

Service Manual

and Technical Guide

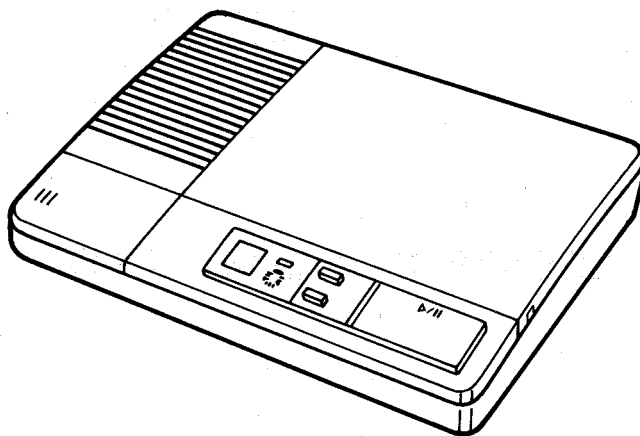
AUTO-LOGIC™

EASA-PHONE

AUTOMATIC TELEPHONE
ANSWERING SYSTEM

Telephone Equipment

KX-T1000



SPECIFICATIONS/ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
DISASSEMBLY INSTRUCTIONS/ПОРЯДОК РАЗБОРКИ
CONNECTION/ПОДСОЕДИНЕНИЕ
CPU DATA/ИНФОРМАЦИЯ О ПРОЦЕССОРЕ
MEASUREMENT AND ADJUSTMENT METHOD/ИЗМЕРЕНИЯ И РЕГУЛИРОВКИ
IC BLOCK DIAGRAM/БЛОК-СХЕМА ИС
TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES/ЦОКОЛЕВКА
ИНТЕГРАЛЬНЫХ СХЕМ, ТРАНЗИСТОРОВ И ДИОДОВ
SCHEMATIC DIAGRAM/ПРИНЦИПИАЛЬНАЯ СХЕМА
BLOCK DIAGRAM/БЛОК-СХЕМА
TROUBLESHOOTING GUIDE/НЕИСПРАВНОСТИ И МЕТОДЫ ИХ УСТРАНЕНИЯ
ACCESSORIES AND PACKING MATERIALS/ПРИНАДЛЕЖНОСТИ И
УПАКОВОЧНЫЕ МАТЕРИАЛЫ
EXTENSION CORD CONNECTING METHOD/ПОДКЛЮЧЕНИЕ СЕРВИСНОГО
КАБЕЛЯ
CASSETTE DECK PARTS LOCATION/РАСПОЛОЖЕНИЕ ЧАСТЕЙ КАССЕТНОГО
МЕХАНИЗМА
CABINET AND ELECTRICAL PARTS LOCATION/РАСПОЛОЖЕНИЕ ЧАСТЕЙ
КОРПУСА И ЭЛЕКТРИЧЕСКИХ ЧАСТЕЙ
REPLACEMENT PARTS LIST/СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

Panasonic

Matsushita Services Company
Division of Matsushita Electric
Corporation of America
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Matsushita Electric
of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Panasonic Sales Company,
Division of Matsushita Electric
of Puerto Rico, Inc.
San Gabriel Industrial Park
65th Infantry Ave. Km.9.5
Carolina, Puerto Rico 00630

■ SPECIFICATIONS

Power Source:	AC adaptor (12 V, DC), KX-A11-W
Outgoing Message (OGM):	Recorded on a microchip.
Incoming Message (ICM):	Recording Time is up to 30 seconds. Micro Cassette (MC-30) (1 MIN/VOX)
Tape Deck:	Logic control dual cassette system
Ring Control:	5/Auto
Call Counter:	1-digit LED display, up to 9 calls
Power Output:	350 mW max. across the monitor speaker
Monitor Speaker:	5 cm (1 ³¹ / ₃₂ ") PM dynamic (8 ohms)
Microphone:	Condenser microphone
Connection:	2 built-in modular jacks, DC-IN jack
Dimensions:	5 ⁵ / ₃₂ " × 1 ²³ / ₃₂ " × 6 ³¹ / ₃₂ " [131 (W) × 44 (H) × 177 (D) mm]
Weight:	1 lb 1.93 oz (480 g) with cassette tape

Design and specifications are subject to change without notice.

