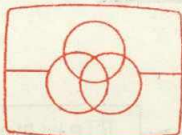


SERVICE MANUAL

MODEL NO.

4 BAND COMPACT/MICRO STEREO
RADIO CASSETTE RECORDER

CS-W7



Free service manuals
Gratis schema's

Digitized by

TYPE. E,K

Code No. 29-700-000-18



DATE OF ISSUE 2/1982

www.freeservicemanuals.info

SPECIFICATIONS

GENERAL

Semiconductors: 12 ICs, 40 transistors,
22 diodes, 19 LEDs
Power consumption: Batteries DC 12V (SUM-1 x 8)
E model
AC 110~120V/220~240V
Switchable 50/60 Hz
Car battery (thru car adaptor)
K model
AC 120V/240V
Switchable 50/60 Hz
Car battery (thru car adaptor)
Power consumption: 15W
Speakers: 120mm ϕ x 2
Dimension: 520(W)x186.5(H)x140(D)mm
Weight: 4.8kg

RADIO SECTION

Circuit: Superheterodyme
Frequency range: FM 87.4~108.3 MHz
SW 5.8~18.5 MHz
MW 515~1650 KHz
LW 145~320 KHz
Sensitivity: FM 15 $\pm$ 4 dB (at 88 MHz)
(IHF, THD 3%) 17 $\pm$ 4 dB (at 100 MHz)
13 $\pm$ 4 dB (at 108 MHz)
(S/N 10 dB) SW 28 $\pm$ 5 dB (at 5.9 MHz)
20 $\pm$ 5 dB (at 12.0 MHz)
15 $\pm$ 5 dB (at 18.0 MHz)
(S/N 10 dB) MW 42 $\pm$ 4 dB (at 600, 1000, 1400 KHz)
(S/N 10 dB) LW 52 $\pm$ 5 dB (at 150 KHz)
50 $\pm$ 5 dB (at 200 KHz)
50 $\pm$ 5 dB (at 300 KHz)
Intermediate frequency: FM 10.7 $\pm$ 0.3 MHz
MW, SW, LW 468 $\pm$ 3.5 KHz
FM stereo separation: 19 $\pm$ 3 dB
Image rejection: FM 39 $\pm$ 5 dB (at 108 MHz)
SW 6 $\pm$ 3 dB (at 18.0 MHz)
MW 41 $\pm$ 6 dB (at 1,400 KHz)
LW 46 $\pm$ 4 dB (at 300 KHz)
FM 73 $\pm$ 6 dB (at 88 MHz)
MW 28 $\pm$ 4 dB (at 600 KHz)
Antennas Whip antenna for FM and SW
Ferrite bar antenna for MW and LW

TAPE RECORDER SECTION

Recording system: AC bias
Compact • cassette
Erasing system: AC erase
Micro • cassette
Magnet erase
Bias frequency: 60.0 KHz
Erasing ratio Compact • cassette
More than 60dB
Micro • cassette
More than 45dB
Tape speed: Compact • cassette
4.8 cm/s.
Micro • cassette
2.4 cm/s.
1.2 cm/s.
Separation: Compact • cassette
(-15 dB, TTA-119J) More than 30 dB (REC/PB)
Channel balance: Compact • cassette
(-28 dB, TTA119J) Less than 4 dB (REC/PB)
(TTA-170) Less than 3 dB (PB)
Micro • cassette
Less than 4 dB
Distortion: Compact • cassette
Less than 2.5% (PB)
Less than 3.5% (REC/PB)
Micro • cassette
Less than 3.5% (PB)
Less than 7.5% (REC/PB)

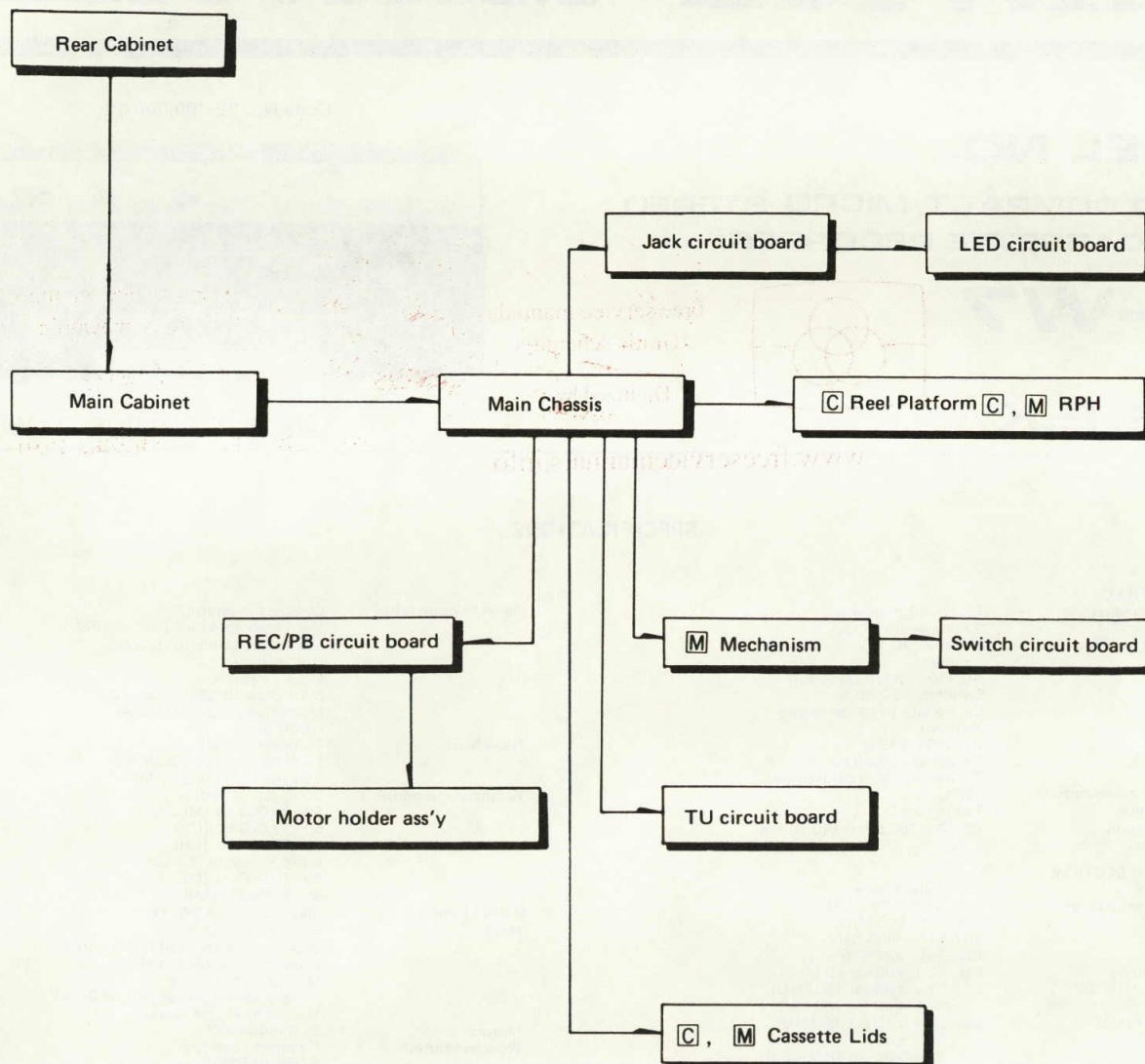
Signal to noise ratio: Compact • cassette
More than 45/41 dB (DC/AC, PB)
More than 44/40 dB (DC/AC, REC/PB)
Micro • cassette
More than 40/35 dB (DC/AC, PB)
More than 29/28 dB (DC/AC, REC/PB)
Noise level Compact • cassette
Less than 0.7 mV (DC MIN)
Less than 1.4 mV (AC MIN)
Frequency response: Compact • cassette
50~14,000 Hz (METAL)
50~13,000 Hz (CrO₂)
50~12,500 Hz (LH)
Micro • cassette (2.4 cm/s)
80~10,000 Hz (METAL)
80~8,000 Hz (LH)
6.4W (3.2W + 3.2W) (10%)
Output power: Compact • cassette
Head: Super permalloy head (for REC/PB)
Sendust head (for Erase)
Micro • cassette
Super permalloy head (for REC/PB)
Magnet head (for Erase)
Motor: E. G motor x 2
Wow and flutter: Compact • cassette
0.05% (WRMS)
Micro cassette (2.4 cm/s)
0.15% (WRMS)
Automatic stop system: Full auto stop
Pinch roller pressure: Compact • cassette
125 $\pm$ 15g (1.22 $\pm$ 0.15N)
Micro • cassette
120 $\begin{smallmatrix} +15 \\ -10 \end{smallmatrix}$ g (1.18 $\begin{smallmatrix} +0.15 \\ -0.10 \end{smallmatrix}$ N)
Take-up torque: Compact • cassette
35 $\begin{smallmatrix} +15 \\ -5 \end{smallmatrix}$ g-cm (0.34 $\begin{smallmatrix} +0.15 \\ -0.05 \end{smallmatrix}$ mN•m)
Micro • cassette
5~8.5g-cm (0.05~0.08 mN•m)
FF torque: Compact • cassette
110 $\pm$ 20g-cm (1.07 $\pm$ 0.20 mN•m)
Micro • cassette
6~9.5g-cm (0.06~0.09 mN•m)
Rewind torque Compact • cassette
110 $\pm$ 20g-cm (1.07 $\pm$ 0.20 mN•m)
Micro • cassette
More than 35g-cm (0.34 mN•m)
FF & REW time: Compact • cassette
90 $\pm$ 5 s. (at C-60)
Micro • cassette
Less than 140s. (F.F.)
Less than 100s. (REW)
Input terminal: MIC 3.5 ϕ jack x 2
PHONO/LINE IN pin jack x 2
Output terminal: LINE OUT pin jack x 2
EXT. SP 3.5 ϕ jack x 2
PHONES 6.3 ϕ jack
MIC 0.3 mV/3 k Ω
Input power: AUX 300 mV/50 k Ω

• Specifications and external appearance are subject to change without notice due to product improvement.

www.freeservicemanuals.info

DISASSEMBLING CHART DIAGRAM OF MAIN PARTS

- To avoid troubles when disassembling or replacing the main parts, follow the chart diagram as below.



DISASSEMBLY INSTRUCTIONS

C and **M** symbolized in here, means **C** of Compact Cassette and **M** of Micro Cassette.

