CM-6530 EX1

"TEN" SERVICE MANUAL

AM-FM MPX, RADIO WITH CASSETTE TAPE PLAYER

Model CM-6530EX1

TABLE OF CONTENTS

FUJITSU TEN LIMITED

COMPOSITION

CM-6530EX1

Tape deck unit	CM-6530	1	
Knob	RN-MYC-1016A	2	Fig. 14 ⑩
Knob	RN-MYD-1031	2	Fig. 14 ⑪
Knob	RN-MYD-1041	1	Fig. 14 ⑫
Front panel	RN-MDP-1240	1	Fig. 14 ⑬
Wiring sub-assembly, speaker	RN-EWS-298	1	
Wiring sub-assembly	RN-EWJ-2855	1	
Wiring sub-assembly	RN-EWJ-1744	1	
Bracket	RN-MBF-11	1	
Installation screws	RN-MWA-1085	1 set	
Net	RN-MEN-57	(4)	Fig. 14 ⑦
Washer	RN-MWS-1010	(4)	Fig. 14 ⑭
Screw	RN-MET-152	(1)	
Nut	RN-MNR-D5S	(2)	
Bolt	RN-MBW-C5×16S	(1)	
Screw	RN-MTN-A6×16S	(1)	
Bolt	RN-MBW-C5×8S	(1)	

SPECIFICATIONS

RADIO SECTION	MW	FM
TUNING RANGE	520 to 1605 kHz	88 to 108 MHz
INTERMEDIATE FREQUENCY	460 kHz	10.7 MHz
SENSITIVITY	30 dB or better (at 0.5 watt output)	8 ± 6 dB (Limiting sensitivity)
SIGNAL TO NOISE RATIO	21 dB or better (35 dB input)	30 dB or better (18 dB input)
ELECTRICAL FIDELITY	−2 ± 3 dB at 100 Hz −14 ± 4 dB at 4 kHz	0 ± 3 dB at 100 Hz −14 ± 6 dB at 10 kHz
SEPARATION		20 dB or better (at 54 dB input)

TAPE PLAYER SECTION

NUMBER OF TRACK 4-track 2-channels

TAPE CARTRIDGE ..... Stereo/Monaural compact cassette

TAPE SPEED ..... 4.76 cm/sec. ± 3%
FF : 140 sec. (C-60 tape)
REW : 140 sec. (C-60 tape)

WOW & FLUTTER ..... 0.25% at less (WRMS)

SIGNAL TO NOISE RATIO ..... 46 dB or better (at 1 kHz)

CROSSTALK ..... 40 dB or better between adjacent tracks

SEPARATION ..... 25 dB or better between left and right channel

FREQUENCY RESPONSE ..... 0 ± 3 dB at 125 Hz 0 ± 5 dB at 8 kHz (Ref. Freq : 1 kHz)

EQUALIZATION ..... 3180/ 120 μ sec. (Normal)
3180/70 μ sec. (Chrome)

TAKE-UP TORQUE ..... 55 to 70 g-cm

COMMON SECTIONS

〔CM-6530EX1〕

LOUDNESS ····· 9 ± 4 dB at 125 Hz 5 ± 4 dB at 8 kHz
POWER OUTPUT ····· 10 watt per channels (at 400 Hz T.H.D.=10%)
SPEAKER IMPEDANCE ····· 4 ohm per channels
POWER SUPPLY ····· 12-volt car battery, negative terminal to ground.
Voltage ····· 13.2 VDC
Current ····· Approx. 1.4 ampere (at 1 watt output)
SEMICONDUCTOR ····· 12 ICs, 27 transistors, 22 diodes, 6 LEDS, 3 FETS
DIMENSIONS ····· 178(W)×51(H)×129.6(D)mm (7-1/64″, 2-1/64″, 5-7/64″)
WEIGHT ····· Player unit 1.6 kg

CONNECTIONS

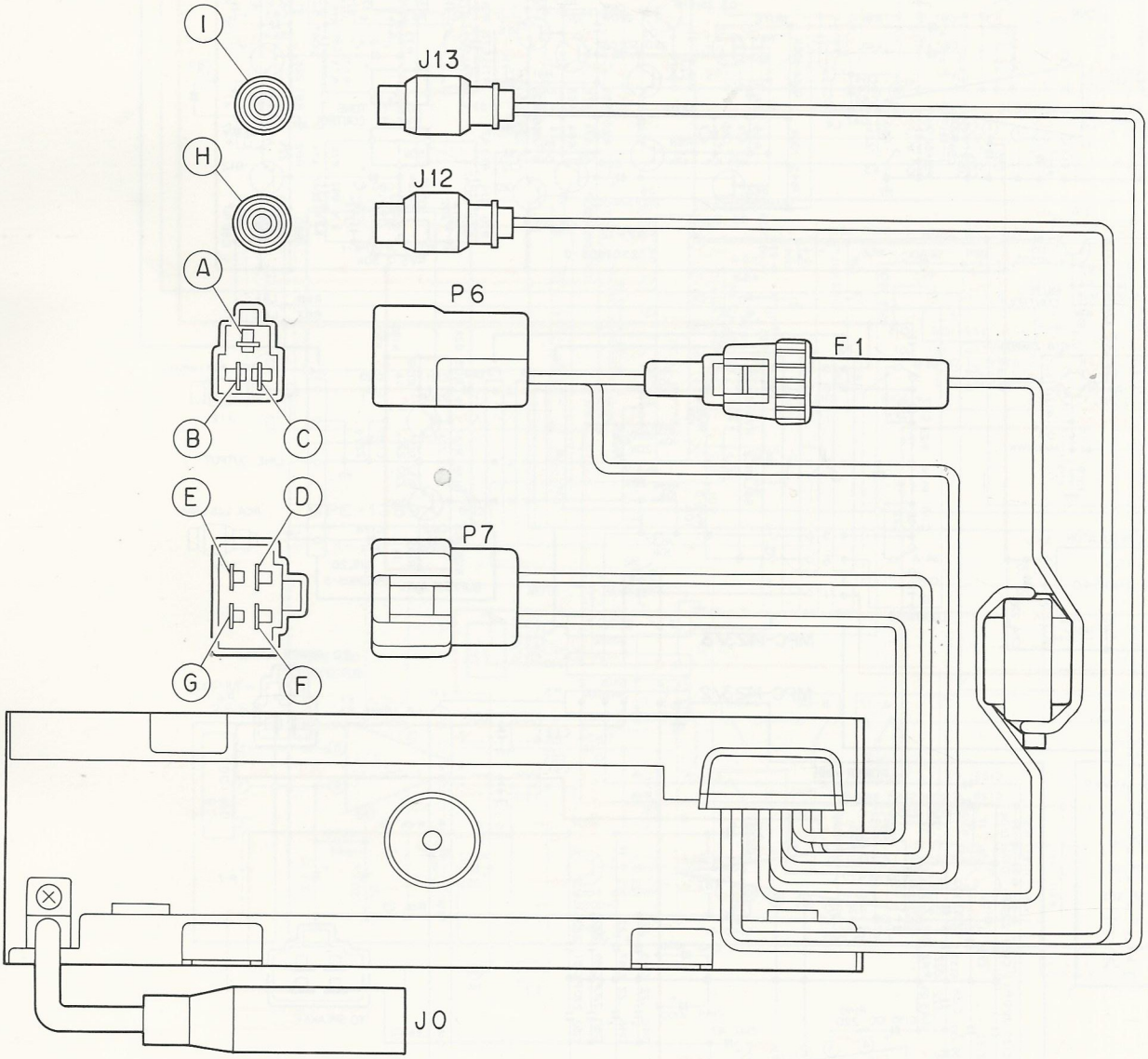


Fig. 1 (C23156530)

A	N.C.	B	ACC +B (BLU/RED)	C	ANT. +B (ORG)
D	Lch OUTPUT (+) (GRN)	E	Lch OUTPUT (−) (GRN/BLK)	F	Rch OUTPUT (+) (BLU)
G	Rch OUTPUT (−) (BLU/BLK)	H	Rch OUTPUT (GRY)	I	Lch OUTPUT (GRY)

INSTRUMENT WIRING

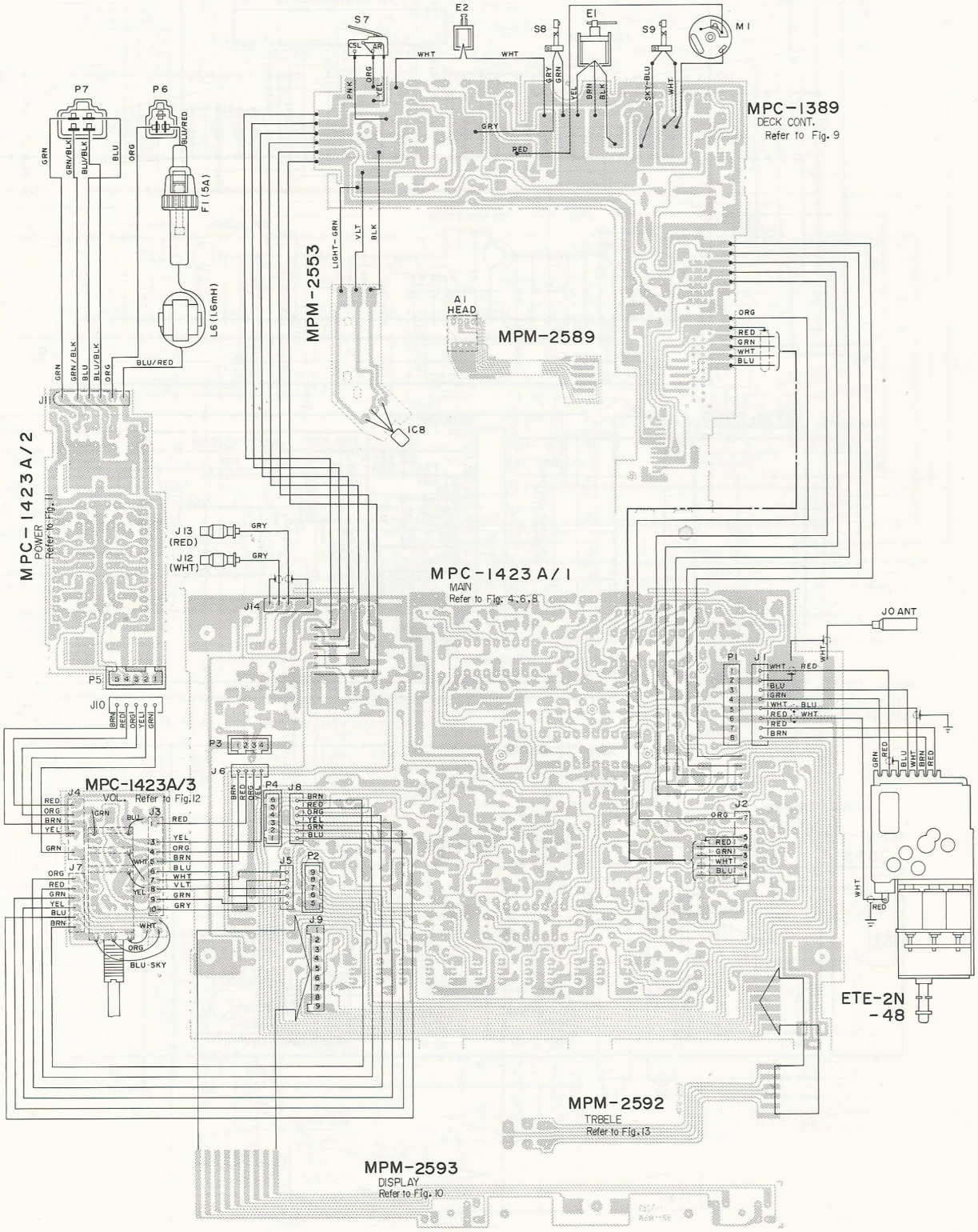


Fig. 2 (C27156530)

WIRING ON PC BOARD

〔CM-6530EX1〕

○ MPC-1389 DECK CONT.