DISASSEMBLY INSTRUCTIONS

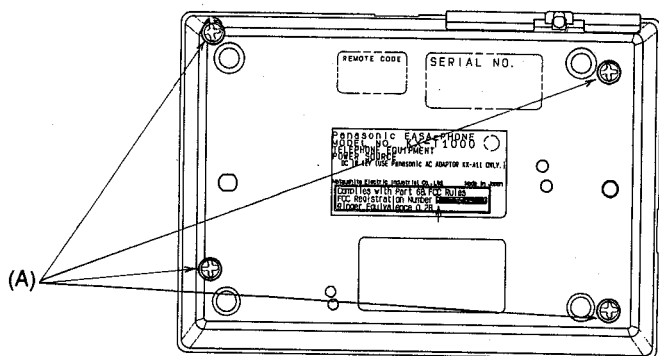


Fig. 2

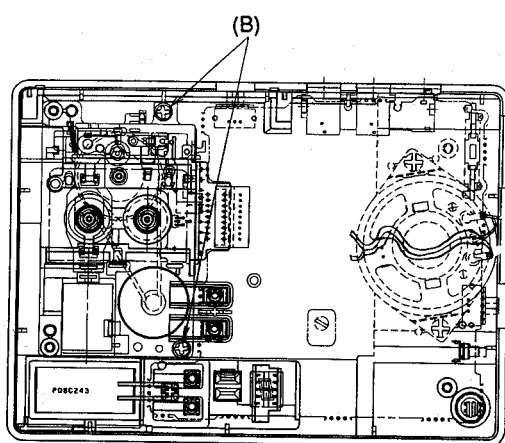


Fig. 3

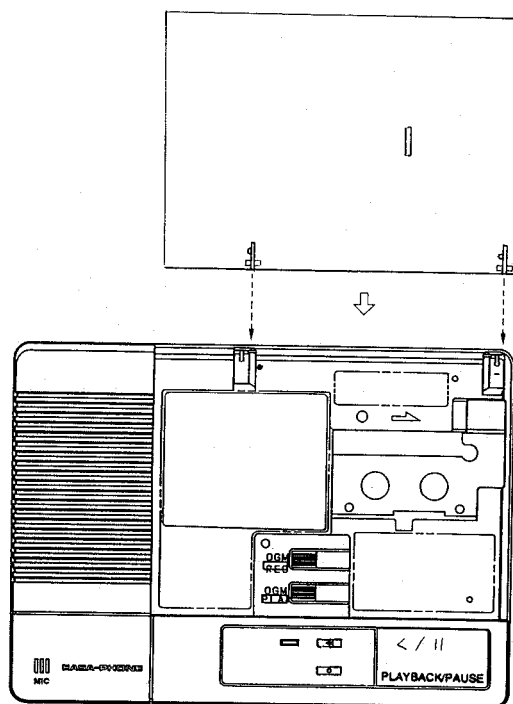
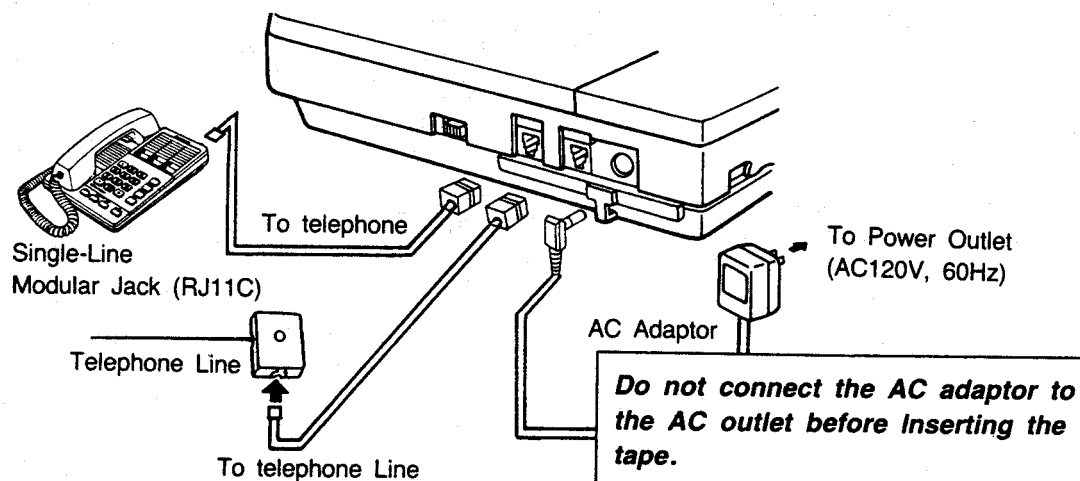


Fig. 4

Procedure	To remove—	Remove—	Shown in Fig.—
1	Lower Cabinet	Screws (3×20) (A)×4	2
2	Main Printed Circuit Board and Cassette Deck	Screw (3×10) (B)×2	3
3	Cassette Lid	Remove the Cassette Lid.	4

CONNECTION

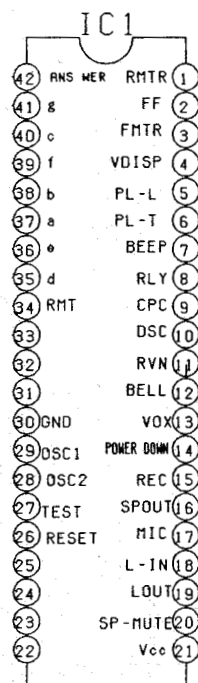


CPU DATA

Part No: PQVI4148SA59

Program ROM: 4K × 10 bit

Power Supply Voltage: 4-6 V



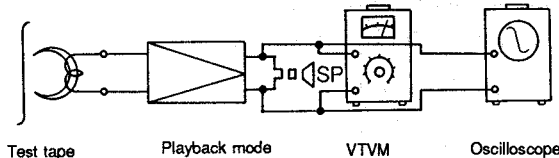
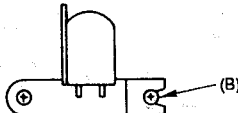
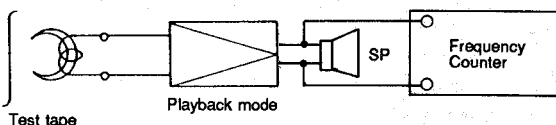
OPTION

	No.	Open	Short
VOX	A	6 sec	4 sec
REMOTE	B	O	X
CALL COUNTER	C	O	X
TEST	D	Normal	Test

