MITSUBISHI
AUDIO SYSTEMS

SERVICE MANUAL

PORTABLE COMPO

MODEL TX-82

CONTENTS

MITSUBISHI ELECTRIC CORPORATION

SPECIFICATIONS

Tuner section

Frequency ranges
- FM . . . . . 88 MHz – 108 MHz
- MW . . . . . 525 kHz – 1605 kHz
- SW . . . . . 5.9 MHz – 15.4 MHz
- LW . . . . . 145 kHz – 170 kHz

Usable sensitivity
- FM . . . . . 11 μV
- MW . . . . . 300 μV/m
- SW . . . . . 79 μV
- LW . . . . . 1000 μV/m

Signal to noise ratio
- FM . . . . . 53 dB
- MW . . . . . 40 dB
- SW . . . . . 36 dB
- LW . . . . . 36 dB

Stereo separation . . . . . FM (1 kHz) 35 dB

Antennas
- FM/SW . . . . . Telescopic
- MW/LW . . . . . Ferrite Bar
- FM . . . . . EXT ANT 75 ohms unbalanced

Amplifire section

Power output . . . . . 10 W at 6 ohms x 2

Cassette deck section

Track system . . . . . 4 track, 2 channel stereo
Motors . . . . . 1 motor
Frequency response
- Metal . . . . . 40 to 13000 Hz
- Normal . . . . . 40 to 12000 Hz

Signal to noise ratio . . . . . 55 dB
Wow and flutter 0.1%
Distortion 1.5%

Speaker section

Type . . . . . 2 way speaker system
Speakers . . . . . 12 cm woofer and 4 cm tweeter
Rated impedance . . . . . 6 ohms
Maximum power 12W

General

Dimensions . . . . . 580(W) x 240(H) x 160(D) mm (22-13/16 x 9-7/16 x 6-1/4")
Weight . . . . . 8.5 kg (18.7 lbs) with batteries
Power requirements . . . . . AC 240V DC 12V (D/R 20 x 8)
Power consumption 42W
Standard accessories . . . . . Power cord

* For improvement purpose, specifications and design are subject to change without notice.
* "Dolby" and the Double D symbol are trademarks of Dolby Laboratories Licensing Corporation. (Manufactured under license from Dolby Laboratories Licensing Corporation.)

MAINTENANCE

1. Cleaning tape head and capstan

Periodic cleaning of the tape head, capstan driving shaft and other tape contacting surfaces is required to obtain correct tape operations and the optimum frequency response. Clean all tape contacting surfaces with a head cleaner or cotton rod immersed in alcohol. Then wipe the surfaces so that no humidity is left on them.

2. Demagnetization of tape head

The head becomes slightly magnetic with the long use of it. A magnetized head may produce high frequency loss, causing an increase in noises. Use care not to use magnetized appliances near the head. Magnetization of the head can result.

Demagnetize the head by using a standard tape head damagnetizer in accordance with its operating manual supplied with it.

SERVICE MANUAL

PORTABLE COMPO

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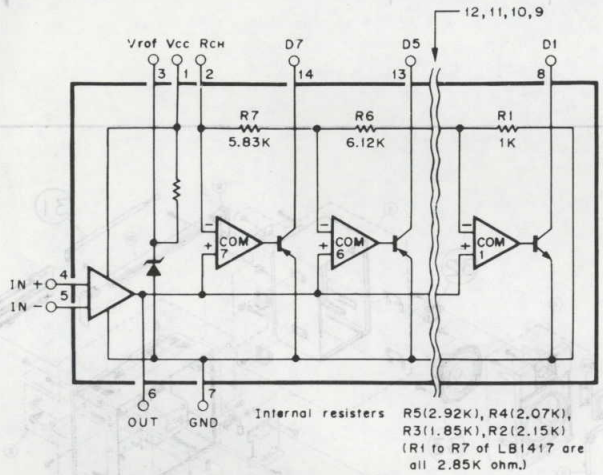
< ERRATA >

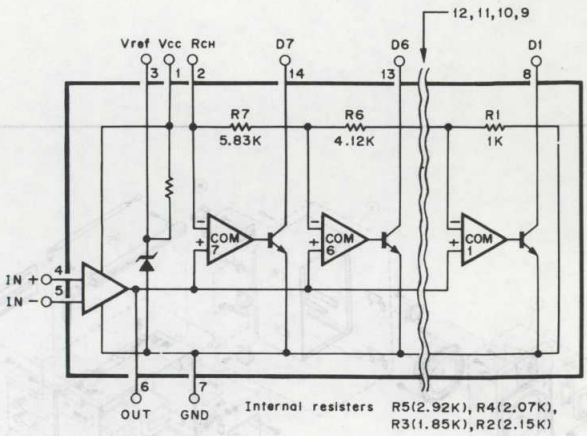
We have revised the contents of this service manual to the following due to changes and typing errors in the specifications.

ERROR

Page 9



CORRECTION



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CABINET/MECHANISM PARTS LIST

Symbol No.	Parts No.	Description
12	L719C002H01	HANDLE
16	L704D026H01	KNOB (EQ)
29	L440Y003H01	TERMINAL BOARD
225	L703B002H01	COVER (CASSETTE)

CABINET/MECHANISM PARTS LIST

Symbol No.	Parts No.	Description
12	L719C002H02	HANDLE
16	L704D026H03	KNOB (EQ)
29	L440Y002H01	TERMINAL BOARD
225	L703B002H11	COVER (CASSETTE)

Page. 19 addition

31	L281C002H01	ROD-ANTENNA
32	L480Y008H01	SPEAKER (TWEETER)
33	L480Y007H01	SPEAKER (WOOFER)

PARTS LIST

Symbol No.	Parts No.	Description
	Diodes	
D301	L264D006H01	BA40
D304	U264S013H33	6.8E-B2
	Transistor	
Q702	L260D080H12	2SC710C

PARTS LIST

Symbol No.	Parts No.	Description
	Diodes	
D301	L264D006H01	BA40C
D304	L264S013H33	RD6.8E-B2
	Transistor	
Q702	U260D080H12	2SC710C

ICs		
IC701	U2625058H01	HA12413

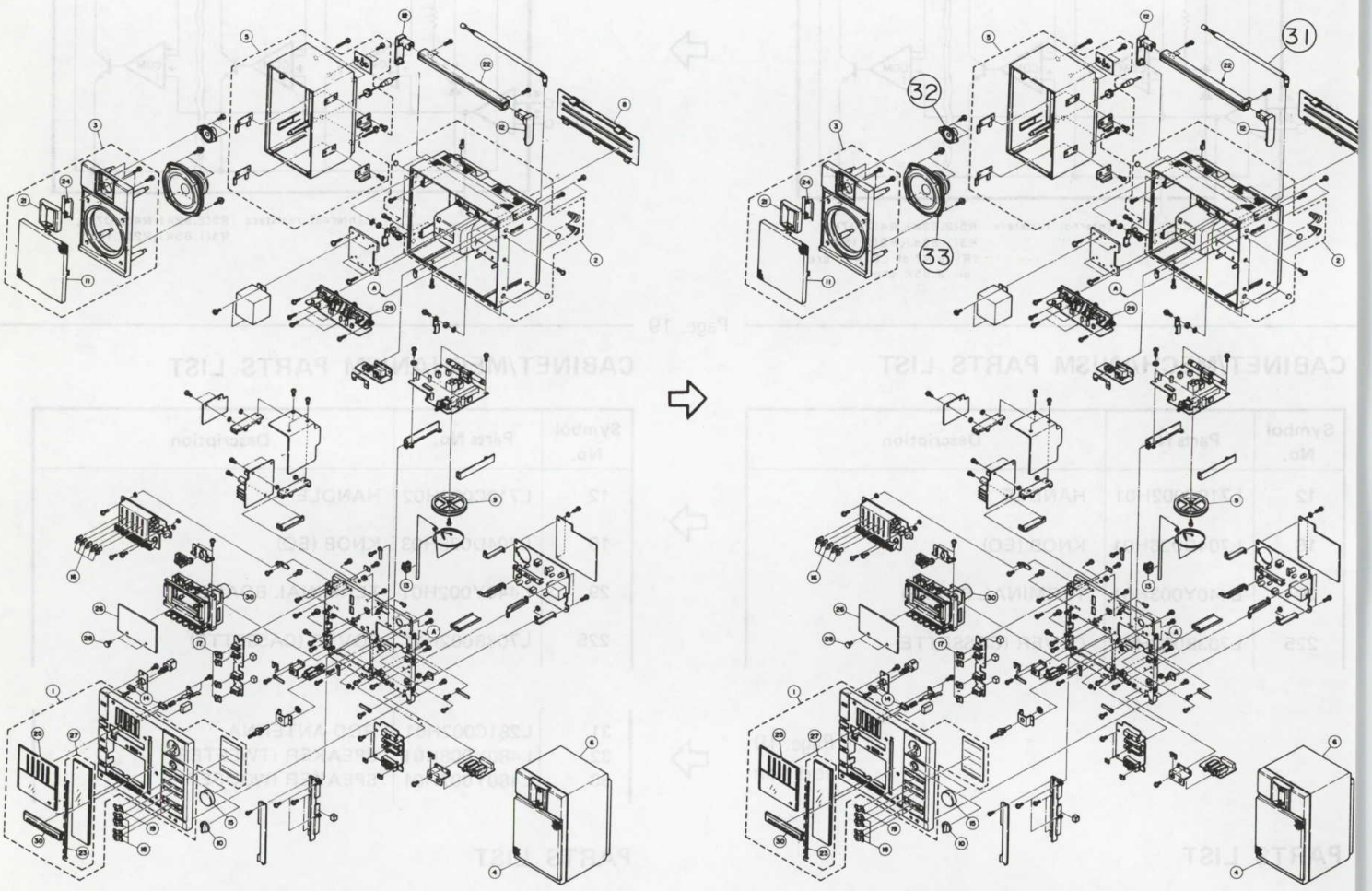
⇨

ICs		
IC701	U262S058H01	HA12413

Electronical Parts			
L837	U361S008H01	COIL	773
L838	L361S008H01	COIL	773

⇨

Electronical Parts			
L837	U361D008H01	COIL	773
L838	U361D008H01	COIL	773



DISASSEMBLY INSTRUCTIONS

1. How to remove the rear panel

1) With both the right and the left speakers disconnected, and the six screws (A) on the left and right sides and the three screws (B) on the bottom. (Please refer to Fig. 1).
2) Open the rear panel to remove the terminal board (six screws), the AC socket board (two screws), the power transformer, and the FM antenna lead clip. Unsolder for the two leads from the battery case to allow the rear panel to be removed.

