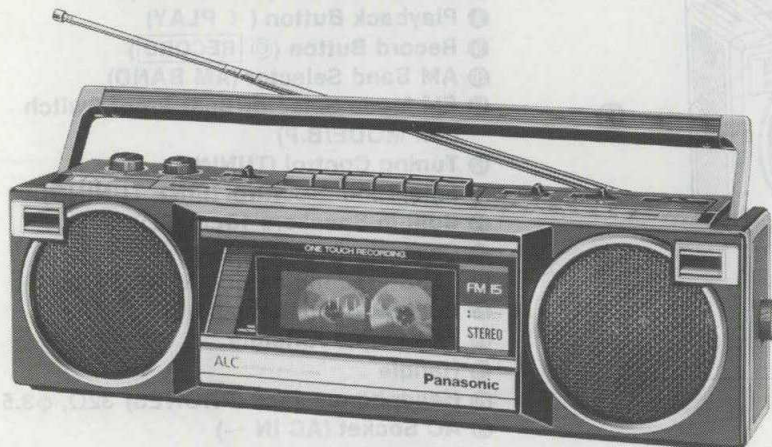


Service Manual

Radio Cassette

RX-FM15L

Stereo Radio Cassette Recorder

(Black) (Silver) (Red)
(Yellow) (White)

This is the Service Manual
for the following areas.

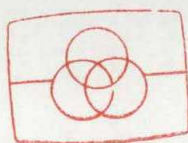
Z ... For all European
areas except **E** **F**.

E ... For United Kingdom.

F ... For France.

Color Variation

| Z | E | F |
|---|---------------------------------|---|
| Black Silver Red White Yellow | Black Silver Red White | Black Silver Red White Yellow |



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RX-FM25 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement: AC; **Z** **F**220V, 50Hz
E240V, 50Hz

Battery; 9V (Six "D" Size Flashlight
Batteries)

(Panasonic UM-1 or equivalent)

Power Consumption: 16W (AC only)

Power Output: 7W (3.5W × 2)...MPO

7W (3.5W × 2)...RMS (max.)

Speaker: 10cm PM Dynamic Speaker (3Ω)

Output: Headphones; 32Ω, φ3.5

Dimensions: 435mm(W) × 135mm(H) × 118mm(D)

Weight: 2kg without batteries

Radio Section:

Radio Frequency Range: FM; 87.5~108MHz
LW; 148.5~285kHz (2020~1052m)
MW; 520~1610kHz (577~186m)
SW; 5.9~18MHz (50.8~16.7m)

Intermediate Frequency: FM; 10.7MHz

Z **F**...AM (LW/MW/SW); 455kHz

E...AM (LW/MW/SW); 470kHz

Sensitivity: FM; 4μV/50mW output
(-3dB Limit Sens)

LW; 126μV/m/50mW output

MW; 100μV/m/50mW output

SW; 5μV/50mW output

Tape Deck Section:

Frequency Response: 80~8,000Hz (with normal tape)

Recording System: AC bias, Magnet erase

Tape Speed: 4.8cm/s

Track System: 4-track 2 channel stereo recording
and playback

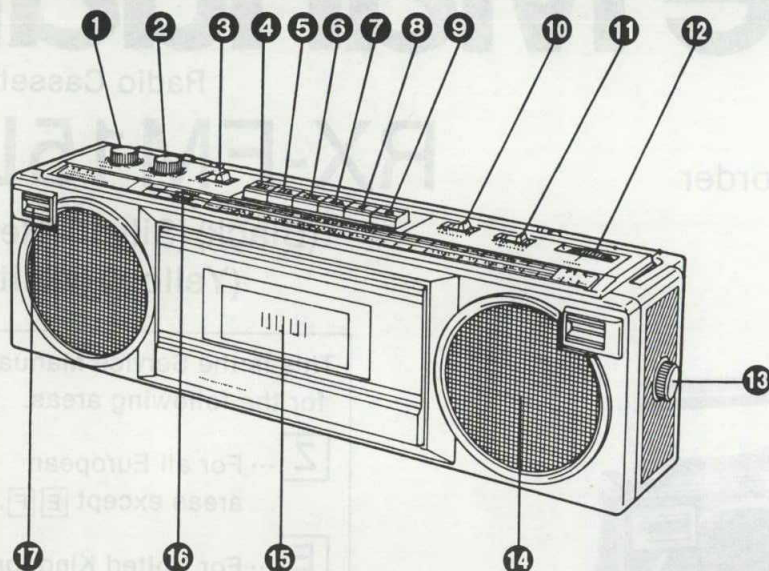
Design and specifications are subject to change without notice.