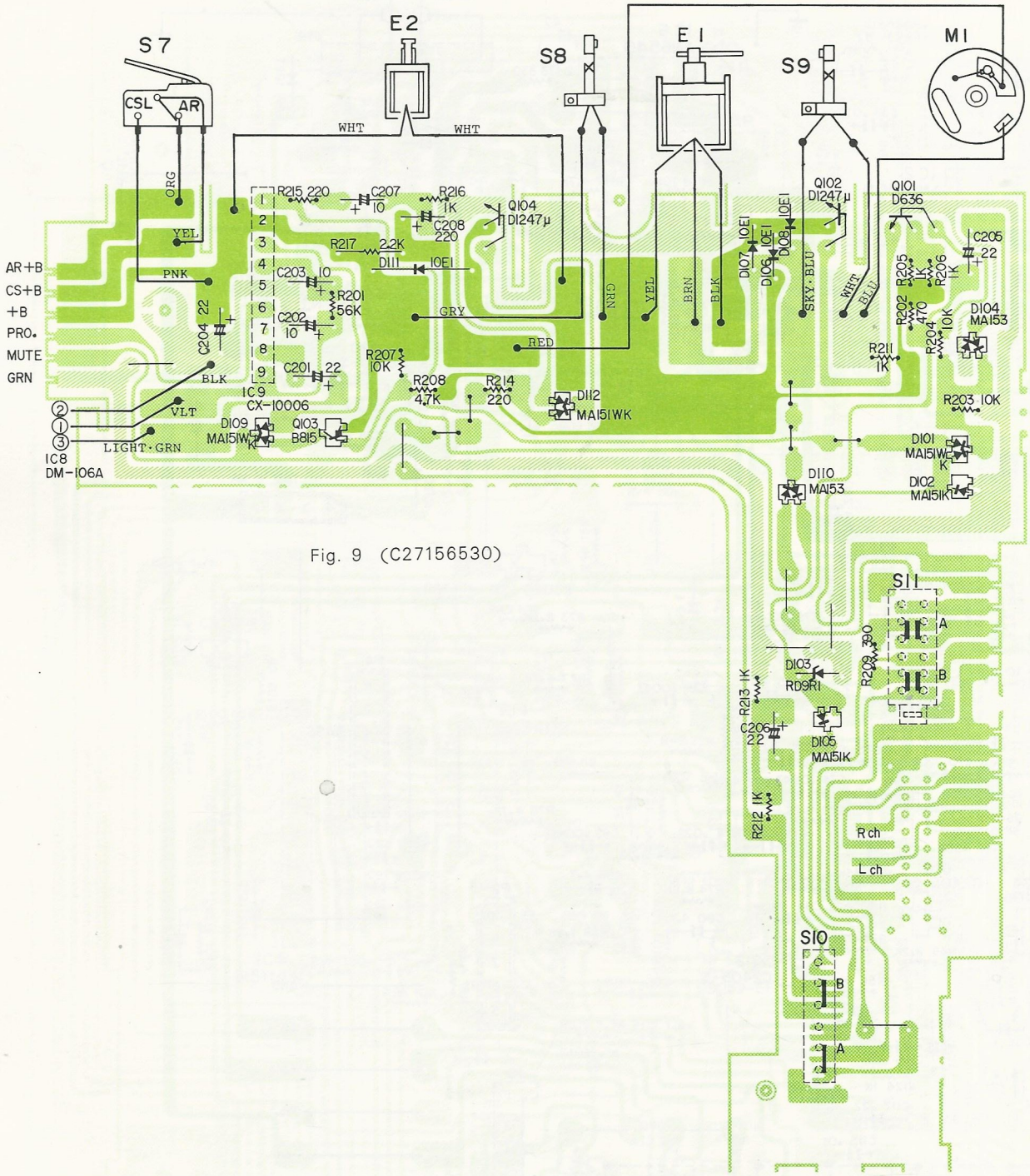


Fig. 9 (C27156530)

○ MPM-2593 DISPLAY

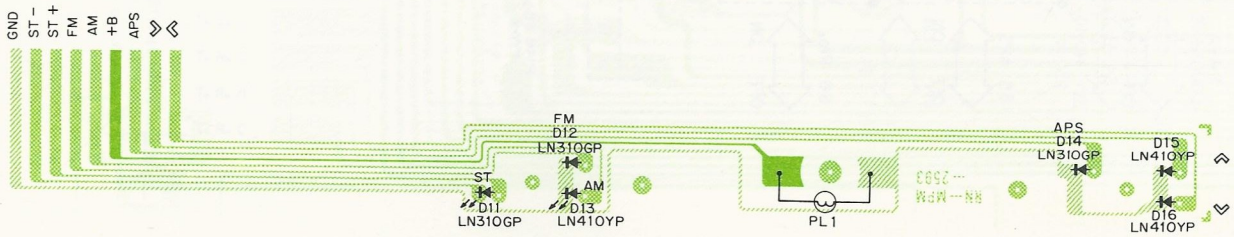


Fig. 10 (C27156530)

○ MPC-1423B/2 POWER

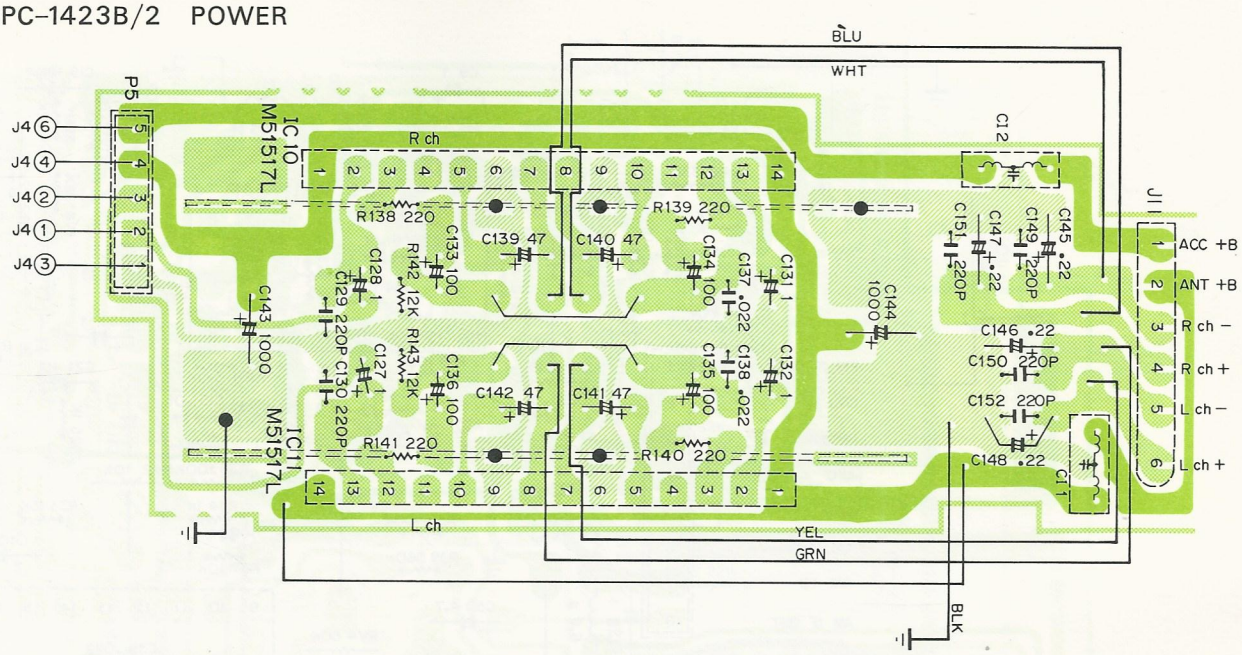


Fig. 11 (C27156530)

○ MPC-1423B/3
VOL.

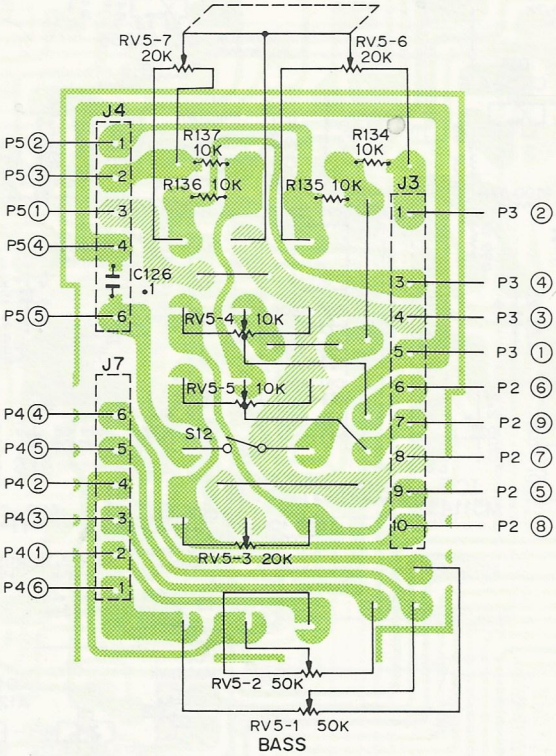


Fig. 12 (C27156530)

○ MPM-2592
TREBLE

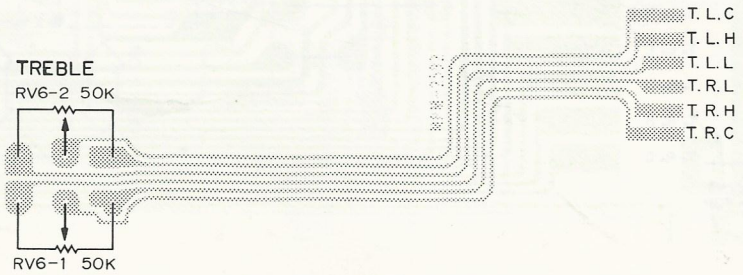


Fig. 13 (C27156530)

EXPLODED VIEW

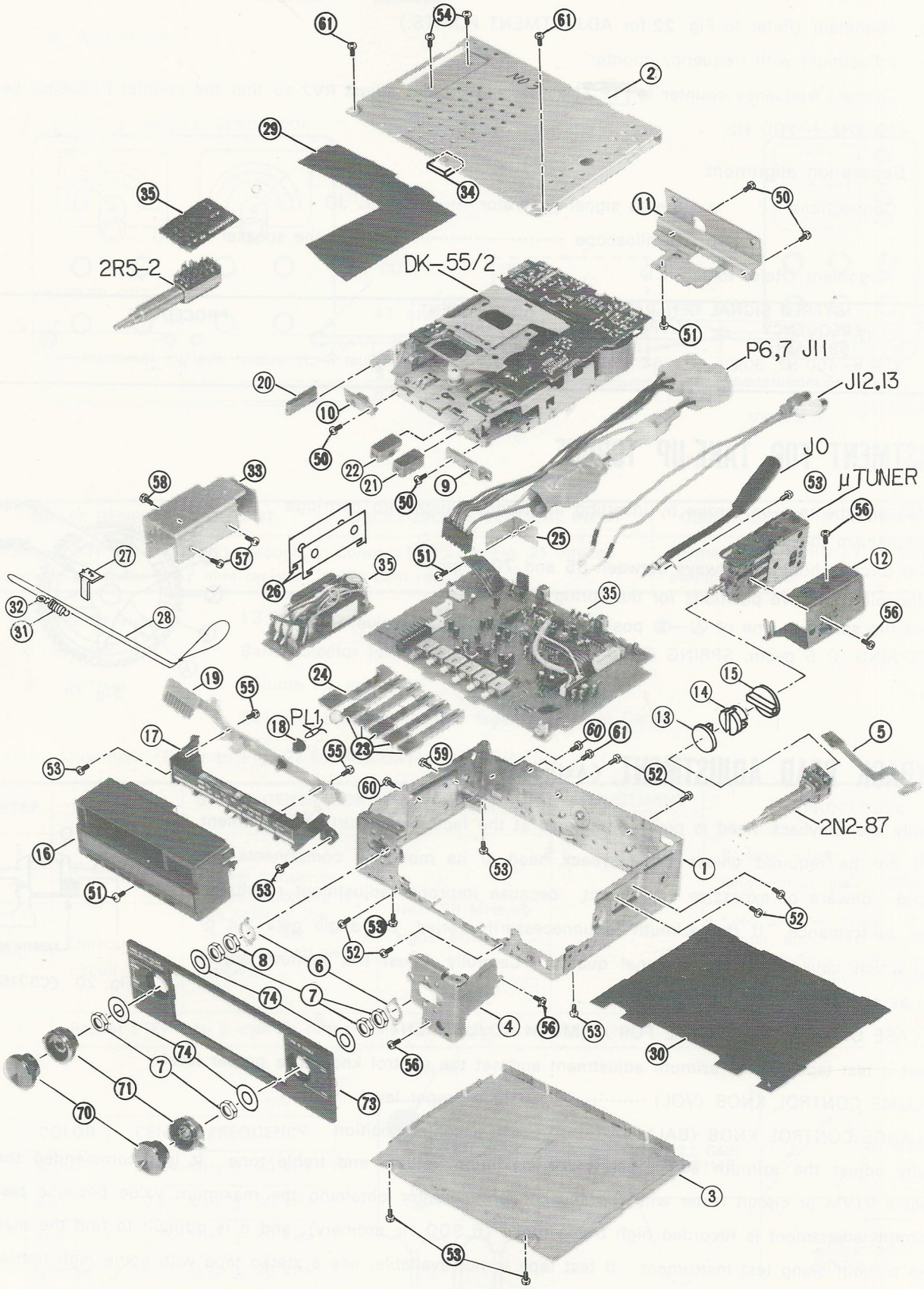


Fig. 14 (C28156530)

