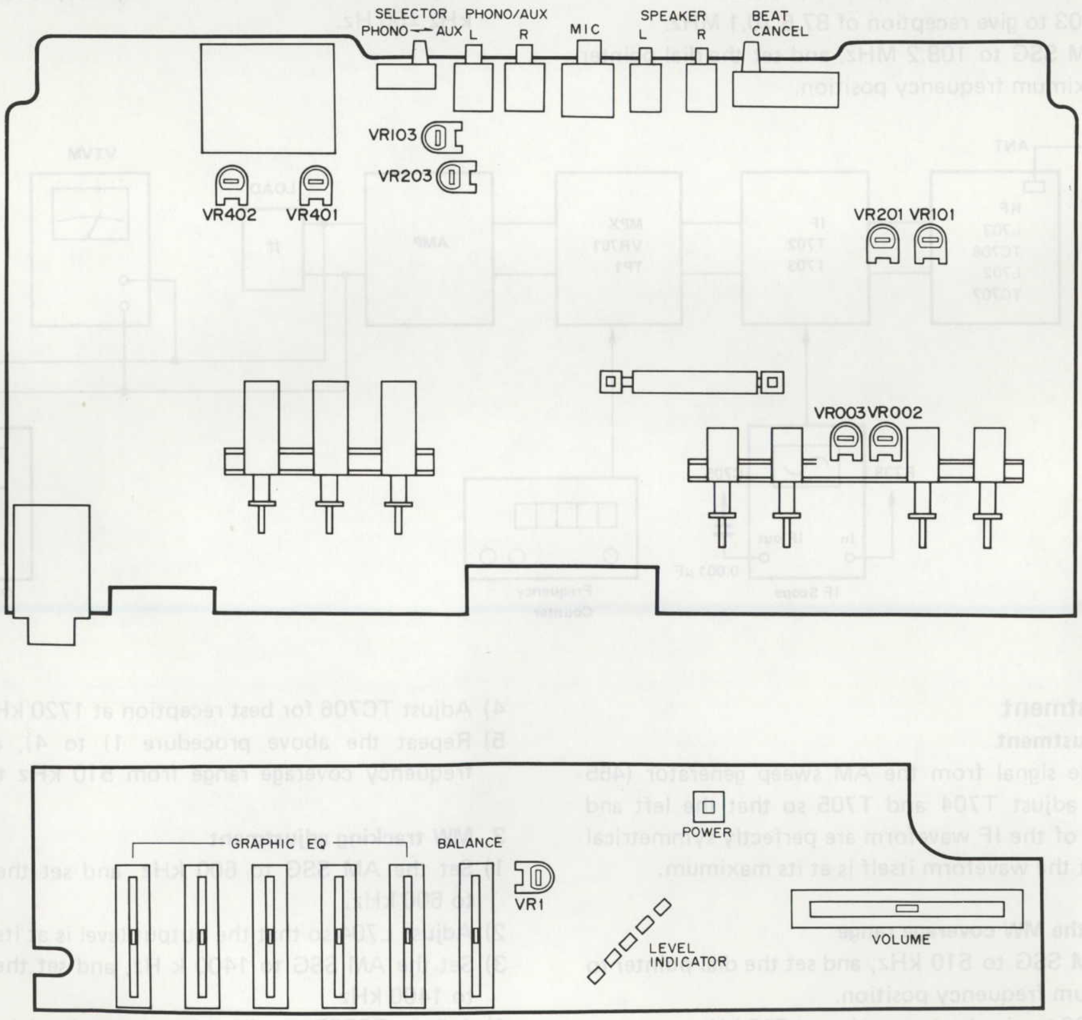
1) Setting . . . . Same as in item 5.

2) Test tape . . . . Same as in item 5.

3) Adjustment point . . . . VR103(R), VR203(L)

4) Adjustment procedure . Input a 400Hz signal at −8.5 dB (370 mV) from the AUX and record. Using the monitor level at this time as the standard of reference, adjust so that this signal level is the same as the monitor level.

ADJUSTMENT POINTS



• Adjusting the tuner section

Required measurement devices

1) FM sweep generator
2) FM standard signal generator
3) Oscilloscope
4) AC voltmeter
5) Frequency counter
6) AM sweep generator
7) AM standard signal generator

• FM adjustment

1. FM IF adjustment

1) Receive the signal from the FM sweep generator (10.7 MHz), and adjust T702 so that the waveform of the S curve is at its maximum.
2) Adjust T703, so that the top and bottom of the S curve waveform are perfectly symmetrical.

2. Adjusting the FM f coverage range

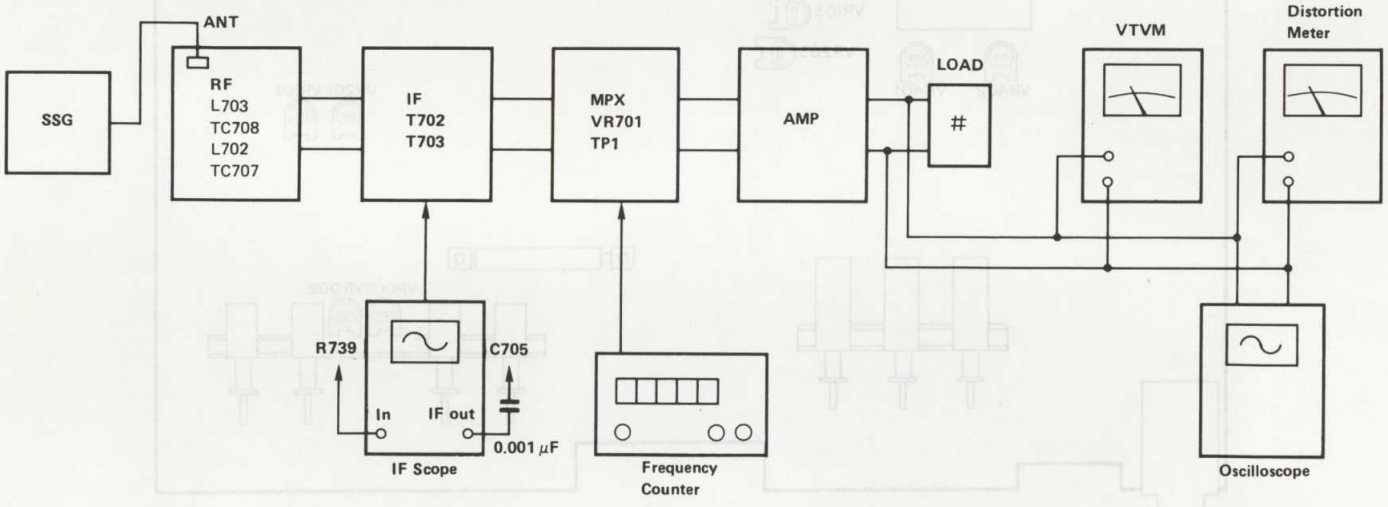
1) Set the FM SSG to 87.6 ±0.1 MHz, and set the dial pointer to the minimum frequency position.
2) Adjust L703 to give reception of 87.6 ±0.1 MHz.
3) Set the FM SSG to 108.2 MHz, and set the dial pointer to the maximum frequency position.
4) Adjust TFC708 to give reception of 108.2 +0.1/–0 MHz.
5) Repeat the above procedure 1) to 4), adjusting the frequency coverage range from 87.6 MHz to 108.2 MHz.

3. FM tracking adjustment

1) Set the FM SSG to 90 MHz, and set the dial pointer to 90 MHz.
2) Adjust L701 so that the output level is at its maximum.
3) Set the FM SSG to 106 MHz, and set the dial pointer to 106 MHz.
4) Adjust TC707 so that the output level is at its maximum.
5) Repeat the above procedure 1) to 4), confirming that there is no tracking error.

4. FM MPX adjustment

1) Set the reception for a 100 MHz unmodulated monaural standard signal, and connect the frequency counter to the test point (TP 1).
2) Adjust VR701 so that the frequency counter reads 19 kHz ±50 Hz.



• AM adjustment

1. AM IF adjustment

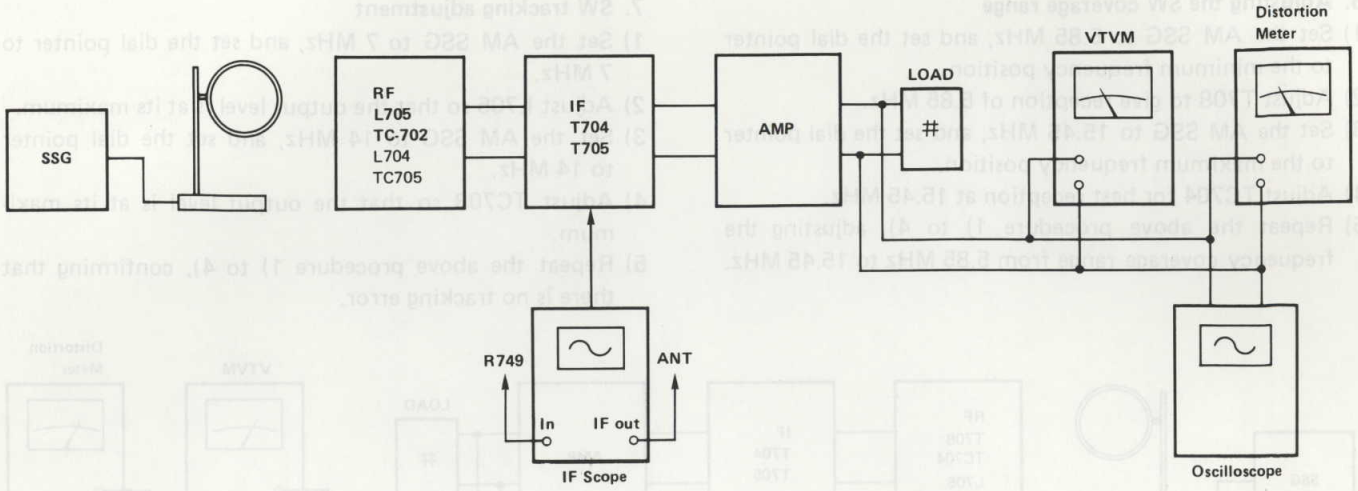
1) Receive the signal from the AM sweep generator (455 kHz) and adjust T704 and T705 so that the left and right sides of the IF waveform are perfectly symmetrical and so that the waveform itself is at its maximum.

