

# Service Manual

Telephone Equipment

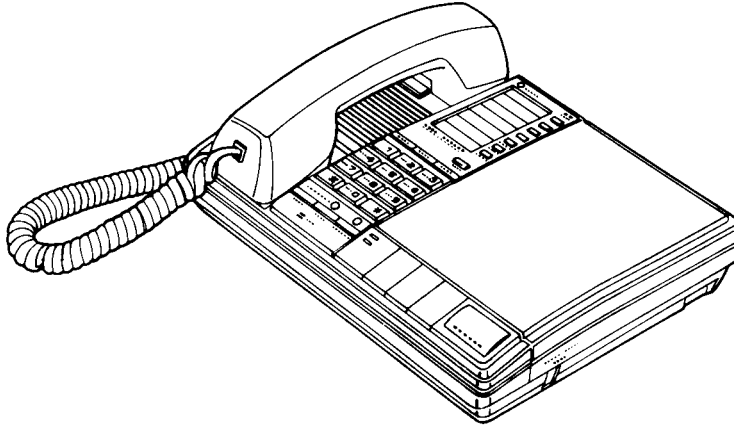
## KX-T2427

AUTO-LOGIC™

EASA-PHONE®



Integrated  
Telephone System



**SPECIFICATIONS/ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ**  
**DISASSEMBLY INSTRUCTIONS/ПОРЯДОК РАЗБОРКИ**  
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**IC BLOCK DIAGRAMS/БЛОК-СХЕМЫ МИКРОСХЕМ**  
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**SCHEMATIC DIAGRAM/ПРИНЦИПИАЛЬНАЯ СХЕМА**  
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**CABINET AND ELECTRICAL PARTS LOCATION/РАСПОЛОЖЕНИЕ ЧАСТЕЙ КОРПУСА И**  
**ЭЛЕКТРИЧЕСКИХ ЧАСТЕЙ**  
**EXPLODED VIEW (DECK)/СБОРОЧНЫЙ ЧЕРТЕЖ (ДЕКА)**  
**ACCESSORIES & PACKING MATERIALS/ПРИНАДЛЕЖНОСТИ И УПАКОВОЧНЫЕ МАТЕРИАЛЫ**  
**EXTENSION CORD CONNECTING METHOD/МЕТОД ПОДКЛЮЧЕНИЯ СЕРВИСНЫХ КАБЕЛЕЙ**  
**REPLACEMENT PARTS LIST/СПИСОК ЗАПАСНЫХ ЧАСТЕЙ**

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# Panasonic

**Matsushita Electric**  
**of Canada Limited**  
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## SPECIFICATIONS

### General:

Power Source: AC; AC adaptor KX-A11 (DC 12 V)  
Power Output: 350 mW (max.)  
Speaker: Unit; 6.5 cm (2½") PM dynamic  
Handset; 2.6 cm (1¾") Ceramic receiver unit, 0.1 µF.  
Microphone: Condenser microphone  
Jacks: Telephone line, DC IN  
Dimensions: 231 (W)×213(D)×104 (H) mm  
(with handset)  
(9¾"×8¾"×4¾")  
Weight: 1.07 kg (2 lbs. 2.5 oz) without cassette tapes

### Tape Deck Section:

Outgoing Message: 30-second endless loop cassette  
(OGM) (Variable, up to 30 seconds)  
Incoming Message: C-60 regular cassette: selectable  
(ICM) recording times  
A0/1 MIN/VOX with complete voice activation  
Tape Speed: 4.8 cm/s  
Wow and Flutter: 0.55% (WRMS)  
Motor: Electrical governor motor

Design and specifications are subject to change without notice.

### Telephone Section:

Memory Capacity: 20 telephone numbers, up to 16 digits for each station/  
12 telephone numbers, up to 16 digits for each direct Call Button  
Dial Speed: Tone (DTMF)/Pulse (10 pps)  
Redial: Last dialed telephone number up to 15 times in  
a 10 minute period, to store the redial number  
into the automatic dialer's memory  
Pause: Two automatic dial tone detectors

# DISASSEMBLY INSTRUCTIONS

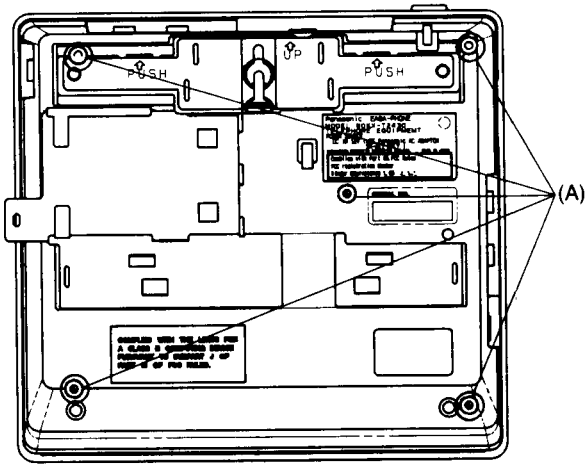


Fig. 2

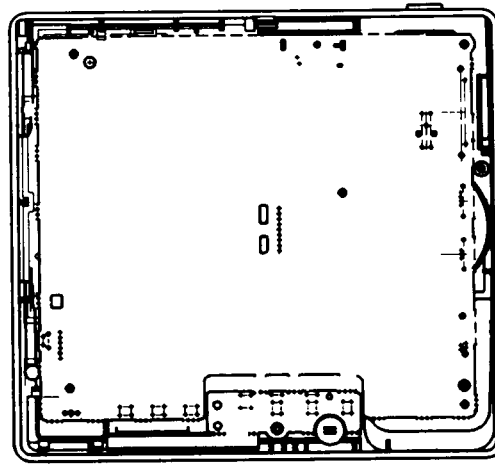


Fig. 3

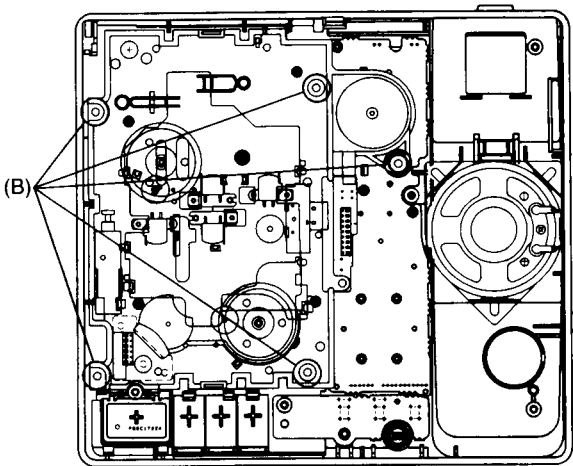


Fig. 4

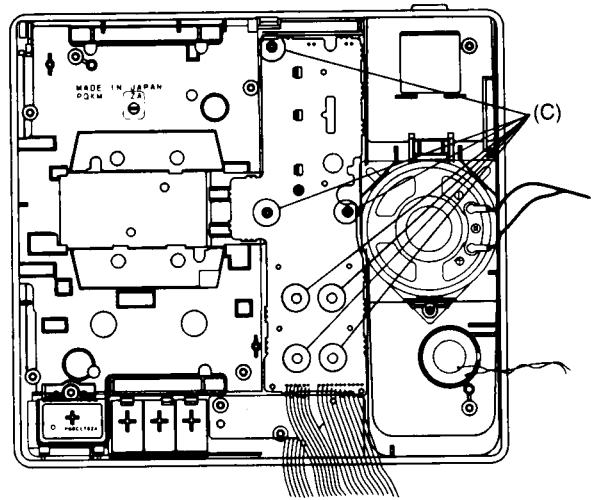


Fig. 5

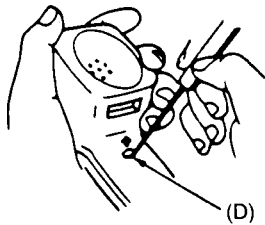


Fig. 6

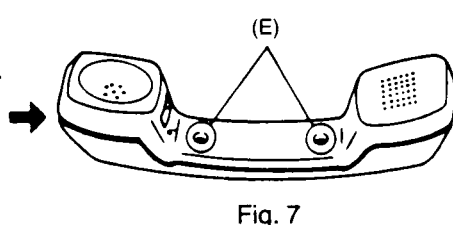


Fig. 7

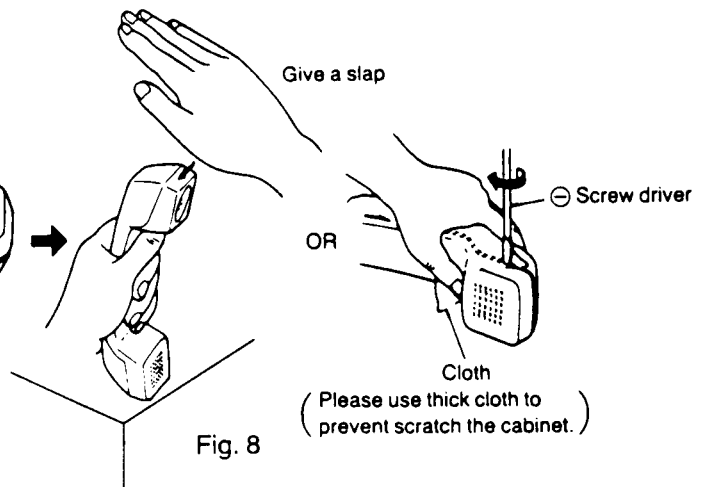


Fig. 8

Ref. No.	Procedure	Shown in Fig.—	To remove—	Remove—
1	1	2	Lower Cabinet	Screws (3×16) ..... (A)×5
2	1, 2	3	Main Printed Circuit Board	Remove the Main Printed Circuit Board
3	1~3	4	Cassette Deck	Screws (3×10) ..... (B)×5
4	1~4	5	Sub Printed Circuit Board	Screws (2.3×6) ..... (C)×7
5		6		Rubbers ..... (D)×2
6	5~7	7	Handset Cabinet	Screws (3×10) ..... (E)×2
7		8		Remove the cabinet

