Clarion Co., Ltd.
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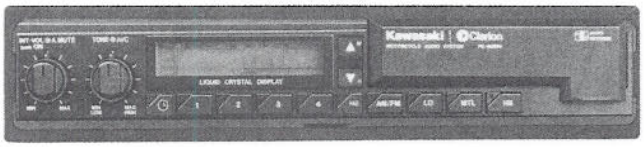
Service Dept.—50 Kamitoda, Toda-shi, Saitama, 335 Japan Tel: 0484-43-1111 Telex: J2962628 CLAFAC-J

Clarion

Service Manual



KAWASAKI Motorcycle Genuine Electronic Radio with Cassette Deck

Model PK-9090V

■SPECIFICATIONS:

[RADIO SECTION]

Circuit system:	Superheterodyne		
Tuning system:	Electronic tuning		
Receive range:	AM 530kHz to 1,620kHz		
	FM 87.9MHz to 107.9MHz		
Intermediate frequency:			
	AM 450kHz		
	FM 10.7MHz		
Quieting sensitivity:	AM Less than 33dB (at 20dB S/N)		
	FM Less than 15dB (at 30dB S/N)		
Separation:	FM More than 20dB		
Fidelity:	AM	100Hz H	0.5±3dB
		L	0.5±3dB
		400Hz	0dB
		4,000Hz H	−7±5dB
		L	−14.5±5dB
	FM	100Hz H	−0.5±3dB
		L	−0.5±3dB
		400Hz	0dB
		7,000Hz H	−14±5dB
		L	−26±5dB
Auto tuning stop sensitivity:			
	AM DX 36±8dB		
	LO 55±8dB		
	FM DX 28±6dB		
	LO 46±10dB		

[TAPE SECTION]

Reproduction system:	
	4 track, 2 channel, Stereo cassette deck
Separation:	More than 30dB
Crosstalk:	More than 40dB
S/N ratio:	More than 45dB (NOR)
	More than 47dB (MTL)
FF, REW time:	Less than 90 sec. (C-60)

[HEAD SET SECTION]

Separation:	More than 30dB
S/N ratio:	More than 45dB
Power output:	0.5W×2

[SYNTHESIS]

Output impedance:	10kΩ
Head set impedance:	
	16Ω×2
Power supply voltage:	
	DC 13.2V (10.8V to 15.6V)
Current consumption:	
	Less than 3A
Dimensions:	Width 270mm
	Height 41mm
	Depth 150mm
Weight:	2.4kg

■COMPONENTS:

● **PK-9090V-A**

Main unit		1
ANT-ass'y	PAS-208-100	1
Speaker ass'y	SPB-043-100	2
ANT-feeder	925-1001-00	1
Audio cover	383-0460-00	1
SP-grille (L)	351-0337-00	1

■ADJUSTMENT:

FM

Item	Adjustment	Measuring Instrument
SASC	1) Set SG to 98.1MHz and input the 30%-modulated frequency 7kHz, 65dB. 2) Adjust the SASC outputs evenly to −2dB by VR601 when the SG output is set to 38dB.	SG Milli-volt meter

<TAPE MECHANISM>

1. AZIMUTH ADJUSTMENT

Play the 6.3kHz, −10VU section of the AZIMUTH tape and adjust the head azimuth adjustment screw (716-0429-00) so that the output levels are maximized in both tape running directions. (Figure 1)

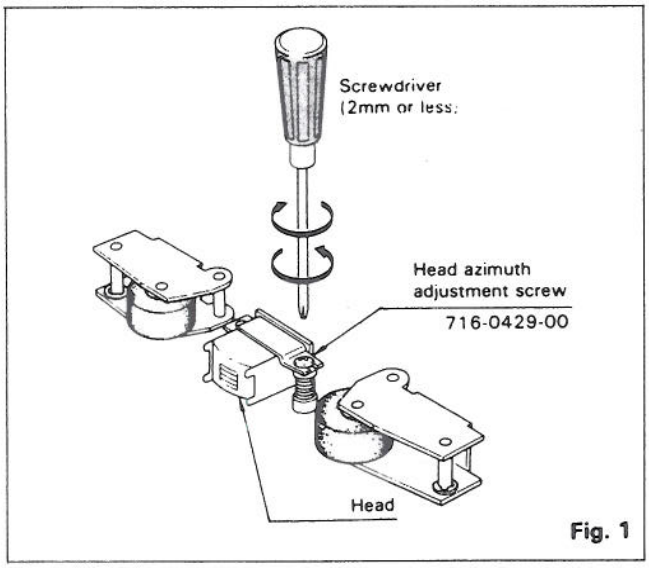


Fig. 1

2. FF/REW GEAR ENGAGEMENT ADJUSTMENT

If any abnormal sound is heard during FF/REW operation, adjust gear engagement as follows.

First identify the gear causing the abnormal sound. Then, adjust projection of the reel base plate ass'y by bending it in an appropriate direction as shown in Fig. 2; (A) when the FF gear causes abnormal sound; (B) when the REW gear causes abnormal sound.

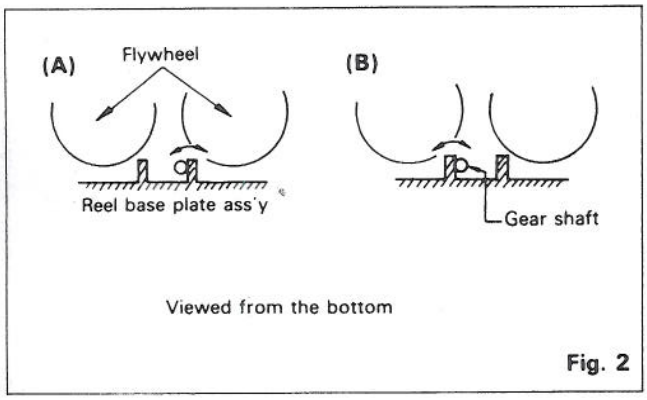


Fig. 2

3. IDLER GEAR ENGAGEMENT ADJUSTMENT

If any abnormal sound is heard during PLAY operation, adjust gear engagement as follows. First identify the gear causing the abnormal sound. Then, adjust projection of the roller plate A ass'y by bending it in an appropriate direction as shown in Fig. 3; (A) when the FWD gear causes abnormal sound; (B) when the REV gear causes abnormal sound.

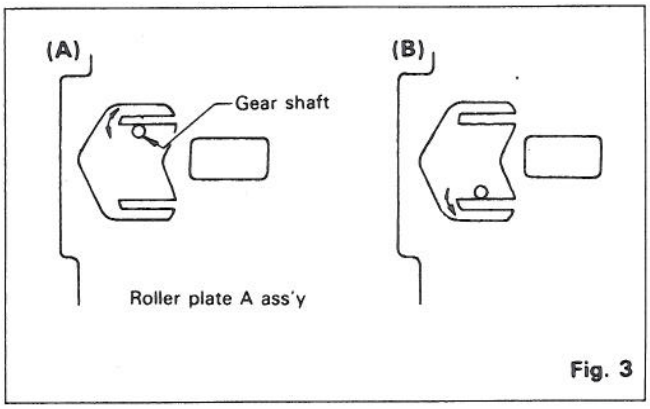


Fig. 3

4. LEAF SWITCH POSITION ADJUSTMENT

When replacing the leaf switch, first remove P.W.B from the mechanism, remove the solder on the leaf switch, adjust the position of the leaf switch from the P.W.B switch position adjustment hole, and then solder the switch. (Figure 4)

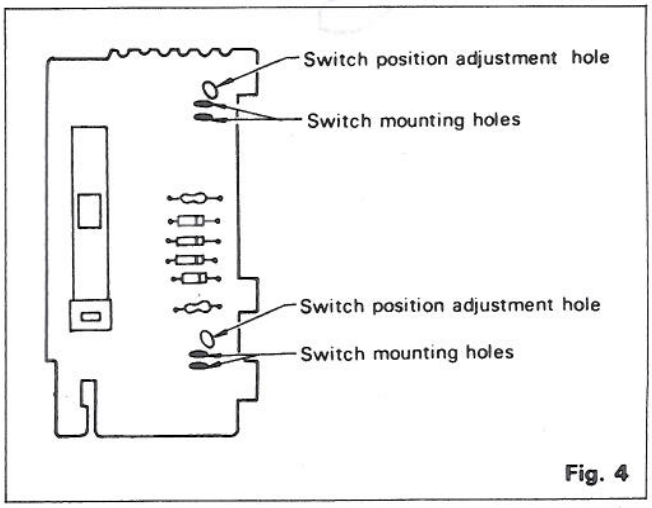
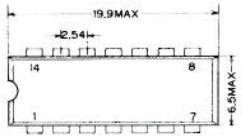


Fig. 4

■EXPLANATION OF IC's:

■TC4081BP 051-0180-00 QUAD 2-INPUT POSITIVE AND GATE

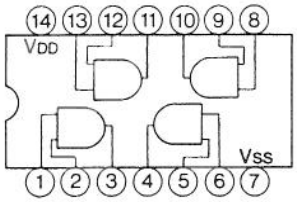
Outward Form



Maximum Ratings

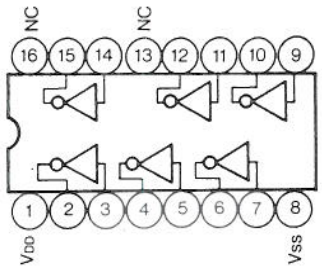
Item	Symbol	Rating	Unit
Supply voltage	V_{DD}	$V_{SS}-0.5 \sim V_{SS}+20$	V
Input voltage	V_{IN}	$V_{SS}-0.5 \sim V_{DD}+0.5$	V
Output voltage	V_{OUT}	$V_{SS}-0.5 \sim V_{DD}+0.5$	V
Input current	I_{IN}	±10	mA
Power dissipation	P_D	300	mW

