



# CASSETTE CAR STEREO

## SERVICE MANUAL



MODEL : GX-41E

(IN-DASH/UNDER-DASH TYPE)

MITSUBISHI ELECTRIC CORPORATION

### 1. FEATURES

- o Automatic reverse system provides.
- o Adopted "Slot in" system to insert cassette tape.
- o Fast Forward and Rewind are able to be locked.  
When the tape comes to an end the lock is released automatically.
- o The bass switch emphasizes the low notes, providing a richer, fuller tone.

### 2. SPECIFICATIONS

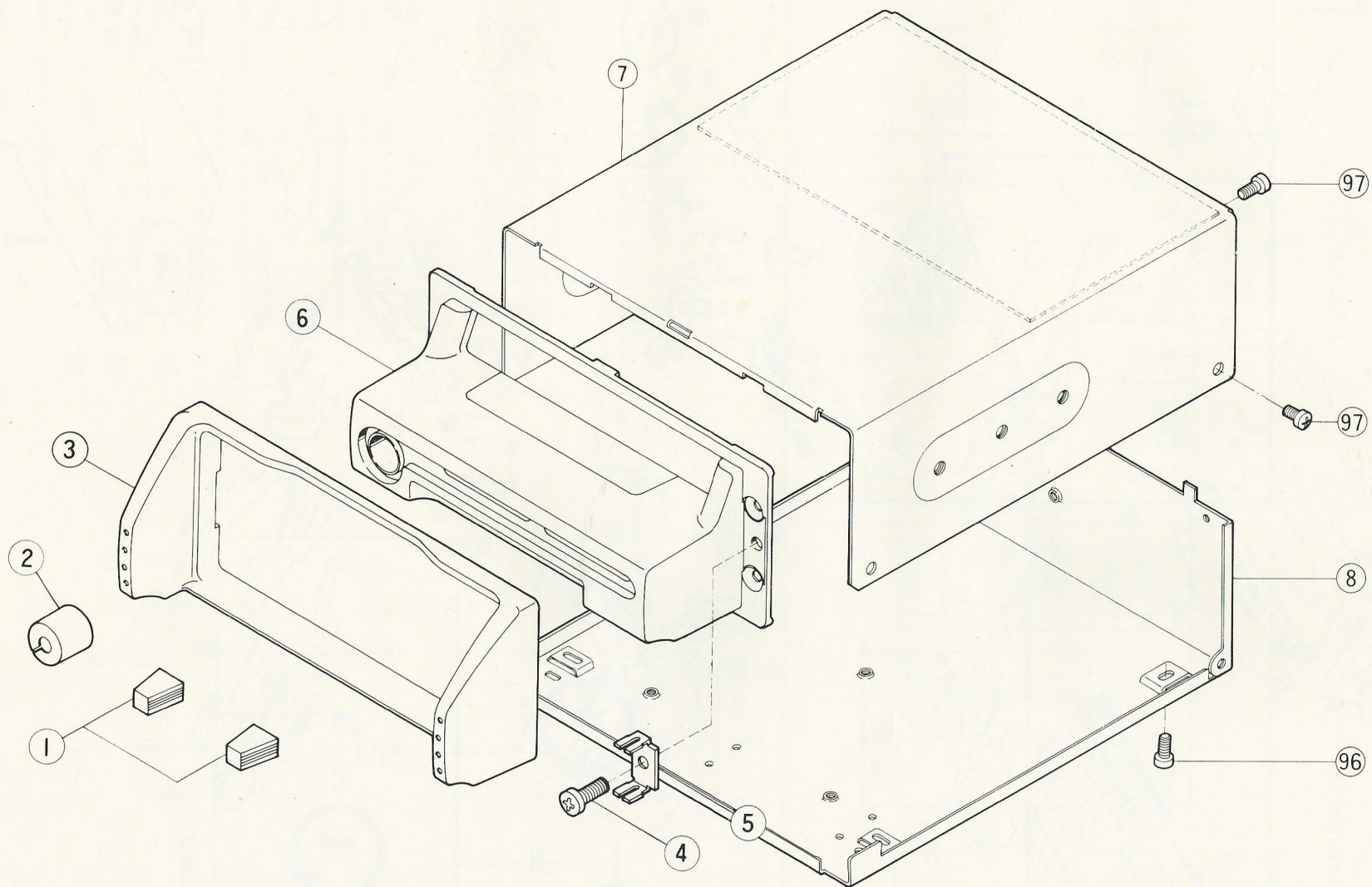
Track System	: 4 track 2 channel for playback cassette stereo
Tape Speed	: 4.75 cm/sec.
Output Power	: 6.0 W RMS/channel (Max.)
Output Impedance	: 4 – 8 $\Omega$
Power Supply	: 11 – 16 V DC Negative ground
Battery Drain	: 0.7 A
Outside Dimentions (WxHxD)	: 140 x 56 x 192mm
Weight	: 1.8 kg