# BLOCK DIAGRAM

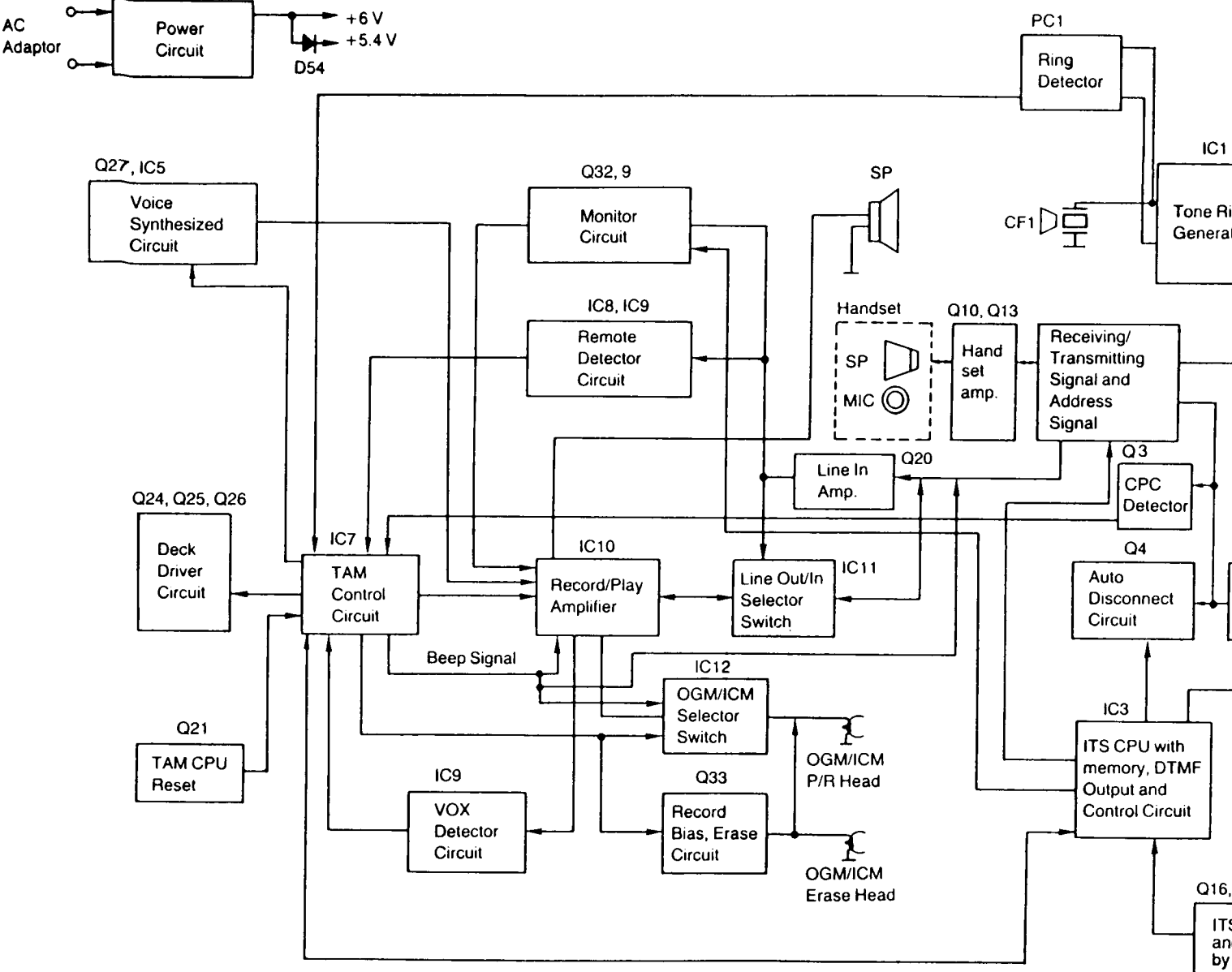


Fig. 9

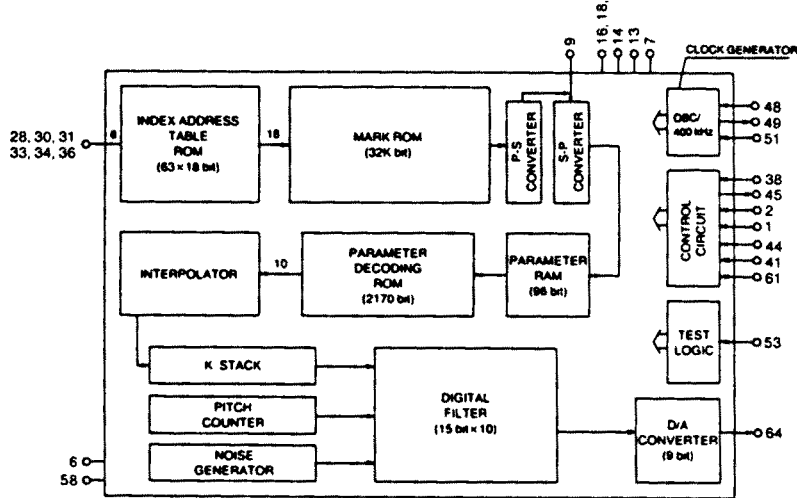


Fig. 10

IC8 PQVIMT8870BC

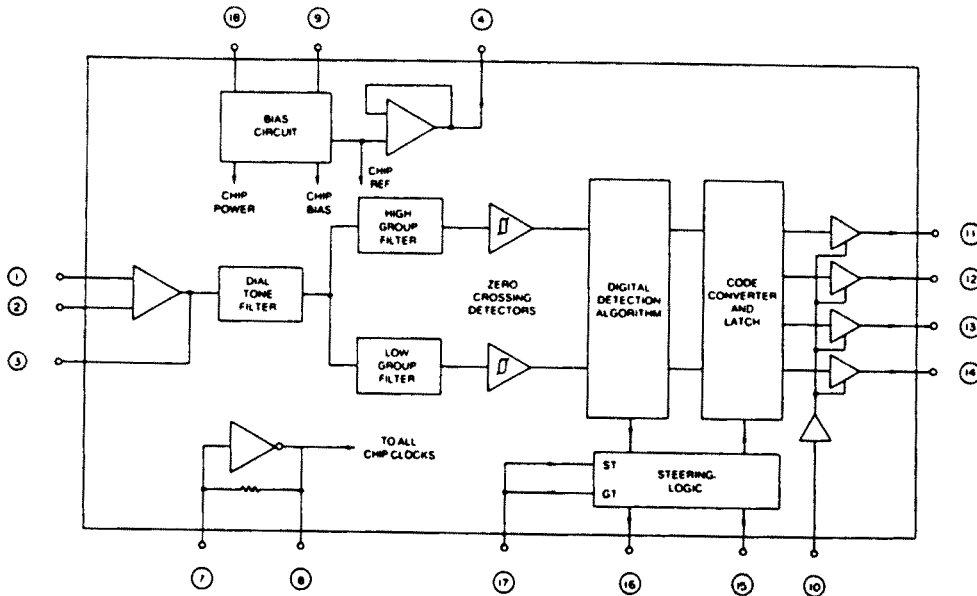
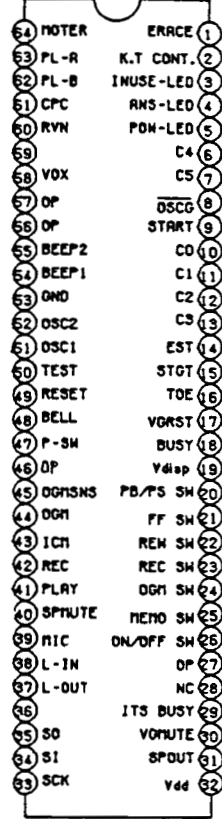


Fig. 11

Circuit Operator: (IC 3):

- Pin 2-5 output the scanning signal to the Dial, Lower, Redial, Voice memo check and the Pause switch.
- Pin 6 inputs the standard clock from the TAM's CPU.
- Pin 7 outputs the data to the TAM's CPU.
- Pin 8 inputs the data from the TAM's CPU.
- Pin 10 outputs the audible tone. the audible Tone is outputted from this port as a single signal.
- Pin 11 inputs the reset signal to CPU. When reset, its input is low level.
- Pin 12, 13 and 14 outputs the Monitor on/off, the Mute/Hold and the transfer LED indicators. While the LED lights the outputs are at the Low level.
- Pin 16 and 17 are the option data input ports.
- Pin 18 inputs the Tone/Pulse switch signal. When pulse, it inputs a low level.
- Pin 19 inputs the Hook switch signal. When off-hook, it inputs a low level.
- Pin 20-22 output the scanning signal to station key, the Program, Hold, Auto, Mute, Flashe and the Monitor ON/OFF switch.
- Pin 23 inputs the hold cancellation detector signal. When the hold switch is cancelled, it inputs a high level.
- Pin 24-27 are the key data input ports.
- Pin 28 outputs the tip ring control signal. when the Hold switch is pressed or Monitor mode (Handset is on-hook), it outputs a high level.
- Pin 29, 30 are the muting control signal. During muting, its output is a high level.
- Pin 31 outputs the speakerphone/handset selector signal. (High; Monitor, Low; Handset)
- Pin 32 inputs a high level when power is applied from the AC Adaptor.
- Pin 33 inputs the stop detector signal (to make the memory backup condition to the CPU). When inputting the stop detector, its input is a high level.
- Pin 35 is the detector input for each tone from the telephone line. When a tone signal is detected, its level is high.
- Pin 36 is an output to control the Make/Brake of the pulse dialing. During Brake, its output is a low level.
- Pin 37 is the terminal for the DTMF signal output.
- Pin 41 inputs the serial-busy signal from the TAM's CPU. When inputting the serial-busy signal, its input is a low level.
- Pin 42 is the + power supply input of the CPU.

Part No.: PQVI404SH52R  
 Power Supply: 5±0.5 V  
 Program ROM: 4096×10 bit  
 Inside Data RAM: 256×4 bit  
 V<sub>ss</sub>: 0 V



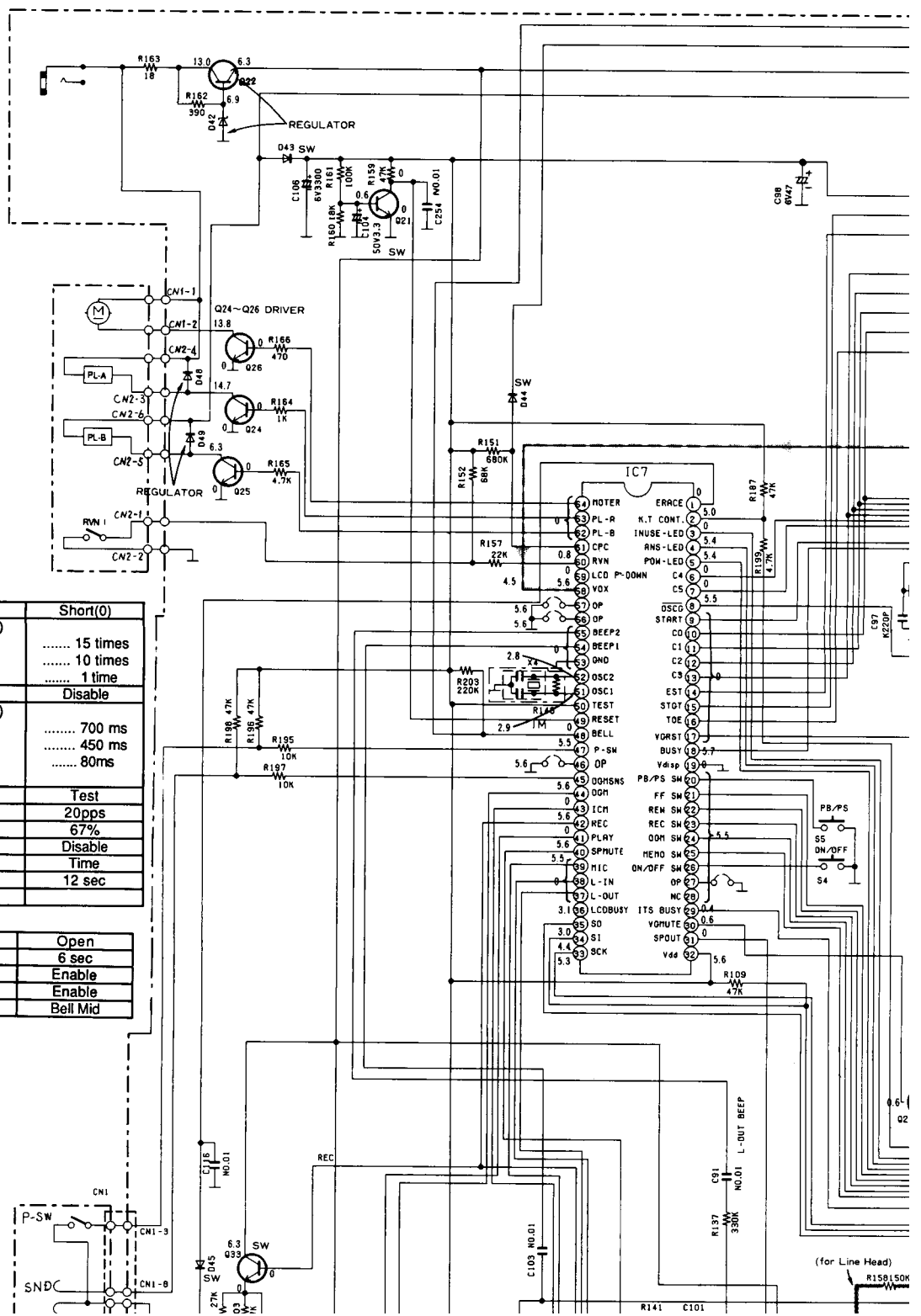
Pin No.	Function	High	Low	Pin No.	Function	High	Low
1	Erase	ON	OFF	33	SCK		
2	ADT Control		Key Tone Output	34	SI		
3	IN-Use LED			35	SO		
4	Answer LED	ON	OFF	36	NC.		
5	Power LED			37	Line-Out	Line Out ON	Line Out OFF
6	C4			38	Line-In	Line In ON	Line On OFF
7	C5			39	Mic	Mic ON	Mic OFF
8	OSCG		ON	40	SP-Mute	Mute ON	Mute OFF
9	Start	ON		41	Play		
10	C0			42	REC	ON	OFF
11	C1			43	ICM		
12	C2			44	OGM		
13	C3			45	OGM SNS	OFF	ON
14	EST	Enable to Tone Input		46	Time Stamp Option	Enable	Disable
15	STGT	ON	OFF	47	PS-SW	OFF	ON
16	TOE			48	Bell	Disable to Bell	Enable to Bell
17	VGRST		ON	49	Reset	ON	
18	Busy		Busy	50	Test		
19	Vdisp			51	OSC1		
20	PB/Pause			52	OSC2		
21	FF			53	GND		
22	REW	OFF	ON	54	Beep1		
23	REC			55	Beep 2		
24	OGM			56	DSC Option	Enable to transfer even when disconnected	Disable to transfer when disconnected
25	MEMO	OFF	ON	57	BLL Option	Normal receiving	Receiving at the end of ringing
26	ON/OFF	OFF	ON	58	Vox	Disable to sound	Enable to sound
27	Vox Option	6sec	4sec	59	NC.		
28	NC.			60	RVN		
29	ITS-Busy	Busy		61	CPC		Enable to CPC
30	VG-Mute	ON	OFF	62	PL-B		
31	SP OUT			63	PL-A	ON	OFF
32	Vdd			64	Motor		