Block Diagram



■HD14049BP / TC4049BP 051-0143-00 HEX BUFFER/CONVERTER INVERTING TYPE

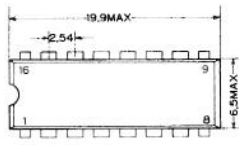
Terminal Configuration



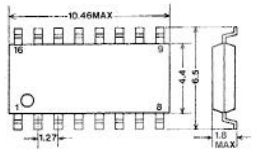
■TC4528BP 051-0217-00 / μPD4528BG 051-0217-55 Dual Monostable Multivibrator

Outward Form

051-0217-00



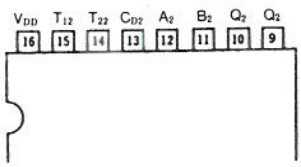
051-0217-55



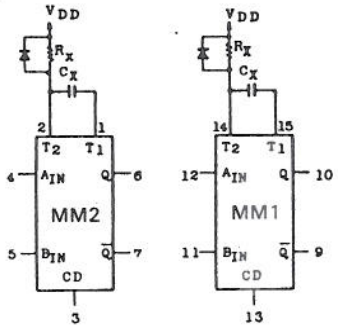
Absolute Maximum Ratings

Item	Symbol	Rating		Unit
		051-0217-00	051-0217-55	
Supply voltage	V_{DD}	$V_{SS}-0.5 \sim V_{SS}+20$	$-0.5 \sim +20$	V
Input voltage	V_{IN}	$V_{SS}-0.5 \sim V_{DD}+0.5$	$-0.5 \sim +V_{DD}$	V
Power dissipation	P_D	300	200	mW

Terminal Connection



Block Diagram



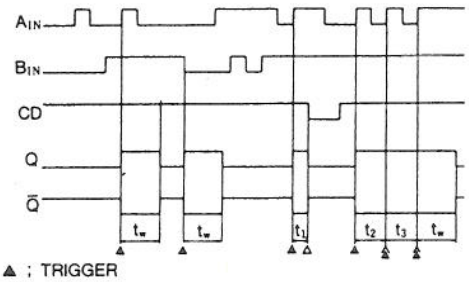
V_{DD} ; 16, V_{SS} ; 8

Move Table

INPUT			OUTPUT		NOTE
A	B	CD	Q	$\bar{Q}$	
↑	H	H	⎍	⎎	OUTPUT PULSE
↑	L	H	L	H	INHIBIT
H	↓	H	L	H	INHIBIT
L	↓	H	⎍	⎎	OUTPUT PULSE
※	※	L	L	H	INHIBIT

※ Don't Care

Timing Chart



▲ ; TRIGGER

▲ ; RETRIGGER

△ ; RESET

t_w ; $(C_X > 0.01\mu F)$ $t_w \fallingdotseq \{0.2+0.15\frac{(V_{DD}-V_{SS})}{5}\} R_X C_X$

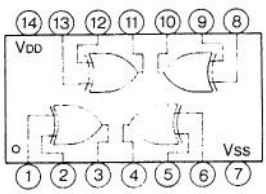
t_1, t_2, t_3 ; $t_1, t_2, t_3 < t_w$

■TC4030BP 051-0220-00 / μPD4030BG 051-0220-55 QUAD EXCLUSIVE-OR GATE

Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V_{DD}	$-0.5 \sim +20$	V
Input Voltage	V_I	$-0.5 \sim V_{DD}+0.5$	V
Input Current	I_I	10	mA

Block Diagram



Move Table

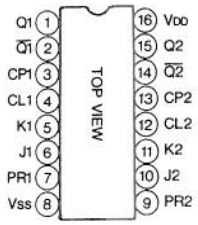
INPUTS		OUTPUT
A	B	X
L	L	L
L	H	H
H	L	H
H	H	L

■TC4027BP 051-0250-01 C-MOS DUAL J-K MASTER-SLAVE FLIP-FLOP

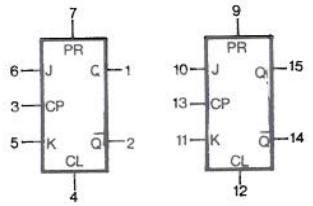
Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V_{DD}	$V_{SS}-0.5V \sim V_{SS}+20V$
Input Voltage	Vin	$V_{SS}-0.5V \sim V_{DD}+0.5V$
Output Voltage	Vout	$V_{SS}-0.5V \sim V_{DD}+0.5V$
Input Current	Iin	±10 mA
Power Dissipation	P_D	300 mW

Terminal Connection



Block Diagram



V_{DD} ; 16, V_{SS} ; 8

Mode Table

INPUTS					OUTPUTS	
CL	PR	J	K	CP△	Qn+1	$\overline{Q}$n+1
L	H	✱	✱	✱	H	L
H	L	✱	✱	✱	L	H
H	H	✱	✱	✱	H	H
L	L	L	L	∫	Qn	Qn・
L	L	L	H	∫	L	H
L	L	H	L	∫	H	L
L	L	H	H	∫	$\overline{Q}$n	Qn・・
L	L	✱	✱	⅂_	Qn	$\overline{Q}$n・

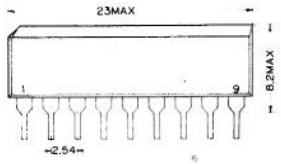
✱ Don't Care
△ Level Change
・ No Change
・・ Change

■TA78L008P 051-0266-00 3 terminal regulator

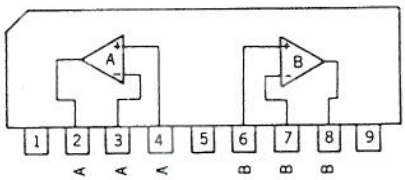
Refer to the description in Service Manual PT-8052C.

■TA75458S 051-0168-00 TA75558S 051-0285-50 Dual Pre. amp.

Outward Form



Block Diagram



Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply voltage	V_{CC}	+18	V
	V_{EE}	−18	
Differential input voltage	DV_{IN}	±30	V
Input voltage	V_{IN}	$V_{CC} \sim V_{EE}$	V
Power dissipation	P_D	400	mW

TA75458S

Electrical Characteristics

Item	Symbol	Test condition	Rating
Input offset voltage	V_{IO}	RG≦10kΩ	1mV
Open loop voltage gain	G_V	Vout=±10V, R_L=2kΩ	100dB
Common mode signal rejection ratio	RMRR	f=100Hz	90dB
Slew rate	SR	G_V=1, R_L=2kΩ	0.8V/μs

TA75558S

Electrical Characteristics

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Input offset voltage	V_{IO}	Rg≦10kΩ	–	0.5	6	mV
Input offset current	I_{IO}	–	–	5	200	nA
Input bias current	I_{BIAS}	–	–	60	500	nA
Common mode input voltage width	CMV_{IN}	–	±12	±14	–	V
Maximum output voltage	V_{OM}	R_L=10kΩ	±12	±14	–	V
	V_{OMR}	R_L=2kΩ	±10	±13	–	
Source current	Isource	–	–	40	–	mA
Sink current	Isink	–	–	40	–	mA
Open loop voltage gain	Gv	Vout=±10V, R_L=2kΩ	86	100	–	dB
Common mode signal rejection ratio	CMRR	Rg≦10kΩ	70	90	–	dB
Supply voltage ripple rejection ratio	SVRR	Rg≦10kΩ	–	30	150	μV/V
Slew rate	SR	Gv=1, R_L=2kΩ	–	1.0	–	V/μs
Cutoff frequency	f_t	Open loop	–	3.0	–	MHz
Supply current	I_{CC}, I_{EE}	–	–	4.0	6.0	mA
Noise voltage refered to input	V_{NI}	Rs=1kΩ, f=30Hz~30kHz	–	2.5	–	μVrms

■NJM2904S 051-0285-54 DUAL SINGLE SUPPLY OPERATIONAL AMPLIFIER

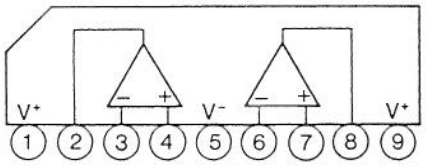
Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V^+	32V
Power Dissipation	P_D	500mW

Electrical Characteristics (Ta=25°C, V^+=5V)

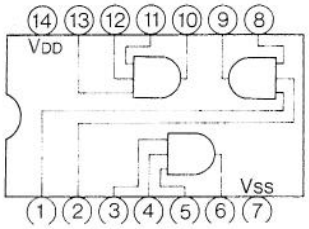
Input Offset Voltage	V_{IO}	(R_S=0Ω)	2mV
Input Offset Current	I_{IO}		5nA
Input Bias Current	I_{IB}		25nA
Voltage Gain	A_V	(R_L≧2kΩ)	100V/mV
Common Mode Rejection Ratio	CMRR		85dB

Block Diagram



■HD14073BP 051-0489-60 TC4073BP 051-0489-00 TRIPLE 3-INPUT POSITIVE AND GATE

Terminal Connection



■IR2E34 051-0538-00 7-Segment LCD Driver

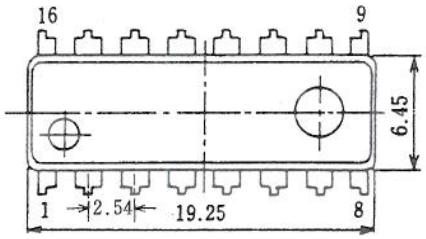
Description

The IR2E34 is a color LCD level meter driver IC with two detectors, voltage regulator, oscillator and LCD protection circuit. Output switching levels are $-\infty$, -20, -10, -6, -3, 0, $+3$ and $+6$dB.