2. Adjusting the MW coverage range

1) Set the AM SSG to 510 kHz, and set the dial pointer to the minimum frequency position.
2) Adjust T706 to give best reception at 510 kHz.
3) Set the AM SSG to 1720 kHz, and set the dial pointer to the maximum frequency position.
4) Adjust TC706 for best reception at 1720 kHz.
5) Repeat the above procedure 1) to 4), adjusting the frequency coverage range from 510 kHz to 1720 kHz.

3. MW tracking adjustment

1) Set the AM SSG to 600 kHz, and set the dial pointer to 600 kHz.
2) Adjust L704 so that the output level is at its maximum.
3) Set the AM SSG to 1400 k Hz, and set the dial pointer to 1400 kHz.
4) Adjust TC705 so that the output level is at its maximum.
5) Repeat the above procedure 1) to 4), confirming that there is no tracking error.

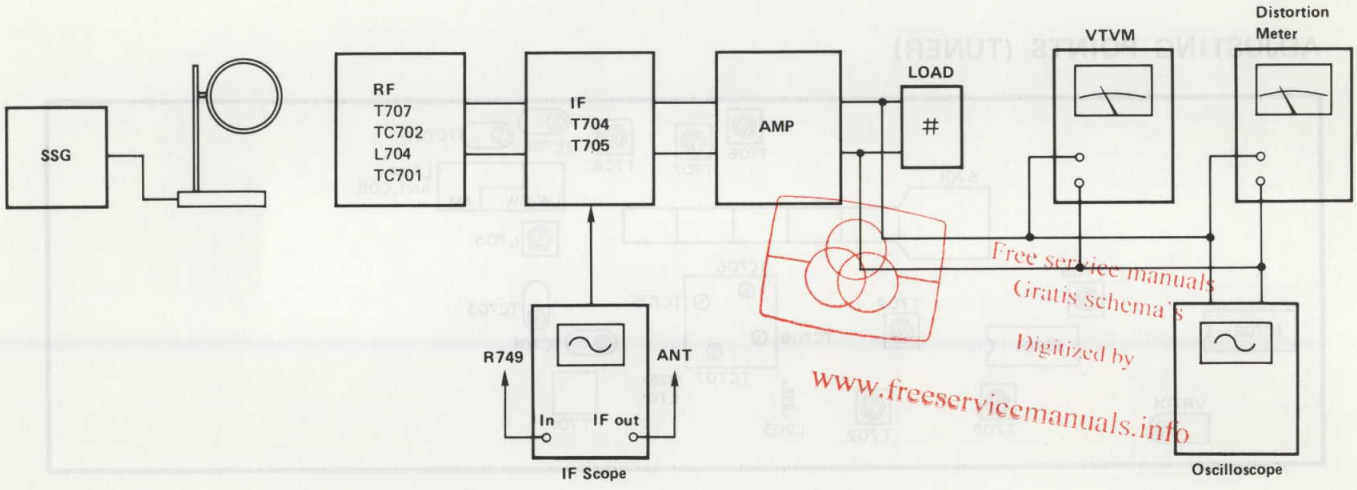


4. Adjusting the LW coverage range

1) Set the AM SSG to 140 kHz, and set the dial pointer to the minimum frequency position.
2) Adjust T707 to give best reception at 140 kHz.
3) Set the AM SSG to 275 kHz, and set the dial pointer to the maximum frequency position.
4) Adjust TC702 for best reception at 275 kHz.
5) Repeat the above procedure 1) to 4), adjusting the frequency coverage range from 140 kHz to 275 kHz.

5. LW tracking adjustment

1) Set the AM SSG to 160 kHz, and set the dial pointer to 160 kHz.
2) Adjust L704 so that the output level is at its maximum.
3) Set the AM SSG to 250 kHz, and set the dial pointer to 250 kHz.
4) Adjust TC701 so that the output level is at its maximum.
5) Repeat the above procedure 1) to 4), confirming that there is no tracking error.

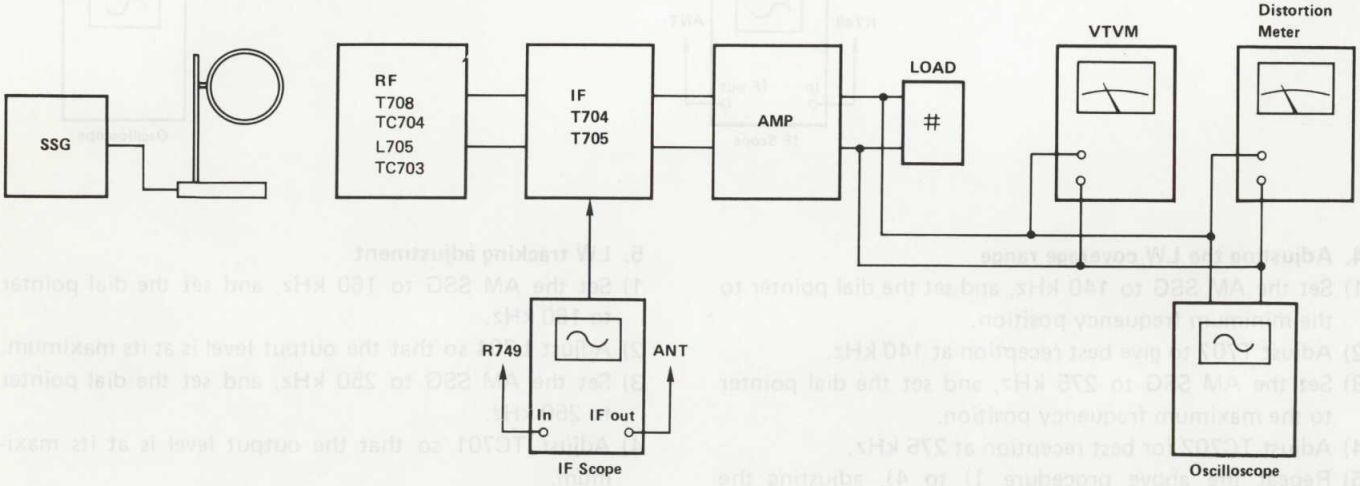


6. Adjusting the SW coverage range

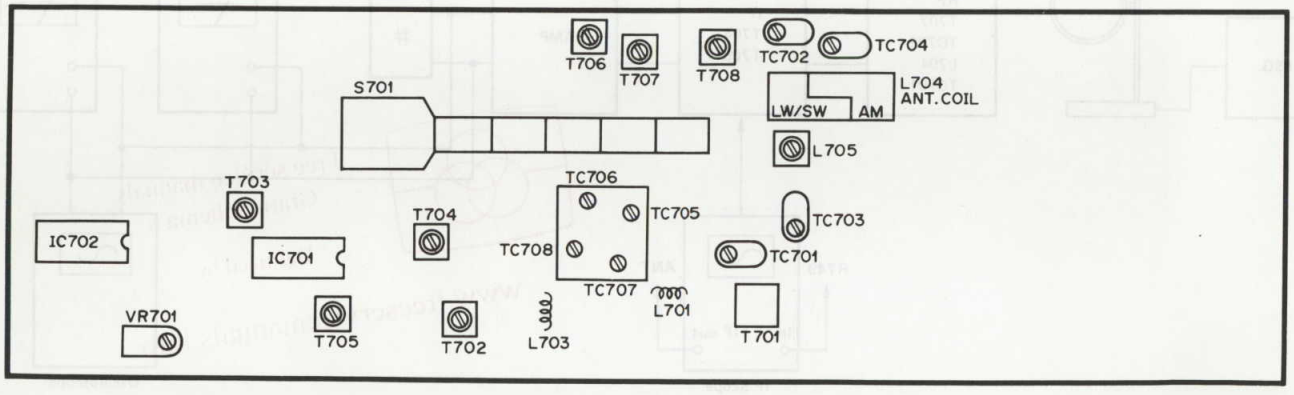
1) Set the AM SSG to 5.85 MHz, and set the dial pointer to the minimum frequency position.
2) Adjust T708 to give reception of 5.85 MHz.
3) Set the AM SSG to 15.45 MHz, and set the dial pointer to the maximum frequency position.
4) Adjust TC704 for best reception at 15.45 MHz.
5) Repeat the above procedure 1) to 4), adjusting the frequency coverage range from 5.85 MHz to 15.45 MHz.