Panasonic

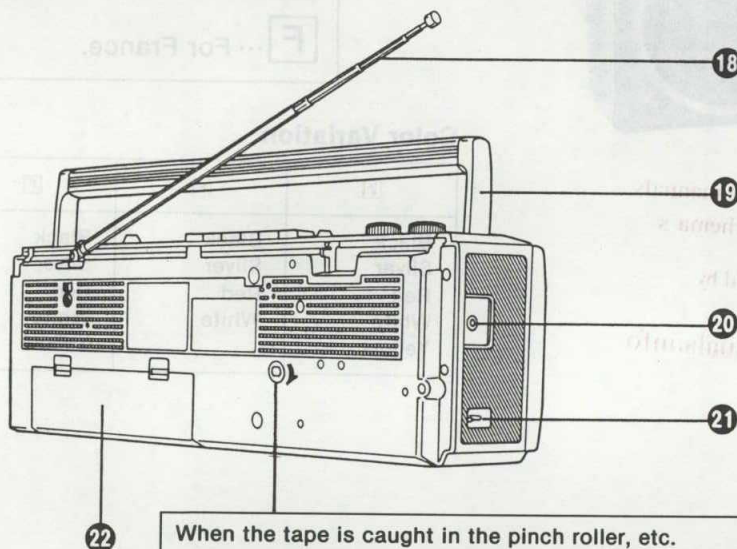
Matsushita Electric Trading Co., Ltd.

P.O. Box 288, Central Osaka Japan

LOCATION OF CONTROLS AND COMPONENTS




- ① Volume Control (VOLUME)
- ② Tone Control (TONE)
- ③ Function Selector (SELECTOR)
- ④ Pause Button (⏸ PAUSE)
- ⑤ Stop/Eject Button (⏹ STOP/EJECT)
- ⑥ Fast Forward Button (⏭ FF)
- ⑦ Rewind Button (⏮ REWIND)
- ⑧ Playback Button (⏪ PLAY)
- ⑨ Record Button (Ⓜ RECORD)
- ⑩ AM Band Selector (AM BAND)
- ⑪ FM Mode Selector/Beat Proof Switch (FM MODE/B.P.)
- ⑫ Tuning Control (TUNING)
- ⑬ Fine Tuning Control (FINE TUNING)
- ⑭ Built-in Speakers 10cm (3Ω)
- ⑮ Cassette Compartment
- ⑯ FM Stereo Indicator (FM STEREO)
- ⑰ Built-in Microphone (MIC)
- ⑱ Telescopic Antenna
- ⑲ Handle
- ⑳ Headphones Jack (PHONES) 32Ω, ϕ3.5
- ㉑ AC Socket (AC IN ~)
- ㉒ Battery Compartment



When the tape is caught in the pinch roller, etc. release the tape by tuning the pulley on the motor with the screwdriver in the direction of the arrow.

DISASSEMBLY INSTRUCTIONS

| Ref No. | Shown in Fig. —. | To remove —. | Remove —. |
|---------|---|----------------------|--|
| 1 |  | Front Cabinet Ass'y | Remove the battery cover. |
| 2 | | | Screw (3×35) mm(A)×7 |
| 3 | | | Knob(B)×3 |
| 4 | | | Push the stop/eject button. |
| 5 | 2 | Mechanism Unit | Screw (3×12) mm(C)×2 |
| 6 | | | Pull out the 3 pin socket (CP2)(D)×1 |
| 7 | 2 | Speakers | Screw (3×12) mm(E)×4 |
| 8 | 3 | Main Circuit Board | Screw (3×12) mm(F)×9 |
| 9 | 4 | Cassette Compartment | Remove the spring direction of arrow ①. |
| 10 | | | Remove the rib direction of arrow ②. |