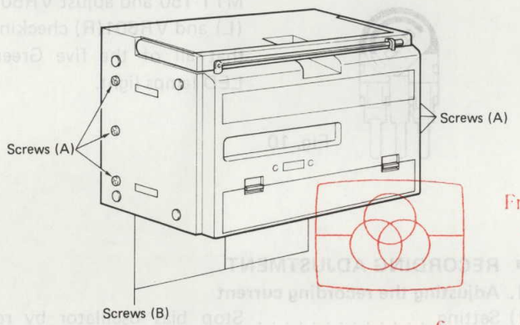


Fig. 1

2. How to remove the front panel

1) Follow instructions 1) and 2) of item 1 above to remove the rear panel.
2) Remove the tuning knob and band selector function, volume, balance, REC level (L, R).
3) Removing the six screws (C) and remove the front panel. (please refer to Fig. 2)

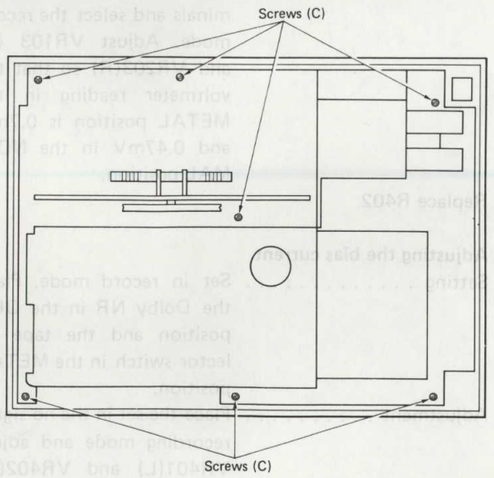


Fig. 2

3. How to remove the equalizer board, volume board, and switch board

1) Removing the three screws (D) allows you to remove the equalizer board.
2) Removing the four screws (E) allows you to remove the volume board.
3) Removing the three screws (F) allows you to remove the switch board.

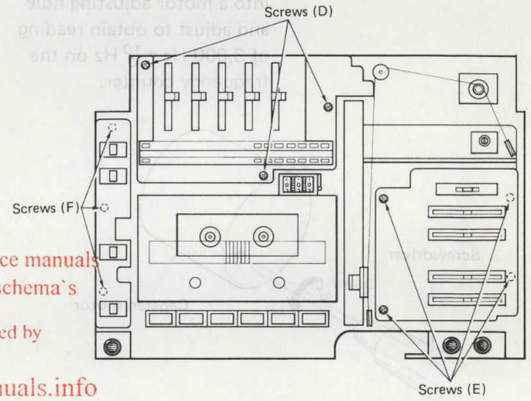


Fig. 3

4. How to remove the tuner board, deck board, power amplifire board, power supply board

1) Removing the four screws (G) allows you to remove the tuner board.
2) Removing the four screws (H) allows you to remove the deck board.
3) Removing the three screws (I) aloows you to remove the power amplifire board.
4) Removing the two screws (J) allows you to remove the power supply board.

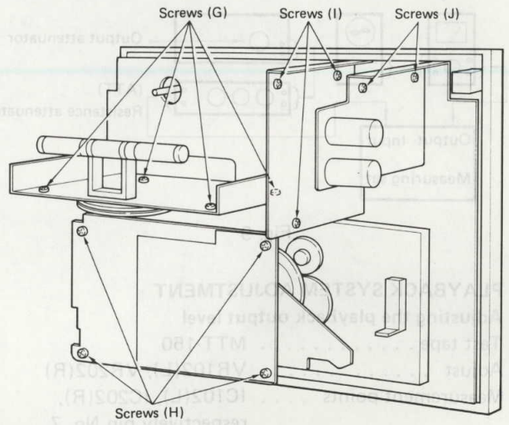


Fig. 4

5. How to remove cassette mechanism assembly

1) Remove the circuit boards as previously discribed. Removing the four screws (K) allows you to remove the mechanism assembly.

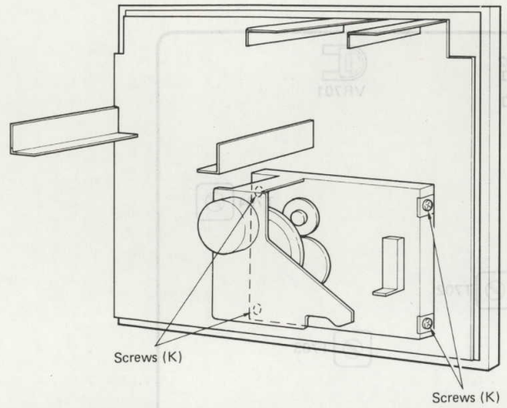


Fig. 5

ADJUSTMENT OF RADIO SECTION

■ FM SECTION ADJUSTMENT

1. IF adjustment

1) Adjust T701 for maximum output with minimum distortion.

2. FM alignment

1) Tune receiver to low frequency end of the band.
2) Set the FM-SG to 87.5MHz.
3) Adjust L702 for maximum output.
4) Re-tune receiver to high frequency end of the band.
5) Set the FM-SG to 108.5MHz.
6) Adjust TC8 for maximum output.
7) Repeat steps 1) to 6).

3. Adjusting the FM MPX

1) While receiving the 100MHz constant monaural standard input signals, adjust VR701 so that the counter connected to TP1 displays 19kHz ± 0.05kHz.

■ AM SECTION ADJUSTMENT

1. IF adjustment

1) Set AM-SG to 455kHz and transmit with the loop antenna.
2) Adjust T702 and T703 for maximum output.

2. MW alignment

1) Tune receiver to low frequency end of the band.
2) Set the AM-SG to 510kHz.
3) Adjust L705 for maximum output.
4) Tune receiver to 600kHz.
5) Set the AM-SG to 600kHz.
6) Adjust L704 for maximum output.
7) Tune receiver to high frequency end of the band.
8) Set the AM-SG to 1,650kHz.
9) Adjust TC5 for maximum output.
10) Tune receiver to 1,400kHz.
11) Set the AM-SG to 1,400kHz.
12) Adjust TC3 for maximum output.

3. LW alignment

1) Tune receiver to low frequency end of the band.
2) Set the AM-SG to 140kHz.
3) Adjust L706 for maximum output.
4) Tune receiver to 160kHz.
5) Set the AM-SG to 160kHz.
6) Adjust L704 for maximum output.
7) Tune receiver to high frequency end of the band.
8) Set the AM-SG to 275kHz.
9) Adjust TC10 for maximum output.
10) Tune receiver to 250kHz.
11) Set the AM-SG to 250 kHz.
12) Adjust TC9 for maximum output.

4. SW alignment

1) Tune receiver to low frequency end of the band.
2) Set the AM-SG to 5.85Mhz.
3) Adjust L708 for maximum output.
4) Tune receiver to 7MHz.
5) Set the AM-SG to 7MHz.
6) Adjust L709 for maximum output.
7) Tune receiver to high frequency end of the band.
8) Set the AM-SG to 15.45MHz.
9) Adjust TC6 for maximum output.
10) Tune receiver to 14MHz.
11) Set the AM-SG to 14MHz.
12) Adjust TC4 for maximum output.

ADJUSTING POINTS

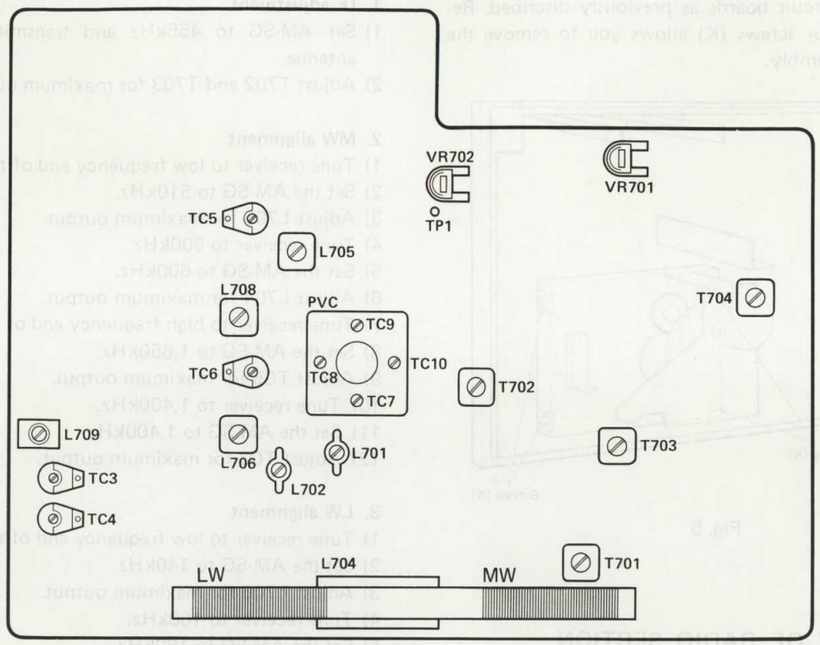


Fig. 6 Tuner-PCB

ADJUSTMENT OF CASSETTE SECTION

1. Adjusting the head angle (Azimuth)

1) Setting . . . . . Connect either an AC voltmeter or oscilloscope to the EXT. SP jack
2) Test tape . . . . . TCC-173A (MTT-215C) 10 kHz/315 Hz, –10 dB LEVEL
3) Adjusting procedure . . . Play back the test tape. Adjust the head angle adjust screw to obtain the max. output level for both channels at 10kHz.

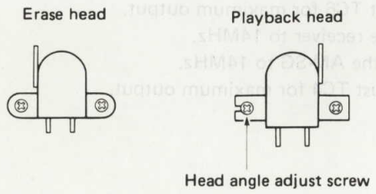


Fig. 7

■ **Measuring instrument used**

1. **Low-frequency oscillator** . 10 Hz – 20 kHz or more
2. **Resistance attenuator** . . . 0 dB – 90 dB, 0.1 dB or 0.5 dB step
3. **AC voltmeter** . . . . . 20 Hz ~ 100 kHz or more
4. **Frequency counter**
5. **Oscilloscope**
6. **Test tape**

1) TCC-112 (MTT-111) (3 kHz, –10 dB) Tape speed, wow and flutter
2) TCC-130 (MTT-150) (400 Hz, Dolby-B Type) Level meter, playback output
3) TCC-173A (MTT-215C) (10 kHz/315 Hz, –10dB) Azimuth
4) AC-711 (Metal, Blank) Recording current peaking, bias current

2. Adjusting the tape speed

1) Setting . . . . . Connect a frequency counter to the EXT. SP jack of the set.
2) Test tape . . . . . TCC-112 (MTT-111) 3 kHz, –10 dB LEVEL
3) Adjusting procedure . . . Play back the test tape. Insert a standard screwdriver into a motor adjusting hole and adjust to obtain reading of 3,000 Hz $\pm^{10}_{0}$ Hz on the frequency counter.

