CS207A
CQ103A

Service
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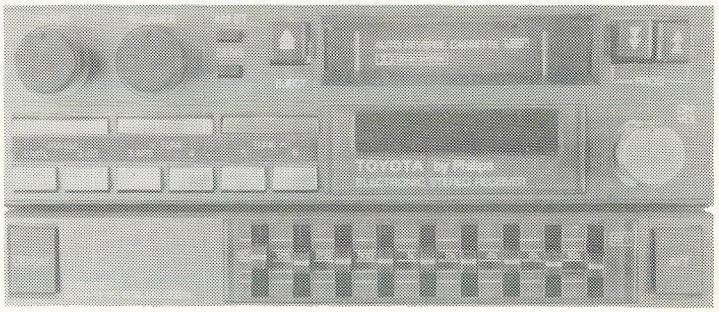


Service Manual

⊕ 12V

Subject to Modification
4802 725 17057
Printed in Australia

PHILIPS

FAULT - NO FM / INTERMITTANT.

TUNER OK. GOOD SIGNAL FROM IC 3 - NOTHING OUT IC 4

CHECK PIN 9 OF IC 4 SHOULD HAVE 7V WHEN ON FM1 OVOV AM.

IF NONE! - CHECK Q42 FOR S/C C/E

SERVICE MANUAL
CASSETTE DECK WITH ELECTRONIC TUNER
Model CW013A, CS207A (TEN Model No.CE-6332PH1)

SPECIFICATIONS

CS207A		
(Radio Section)	(AM)	(FM)
Tuning Range	531 to 1611kHz (9kHz step)	87.5 to 108MHz (100kHz step)
Intermediate Frequency	450kHz	10.7kHz
Sensitivity	35dBμ or better	
Sensitivity at Electronic Tuning	Distant: 30 ± 6dBμ	Distant: 20 ± 6dBμ
Limiting Sensitivity		8 ± 6dBμ
Separation		25dB or better (at 1kHz)
Electrical Fidelity	100Hz: 4 ± 3dB (74dBμ input, Refer. 400Hz) 4kHz: -12 ± 5dB (74dB± input, Refer. 400Hz)	100Hz: 4 ± 3dB (54dBμ input, Refer. 400Hz) 10kHz: -14 ± 5dB (74dBμ input, Refer. 400Hz)

(Cassette Deck Section)	
Number of Tracks	4-track 2-channels
Tape Cartridge	Stereo/monaural compact cassette
Tape Speed	4.76cm/sec. (1-7/8", i.p.s.)
Wow & Flutter	0.3% or less (WRMS)
Crosstalk	40dB or better
Separation	25dB or better
Frequency Response	125Hz: 6 ± 4dB 10kHz: 4 ± 4dB
Equalization	Normal: t_1=3,180μ sec., t_2=120μ sec. Chrome and metal: t_1=3,180μ sec., t_2=70μ sec.
Signal to Noise Ratio	35dB or better (with MTT-112B test tape)
Take-Up Torque	40 to 75g-cm

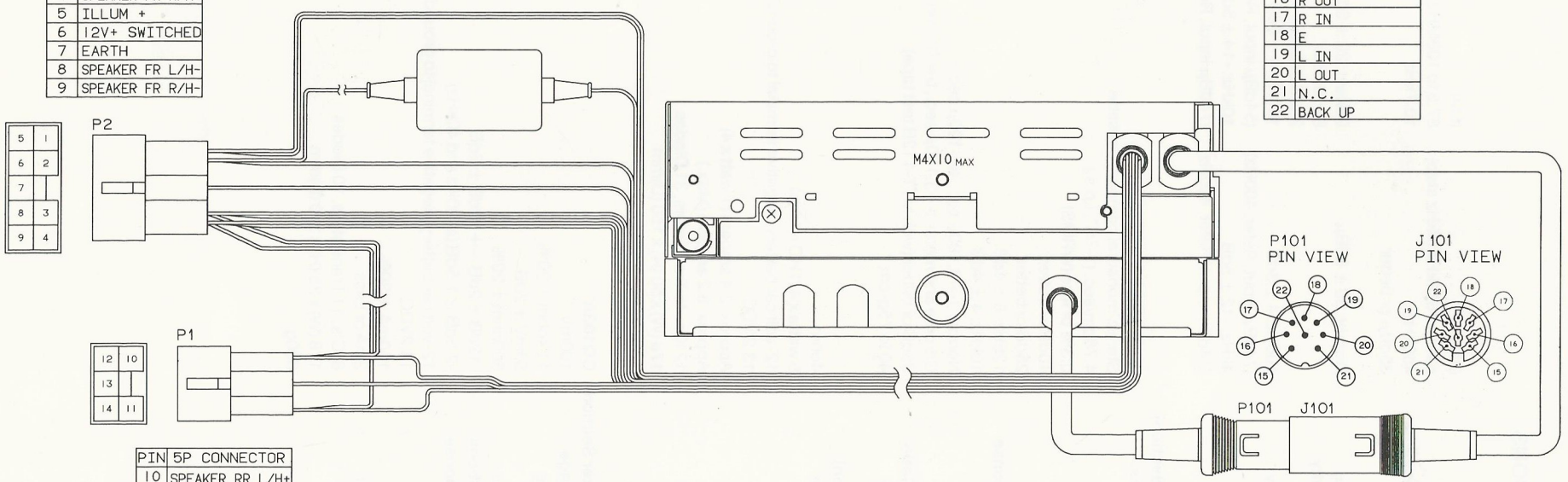
(Common Section)	
Load Impedance	4ohm
Output Power	5 watts x 4 (THD=10%)
Power Input	12-volt car battery, negative terminal to ground
Voltage	13.2 VDC
Current	Approx. 2.4 ampere (1 watt x 4) Approx. 6.2 ampere (Max.)
Semiconductor	12 ICs, 45 Transistors, 31 Diodes
Dimensions	178 (W) x 50 (H) x 150 (D)mm
Weight	Unit - 1.6kg