1. To Remove the Rear Cabinet

Remove the 7 screws. (See figure 1)

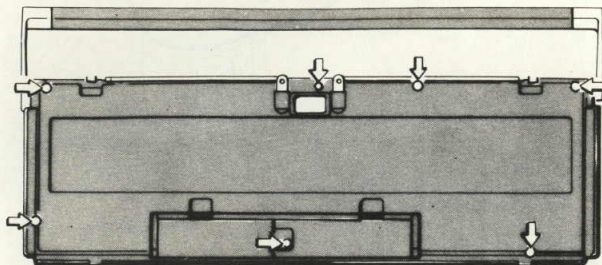


Fig. 1

2. To Remove the Main Chassis

- 1) Remove 12 pieces of the operation buttons and knobs. (See figure 2)

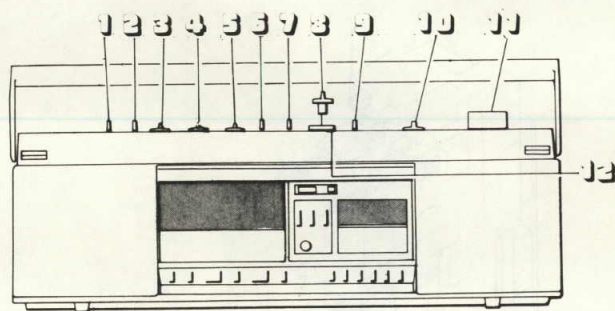


Fig. 2

- 2) Remove the 2 screws. (See figure 3)

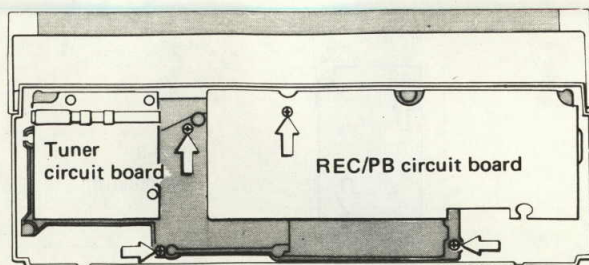


Fig. 3

- 3) Press the eject button to open the cassette lids of **C** and **M** (See figure 4)

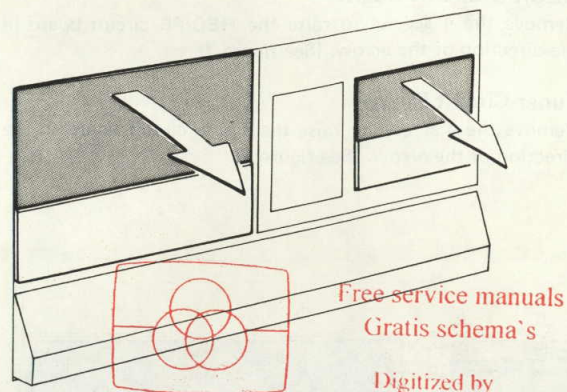


Fig. 4
www.freeservicemanuals.info

- 4) Separate the main chassis from the front cabinet by raising the chassis in the direction of the arrows. (See figure 5)

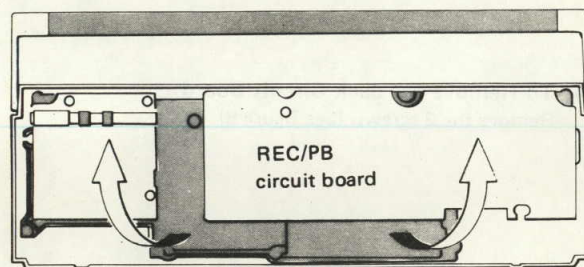


Fig. 5

Note: Care should be taken not to come off the poly-slider-washers holding the reel platforms of **C** by caught in the front cabinet, when raising the main chassis. (See figure 6)

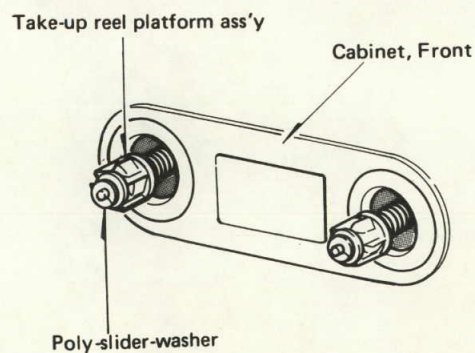


Fig. 6

3. To Remove the REC/PB Circuit Board and Tuner Circuit Board

REC/PB Circuit Board

Remove the 4 screws to raise the REC/PB circuit board in the direction of the arrow. (See figure 7)

Tuner Circuit Board

Remove the 4 screws to raise the Tuner circuit board in the direction of the arrow. (See figure 7)

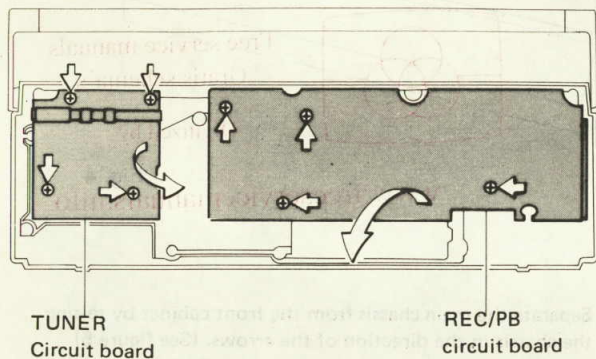


Fig. 7

4. To Remove the Jack Circuit Board

Remove the 2 screws. (See figure 8)

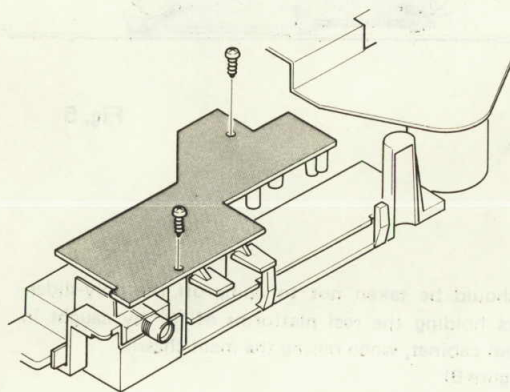


Fig. 8

5. To Remove the LED Circuit Board

Remove the 2 screws. (See figure 9)

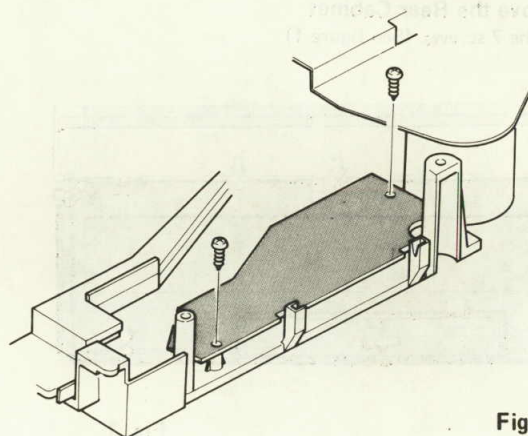


Fig. 9

6. To Remove the Switch Circuit Board

1) Take off each button of MS, DSL and REC MUTE. (See figure 10)

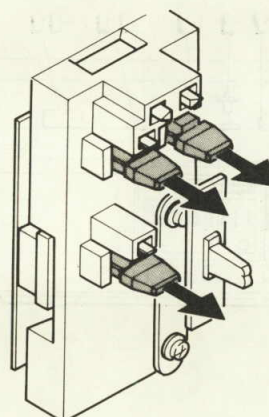


Fig. 10

2) Remove the 2 screws. (See figure 11)

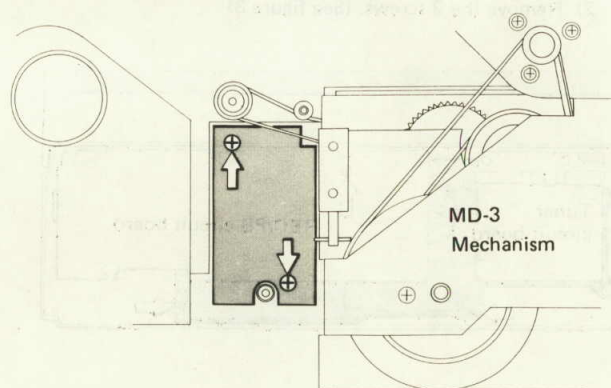
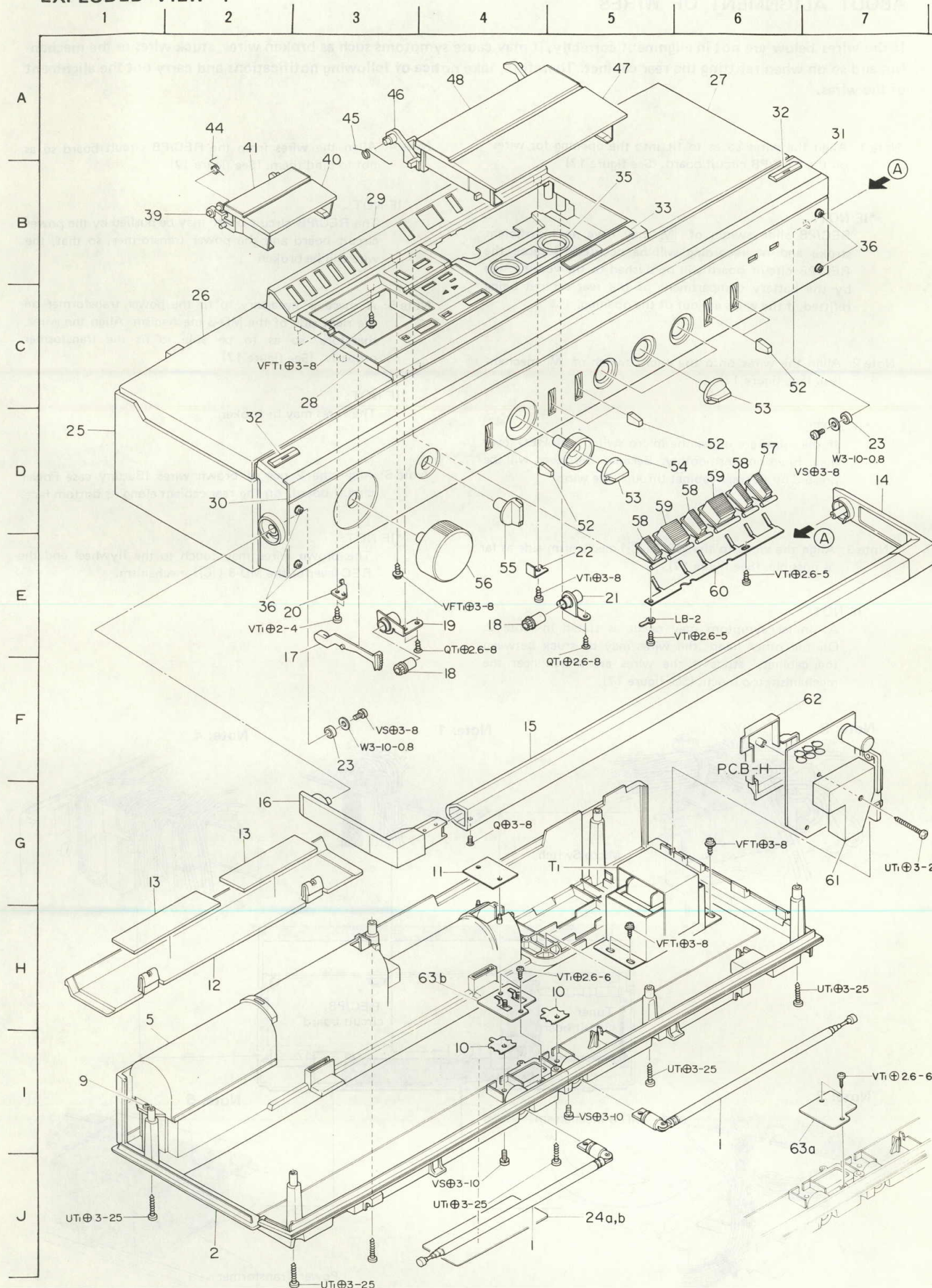