IC3: MN158413KTS  
 Memory: 16 digit 32 station  
 Clock Frequency: 3.58 MHz  
 Power Supply Voltage: 2-5.5 V

Pin No.	Function	High	Low
1	GND Terminal		
2	Key-Scan Output		
3	Key-Scan Output	High-imp	Active
4	Key-Scan Output		
5	Key-Scan Output		
6	Serial Clock		
7	Serial Data Output	High-imp	Active
8	Serial Data Input	Batt Low	Normal
9	Audible Tone Control Output	Usually	Active
10	Audible Tone Output		Usually
11	System Reset Signal Input		
12	SP-Phone ON/OFF LED Control Output		
13	Mute/Hold Control Output	OFF	ON
14	Transfer Control Output		
15			
16	Option Data Input	Disable	Enable
17	Option Data Input		
18	Tone/Pulse Select Input	Tone	Pulse
19	Hook Signal Input	ON-Hook	OFF-Hook
20	Key-Scan Output		
21	Key-Scan Output	High-imp	Active
22	Key-Scan Output		
23	Ex-Hook Signal Input	OFF Hook	ON Hook
24	Key Input		
25	Key Input	Disable	Enable
26	Key Input		
27	Key Input		
28	Tip Ring Control Output		
29	Speaker Mute Control Output	ON	OFF
30	Mic Mute Control Output		
31	SP-Phone/Handset Control Output	SP-Phone	Handset
32	AC Power Detect Input	Usually	
33	Stop Signal Input	Stand by	Normal
34			
35	Tone Detect Signal Input	Usually	Tone Input
36	Pulse Dial Output	Make	Break
37	DTMF Signal Output		Usually
38	System Clock		
39	System Clock		
40	System Clock(1/64)		
41	Serial-Busy Signal Input	Usually	Active
42	+ Power Source Terminal		

A  
B  
C  
D  
E  
F  
G

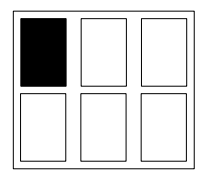


IC3: OPTION

Option	Open(1)		Short(0)
	(A)	(B)	
A Redial Times	1	1	..... 15 times
	1	0	..... 10 times
B Auto shout off	0	*	..... 1 time
	Enable		Disable
G Flash	(G)	(H)	..... 700 ms
	1	0	..... 450 ms
H	0	1	..... 80ms
	0	0	
D DTMF	Normal		Test
E Pulse Speed	10pps		20pps
F % Break	61%		67%
I Transfer	Enable	Disable	Disable
J Pause	Auto		Time
K Pause Time	Unlimited		12 sec

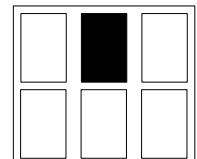
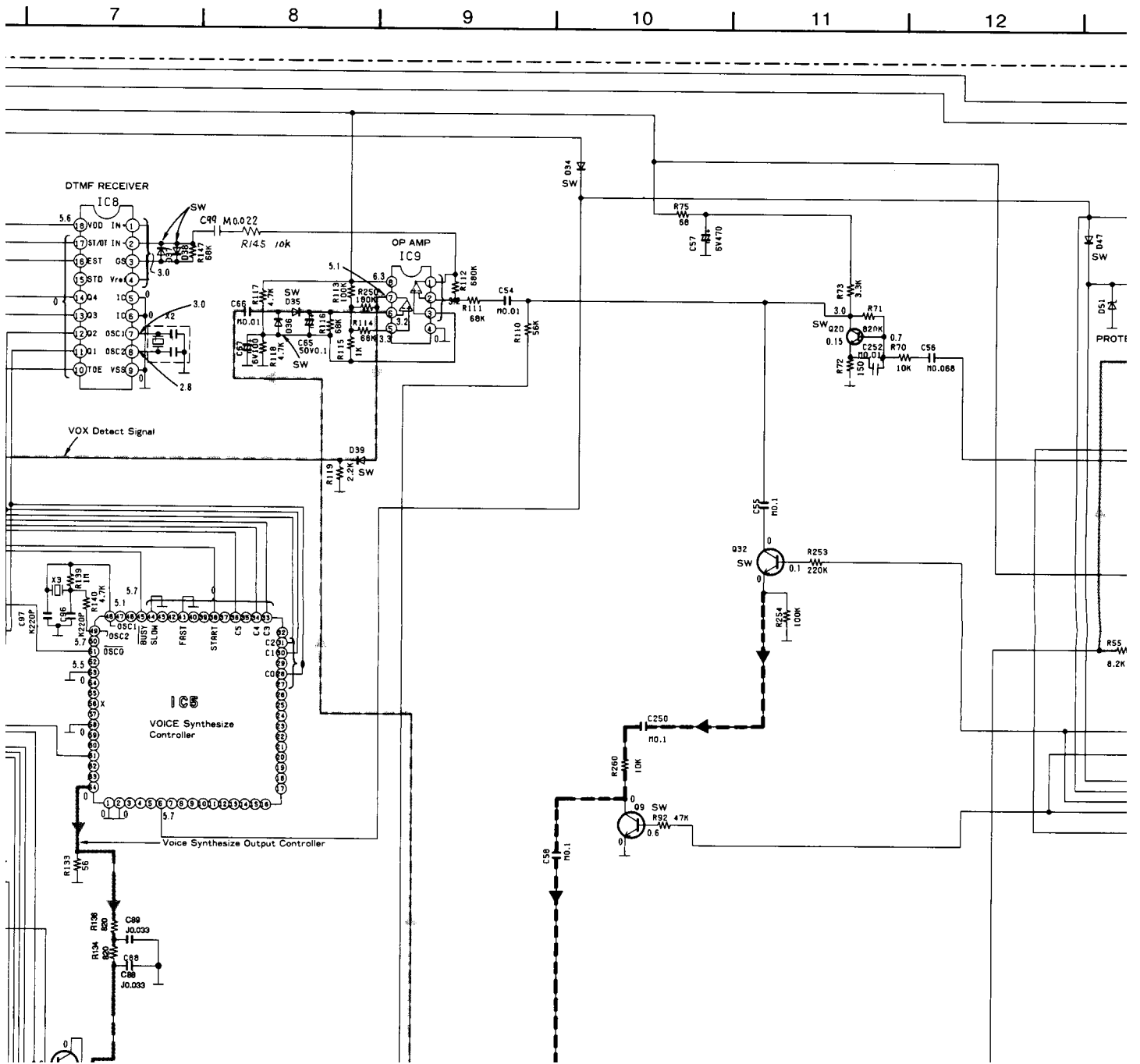
IC7: OPTION

Option	Short	Open
VOX OP 27	4 sec	6 sec
Time Stamp 46	Disable	Enable
Disc Transfer 56	Disable	Enable
Bell Receive 57	Bell End	Bell Mid

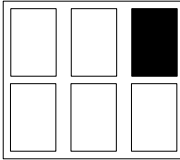
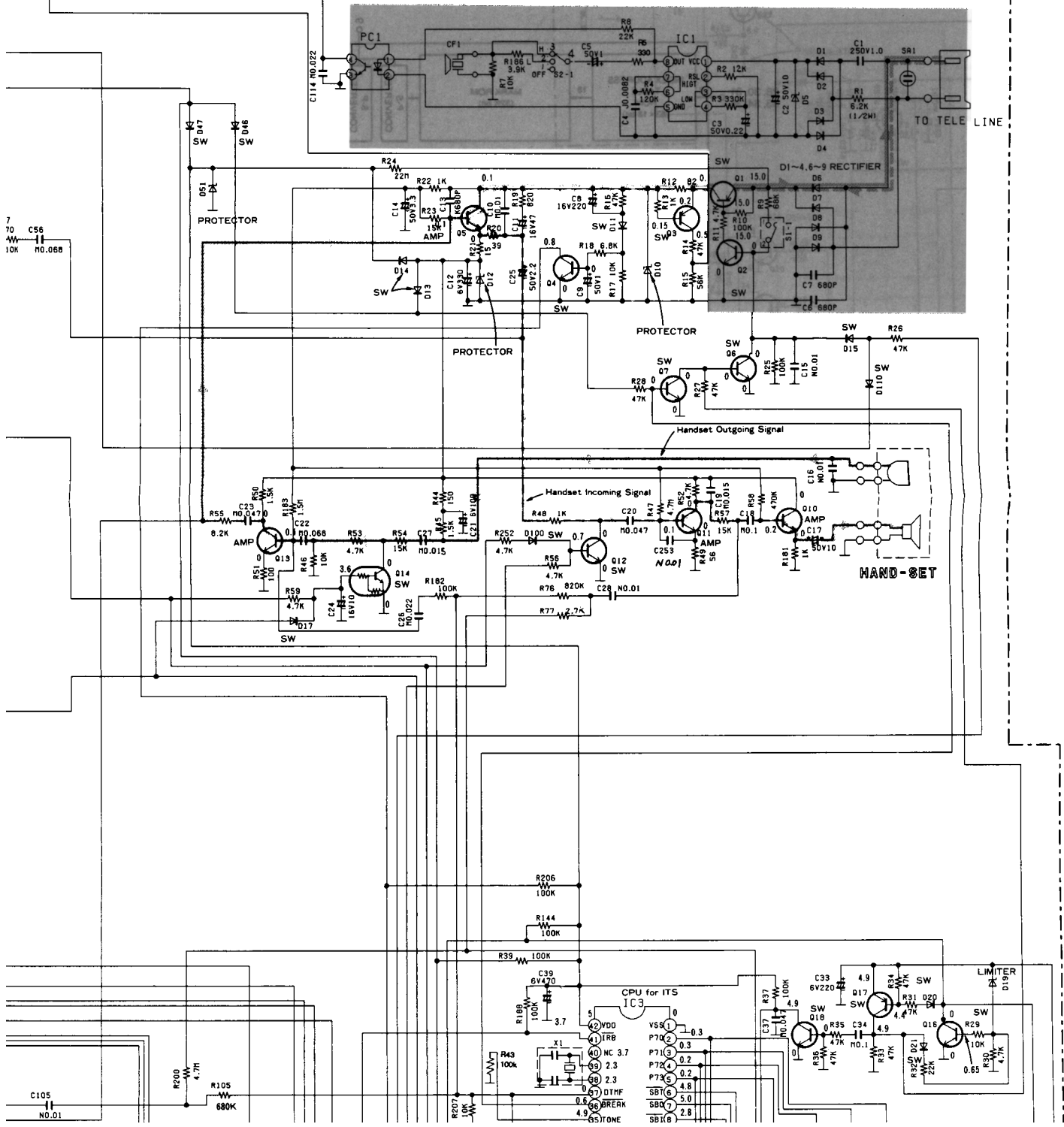