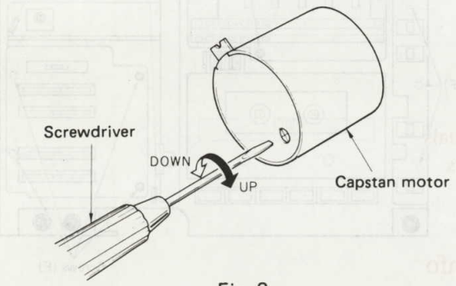


Fig. 8

3. How to connect the measuring instrument

* Unless specifically instructed, connect the TX-82 and measuring. Instruments as shown below.

1) Connect load resistance 6Ω to a EXT. SP jack, and connect an AC voltmeter and oscilloscope.
2) With the resistance attenuator set to 0 dB, adjust the Audio-oscillator output for 0 dB (V) 1V. Then carry out measurement and adjustment.

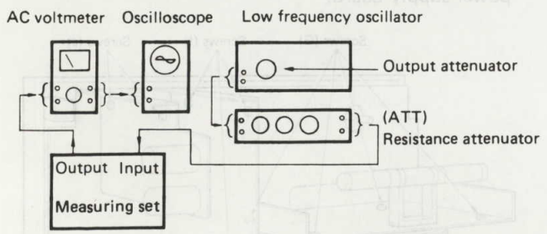


Fig. 9

■ **PLAYBACK SYSTEM ADJUSTMENT**

1. Adjusting the playback output level

1) Test tape MTT-150
2) Adjust . . . . . VR102(L), VR202(R)
3) Measurement points . . . . IC102(L), IC202(R), respectively pin No. 7
4) Adjustment method . . . . Play back the test tape and adjust so that pin No. 7 of IC102(L) and pin No. 7 of IC202(R) reach a level of 580mV ± 0.25dB.

2. Adjusting the level indicator

1) Adjusting location . . . . . VR501(L), VR502(L), VR601(R), and VR602(R)
2) Measurement point . . . . . LED meter
3) Adjustment method . . . . Adjust VR502 and VR602 first to the position shown in the figure. 10. MTT-150 and adjust VR501 (L) and VR601(R) checking that all of the five Green LED lamps light.

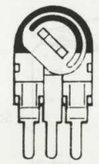


Fig. 10

■ **RECORDING ADJUSTMENT**

1. Adjusting the recording current

1) Setting . . . . . Stop bias oscillator by removing R110(R). Switch Dolby NR off. Set bias/equalizing switch to METAL. Set record level to maximum.
2) Adjust . . . . . VR103(L), VR203(R)
3) Measurement points . . . . Both ends fo R109(L) and R209(R).
4) Adjustment method . . . . Apply a 1kHz – 24dB(V) signal to the LINE IN terminals and select the record mode. Adjust VR103 (L) and VR203(R) so that the voltmeter reading in the METAL position is 0.7mV and 0.47mV in the NORMAL position.
5) Replace R402.

2. Adjusting the bias current

1) Setting . . . . . Set in record mode. Place the Dolby NR in the OUT position and the tape selector switch in the METAL position.
2) Adjustment . . . . . Place the set in the no signal recording mode and adjust VR401(L) and VR402(R) so that the reading of the voltmeter is 65mV in the METAL position and 47mV in the NORMAL position.

ADJUSTING POINTS

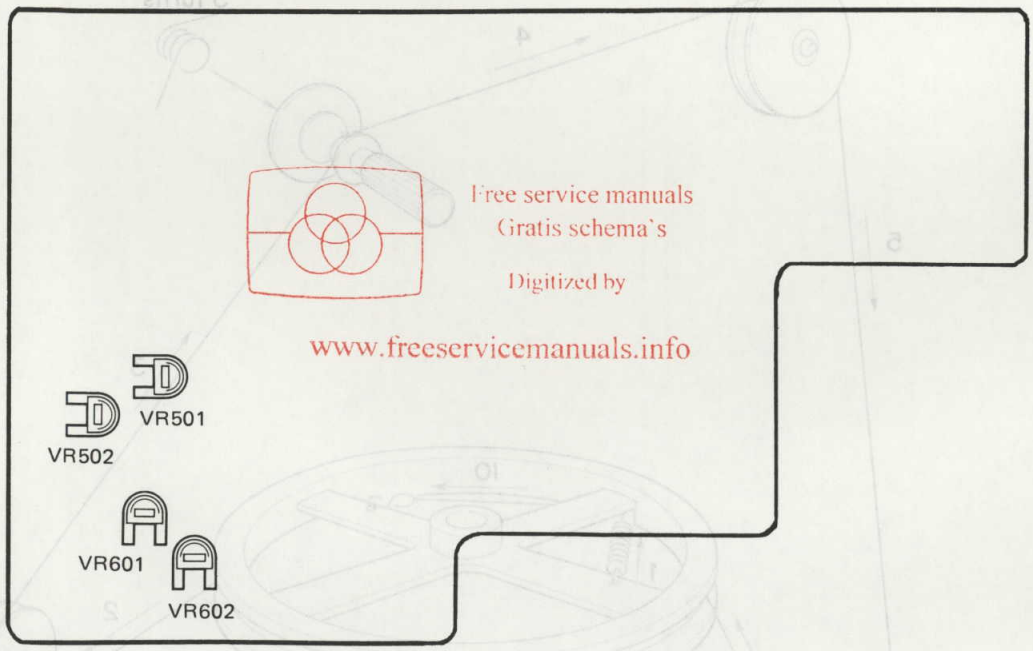


Fig. 11 Equalizer-PCB

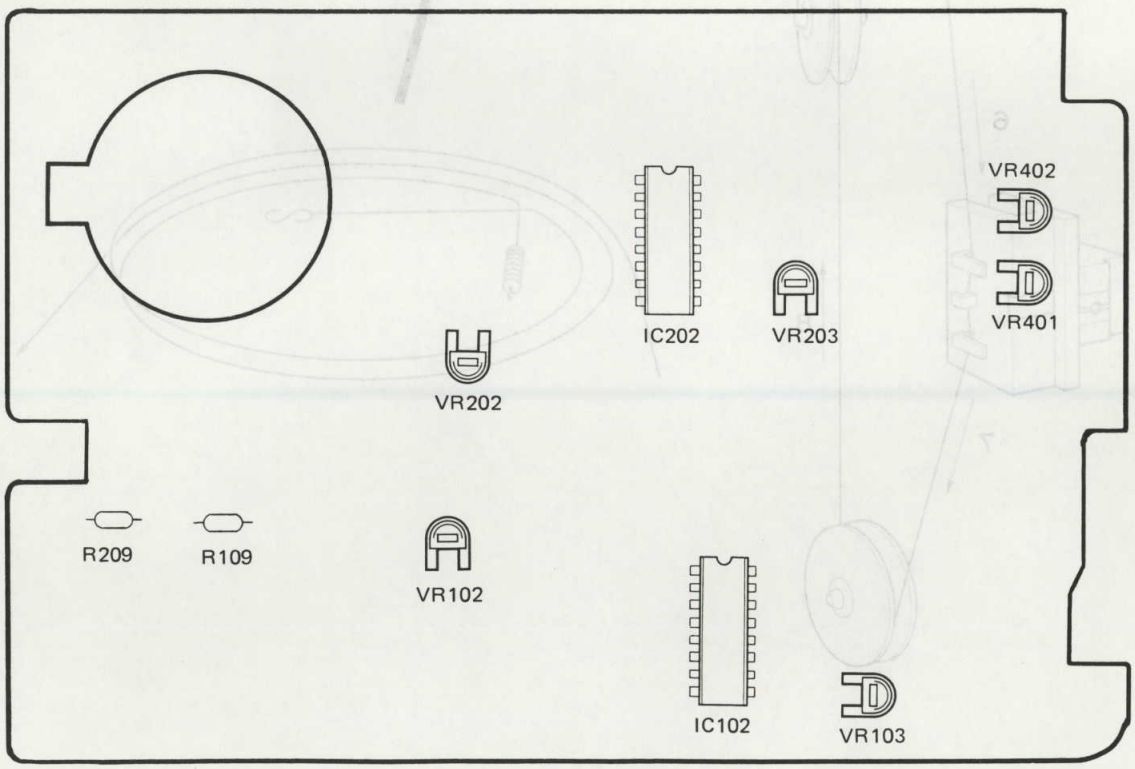
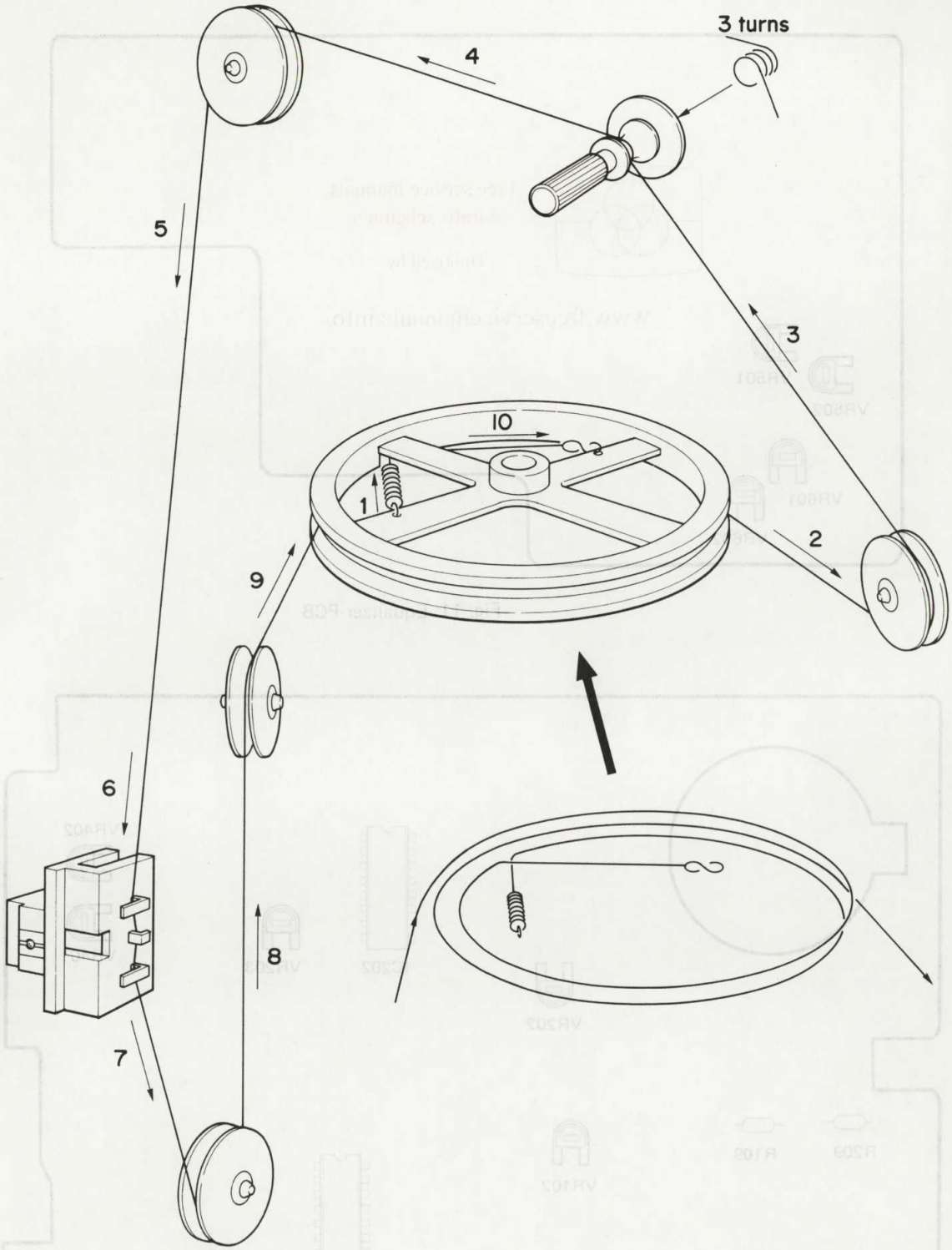