Fig. 11

EXPLODED VIEW-1



MECHANICAL PARTS

PARTS LIST

■ *mark in this part list shows exclusive part.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	87-043-060-01		Whip antenna		2
2~9	09-017-857-01		Back cover ass'y	*	1
1-2	82-591-002-21		Back cover	*	1
1-3a	82-591-056-01		Plate, Voltage selector H (E model only)	*	1
1-3b	82-591-058-01		Plate, Voltage selector K (K model only)	*	1
1-4	82-591-215-01		Spring, Battery	*	1
1-5	82-591-203-01		Battery box	*	1
1-6	87-038-032-01		Battery terminal		2
1-7	82-587-214-01		C-spring, Terminal B		1
1-8	82-479-949-01		Label, Antenna		1
1-9	87-351-095-21		VT ₁ ⊕ 3-8		1
1-10	82-587-220-01		Antenna terminal plate	CS-880	2
1-11	82-551-248-01		Fiber 24-31	CS-600	1
1-12	82-591-003-01		Battery room lid	*	1
1-13	82-591-236-01		Cushion, Battery room lid	*	2
1-14	82-591-022-01		Handle, Arm L	*	1
1-15	82-591-023-01		Handle grip	*	1
1-16	82-591-043-01		Handle, Arm R	*	1
1-17	82-591-223-01		Lever, Oil damp	*	1
1-18	82-534-264-01		Gear, Oil damp		2
1-19	82-591-226-01		Oil damp metal fitting ass'y	*	1
1-20	82-591-224-01		Lever, Oil damp metal fitting	*	1
1-21	82-534-250-11		Oil damp metal fitting ass'y		1
1-22	82-541-235-01		Metal fitting, Tweeter	*	1
1-23	82-591-227-01		Felt, Carrying handle	*	2
1-24a	82-591-053-01		Name plate, Spec. (E model only)	*	1
1-24b	82-591-054-01		Name plate, Spec. (K model only)	*	1
25~38	09-017-878-01		Main case ass'y	*	1
1-25	82-591-001-21		Main cabinet	*	1
1-26	82-591-008-01		Punching R	*	1
1-27	82-591-009-01		Punching L	*	1
1-28	82-591-010-01		Panel, Front	*	1
1-29	82-591-007-01		Panel, Push-button	*	1
1-30	82-591-062-01		Panel, Top	*	1
1-31	82-591-005-11		Window, Dial	*	1
1-32	82-591-021-01		Badge, ECM	*	2
1-33	82-591-032-01		Badge, AIWA	*	1
1-34	82-591-908-01		Label, Tape control	*	1
1-35	82-534-048-01		Cassette plate		1
1-36	82-591-047-11		Decorative screw	*	4
1-37	87-351-034-21		VT ₁ +2-6		3
1-38	87-356-073-21		VT ₁ +2.6-8		2
39~43	09-017-859-01		Cassette lid micro ass'y	*	1
1-39	82-591-015-11		Cassette box M	*	1
1-40	82-591-014-01		Cassette lid	*	1
1-41	82-591-016-01		Name plate, Cassette lid	*	1
1-42	82-591-340-01		P-spring, Cassette holder	*	2
1-43	87-321-074-21		QT ₁ +2.6-8		2
1-44	82-591-357-11		T-spring, Cassette box	*	1
1-45	82-591-214-01		T-spring, Cassette box	*	1
46~51	09-017-858-01		Cassette lid compact ass'y	*	1
1-46	82-591-012-01		Cassette box C	*	1
1-47	82-591-011-01		Cassette lid C	*	1
1-48	82-591-013-01		Cassette lid name C	*	1
1-49	82-591-212-11		P-spring, Cassette holder R	*	1
1-50	82-591-213-11		P-spring, Cassette holder L	*	1

7. To Remove the motor Holder Ass'y (MD-3 Mechanism)

- 1) Remove the 3 screws. (See figure 12)

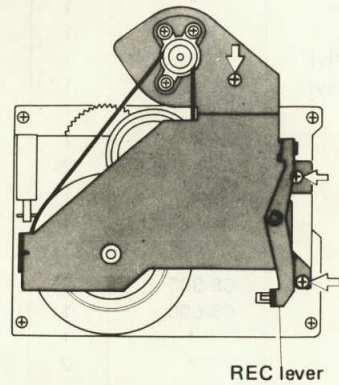


Fig. 12

Note: Make sure that the REC lever is in the illustrated position when refitting the motor holder ass'y. (See figure 13)

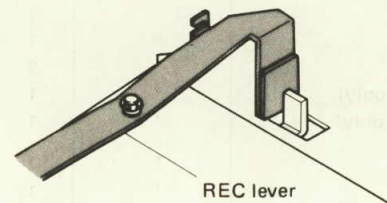


Fig. 13

8. To Remove the [M] Mechanism

- 1) Remove the 5 screws. (See figure 14)

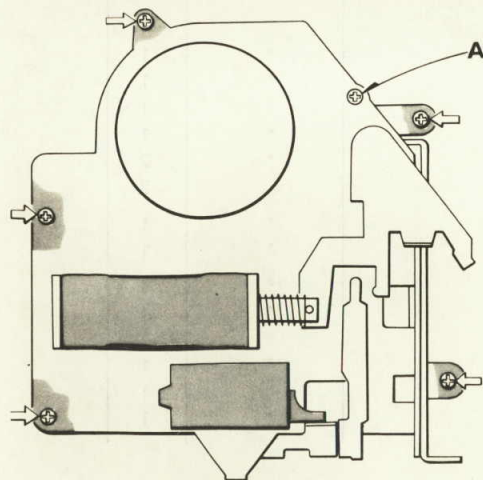


Fig. 14

Note 1: The [M] mechanism can be removed by taking of the screw A. However, in this case, it will become very difficult to refit the counter belt when mounting the mechanism.

Note 2: Make sure that the distance between the holl IC and the ring magnet is 0.5 mm approx. It is possible to adjust the distance from the front side of the mechanism. (See figure 15)

That is, the [M] mechanism mounting is performed after fitting the auto-stop circuit board, so that the said distance might become wider or narrower because the holl IC is located on the auto-stop circuit board.

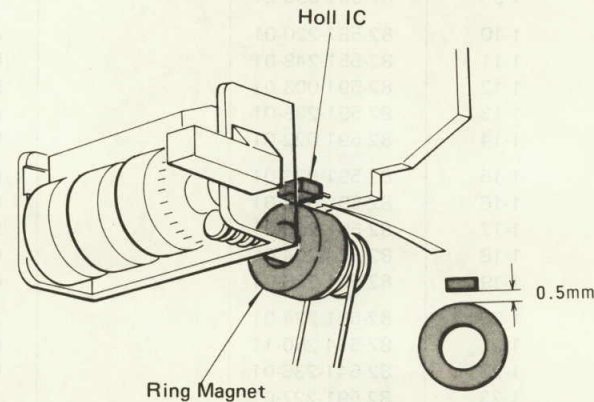


Fig. 15

9. To Remove the Auto-stop Circuit Board

- Remove the 2 screws. (See figure 16)

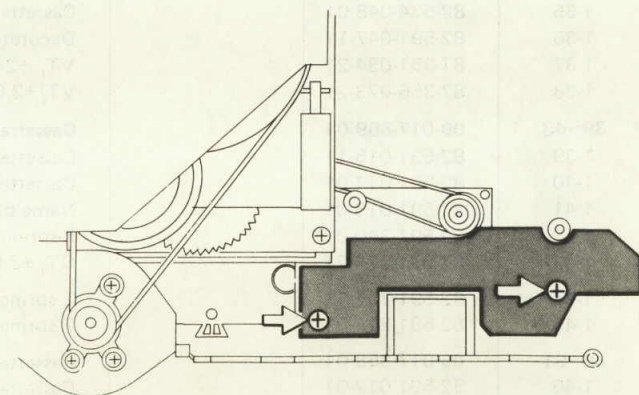


Fig. 16

ABOUT ALIGNMENT OF WIRES

If the wires below are not in alignment correctly, it may cause symptoms such as broken wires, stuck wires in the mechanism and so on when refitting the rear cabinet. Therefore, take notice of following notifications and carry out the alignment of the wires.

Note 1: Align the wires so as to fit into the opening for wires on the REC/PB circuit board. (See figure 17)

Note 4: Align the wires from the REC/PB circuit board so as not to bind them. (See figure 17)

*IF NOT:

REC/PB slide switch of [M] may have an insufficient stroke and no recording will be occurred. Because the REC/PB circuit board will be pushed to the volume side by the battery compartment of the rear cabinet being refitted, if the wires are out of the opening.

*IF NOT:

The REC/PB circuit board may be pushed by the power circuit board and the power transformer, so that, the wire will be broken.

Note 2: Align the wires onto the micro switch of [M] mechanism. (See figure 17)

*IF NOT:

If the wires are under the micro switch, the REC lever may function unsmoothly. Because the lever will be pressed by the rear cabinet through the wires.

Note 5: A space is necessary to fit the power transformer on the right side of the MD-3 mechanism. Align the wires, therefore, so as to be able to fit the transformer properly. (See figure 17)

*IF NOT:

The wires may be broken.

Note 3: Align the wires to the MD-3 ([C]) mechanism side as far as possible. (See figure 17)

Note 6: Align the 2 pcs of brown wires (Battery case Power circuit board) on the rear cabinet along its bottom face.

*IF NOT:

The brown wires may touch to the flywheel and the REC lever of the MD-3 ([C]) mechanism.