# SCHEMATIC DIAGRAM



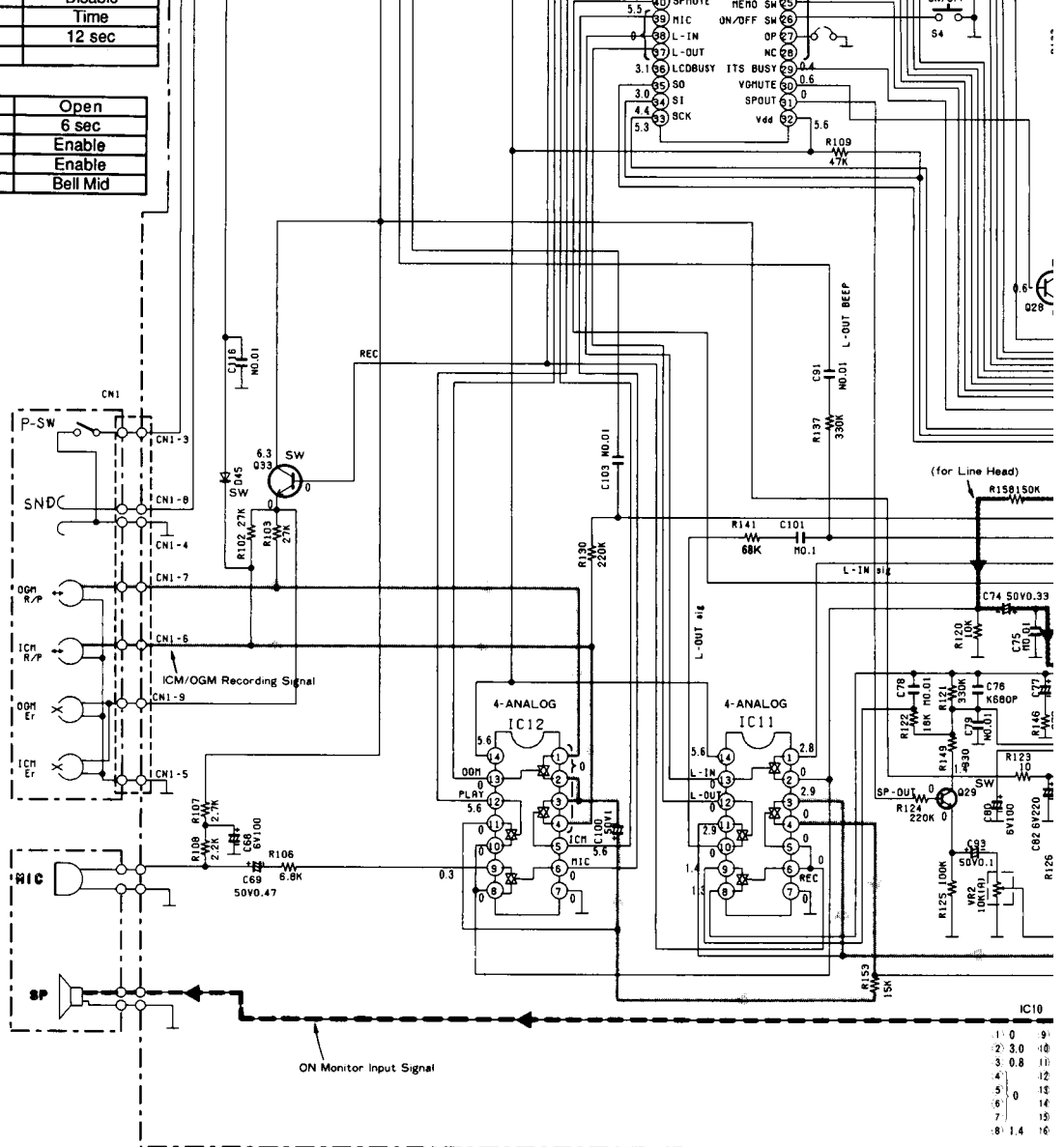
7  
70 C56  
10K NO.068



J	Pause	Auto	Time
K	Pause Time	Unlimited	12 sec

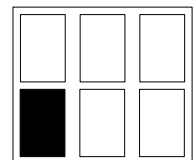
**IC7: OPTION**

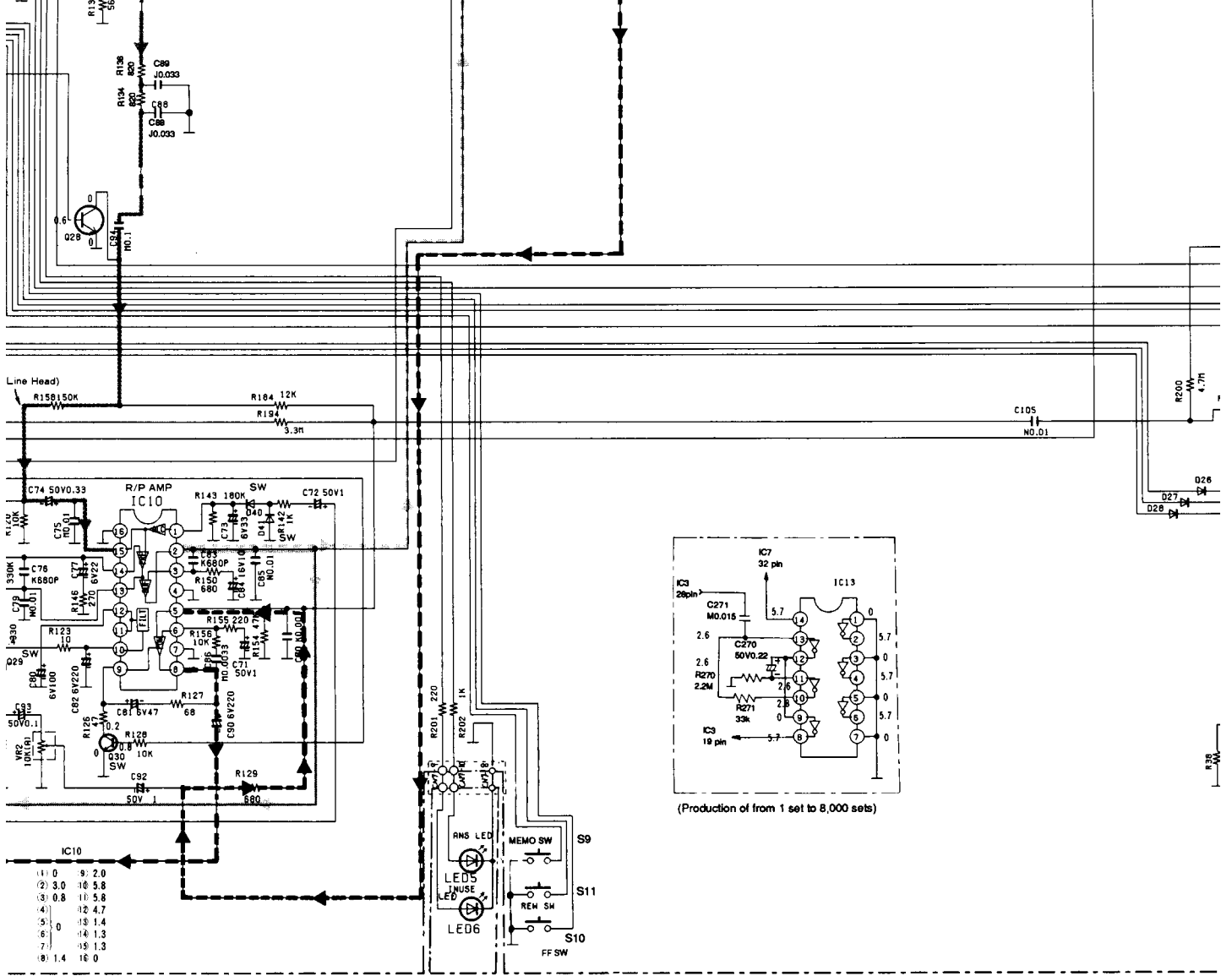
Option	Short	Open
VOX OP	27	4 sec
Time Stamp	46	Disable
Disc Transfer	56	Disable
Bell Receive	57	Bell End
		Bell Mid



**Notes:**

- |   |                                |                            |
|---|--------------------------------|----------------------------|
| 1. S1: Hook switch in "OFF-HOOK" position.                | 12. S12: Sensing switch.       | 21. S212: Flash switch.    |
| 2. S2: Ringer volume selector switch in "HIGH" position.  | 13. S13: Head position switch. | 22. S213: Pause switch.    |
| 3. S3: Dialing mode select or switch in "PULSE" position. | 14. S14: Reed switch.          | 23. S214: Record switch.   |
| 4. S4: Answer system on/off switch in "OFF" position.     | 15. S201-                      | 24. S215: OGM-start/stop   |
| 5. S5: Playback/Pause switch.                             | S204: Station switch.          | 25. S220-                  |
| 6. S6: Monitor switch.                                    | 16. S205: Clear switch.        | S231: Dialing switch.      |
| 7. S7: Hold switch.                                       | 17. S206: Memory switch.       | 26. DC voltage measurement |
| 8. S8: Mute switch.                                       | 18. S207: Lower switch.        | from negative line.        |
| 9. S9: Memo/2 way switch.                                 | 19. S209: Program switch.      |                            |
| 10. S10: Fast Forward switch.                             | 20. S211: Redial switch.       |                            |
| 11. S11: Rewind switch.                                   |                                |                            |

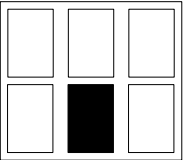
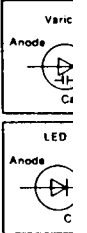


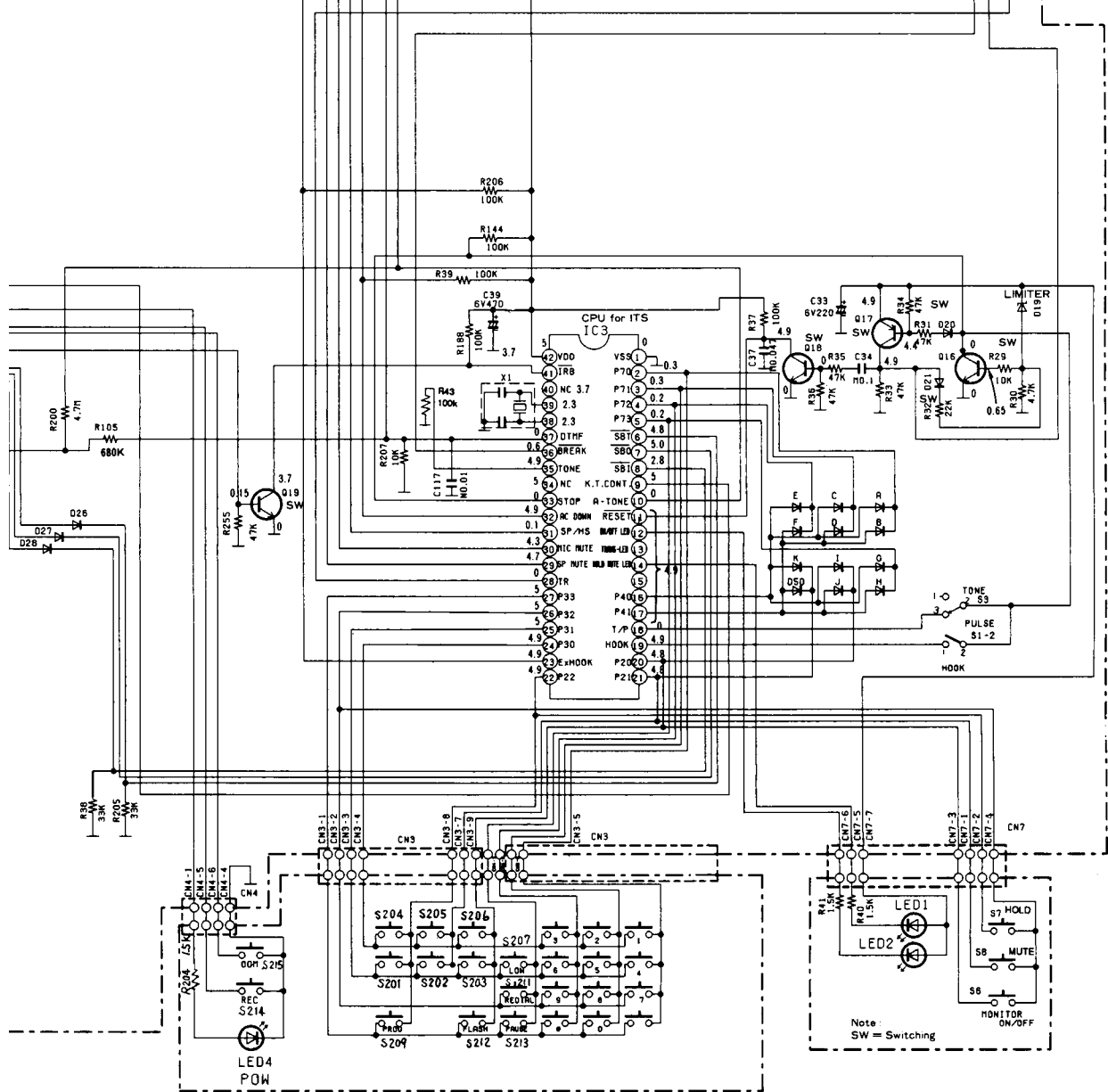


switch.  
 B switch.  
 rd switch.  
 -start/stop switch.