3. TROUBLE SHOOTING

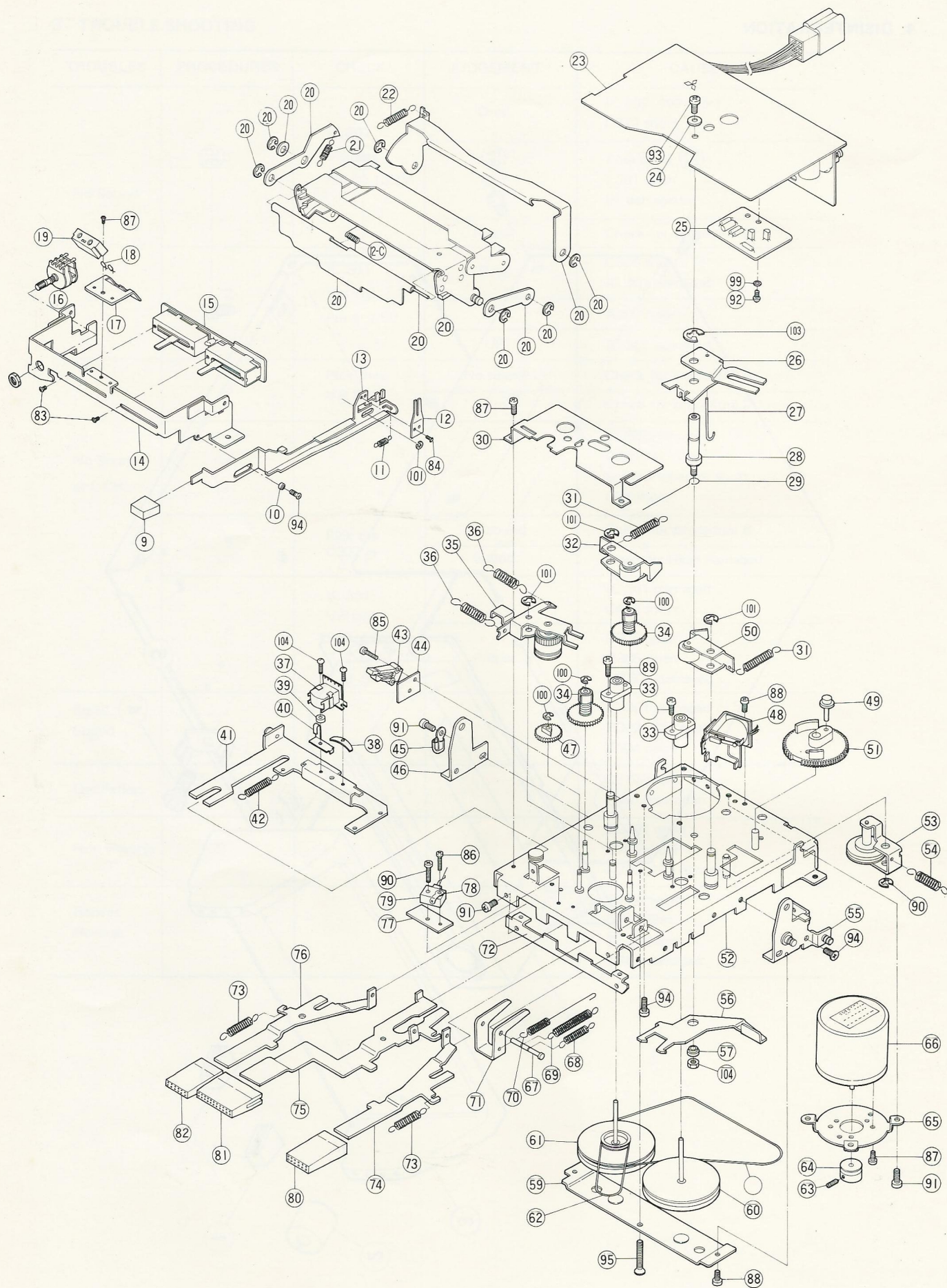
TROUBLES	PROCEDURES	CHECK	JUDGEMENT	CAUSE
No Sound	1	IC 302 Voltage Pin 10 13.2V	Drop	<ul style="list-style-type: none"><li>IC 302, 402 short</li><li>C319 short</li></ul>
			O V	<ul style="list-style-type: none"><li>Fuse open</li><li>L301 open</li><li>S1 damaged</li></ul>
			Proper	<ul style="list-style-type: none"><li>Check for procedure 2</li></ul>
	2	IC 301 Voltage Pin 4 7.5V	Drop	<ul style="list-style-type: none"><li>C306 short</li><li>IC 301 damaged</li></ul>
			O V	<ul style="list-style-type: none"><li>R307 open</li></ul>
			UP	<ul style="list-style-type: none"><li>IC 301 damaged</li></ul>
No Sound at L CH.	3	Pick the VR 301	No sound	<ul style="list-style-type: none"><li>Check for procedure 4</li></ul>
			Sound	<ul style="list-style-type: none"><li>Check for procedure 5</li></ul>
	4			<ul style="list-style-type: none"><li>IC 302 damaged</li><li>C309, 317 open</li><li>Speaker open or short</li><li>CP1 short</li></ul>
	5	Pick the C302	No sound	<ul style="list-style-type: none"><li>Check for procedure 6</li></ul>
			Sound	<ul style="list-style-type: none"><li>Magnetic Head damaged</li></ul>
	6	IC 301 Voltage Pin 6 4.0V " 7 0.7V " 8 0.6V		<ul style="list-style-type: none"><li>IC 301 damaged</li><li>C403 short</li></ul>
			Proper	<ul style="list-style-type: none"><li>C305 open</li><li>R305 open</li><li>VR301 damaged</li></ul>
Small Sound				<ul style="list-style-type: none"><li>IC 301 damaged</li><li>R302, 304 open</li><li>C304 open</li></ul>
Oscillation				<ul style="list-style-type: none"><li>C319 open</li><li>Head lead open</li></ul>
Non Reverse				<ul style="list-style-type: none"><li>CL701 open</li><li>C705 short</li><li>Q702, 703 damaged</li></ul>
Repeat Reverse				<ul style="list-style-type: none"><li>S6 damaged</li><li>C701 open</li><li>S5 damaged</li><li>Q701 damaged</li></ul>