Features

1. Color LCD bar display
2. VU meter scale
3. Two detectors
4. LCD protection circuit
5. Voltage regulator

Outward Form



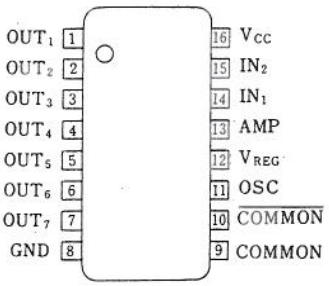
Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply voltage	V_{CC}	24	V
Input voltage	V_{IN}	$-0.5 \sim V_{CC}$	V

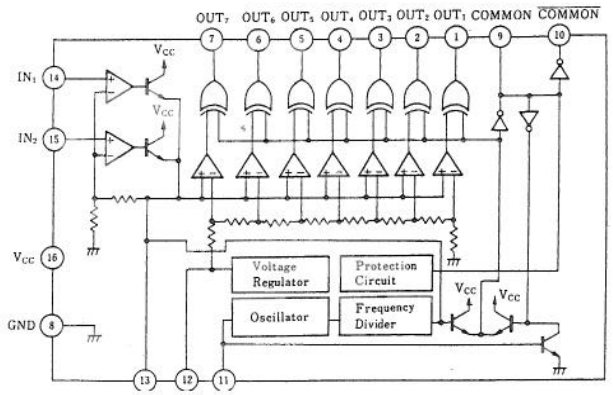
Electrical Characteristics.

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Supply voltage	V_{CC}		6.5		16	V
Supply current	I_{CC}	$V_{IN}=0.5V$	12		12	mA
Input bias current	I_B	$V_{IN}=0V$	-1			μA
Input offset voltage	V_{IO}	$V_{IN}=0V$			50	mV
Voltage gain	A_V		12	9	10	rank

Terminal Connection



Block Diagram



MPX-NC-D 051-0632-00
■MPX-NC-H 051-0632-01 MPX with Noise Canceller for FM
MPX-NC-V 051-0633-00

Refer to the description in Service Manual PI-7028N

■μPD1708G-017 051-0713-00 PLL Frequency Synthesizer & Controller

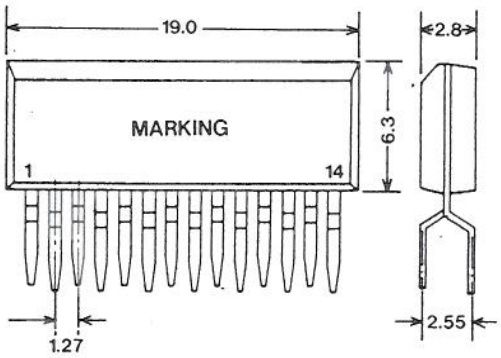
Refer to the description in Service Manual RN-9028L.

■TA7230P 051-0741-00 4W+4W Audio Power Amp.

Refer to the description in Service Manual PS-9063V.

■M51523L 051-0811-00 Dual Electronic Volume

Outward Form



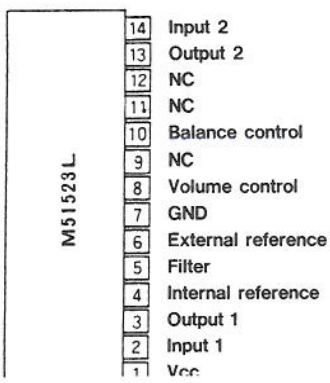
Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply voltage	V_{CC}	18	V
Circuit current	I_{CC}	30	mA
Power dissipation	Pd	550	mW

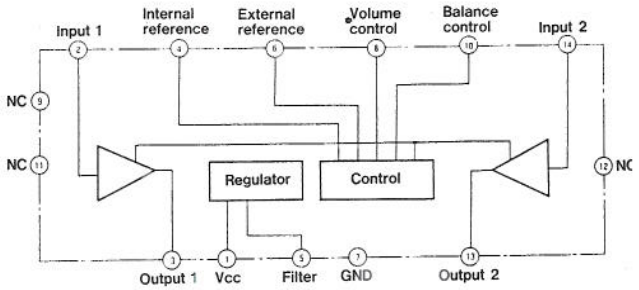
Electrical Characteristics

Item	Symbol	Test Condition	Rating			Unit
			Min.	Typ.	Max.	
Circuit current	Icco	$V_{VOL}=0V$, Vi=0	7	12	20	mA
Attenuation	ATT	$V_{VOL}=0V$, Vi=150mV	83	92	–	dB
Channel balance	C.B	$V_{VOL}=2.8V$, Vi=1V	-3	0	3	dB
Total harmonic distortion	THD	$V_{VOL}=6.5V$, Vi=150mV	–	0.015	0.1	%
Input resistance	Ri	$V_{VOL}=6.5V$, Vi=1V	50	150	–	kΩ
Maximum input voltage	Vi(max)	THD=1%	1.0	1.5	–	Vrms
Output noise voltage	No	Vi=0	–	3.6	10	μVrms
Residual noise	No(r)	Vi=150mV	–	3.6	10	μVrms

Terminal Connection

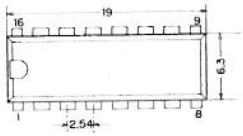


Block Diagram



■M50601P 051-0812-00 D/A Converter for Electronic volume

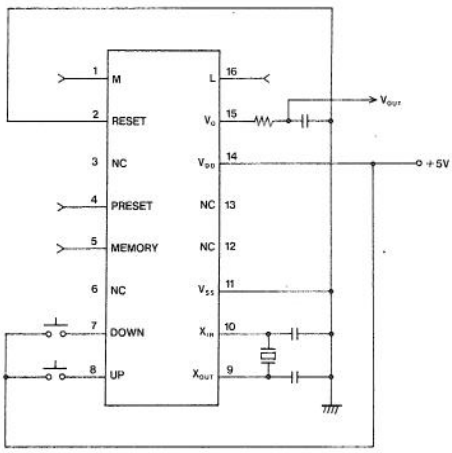
Outward Form



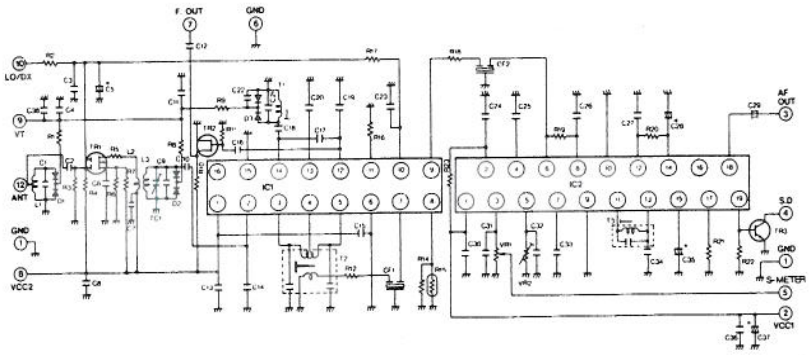
Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply voltage	V_{DD}	−0.3 ~ +7.0	V
Input voltage	V_I	$V_{SS}-0.3 \leqq V_I \leqq V_{DD}+0.3$	V
Output voltage	V_O	$V_{SS} \leqq V_O \leqq V_{DD}$	—
Power dissipation	Pd	300	mW