EXPLODED VIEW (CASSETTE DECK DK-55/2)

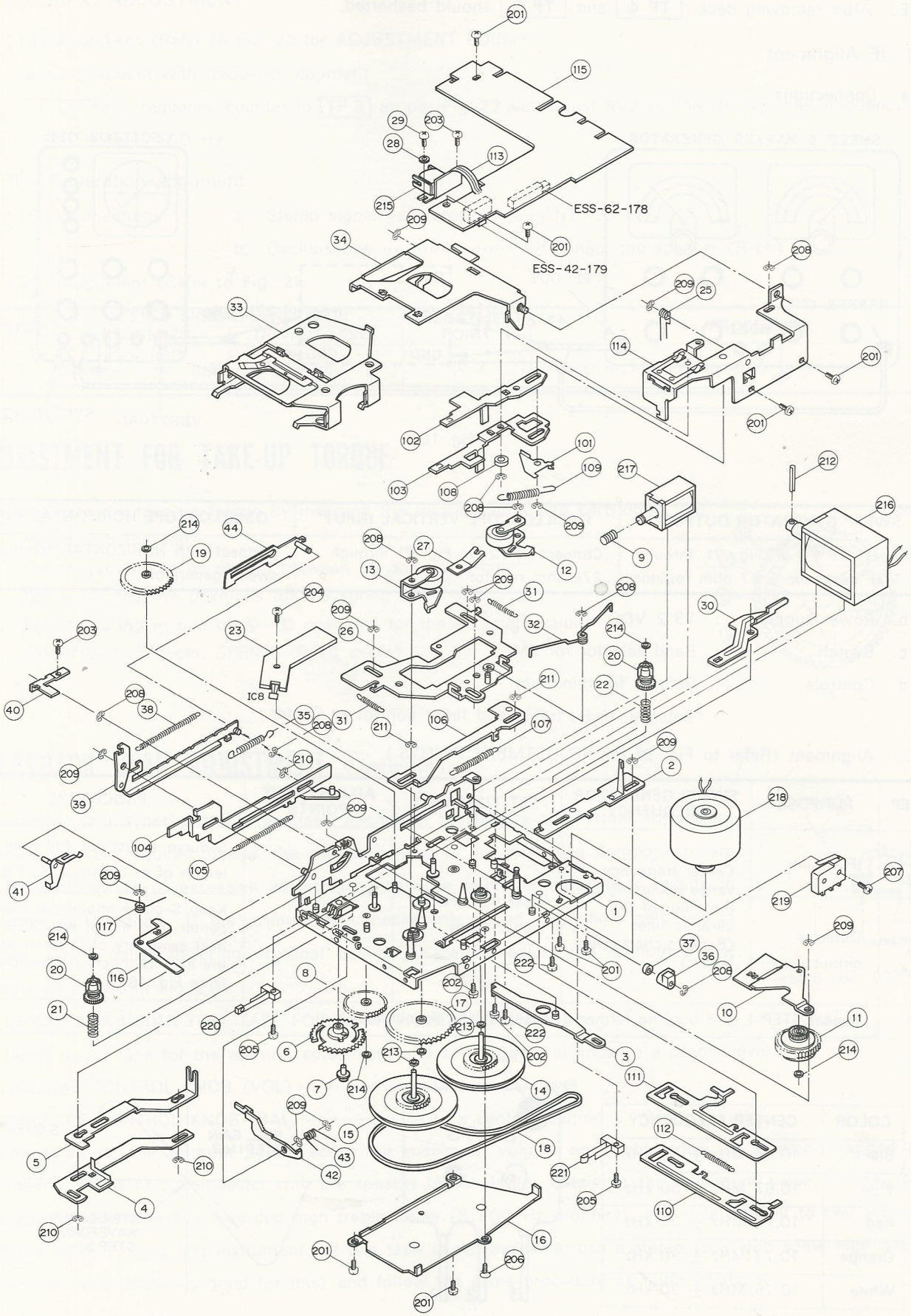


Fig. 15 (C28156530)

FM ALIGNMENT

NOTE: After removing deck, TP 4 and TP 5 should beshorted.

[1] IF Alignment

a. Connections

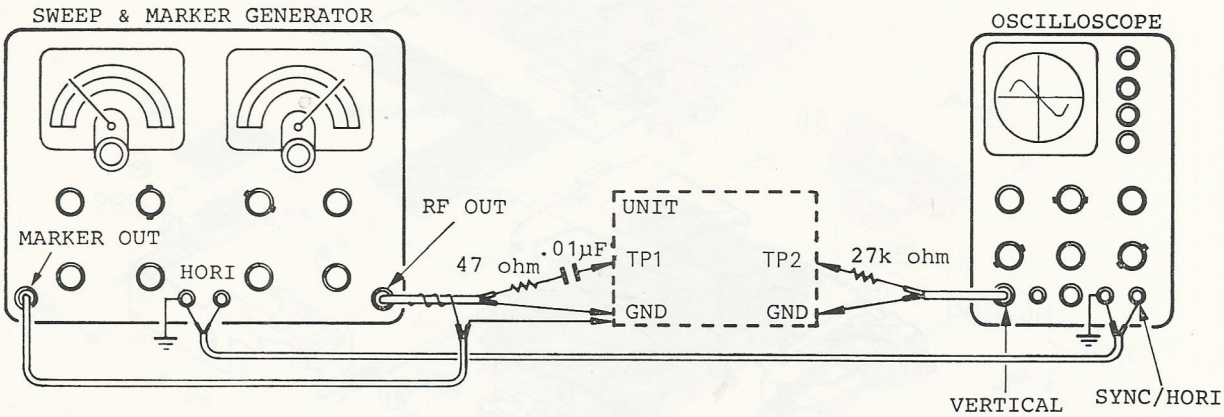


Fig. 16

SWEEP GENERATOR OUTPUT	OSCILLOSCOPE VERTICAL INPUT	OSCILLOSCOPE HORIZONTAL INPUT
Connect TP 1 in Fig. 21 through 00.1 μF capacitor & 47 ohm resistor	Connect TP 2 in Fig. 21 through 27k-ohm resistor	Connect with HORIZONTAL terminal of sweep generator

b. Power supply : 13.2 VDC

c. Switch : Band selector for FM

d. Controls : Volume for minimum

Balance, bass, treble and fader control at Center

(2) Alignment (Refer to Fig. 21 for ADJUSTMENT POINTS.)

STEP	PURPOSE	SWEEP GENERATOR FREQUENCY	SET TUNER TO	ADJUSTMENT POINTS	PROCEDURE
1	IF circuit	Center frequency varies according to the color of the ceramic filter (Refer to chart given below)	Near 98 MHz no signal exists	T 1	S-curve adjust for full gain and length of at linears. (See Fig. 18)
2					
3	Detector circuit				Keep S-curve straight at the center, and adjust waveform for best symmetry of S-curve against the axis as much as possible. (See Fig. 18)
4	Repeat STEP 1 to 3 until no further gain output can be obtained.				

COLOR	CENTER FREQUENCY
Black	10.64 MHz ± 30 kHz
Blue	10.67 MHz ± 30 kHz
Red	10.70 MHz ± 30 kHz
Orange	10.73 MHz ± 30 kHz
White	10.76 MHz ± 30 kHz

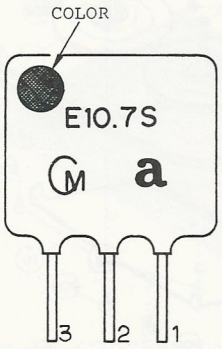


Fig. 17

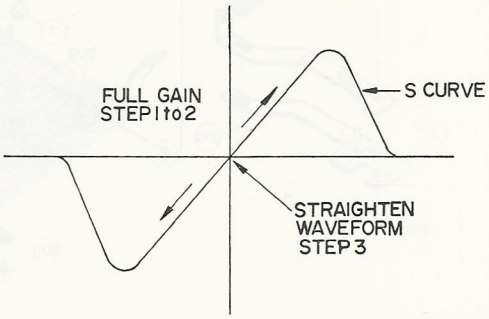


Fig. 18

〔2〕 MPX. ADJUSTMENT

(1) Alignment (Refer to Fig. 22 for ADJUSTMENT POINTS.)

a. Adjustment with frequency counter :

Connect frequency counter to TP 3 as per Fig. 22 and adjust RV2 so that the counter frequency becomes 19 kHz ± 100 Hz.

〔3〕 Separation alignment

(1) Connections

a. Stereo signal generator ·····ANT. JO

b. Oscilloscope ·····Connect the speaker (R-ch)

(2) Alignment (Refer to Fig. 21)

STEP	STEREO SIGNAL GENERATOR		ADJUSTMENT POINT	PROCEDURE
	FREQUENCY	OUTPUT LEVEL		
1	98.0 MHz (L-ch : 400 Hz, 30% R-ch : no modulation)	54 dBμ	RV 3	Adjust R-ch. output level for minimum.

ADJUSTMENT FOR TAKE-UP TORQUE

1. Measure the take-up torque by inserting the torque gauge into cartridge mechanism the slip.
2. The torque should be always between 55 and 70 g-cm.
   The roller has five positions for the spring to be set.
3. Set the spring in one of Ⓐ—Ⓔ positions for the sufficient value.
   (SPRING ① 5 g-cm, SPRING ② 10 g-cm)

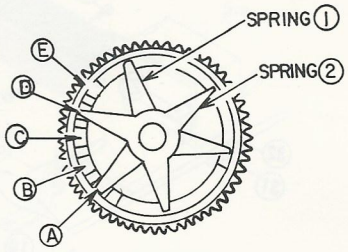


Fig. 19

PLAYBACK HEAD ADJUSTMENT (Azimuth)

Normally the playback head is precisely aligned at the factory and turther adjustment should not be required unless the playback head or its mounting components are replaced. Beware of excessive adjustment. because improper adjustment results in inferior performance. If the azimuth is unnecessarily varied, the angle gets out of order, which cause lowering of tonal quality. Carefully adjust the azimuth adjust screw as shown in Fig. 20.

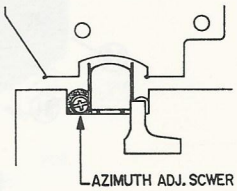


Fig. 20 (C33156430)

* IN CASE OF USING TEST TAPE FOR AZIMUTH ADJUSTMENT

Insert a test tape for the azimuth adjustment and set the control knob to a proper level :

VOLUME CONTROL KNOB (VOL) ····· In a proper level

BALANCE CONTROL KNOB (BAL)····· In a center position

Carefully adjust the azimuth adjust screw for maximum volume and treble tone. It is recommended that you connect a VTVM or circuit tester with the speaker terminals for obtaining the maximum value because test tape for azimuth adjustment is recorded high treble tones (6,300 Hz ordinary), and it is difficult to find the maximum volume without using test instrument. If test tape is not available, use a stereo tape with some high treble tones (piano or violin music is good for this) and follow the same procedure as outlined above.