#### 4. DISINTEGRATION

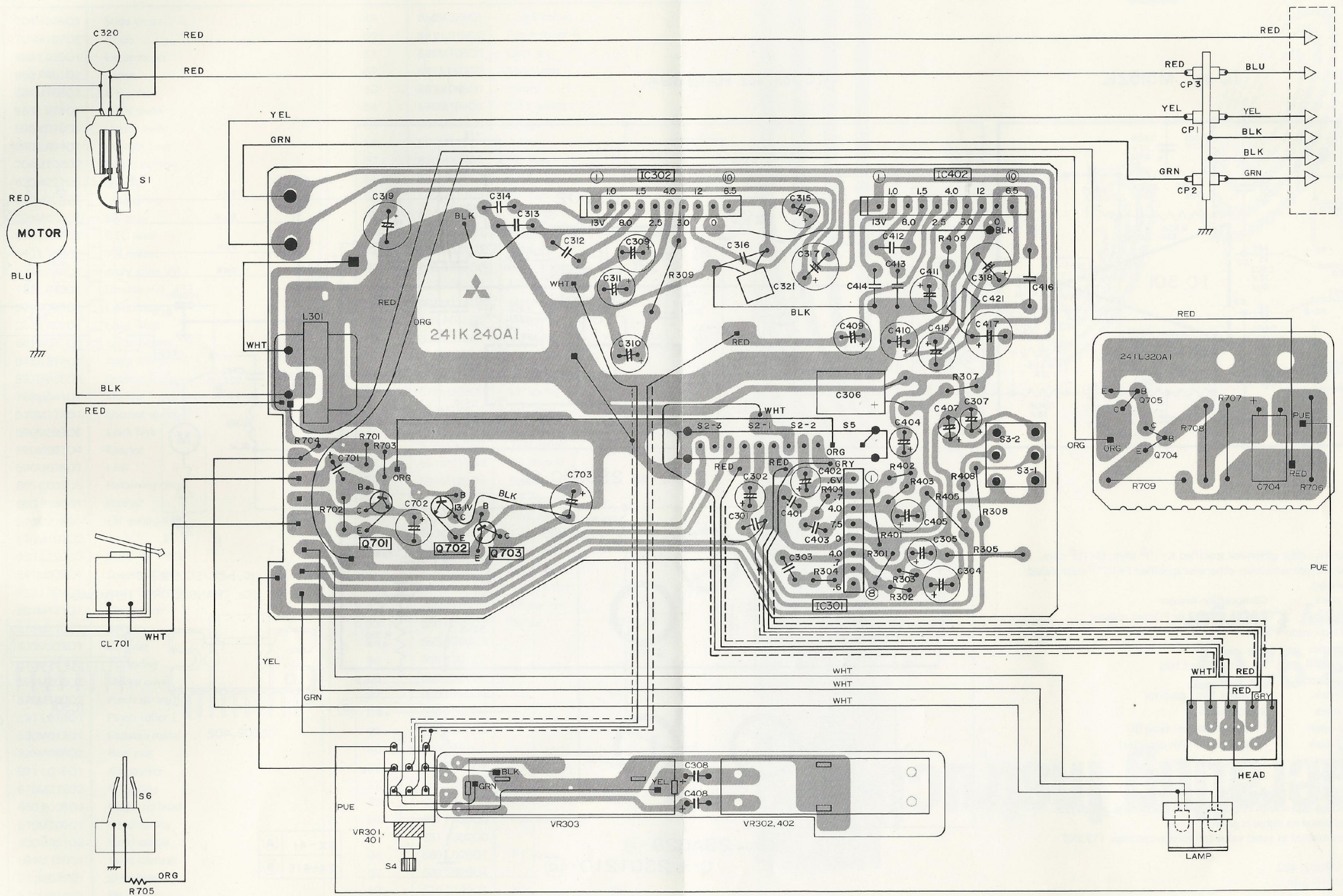








5. PRINTED CIRCUIT BOARD AND WIRING DIAGRAM (Printed Side)  
MODEL GX - 41E

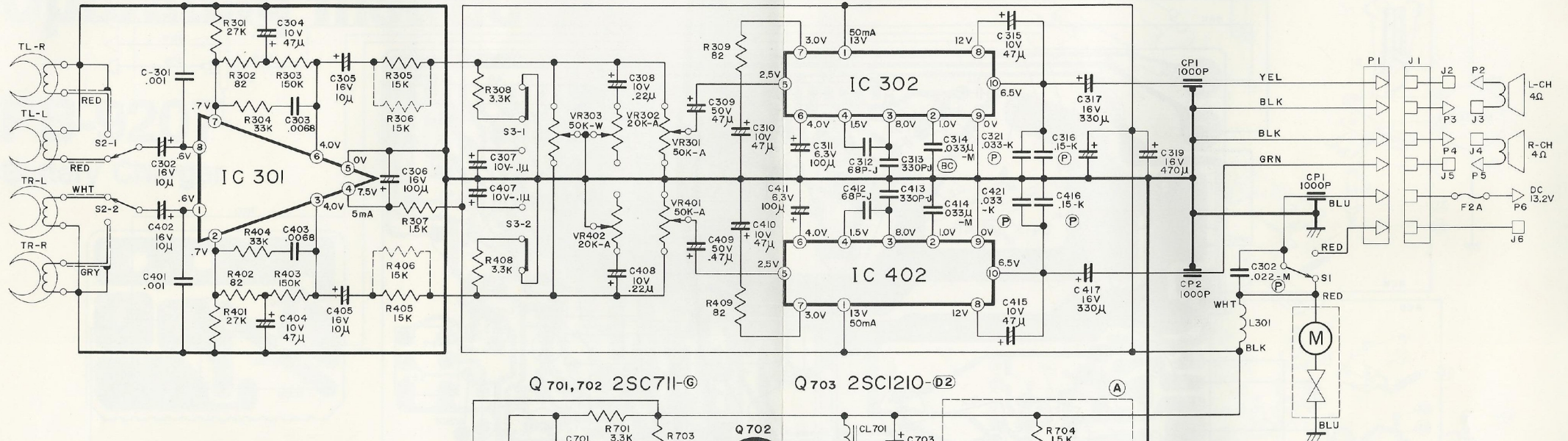




6. SCHEMATIC DIAGRAM  
MODEL GX-41E

IC 301 M5152IL

IC 302, 402 HA1339A



NOTICE:

1. All resistors are ohms unless otherwise specified K=10<sup>3</sup> ohm, M=10<sup>6</sup> ohm.
2. All capacitors are microfarads unless otherwise specified P=10<sup>-6</sup> microfarad.
3. Expression of resistors.

- Kinds (S) mark Composition resistor
- No mark No mark Carbon resistor or Printed resistor
- Watt No indication = 1/4W
- Permission-difference

J=±5% No indication=±10%

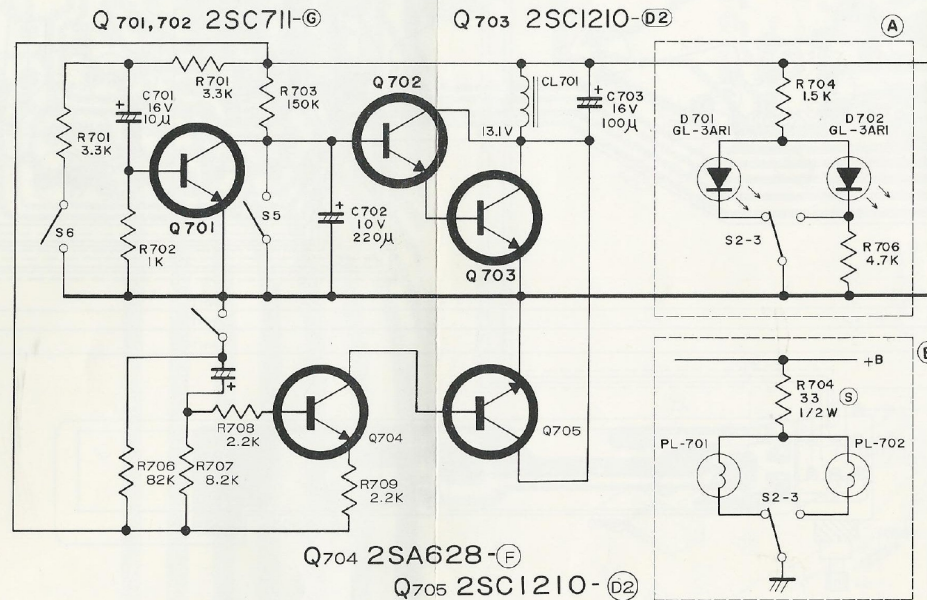
4. Expression of capacitors

- Kinds (P) mark Polyester film capacitor
- (S) mark Styrol capacitor
- (BC) mark Ceramic capacitor type BC
- (ML) mark Polypropylene film capacitor
- No mark No mark Ceramic capacitor
- permission-difference

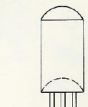
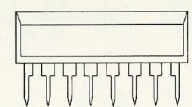
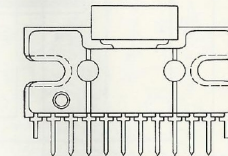
J=±5% K=±10% M=±20%

5. Each terminal-voltage taken with circuit tester at the minimum position of volume control when no signal is given.
6. Supply voltage maintained at rated value for voltage readings. (13.2V)
7. Other:

- VR301, 401 VR302, 402
- R306, 406 is control gain.
- S<sub>1</sub> is power switch.
- S<sub>2-1</sub> - 2 is head conversion switch.
- S<sub>3-1</sub> - 2 is bass switch.
- S<sub>4</sub> is manual program change-over switch.
- S<sub>5</sub> is switch on clutch.
- S<sub>6</sub> is tape end sensing switch.
- PL701, 702 is program indicator lamp.