(Graphic Equalizer Section)	**CQ103A**
Rated Input Voltage	100mV
Input Impedance	11 kohm ± 20%
Output Voltage	53mV ± 2dB
Load Impedance	500ohm ± 20%
Tone Control Actions	-12dB ± 2dB ~+ 12dB ± 2dB
Frequency Response	-2.5dB ± 1.5dB (at 20Hz and 40kHz)
Power Input	12-volt car battery, negative terminal to ground
voltage	13.2VDC
current	100mA ± 30%
Back Up Current	2mA or Less
Semiconductor	6 IC's, 11 Transistors, 10 Diodes
Dimensions	178 (W) x 25 (H) x 140 (D)mm
Weight	600g

DETAILS OF CONNECTOR
CS207A
CQ103A

PIN	9P CONNECTOR
1	PWR ANT
2	ACC 12V+
3	SPEAKER FR L/H+
4	SPEAKER FR R/H+
5	ILLUM +
6	12V+ SWITCHED
7	EARTH
8	SPEAKER FR L/H-
9	SPEAKER FR R/H-

PIN	8P CONNECTOR
15	AMP +B
16	R OUT
17	R IN
18	E
19	L IN
20	L OUT
21	N.C.
22	BACK UP



PIN	5P CONNECTOR
10	SPEAKER RR L/H+
11	SPEAKER RR B/H+
12	SPEAKER RR L/H-
13	MEMORY
14	SPEAKER RR R/H-

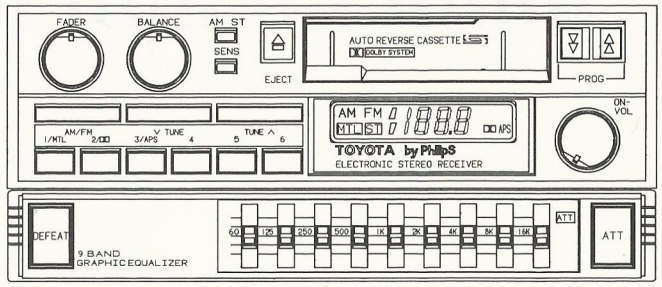


Fig. 1

EXPLODED VIEW (GRAPHIC EQUALIZER)
CQ103A

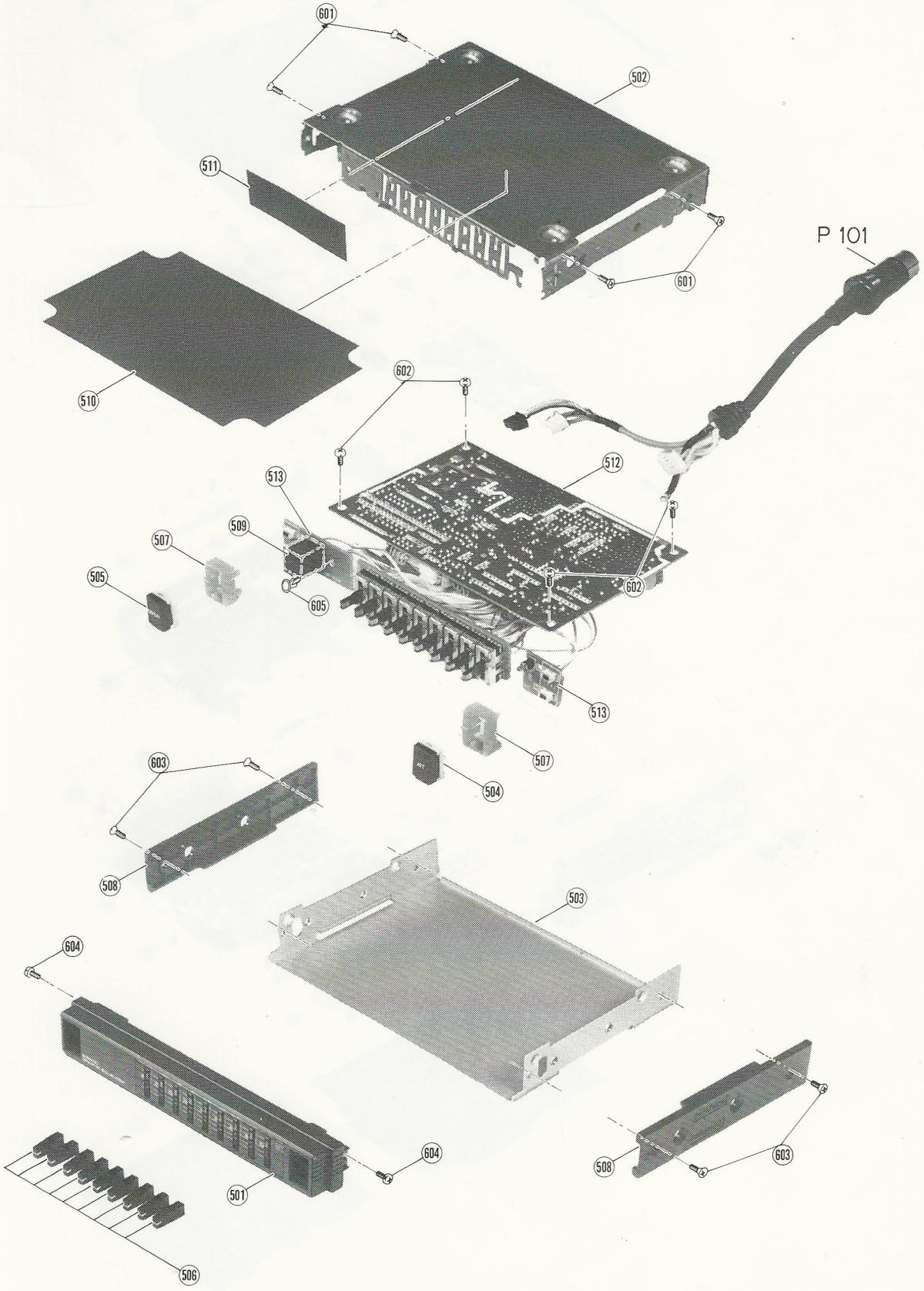


Fig. 8

NOTE : Printed circuit board does not include component parts to be mounted.

EXPLODED VIEW (MAIN UNIT)