7. SW tracking adjustment

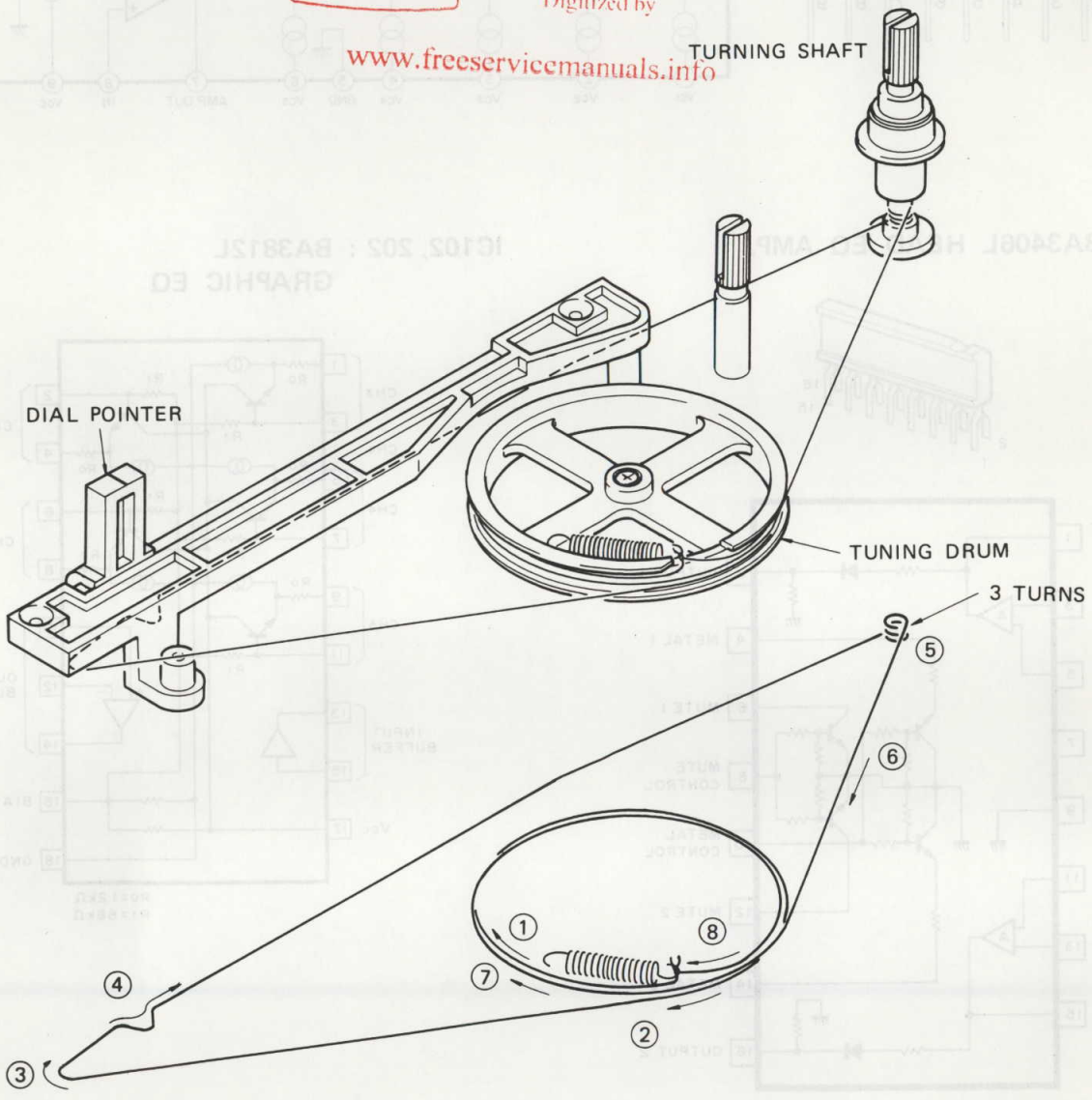
1) Set the AM SSG to 7 MHz, and set the dial pointer to 7 MHz.
2) Adjust L705 so that the output level is at its maximum.
3) Set the AM SSG to 14 MHz, and set the dial pointer to 14 MHz.
4) Adjust TC703 so that the output level is at its maximum.
5) Repeat the above procedure 1) to 4), confirming that there is no tracking error.



ADJUSTING POINTS (TUNER)

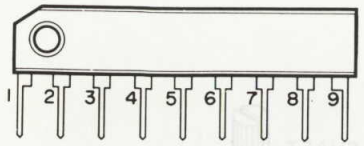


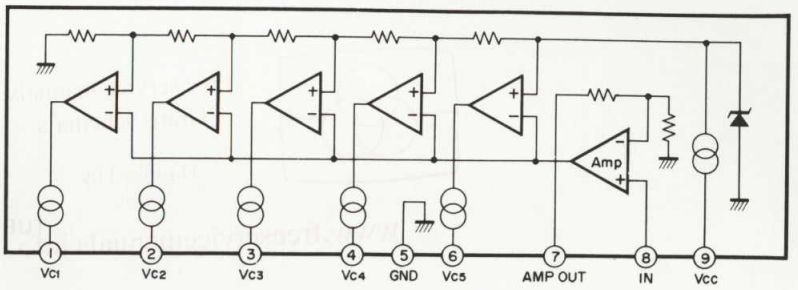
DIAL CORD STRINGING



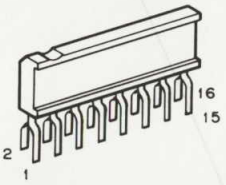
INTERNAL DIAGRAMS AND PINOUT OF INTEGRATED CIRCUIT

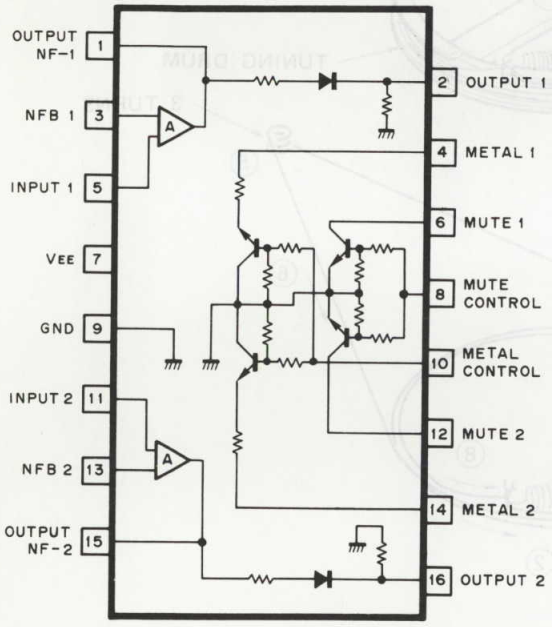
IC3 : LB1403 METER DRIVE



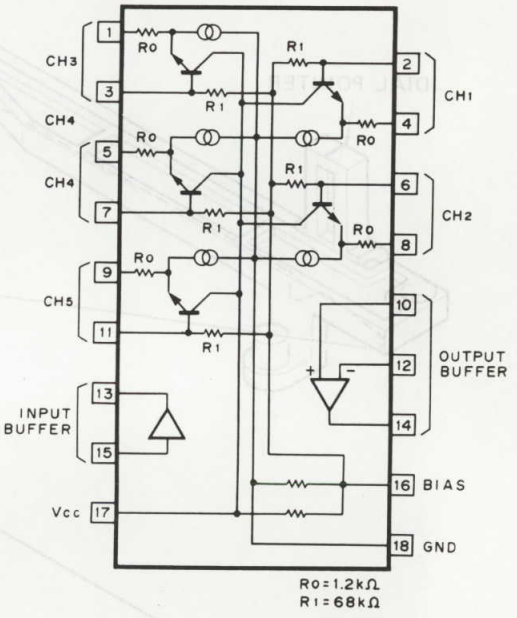


IC4, 5 : BA3406L HEAD EQ AMP.

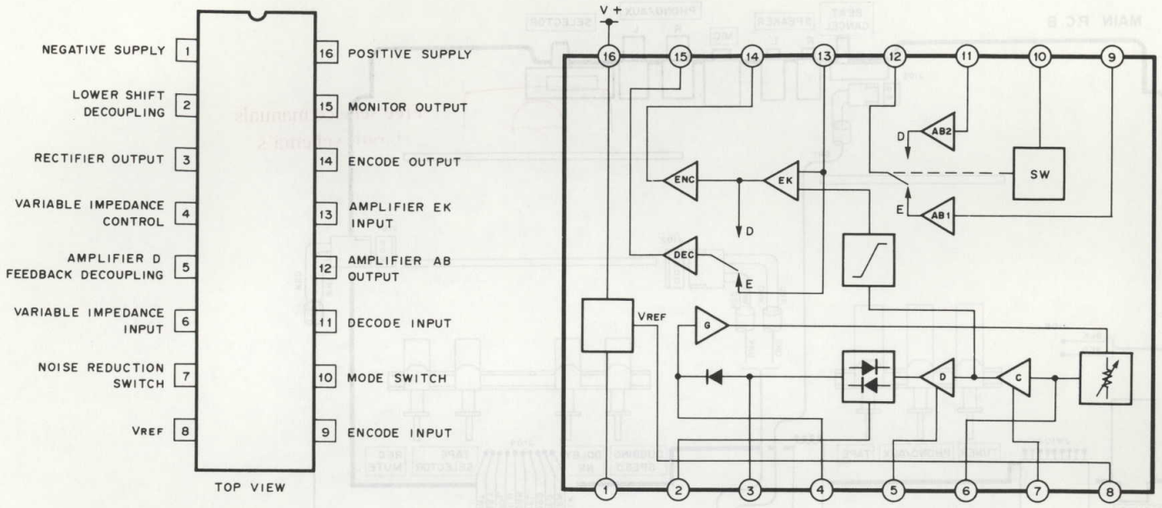




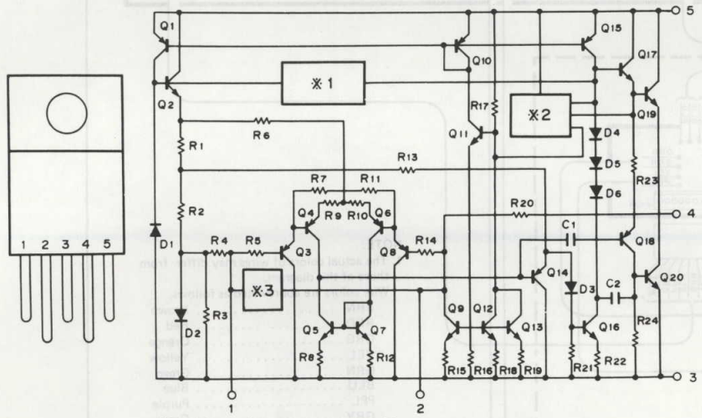
IC102, 202 : BA3812L GRAPHIC EQ



IC101, 201 : LM1121 DOLBY NR

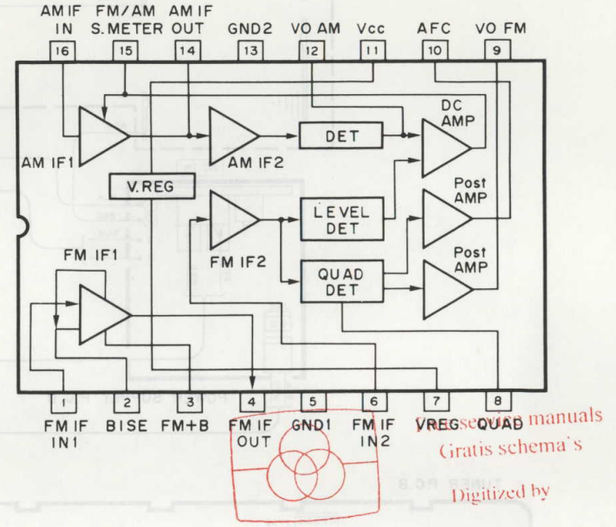


IC103, 203 : μPC2002 POWER AMP.