Pin No.	Function	High	Low	Pin No.	Function	High	Low
1	RMTR	Active		22	Key in		Key in
2	FF			23	Key in		
3	FMTR			24	Key in		
4	V disp		GND	25	Key in		
5	PLL	Active		26	Reset	Reset	Normal
6	PLT	Active		27	TEST	Vcc	
7	BEEP			28	OSC1		
8	RLY	Active		29	OSC2		
9	CPC	CPC in		30	GND		GND
10	DSC	DSC in		31	Key in		Key in
11	RVN			32	Key in		Key in
12	BELL		Bell in	33	Strobe Out	Normal	Active
13	Vox	Disable	Enable	34	Remote		Remote
14	Power Down		Power down	35	7-seg d	ON	OFF
15	REC	Active		36	7-seg e		
16	SP out/ Play			37	7-seg a		
17	Mic			38	7-seg b		
18	Line in			39	7-seg f		
19	Line out			40	7-seg c		
20	SP Mute			41	7-seg g		
21	Vcc	4~6V		42	Answer -LED		

MEASUREMENT AND ADJUSTMENT METHOD

- 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: $20\pm5^{\circ}\text{C}$ ($68\pm9^{\circ}\text{F}$)
 4. Test equipments are not treated as replacement parts.

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
1. Head azimuth adjustment	1. Play back test tape (QZZMWA). 2. Adjust screw (B) shown in fig. B for maximum output at SP terminal. (Test equipment connection is shown below.)  Fig. A	*Record/playback head  Fig. B
2. Tape speed adjustment	1. Play back test tape (QZZMWA). 2. Adjust VR4 for 2990 ± 10 Hz on frequency counter reading.  Fig. C	

PLL Adjustment

① fH Adjustment

1. Connect IC5 ③ pin and ⑦ pin, with a capacitor ($10\ \mu\text{F}$).
2. Connect the frequency counter and oscilloscope.
 ⊕ side...IC5 ⑤ pin
 ⊖ side...IC5 ⑦ pin
3. Adjust VR2 for $f_H\pm7$ Hz on the frequency counter reading
(Refer to below table).

Label No.
(Bottom of the cradle)

Code	fH (Hz)
1	1209
2	Not Used
3	1477
4	1209
5	Not Used
6	1477
7	1209
8	Not Used
9	1477