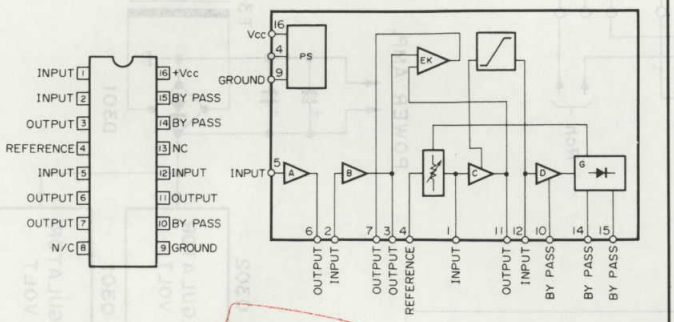
Fig. 12 Deck-PCB

DIAL CORD STRINGING

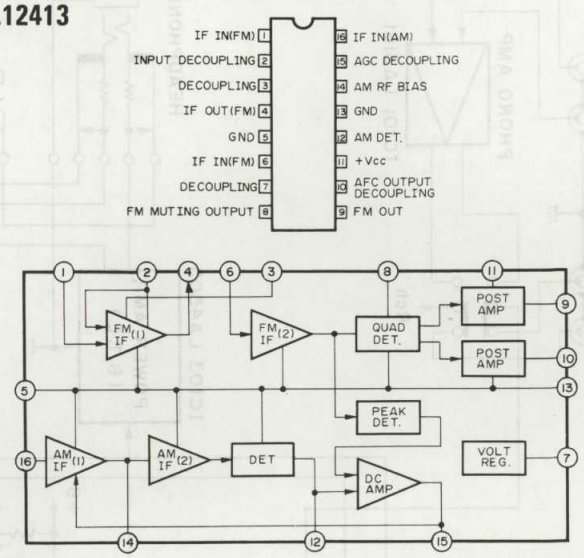


INTERNAL DIAGRAMS AND PIN OUT OF INTEGRATED CIRCUIT

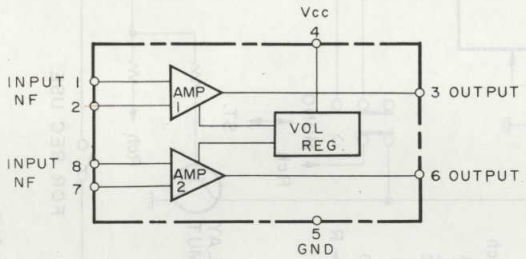
NE645N



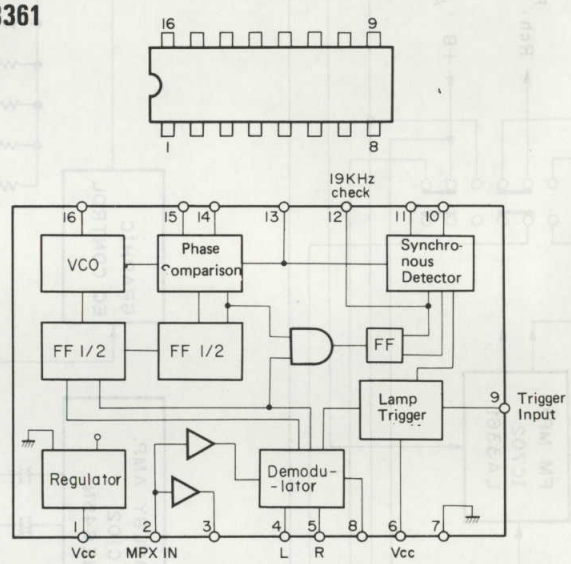
HA12413



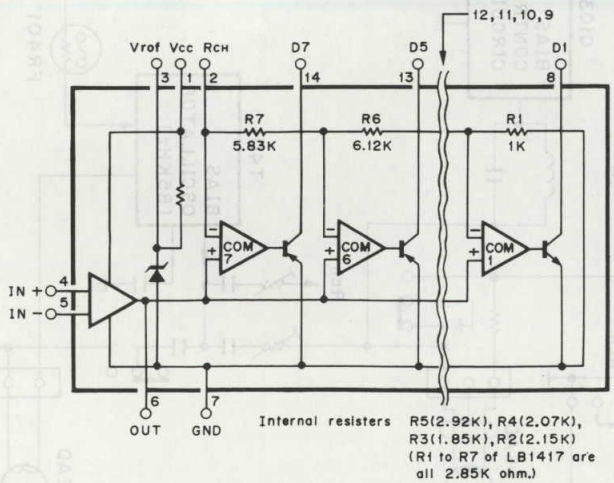
LA3161



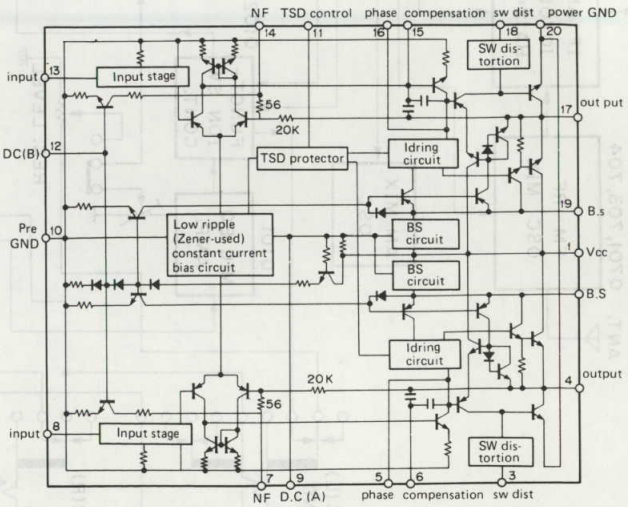
LA3361



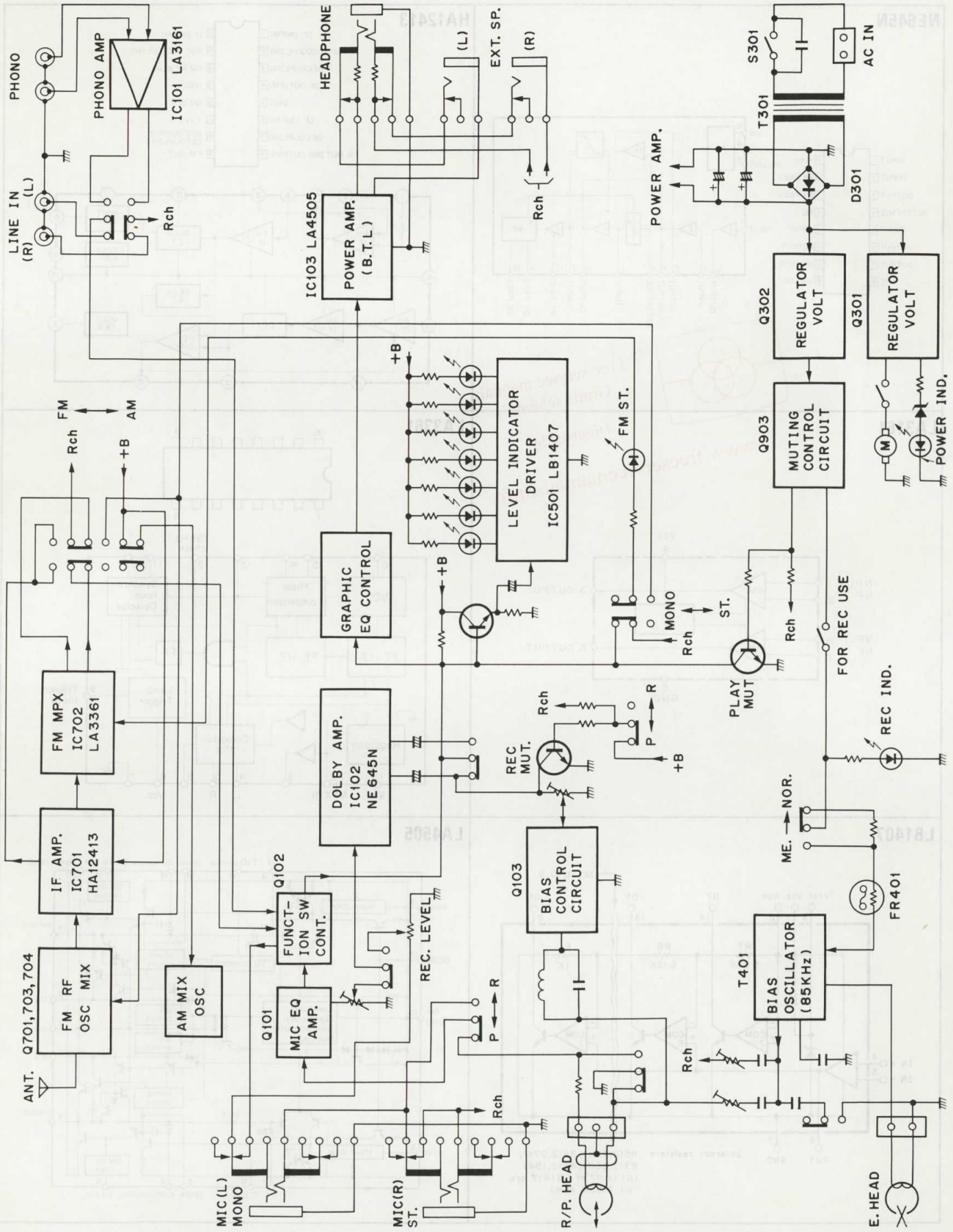
LB1407



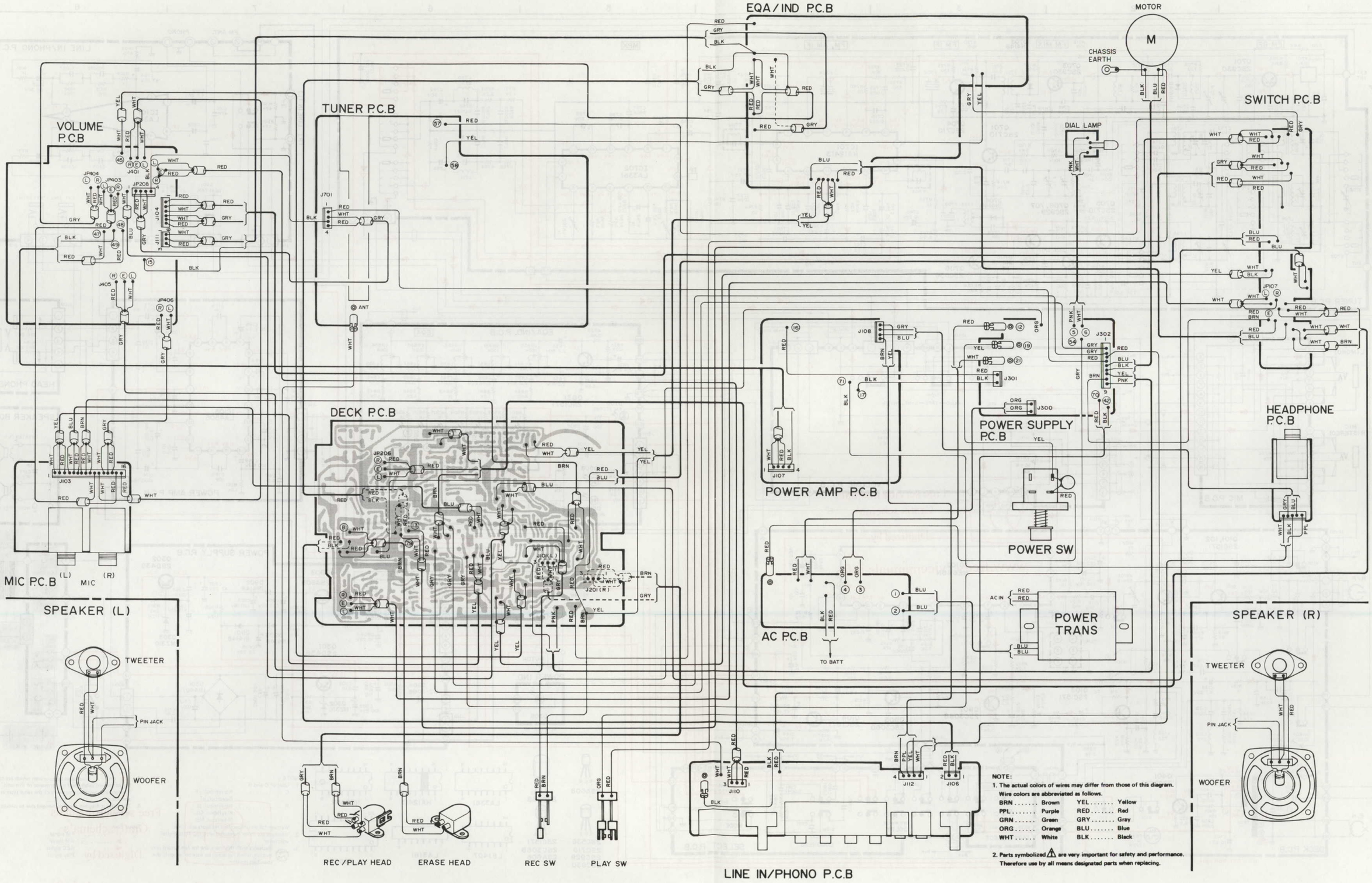
LA4505



BLOCK DIAGRAM



WIRING DIAGRAM



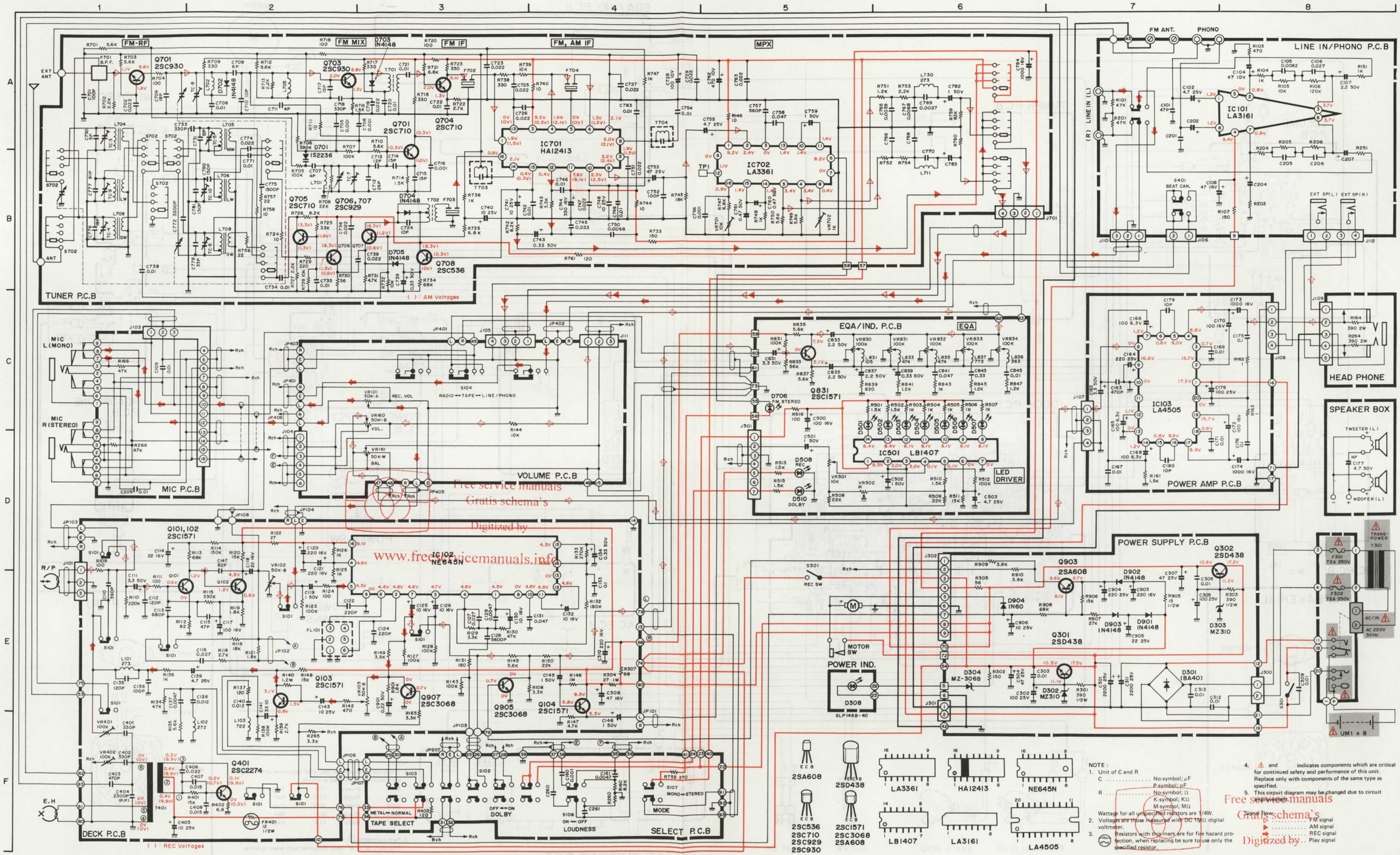
NOTE:

1. The actual colors of wires may differ from those of this diagram.
   Wire colors are abbreviated as follows.

BRN	Brown	YEL	Yellow
PPL	Purple	RED	Red
GRN	Green	GRY	Gray
ORG	Orange	BLU	Blue
WHT	White	BLK	Black