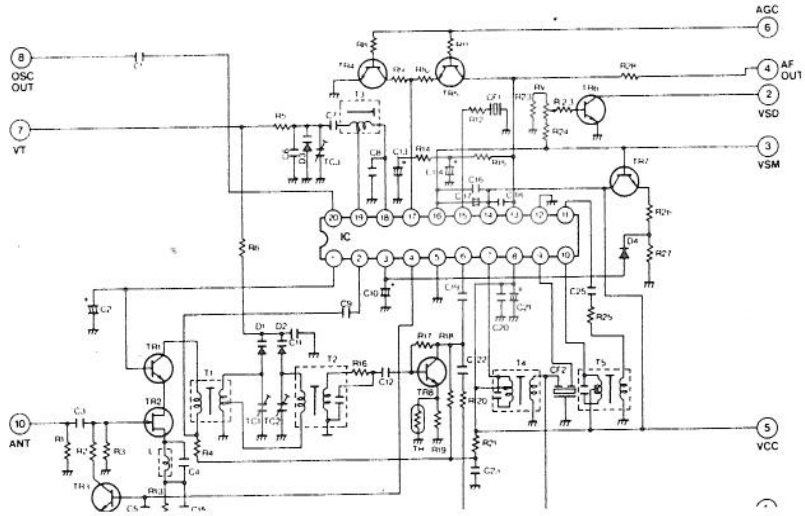
Circuit Diagram



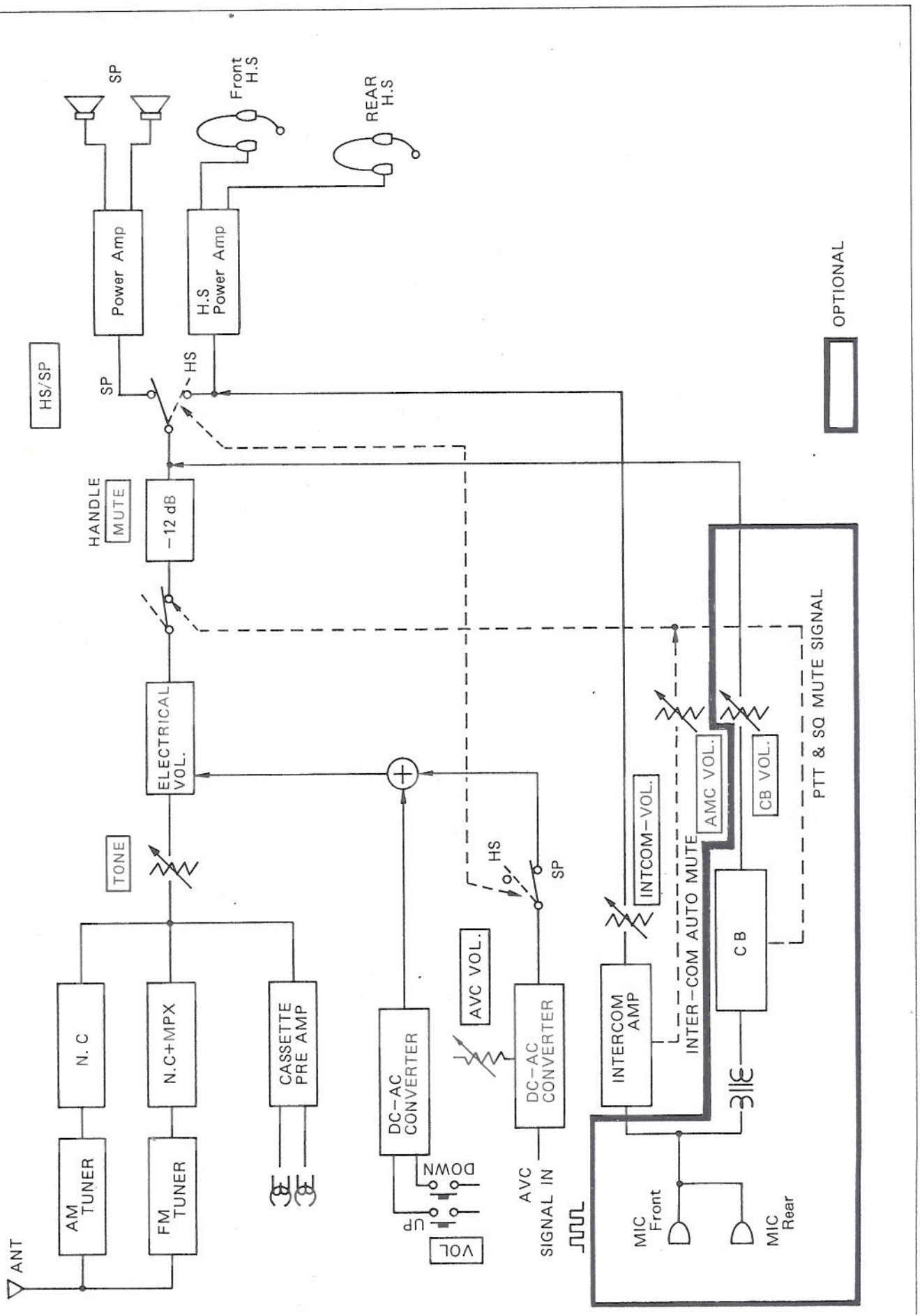
■FM TUNER PACK: 941-0143-01



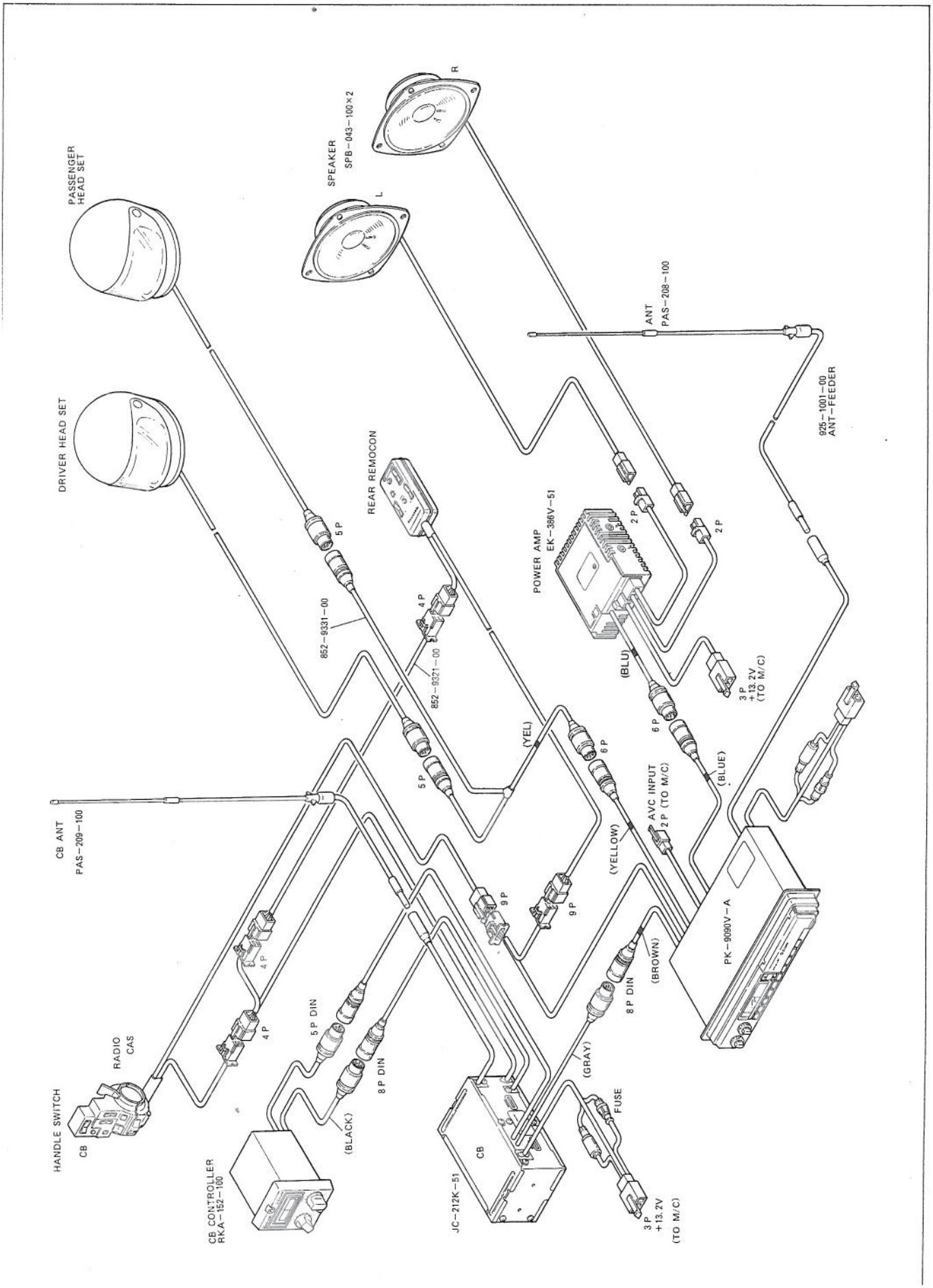
■AM TUNER PACK: 941-0141-01



■BLOCK DIAGRAM:



OVER ALL CONNECTION:



■PARTS LIST: ◎Electrical section

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
D 104.301 304~311.390 401~404 501~516.518 702	001-0294-00	Diode (1SS133)	33
D_{303}	001-0377-23	Diode (MA4043)	1
$D_{520.601.701}$	001-0377-48	Diode (MA4091)	3
$D_{102.405.406.407}$	001-0379-00	Diode (S5566G)	4
D_{519}	001-0423-18	Diode (MA4051)	1
D_{517}	001-0423-19	Diode (MA4056)	1
$D_{101.103.105.302}$	001-0423-23	Diode (MA4082)	4
T_{301}	006-0918-00	Input trans	1
L_{702}	010-2052-00	Coil	1
L_{701}	010-2053-00	Coil	1
$VR_{601.702}$	012-3808-08	Variable resistor (33kΩ)	2
VR_{701}	012-3808-10	Variable resistor (100kΩ)	1
RY_{401}	014-0468-01	Relay (G2K)	1
RY_{101}	014-0502-03	Relay (DS2)	1
RY_{402}	014-0508-02	Relay (G2Q)	1
RY_{403}	014-0509-00	Relay (G6B)	1
CCT_{501}	050-0093-02	Component circuit (10kΩx6)	1
$IC_{502.510}$	051-0143-00	IC (TC4049BP)	2
$IC_{501.506}$	051-0180-00	IC (TC4081BP)	2
IC_{701}	051-0190-00	IC (Z2)	1
IC_{504}	051-0217-00	IC (TC4528BP)	1
IC_{509}	051-0220-00	IC (TC4030BP)	1
$IC_{503.507}$	051-0250-01	IC (TC4027BP)	2
IC_{104}	051-0266-00	IC (TA78L008P)	1
IC_{106}	051-0285-50	IC (TA75558S)	1
IC_{401}	051-0285-54	IC (NMJ2904S)	1
IC_{101}	051-0301-02	IC (M51522AL)	1
$IC_{505.508}$	051-0489-00	IC (TC4073BP)	2
$IC_{105.301}$	051-0506-00	IC (AN1324NS)	2
IC_{512}	051-0538-00	IC (IR2E34)	1
$IC_{102.302}$	051-0556-00	IC (AN6554NS)	2
IC_{601}	051-0633-00	IC (MPX-NC-V)	1
IC_{511}	051-0713-00	IC (μPD1708G-017-00)	1
IC_{107}	051-0741-00	IC (TA7230P)	1
IC_{103}	051-0811-00	IC (M51523L)	1
IC_{106}	051-0812-00	IC (M50601P)	1
SUP_{701}	060-0122-00	Surge protector	1
X_{301}	060-0123-00	Ceramic resonator (480E)	1
X_{501}	061-1053-00	Crystal-OSC	1
Q_{401}	100-0965-00	Transistor (2SA965-O,Y)	1
Q_{501}	100-1297-00	Transistor (2SA1297)	1
Q_{505}	102-1815-50	Transistor (2SC1815Y,GR,BL)	1
$Q_{402.502}$	102-2240-00	Transistor (2SC2240GR,BL)	2
Q 101.102.103.105 301.302.303.305 503.601.602	102-2458-50	Transistor (2SC2458Y,GR,BL)	11
$Q_{603.701}$	103-1225-50	Transistor (2SD1225)	2
$Q_{104.204}$	103-1450-50	Transistor (2SD1450)	2
Q_{504}	108-0363-00	FET(2SK363GRBLV)	1
Q_{406}	125-0003-03	Transistor (RN2203)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
$C_{140.141}$	160-1012-05	Ceramic capacitor (100pF B) HD	2
$C_{320.515}$	160-1022-05	Ceramic capacitor (1000pF B) HD	2
C_{317}	160-1222-05	Ceramic capacitor (1200pF B) HD	1
$C_{306.309.310.312}$	160-3312-05	Ceramic capacitor (330pF B) HD	4
C_{709}	160-3322-05	Ceramic capacitor (3300pF B) HD	1
$C_{109.117.209.217}$	160-3912-05	Ceramic capacitor (390pF B) HD	4
C_{603}	160-6812-05	Ceramic capacitor (680pF B) HD	1
$C_{132.232}$	160-8212-05	Ceramic capacitor (820pF B) HD	2
C_{190}	171-1033-06	Ceramic capacitor (0.01μF SR) SC	1
$C_{105.205}$	171-2232-06	Ceramic capacitor (0.022μF) SC	2
$C_{592}^{501.503.506.591}$	172-6832-20	Polyester capacitor (0.068μF) SS	5
$C_{507.512.513.702}$	173-1032-10	Polyester capacitor (0.01μF) S	4
$C_{136.146.236.301}$	173-1042-10	Polyester capacitor (0.1μF K) S	4
$C_{314.380.711}$	173-1532-10	Polyester capacitor (0.015μF K) S	3
C_{604}	173-3322-10	Polyester capacitor (0.0033μF K) S	1
$C_{607.608}$	173-3932-10	Polyester capacitor (0.039μF K) S	2
$C_{111.145.211}$	173-4732-10	Polyester capacitor (0.047μF K) S	3
$C_{103.203.605}$	173-6822-10	Polyester capacitor (0.0068μF) S	3
$C_{101.201}$	173-8212-10	Polyester capacitor (820pF) S	2
$C_{313.315}$	173-8222-10	Polyester capacitor (0.0082μF K) S	2
C_{601}	174-1800-13	Ceramic capacitor (18pF) TC	1
$C_{505.517.701}$	174-2200-13	Ceramic capacitor (22pF) TC	3
C_{705}	174-3900-13	Ceramic capacitor (39pF) TC	1
C_{707}	042-0174-00	Electrolytic capacitor (16V4.7μF TAN)	1
C_{708}	042-0176-00	Electrolytic capacitor (16V10μF TAN)	1
$C_{139.404}$	179-1083-32	Electrolytic capacitor (16V1000μF) S	2
C_{606}	179-2273-22	Electrolytic capacitor (10V220μF) S	1
C_{706}	179-2273-33	Electrolytic capacitor (16V220μF) S	1
C_{122}	179-4763-22	Electrolytic capacitor (10V47μF) S	1
$C_{137.237}$	179-4773-23	Electrolytic capacitor (10V470μF) S	2
$C_{403.405}$	179-4773-33	Electrolytic capacitor (16V470μF) S	2
C_{590}	181-3343-62	Electrolytic capacitor (50V0.33μF) LL	1
C 106.107.108.110 114.115.116.118 130.131.133.134 206.207.208.210 214.215.216.218 230.231.233.234 308.311.316.318 319.609.610.704 712	182-1053-62	Electrolytic capacitor (50V1μF) SS	33
C 121.123.124.125 126.127.128.142 143.302.303.304 307.320.401.611 703.710	182-1063-32	Electrolytic capacitor (16V10μF) SS	18
$C_{135.235.305.602}$	182-1073-22	Electrolytic capacitor (10V100μF) SS	4
C_{112}	182-1073-32	Electrolytic capacitor (16V100μF) SS	1
$C_{402}^{112.113.138.323}$	182-2263-32	Electrolytic capacitor (16V22μF) SS	5
C_{322}	182-3363-22	Electrolytic capacitor (10V33μF) SS	1
C_{115}	182-4753-52	Electrolytic capacitor (35V4.7μF) SS	1
$C_{102.104.202.204}$	183-1053-62	Electrolytic capacitor (50V1μF) USS	4
$C_{120.144.508.509}$	183-1063-32	Electrolytic capacitor (16V10μF) USS	4
C_{504}	183-1073-12	Electrolytic capacitor (6.3V100μF) USS	1
C_{511}	183-1553-62	Electrolytic capacitor (50V1.5μF) USS	1
C_{516}	183-2263-32	Electrolytic capacitor (16V22μF) USS	1
C_{510}	183-4753-52	Electrolytic capacitor (35V4.7μF) USS	1
$C_{119.219}$	183-4763-12	Electrolytic capacitor (6.3V47μF) USS	2

◎MECHANISM P.W.B

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
$D_{1\sim7}$	001-0112-00	Diode (1S1588)	7
D_8	001-0360-00	Diode (S5566B)	1
IC_1	051-0403-01	IC (TD6308AP)	1
Q_1	102-1815-50	Transistor (2SC1815)	1

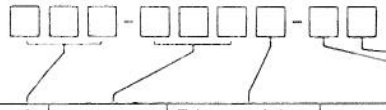
REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
R_7	111-2291-82	Film resistor (½Ws2.2Ω)	1
C_4	179-1073-32	Electrolytic capacitor (16V100μF) S	1
$C_{1,2}$	182-1063-32	Electrolytic capacitor (16V10μF) SS	2
C_3	182-4743-62	Electrolytic capacitor (50V0.47μF) SS	1

Note : OM (Oxidized Metal)
S (Small)
HD (Higher Dielectric)
SC (Semi-Conductor)
SS (Super Small)
TC (Temperature-Compensating)
LL (Low Leak)
USS (Ultra Super Small)

● How to read resistor

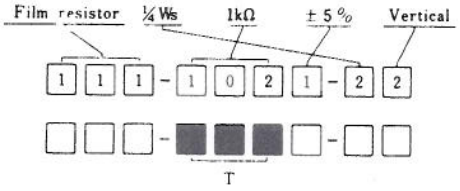
Resistors are deleted from the table of electric components, (except metal film resistors and special resistors). They can be converted to product Nos. as follows.

Film resistor (Carbon film resistor)



Classification	Resistance *	Tolerance of the value of resistance		Rated power			Shape	
1 1 1		0		0			0	
	Example	1	± 5 %	1	⅛W	Approx. 3.7mm	1	Horizontal
	33Ω → 330	2		2	¼Ws	Approx. 6.5mm	2	Vertical
	33kΩ → 333	3		3			3	
		4		4	½W	Approx. 9mm	4	
				7	⅛W	Approx. 3.5mm		
				8	½Ws	Approx. 6.6mm		
				9	¼Wss	Approx. 3.2mm		

(Example)



Note 1. The first two of three digits representing resistance are effective digits and the last one represents number of "0" following this.
Unit is given in ohm (Ω).

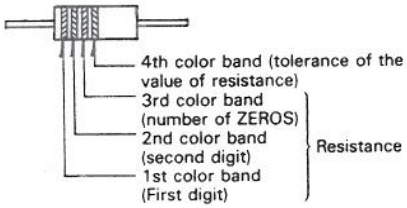
Example of conversion of resistance T ■■■□