Note: 2

Note: 1

Note: 4

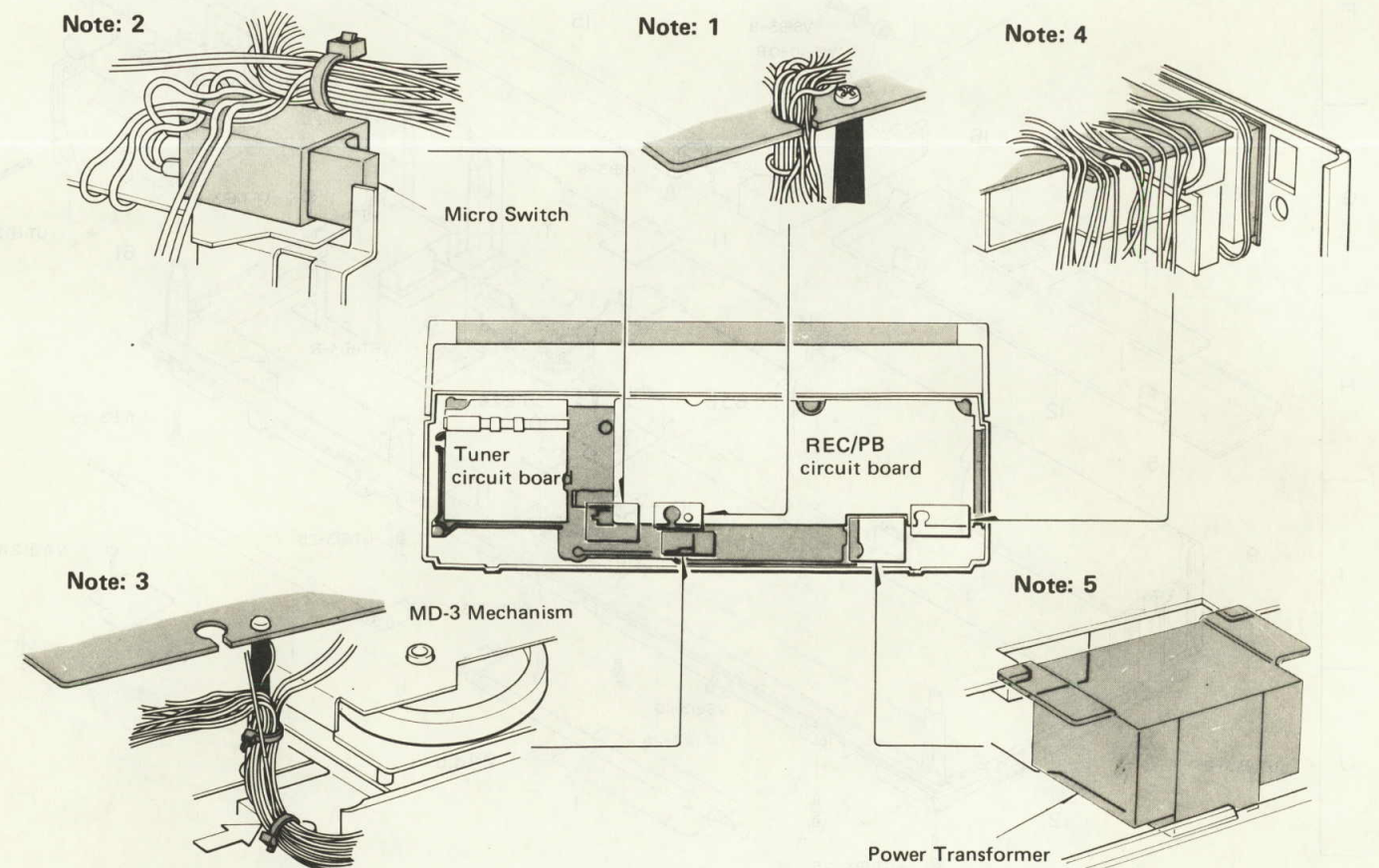


Fig. 17

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
1-51	87-321-096-21		QT, +3-10		2	
1-52	82-591-033-11		Knob, Toggle	*	5	
1-53	82-591-027-21		Knob, Volume	*	4	
1-54	82-591-025-21		Volume knob, REC	*	1	
1-55	82-577-018-11		Knob, Band		1	
1-56	82-591-024-01		Knob, Tuning	*	1	
1-57	82-591-040-01		Push-button B, REC	*	1	
1-58	82-591-019-01		Push-button B, TP	*	3	
1-59	82-591-018-01		Push-button A, TP	*	2	
1-60	82-591-204-21		Push-button metal fitting ass'y	*	1	
1-61	82-551-246-01		Cover, Fuse	CS-600	1	
1-62	82-591-239-01		Cover, Circuit board	*	1	
1-63a	82-591-064-01		Plate, Blind ANT (E model only)	*	1	
1-63b	82-591-636-01		External antenna terminal (K model only)	*	1	

ELECTRICAL MAIN PARTS LIST

Symbol No.	Part No.	Description
« TUNER CIRCUIT BOARD SECTION »		
PCB-A	82-591-641-01	Tuner circuit board
IC1	87-027-734-01	IC, HA12413
IC2	87-027-507-01	IC, TA7323AP (OY)
Q1,2,4	89-319-233-01	Transistor, 2SC1923 (O)
Q3,6	89-307-103-01	Transistor, 2SC710 (C)
Q5	89-318-155-01	Transistor, 2SC1815 (GR)
Q8	89-303-804-01	Transistor, 2SC380 (Y)
D1	87-017-004-01	Diode, SD-117
D2	87-027-226-01	Zener diode, RD 5.6EB
L1,2	82-584-639-01	FM antenna coil
L3	82-576-670-01	SW antenna coil
L4,5	82-591-638-01	MW/LW bar antenna coil
L6	82-591-639-01	SW OSC coil
L7	82-563-663-01	MW OSC coil
L8	82-563-664-01	LW OSC coil
L9	87-008-209-01	Quad coil
VC1~4	87-011-128-01	PVC
TC1,2,4,7	87-011-099-01	Trimmer, 8P
TC3,6	87-011-127-01	Trimmer, 15P
TC5	87-011-109-01	Trimmer, 30P
TC8	87-008-169-01	FM ceramic filter 230K
CF1,2	87-008-231-01	Ceramic filter, CFM2-468BL
BPF1	87-030-081-01	Band pass filter 108
IFT1	87-008-232-01	IFT 468
IFT2	87-008-223-01	AM IFT
S23	82-591-648-01	Remote switch (BAND SELECTOR)
SFR1	87-021-566-01	Semi-fixed resistor, 5kΩ-B
PIN1	87-032-967-01	Pin, 7P
	87-032-981-01	Wire post
< Capacitors >		
C56	87-015-464-01	4.7μF 16V Electrolytic BP
C65,66	87-015-311-01	0.1μF 10V Aluminum solid
C58	87-015-421-01	0.22μF 25V Aluminum solid
C57	87-015-423-01	0.47μF 25V Aluminum solid
C33	87-014-035-81	120pF PP
C32	87-014-045-41	330pF PP
C59	87-014-057-41	1000pF PP
C34	87-014-069-01	3300pF PP
« REC/PB CIRCUIT BOARD SECTION »		
PCB-B	82-591-601-31	REC/PB circuit board
IC1	87-027-539-01	IC, LA3161
IC2	87-027-714-01	IC, M51542 (L)
IC3	87-027-762-01	IC, M51143L
IC4	87-027-683-01	IC, TA7325P
IC5	87-027-804-01	IC, TA7232P
Q1,2,5,6	89-309-456-01	Transistor, 2SC945L (P)
7,8,9,10		
13,14,17		
18,22,24,27		
Q3,4	89-318-154-01	Transistor, 2SC1815 (Y)
Q11,12,15	89-320-011-21	Transistor, 2SC2001 (K,L)
16,19		
Q21	89-408-804-01	Transistor, 2SD880 (Y)
Q26	89-106-834-51	Transistor, 2SA683RS
Q28	89-303-803-01	Transistor, 2SC380 (O)
D1,2,5,6	87-027-097-01	Diode, 1S1555
11,12,14,		
15,16,19,		
20		
D7,8,21	87-027-584-01	Zener diode HZ9CLI
D9	87-027-365-01	Diode, S5277B

Symbol No.	Part No.	Description
D13	87-027-228-01	Zener diode, 05Z7.5U
L1,2,3,4	87-005-088-01	Micro inductor coil, 5.6mH
7,8,11,12		
19,20		
L5,6,9,10	87-003-034-01	Trap coil
L13	82-591-620-01	Dummy coil, 300μH
L14	82-299-603-11	OSC coil
L15	82-401-661-01	Choke coil, 600μH
L16,17	87-003-065-01	Choke coil, 36μH
CP1	82-570-639-01	Bias OSC block metal
VR2	82-591-612-01	Volume, 20kΩ-W (BALANCE)
VR3-1,3-2	82-591-614-01	Volume, 20kΩ-A (TONE)
VR4-1,4-2	82-591-613-01	Volume, 20kΩ-A (VOLUME)
VR5-1,5-2	82-591-622-01	Volume, 20kΩ-A (REC VOL)
S1	87-031-656-01	Slide switch (REC/PB, COMPACT · CASSETTE)
S2	87-031-657-01	Slide switch (REC/PB, Micro cassette)
S3	82-591-623-01	Lever switch (FUNCTION)
S4	82-591-626-01	Lever switch (TAPE OPERATION)
S7	82-591-624-01	Lever switch (TAPE SELECTOR, COMPACT · CASSETTE)
S8	82-591-625-01	Lever switch (TAPE SELECTOR, MICRO · CASSETTE)
S19,20	82-591-627-01	Lever switch (MODE)
SFR1,2,3	87-021-624-01	Semi-fixed resistor, 50kΩ-B
4,5,6		
SFR8	87-021-622-01	Semi-fixed resistor, 10kΩ-B
SFR9,10	87-021-623-01	Semi-fixed resistor, 20kΩ-B
SFR11	87-021-672-01	Semi-fixed resistor, 50kΩ-B
SFR12	87-021-693-01	Semi-fixed resistor, 5kΩ-B
< Resistor >		
R235,236	87-029-108-01	1Ω 1/2W Fuse resistor
R240	87-025-313-01	4.7Ω Nonflammable
< Capacitor >		
C19,20	87-014-053-81	680pF PP
C81,82,83	87-014-061-81	1500pF PP
84		
C97,98	87-015-428-01	0.22μF 25V Aluminum solid
C69,85,86	87-015-429-01	0.33μF 25V Aluminum solid
C70	87-015-313-01	0.33μF 10V Aluminum solid
C165	87-015-843-01	10μF 6.3V Tantalum
C169	87-015-587-01	1000μF 10V Electrolytic
« SWITCH CIRCUIT BOARD SECTION »		
PCB-C	82-591-604-11	Switch circuit board
D1,2	87-027-356-01	LED, GL9PR (6) (REC)
D3	87-027-731-01	LED, SR535 (D) (MS)
D4	87-027-732-01	LED, SG235 (D) (DSL)
S6	87-031-662-01	Push-switch (DSL)
S9	87-031-684-01	Slide switch (TAPE SPEED)
S21	87-031-661-01	Push-switch (REC MUTE)
S22	82-588-607-01	Push-switch (MS)
« AUTO STOP CIRCUIT BOARD SECTION »		
PCB-D	*	Auto stop circuit board
IC1	87-027-505-01	Hall IC, DN6838
Q1,2,5	89-309-456-01	Transistor, 2SC945L (P)
7,8,9		
Q3	89-404-006-01	Transistor, 2SD400 (F)
D1,3,4,5	87-027-097-01	Diode, 1S1555
,6		