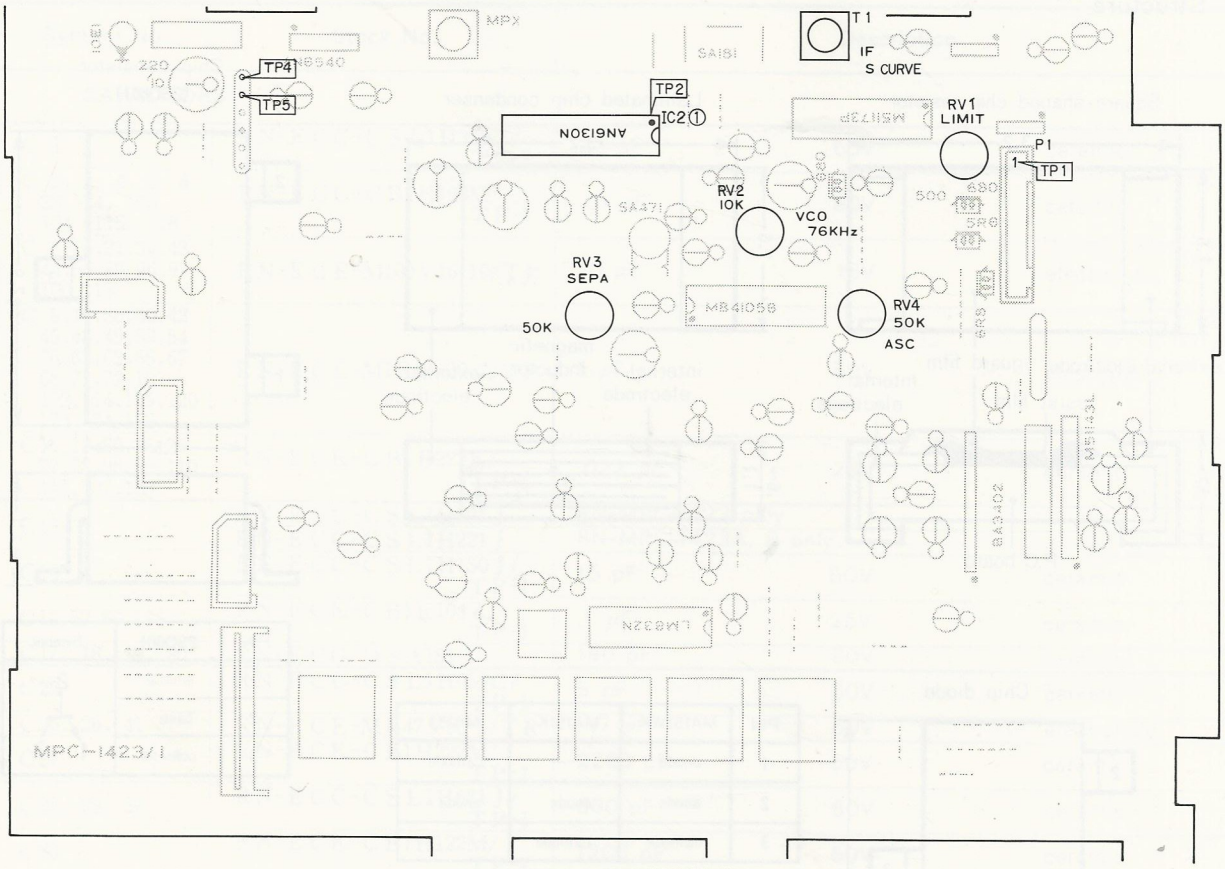


Fig. 21 (C33156530)

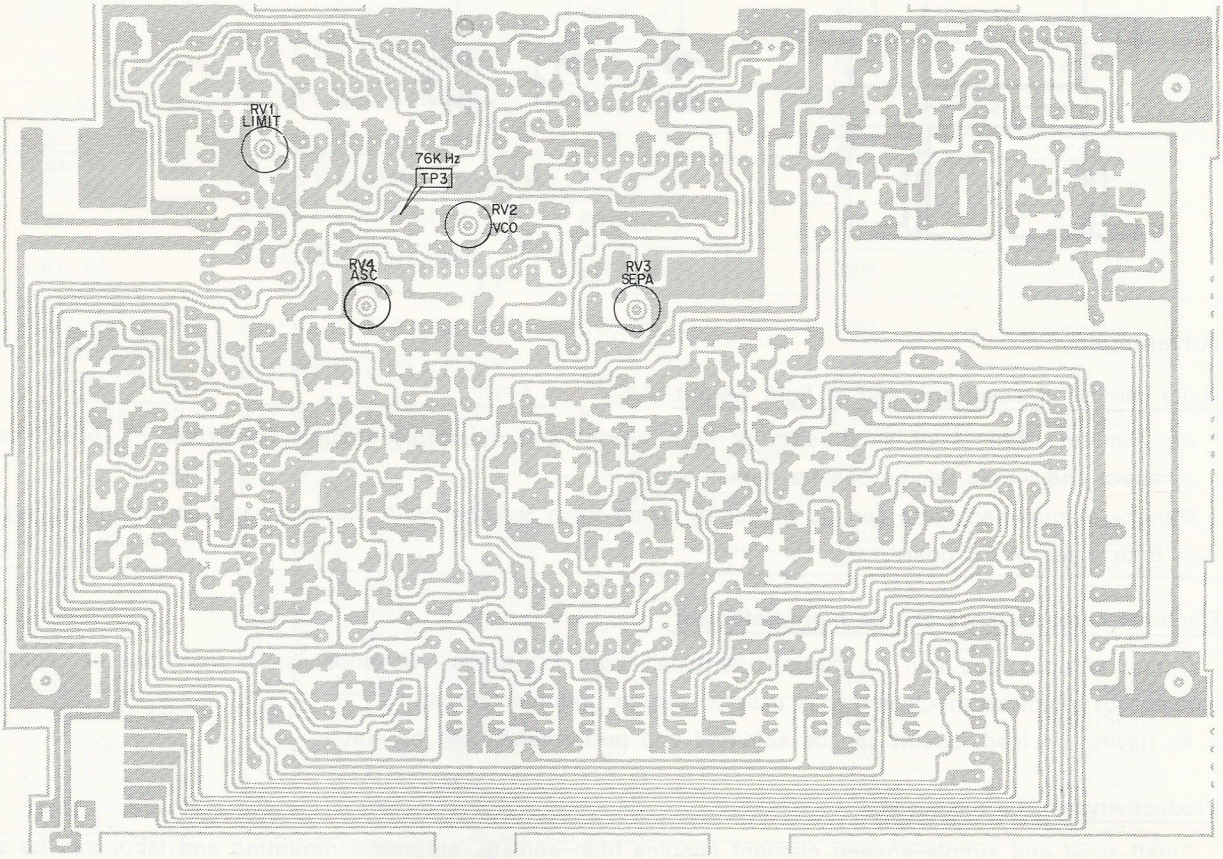
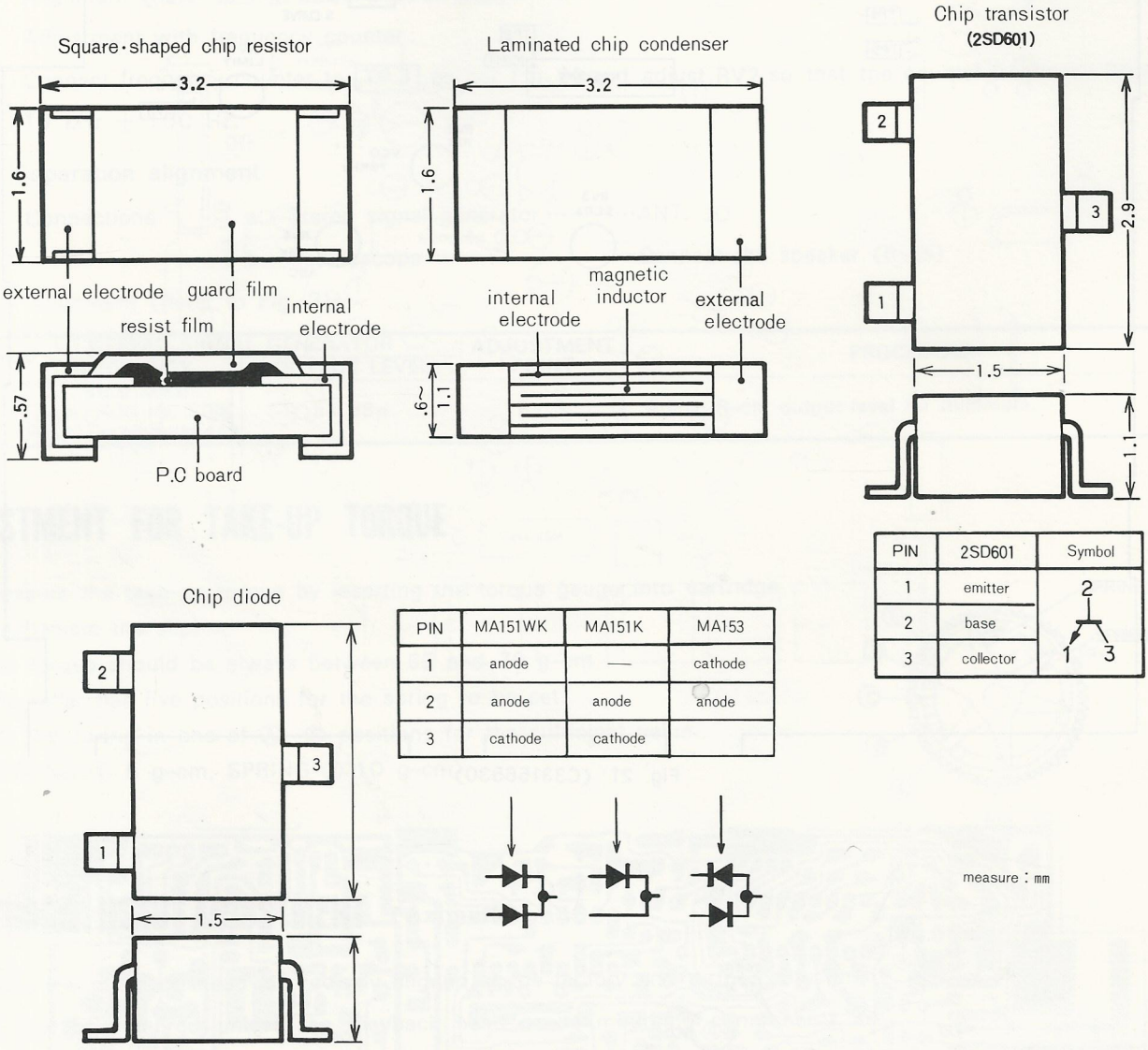


Fig. 22 (C33156530)

EXPLANATORY NOTES ON CHIP PARTS

〔1〕 Structure



PIN	MA151WK	MA151K	MA153
1	anode	—	cathode
2	anode	anode	anode
3	cathode	cathode	

PIN	2SD601	Symbol
1	emitter	2
2	base	1 3
3	collector	

Fig. 23

〔2〕 Advantages

a. Units can be of small size and of light weight.

1. An element itself is of small size, of light weight and of simple shape. So circuit PC board can be compact and whole design can be miniatuarized.
2. Density of mounted parts can be higher by using them together with discrete parts and by mounting them in both sides of PC board.

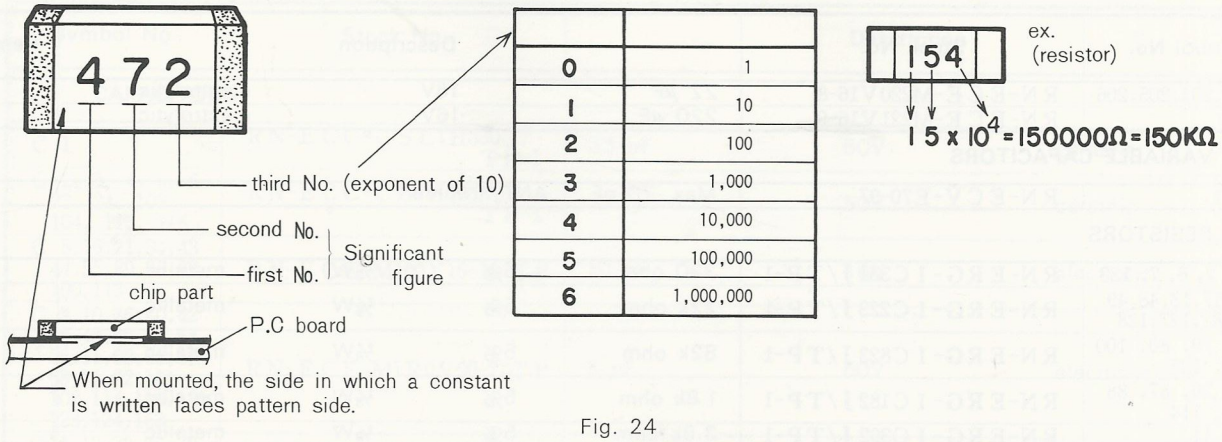
b. Electrical characteristics can be highly efficient.