2. Parts symbolized ⚠ are very important for safety and performance. Therefore use by all means designated parts when replacing.

SCHEMATIC DIAGRAM



NOTE :

1. Unit of C and R
   - C ..... No-symbol; μF, P-symbol; pF
   - R ..... No-symbol; Ω, K-symbol; KΩ, M-symbol; MΩ

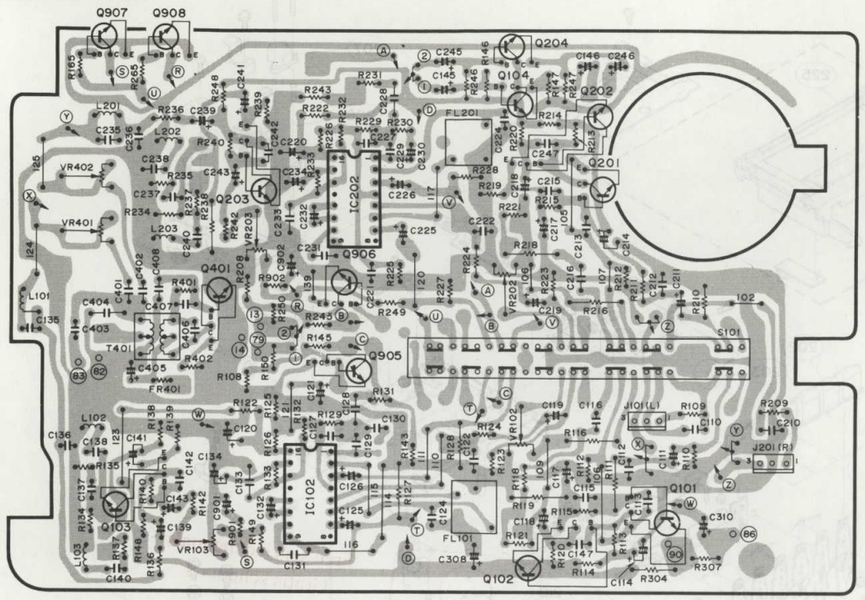
   Wattage for all unspecified resistors are 1/4W.
2. Voltages are those measured with DC 1MΩ digital voltmeter.
3. Resistors with this mark are for fire hazard protection, when replacing be sure to use only the specified resistor.
4. ⚠ and ⚠ indicates components which are critical for continued safety and performance of this unit. Replace only with components of the same type as specified.
5. This circuit diagram may be changed due to circuit improvement.

Signal flow.