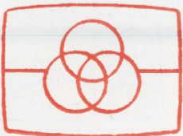
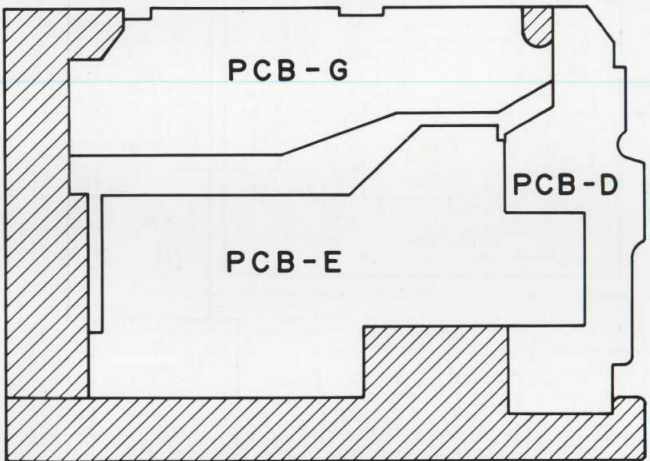
Symbol No.	Part No.	Description
« DSL CIRCUIT BOARD SECTION »		
PCB-E	*	DSL circuit board
IC1	87-027-621-01	IC, TA7328A
Q1,2	89-309-456-01	Transisotr, 2SC945L (P)
S10	87-031-660-01	Push-switch (SLEEP)
S18	87-031-659-01	Push-switch (METER)
< Capacitors >		
C7,8	87-015-427-01	0.15μF 25V Aluminum solid
C9,10	87-015-428-01	0.22μF 25V Aluminum solid
« JACK CIRCUIT BOARD SECTION »		
PCB-F	82-591-602-11	Jack circuit board
IC1	87-027-539-01	IC, LA3161
J1,2,3,4	82-591-610-01	Jack plate ass'y (PHONO/LINE IN, LINE OUT, MIC, EXT SP, GND)
5,6,7,8		
S5	87-031-664-01	Slide switch (PHONO/LINE IN)
S13	87-031-658-01	Slide switch (OSC)
« LED CIRCUIT BOARD SECTION »		
PCB-G	*	LED circuit board
IC1,2	87-027-690-01	IC, IR2E02
D1,2,3,4	87-027-805-01	LED, SLP152B (02)
5,6,7,8		
9,10		
D11,12,13,14	87-027-806-01	LED, SLP152B
D15	87-027-769-01	LED, SLP151B
< Resistor >		
R9	87-029-089-01	4.7Ω 1/4W Fuse resistor
« POWER CIRCUIT BOARD SECTION »		
PCB-H	82-591-608-01	Power circuit board
D1,2,3,4	87-027-365-01	Diode, S5277B
J11,12	87-032-958-01	Jack (DC jack, AC jack)
S25	87-031-466-01	Slide switch (VOLTAGE SELECTOR)
F1	87-035-223-01	Fuse, "T" 1.25A
	87-033-147-01	Fuse clamp
	87-098-017-01	Fuse label, "T" 1.25A
< Resistor >		
R1	87-025-194-01	220Ω 2W Metal film resistor
« MISCELLANEOUS »		
T1	82-591-644-01	Power transformer
D1	87-027-097-01	Diode, 1S1555
RPH1	87-046-159-01	REC/PB head (COMPACT · CASSETTE)
RPH2	87-046-201-01	REC/PB head (MICRO · CASSETTE)
EH1	87-046-189-01	Erase head (COMPACT · CASSETTE)
EH2	82-575-633-01	Erase head (MICRO · CASSETTE)
M1	87-045-142-01	Motor (COMPACT · CASSETTE)
M2	82-591-634-11	Motor 12V ass'y (MICRO · CASSETTE)
SOL1	82-588-603-21	Plunger
SOL2	82-562-642-11	Plunger
ECM1,2	87-041-018-01	MIC ECM terminal WH-034AY
SP1,2	82-591-635-01	Speaker
	82-591-629-01	Flat cable, 7P
S11	87-031-537-01	Micro switch (COMPACT · CASSETTE, PLAY)

Symbol No.	Part No.	Description
S12	87-031-493-01	Micro switch (MICRO · CASSETTE, PLAY)
S14	87-031-615-01	Leaf switch (COMPACT · CASSETTE, CUE/REV)
S15	82-299-710-11	Leaf switch (MICRO · CASSETTE, CUE/REV)
S16,17	87-031-548-01	Leaf switch (COMPACT · CASSETTE, PAUSE, MICRO · CASSETTE, PAUSE)
S24	87-031-649-01	Leaf switch (MOTOR)

 Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

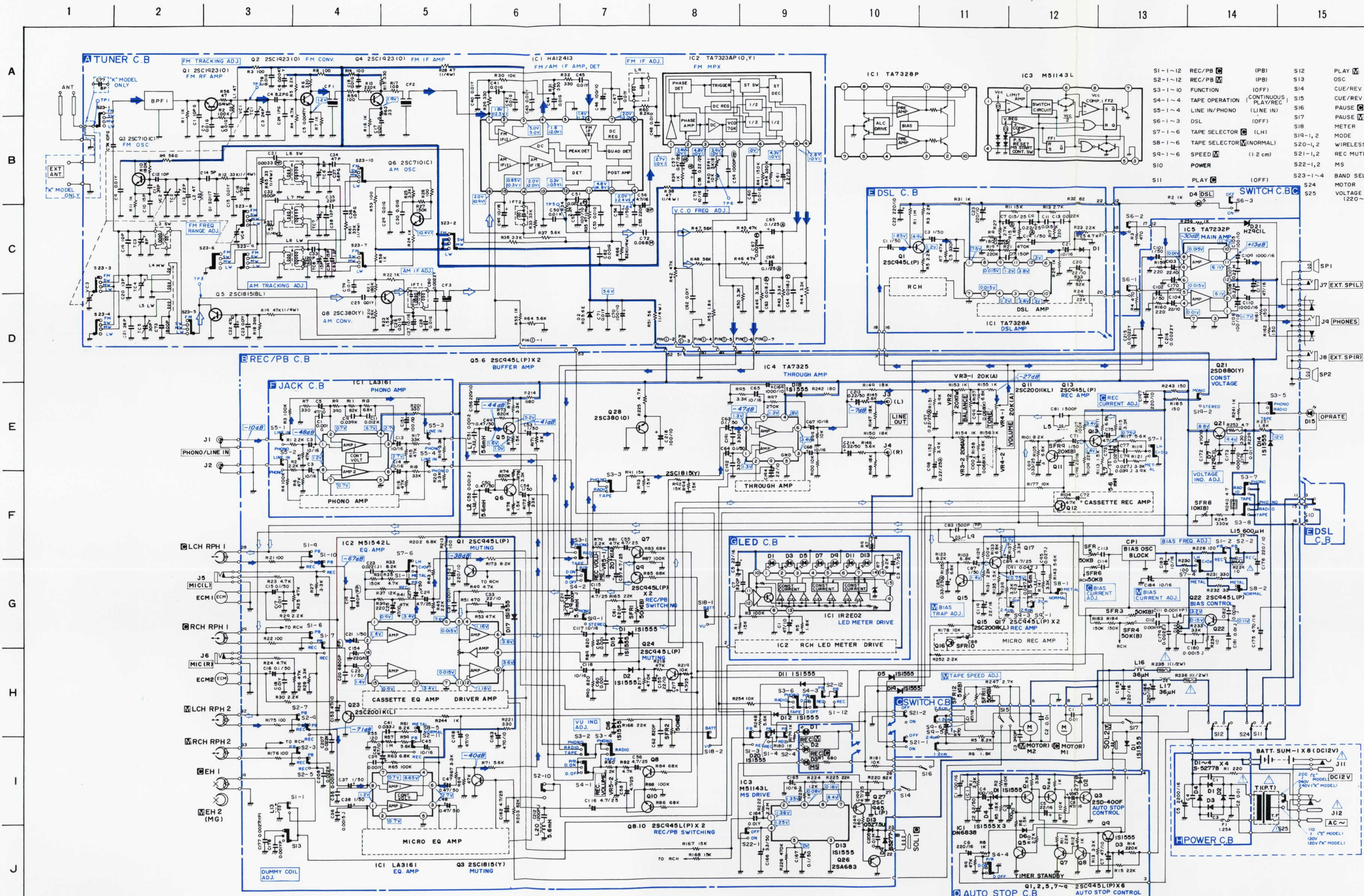
Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 82-591-621-21



Free service manuals
Gratis schema's
Digitized by

www.freeservicemanuals.info



NOTES:

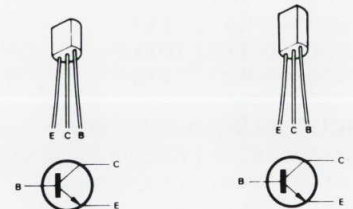
- 1)  B (+) power supply
- 2)  Signal path
 Rec path, AM signal path.
- 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But () is with AM reception or recording.
 An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
- 4) Resistors with no designation have a rated power of 1/4W and a tolerance of $\pm 5\%$.
- 5) Capacitors with no designation have a dielectric strength of less than 50WV.
- 6) The only capacitor tolerance indicated are $\pm 5\%$ (J) and $\pm 10\%$ (K).
- 7) Ceramic capacitor symbols:
 For temperature compensation (SL)
 High dielectric constant system (YY)
 High dielectric constant system (YW, YP, YZ)
 Semiconductor ceramic
- 8) Explanation of symbols
 Mylar capacitor
 Aluminum solid capacitor
 Polypropylene film capacitor
 Bi-polarized capacitor
 Tantalum capacitor
 Fuse resistor
 Nonflammable resistor

 **Safety component symbol**
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

C symbol: Compact Cassette

M symbol: Micro Cassette

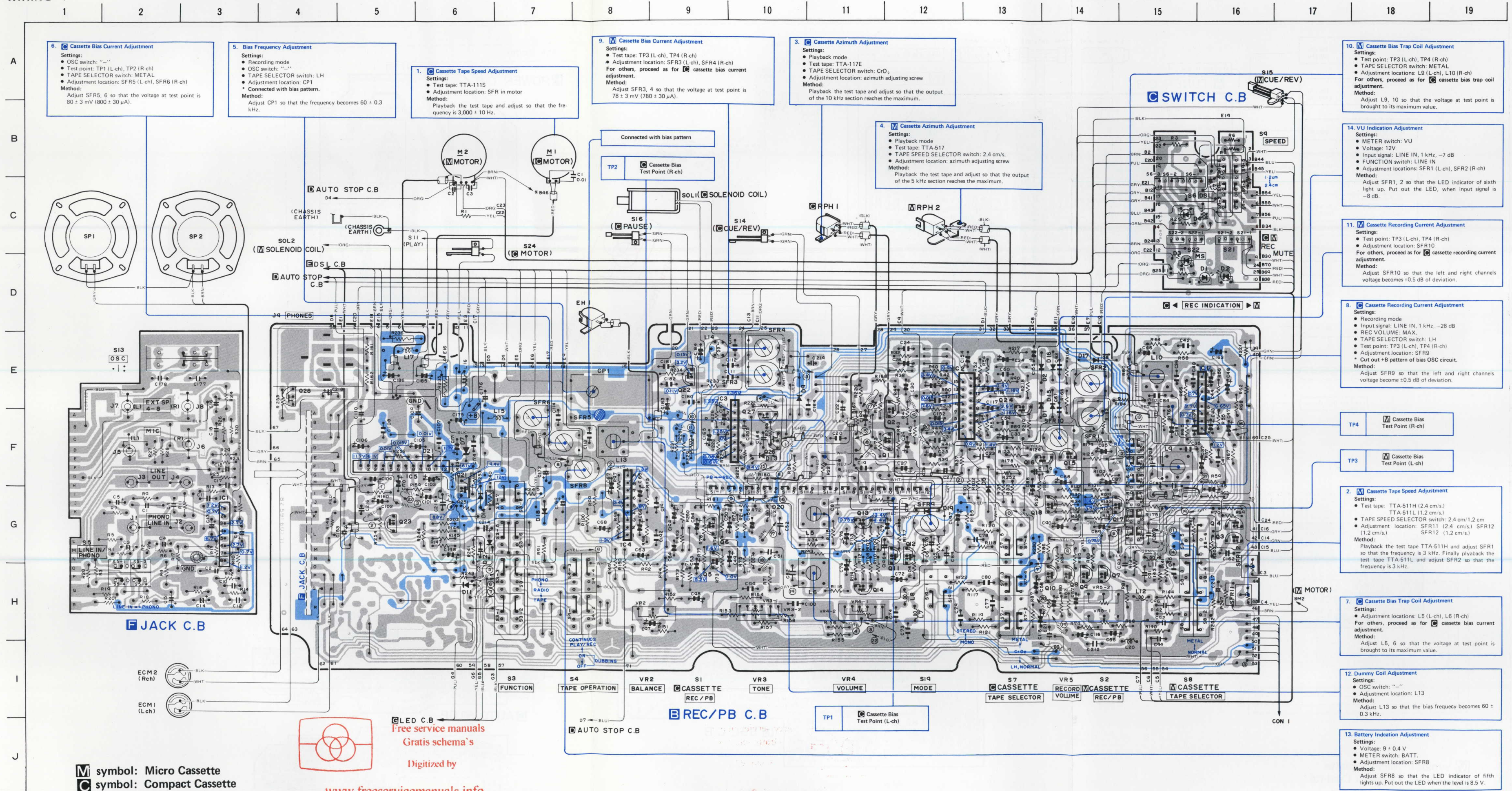
- This schematic diagram is subject to change without notice in the interests of improved performance.