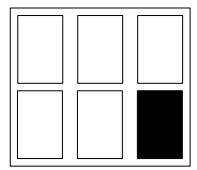
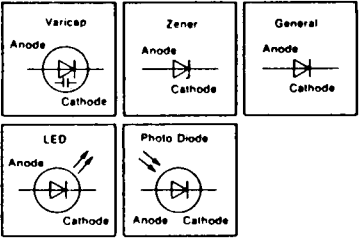
g switch.  
 easurement are taken with electronic voltmeter  
 line.




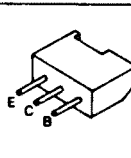
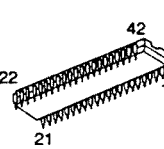
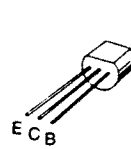
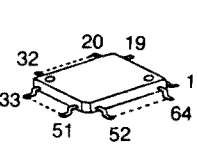
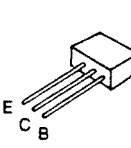
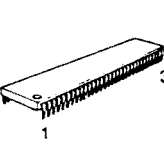
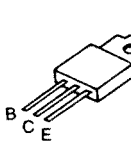
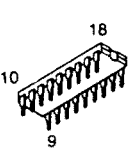
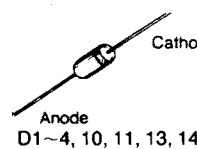
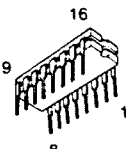
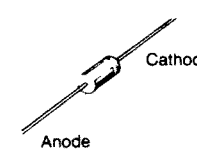
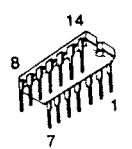
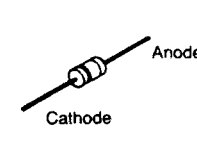
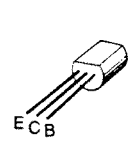
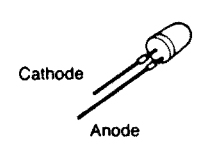
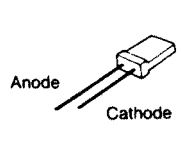
**Important safety notice**  
 The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.





This schematic diagram may be modified at any time with the development of new technology.



 <p>IC1</p>	 <p>Q2</p>
 <p>IC9</p>	 <p>Q3, 4, 6, 7, 9~13, 15~21, 24~30, 33</p>
 <p>IC3</p>	 <p>Q5</p>
 <p>IC5</p>	 <p>Q14</p>
 <p>IC7</p>	 <p>Q22, 23</p>
 <p>IC8</p>	 <p>Anode Cathode D1~4, 10, 11, 13, 14, 15, 17~21, 26~28, 34~51, 100~114</p>
 <p>IC10</p>	 <p>Anode Cathode D6~9</p>
 <p>IC11, 12, 13</p>	 <p>Anode Cathode D12</p>
 <p>Q1</p>	 <p>Cathode Anode LED1, 2, 4</p>
 <p>Anode Cathode LED5, 6</p>	

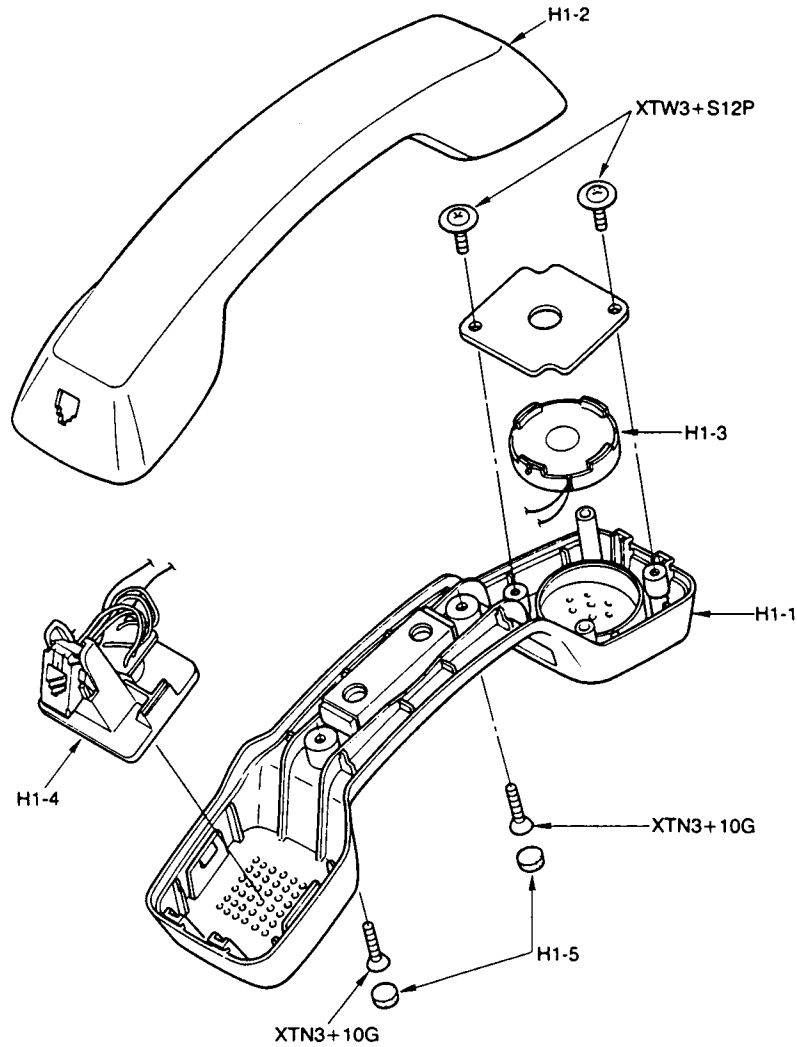


Fig. 12

## CONNECTION

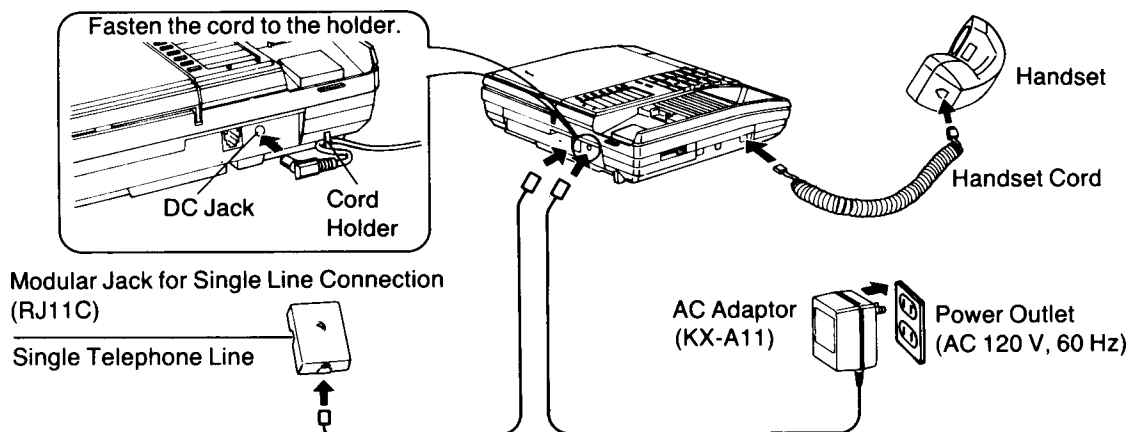


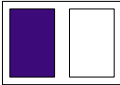
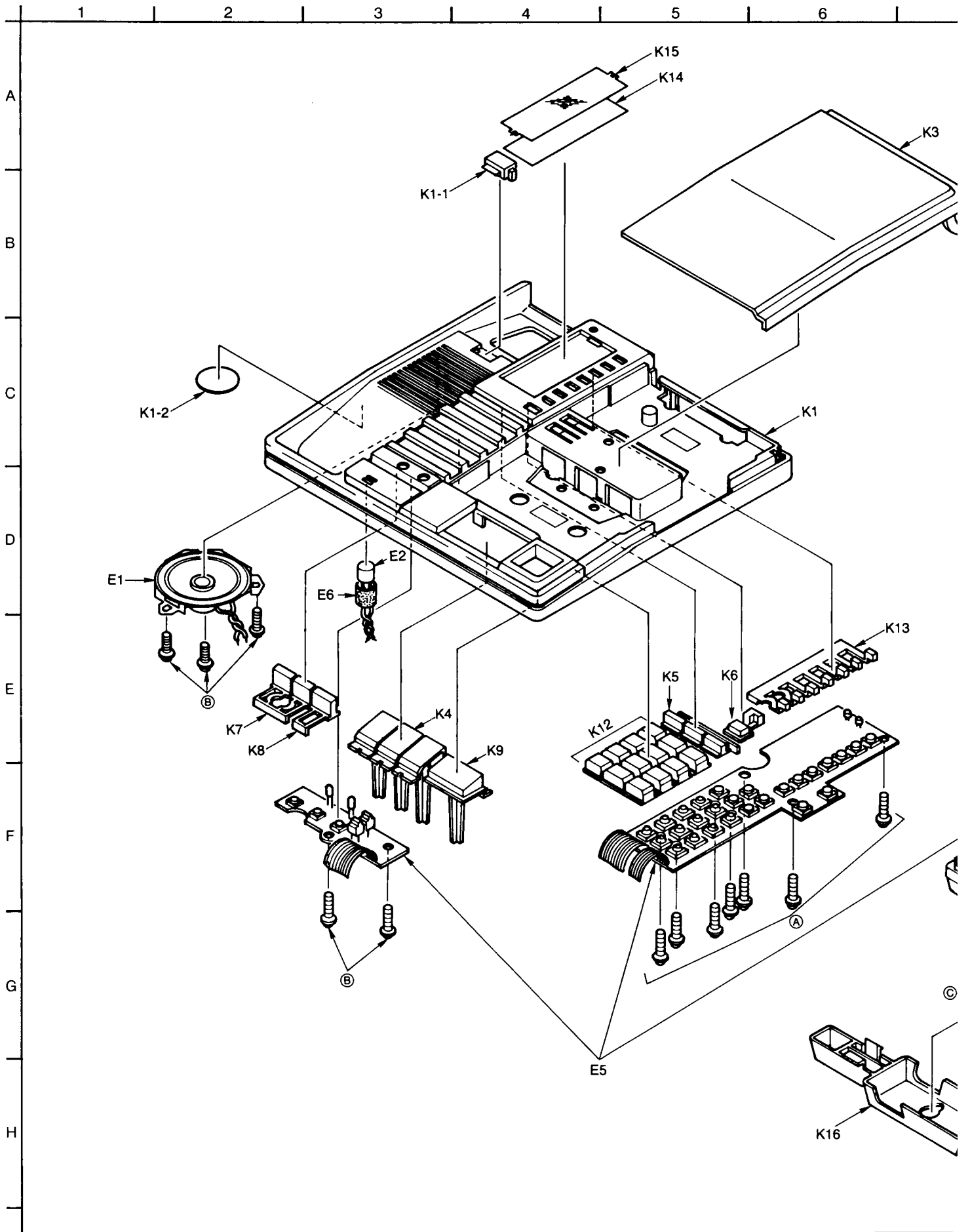
Fig. 13

- Notes:**
1. Make sure the heads are clean.
  2. Make sure the capstan and pressure roller are clean.
  3. Room temperature for measuring and adjusting:  $20 \pm 5^\circ\text{C}$  ( $68 \pm 9^\circ\text{F}$ )
  4. Test equipments are not treated as replacement parts.