CS207A

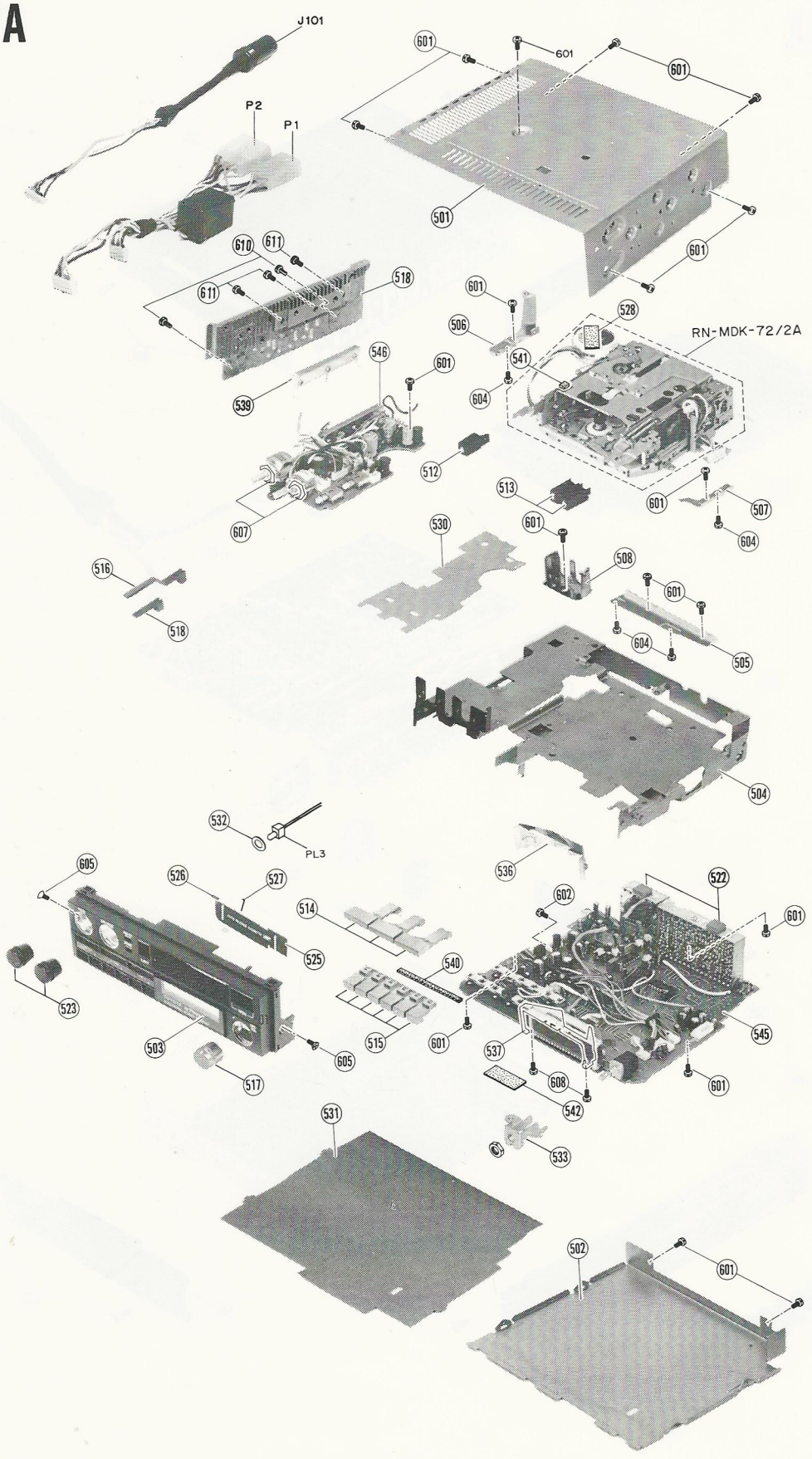
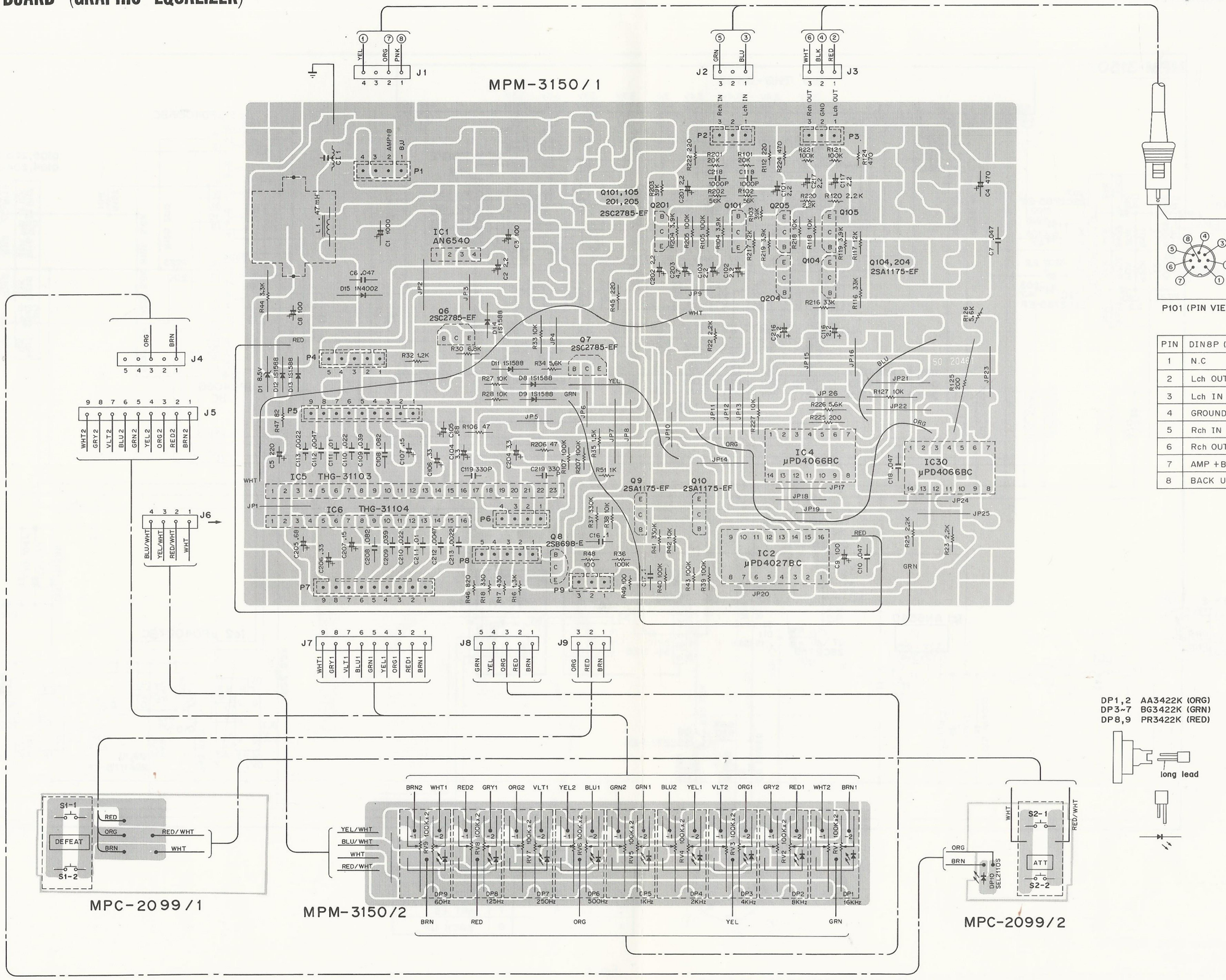


Fig. 4

NOTE : Printed circuit board does not include component parts to be mounted.

WIRING ON PC BOARD (GRAPHIC EQUALIZER)

CQ103A



P101 (PIN VIEW)

PIN	DIN8P (P101)	COLOR
1	N.C	YEL
2	Lch OUT	RED
3	Lch IN	BLU
4	GROUND (S)	BLK
5	Rch IN	GRN
6	Rch OUT	WHT
7	AMP +B	ORG
8	BACK UP	PNK