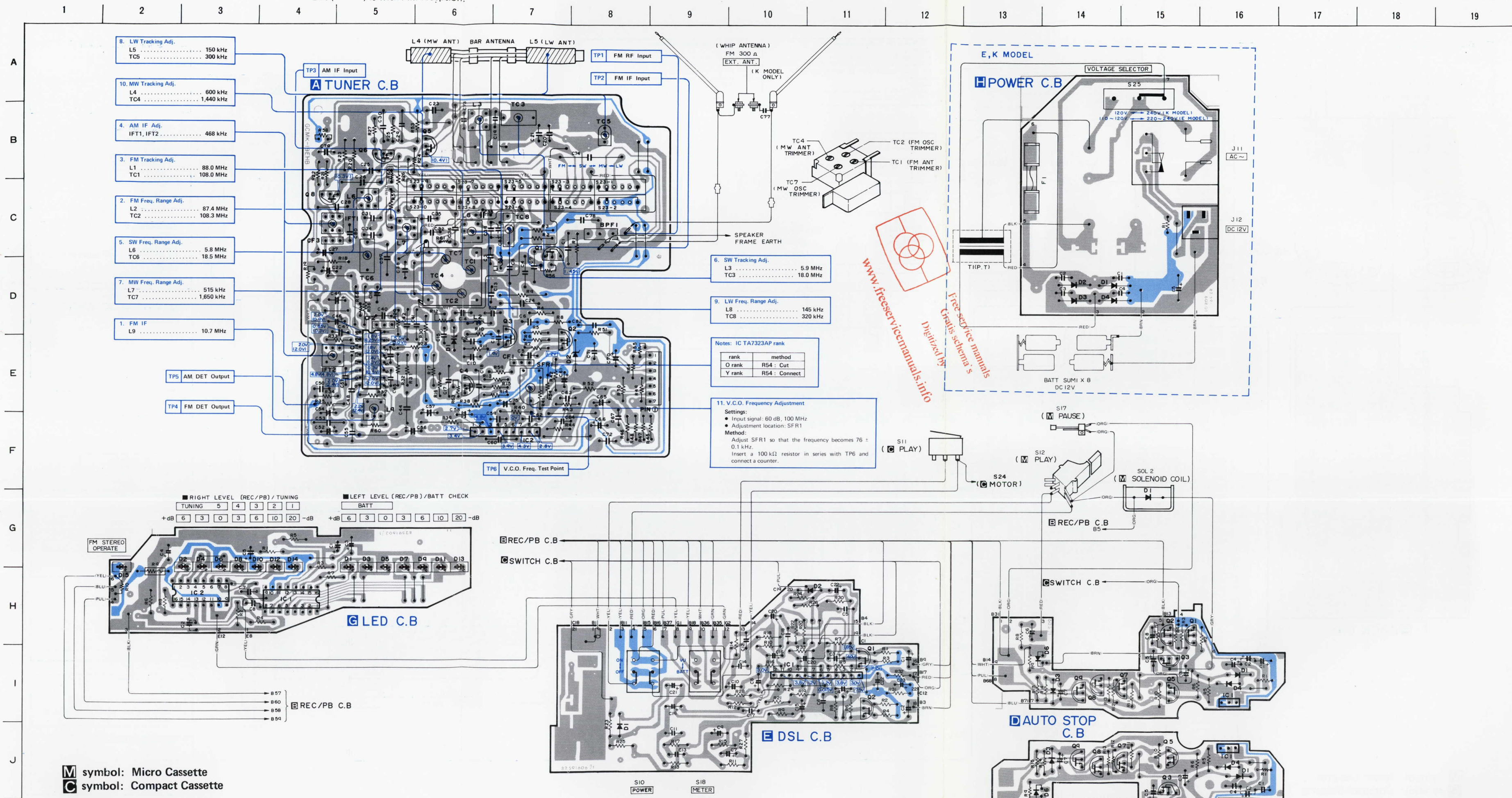
2SC732
2SC945
2SC1815
2SC1923
2SC2001

2SD 400

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

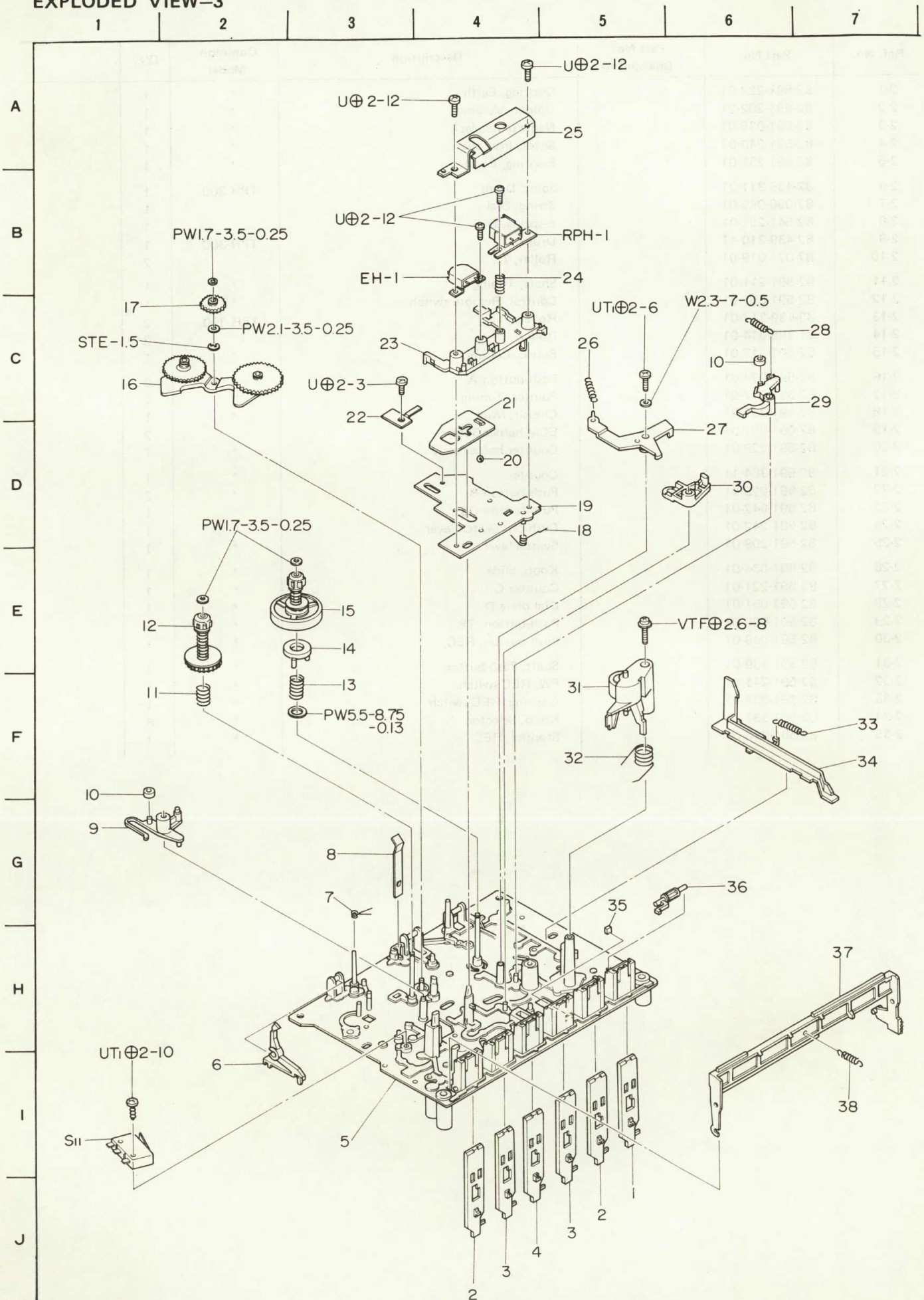


(1) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
 But () is with AM reception.



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-591-222-01		C-spring, Earth	*	1
2-2	82-591-202-21		Holder, Volume	*	1
2-3	82-591-035-01		Name plate, Jack	*	1
2-4	82-591-240-01		Sheet, Insulation	*	1
2-5	82-591-231-01		E-spring, Earth	*	1
2-6	82-439-311-21		Joint, Drum	TPR-300	1
2-7	87-096-045-01		String, Dial		1
2-8	82-541-291-01		E-spring, Dial		1
2-9	82-439-310-41		Drum	TPR-300	1
2-10	87-071-019-01		Roller, 7 ϕ		2
2-11	82-591-211-01		Shaft, Tuning	*	1
2-12	82-591-651-01		Control, Remote switch	*	1
2-13	82-439-317-01		Roller	TPR-300	2
2-14	81-385-014-01		Roller		2
2-15	82-591-217-01		Belt C, Counter	*	1
2-16	82-591-028-01		Push-button A	*	2
2-17	82-591-017-01		Pointer, Tuning	*	1
2-18	82-591-201-21		Chassis, Main	*	1
2-19	87-064-097-01		ECM holder 30M,		2
2-20	82-591-229-01		Counter holder ass'y	*	1
2-21	82-591-364-11		Counter	*	1
2-22	82-591-029-01		Push-button B	*	2
2-23	82-591-042-01		Push-button DSL	*	1
2-24	82-591-242-01		Cushion, Switch lever	*	1
2-25	82-591-209-01		Switch lever	*	1
2-26	82-591-034-01		Knob, Slide	*	1
2-27	82-591-221-01		Counter C	*	1
2-28	82-591-051-01		Dial plate D	*	1
2-29	82-591-020-01		Push-button, TP	*	5
2-30	82-591-039-01		Push-button, REC	*	1
2-31	82-591-339-01		Shaft, Push-button	*	1
2-32	82-591-241-01		PW, REC switch	*	1
2-33	82-591-238-11		C-spring, REC switch	*	1
2-34	02-591-337-11		Knob, Selector	*	6
2-35	82-591-246-01		Stopper, REC	*	1