IC. トランジスタ端子図  
ICs. TRANSISTORS TERMINAL



GX-41	(A)
GX-41E	(B)



7. PARTS LIST

(1) Mechanical Parts

SYMBOL NO.	PARTS NO.	DESCRIPTION	SYMBOL NO.	PARTS NO.	DESCRIPTION
1	704M108O1	Slide knob	49	630M325O1	Crank roller
2	704M107O1	Knob	50	891 L019O2	Pinch roller R
3	702 L025O1	Escutcheon	51	641M105O1	Cam gear
4	650 P401Q2	Screw	52	891 K009O2	Main base
5	591M168O1	E Holder	53	891M048O1	Pulley
6	963 L078O1	Ass'y panel	54	570M199O1	EVT spring
7	590K076O5	Upper cover	55	891M035O5	Bridge R
8	590 L494O1	Bottom base	56	591M118O1	Trigger
9	704M106O2	Punch button	57	630M324O1	CL boss
10	630M221O2	Spacer	58	521M008O1	Belt
11	570M204O1	Bass spring	59	591M117O1	FW bottom
12	591M013O1	SW lever	60	524 L008O2	Flywheel R
13	510 L002O2	REC lever	61	524 L008O1	Flywheel L
14	510 L005O1	VR holder	62	521M021O1	TA belt
15	923 L249O1	Ass'y slide VR	63	669 D058O7	Set screw
16	123 L040O1	Double VR	64	522M041O1	Motor pulley
17	590M799O1	Lamp base	65	591M116O1	Motor holder
18	253 L002O5	Lead lamp	66	288 P018O2	Motor
19	641M081O1	Lamp holder	67	630M326O1	LL shaft
20	943K317O6	Ass'y EV	68	570M185O1	EV spring
20-A	531M060O4	Shutter shaft	69	570M213O1	ST spring
20-B	768M041O1	Shutter	70	570M208O3	UP spring
20-C	570M173O1	Shutter spring	71	591M122O1	Lift lever
20-D	590M699O6	Lock link	72	591M123O2	Holder lever
20-E	590M697O4	Ejector	73	570M055O1	Trip spring
20-F	590M698O1	Link	74	591M119O2	FF slide R
20-G	685 C002O6	Retaining ring	75	591M120O2	Stop slide
20-H	680 P150W1	Washer	76	591M119O1	FF slide L
21	570M218O1	EV spring 1	77	241M133O1	PWB spacer
22	570M159O2	" 2	78	443D001O1	Lug terminal
23	923 L253O3	Ass'y AF PWB	79	439 C002O1	Wire SW
24	641M028O1	Spacer	80	704M105O1	FF button
25	923 L323O1	Ass'y CH PWB	81	704M104O2	Stop button
26	591M121O1	Crank lever	82	704M105O2	FF button
27	570M210O1	SW pin	83	650 P200Q3	Screw M2x0.4 - 3
28	630M323O1	CL post	84	650 P200Q4	" " 6
29	570M207O2	TU spring	85	650 P201Q0	" " 10
30	591M200O2	Mecka cover	86	650 P201Q2	" " 12
31	570M160O2	Pinch spring	87	650 P260Q3	" M2.6x0.45 - 3
32	891 L019O1	Pinch roller L	88	650 P260Q4	" " - 4
33	530M013O1	Capstan metal	89	650 P260Q6	" " - 6
34	891M046O2	Reel rest	90	650 P261Q2	" " -12
35	891 L018O1	Slip pulley	91	650 P300Q4	" M3x0.5 - 4
36	570M212O2	FF spring	92	650 P300Q6	" " 6
37	460 P005O4	Magnetic head	93	650 P300Q8	" " 8
38	570M209O1	Head spring	94	651 P300Q6	Flat screw " 6
39	630M327O2	Head spacer	95	651 P302Q0	" " 20
40	591M125O1	Lead clamber	96	669 L020O1	FT screw " 6
41	891M047O1	Slide base	97	669 L020O4	" " 6
42	570M214O1	SB spring	98	670 P140Q1	Nut M4
43	439 L008O1	Squelton SW	99	680 P330W1	Toothed washer
44	642M062O1	Insulator plate	100	685 C002O3	Retaining ring E1.5
45	540M001O1	Lead clamber	101	685 C002O6	" E3
46	891M034O4	Bridge L	102	685 C002O7	" E4
47	641M113O1	Idler gear	103	685 C002O8	" E5
48	479 L005O2	Magnetic clutch	104	660 P200Q5	Screw M2x5