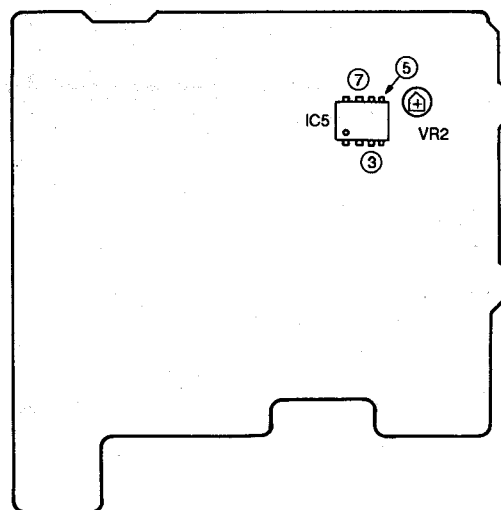


Fig. 5

IC BLOCK DIAGRAM

IC5 PQVIIR3N05

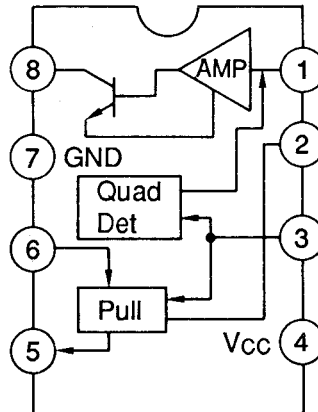
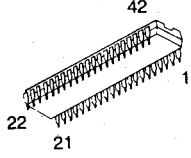
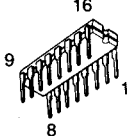
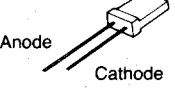
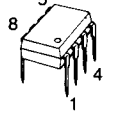
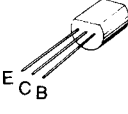
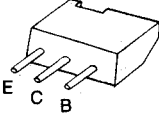
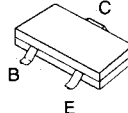
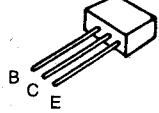
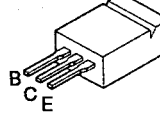
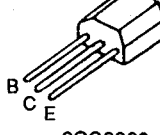
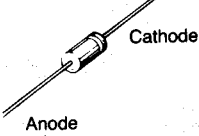
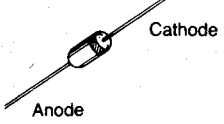
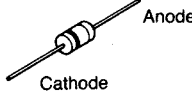
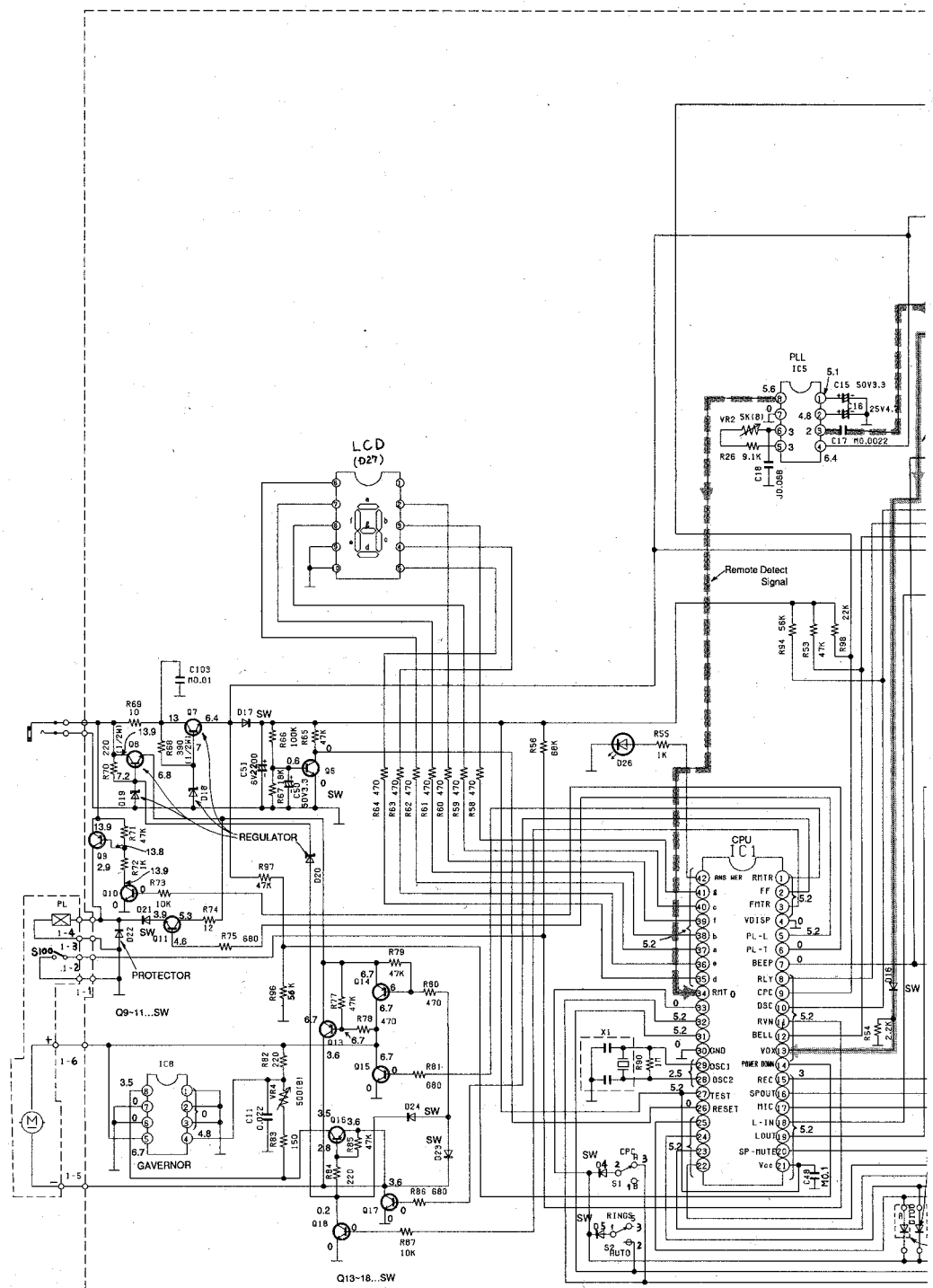


Fig. 6

TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES

 PQVI4148SA59	 PQVITA7628P	 PQVDSLZ155B2	 PQVIIR3N05 PQVIBA6220 PQVINJM4558D	 2SA1625 2SC2120
 2SB1322 2SD662B	 2SD1819 2SD601A	 2SC1740	 2SD2136	 2SC3330 2SA854
 PQVDS5688G	 PQVDHDS7303 PQVDMTZ11B PQVDMTZ6R8 ISS119 ISS131	 MA4180		



FOR SCHEMATIC DIAGRAM

Notes:

1. S1: CPC switch in "A" position.
2. S2: Ring selector switch in "AUTO" position.
3. S3: OGM recording switch.
4. S4: Rewind switch.
5. S5: Memo switch.
6. S6: Playback/Pause switch.
7. S7: Power switch.
8. S8: OGM-Play switch.
9. S100: Reed Switch.
10. DC voltage measurements are taken with electronic voltmeter from negative line.
11. This schematic diagram may be modified at any time with the development of new technology.

Important safety notice

The shaded area on this schematic diagram incorporates special features important for protection from line 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.