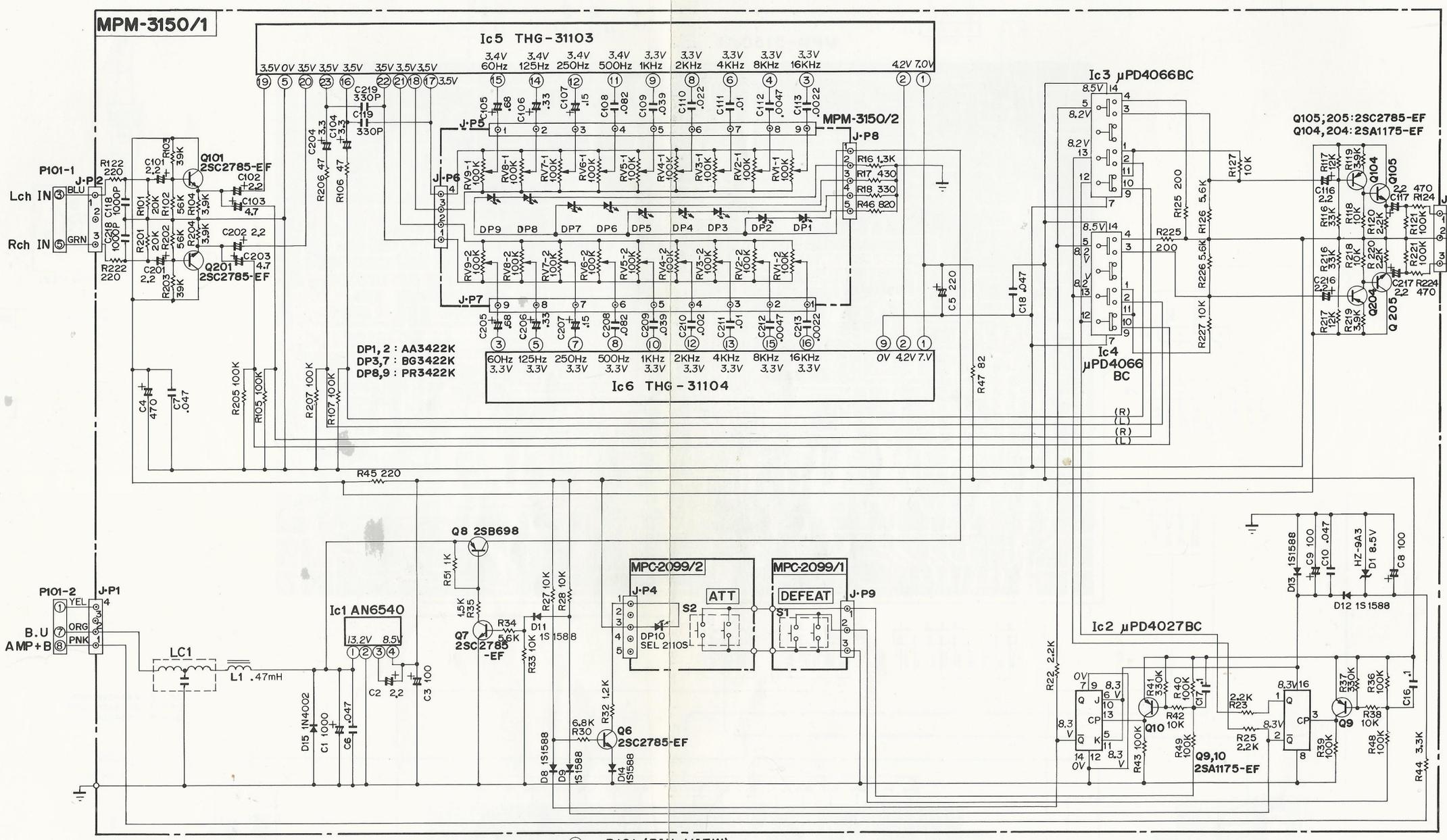
SHIELD

NOTE: To operate this equalizer, connect to the main unit or ground No. 4 pin of P101.

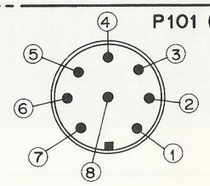
Fig. 7

SCHEMATIC (GRAPHIC EQUALIZER)

CQ103A



P101 (PIN VIEW)



PIN	DIN 8P		
1	N.C	5	Rch IN
2	Lch OUT	6	Rch OUT
3	Lch IN	7	ANT +B
4	GND(S)	8	BACK UP

Fig. 6

NOTES :

1. All capacitance in Micro farad, $P=10^{-12}$
2. All resistance in ohm, $K=10^{3}$
3. DC voltages against the chassis measured with 10M ohms digital volt meter, power supply set at +13.2 VDC, no signal input.

WIRING ON PC BOARD (MAIN UNIT)