1. Circuit without lead can be made in a small-sized PC board. So unnecessary reactance or capacitance does not affect so much and it is easy to design optimum circuit.
2. As having no lead, circuit can be soldified and performance can be stable.

c. Productivity can be increased.

Small-sized and simple-shaped element enables high-density, automatic mounting and labor can be saved.

〔3〕 How to read a constant



0	1
1	10
2	100
3	1,000
4	10,000
5	100,000
6	1,000,000

Fig. 24

〔4〕 Mounting Procedure

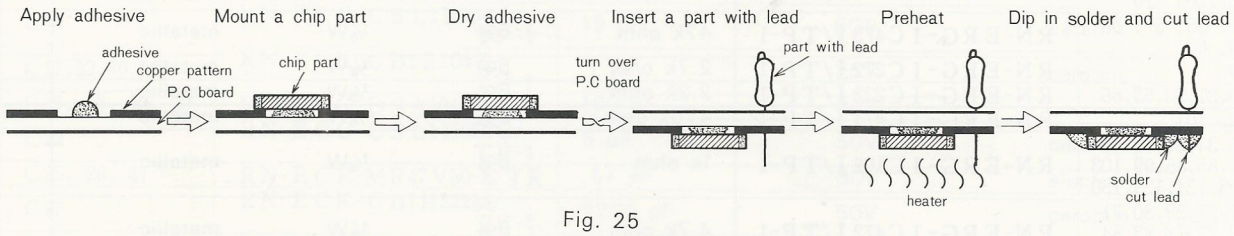


Fig. 25

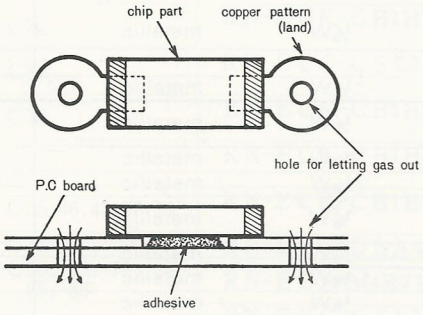


Fig. 26 Mounted Chip

〔5〕 Correction

	A	B	C	D
Condition	O.K N.G Chip part is not mounted where it should be mounted.	Chip part is out of its right position.	crack broken Chip part is cracked or broken.	Chip part is set upright.
Correction	1. Pre-solder one land. 2. Hold chip with a pincette, apply it to land and solder. 3. Solder another land.	1. Remove chip 2. Mount chip again. (See A-Correction 1~3)	1. Remove chip. 2. Mount chip again. (See A-Correction 1~3) 3. Removed chip cannot be used again.	1. Remove chip. 2. Mount chip again. (See A-Correction 1~3)

	E	F	G	H
Condition	two chips Two chip parts are mounted, with one over the other.	soldering bridge Chips are connected with solder.	not soldered Solder is not adhered to electrode of chip part and land at all.	not soldered Chip part and land is not soldered owing to adhesive etc.
Correction	1. Remove chip. 2. Mount chip again. (See A-Correction 1~3)	Put the tip of soldering iron on bridge and remove excessive solder.	Put solder on land and connect electrode of chip part and land.	←

〔6〕 Caution

1. Do not put the tip of soldering iron on the body of chip part.

2. When correcting chip parts, solder with the temperature of the tip of soldering iron under 320°C (400W soldering iron) and within 3 minutes.

3. Do not put soldering iron on the same chip more than three times.
(Because electrode of chip may liquate out into solder and get small and also electrical characteristic may get worse by heat.)

4. When correcting chip parts, use pincette and avoid giving pressure to chip with the tip of soldering iron.

5. Do not give any excessive force or flection (distortion) to PC board where chip parts are mounted.

6. Chip parts are easily affected by thermal shock.
If possible, do not use removed parts. when using it, check to see if nothing is wrong by watching it or by using a tester.

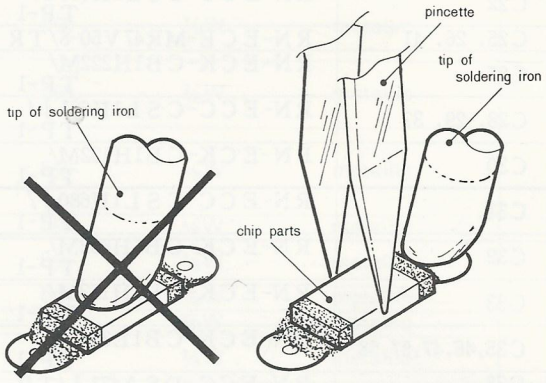


Fig. 27

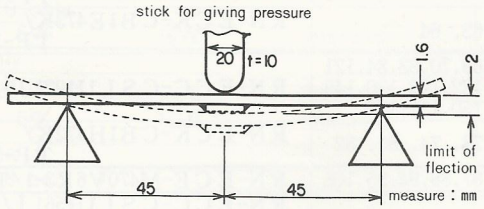


Fig. 28

REPLACEMENT PARTS LIST (CONTROL)

〔CM-6530EX1〕

Note: Main replacement parts are marked ○ in the remarks column.

Symbol No.	Stock No.	Description			Remark
CAPACITORS					
C 1	RN-ECC-CSL1H330J/TP-1	33 pF	50V	ceramic	
C 2, 3, 4, 5, 6 23, 24, 103 104, 115, 116	RN-ECC-CB1H103M/TP-1	.01 μF	50V	ceramic	
C 8,16,21,34,43 44,55,89,96,97 100,113	RN-ECE-M100V16-10/TP	10 μF	16V	electrolytic	
C 9,10,36,40,42 45,48,49,53,54 56,61,62,66,67 68,71,72,101 102,114,119,120 123,124,153	RN-ECE-M1R0V50-7/TP	1 μF	50V	electrolytic	
C11,12,39,75,76 77,78,98,99,110 111,137,138	RN-ECK-CB1E223K/TP-1	.022 μF	25V	ceramic	
C13	RN-ECC-CSL1H121J	RN-MPC-1423 only			
	RN-ECC-CSL1H221J	RN-MPC-1423A, B only			
C14	RN-ECC-CSL1H150J/TP-1	15 pF	50V	ceramic	
C15,52,60,126	RN-ECK-CB1E104Z/TP-1	.1 μF	25V	ceramic	
C17, 18, 19, 20	RN-ECG-DSA181J	180 pF	50V	ceramic	
C22	RN-ECC-CSL1H050C/TP-1	5 pF	50V	ceramic	
C25, 26, 41	RN-ECE-MR47V50-8/TR	.47 μF	50V	electrolytic	
C27	RN-ECK-CB1H222M/TP-1	2200 pF	50V	ceramic	
C28, 29, 37	RN-ECC-CSL1H681J/TP-1	680 pF	50V	ceramic	
C30	RN-ECK-CB1H122M/TP-1	1200 pF	50V	ceramic	
C31	RN-ECC-CSL1H680J/TP-1	68 pF	50V	ceramic	
C32	RN-ECK-CB1H682M/TP-1	6800 pF	50V	ceramic	
C33	RN-ECK-CB1H153M/TP-1	.015 μF	50V	ceramic	
C35,46,47,57,58	RN-ECK-CB1E333K/TP-1	.033 μF	25V	ceramic	
C38	RN-ECG-DSA471J/TP	470 pF	50V	ceramic	
C50, 65, 79, 80 85, 86	RN-ECE-M4R7V25-6/TR	4.7 μF	25V	electrolytic	
C59	RN-ECC-CSL1H821J/TP-1	820 pF	50V	ceramic	
C63, 64	RN-ECK-CB1E473K/TP-1	.047 μF	25V	ceramic	
C69,70,83,84,121 122,129,130,149 150,151,152	RN-ECC-CSL1H221J	220 pF	50V	ceramic	
C73, 74, 81, 82	RN-ECK-CB1H472K/TP-1	4700 pF	50V	ceramic	
C87,88,94,95,108	RN-ECE-M470V6R3-1/TP	47 μF	6.3V	electrolytic	
C90, 91, 92, 93	RN-ECC-CSL1H561J/TP-1	RN-MPC-1423 only			
	RN-ECC-CSL1H681J/TP-1	RN-MPC-1423A, B only			
C105, 107	RN-ECE-M2R2V50-7/TR	2.2 μF	50V	electrolytic	
C106	RN-ECE-MR10V50-4/TP	.1 μF	50V	electrolytic	
C109	RN-ECE-M470V10-10/TR	47 μF	10V	electrolytic	
C112	RN-ECE-M470V10-10/TR	RN-MPC-1423A, B only			
C113	RN-ECE-M100V16-10/TR	RN-MPC-1423 only			
	RN-ECE-M1R0V50-7/TR	RN-MPC-1423A, B only			
C117, 118	RN-ECE-MR22V50-4/TR	.22 μF	50V	electrolytic	
C125, 154, 155	RN-ECE-M221V10-41220μF	220 μF	10V	electrolytic	
C127,128,131,132	RN-ECE-M1R0V50-32	1 μF	50V	electrolytic	
C133,134,135,136	RN-ECE-M101V10-31	100 μF	10V	electrolytic	
C139,140,141,142	RN-ECE-M470V10-31	47 μF	10V	electrolytic	
C143, 144	RN-ECE-M102V16-51	1000 μF	16V	electrolytic	
C145,146,147,148	RN-ECJ-MR22M25-09F	.22 μF	25V	alox	
C201, 202, 207	RN-ECE-M100V16-10/TP	10 μF	16V	electrolytic	

Symbol No.	Stock No.	Description				Remark
C203,204,205,206	RN-ECE-M220V16-8	22 μF	16V		electrolytic	
C208	RN-ECE-M221V16-9	220 μF	16V		electrolytic	
VARIABLE CAPACITORS						
CV 1	RN-ECV-E70-97	Max. 70 pF	ANT. trimmer			
RESISTORS						
R 1, 2, 6, 7, 133	RN-ERG-IC331J/TP-1	330 ohm	5%	⅛W	metallic	
R 3,17,18,48,49 81,82,127,128	RN-ERG-IC223J/TP-1	22k ohm	5%	⅛W	metallic	
R 4, 79, 80, 100 125, 126	RN-ERG-IC823J/TP-1	82k ohm	5%	⅛W	metallic	
R 5, 26, 87, 88 113, 114	RN-ERG-IC182J/TP-1	1.8k ohm	5%	⅛W	metallic	
R10, 11	RN-ERG-IC392J/TP-1	3.9k ohm	5%	⅛W	metallic	
R12,14,15,23,35 38,54,56,61,62 111,112,144,145	RN-ERG-IC104J/TP-1	100k ohm	5%	⅛W	metallic	
R13,24,41,42,106 107,109,110	RN-ERG-IC332J/TP-1	3.3k ohm	5%	⅛W	metallic	
R16, 55, 57, 58 59, 60	RN-ERG-IC473J/TP-1	47k ohm	5%	⅛W	metallic	
R19	RN-ERG-IC272J/TP-1	2.7k ohm	5%	⅛W	metallic	
R20,21,50,65,66	RN-ERG-IC222J/TP-1	2.2k ohm	5%	⅛W	metallic	
R22, 101	RN-ERG-IC474J/TP-1	470k ohm	5%	⅛W	metallic	
R25,34,36,52,63 64,85,86,99,103 123,124,129,130	RN-ERG-IC102J/TP-1	1k ohm	5%	⅛W	metallic	
R27,28,29,30,71 72,77,78,83,84 104,117,119	RN-ERG-IC472J/TP-1	4.7k ohm	5%	⅛W	metallic	
R31,37,40,43,44 45,53,108,115 116,118,120,134 135,136,137	RN-ERG-IC103J/TP-1	10k ohm	5%	⅛W	metallic	
R32, 142, 143	RN-ERG-IC123J/TP-1	12k ohm	5%	⅛W	metallic	
R33, 46, 47, 67 68, 96, 97	RN-ERG-IC153J/TP-1	15k ohm	5%	⅛W	metallic	
R39, 105, 122	RN-ERG-IC561J/TP-1	560 ohm	5%	⅛W	metallic	
R51	RN-ERG-IC101J/TP-1	100 ohm	5%	⅛W	metallic	
R69, 70, 73, 74 75, 76	RN-ERG-IC822J/TP-1	8.2k ohm	5%	⅛W	metallic	
R89, 90, 102, 146	RN-ERG-IC680J/TP-1	68 ohm	5%	⅛W	metallic	
R91, 92	RN-ERG-IC682J/TP-1	6.8k ohm	5%	⅛W	metallic	
R93, 94	RN-ERG-IC154J/TP-1	150k ohm	5%	⅛W	metallic	
R95	RN-ERG-IC273J/TP-1	RN-MPC-1423 only				
	RN-ERG-IC223J-TP-1	RN-MPC-1423A, B only				
R98	RN-ERG-IC334J-TP-1	33k ohm	5%	⅛W	metallic	
R121	RN-ERG-IC391J/TP-1	RN-MPC-1423 only				
	RN-ERG-IC331J/TP-1	RN-MPC-1423A, B only				
R131, 132, 138 139, 140, 141	RN-ERG-IC221J/TP-1	220 ohm	5%	⅛W	metallic	
R144, 145	RN-ERD-CC104JA	RN-MPC-1423 only				
	RN-ERG-IC104J/TP-1	RN-MPC-1423A, B only				
R146	RN-ERG-IC680J/TP-1	RN-MPC-1423B				
R201	RN-ERG-IC563J/TP-1	56k ohm	5%	⅛W	metallic	
R202	RN-ERG-IC471J/TP-1	470 ohm	5%	⅛W	metallic	
R203, 204, 207	RN-ERG-IC103J/TP-1	10k ohm	5%	⅛W	metellic	
R205, 206, 211 212, 213, 216	RN-ERG-IC102J/TP-1	1k ohm	5%	⅛W	metallic	
R208	RN-ERG-IC472J/TP-1	4.7k ohm	5%	⅛W	metallic	
R209	RN-ERG-IC391J/TP-1	390 ohm	5%	⅛W	metallic	
R214, 215	RN-ERG-IC221J/TP-1	220 ohm	5%	⅛W	metallic	
R217	RN-ERC-CF2R2K	2.2 ohm	10%	½W	solid	
VARIABLE RESISTORS						
RV 1	RN-ERV-0N1-240	2k ohm				
RV 2	RN-ERV-0N1-243	10k ohm				
RV 3, 4	RN-ERV-0N1-246	50k ohm				
RV 5, S12	RN-ERV-2R5-2	10k ohm×2 VOL. 20k ohm BAL. 20k ohm×2 FADER 50k ohm×2 BASS				○
RV 6	RN-ERV-2N2-87	50k ohm×2 TREBLE, TUNE				○