EXPLODED VIEW-3

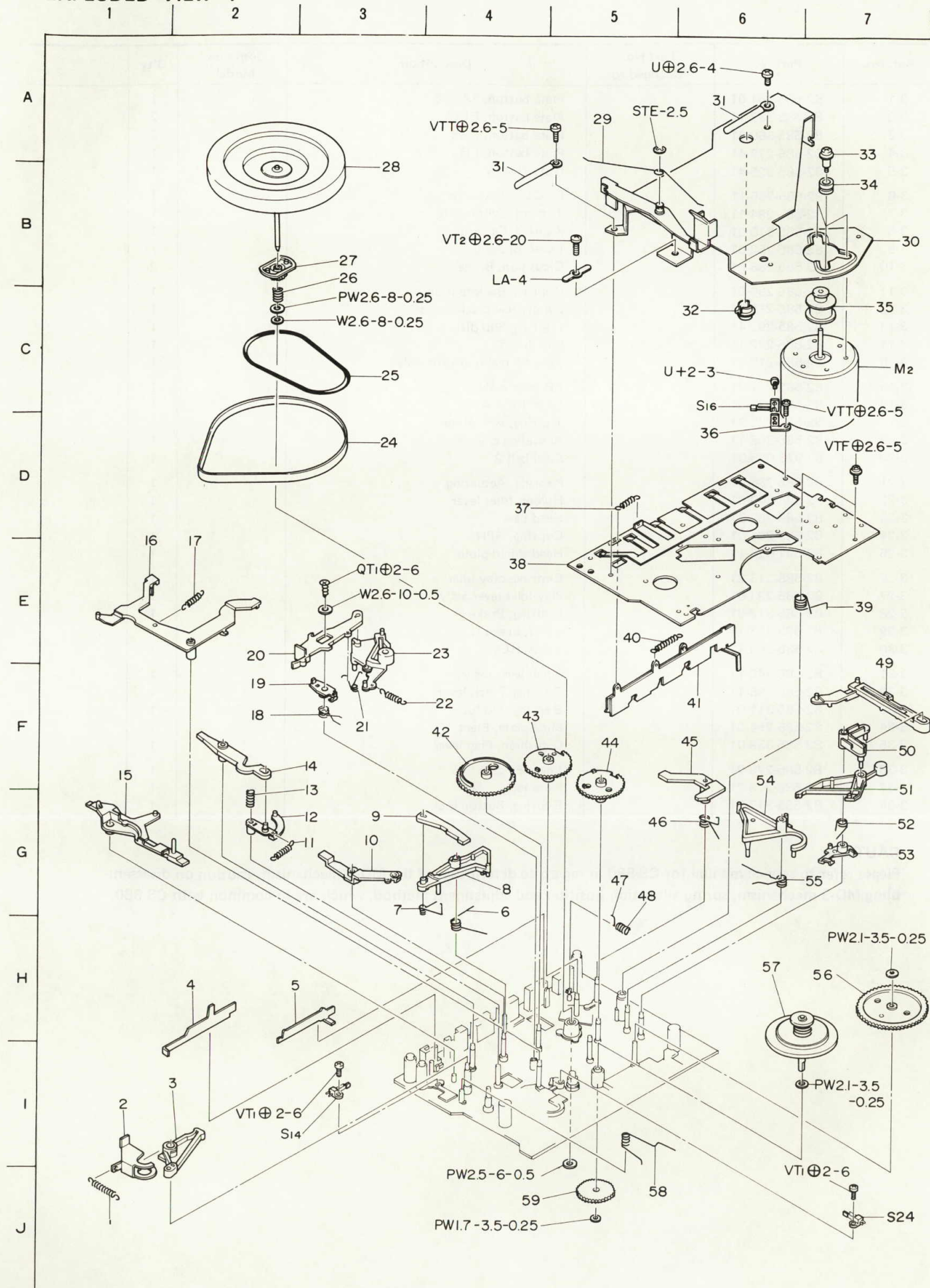


Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-585-361-01		Plate button, PAUSE		1
3-2	82-585-337-11		Plate button, REC		2
3-3	82-585-360-01		Plate button, FRB		2
3-4	82-585-277-41		Plate button, FR		1
3-5	82-585-325-41		Outsert ass'y		1
3-6	82-585-255-11		REC blocking lever		1
3-7	82-585-294-11		T-spring, Sentershift		1
3-8	82-585-319-01		P-spring, Cassette		1
3-9	82-585-252-01		Lever, Brake L		1
3-10	82-585-286-01		G-cushion, Brake		2
3-11	82-585-290-01		C-spring, Back tension		1
3-12	82-585-215-11		Supply reel platform ass'y		1
3-13	82-585-292-41		C-spring, Slip disk		1
3-14	82-585-272-11		Slip disk T		1
3-15	82-585-210-31		Take-up reel platform ass'y		1
3-16	82-585-231-21		FR lever ass'y		1
3-17	82-585-235-01		Gear, REW A		1
3-18	82-585-295-21		T-spring, Actuating		1
3-19	82-585-208-11		Actuating chassis		1
3-20	87-073-005-01		Steel ball 2		1
3-21	82-585-284-01		P-spring, Actuating		1
3-22	82-585-349-01		Holder Idler lever		1
3-23	82-585-209-31		Head base		1
3-24	82-585-291-01		C-spring, RPH		1
3-25	82-591-628-11		Head shield plate		1
3-26	82-585-313-21		E-spring, play idler		1
3-27	82-585-223-61		Play idler lever ass'y		1
3-28	82-585-312-01		E-spring, Brake R		1
3-29	82-585-253-11		Lever, Brake R		1
3-30	82-585-265-11		Lever, REV		1
3-31	82-585-240-11		Pinch lever ass'y		1
3-32	82-585-296-11		T-spring, Pinch lever		1
3-33	82-585-311-01		E-spring, Lid lock		1
3-34	82-585-254-01		Slide plate, Eject		1
3-35	82-585-338-01		G cushion, Play lever		1
3-36	82-585-279-21		Lever Eject A		1
3-37	82-585-278-21		Plate lock		1
3-38	82-585-317-31		E-spring, Button lock		1

CAUTION

Please refer to service manual for CS-880 in regard to description of the MD-3 mechanism, caution on disassembling MD-3 mechanism, spring allocation position and adjustment method, which are in common with CS-880.

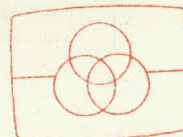
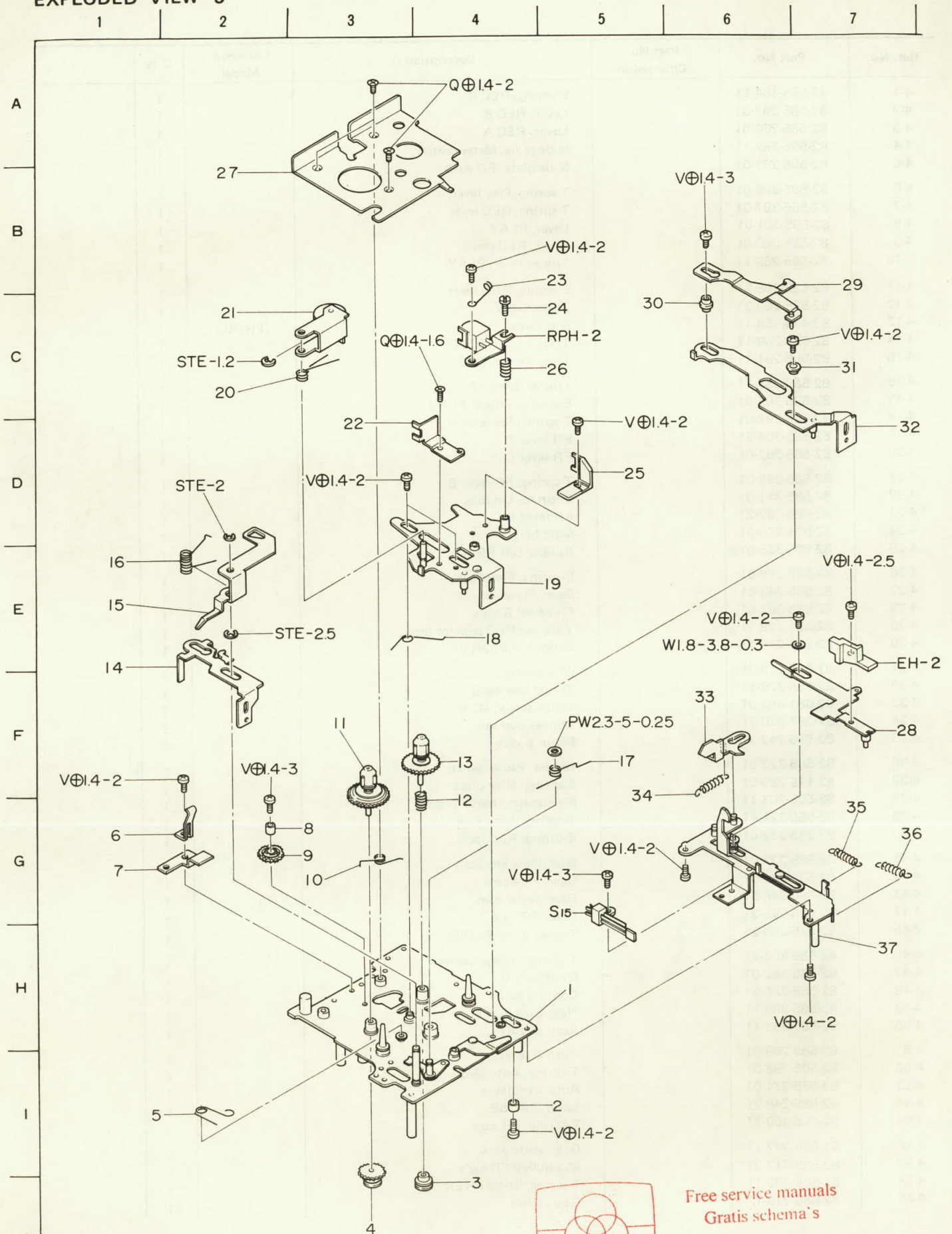
EXPLODED VIEW-4



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
4-1	82-585-384-11		E-spring, REC B	TPR-300	1	
4-2	82-585-267-01		Lever, REC B		1	
4-3	82-585-266-01		Lever, REC A		1	
4-4	82-585-282-11		Slide plate, Meter switch		1	
4-5	82-585-283-01		Slide plate, FR auto		1	
4-6	82-585-306-01		T-spring, Play lever		1	
4-7	82-585-307-01		T-spring, REC lever		1	
4-8	82-585-381-01		Lever, PLAY		1	
4-9	82-585-380-01		Lever, REC drive		1	
4-10	82-585-258-11		Trigger lever, PLAY		1	
4-11	82-585-308-21		E-spring, REW lever		1	
4-12	82-585-260-31		Lever, REW		1	
4-13	82-439-369-11		Slip spring		1	
4-14	82-585-259-11		Trigger lever, REW		1	
4-15	82-585-261-11		Trigger lever, REC		1	
4-16	82-585-257-11		Trigger lever, FF		1	
4-17	82-585-301-01		E-spring, Trigger PLAY		1	
4-18	82-585-297-01		T-spring, FR lever A		1	
4-19	82-585-264-21		FR lever D		1	
4-20	82-585-263-01		FR lever C		1	
4-21	82-585-298-01		T-spring, FR lever B	*	1	
4-22	82-585-311-01		E-spring Lid lock		1	
4-23	82-585-262-21		FR lever B	*	1	
4-24	82-591-216-01		Main belt C		1	
4-25	82-585-336-01		Rubber belt FR B		1	
4-26	82-585-368-01		C-spring, Flywheel		1	
4-27	82-585-243-01		Gear, Flywheel		1	
4-28	82-585-367-01		Flywheel B ass'y		1	
4-29	82-591-228-11		T-spring, REC selector lever	*	1	
4-30	82-591-218-11		Motor holder ass'y	*	1	
4-31	87-038-039-01		Wire binder		3	
4-32	82-585-326-11		Thrust bearing B		1	
4-33	87-081-483-01		Motor screw, M2.6		3	
4-34	87-087-030-01		Rubber cushion		3	
4-35	82-585-242-11		Motor pulley		1	
4-36	82-585-323-01		Holder, Pause switch		1	
4-37	82-175-289-01		E-spring, Slide plate		1	
4-38	82-585-203-11		Mechanism chassis B ass'y		1	
4-39	82-585-321-41		T-spring, Auto kick		1	
4-40	82-585-332-01		E-spring, REC lock		1	
4-41	82-585-327-01		Slide Plate key ass'y		1	
4-42	82-585-244-01		Gear, Play cam		1	
4-43	82-585-246-01		Gear, Pause cam		1	
4-44	82-585-245-21		Gear, FR cam		1	
4-45	82-585-256-21		Trigger lever, PAUSE		1	
4-46	82-585-304-21		T-spring, Trigger pause		1	
4-47	82-585-362-01		Shaft lock B		1	
4-48	82-585-285-11		C-spring lock		1	
4-49	82-585-359-11		Plate auto kick ass'y		1	
4-50	82-585-269-11		Auto B lever		1	
4-51	82-585-268-01		Auto A lever		1	
4-52	82-585-298-01		T-spring, Auto eject		1	
4-53	82-585-271-01		Auto eject lever		1	
4-54	82-585-248-21		Lever, PAUSE		1	
4-55	82-585-300-11		T-spring, FR cam		1	
4-56	82-585-247-11		Gear, Auto kick		1	
4-57	82-585-217-21		Slip pulley FR ass'y		1	
4-58	82-585-303-11		T-spring, Trigger REC		1	
4-59	82-585-216-11		Gear, Drive		1	