Note) R : Resistance, T : Converted value

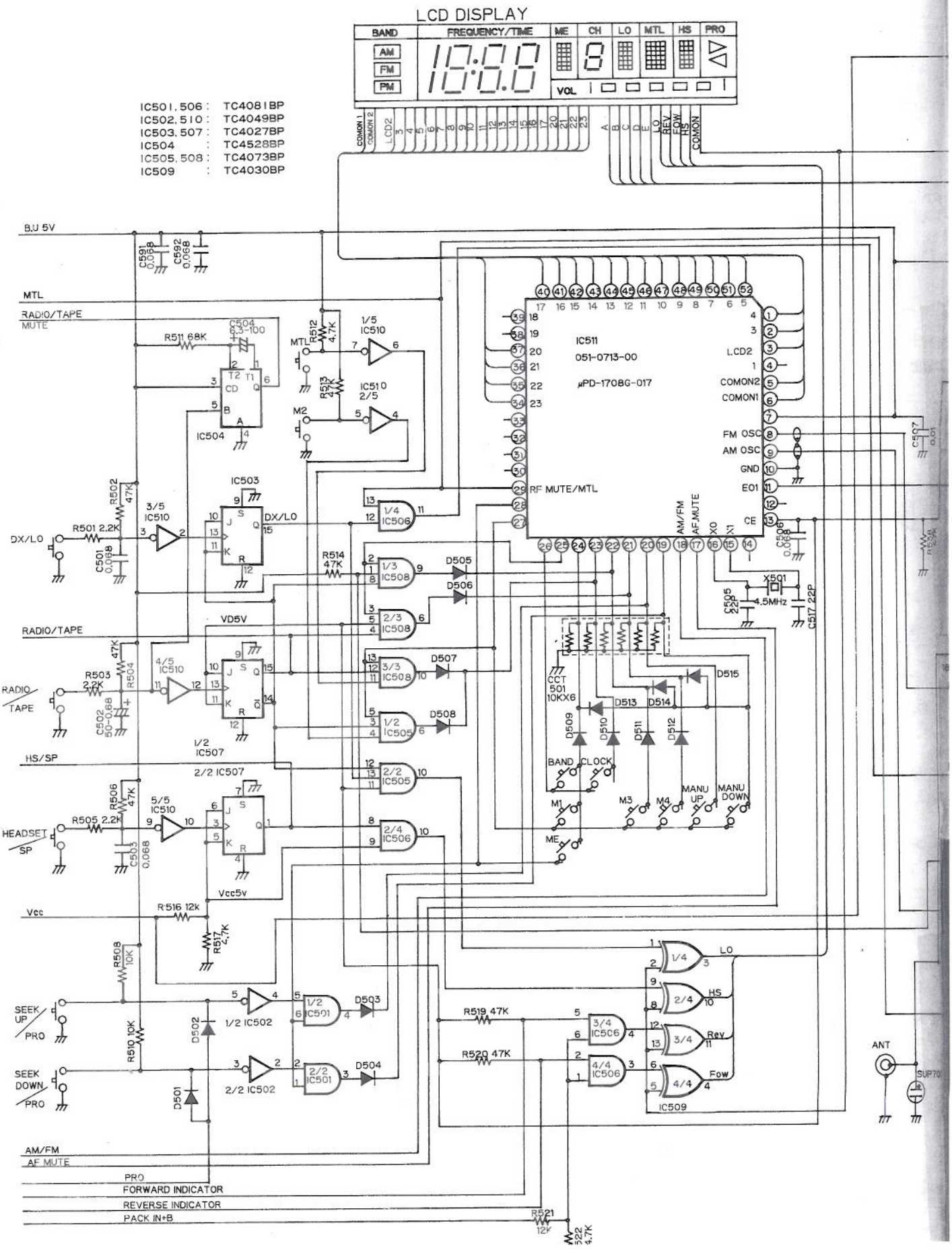
R	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T
Ω 0.1	108	Ω 1.0	109	Ω 10	100	Ω 100	101	kΩ 1.0	102	kΩ 10	103	kΩ 100	104	MΩ 1.0	105	MΩ 10	106	MΩ 100	107
0.15	158	1.5	159	15	150	150	151	1.5	152	15	153	150	154	1.5	155	15	156	150	157

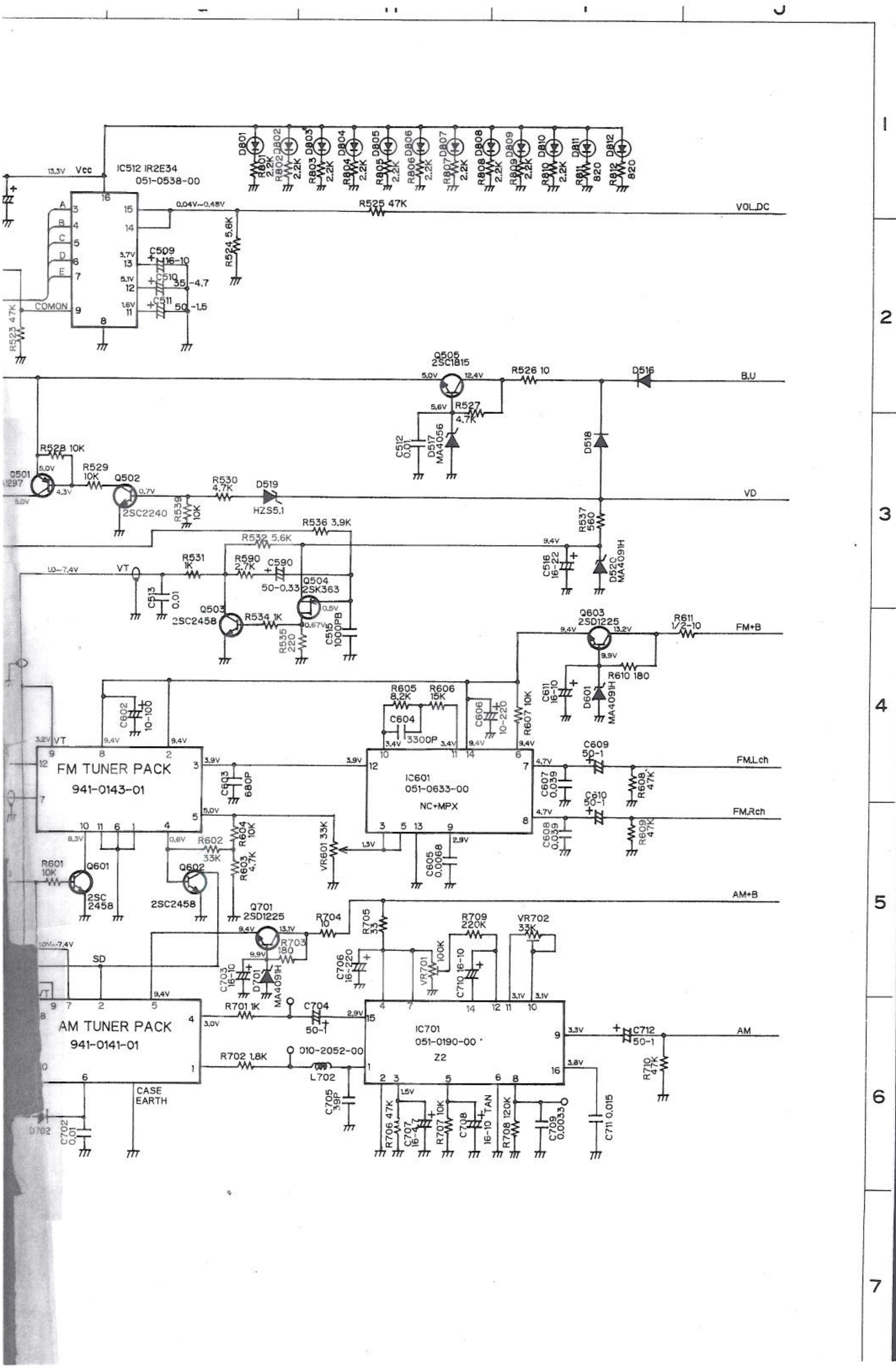
COLOR	BLK	BRN	RED	ORG	YEL	GRN	BLU	PUR	GRY	WHT	GOLD	SILVER	NO COLOR
1st color band	0	1	2	3	4	5	6	7	8	9			
2nd color band	0	1	2	3	4	5	6	7	8	9			
3rd color band	10^0	10^1	10^2	10^3	10^4	10^5	10^6				10^{-1}	10^{-2}	
4th color band											± 5 % (J)	± 10% (K)	± 20% (M)