CS207A

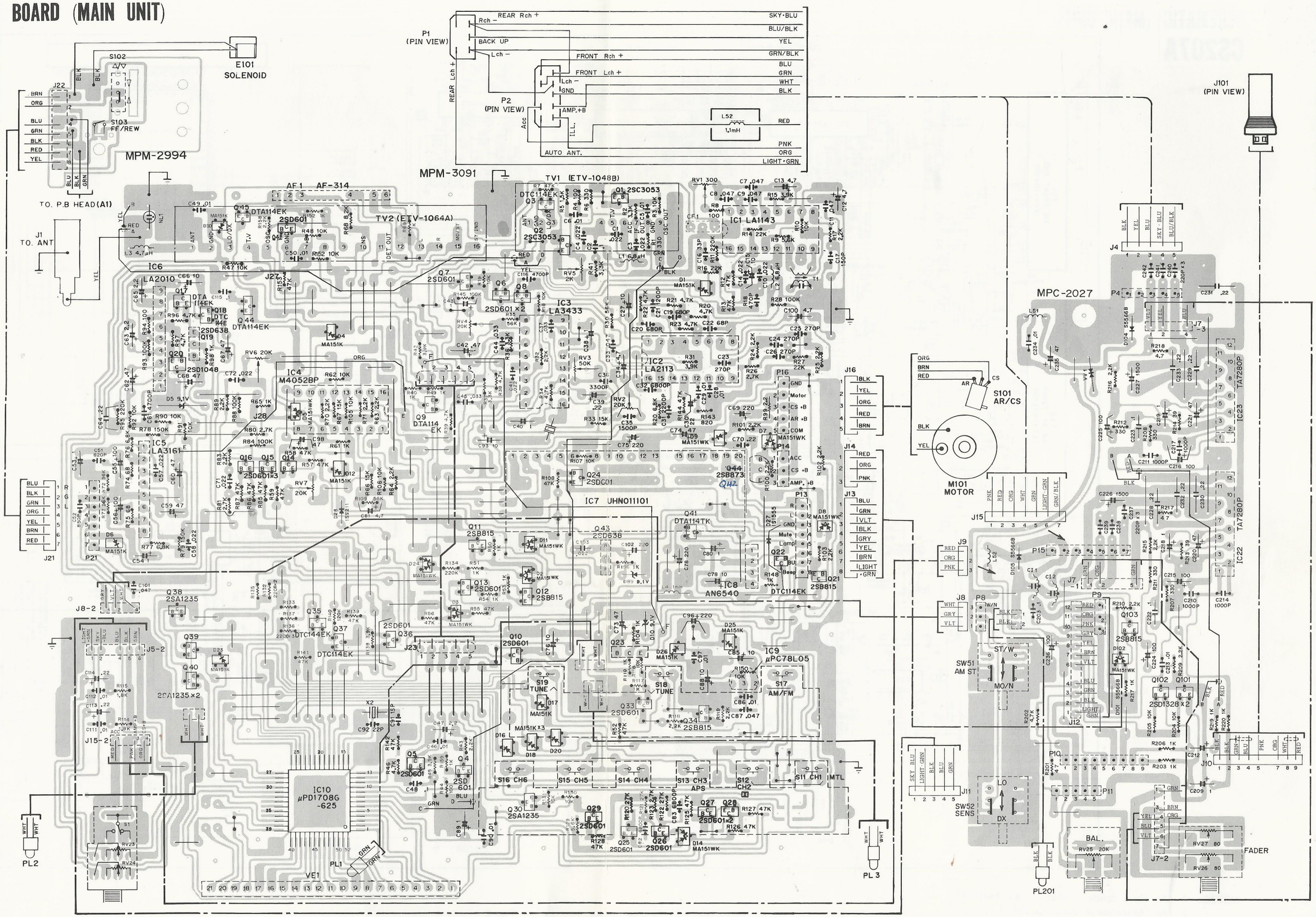
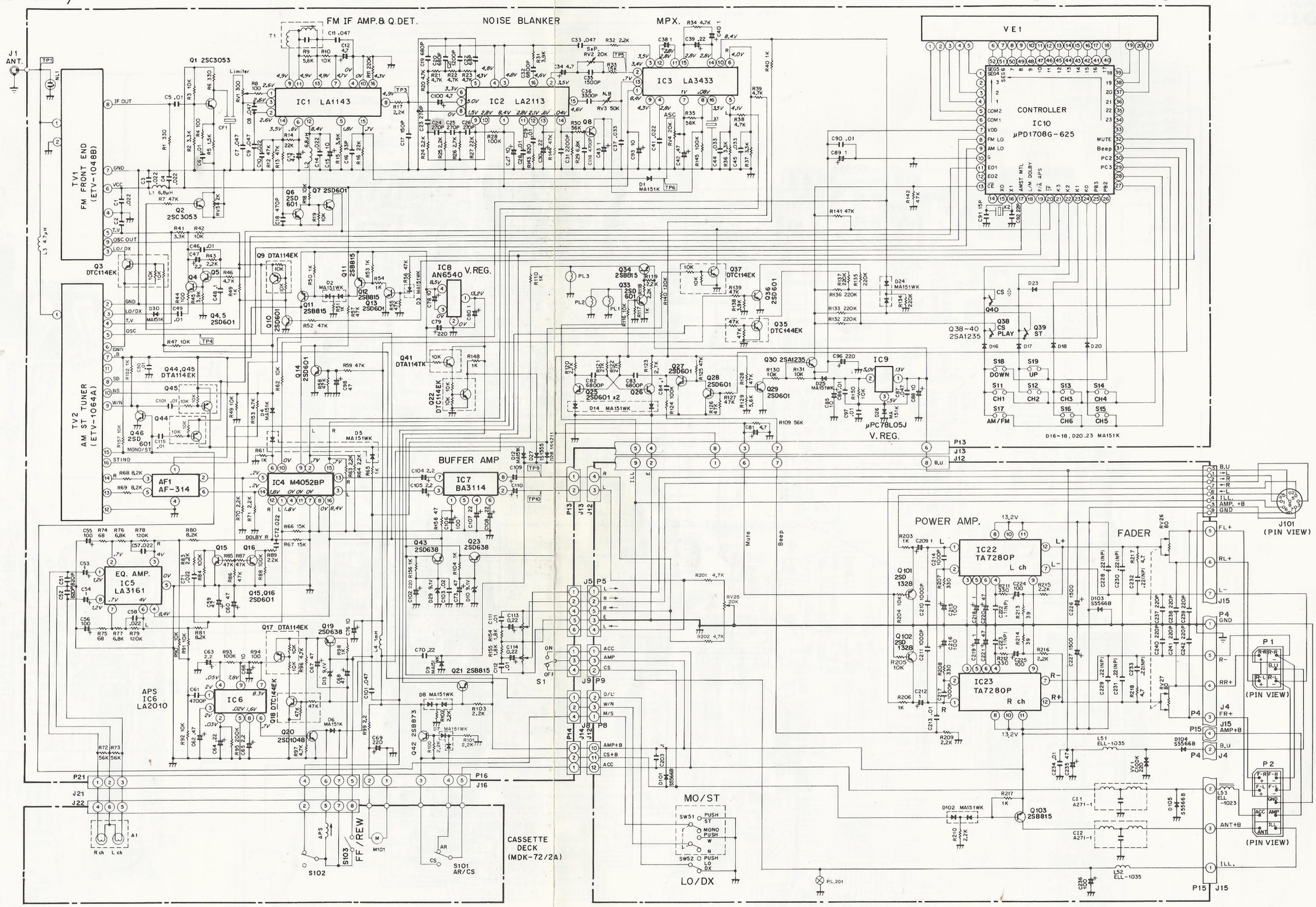