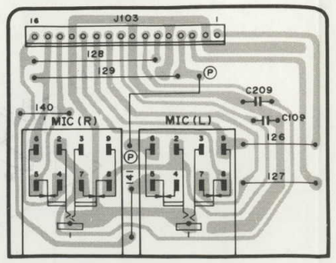
- ▷ ..... FM signal
- ▷ ..... AM signal
- ➡ ..... REC signal
- ➡ ..... Play signal

PRINTED CIRCUIT BOARDS

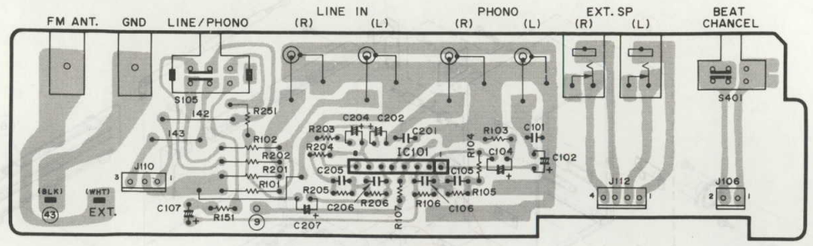
DECK P.C.B



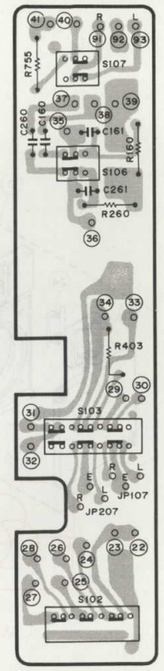
MIC P.C.B



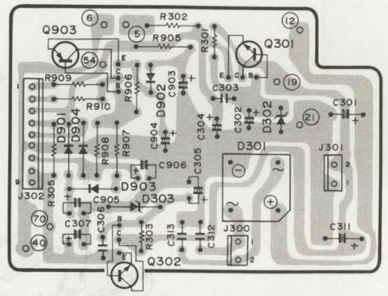
LINE IN/PHONO P.C.B



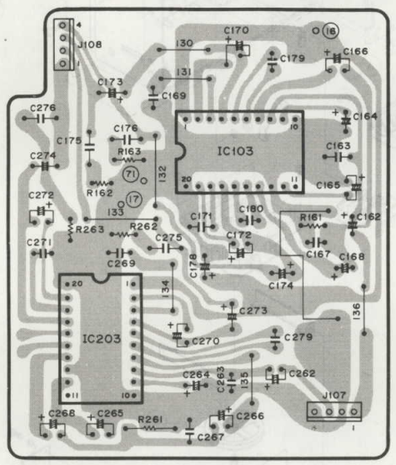
SWITCH P.C.B



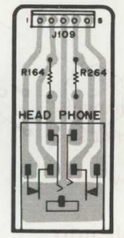
POWER SUPPLY P.C.B



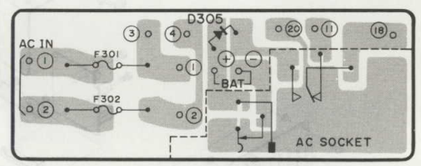
POWER AMP P.C.B



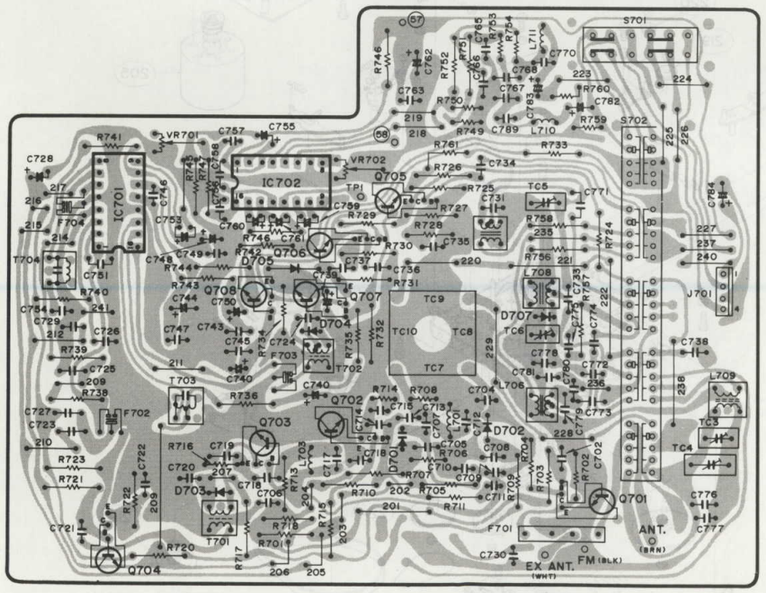
HEADPHONE P.C.B



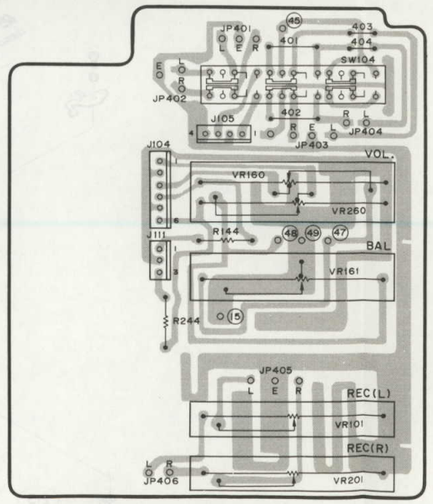
AC P.C.B



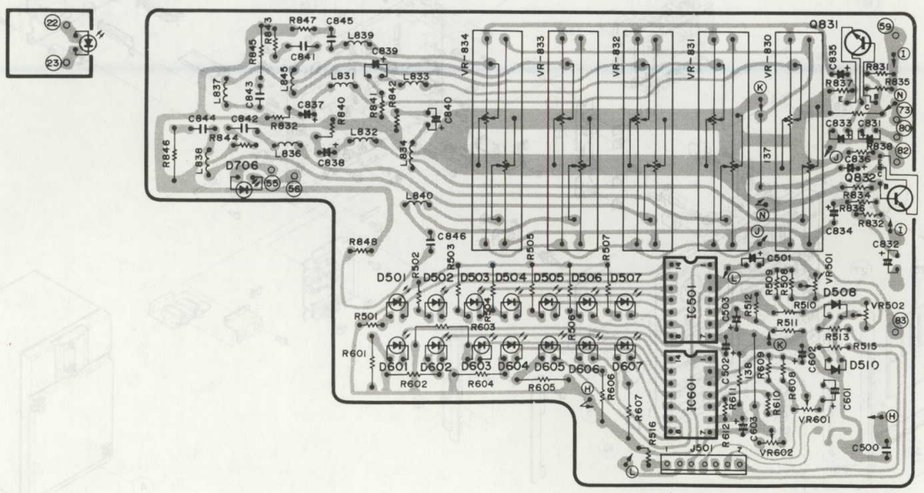
TUNER P.C.B



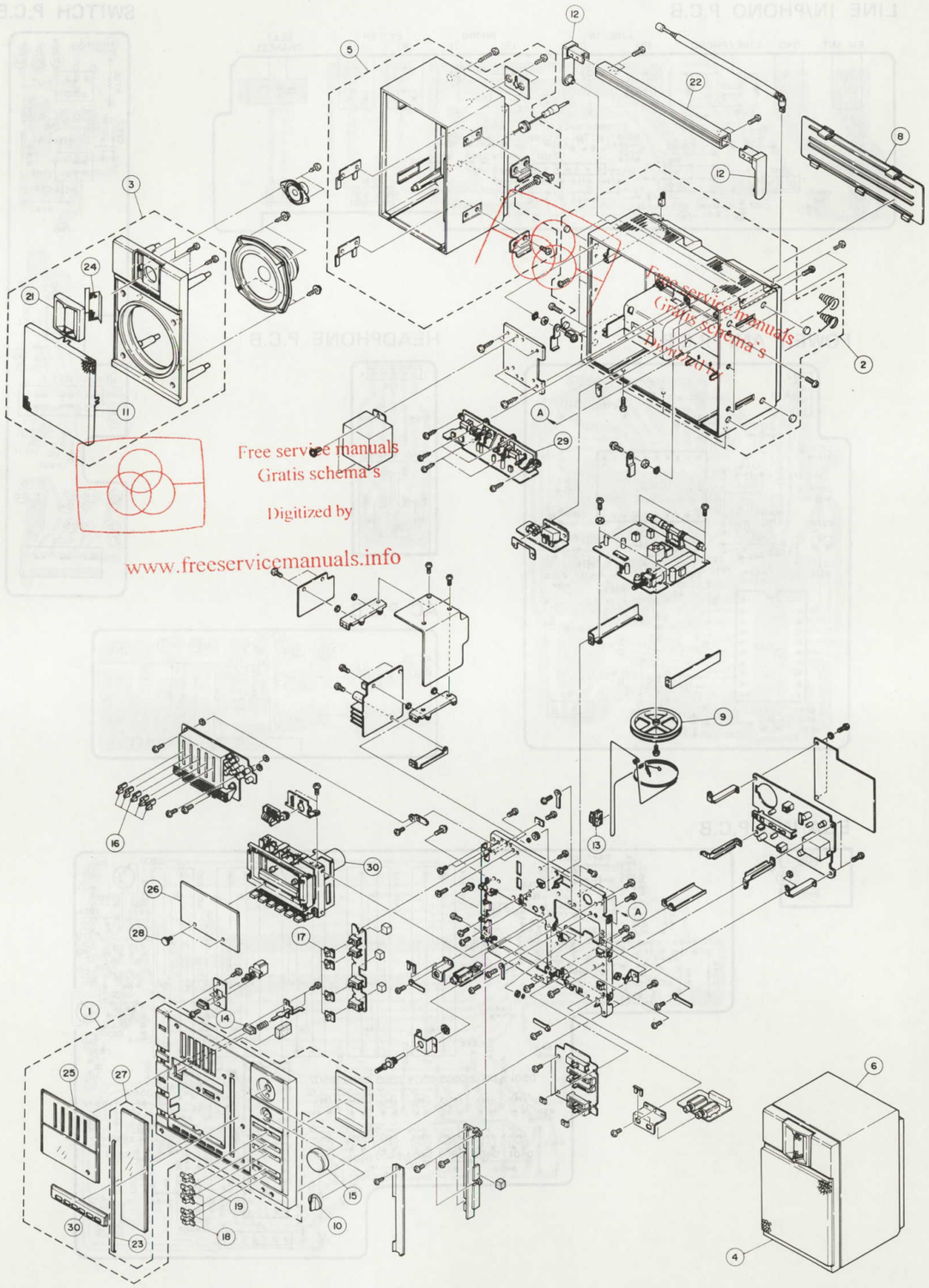
VOLUME P.C.B



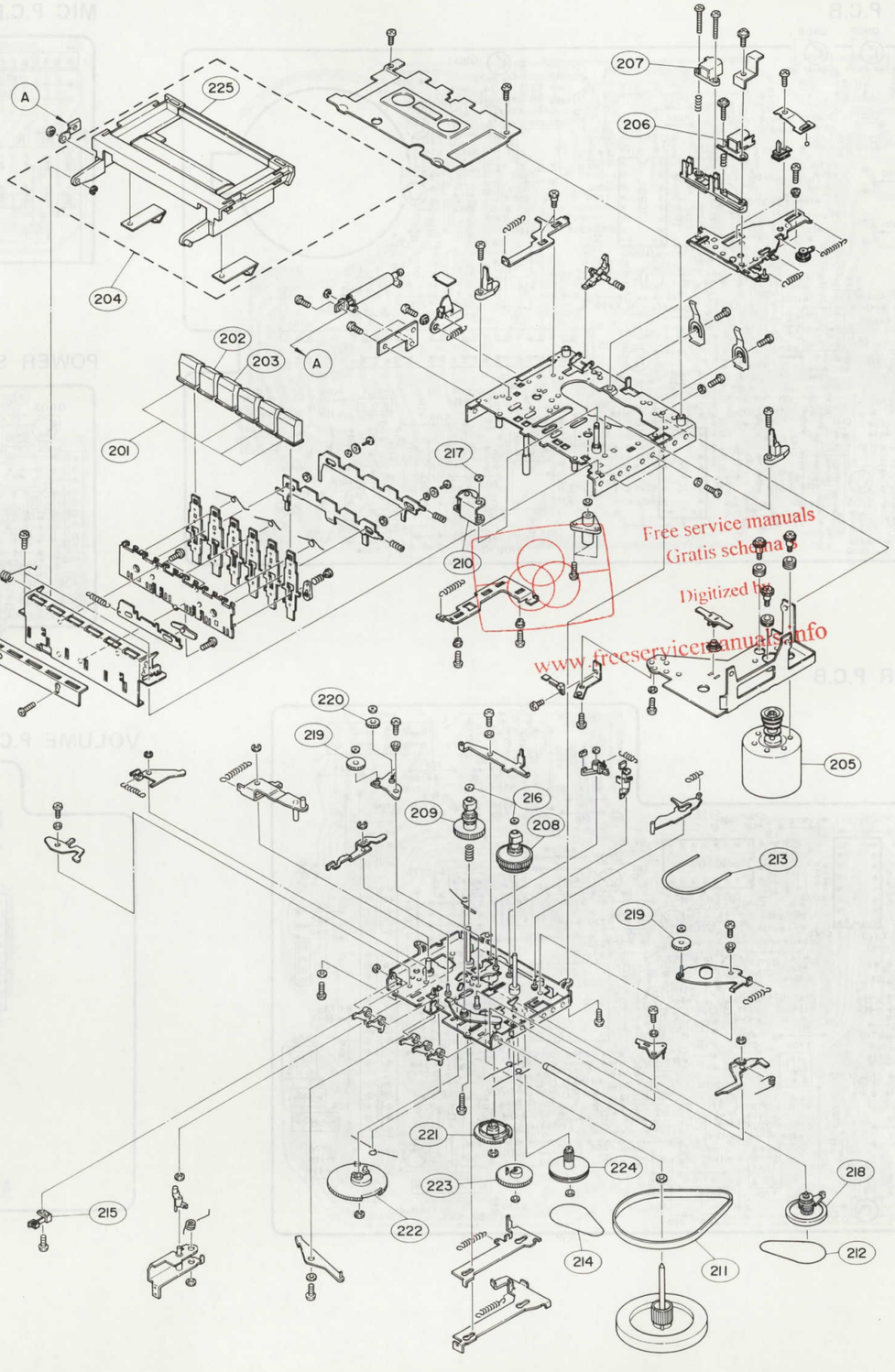
EQA/IND P.C.B



EXPLODED VIEW OF CABINET



EXPLODED VIEW OF MECHANISM



CABINET/MECHANISM PARTS LIST

Symbol No.	Parts No.	Description
1	L700B008G01	CABINET ASS'Y
2	L700B009G01	BOTTOM-CASE ASS'Y
3	L700B010G01	CABINET ASS'Y
4	L700B010G21	CABINET ASS'Y
5	L700B011G01	BOTTOM-CASE ASS'Y
6	L700B011G21	BOTTOM-CASE ASS'Y
8	L703B005H01	COVER (BATTERY)
9	U535C014H01	DRUM
10	L704C004H01	KNOB
11	L713C003H01	GRILLE
12	L719C002H01	HANDLE
13	L541D030H01	POINTER
14	L704D023H01	KNOB (POWER,EJECT)