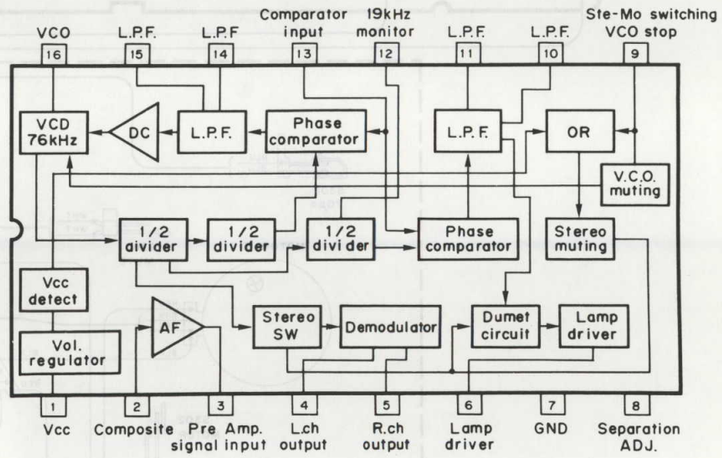


※1 Heat det. protect circuit
※2 Over vol., surge protect circuit
※3 Power on pop noise absorpoint circuit

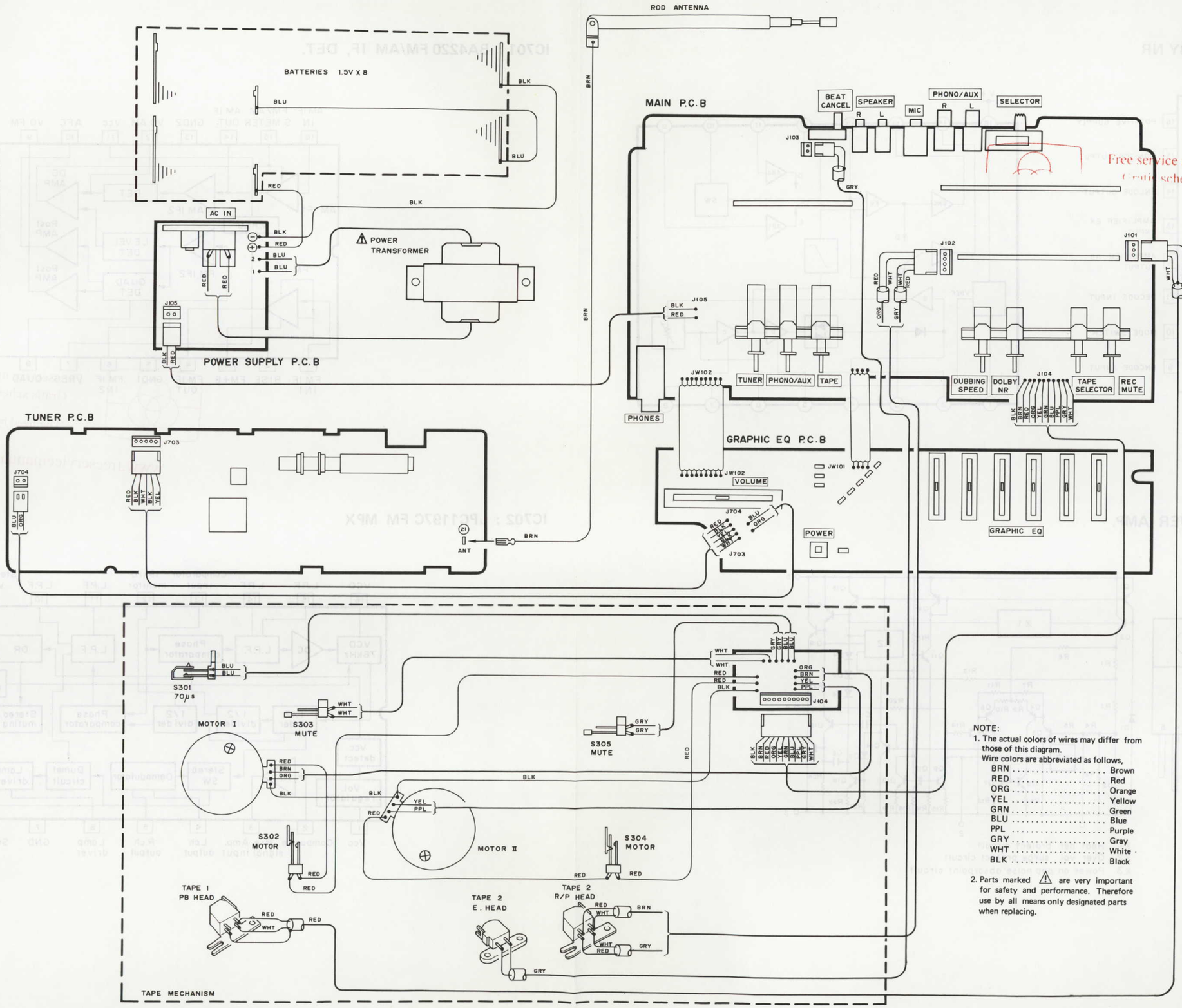
IC701 : BA4220 FM/AM IF, DET.



IC702 : μPC1197C FM MPX



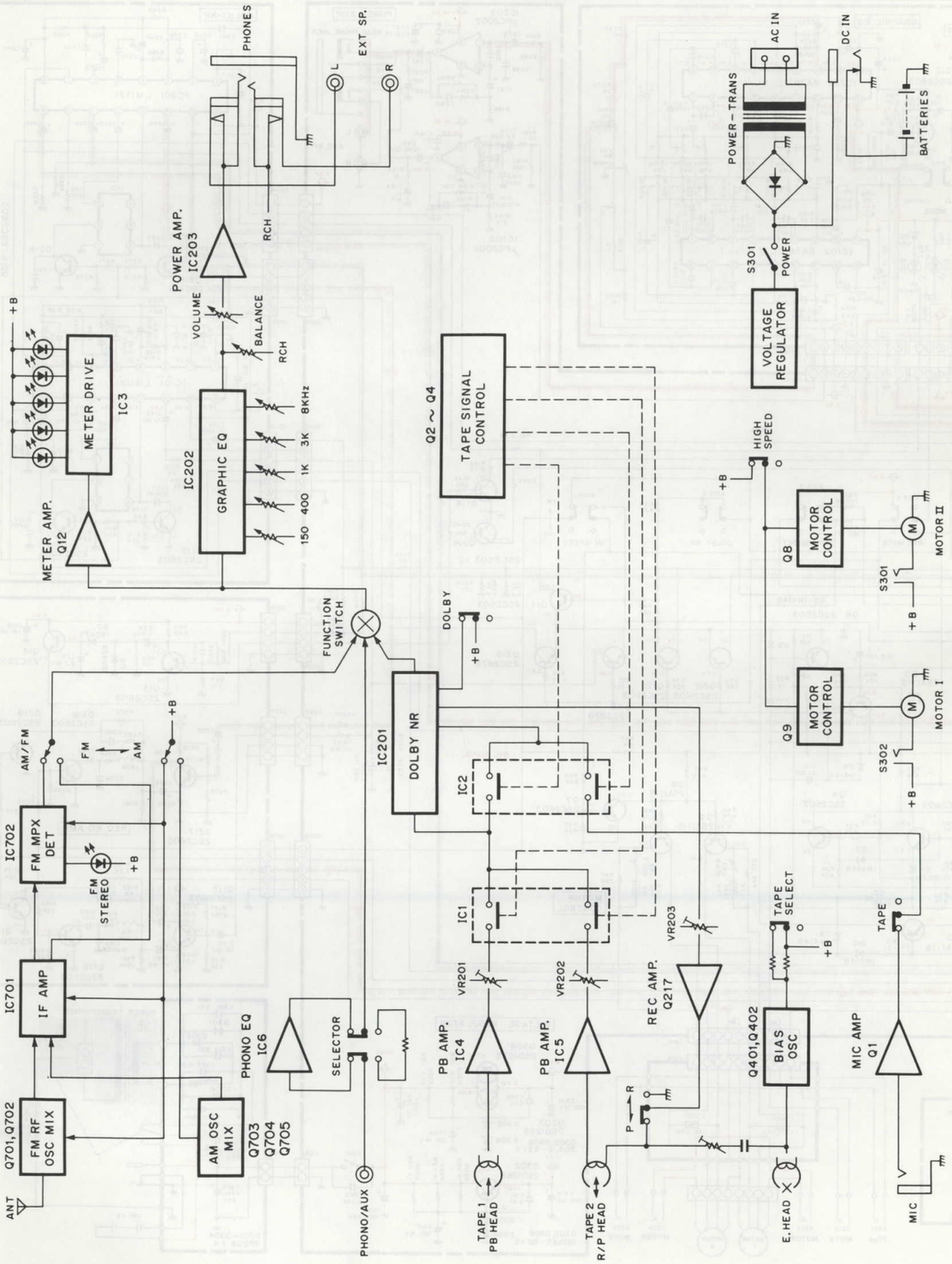
WIRING DIAGRAM



NOTE:

1. The actual colors of wires may differ from those of this diagram.
   Wire colors are abbreviated as follows,
   - BRN ..... Brown
   - RED ..... Red
   - ORG ..... Orange
   - YEL ..... Yellow
   - GRN ..... Green
   - BLU ..... Blue
   - PPL ..... Purple
   - GRY ..... Gray
   - WHT ..... White
   - BLK ..... Black
2. Parts marked ⚠ are very important for safety and performance. Therefore use by all means only designated parts when replacing.