*

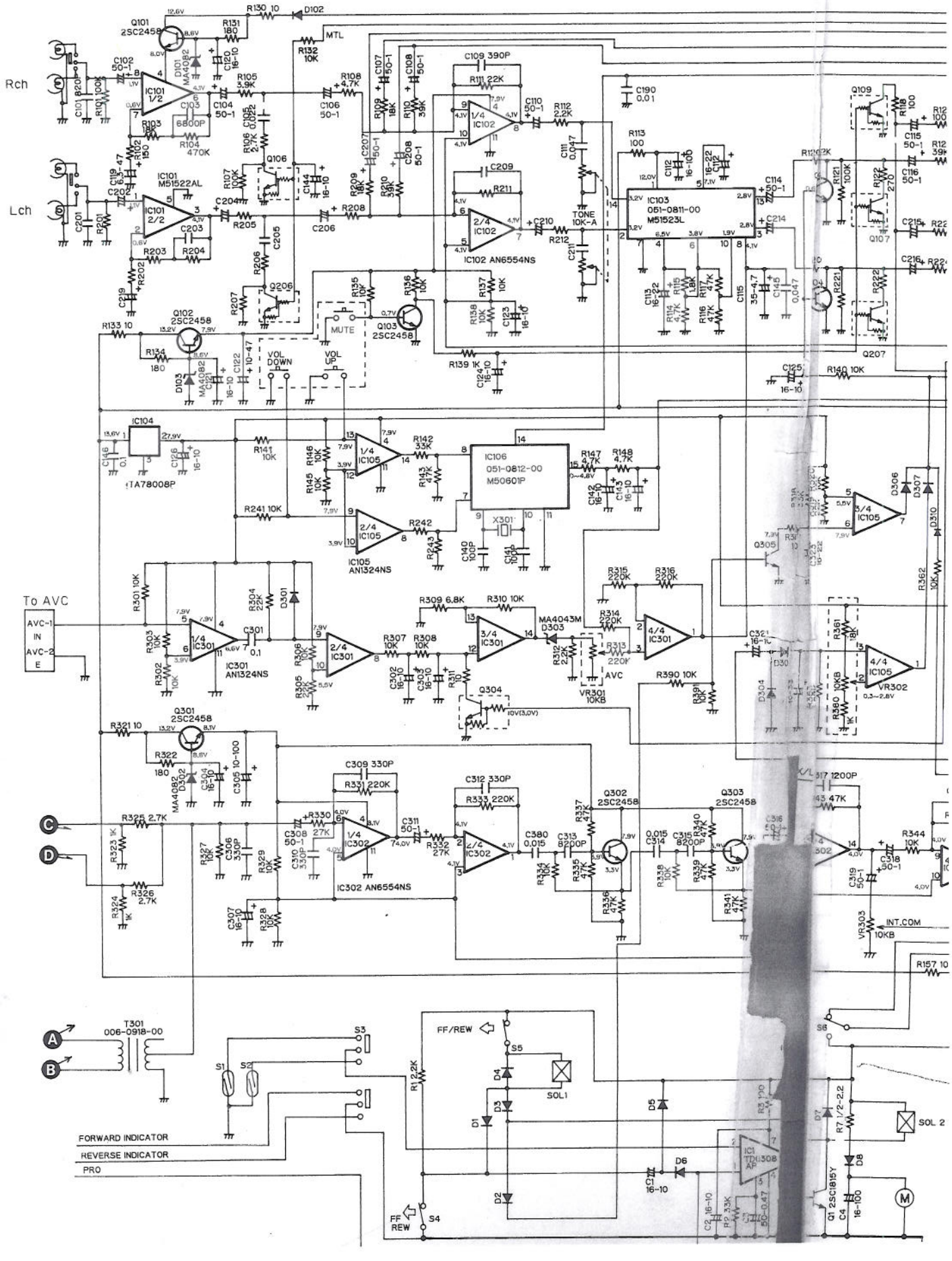


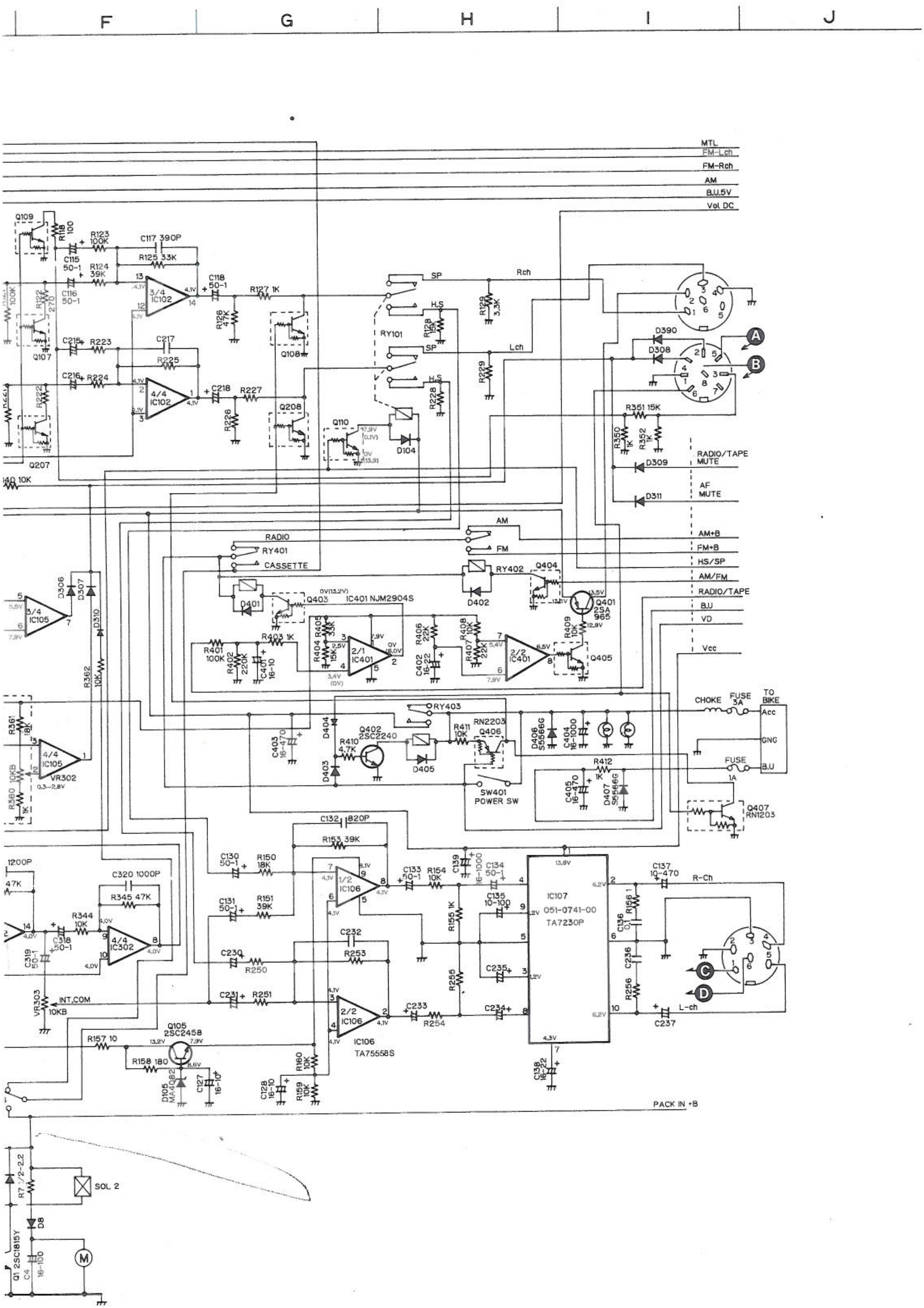
■CIRCUIT DIAGRAM:




IC512 IR2E34
051-0538-00
Vcc
13.3V
COMON
VOL.DC
R525 47K
R524 5.6K
R523 47K
C509 16-10
C510 35-4.7
C511 50-1.5
D801 D802 D803 D804 D805 D806 D807 D808 D809 D810 D811 D812
R801 2.2K
R802 2.2K
R803 2.2K
R804 2.2K
R805 2.2K
R806 2.2K
R807 2.2K
R808 2.2K
R809 2.2K
R810 2.2K
R811 820
R812 820
Q505 2SC1815
R526 10
D516
B.U
R527 4.7K
C512 0.01
D517 MA4056
D518
R528 10K
R529 10K
Q501
Q502 2SC2240
R530 4.7K
D519 HZS5.1
VD
R539 10K
R536 3.9K
R532 5.6K
R537 560
C516 16-22
D520 MA4091H
R531 1K
R590 2.7K
C590 50-0.33
VT
Q504 2SK363
C513 0.01
Q503 2SC2458
R534 1K
R535 220
C515 1000PB
Q603 2SD1225
R611 1/2-10
FM+B
C611 16-10
R610 180
D601 MA4091H
C602 10-100
R605 8.2K
R606 15K
C604 3300P
C606 10-220
R607 10K
FM TUNER PACK
941-0143-01
C603 680P
IC601
051-0633-00
NC+MPX
C609 50-1
FM.Lch
C607 0.039
R608 47K
C610 50-1
FM.Rch
C608 0.039
R609 47K
R604 10K
R602 33K
R603 4.7K
VR601 33K
C605 0.0068
R601 10K
Q601 2SC2458
Q602 2SC2458
AM+B
Q701 2SD1225
R704 10
R705 33
R709 220K
VR702 33K
R703 180
C706 16-220
VR701 100K
C710 16-10
C703 16-10
D701 MA4091H
SD
AM TUNER PACK
941-0141-01
R701 1K
C704 50-1
IC701
051-0190-00
Z2
C712 50-1
AM
R710 47K
R702 1.8K
010-2052-00
L702
C705 39P
CASE EARTH
C702 0.01
D702
R706 47K
C707 16-47
R707 10K
C708 16-10 TAN
R708 120K
C709 0.0033
C711 0.015
1
2
3
4
5
6
7

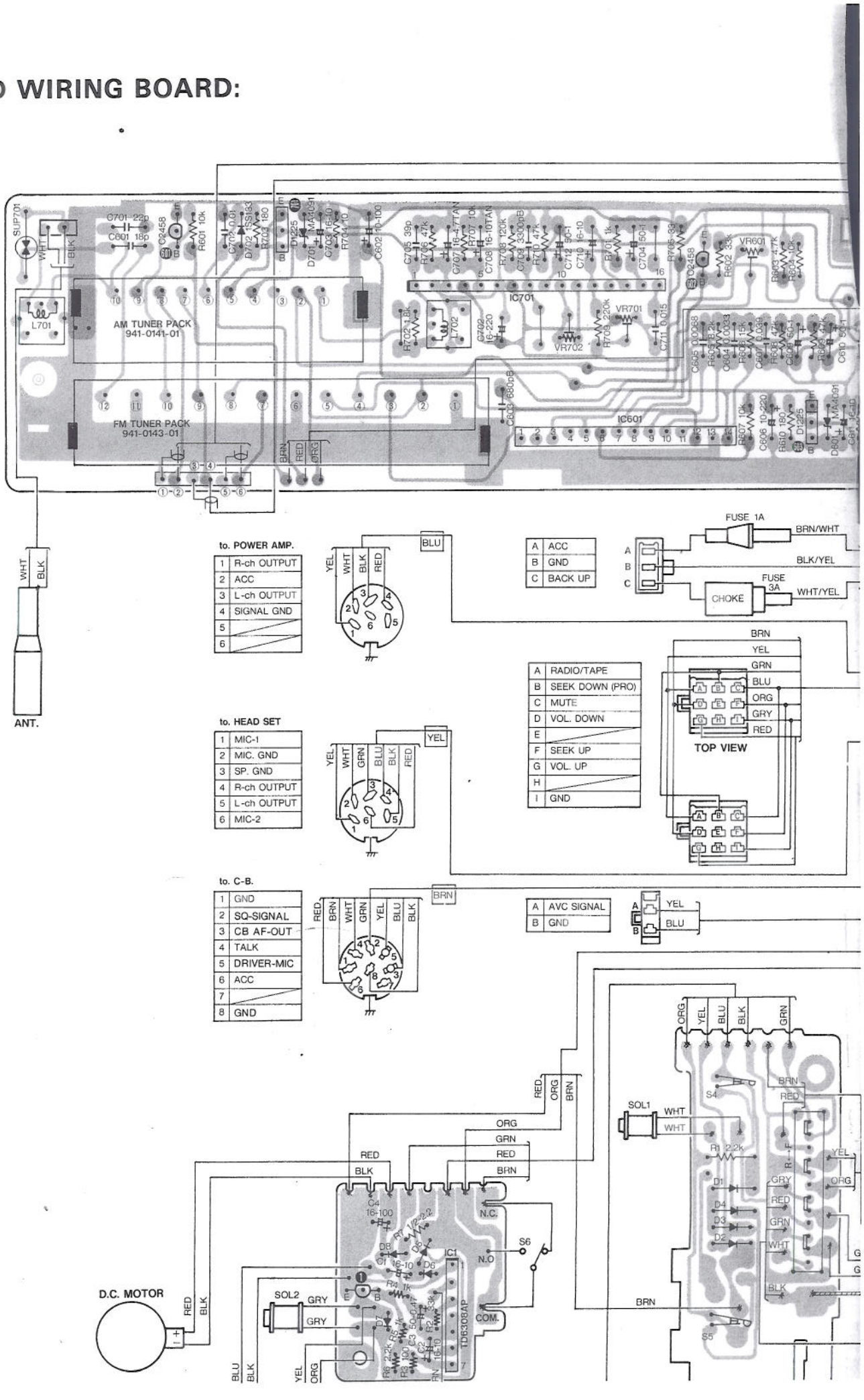
■CIRCUIT DIAGRAM:

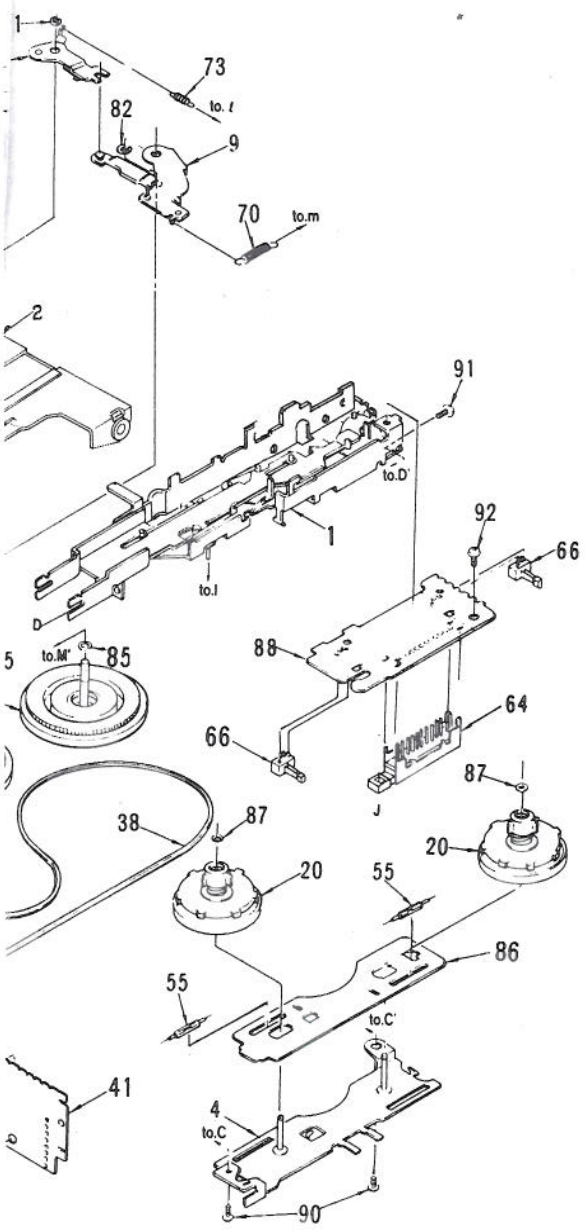




F
G
H
I
J
MTL
FM-Lch
FM-Rch
AM
B.U.5V
Vol DC
Q109
R118 100
R123 100K
C117 390P
C115 50-1
R125 33K
R124 39K
C116 50-1
R122 270
3/4 IC102
C118 50-1
R127 1K
R126 47K
Q107
C215
R223
C217
R225
Q108
C216
R224
4/4 IC102
C218
R227
R226
Q208
R222
Q207
R140 10K
SP
Rch
H.S
R128 10
R129 3.3K
RY101
Lch
R229
R228
Q110
D104
D390
D308
R351 15K
R350 1K
R352 1K
RADIO/TAPE MUTE
D309
AF MUTE
D311
AM
FM
RADIO
RY401
CASSETTE
RY402
Q404
AM+B
FM+B
HS/SP
AM/FM
RADIO/TAPE
B.U
VD
Vcc
D306
D307
3/4 IC105
D310
D401
Q403
IC401 NJM2904S
D402
Q401 2SA965
R362 10K
R401 100K
R402 220K
C401 16-10
R403 1K
R404 15K
R405 33K
2/1 IC401
R406 22K
C402 16-22
R408 10K
R407 22K
2/2 IC401
R409 10K
Q405
R361 18K
4/4 IC105
VR302
R360 1K
C403 16-470
D404
RY403
Q402 2SC2240
R410 4.7K
D403
D405
R411 10K
RN2203 Q406
SW401 POWER SW
D406 S5566G
C404 16-1000
R412 1K
C405 16-470
D407 S5566G
CHOKE
FUSE 3A
TO BIKE
Acc
GNG
FUSE 1A
B.U
Q407 RN1203
C132 820P
R153 39K
C130 50-1
R150 18K
1/2 IC106
C133 50-1
R154 10K
C139 16-1000
C134 50-1
IC107 051-0741-00 TA7230P
C137 10-470
R-Ch
C320 1000P
R345 47K
C131 50-1
R151 39K
C135 10-100
R155 1K
R156 1
C136 0.1
R344 10K
4/4 IC302
C318 50-1
C319 50-1
C232
R253
C230
R250
C236
C235
R255
R256
VR303 10KB
INT.COM
C231
R251
2/2 IC106
C233
R254
C234
C237
L-ch
Q105 2SC2458
R157 10
R158 180
IC106 TA75558S
R160 10K
R159 10K
C128 16-10
D105 MA4082
C127 16-10
C138 16-22
PACK IN +B
R7 1/2-2.2
SOL 2
D8
Q1 2SC1815Y
C4 16-100
M

■PRINTED WIRING BOARD:





REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
22	011-0287-10	Head	1
23	610-0242-01	P-roller	1
24	606-0082-00	Pack guide	1
25	630-1576-03	Change plate	1
26	630-1917-00	Flywheel plate	1
27	960-3561-02	Timing plate ass'y	1
29	630-1582-02	Power link	1
30	630-1583-01	FF plate	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
32	630-1585-01	Idler-C plate	1
33	610-0259-00	P-roller B	1
34	630-1587-00	Brake plate-F	1
35	630-1588-00	Brake plate-F	1
36	631-0293-00	Thrust washer	2
37	631-0370-01	Tension pulley	1
38	602-0079-00	Belt	1
39	602-0080-00	Belt	1
40	SMA-102-100	Motor ass'y	1
41	099-7373-02	P W B	1
42	750-1910-00	Spring	1
43	013-3580-00	Switch	1
44	716-0429-00	Screw	1
45	015-0232-01	Plunger	2
46	613-0044-01	Idler gear	1
47	613-0045-00	Pulley gear	1
48	613-0046-01	Gear A	1
49	613-0047-01	Gear B	1
50	613-0048-01	Gear C	1
51	613-0049-03	Cam gear	1
52	613-0050-03	Channel-C-gear	1
54	613-0052-02	FF gear	1
55	013-3601-00	Switch	2
56	750-2278-02	Brake-F-spring	1
57	750-2279-02	Brake-R-spring	1
58	750-2281-02	FF-U-spring	1
59	750-2282-03	Idler-U-spring	1
61	750-2284-01	P-roller spring	1
62	750-2286-00	Roll-P-A-spring	1
63	750-2287-00	Roll P B-spring	1
64	013-3666-00	Switch	1
65	750-2428-00	Cam-G-L-P spring	1
66	013-3687-00	Switch	2
67	750-2293-00	Change P-spring	1
68	750-2294-01	Timing P spring	1
70	750-2296-00	Plunger P spring	1
71	750-2297-02	P-sub spring	1
73	750-2299-00	P-lock spring	1
78	744-0018-01	E-ring	2
81	743-1500-10	E-ring	9
82	743-2000-10	E-ring	9
83	743-2500-10	E-ring	1
85	746-0617-00	Washer	4
86	099-6702-00	P W B	1
87	746-0761-00	Washer	11
88	099-7149-00	P W B	1
89	732-2604-11	Sems screw (M2 6x4)	1
90	714-2003-81	Machine screw (M2x3)	5
91	714-2603-81	Machine screw (M2 6x3)	3
92	714-2604-81	Machine screw (M2 6x4)	2
93	714-2606-11	Machine screw (M2 6x6)	2
94	714-2308-81	Machine screw (M2 3x8)	1
95	716-0347-00	Screw	2
96	611-0075-00	Fly wheel	2
99	610-0284-00	P-roller	1