## (2) Electrical Parts

SYMBOL NO.	PARTS NO.	DESCRIPTION	SYMBOL NO.	PARTS NO.	DESCRIPTION
<b>PWB - AF</b>			C308, 408	181 P04001	Electrolytic capacitor 0.22 $\mu$ F 10V
R704	101 P330E3	Composition resistor 33 $\Omega$ $\pm$ 10% 1/2W	VR301, 401	123 L04001	Double VR 50K $\Omega$ X2
304, 404	103 L02709	Carbon resistors 33K $\Omega$ $\pm$ 5% 1/4W	R705	103 L01702	Carbon resistor 2.2K $\Omega$ $\pm$ 5% 1/4W
302	103 L02906	" 82 $\Omega$ " "	C320	141 P06205	Ceramic capacitor 0.022 $\mu$ F $\pm$ 20%
305	103 P06707	" 15K $\Omega$ " "	PL701, 702	253 L00205	Lead lamp
309	103 P06906	" 82 $\Omega$ " "	M	288 P01802	Motor
301, 401	103 P07102	" 27K $\Omega$ " "	S6	439 C00201	Wire SW
702	103 P07700	" 1K $\Omega$ $\pm$ 10% "	S1	439 L00801	Skeleton SW
307	103 P07701	" 1.5K $\Omega$ " "	TL. R	460 P00504	Magnetic head
308, 408	103 P07703	" 3.3K $\Omega$ " "	CL701	479 L00502	Magnetic clutch
701					
405	103 P07707	" 15K $\Omega$ " "			
303, 403, 703	103 P07803	" 150K $\Omega$ " "			
402, 409	103 P07906	" 82 $\Omega$ " "			
C301, 401	141 P06104	Ceramic capacitors 1000pF $\pm$ 20%			
314, 414	141 P08109	" 0.033 $\mu$ F "			
312, 412	154 P02302	" 68pF $\pm$ 5%			
313, 413	154 P02408	" 330pF "			
C303, 403	172 P01201	Polyester capacitors 0.0068 $\mu$ F $\pm$ 10%			
321, 421	172 P01205	" 0.033 $\mu$ F "			
316, 416	172 P01209	" 0.15 $\mu$ F "			
C306, 703	181 L01202	Electrolytic capacitors 100 $\mu$ F 16V			
317, 417	181 L01204	" 330 $\mu$ F "			
319	181 L01205	" 470 $\mu$ F "			
418	181 L01206	" 220 $\mu$ F "			
304, 310, 315, 404, 410, 415	181 P06009	" 47 $\mu$ F 10V			
C701	181 P06101	" 220 $\mu$ F 10V			
309, 409	181 P06600	" 0.47 $\mu$ F 50V			
311, 411	181 P06707	" 100 $\mu$ F 6.3V			
302, 305, 402, 405, 701	181 P06709	" 10 $\mu$ F 16V			
P1	242 L04301	6CM lead			
Q701, 702	260 P17506	Transistor 2SC 711-G			
703	260 P28005	" 2SC 1210-D2			
IC301	266 P31601	IC M51521L			
302, 402	266 P32001	" HA1339A			
L301	351 P00105	Choke trans.			
S2	431 P01306	Slide SW			
S3	432 L00804	Push SW			
<b>PWB - CH</b>					
R707	103 P06009	Carbon resistors 8.2K $\Omega$ $\pm$ 10% 1/4W			
706	103 P06105	" 82K $\Omega$ " "			
708, 709	103 P06702	" 2.2K $\Omega$ " "			
C704	181 P06200	Electrolytic capacitor 2.2 $\mu$ F 16V			
Q704	260 P16504	Transistor 2SA628-F			
705	260 P28005	" 2SC1210 -D2			
<b>OTHERS</b>					
VR302, 402	129 L03602	Slide VR 20K $\Omega$ X2			
303	129 L03703	" 50K $\Omega$			