C DIAGRAM

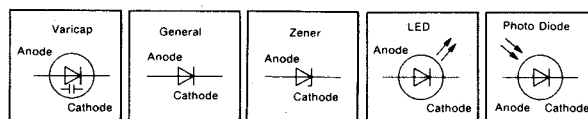
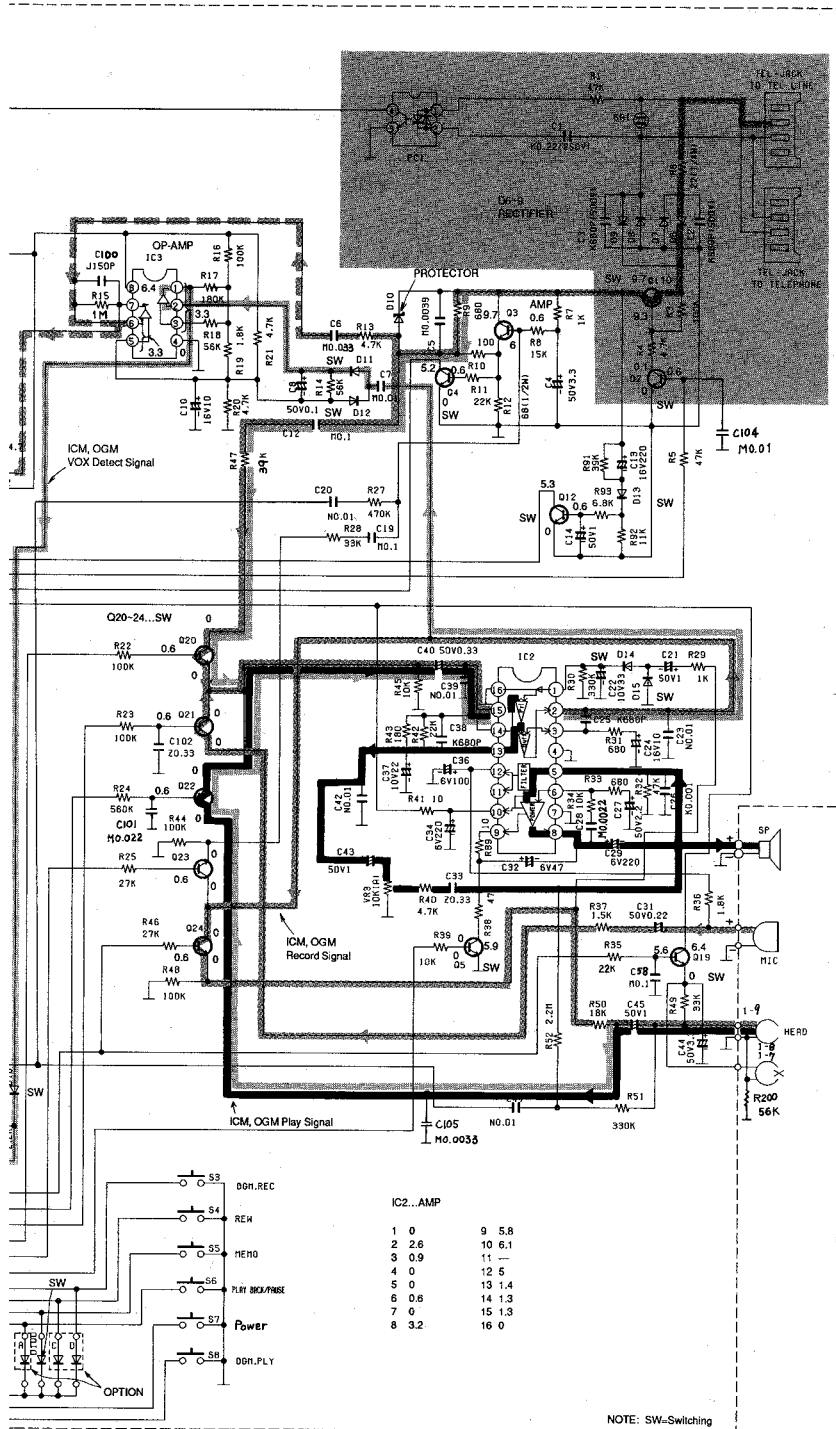
7

8

9

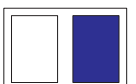
10

11



(Add 40 mA to telephone line from the loop simulator.)