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
<p><b>Head azimuth adjustment</b></p>	<p><b>A. Record/playback head for incoming message cassette</b></p> <ol style="list-style-type: none"> <li>1. Playback test tape (QZZCWAT 3 kHz)</li> <li>2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown below.)</li> </ol> <div data-bbox="462 357 1055 588" data-label="Diagram"> <p>Fig. A</p> <p>SP terminal</p> <p>Test tape      Playback mode      VTVM      Oscilloscope</p> </div> <p><b>B. Record/Playback head for outgoing message cassette</b></p> <ol style="list-style-type: none"> <li>1. Playback test tape (PQJN17Z 3 kHz)</li> <li>2. Adjust screw (A) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown in fig. A)</li> </ol>	<p>• Record/playback head for incoming message and outgoing message.</p> <div data-bbox="1161 399 1364 588" data-label="Diagram"> <p>(A)</p> <p>Fig. B</p> </div>



# CABINET AND ELECTRI



# CENTRICAL PARTS LOCATION

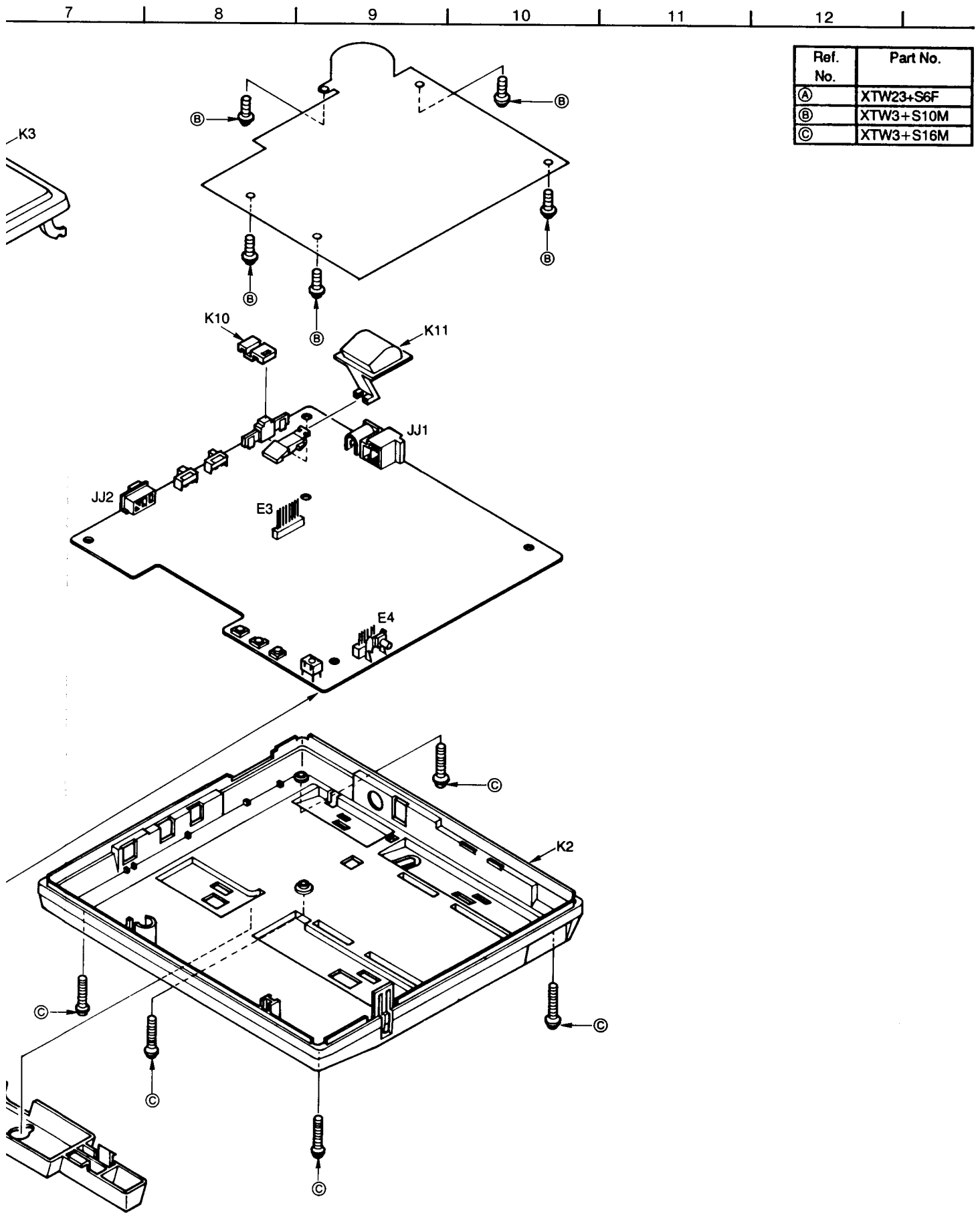
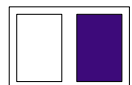