15	L704D024H01	KNOB (TUNING)
16	L704D026H01	KNOB (EQ)
17	L704D027H01	KNOB (MODE,TAPE,LOUDNESS, DOLBY)
18	L704D028H01	KNOB (REC-R,REC-L,VOLUME, BALANCE)
19	L704D025H02	KNOB (FUNCTION)
20	L840D006H01	COVER (MECHA)
21	L703D012H01	ORNAMENT
22	L709D002H01	HANDLE
23	L713D011H01	INLAY
24	L713D014H01	GRILLE
25	L840D005H01	COVER (EQ)
26	L840D007H01	COVER (CASSETTE)
27	L707D003G01	COVER ASS'Y (DIAL)
28	L669D002H01	SCREW METAL (CASE-COVER)
29	L440Y003H01	TERMINAL BOARD
30	L994B001G21	MECHANISM ASS'Y
201	L704D005H31	KNOB (STOP, REW, FF, PAUSE)
202	L704D005H41	KNOB (REC)
203	L704D005H51	KNOB (PLAY)
204	L703D014G01	COVER CASSETTE ASS'Y
205	L288D004H01	MOTOR
206	L460D005H01	HEAD (R/P)
207	L460D006H01	HEAD (ERASE)
208	L523D003H01	REEL (TAKE UP)
209	L523D004H01	REEL (SUPPLY)
210	L522D001H01	PINCH ROLLER
211	L521D001H01	BELT (MAIN)
212	L521D002H01	BELT (RF)
213	L521D006H01	BELT (COUNTER)
214	L521D005H01	BELT
215	L435D001H01	SWITCH
216	L683D002H01	WASHER (REEL)
217	L683D003H01	WASHER (PINCH ROLLER)
218	L520D007H01	RF-CLUTCH ASS'Y
219	L520D008H01	GEAR (FF)
220	L520D009H01	GEAR (REW)
221	L520D005H01	GEAR (PAUSE)
222	L520D006H01	GEAR (HEAD BASE DRIVE)
223	L520D010H01	GEAR (CAM)
224	L520D011H01	GEAR (M.P.)
225	L703B002H01	COVER (CASSETTE)