● Off-hook condition



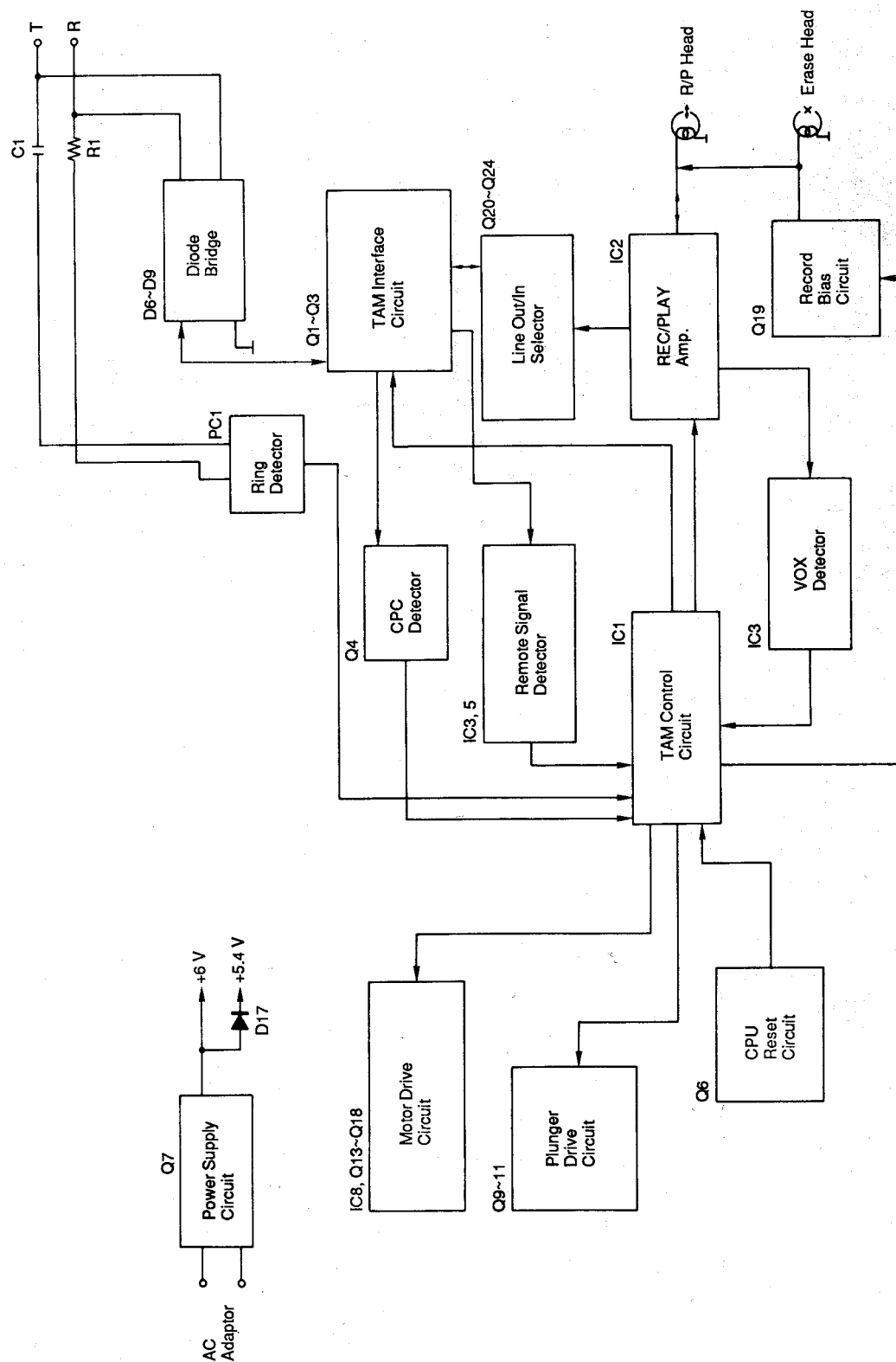


Fig. 7

TROUBLE SHOOTING GUIDE

■ SERVICE HINTS

SYMPTOM	CURE
Answering machine answers itself.	Check PC1 and R98.
ICM will not cut off.	Check C7, IC2 and IC3.
OGM won't store memory.	Check Q19.
No PWR/AFTER PWR fixed no plunger a activation.	Check Q7, Q8 and D18~D20.
Intermittent rewind.	Check Q15 and Q13.
Loss of OGM message even with good batteries.	Check Q19, Q5 and Q20~Q24.
No OGM.	Check Q19, Q5 and Q20~Q24.
Holds line constantly.	Check Q1 and Q2.
Shuts off after OGM.	Check leaky IC1.
Would not record all OGM.	Check Q19, C45, R50, IC1 and Q20~Q24.