BLOCK DIAGRAM

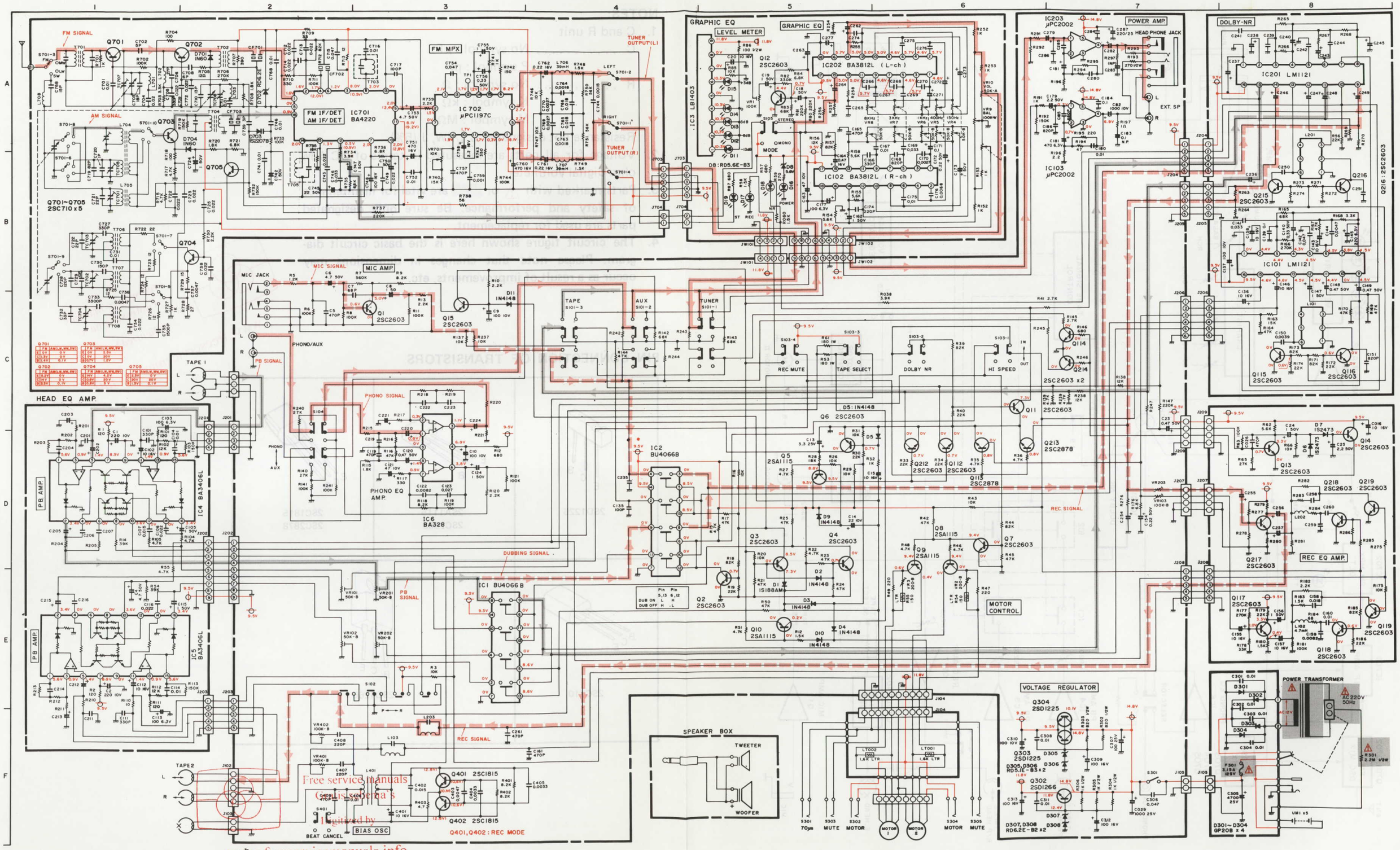


SCHEMATIC DIAGRAM

NOTES:

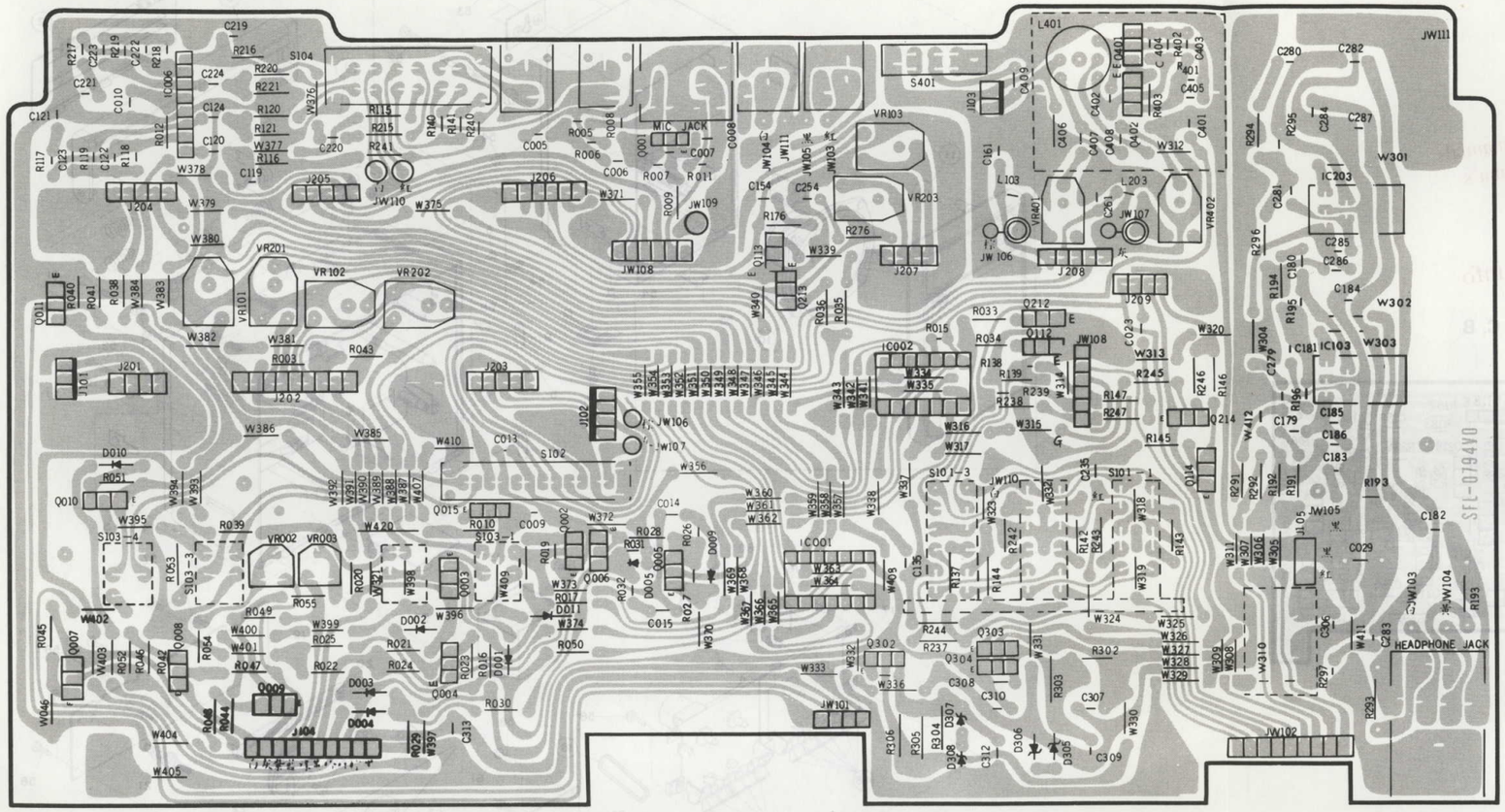
1. C and R unit
   C ..... No symbol : μF
   P symbol : pF
   R ..... No symbol : Ω
   K symbol : kΩ
   M symbol : MΩ
   Resistance not designated is 1/4W, J (5%).
2. Voltage for all parts are measured in terms of DC 1 M ohm digital voltmeter.
3. **Parts marked with ⚠ or ▭ are vital for maintenance of safety and performance. Be sure only designated parts are used for replacement.**
4. **The circuit figure shown here is the basic circuit diagram. Please note that changes in dimensions may occur as a result of improvements, etc.**