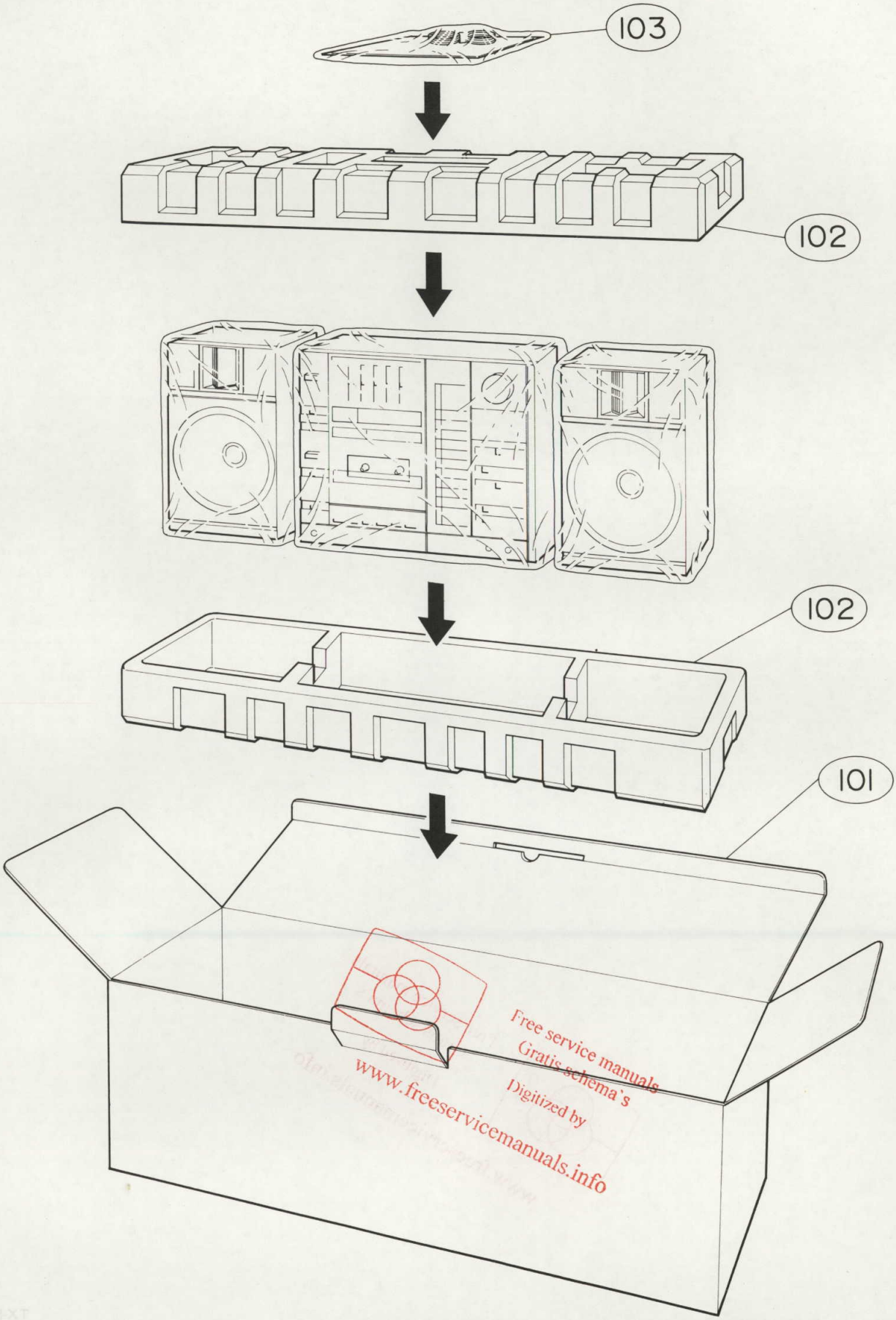
PARTS LIST

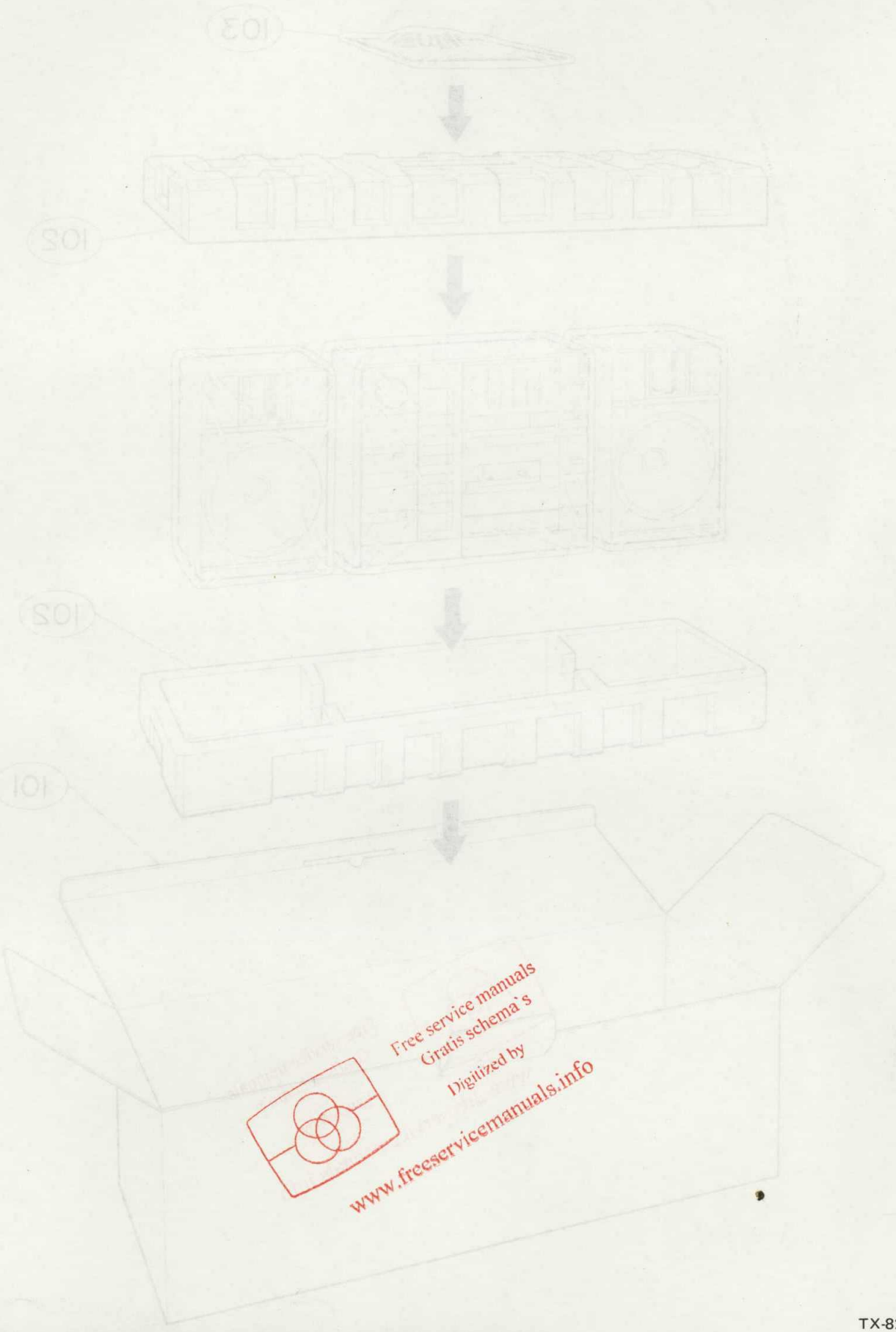
Symbol No.	Part No.	Description
		Diodes
D301	L264D006H01	BA 40
D302	L264C001H01	GZA11 (X)
D303	L264C001H01	GZA11 (X)
D304	U264S013H33	6.8E-B2
D308	U268S042H03	SLP146B-40 LED (Power-Indicator)
D501	L268Y006H01	LED (Level Indicator-Red)
D502	L268Y006H01	LED (Level Indicator-Red)
D503	L268Y005H01	LED (Level Indicator-Green)
D504	L268Y005H01	LED (Level Indicator-Green)
D505	L268Y005H01	LED (Level Indicator-Green)
D506	L268Y005H01	LED (Level Indicator-Green)
D507	L268Y005H01	LED (Level Indicator-Green)
D508	L268Y006H01	LED (Rec Indicator-Red)
D510	L268Y006H01	LED (Dolby Indicator-Red)
D601	L268Y006H01	LED (Level Indicator-Red)
D602	L268Y006H01	LED (Level Indicator-Red)
D603	L268Y005H01	LED (Level Indicator-Green)
D604	L268Y005H01	LED (Level Indicator-Green)
D605	L268Y005H01	LED (Level Indicator-Green)
D606	L268Y005H01	LED (Level Indicator-Green)
D607	L268Y005H01	LED (Level Indicator-Green)
D701	U264D017H01	1S2236
D702	U264D037H01	1N4148
D703	U264D037H01	1N4148
D704	U264D037H01	1N4148
D705	U264D037H01	1N4148
D706	L268Y006H01	LED (FM Stereo Indicator-Red)
D901	U264D037H01	1N4148
D902	U264D037H01	1N4148
D903	U264D037H01	1N4148
D904	U264D006H11	1N60
		Transistor
Q101	L260D001H02	2SC1571G
Q102	L260D001H02	2SC1571G
Q103	L260D001H02	2SC1571G
Q104	L260D001H02	2SC1571G
Q201	L260D001H02	2SC1571G
Q202	L260D001H02	2SC1571G
Q203	L260D001H02	2SC1571G
Q204	L260D001H02	2SC1571G
Q301	L260D006H01	2SD438D
Q302	L260D006H01	2SD438D
Q401	L260D005H03	2SC2274F
Q701	L260D009H01	2SC930E
Q702	L260D080H12	2SC710C
Q703	L260D009H01	2SC930E
Q704	U260D080H12	2SC710C
Q705	U260D080H12	2SC710C
Q706	L260D008H01	2SC929E
Q707	L260D008H01	2SC929E
Q708	L260D002H03	2SC536F
Q831	L260D001H02	2SC1571G
Q832	L260D001H02	2SC1571G
Q903	L260D004H02	2SA608E

Symbol No.	Part No.	Description
Q905	L260D007H01	2SC3068L
Q906	L260D007H01	2SC3068L
Q907	L260D007H01	2SC3068L
Q908	L260D007H01	2SC3068L
	ICs	
IC101	U262C112H01	LA3161
IC102	U262S021H01	NE645N
IC103	U262S134H01	LA4505
IC202	U262S021H01	NE645N
IC203	U262S134H01	LA4505
IC501	L262C004H01	LB1407
IC601	L262C004H01	LB1407
IC701	U2625058H01	HA12413
IC702	U262Y022H01	LA3361
	Electronical Parts	
F301	U283S022H19	Fuse 2A SEMKO
F302	U283S022H19	Fuse 2A SEMKO
F701	L375Y002H01	CERAMIC FILTER
F702	U365Y006H06	CERAMIC FILTER
F703	L375D001H01	CERAMIC FILTER
F704	U365Y006H06	CERAMIC FILTER
FT101	L376Y001H01	COIL FILTER
FT201	L376Y001H01	COIL FILTER
	U451S022H04	JACK (MIC)
	U451S022H02	JACK (HEAD PHONE)
L101	U361S031H80	COIL 273
L102	U361S031H68	COIL 272
L103	L361D007H01	COIL 722
L201	U361S031H80	COIL 273
L202	U361S031H68	COIL 272
L203	L361D007H01	COIL 722
L701	L361Y012H01	COIL-RF
L702	L361Y013H01	COIL-RF
L703	U361S021H01	COIL-IF
L704	L370Y013H01	COIL-ANT
L705	L361Y015H01	COIL-OSC (AM)
L706	L361Y009H01	COIL-OSC (LW)
L708	L361Y011H01	COIL-OSC (SW)
L709	L370Y016H01	COIL-ANT
L710	U361S031H80	COIL 273
L711	U361S031H80	COIL 273
L831	U361S034H19	COIL 105
L832	U361S034H19	COIL 105
L833	U361S034H15	COIL 474
L834	U361S034H15	COIL 474
L835	U361S034H15	COIL 474
L836	U361S034H15	COIL 474
L837	U361S008H01	COIL 773
L838	L361S008H01	COIL 773
L839	U361S031H84	COIL 363
L840	U361S031H84	COIL 363
P.V.C	L201Y004H01	

Symbol No.	Part No.	Description
S101	L431D009H02	SW-SLIDE (R/P)
S102	L431D006H01	SW-SLIDE
S103	L431D006H01	SW-SLIDE
S104	L431D008H01	SW-SLIDE
S105	L431D003H01	SW-SLIDE
S106	L431D005H02	SW-SLIDE
S107	L431D005H02	SW-SLIDE
S301	L432Y012H01	SW-POWER
S401	L431D003H01	SW-SLIDE
S702	L430Y003H01	SW-ROTARY
T301	L350C017H02	TRANS-POWER
T401	L361Y014H01	COIL-OSC
T701	U364C032H01	TRANS-IF
T702	U374C015H01	TRANS-IF
T703	U374C019H01	TRANS-IF
T704	U364C035H01	TRANS-IF
TC3	U202C005H01	VC-TRIMMER
TC4	U202C005H01	VC-TRIMMER
TC5	U202C005H01	VC-TRIMMER
TC6	U202C005H01	VC-TRIMMER
VR101	L130Y003H01	VR-SLIDE 50K-A
VR102	U127S003H11	VR-SEMI 50K-B
VR103	U127S003H11	VR-SEMI 50K-B
VR160	L131Y003H01	VR-SLIDE 50K-B
VR161	L131Y004H01	VR-SLIDE 50K-W
VR201	L130Y003H01	VR-SLIDE 50K-A
VR202	U127S003H11	VR-SEMI 50K-B
VR203	U127S003H11	VR-SEMI 50K-B
VR260	L131Y003H01	VR-SLIDE 50K-B
VR401	U127S003H12	VR-SEMI 100K-B
VR402	U127S003H12	VR-SEMI 100K-B
VR501	L127C001H07	VR-SEMI 10K-B
VR502	L127C001H04	VR-SEMI 1K-B
VR601	L127C001H07	VR-SEMI 10K-B
VR602	L127C001H04	VR-SEMI 1K-B
VR701	U127S003H08	VR-SEMI 10K-B
VR702	U127S003H04	VR-SEMI 1K-B
VR830	L131Y004H01	VR-SLIDE 100K-B
VR831	L131Y004H01	VR-SLIDE 100K-B
VR832	L131Y004H01	VR-SLIDE 100K-B
VR833	L131Y004H01	VR-SLIDE 100K-B
VR834	L131Y004H01	VR-SLIDE 100K-B
	Packing	
101	L800B009H01	PACKING BOX
102	L813B009G01	CUSHION MOLD ASS'Y
103	L871C001H40	INSTRUCTION BOOKLET

PACKING INSTRUCTIONS





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