ACCESSORIES AND PACKING MATERIALS

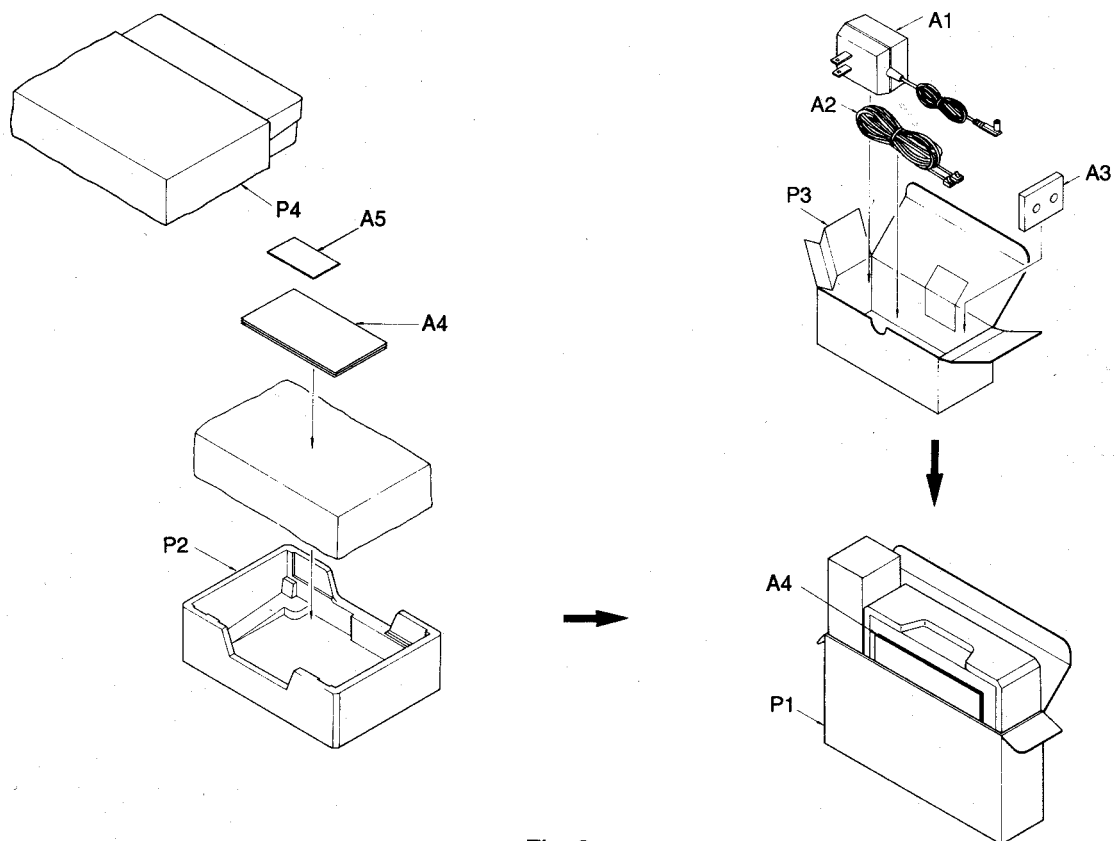


Fig. 8

EXTENSION CORD CONNECTING METHOD

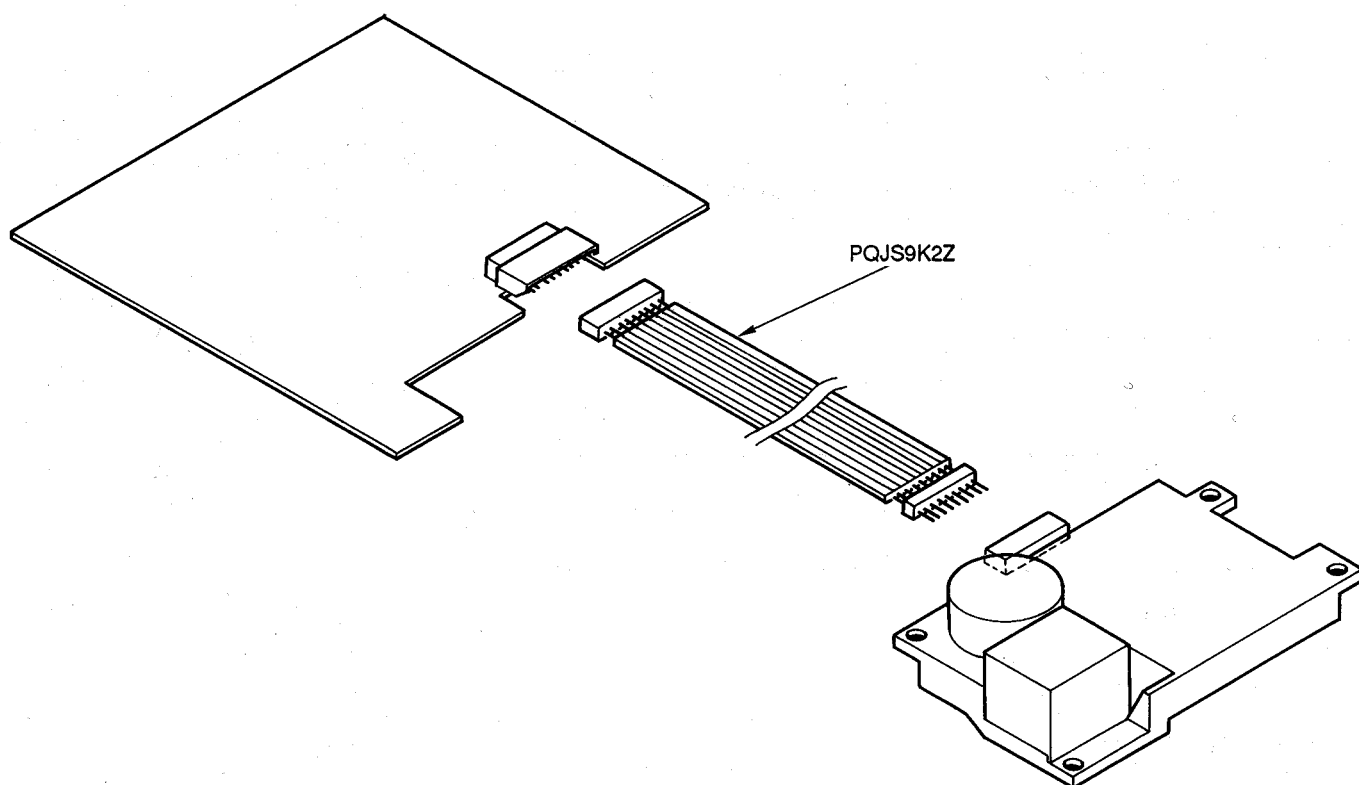


Fig. 9