PIN CONNECTION OF TRANSISTORS

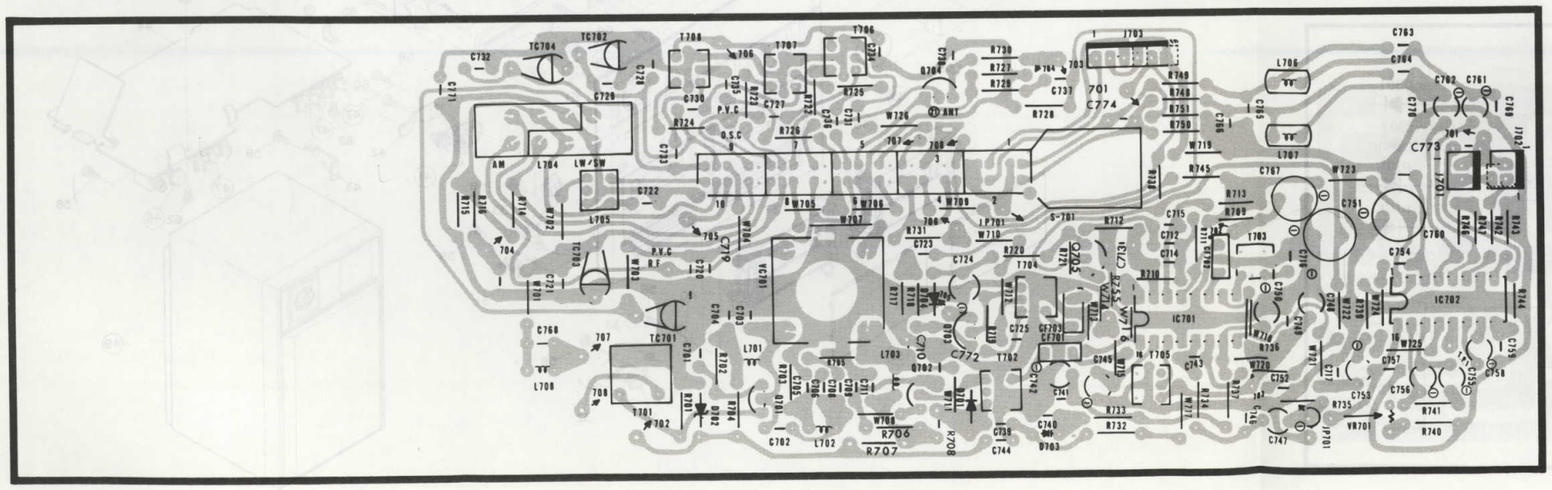


PRINTED CIRCUIT BOARDS

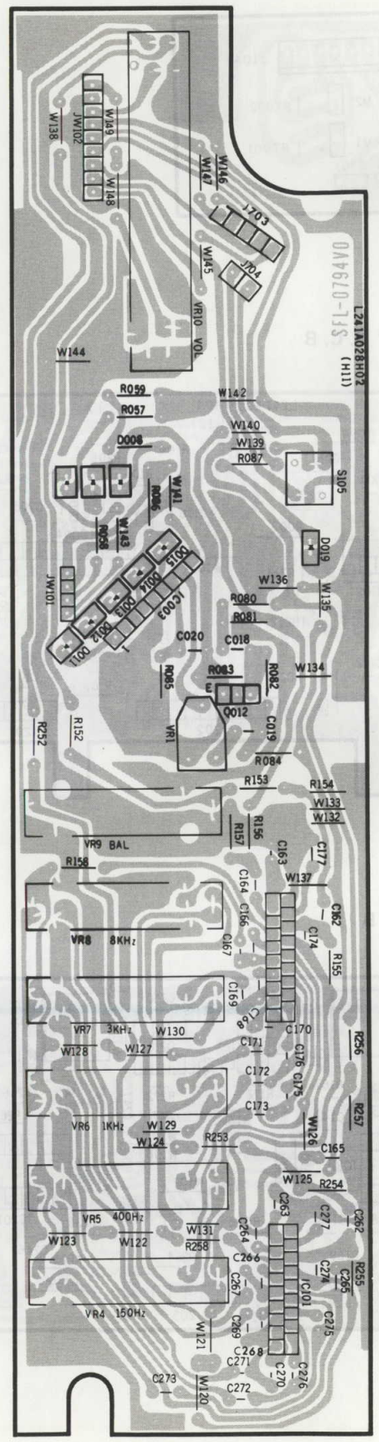
MAIN P. C. B



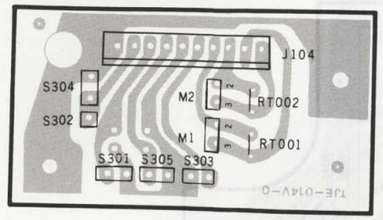
TUNER P. C. B



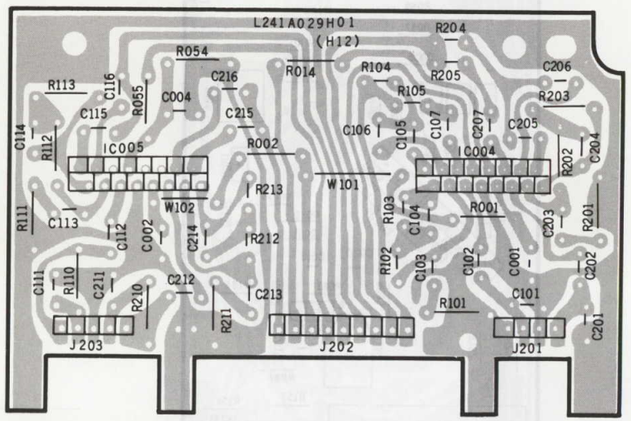
G-EQ. P. C. B



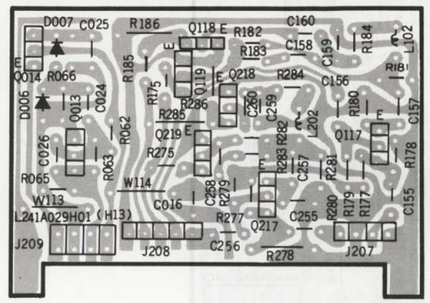
MOTOR AND LEAF SW P. C. B



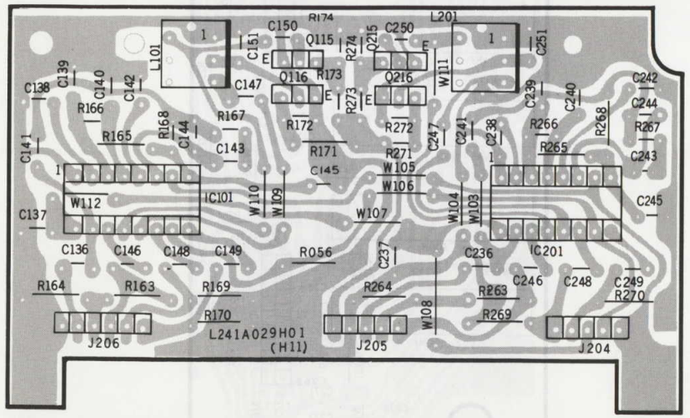
HEAD EQ. AMP P. C. B



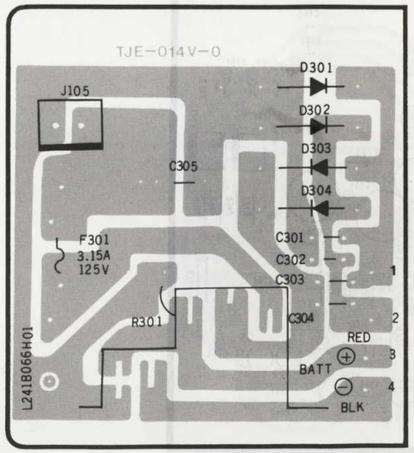
REC EQ. ANP P. C. B



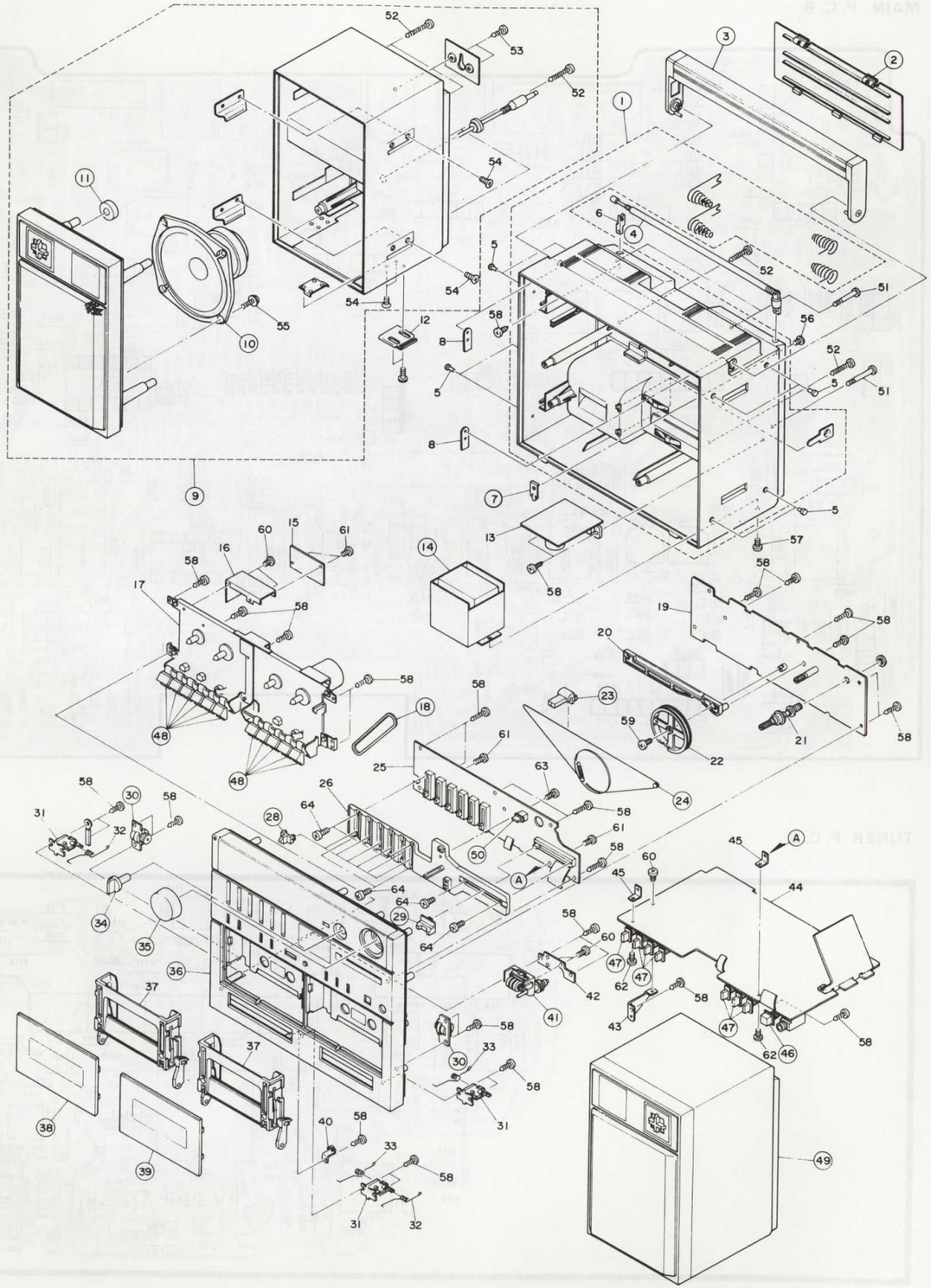
DOLBY-NR P. C. B



POWER P. C. B



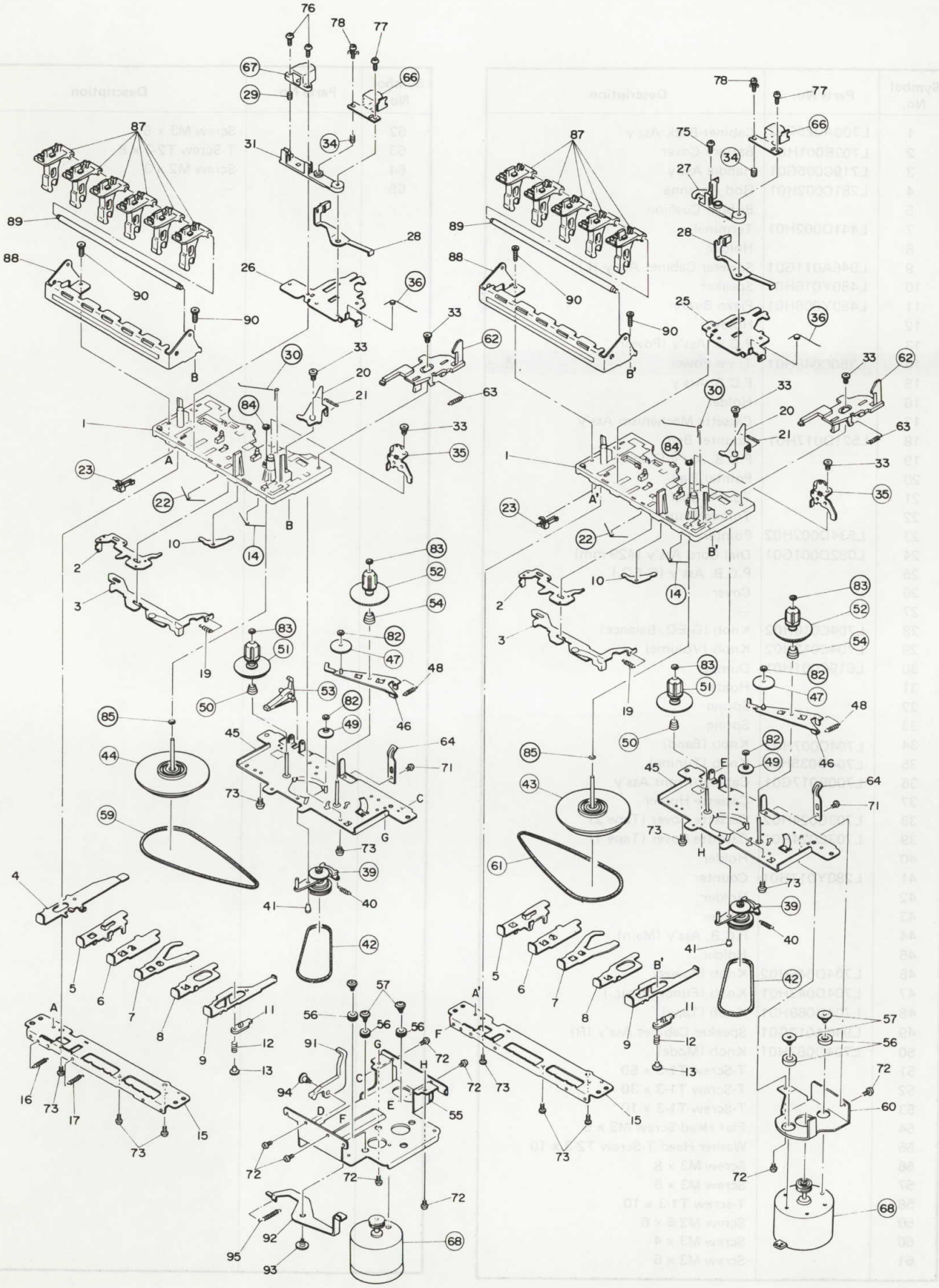
EXPLODED VIEW OF CABINET



PARTS LIST (CABINET)

Symbol No.	Parts No.	Description
1	L700A025G02	Cabinet-Back Ass'y
2	L703B001H01	Battery-Cover
3	L719C005G01	Handle Ass'y
4	L281C002H01	Rod Antenna
5		Bubber Cushion
7	L441D002H01	Terminal
8		Holder
9	L946A011G01	Speaker Cabinet Ass'y (L)
10	L480Y016H01	Speaker
11	L480Y006H01	Piezo Buzzer
12		Holder
13		P.C.B. Ass'y (Power)
14	L350C048H01	Trans-Power ⚠
15		P.C.B. Ass'y
16		Holder
17		Cassette Mechanism Ass'y
18	L521D017H01	Counter Belt
19		P.C.B. Ass'y (Tuner)
20		Pointer Rail
21		Tuning Shaft
22		Tuning Drum
23	L534D002H02	Pointer
24	L082D001G01	Dial Cord Ass'y (429 mm)
25		P.C.B. Ass'y (G-EQ.)
26		Cover
27		—
28	L704C010H02	Knob (G-EQ, Balance)
29	L704C012H02	Knob (Volume)
30	L619C001H01	Dumper
31		Holder
32		Spring
33		Spring
34	L704C007H02	Knob (Band)
35	L704D035H02	Knob (Tuning)
36	L700B017G01	Cabinet-Front Ass'y
37		Cassette Holder
38	L703C024H02	Cassette Cover (Tape 2)
39	L703C024H01	Cassette Cover (Tape 1)
40		Holder
41	L280Y011H01	Counter
42		Holder
43		Holder
44		P.C.B. Ass'y (Main)
45		Holder
46	L704D046H02	Knob (Power)
47	L704D043H01	Knob (Function etc.)
48	L704D068H01	Knob (Tape)
49	L946A012G01	Speaker Cabinet Ass'y (R)
50	L704D067H01	Knob (Mode)
51		T-Screw T1-3 x 50
52		T-Screw T1-3 x 30
53		T-Screw T1-3 x 10
54		Flat Head Screw M3 x 6
55		Washer Head T-Screw T2-3 x 10
56		Screw M3 x 8
57		Screw M3 x 6
58		T-screw T1-3 x 10
59		Screw M2.6 x 6
60		Screw M3 x 4
61		Screw M3 x 6
62		Screw M3 x 5
63		T-Screw T2-3 x 8
64		Screw M2 x 3
65		—

EXPLODED VIEW OF MECHANISM



PARTS LIST (MECHANISM)

Symbol No.	Parts No.	Description
1		Main base Ass'y
2		Switch plate
3		Push button actuator Ass'y
4		REC button lever