Symbol No.	Stock No.	Description	Remark
SEMICONDUCTORS			
IC 1	RN-EIC-M51173AP	FM IF linear-monolithic IC	O
IC 2	RN-EIC-AN6130N	Noise blanker linear-monolithic IC	O
IC 3	RN-EIC-MB4105M	FM MPX linear-monolithic IC	O
IC 4	RN-EIC-BA3402	Equalizer amp. linear-monolithic IC	O
IC 5	RN-EIC-M51143L	APS linear-monolithic IC	O
IC 6	RN-EIC-AN6540L	Volt regulator linear-monolithic IC	O
IC 7	RN-EIC-LM832N	DNR linear-monolithic IC	O
IC 8	RN-EIA-DM106A	Tape and detector linear-monolithic IC	O
IC 9	RN-EID-CX10006	Auto reverse control linear-monolithic IC	O
IC10, 11	RN-EIC-M51517L	Power amp. linear-monolithic IC	O
Q 1	RN-EVS-2SC3053-C/TZ	Silicon transistor	O
Q 2, 5, 6	RN-EVS-2SD1328-ST/TZ	Silicon transistor	O
Q 3, 4	RN-EVF-2SJ106-YGB/TZ	FET	O
Q 7, 8, 9,10,11 12,19,20	RN-EVS-2SC2405-S/TZ	Silicon transistor	O
Q13, 14, 15	RN-EVS-2SC3052-EF/TZ	Silicon transistor	O
Q16	RN-EVS-2SA1235-EF/TZ	Silicon transistor	O
Q17, 18, 103	RN-EVS-2SB815-67/TY	Silicon transistor	O
Q101	RN-EVS-2SD636-QR	Silicon transistor	O
Q102, 104	RN-EVS-2SD1247-μ	Silicon transistor	O
D 1, 2, 3, 4, 6 101,109,112	RN-EDS-MA151WK/TZ	Silicon diode	O
D102, 105	RN-EDS-MA151K/TZ	Silicon diode	O
D 5, 106, 107 108, 111	RN-EDS-1S1555	Silicon diode	O
D 7	RN-EDS-10E1	Silicon diode	O
D103	RN-EDT-RD9RIEB3	Zener diode	O
D104, 110	RN-EDS-MA153/TZ	Silicon diode	O
COILS & TRANSFORMERS			
L 1, 2	RN-ELH-C680-KAL/TP	68 μH	
L 3	RN-ELH-C6R8-KAL/TP	6.8 μH	
L 4	RN-ELT-1008		
L 5	RN-ELH-C5R6-KAL	5.6 mH	
T 1	RN-ETF-141/CA	FM IF	
T 2	RN-ELT-1002/CA	FM IF 19 kHz	
CERAMIC FILTER			
CF 1, 2	RN-EFC-F2-115	FM IF Filter 10.7 MHz	
MISCELLANEOUS ELECTRICAL			
μ	RN-ETE-2N-48A	μ tuner assy	O
CI 1, 2	RN-EIC-A271-1	Filter capacitor	
F 1	RN-EFG-B05	Fuse, 5A	
J 0	RN-EJL-1012A	Receptacle ANT.	
J 1	RN-EWJ-3187	8P connector and lead lead assy	
J 2	RN-EWJ-3301	7P connector and lead lead assy	
J 3, 5, 6	RN-EWJ-3304	9P-5P-4P connector and lead assy	
J 4, 10	RN-EWJ-3303	6P-5P connector and assy	
J 7, 8	RN-EWJ-3302	6P-6P connector and assy	
J 9	RN-EJU-S09W-646	9P connector	
J11, P 6, 7 L 6, F 1	RN-EWP-1064	6P-3P-4P connector and lead assy	
J12, 13, 14	RN-EWJ-3184	4P-1P-1P connector and lead assy	
P 1	RN-EJU-S08V-567	8P connector	
P 2	RN-EJU-S05V-795	5P connector	
P 3	RN-EJU-S04V-794	4P connector	
P 4	RN-EJU-S06V-796	6P connector	
P 5	RN-EJU-S05V-564	5P connector	
PL 1	RN-EPM-1061	Lamp	
S 1~5	RN-ESB-2L2-183	Push switch	O
S 6	RN-ESB-2N2-184	Push switch	O

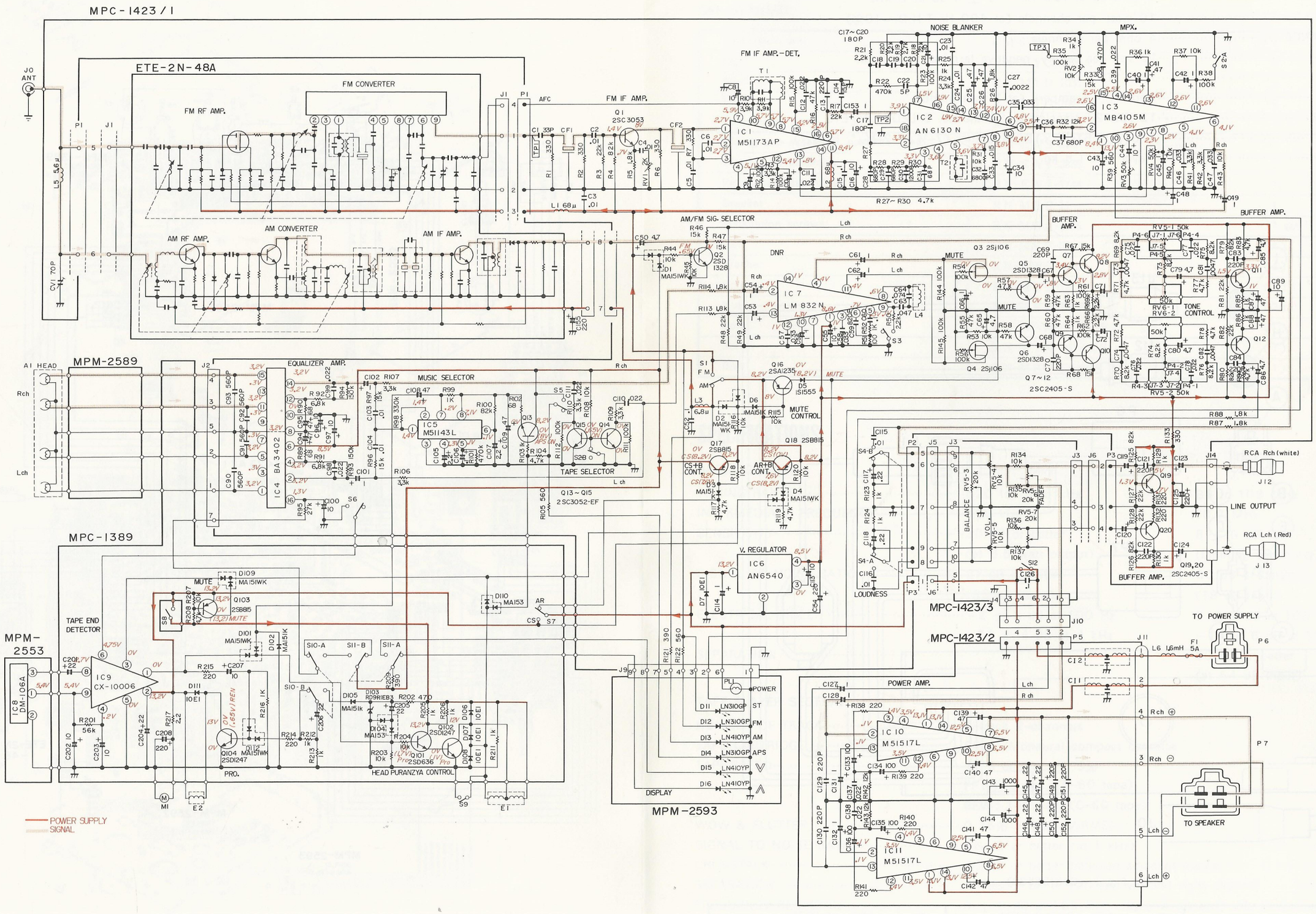
CASSETTE DECK UNIT

Illus. No. (Fig. 15)	Stock No.	Description	Q'ty	Remark
1	RN-MAS-1033G	Chassis main	1	
2	RN-MUL-1180B	Lever	1	
3	RN-MUL-1181C	Lever	1	
4	RN-MUL-1182	Lever	1	
5	RN-MUL-1183	Lever	1	
6	RN-MUG-1069	Gear	1	
7	RN-MSI-1049	Shaft	1	
8	RN-MUG-1070	Gear	1	
9	RN-MSC-1216	Spring	1	
10	RN-MUL-1184A	Lever	1	
11	RN-MKS-1016	Slip mechanism	1	O
12	RN-MKR-1018	Pinchroller assy.	1	
13	RN-MKR-1019	Pinchroller assy.	1	
14	RN-MUF-1011	Flywheel	1	
15	RN-MUF-1010A	Flywheel	1	
16	RN-MYT-1079B	Sub-chassis	1	
17	RN-MUG-1073	Gear	1	
18	RN-MUB-1027A	Belt	1	O
19	RN-MUG-1074	Gear	1	
20	RN-MUG-1075	Gear	2	
21	RN-MSC-1217	Spring	1	
22	RN-MSC-1210A	Spring	1	
23	RN-MPM-2553	PC Board	1	
25	RN-MSC-1186	Spring	1	
26	RN-MYT-1080B	Sub chassis	1	
27	RN-MSP-141	Spring	1	
28	RN-MST-133	Spacer	1	
29	RN-MFT-232A	Special screw	1	
30	RN-MUL-1190B	Lever	1	
31	RN-MSC-1191A	Spring	2	
32	RN-MSC-1192	Spring	1	
33	RN-MKI-1013A	Slide plate assy.	1	
34	RN-MHE-1243A	Holder	1	
35	RN-MSC-1193	Spring	1	
36	RN-MRP-1066A	Roller	1	
37	RN-MRP-1069	Roller	1	
38	RN-MSC-1194	Spring	1	
39	RN-MUL-1193	Lever	1	
40	RN-MHL-1042A	Holder	1	
41	RN-MUL-1196C	Lever	1	
42	RN-MUL-1198A	Lever	1	
43	RN-MSC-1205	Spring	1	
44	RN-MUL-1191A	Lever	1	
101	RN-MUL-1204	Lever	1	
102	RN-MUL-1186	Lever	1	
103	RN-MUL-1187A	Lever	1	
104	RN-MUL-1188A	Lever	1	
105	RN-MSC-1189A	Spring	1	
106	RN-MUL-1185B	Lever	1	
107	RN-MSC-1187	Spring	1	
108	RN-MRP-220	Roller	1	
109	RN-MSC-1211A	Spring	1	
110	RN-MUC-1006A	Cam	1	
111	RN-MUC-1007	Cam	1	
112	RN-MSC-1188	Spring	1	
113	RN-MPM-2589	PC. Board	1	
114	RN-MHE-1242B	Holder	1	
115	RN-MPC-1389	PC. Board	1	
116	RN-MUL-1189B	Lever	1	
117	RN-MSC-1190	Spring	1	
201	F6-SBD-2.6×4S	Screw, 2.6×4mm	10	
202	F6-SNA-2.6×2.5S	Screw, 2.6×2.5mm	2	
203	F6-SBD-2×3S	Screw, 2×3mm	2	
204	F6-SBD-2×4S	Screw, 2×4mm	1	
205	F6-SBD-2×5S	Screw, 2×5mm	2	
206	F6-SSA-2×4S	Screw, 2×4mm	1	
207	F6-SBD-2.3×8S	Screw, 2.3×8mm	1	
208	F6-ER-1.5	E-ring washer 1.5ϕ	8	
209	F6-ER-2	E-ring washer 2ϕ	13	
210	RN-MHJ-3	E-ring washer	3	