CASSETTE DECK PARTS LOCATION

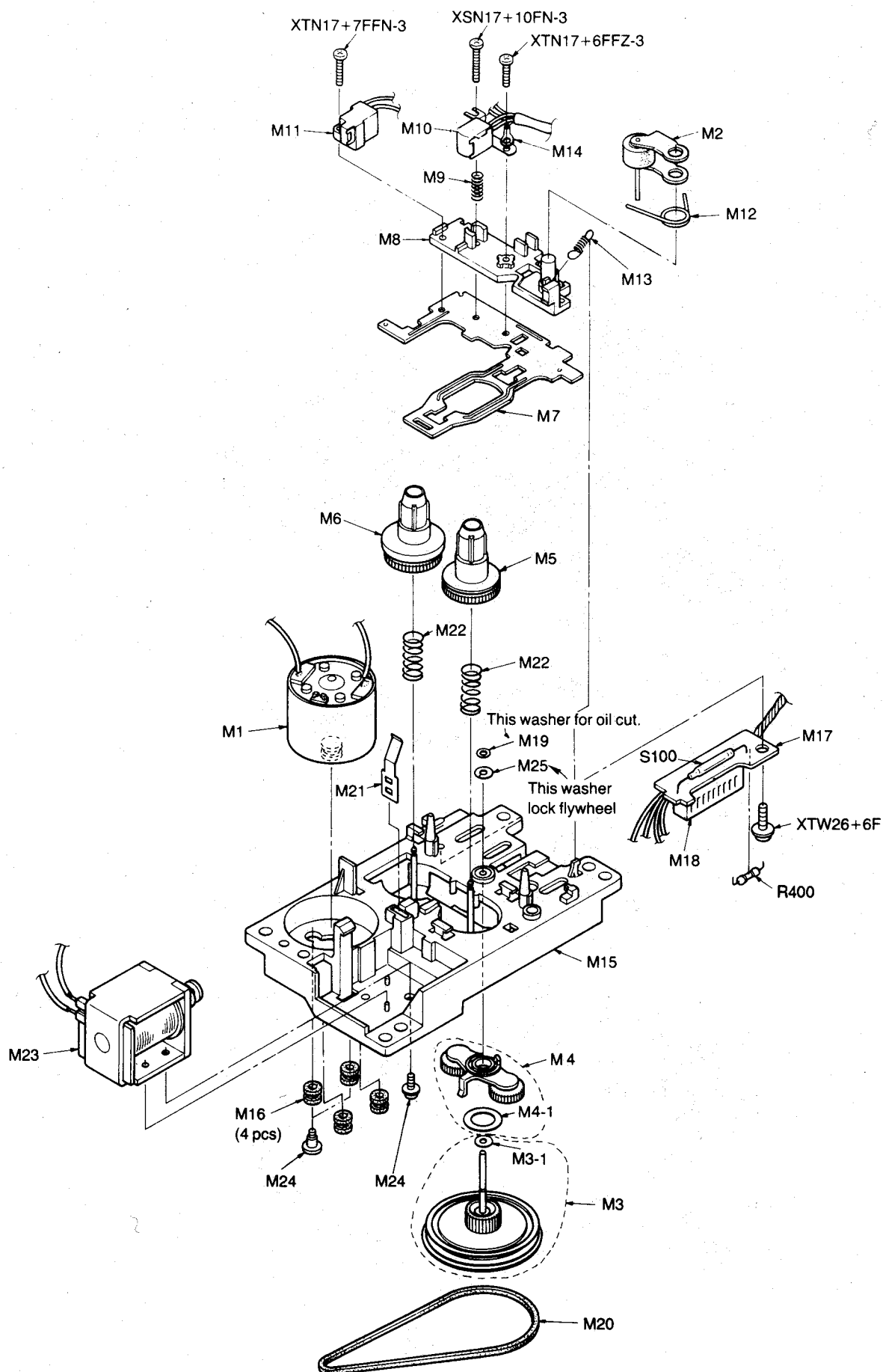


Fig. 10

CABINET AND ELECTRICAL PARTS LOCATION

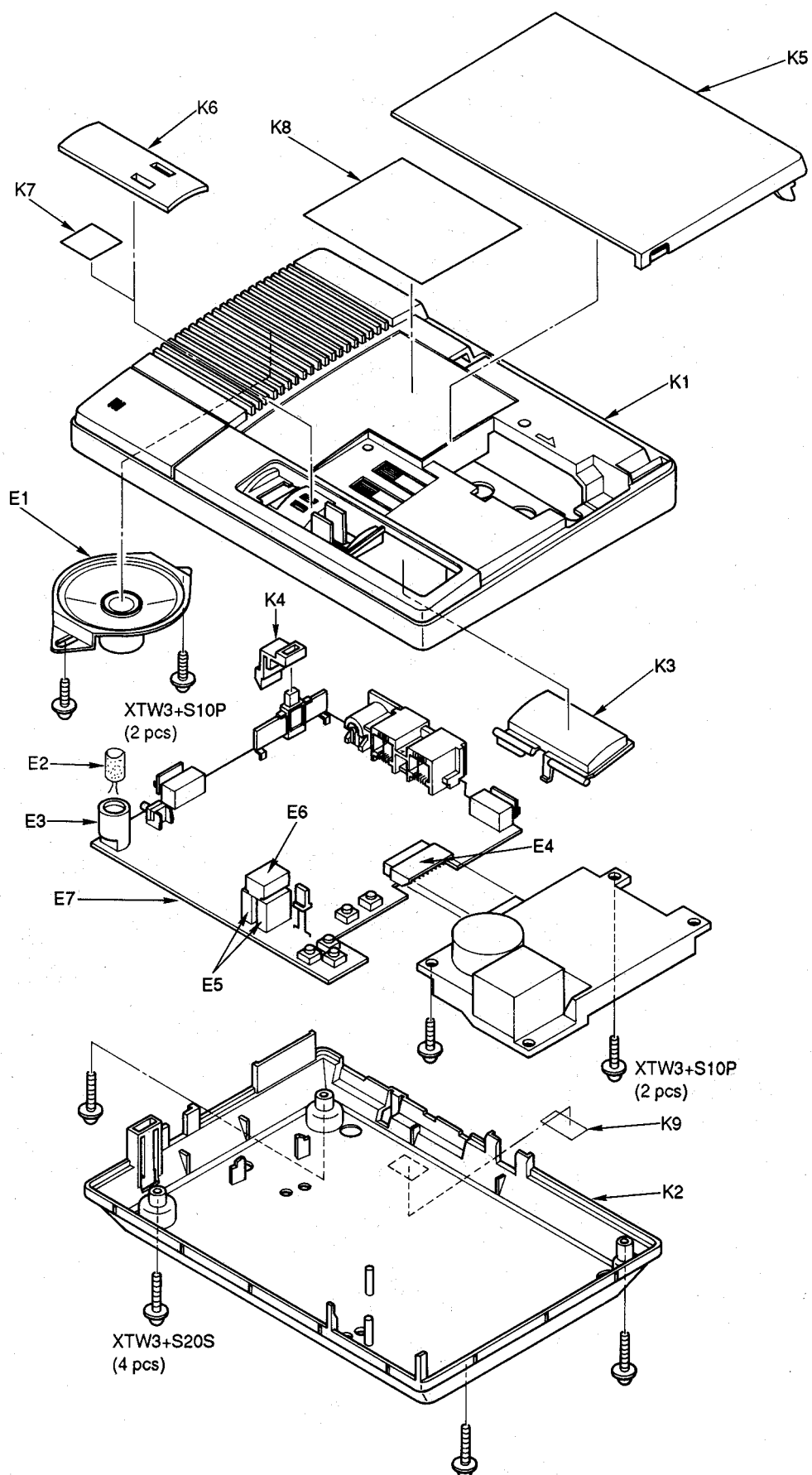


Fig. 11