Fig. 3

SCHEMATIC (MAIN UNIT)

CS207A



NOTES :
1. All capacitance in Micro farad, P=10^{-12}
2. All resistance in ohm, K=10^{3}
3. DC voltages against the chassis measured with 10M ohms digital volt meter, power supply set at +13.2 VDC, no signal input.

Fig. 2

Bt - Pin 8

Pin 4

EXPLODED VIEW (CASSETTE DECK) MDK-72/2A

CS207A

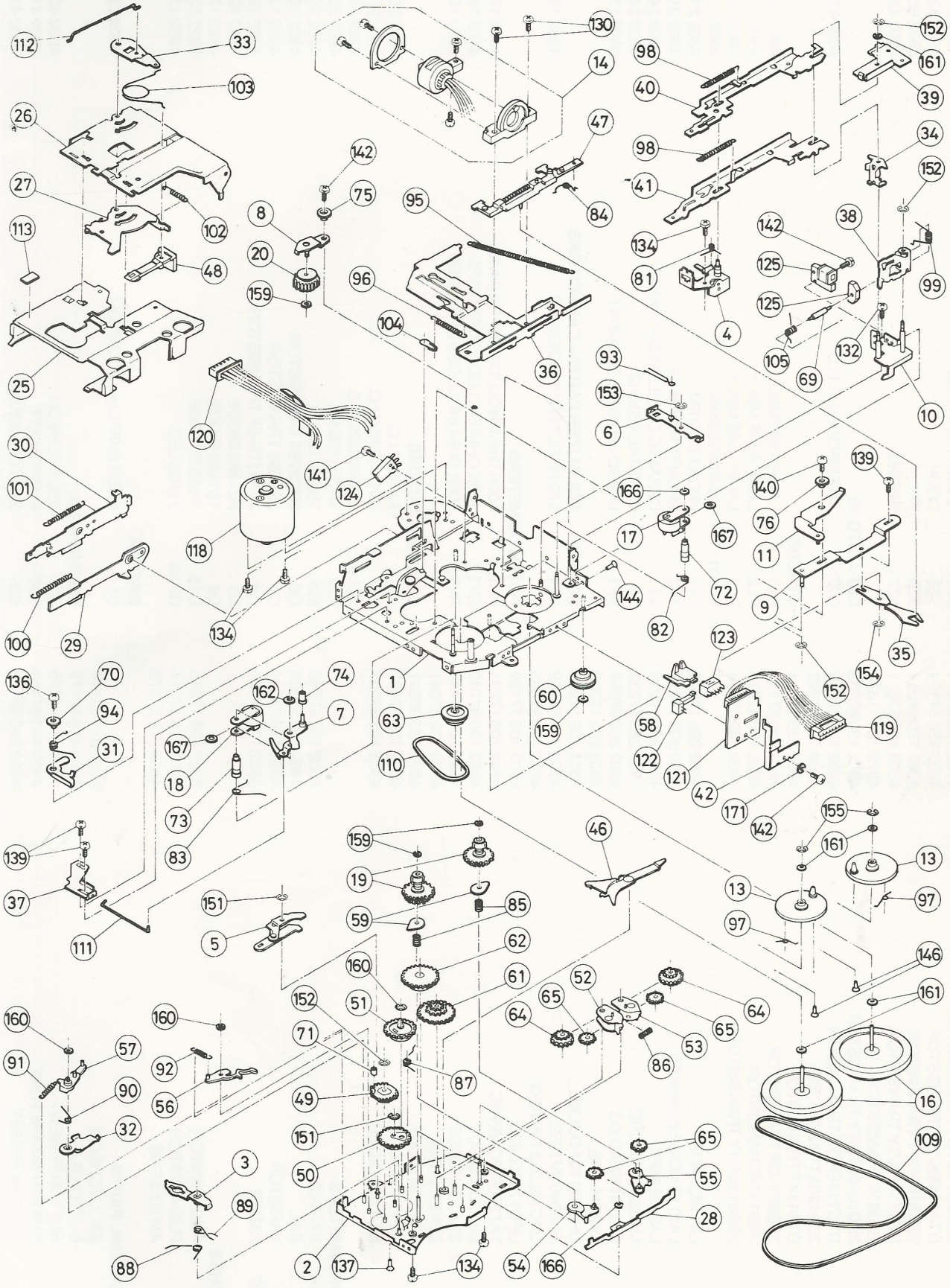


Fig. 5

SEMICONDUCTORS

Q1	2SC3053 TRANSISTOR	4802 130 47542
Q4	2SD601-QRS/TY TRANSISTOR	4802 130 67058
Q9	DTA114EK/TY TRANSISTOR	4802 130 67124
Q11	2SB81567/TY TRANSISTOR	4802 130 67054
Q18	DTC114EK/TY TRANSISTOR	4802 130 67051
Q19	2SD638 TRANSISTOR	4822 130 41324
Q20	2SD1048678/TY TRANSISTOR	4802 130 67133
Q22	DTC114EK/TZ TRANSISTOR	4802 130 67049
30	2SA1235 TRANSISTOR	4802 130 47973
Q41	DTA114T TRANSISTOR	4802 130 67124
Q42	2SB873-QR TRANSISTOR	4802 130 67129
Q101	2SD1328 TRANSISTOR	4802 130 47978
Q103	2SB81567/TY TRANSISTOR	4802 130 67054
IC1	LA1143 FM IF	4802 209 17002
IC2	LA2113 NOISE BLANKER	4802 209 17227
IC3	LA3433 MPX	4802 209 17229
IC4	M4052BP MIXING	4802 209 17233
IC5	LA3161 HEAD EQ.	4802 209 87658
IC6	LA2010 APS.	4802 209 17226
IC7	UHN011101 DOLBY	4802 209 17235
IC8	AN6540 8V REG.	4802 209 87559
IC9	UPC78L05J 15V REG.	4802 209 87303
IC10	UPD1708G-625	4802 209 77189
IC22	TA7280P POWER IC	4802 209 17231
D1	SILICON DIODE	4822 130 31742
D2	SILICON DIODE	4822 130 31742
D10	ZENER DIODE	4802 130 37841
D27	SILICON DIODE	4822 130 30621
D28	SILICON DIODE	4802 130 37862
D101	SILICON DIODE	4802 103 37007

POTENTIOMETERS

RV23,24	SW-VOL	4802 102 47058
RV25	BAL	4802 102 97003
VS1	VARISTOR	4802 116 27014
RV26,27	FADER	4802 102 37196

SWITCHES

S11	PUSH SWITCH	4802 276 17315