Illus. No. (Fig. 15)	Stock No.	Description	Q'ty	Remark
211	F6-ER-3	E-ring washer 3φ	2	
212	F6-PS-2×18SUS	Pin, spring	1	
213	RN-MWP-85	Washer	2	
214	RN-MWP-80A	Washer	5	
215	RN-EHM-C44-57	Playback head	1	O
216	RN-EEM-1018A	Solenoid	1	
217	RN-EEM-1017A	Solenoid	1	
218	RN-EDM-1023	DC motor	1	O
219	RN-ESM-1004	Micro switch	1	O
220	RN-ESL-1020	Leaf switch	1	O
221	RN-ESL-155	Leaf switch	1	O

Illus. No. (Fig. 14)	Stock No.	Description	Q'ty	Remark
1	RN-MTD-1089B	Chassis, main	1	
2	RN-MTD-1107	Cover, top	1	
3	RN-MTD-1091A	Cover, bottom	1	
4	RN-MHE-1263A	Holder, tuning	1	
5	RN-MPM-2592	PC. Board	1	
6	RN-MWS-1025A	Washer	2	
7	RN-MEN-57	Nut	5	
8	RN-MEN-43	Nut	1	
9	RN-MHE-1264A	Holder, Deck Right side	1	
10	RN-MHE-1296	Holder, Deck Left side	1	
11	RN-MHE-1321A	Holder	1	
12	RN-MHE-1267	Holder	1	
13	RN-MUJ-1015	Joint	1	
14	RN-MUJ-1016	Joint	1	
15	RN-MUJ-1017	Joint	1	
16	RN-MFP-1089	Escutcheon	1	O
17	RN-MBP-1030A	Backplate	1	
18	RN-MLF-1067B	Cover, filter	1	
19	RN-MPM-2593	PC. Board	1	
20	RN-MYB-1254	Button, eject	1	O
21	RN-MYB-1255	Button, FF	1	O
22	RN-MYB-1256	Button, REW	1	O
23	RN-MYB-1257	Button	3	O
24	RN-MPB-1276	Button, Pro.	1	O
25	RN-MHL-1047	Holder	1	
26	RN-MHF-1004A	Holder	1	
27	RN-MIM-1004	Pointer	1	
28	RN-MNW-0.4 シロ	Nylon thread	1	
29	RN-MIP-1193A	Insulator	1	
30	RN-MIP-1194	Insulator	1	
31	RN-MSC-1202	Spring	1	
32	F6-WK-2	Washer	1	
33	RN-MRU-1011	Radiator	1	
34	RN-MSE-1182	Spacer	1	
35	RN-MPC-1423B	PC. Board	1	
70	RN-MYC-1016A	Knob, tuning and volume	2	O
71	RN-MYD-1031	Knob, balance and treble	2	O

SCHEMATIC



NOTES:
1. All capacitance in farad, $\mu=10^{-6}$, $P=10^{-12}$
2. All resistance in ohm, $K=1Q^{3}$
3. All inductance in henly, $\mu=10^{-6}$, $m=10^{-3}$.
4. DC voltages against the chassis measured with 100k ohm/volt meter, power supply set at +13.2 VDC, no signal input.

Fig. 3 (C24156530)

WIRING ON PC BOARD (MPC-1423/1) MAIN

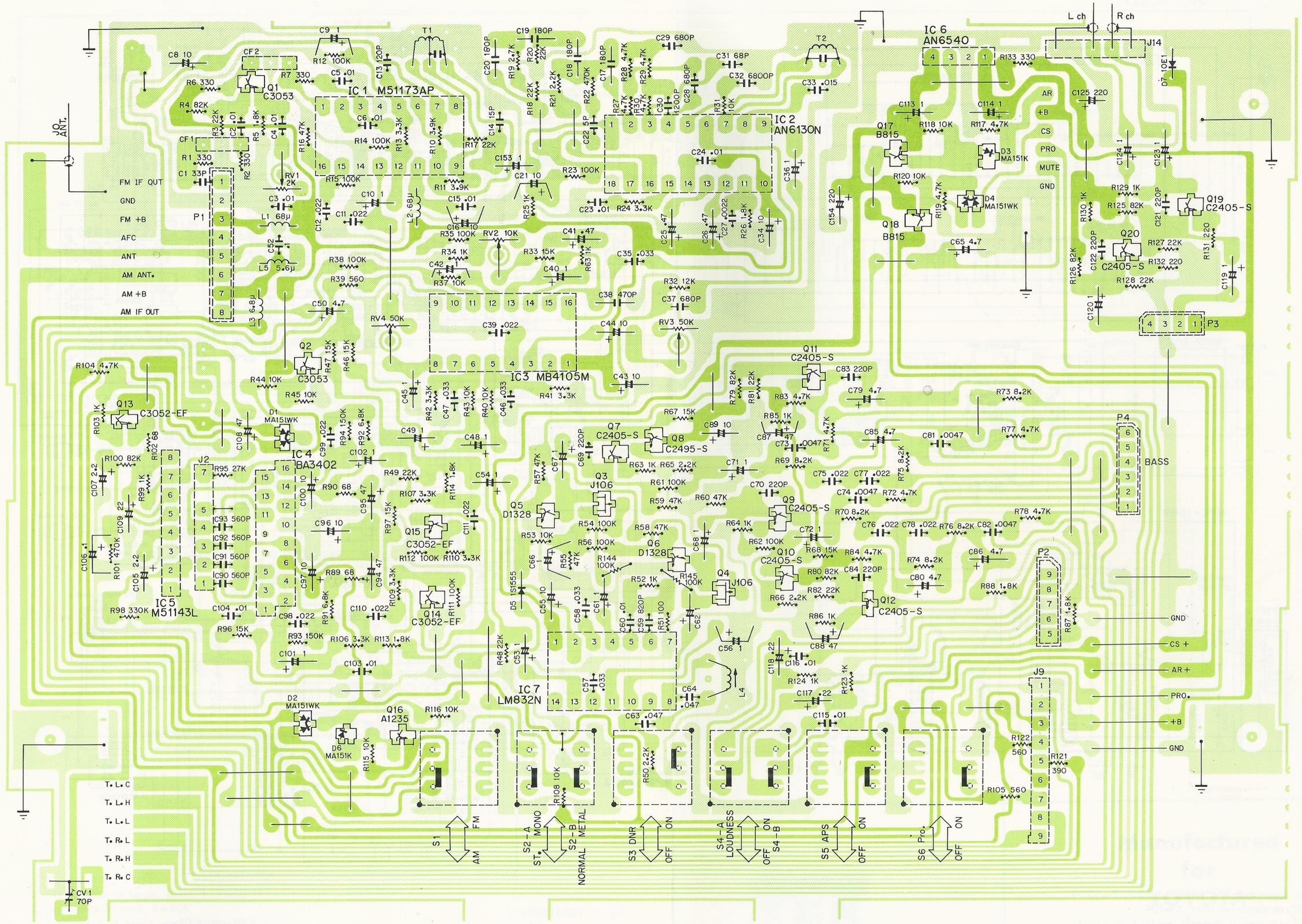
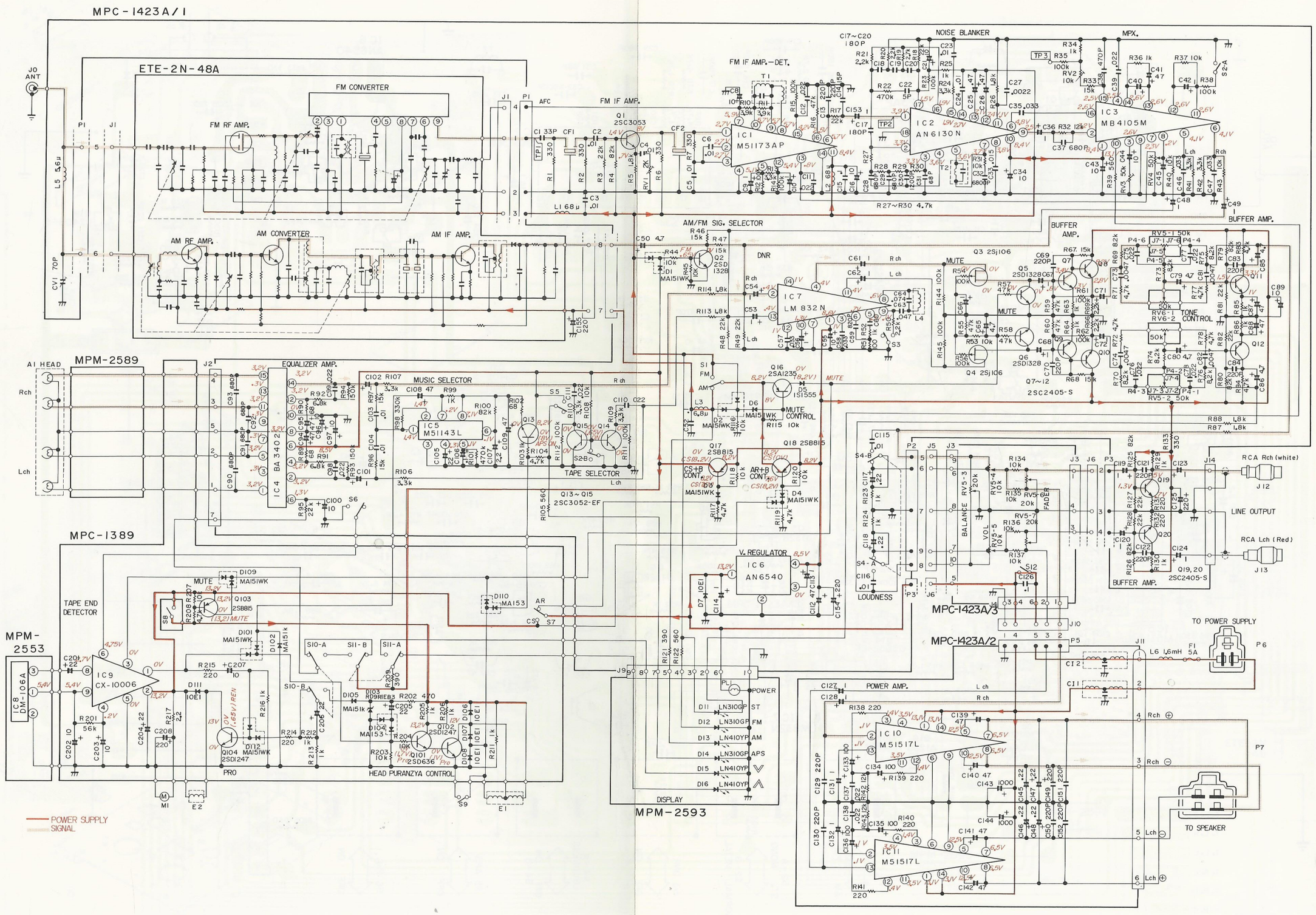


Fig. 4 (C27156530)



NOTES:

1. All capacitance in farad, $\mu=10^{-6}$, $P=10^{-12}$
2. All resistance in ohm, $K=10^{3}$
3. All inductance in henly, $\mu=10^{-6}$, $m=10^{-3}$.
4. DC voltages against the chassis measured with 100k ohm/volt meter, power supply set at +13.2 VDC, no signal input.