5		Play button lever
6		RWD button lever
7		FF button lever
8		Stop button lever
9		Pause button lever Ass'y
10		RWD lever
11		Pause lever
12		Pause lever spring
13		Pause stopper
14	1821 01 23	Button lever spring (C)
15		Sub chassis
16		Button lever spring (A)
17		Play button lever spring (S)
18		—
19		Actuator spring
20		Auto lever
21		Auto lever spring
22	1821 01 49	Button lever spring (E)
23	MSW-1541	Leaf switch
24		—
25		Head panel
26		Head panel
27		Head base
28		Sensing plate Ass'y
29	1821 03 12	E. H. spring
30		Head panel spring (S)
31		Head base
32		—
33		P. M. E. screw
34	1821 03 07	Spring
35	1821 04 301	Pinch roller arm Ass'y
36	1821 04 02	Pinch roller spring
37		—
38		—
39	1821 07 302	RF pulley arm Ass'y
40		RF pulley spring
41		RF arm coller screw
42	1821 07 03	RF belt
43	1821 09 302	Flywheel Ass'y
44	1821 09 301	Flywheel Ass'y
45		Reel base Ass'y
46		Take-up gear plate Ass'y
47	1821 03 10	Take-up roller gear
48		T. G. plate spring
49	1867 03 09	FF gear
50	1821 10 12	Back tension spring
51	1821 10 301	Supply reel Ass'y
52	1829 10 302	Take-up reel Ass'y
53	1800 02 01	Record safty lever
54	1800 05 17	Back tension spring
55		Motor bracket
56		Motor rubber
57		Coller screw
58		—
59	1821 12 22	Main belt
60		Motor bracket

Symbol No.	Parts No.	Description
61	1720 09 05	Main belt
62	1821 13 04	Eject slide lever
63		Eject slide lever spring
64		Pack spring
65		—
66	RF-7342BR	R. P. head
67	E-321PL	E. H. head
68	M9H12U16-1	Motor Ass'y
69		—
70		—
71		C Screw M2 x 3
72		C Screw M2 x 4
73		P Screw M2 x 4
74		—
75		Screw M2 x 6
76		+, — Cap screw M2 x 8
77		+, — Cap screw M2 x 7
78		Azimuth screw
79		—
80		—
81		—
82		P washer cut 1.2 x 3 x 0.25
83		P washer cut 1.2 x 3 x 0.4
84		P washer cut 1.55 x 3.8 x 0.5
85		P washer cut 2.05 x 4 x 0.4
86		—
87		Operation lever
88		B flam (S)
89		Button lever shaft
90		Screw (for camera) M2 x 7
91		P kick lever (B)
92		P kick lever (A)
93		P. K. coller screw (A)
94		P. K. coller screw (B)
95		P kick lever spring
96		—
97		—
98		—
99		—
100		—

PARTS LIST

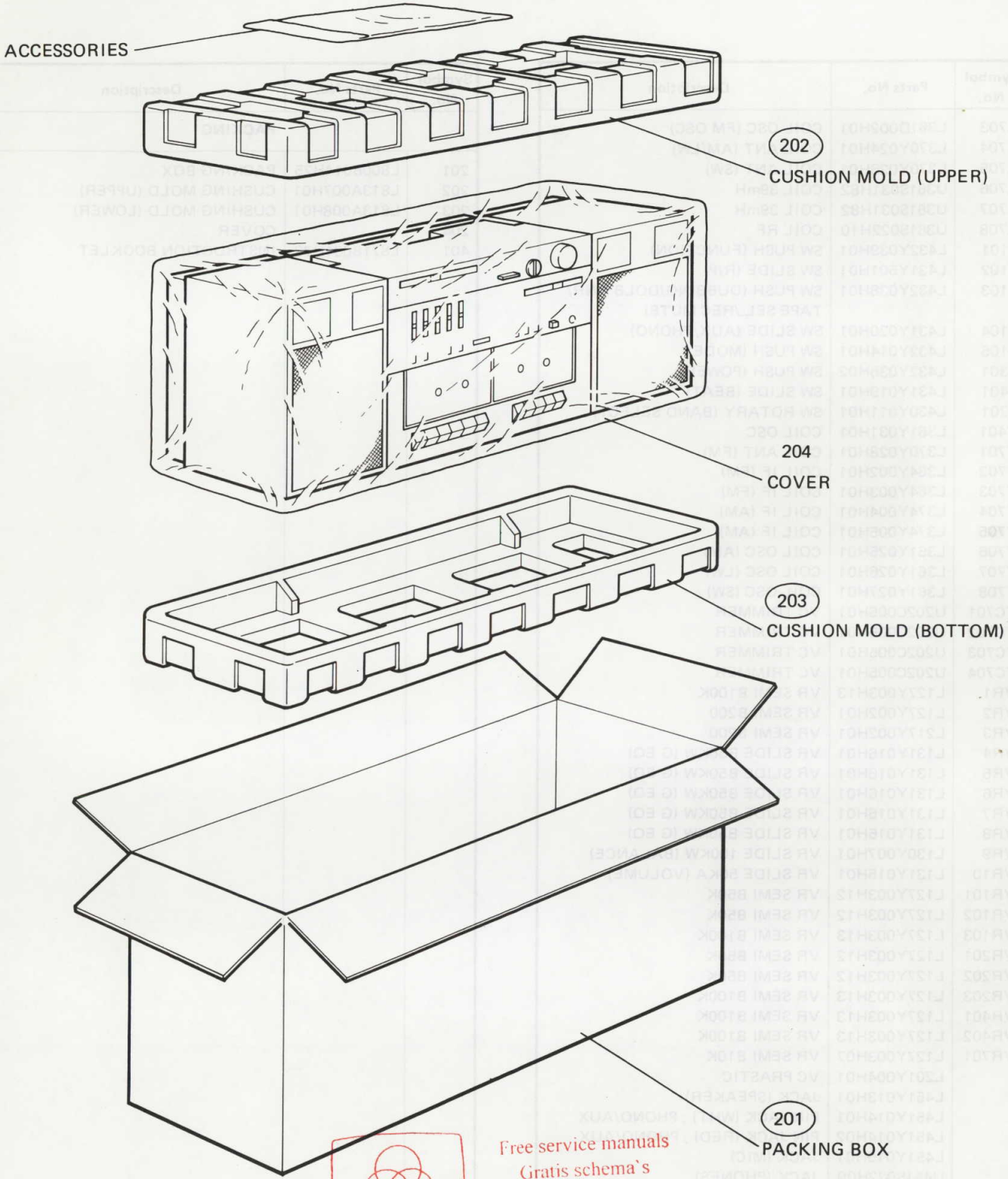
NOTE: ⚠ and [ ] designates components on the Parts list that have special characteristics to maintain the safety performance of this unit. When replacing any of these parts, be sure to use only specified parts.