S17	PUSH SWITCH	4802 276 17314
SW51	AM ST.SENS	4802 276 17272

MECHANICAL PARTS

503	ESCUTCHEON	4802 459 47547
512	BUTTON EJE	4802 410 37175
513	BUTTON FF,REW	4802 410 37176
514	BUTTON AM/FM,TUNE	4802 410 37184
515	BUTTON PRESET	4802 410 37183
516	BUTTON AM ST	4802 410 37185
517	KNOB VOL	4802 413 17231
518	BUTTON SENS	4802 410 37186
523	KNOB FADER,BAL	4802 413 17228
525	DOOR	4802 423 57109
526	PIN	4802 535 97353
527	SPRING	4802 492 37686

CAPACITORS

C226	1500MFD/16V ELECT.	4802 124 27084

OTHERS

PL1	LAMP ASSEMBLY	4802 134 47332
PL2	LAMP ASSEMBLY	4802 134 47335
PL3	LAMP ASSEMBLY	4802 134 47335
PL201	LAMP ASSEMBLY	4802 134 47336
TV1	FRONT END FM	4802 210 17163
TV2	FRONT END AM ST	4802 210 17164
X1	CERAMIC OSCILLATOR 19KHZ	4802 242 77383
X2	CRYSTAL 4.5MHZ	4802 242 77347
VE1	LIQUID CRYSTAL ELEMENT	4802 130 97059

CQ103A EQUALIZER PARTS – CAPACITORS

CT1	270 PF FILTER CONDENSER	4802 125 57126

POTENTIOMETERS

RV1,2	100K OHM INCLUDES DP1,2 (AMB	4802 105 97013
RV3,7	100K OHM INCLUDES DP37 (GRE	4802 105 97012
RV8,9	100K OHM INCLUDES DP8,9 (RED	4802 105 97011

SEMICONDUCTORS

IC1	AN6540 I.C.	4802 209 87559
IC2	UPD4027BC I.C.	4802 209 27253
IC3,4	UPD4066BC I.C.	4802 209 27254
IC5	THG31103 I.C.	4802 209 17234
IC6	THG31104 I.C.	4802 209 17234
Q6	2SC2785 TRANSISTOR	4802 130 67135
Q8	2SB698 TRANSISTOR	4802 130 67131
Q9	2SA1175-EF TRANSISTOR	4802 130 67125
D1	HZ-9A3 DIODE	4802 130 37935
D8	1S1588 DIODE	4822 130 30613
D15	1N4002 DIODE	5322 130 30684
DP10	2110S LED	4802 130 37921

SWITCH

S1	PUSH SWITCH,ATT,DEFEAT	4802 276 47037

MECHANICAL

501	ESCUTCHEON	4802 459 47548
504	BUTTON,ATT	4802 410 37188
505	BUTTON,DEFEAT	4802 410 37187
506	BUTTON	4802 410 37189