Fig. 14



# EXPLODED VIEW (DECK)

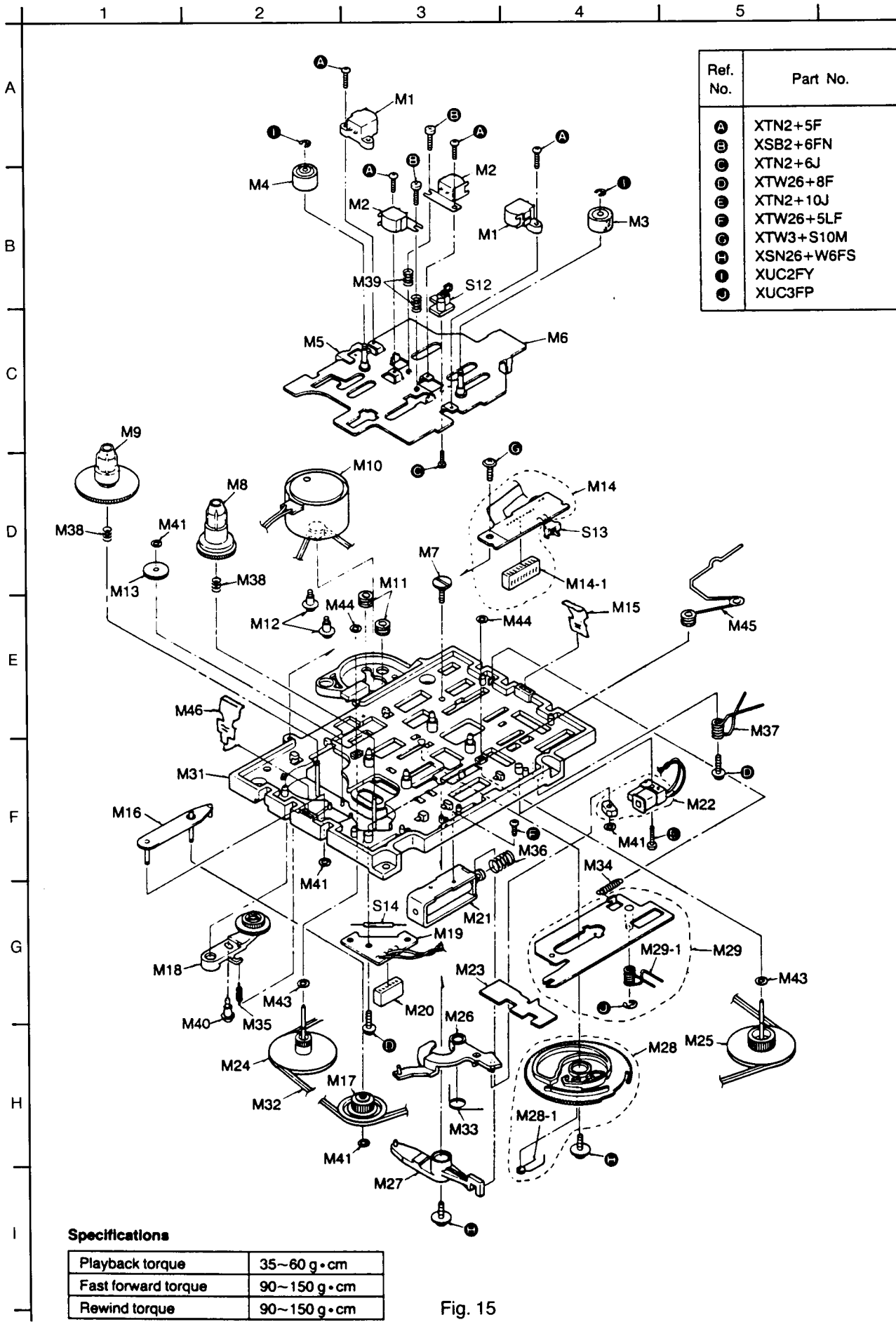


Fig. 15

# ACCESSORIES & PACKING MATERIALS

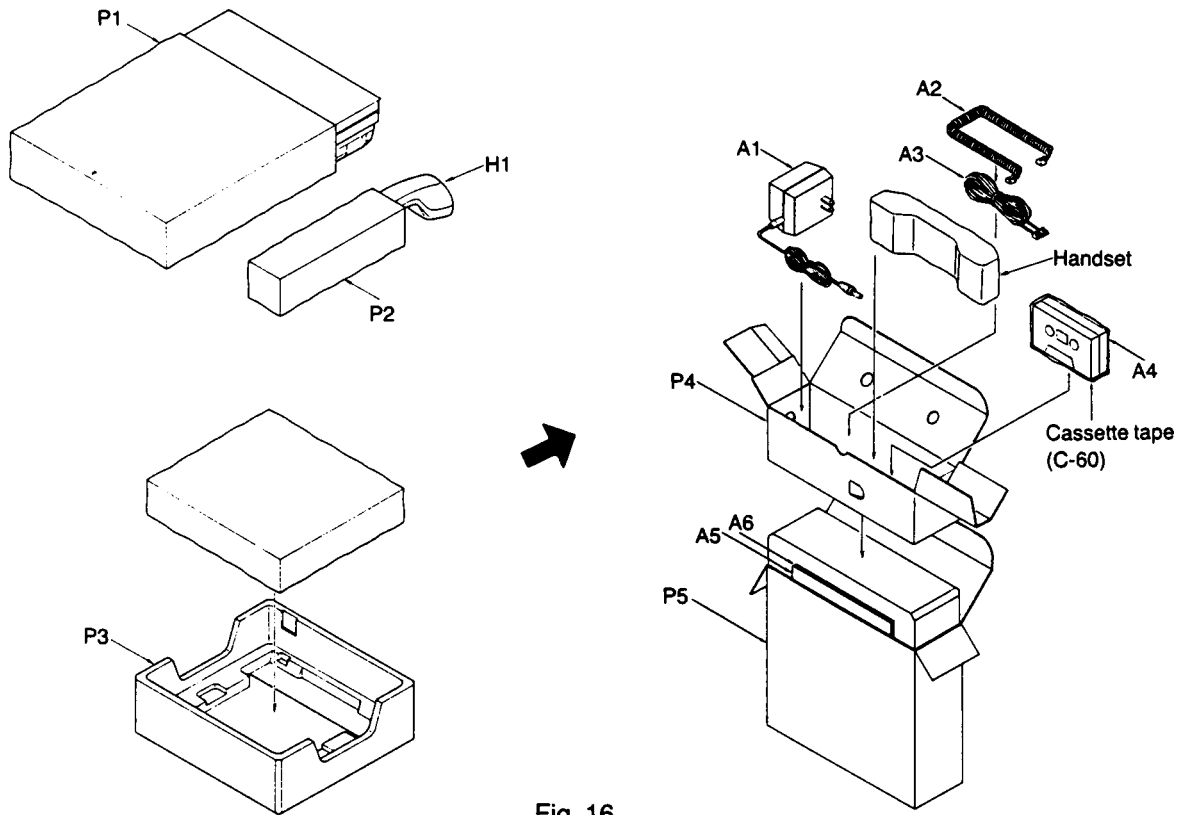


Fig. 16

# EXTENSION CORD CONNECTING METHOD

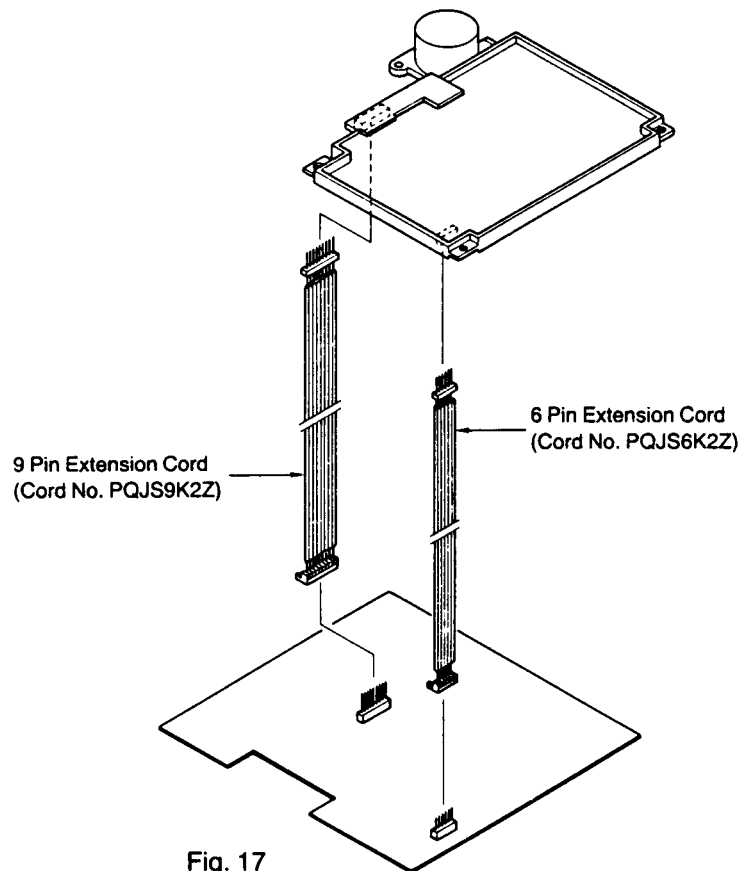


Fig. 17

**REPLACEMENT PARTS LIST**

**Notes:**  
 1. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.  
 2. Important safety notice.  
 Components identified by the  $\Delta$  mark special characteristics important for safety.  
 when replacing any of these components, use only manufacturer's specified parts.  
 3. The S mark indicates service standard parts and may differ from production parts.  
 4. RESISTORS & CAPACITORS  
 Unless otherwise specified.  
 All resistors are in ohms(  $\Omega$  ) k=1000 $\Omega$ ,M=1000k $\Omega$   
 All capacitors are in MICRO FARADS(  $\mu$ F ) P=0.001  $\mu$ F  
 \*Type & Wattage of Resistor  
 Type  
 ERC:Solid ERX:Metal Film ERDS,PQRD:Carbon  
 ERD:Carbon ERG:Metal Oxide PQRQ:Fusible Resistor  
 RRD:Chip ERO:Metal Film PQ4R:Chip  
 Wattage  
 10,16,18:1/8W 14,25,S2:1/4W 12,50,S1:1/2W 1:1W 2:2W 3:3W  
 \*Type & Voltage of Capacitor  
 Type  
 ECFD:Semi-Conductor ECCD,ECKD,PQCBC : Ceramic  
 ECQS:Styrol ECQM,ECQV,ECQE : Polyester  
 PQCBX,ECUV:Chip ECEA,EC SZ : Electrolytic  
 ECMS:Mica ECQP : Polypropylene  
 Voltage  
 ECQ Type ECQG ECQV Type ECSZ Type Others  
 1H: 50V 05: 50V OF:3.15V OJ :63V 1V :35V  
 2A:100V 1:100V 1A:10V 1A :10V 50,1H:50V  
 2E:250V 2:200V 1V:35V 1C :16V 1J :63V  
 2H:500V OJ:6.3V 1E,25:25V 2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs
M36	PQFS86Z	Spring, Plunger-A	1
M37	PQFS94Z	Spring, Head Base	1
M38	PQFS90Z	Spring, Reel Table	2
M39	PQFS98Z	Spring, Head Azimuth	2
M40	PQHD18Z	Screw	1
M41	PQFN7Z	Washer	4
M42	Not Used		
M43	PQFN12Z	Washer	2
M44	PQFN16Z	Washer	2
M45	PQFS106Z	Spring	1
M46	PQFD77Z	Spring	1

**INTEGRATED CIRCUITS, TRANSISTORS & DIODES**

IC1	PQVIBA6565A	IC	1 $\Delta$
IC3	MN158413KTS	IC	1
IC5	PQVIVGH6240A	IC	1
IC7	PQVI404SH52R	IC	1
IC8	PQVIMT8870BC	IC	S 1
IC9	PQVINJM4558D	IC	S 1
IC10	PQVITA7628P	IC	1
IC11,12	PQVITC4066BP	IC	S 2
* IC13	PQVIPD4069UC	IC	1
Q1	2SA1625	Transistor(Si)	1 $\Delta$
Q2	2SD662B	Transistor(Si)	1 $\Delta$
Q3,17	2SA937	Transistor(Si)	2
Q4,6,7,9-13	2SC2021	Transistor (Si)	19
16,18-21, 28-30,32,33			
Q5	2SC2120	Transistor(Si)	S 1
Q14	PQVTBB1L3N	Transistor(Si)	1
Q22	2SD1266	Transistor(Si)	1
Q24-26	2SD1225M	Transistor(Si)	3
D1-4,11,13	1S131	Diode (Si)	S 30 $\Delta$
15,17,18,20, 21,26-28, 34-41,44, 46-50,100, 110-114			
D5	MA4300	Diode(Si)	1
D6-9	PQVD1N4004	Diode (Si)	4
D10	MA4180	Diode(Si)	1
D12	MA7051	Diode (Si)	1
D14	MA700	Diode (Si)	1
D19	PQVDHZ2CLL02	Diode (Si)	1
D45	1S1588	Diode (Si)	S 1
D42	PQVDMTZ6R8	Diode(Si)	1
D43	1S2076	Diode(Si)	1
D51	MA4062	Diode(Si)	1
LED1,2	PQVDSL135BA	LED	S 2
LED4	PQVDBR2434D	LED	1
LED5	PQVDSLZ151B1	LED	1
LED6	PQVDSLZ251B1	LED	1

Ref. No.	Part No.	Part Name & Description	Pcs
<b>MECHANICAL PARTS</b>			
M1	PQJH6E4Z	Erase Head	2
M2	PQJH1E6Z	P/R Head	2
M3	PQF11004Y	Pinch Roller (ICM)	1
M4	PQF11004Z	Pinch Roller (OGM)	1
M5	PQFW37Z	Guide Rib, Position Switch	1
M6	PQFD9910Z	Head Sase Assembly	1
M7	PQHD17Z	Screw	1
M8	PQFR9909Z	Reel Table (Supply) Assembly	1
M9	PQFR9910Z	Reel Table (Takeup) Assembly	1
M10	PQFM9908Z	Motor Assembly	1
M11	PQF14Z	Rubber Spacer, Motor	2
M12	PQHD4Z	Screw, Motor M'g	2
M13	PQFG45Z	Gear, FF	1
M14	PQFZ9903Z	Flexible P.C.Board Assembly	1
M14-1	PQJS9B30Z	Connector, 9P	1
M15	PQFD76Z	Leaf Spring	1
M16	PQFD9908Z	F/R Lever Assembly	1
M17	PQFQ9901Z	F/R Pulley Assembly	1
M18	PQFR9911Z	Play Arm Assembly	1
M19	PQUP568Z	P.C.Board	1
M20	PQJS6B30Z	Connector, 6P	1
M21	PQFP119Z	Plunger-A	1
M22	PQFP121Z	Plunger-B	1
M23	PQFD70Y	Operation Plate	1
M24	PQFF9905Z	Flywheel (ICM) Assembly	1
M25	PQFF9906Z	Flywheel (OGM) Assembly	1
M26	PQFY9905Y	Trigger Lever-B Assembly	1
M27	PQFY9904Y	Trigger Lever-A Assembly	1
M28	PQFG9903Z	Cam Gear Assembly	1
M28-1	PQFS97Z	Spring, Cam Gear	1
M29	PQFD9907Z	Assistant Plate Assembly	1
M29-1	PQFS92Z	Spring, Assistant Plate	1
M30	Not Used		
M31	PQFC9908Z	Mechanism Base Assembly	1
M32	PQFB2Y	Belt	1
M33	PQFS87Z	Spring, Trigger Lever-A	1
M34	PQFS93Z	Spring, Assistant Plate	1
M35	PQFS88Z	Spring, Play Arm	1

**JACKS**

J1	PQJ2HA1Z	Jack, DC Telephone	1 $\Delta$
J2	PQJ1TB10Z	Jack, Handset	1

Ref. No.	Part No.	Part Name & Description	Pcs
<b>SWITCHES</b>			
S1	ESE14A211	Switch, Hook	1 $\Delta$
S2	PQSS3A17Y	Switch, Ringer Volume	1
S3	PQSS2A27Y	Switch, Tone/Pulse	1
S4	EVQ-QBH08T	Switch, Answer System On/Off	1
S5	PQSH1A13Z	Switch, Playback/Pause	1
S6-11,201-207, 209 211-215	EVQSS204B	Switch, Monitor, Hold, Mute, Memo, 2way, FF, REW, etc.	19
S12	PQFA9901Y	Switch, Sensing (for Deck)	1
S13	PQSH1A17Z	Switch, Head Position (for Deck)	1
S14	PQSE17Y	Switch, Reed (for Deck)	1
S220-231	PQSH1A33Z	Switch, Dialing	12
<b>OTHERS</b>			
SA1	PQVDSAE310	Varistor (Surgeabsorber)	S 1 $\Delta$
VR1	PQNB3A00B24M	Variable Resistor, 20k $\Omega$ (B)	1
VR2	PQVAL302A14A	Variable Resistor, 10k $\Omega$ (A)	1
X1,2	PQVBF3584A1	Ceramic Filter	S 2
X3	PQVFC5B400P	Ceramic Filter	S 1
X4	PQVBF3400A43	Ceramic Filter	S 1
PC1	PQVIP817K	Transducer (Photo Coupler)	1 $\Delta$
<b>CABINET PARTS</b>			
K1	PQYMT2427M	Upper Cabinet Assembly	1
K1-1	PQKE42Z3	Hanger	1
K1-2	EFBS19C01	Buzzer	1
K2	PQYFT2427M	Lower Cabinet Assembly	1
K3	PQYQT2427M	Cassette Lid Assembly	1
K4	PQBCX64Y1	Button, Memo, F/F, Rewind	1
K5	PQBCX60Y1	Button, Pause, Redial, Flash	1
K6	PQBCX62X1	Button, Prog.	1
K7	PQBCX63Z1	Button, Mute, Hold	1
K8	PQBC178Z	Button, Monitor	1
K9	PQBC179Y	Button, Playback/Pause	1
K10	PQBD97Z1	Knob, Volume	1
K11	PQBE17Z1	Button, Hook	1
K12	PQBCX5Y	Button, 12Key (Assembly)	1
K13	PQBCX59Y	Button, Direct call	1
K14	PQHP716Z	Memory Card	1
K15	PQHR5081Z	Transparent Cover	1
K16	PQKL20Z7	Stand	1
K17			1
<b>HANDSET PARTS</b>			
H1	PQJX2PS404W	Handset Assembly	1
H1-1	PQYM2PS404W	Lower Handset Cabinet	1
H1-2	PQKF110Z85	Upper Handset Cabinet	1
H1-3	PQWHJX404W	Speaker Assembly	1
H1-4	PQWMJX404W	Microphone Assembly	1
H1-5	PQH695W	Rubber Cap	2
<b>ELECTRICAL PARTS</b>			
E1	PQAS65P19Z	Speaker	1
E2	RJM142Z	Microphone	S 1
E3	PQJP9D56Z	Connector, 9pin (CN1)	1
E4	PQJP6D57Z	Connector, 6pin (CN2)	1
E5	PQWPT2427M	Main P.C.Board Assembly (NLA)	1
E6	PQHG503Z	Rubber Parts, Microphone Cover	1