Fig. 5 (C24156530)

WIRING ON PC BOARD (MPC-1423A/1) MAIN

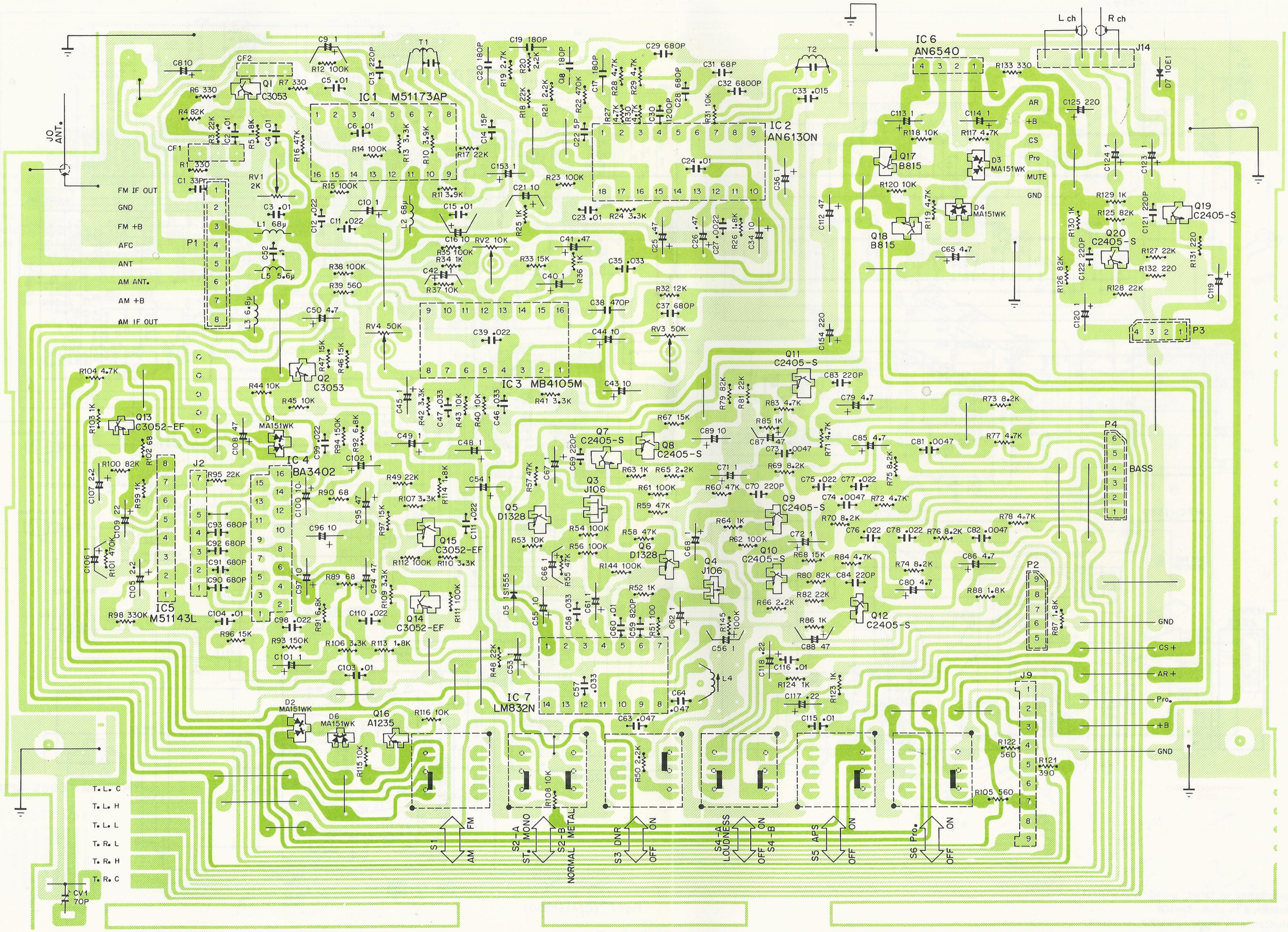
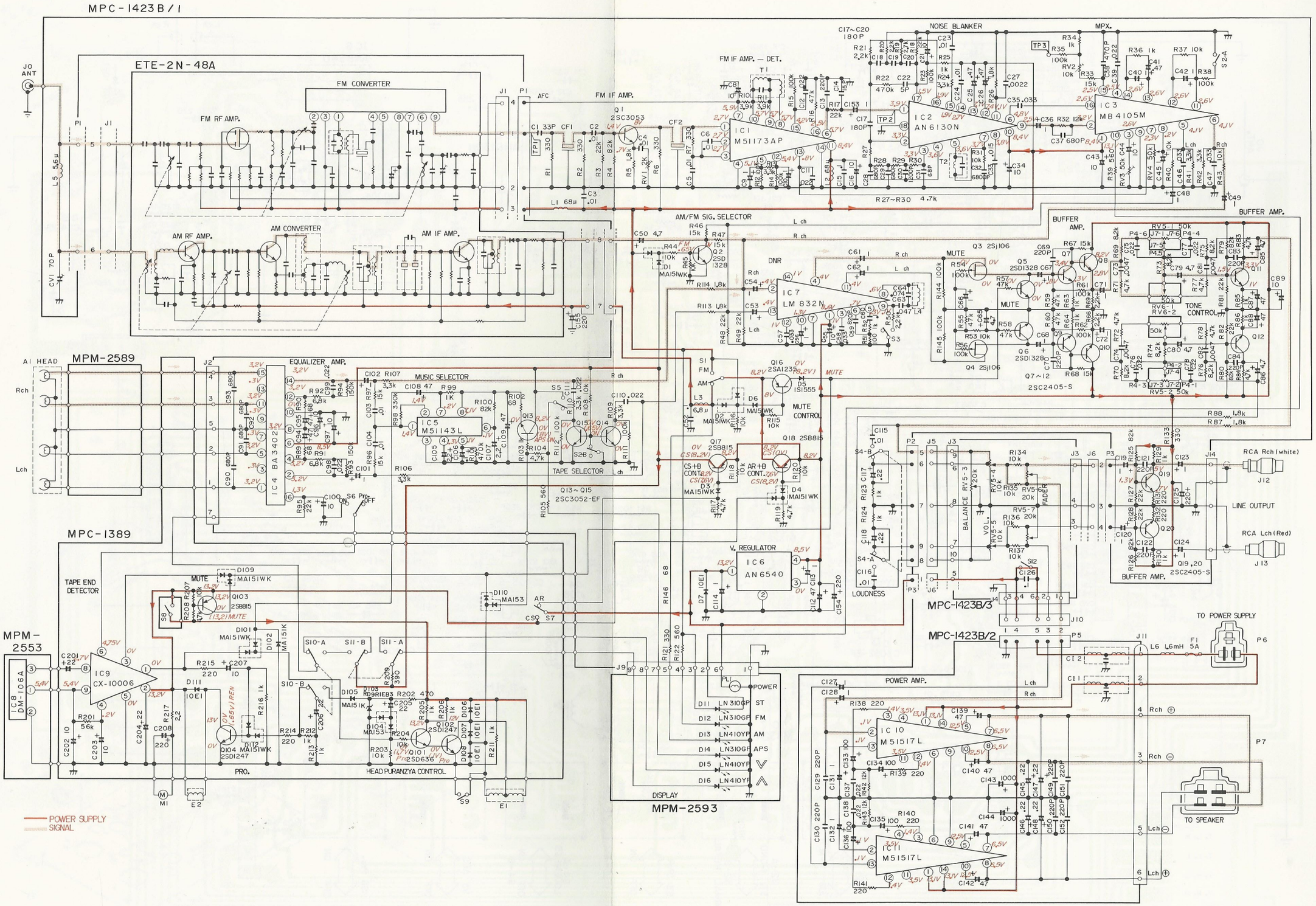


Fig. 6 (C27156530)



NOTES:
1. All capacitance in farad, $\mu=10^{-6}$, $P=10^{-12}$
2. All resistance in ohm, $K=10^{3}$
3. All inductance in henly, $\mu=10^{-6}$, $m=10^{-3}$.
4. DC voltages against the chassis measured with 100k ohm/volt meter, power supply set at +13.2 VDC, no signal input.

Fig. 7 (C24156530)

WIRING ON PC BOARD (MPC-1423B/1) MAIN

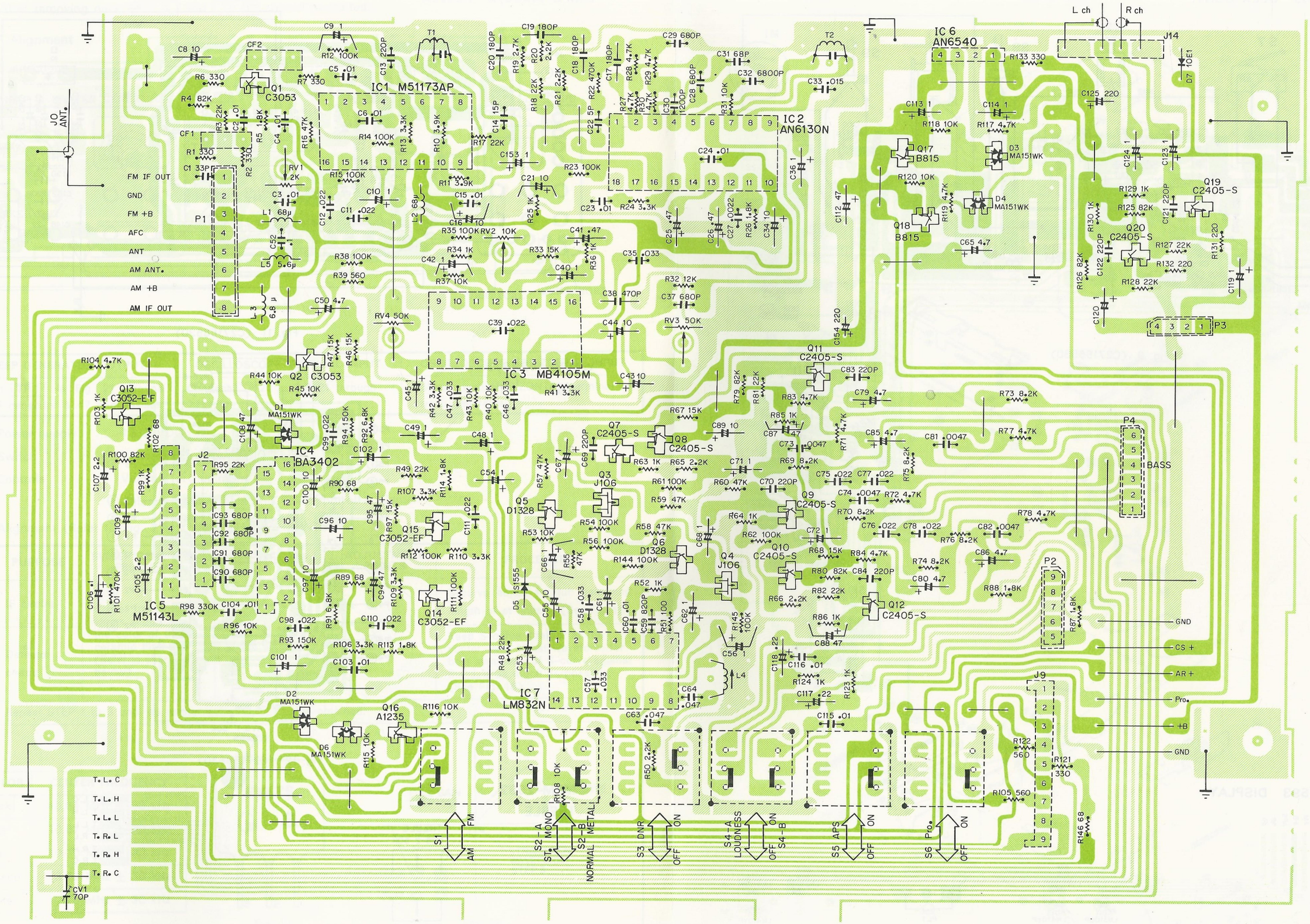


Fig. 8 (C27156530)