Symbol No.	Parts No.	Description
		Diodes
D1	U264S001H01	1S188AM
D2	U264D037H01	1N4148
D3	U264D037H01	1N4148
D4	U264D037H01	1N4148
D5	U264D037H01	1N4148
D6	L264Y001H01	1S2473
D7	L264Y001H01	1S2473
D8	U264S013H28	RD5.6E-B3
D9	U264D037H01	1N4148
D10	U264D037H01	1N4148
D11	L268Y031H01	LED (GRN)
D11	U264D037H01	1N4148
D12	L268Y031H01	LED (GRN)
D13	L268Y031H01	LED (GRN)
D14	L268Y031H01	LED (GRN)
D15	L268Y030H01	LED (RED)
D16	L268Y030H01	LED (RED)
D17	L268Y030H01	LED (RED)
D18	L268Y031H01	LED (GRN)
D19	L268Y030H01	LED (RED)
D301	U264C025H09	GP208
D302	U264C025H09	GP208
D303	U264C025H09	GP208
D304	U264C025H09	GP208
D305	U264S013H25	RD5.1E-B3
D306	U264S013H25	RD5.1E-B3
D307	U264S013H30	RD6.2E-B2
D308	U264S013H30	RD6.2E-B2
D701	U264D006H11	1N60
D702	U264S013H30	RD6.2E-B2
D703	L264D007H01	1S2207B
D704	U264D006H11	1N60
		Transistors
Q1	U260S021H07	2SC2603 (F/G)
Q2	U260S021H07	2SC2603 (F/G)
Q3	U260S021H07	2SC2603 (F/G)
Q4	U260S021H07	2SC2603 (F/G)
Q5	U260S022H07	2SA1115 (F/G)
Q6	U260S021H07	2SC2603 (F/G)
Q7	U260S021H07	2SC2603 (F/G)
Q8	U260S022H04	2SA1115 (G)
Q9	U260S022H04	2SA1115 (G)
Q10	U260S022H07	2SA1115 (F/G)
Q11	U260S021H07	2SC2603 (F/G)
Q12	U260S021H07	2SC2603 (F/G)
Q13	U260S021H03	2SC2603 (F)
Q14	U260S021H04	2SC2603 (G)
Q15	U260S021H07	2SC2603 (F/G)
Q102	U260S021H07	2SC2603 (F/G)
Q112	U260S021H07	2SC2603 (F/G)
Q113	L260D033H02	2SC2878 (B)
Q114	U260S021H03	2SC2603 (F)
Q115	U260S021H07	2SC2603 (F/G)
Q116	U260S021H07	2SC2603 (F/G)
Q117	U260S021H07	2SC2603 (F/G)
Q118	U260S021H07	2SC2603 (F/G)
Q119	U260S021H07	2SC2603 (F/G)
Q212	U260S021H07	2SC2603 (F/G)
Q213	L260D033H02	2SC2878 (B)
Q214	U260S021H03	2SC2603 (F)
Q215	U260S021H07	2SC2603 (F/G)
Q216	U260S021H07	2SC2603 (F/G)
Q217	U260S021H07	2SC2603 (F/G)
Q218	U260S021H07	2SC2603 (F/G)
Q219	U260S021H07	2SC2603 (F/G)
Q302	U260S063H04	2SD1266 (P/Q)
Q303	U260D016H01	2SD1225M (R)
Q304	U260D016H01	2SD1225M (R)
Q401	U260S061H03	2SC1815 (GR)
Q402	U260S061H03	2SC1815 (GR)
Q701	U260D080H12	2SC710 (C)
Q702	U260D080H12	2SC710 (C)
Q703	U260D080H12	2SC710 (C)
Q704	U260D080H12	2SC710 (C)
Q705	U260D080H12	2SC710 (C)
		IC's
IC1	L262Y508H01	BU4066B
IC2	L262Y508H01	BU4066B
IC3	U262S172H01	LB1403
IC4	L262Y507H01	BA3406L
IC5	L262Y507H01	BA3406L
IC6	L262Y010H01	BA328
IC101	L262Y009H03	LM1121C
IC102	L262C011H01	BA3812L
IC103	L262Y011H02	MPC2002 (H)
IC201	L262Y009H03	LM1121C
IC202	L262C011H01	BA3812L
IC203	L262Y011H02	MPC2202 (H)
IC701	L262Y007H01	BA4220
IC702	U262S075H01	MPC1197C
		ELECTRICAL PARTS
C719	U150S008H34	C CERAMIC 50V 82P
CF701	U365Y006H06	CERAMIC FILTER FM (10.7MHz)
CF702	U365Y006H06	CERAMIC FILTER FM (10.7MHz)
CF703	U375D001H01	CERAMIC FILTER (AM 465KHz)
F301	U283S022H21	FUSE 3.15A SEMKO ⚠
L101	L351Y501H01	FILTER
L102	U361S031H71	COIL 4.7mH
L103	L361Y032H01	COIL TRAP
L201	L351Y501H01	FILTER
L202	U361S031H71	COIL 4.7mH
L203	L361Y032H01	COIL TRAP
L701	L361D001H01	COIL RF
L702	L361D001H01	COIL RF (FM TRAP)

Symbol No.	Parts No.	Description
L703	L361D002H01	COIL OSC (FM OSC)
L704	L370Y024H01	COIL ANT (AM/LW)
L705	L370Y026H01	COIL ANT (SW)
L706	U361S031H82	COIL 39mH
L707	U361S031H82	COIL 39mH
L708	U361S022H10	COIL RF
S101	L432Y039H01	SW PUSH (FUNCTION)
S102	L431Y501H01	SW SLIDE (R/P)
S103	L432Y038H01	SW PUSH (DUBBING/DOLBY-NR/ TAPE SEL./REC MUTE)
S104	L431Y020H01	SW SLIDE (AUX/PHONO)
S105	L432Y014H01	SW PUSH (MODE)
S301	L432Y036H02	SW PUSH (POWER)
S401	L431Y019H01	SW SLIDE (BEAT)
S701	L430Y011H01	SW ROTARY (BAND SELECT)
T401	L361Y031H01	COIL OSC
T701	L370Y028H01	COIL ANT (FM)
T702	L364Y002H01	COIL IF (FM)
T703	L364Y003H01	COIL IF (FM)
T704	L374Y004H01	COIL IF (AM)
T705	L374Y005H01	COIL IF (AM)
T706	L361Y025H01	COIL OSC (AM)
T707	L361Y026H01	COIL OSC (LW)
T708	L361Y027H01	COIL OSC (SW)
TC701	U202C005H01	VC TRIMMER
TC702	U202C005H01	VC TRIMMER
TC703	U202C005H01	VC TRIMMER
TC704	U202C005H01	VC TRIMMER
VR1	L127Y003H13	VR SEMI B100K
VR2	L127Y002H01	VR SEMI B200
VR3	L217Y002H01	VR SEMI B200
VR4	L131Y016H01	VR SLIDE B50KW (G EQ)
VR5	L131Y016H01	VR SLIDE B50KW (G EQ)
VR6	L131Y016H01	VR SLIDE B50KW (G EQ)
VR7	L131Y016H01	VR SLIDE B50KW (G EQ)
VR8	L131Y016H01	VR SLIDE B50KW (G EQ)
VR9	L130Y007H01	VR SLIDE 100KW (BALANCE)
VR10	L131Y015H01	VR SLIDE 50KA (VOLUME)
VR101	L127Y003H12	VR SEMI B50K
VR102	L127Y003H12	VR SEMI B50K
VR103	L127Y003H13	VR SEMI B100K
VR201	L127Y003H12	VR SEMI B50K
VR202	L127Y003H12	VR SEMI B50K
VR203	L127Y003H13	VR SEMI B100K
VR401	L127Y003H13	VR SEMI B100K
VR402	L127Y003H13	VR SEMI B100K
VR701	L127Y003H07	VR SEMI B10K
	L201Y004H01	VC PRASTIC
	L451Y013H01	JACK (SPEAKER)
	L451Y014H01	PIN JACK (WHT) ; PHONO/AUX
	L451Y014H02	PIN JACK (RED) ; PHONO/AUX
	L451Y015H01	JACK (MIC)
	U451S022H09	JACK (PHONES)
	L350C048H01	TRANS POWER ⚠
	L499Y005H01	AC SOKET ⚠
	U242Y004H02	POWER CORD ⚠

Symbol No.	Parts No.	Description
		PACKING
201	L800B014H25	PACKING BOX
202	L813A007H01	CUSHING MOLD (UPPER)
203	L813A008H01	CUSHING MOLD (LOWER)
204		COVER
401	L871B001H78	INSTRUCTION BOOKLET

PACKING INSTRUCTION



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