Ref. No.	Part No.	Part Name & Description	Pcs		
<b>ACCESSORIES</b>					
A1	KX-A11	AC Adaptor	1 $\Delta$		
A2	PQJA30M	Handset Cord	1		
A3	PQJA59Y	Telephone Cord	S 1		
A4	PQJN4Z	Endless Cassette Tape	1		
A5	PQQX5611Z	Instruction Book	1		
A6	PQQX1567Z	Dial Card	1		
<b>PACKING MATERIALS</b>					
P1	XZB34X40A01	Protection Cover (for Set)	1		
P2	PQP75Z	Protection Cover (for Handset)	1		
P3	PQPN815Z	Pad	1		
P4	PQPN816Y	Accessory Box	1		
P5	PQPK625Y	Gift Box	1		
Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
<b>RESISTORS</b>					
R1	ERDSTJ622	6.2k $\Delta$	R54	ERD16TJ153	15k
R2	ERD16TJ123	12k $\Delta$	R55	ERD16TJ822	8.2k
R3	ERD10TLJ334	330k $\Delta$	R56	ERD16TJ472	4.7k
R4	ERD10TLJ124	120k $\Delta$	R57	ERD16TJ153	15k
R5	ERD10TLJ331	330 $\Delta$	R58	ERD10TLJ474	470k
R6	Not Used		R59	ERD16TJ472	4.7k
R7	ERD16TJ103	10k $\Delta$	R60	Not Used	
R8	ERD16TJ223	22k $\Delta$	R61	Not Used	
R9	ERD10TLJ683	68k $\Delta$	R62	Not Used	
R10	ERD16TJ104	100k $\Delta$	R63	Not Used	
R11	ERD16TJ472	4.7k $\Delta$	R64	Not Used	
R12	ERDSTJ820	82 $\Delta$	R65	Not Used	
R13	ERD16TJ102	1k $\Delta$	R66	Not Used	
R14	ERD16TJ473	47k $\Delta$	R67	Not Used	
R15	ERD10TLJ563	56k $\Delta$	R68	Not Used	
R16	ERD16TJ473	47k $\Delta$	R69	Not Used	
R17	ERD16TJ103	10k $\Delta$	R70	ERD16TJ103	10k
R18	ERD16TJ682	6.8k $\Delta$	R71	ERD10TLJ824	820k
R19	ERD10TLJ821	820 $\Delta$	R72	ERD10TLJ151	150
R20	ERD10TLJ390	39 $\Delta$	R73	ERD10TLJ332	3.3k
R21	ERD10TLJ150	15 $\Delta$	R74	Not Used	
R22	ERD16TJ102	1k $\Delta$	R75	ERD10TLJ680	68
R23	ERD16TJ153	15k $\Delta$	R76	ERD10TLJ824	820k
R24	ERC14GM226	22M $\Delta$	R77	ERD16TJ275	2.7M
R25	ERD10TLJ104	100k $\Delta$	R78-91	Not Used	
R26	ERD10TLJ473	47k $\Delta$	R92	ERD16TJ473	47k
R27	ERD16TJ473	47k $\Delta$	R93-101	Not Used	
R28	ERD16TJ473	47k $\Delta$	R102	ERD16TJ273	27k
R29	ERD16TJ103	10k $\Delta$	R103	ERD16TJ273	27k
R30	ERD16TJ472	4.7k $\Delta$	R104	Not Used	
R31	ERD16TJ473	47k $\Delta$	R105	ERD16TJ155	1.5M
R32	ERD16TJ223	22k $\Delta$	R106	ERD16TJ682	6.8k
R33	ERD16TJ473	47k $\Delta$	R107	ERD10TLJ272	2.7k
R34	ERD16TJ473	47k $\Delta$	R108	ERD16TJ222	2.2k
R35	ERD16TJ473	47k $\Delta$	R109	ERD16TJ473	47k
R36	ERD16TJ473	47k $\Delta$	R110	ERD16TJ563	56k
R37	ERD10TLJ104	100k $\Delta$	R111	ERD25TJ683	68k
R38	ERD10TLJ333	33k $\Delta$	R112	ERD10TLJ684	680k
R39	ERD16TJ104	100k $\Delta$	R113	ERD16TJ104	100k
R40	ERD16TJ152	1.5k $\Delta$	R114	ERD16TJ683	68k
R41	ERD16TJ152	1.5k $\Delta$	R115	ERD16TJ102	1k
R42	Not Used		R116	ERD10TLJ683	68k
R43	ERD10TLJ104	100k $\Delta$	R117	ERD10TLJ472	4.7k
R44	ERD16TJ151	150 $\Delta$	R118	ERD10TLJ472	4.7k
R45	ERD16TJ152	1.5k $\Delta$	R119	ERD10TLJ222	2.2k
R46	ERD16TJ103	10k $\Delta$	R120	ERD10TLJ103	10k
R47	ERD10TLJ475	4.7M $\Delta$	R121	ERD10TLJ334	330k
R48	ERD16TJ102	1k $\Delta$	R122	ERD16TJ183	18k
R49	ERD10TLJ560	56 $\Delta$	R123	ERD10TLJ100	10
R50	ERD16TJ152	1.5k $\Delta$	R124	ERD16TJ224	220k
R51	ERD10TLJ101	100 $\Delta$	R125	ERD16TJ104	100k
R52	ERD10TLJ472	4.7k $\Delta$	R126	ERD10TLJ470	47
R53	ERD16TJ472	4.7k $\Delta$	R127	ERD10TLJ680	68

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value
R128	ERD16TJ103	10k	R164	ERD16TJ102	1k
R129	ERD16TJ681	680	R165	ERD16TJ472	4.7k
R130	ERD16TJ224	220k	R166	ERD10TLJ471	470
R131	Not Used		R167-180	Not Used	
R132	Not Used		R181	ERD16TJ102	1k
R133	ERD16TJ560	56	R182	ERD16TJ104	100k
R134	ERD10TLJ821	820	R183	ERD16TJ155	1.5M
R135	Not Used		R184	Not Used	
R136	ERD10TLJ821	820	R185	Not Used	
R137	ERD25TJ334	330k	R186	ERD10TLJ392	3.9k
R138	Not Used		R187	ERD25TJ473	47k
R139	ERD16TJ105	1M	R188	ERD16TJ104	100k
R140	ERD16TJ472	4.7k	R189-193	Not Used	
R141	ERD25TJ683	68k	R194	ERD16TJ335	3.3M
R142	ERD10TLJ102	1k	R195	ERD16TJ103	10k
R143	ERD10TLJ184	180k	R196	ERD10TLJ473	47k
R144	ERD10TLJ104	100k	R197	ERD16TJ103	10k
R145	ERD10TLJ103	10k	R198	ERD16TJ473	47k
R146	ERD10TLJ271	270	R199	ERD16TJ472	4.7k
R147	ERD16TJ683	68k	R200	ERD10TLJ475	4.7M
R148	ERD10TLJ105	1M	R201	ERD16TJ221	220
R149	ERD10TLJ331	330	R202	ERD16TJ102	1k
R150	ERD10TLJ681	680	R203	ERD10TLJ224	220k
R151	ERD10TLJ684	680k	R204	ERD10TLJ152	1.5k
R152	ERD16TJ683	68k	R205	ERD10TLJ333	33k
R153	ERD16TJ153	15k	R206	ERD10TLJ104	100k
R154	ERD10TLJ473	47k	R207	ERD16TJ103	10k
R155	ERD16TJ221	220	R250	ERD10TLJ184	180k
R156	ERD10TLJ103	10k	R251	Not Used	
R157	ERD25TJ223	22k	R252	ERD16TJ472	4.7k
R158	ERD25TJ154	150k	R253	ERD16TJ224	220k
R159	ERD16TJ473	47k	R254	ERD16TJ104	100k
R160	ERD16TJ183	18k	R255	ERD10TLJ473	47k
R161	ERD16TJ104	100k			
R162	ERDS1TJ391	390	R260	ERD10TLJ103	10k
R163	PQRQM2VJ180	18			
			* R270	ERD10TLJ225	2.2M
			* R271	ERD10TLJ333	33k
			R301	PQRD250TJ105 (for Deck)	1M

**CAPACITORS**

C1	ECQE2105KS	1	△	C33	ECEA1AU221	220	S
C2	ECEA1HKS100	10	△	C34	ECFD1C104MD	0.1	
C3	ECEA1HKS22	0.22	△	C35	Not Used		
C4	ECQM1H822JV	0.0082	△	C36	Not Used		
C5	ECEA1HKS010	1	△	C37	ECFD1E473MD	0.047	
C6	ECKD2H681KB	680P	△	C38	Not Used		
C7	ECKD2H681KB	680P	△	C39	ECEA1AU221	220	S
C8	ECEA1CU221	220	△	C40-53	Not Used		
C9	ECEA1HKS010	1		C54	PQCBC1C103MY	0.01	
C10	PQCBC1C103MY	0.01		C55	ECFD1C104MD	0.1	
C11	ECEA1EK470	47	S	C56	ECFD1C683MD	0.068	
C12	ECEA0JU331	330		C57	ECEA0JU331	330	
C13	PQCBC1H681KB	680P		C58	ECFD1C104MD	0.1	
C14	ECEA1HKS3R3	3.3		C59-64	Not Used		
C15	PQCBX1C103MY	0.01		C65	ECEA1HKS0R1	0.1	
C16	PQCBC1C103MY	0.01		C66	PQCBC1C103MY	0.01	
C17	ECEA1CKS100	10		C67	ECEA1CKS470	47	
C18	ECFD1C104MD	0.1		C68	ECEA1CKS470	47	
C19	ECFD1E153MD	0.015		C69	ECEA1HKS47	0.47	
C20	ECFD1E473MD	0.047		C70	PQCBC1H102KB	0.001	
C21	ECEA1CK101	100	S	C71	ECEA1HKS010	1	
C22	ECFD1C683MD	0.068		C72	ECEA1HKS010	1	
C23	ECFD1E473MD	0.047		C73	ECEA1AKS330	33	S
C24	ECEA1CKS100	10		C74	ECEA1HKS3R3	0.33	
C25	ECEA1HKS2R2	2.2		C75	PQCBC1C103MY	0.01	
C26	ECFD1E223MD	0.022		C76	PQCBC1H681KB	680P	
C27	ECFD1E153MD	0.015		C77	ECEA0JKS220	22	
C28	PQCBX1C103MY	0.01		C78	PQCBC1C103MY	0.01	
C29	Not Used			C79	PQCBC1C103MY	0.01	
C30	Not Used			C80	ECEA1CK101	100	S
C31	Not Used			C81	ECEA1CKS470	47	S
C32	Not Used			C82	ECEA0JK221	220	

Ref. No.	Part No.	Value	Ref. No.	Part No.	Value		
C83	PQCBC1H681KB	680P	C103	PQCBC1C103MY	0.01		
C84	ECEA1CKS100	10	C104	ECEA1HKS3R3	3.3		
C85	PQCBC1C103MY	0.01	C105	PQCBC1C103MY	0.01		
C86	PQCBC1C332MX	0.0033	C106	ECEA0JU332	3300		
C87	Not Used		C107	Not Used			
C88	ECQM1H333JV	0.033	C108	Not Used			
C89	ECQM1H333JV	0.033	C109	Not Used			
C90	ECEA0JK221	220	C111	Not Used			
C91	PQCBC1C103MY	0.01	C112	Not Used			
C92	ECEA1HKS010	1	C113	Not Used			
C93	ECEA1HKS0R1	0.1	C114	ECFD1E223MD	0.022		
C94	ECFD1C104MD	0.1	C115	Not Used			
C95	Not Used		C116	ECBC1C103MY	0.01		
C96	PQCBC1H221KB	220P	C117	PQCBC1C103MY	0.01		
C97	PQCBC1H221KB	220P					
C98	ECEA1CKS470	47	S	C250	ECFD1C104MD	0.1	
C99	ECFD1E223MD	0.022		C251	ECUV1H102KB	0.001	S
C100	ECEA1HKS010	1		C252	PQCBX1C103MY	0.01	
C101	ECFD1C104MD	0.1		C253	PQCBX1C103MY	0.01	
C102	Not Used			C254	PQCBC1C103MY	0.01	
			* C270	ECEA1HKS22	0.22		
			* C271	PQCBC0J153MY	0.015		

Note:

\* IC13, \* R270, \* R271, \* C270 and \* C271 is put only for production of 1 set to 8,000 sets.