EXPLODED VIEW-5

Van Woerkom electra

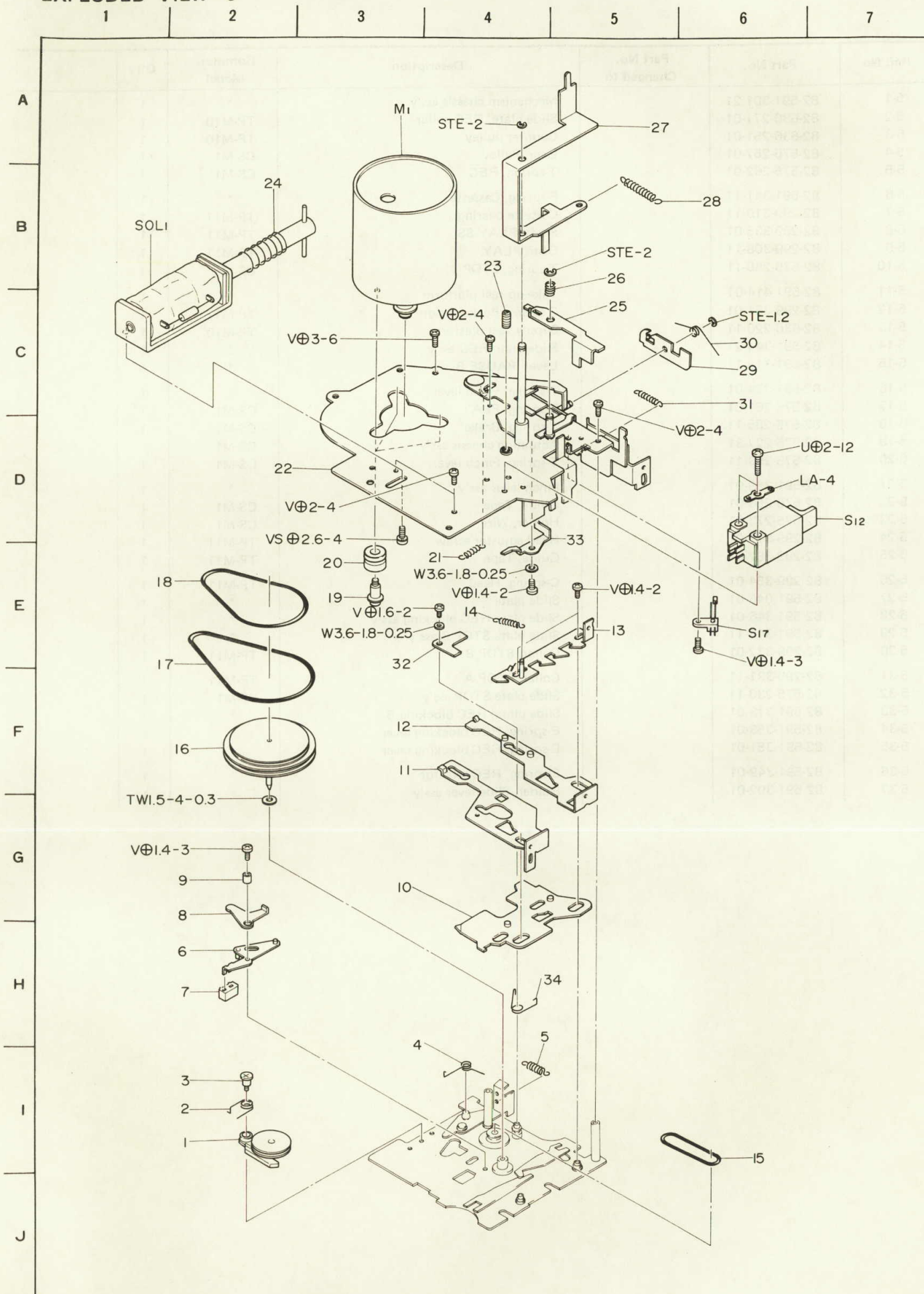


Free service manuals
Gratis schema's

Digitized by

www.freeservicemanuals.info

Ref. No	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
5-1	82-591-301-21		Mechanism chassis ass'y	*	1	
5-2	82-636-271-01		Slide plate, REC collar	TP-M10	1	
5-3	82-636-251-01		Counter pulley	TP-M10	1	
5-4	82-575-257-01		Gear, Pulley	CS-M1	1	
5-5	82-575-262-01		T-spring, REC	CS-M1	1	
5-6	82-591-341-11		P-spring, Cassette	*	1	
5-7	82-299-319-11		Cassette bearing	TP-M11	1	
5-8	82-299-335-01		Shaft, PLAY SS	TP-M11	1	
5-9	82-299-308-11		Gear, PLAY	TP-M11	1	
5-10	82-575-265-11		T-spring, STOP	CS-M1	1	
5-11	82-591-414-01		Take-up reel platform	*	1	
5-12	82-299-361-01		C-spring, Back tension	TP-M11	1	
5-13	82-636-220-11		Supply reel platform	TP-M10	1	
5-14	82-591-344-21		Slide plate REC ass'y	*	1	
5-15	82-591-318-11		Lever PAUSE B	*	1	
5-16	82-591-374-01		T-spring, Pinch lever	*	1	
5-17	82-575-261-01		T-spring, PLAY	CS-M1	1	
5-18	82-575-285-11		T-spring, Brake	CS-M1	1	
5-19	82-575-227-31		Actuating chassis ass'y	CS-M1	1	
5-20	82-575-263-11		T-spring, Pinch lever	CS-M1	1	
5-21	82-591-359-01		Pinch lever ass'y	*	1	
5-22	82-575-256-01		Guide, Tape	CS-M1	1	
5-23	82-575-273-01		Holder, Wire	CS-M1	1	
5-24	82-299-377-01		Head adjuster screw	TP-M11	1	
5-25	82-299-387-01		Guide, Tape	TP-M11	1	
5-26	82-299-354-01		C-spring, Head	TP-M11	1	
5-27	82-591-046-01		Slide plate	*	1	
5-28	82-591-346-01		Slide plate REC blocking ass'y	*	1	
5-29	82-591-345-11		Slide plate STOP B ass'y	*	1	
5-30	82-299-332-01		Collar, STOP B	TP-M11	1	
5-31	82-299-331-11		Collar, STOP A	TP-M11	1	
5-32	82-575-230-11		Slide plate STOP ass'y	CS-M1	1	
5-33	82-591-313-01		Slide plate, REC blocking B	*	1	
5-34	82-591-353-01		E-spring, REC blocking lever	*	1	
5-35	82-591-351-01		E-spring, REC blocking lever	*	1	
5-36	82-591-349-01		E-spring, REC selector	*	1	
5-37	82-591-302-01		Holder, Slide lever ass'y	*	1	



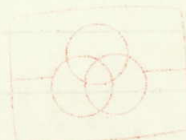
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
6-1	82-575-224-21		FR arm ass'y	CS-M1	1
6-2	82-299-346-11		T-spring, FR	TP-M11	1
6-3	82-299-385-11		Screw, FR lever	TP-M11	1
6-4	82-591-392-11		T-spring, FF/REW	*	1
6-5	82-591-397-01		E-spring, Timing lever A	*	1
6-6	82-636-226-11		Lever brake ass'y	TP-M10	1
6-7	82-299-325-01		Brake shoe	TP-M11	1
6-8	82-575-244-01		Lever, REW	CS-M1	1
6-9	82-575-245-01		Collar, Brake	CS-M1	1
6-10	82-591-401-11		Slide plate FR ass'y	*	1
6-11	82-591-355-11		Slide plate, REW	*	1
6-12	82-591-386-21		Slide plate FF ass'y	*	1
6-13	82-591-377-01		Slide plate lock ass'y	*	1
6-14	82-591-358-01		E-spring, Lock plate	*	1
6-15	82-591-343-11		Belt, Counter	*	1
6-16	82-575-221-01		Flywheel ass'y	CS-M1	1
6-17	82-591-342-11		Belt, Main	*	1
6-18	82-575-275-01		Rubber belt, 34.7φ	CS-M1	1
6-19	87-081-483-01		Motor screw, M2.6		3
6-20	87-087-030-01		Rubber cushion		3
6-21	82-591-390-11		T-spring, Timing lever B	*	1
6-22	82-591-321-31		Mechanism holder ass'y	*	1
6-23	82-385-311-01		Thrust screw	AD-6300	1
6-24	82-591-356-01		C-spring, Plunger	*	1
6-25	82-591-331-11		Lever, Lock eject	*	1
6-26	82-591-365-01		C-spring, Auto	*	1
6-27	82-591-347-11		Lever REC ass'y	*	1
6-28	82-591-349-01		E-spring, REC selector lever	*	1
6-29	82-591-333-01		Lock plate	*	1
6-30	82-591-354-11		T-spring, Lock plate	*	1
6-31	82-591-348-01		E-spring, PAUSE lever	*	1
6-32	82-591-382-01		FF blocking lever	*	1
6-33	82-591-383-01		Lever, PAUSE eject	*	1
6-34	82-591-394-01		T-spring, FF blocking	*	1

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
1	82-591-855-01		Printed indiv., Packing	*	1	
2	82-591-852-01		Cushion L, Printed indiv.	*	1	
3	82-591-853-01		Cushion R, Printed indiv.	*	1	
4	87-056-606-01		Poly-vinyl sack		1	
5a	82-591-905-01		Instructions booklet (E model only)	*	1	
5b	82-591-906-01		Instructions booklet (K model only)	*	1	
6	82-591-908-01		Panel, Tape control	*	1	
7	87-051-171-11		Poly-vinyl sack		1	
8	87-056-008-11		Label, AC power cord (K model only)		1	
9	87-056-009-51		Distributors list		1	
10	87-056-016-01		Tag, Main voltage (K model only)		1	
11	82-916-750-01		Tape cassette, DMC-165		1	
12a	87-034-883-01		AC power cord set (E model only)		1	
12b	87-034-871-01		AC power cord (K model only)		1	



Free service manuals
Giant's school's
Printed by



www.freeservicemanuals.info