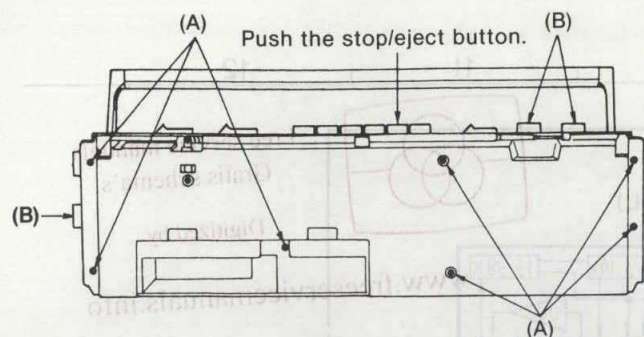


Fig. 1

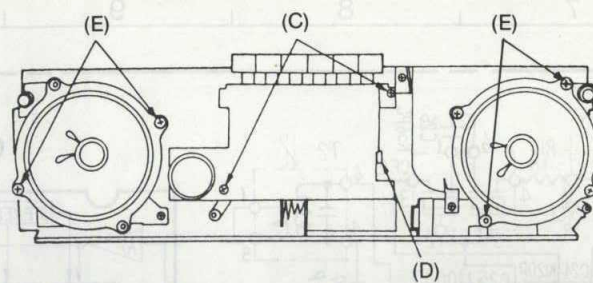


Fig. 2

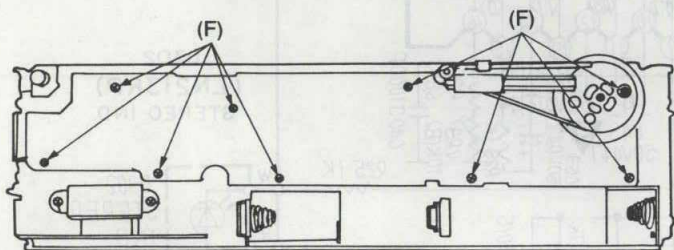


Fig. 3

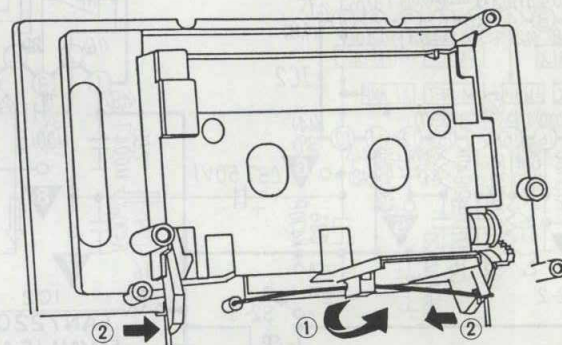


Fig. 4

HOW TO FIX THE MOTOR

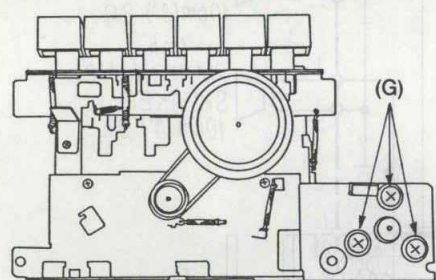


Fig. 5

- Remove the 3 screws (G).

HOW TO FIX THE FLYWHEEL ASS'Y

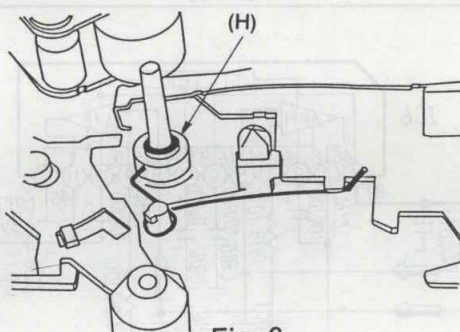


Fig. 6

- (1) Remove the washer (H).

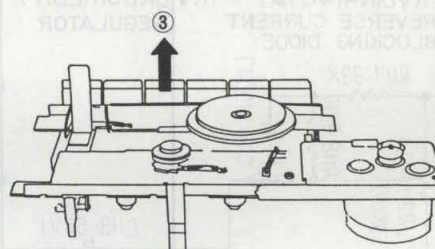
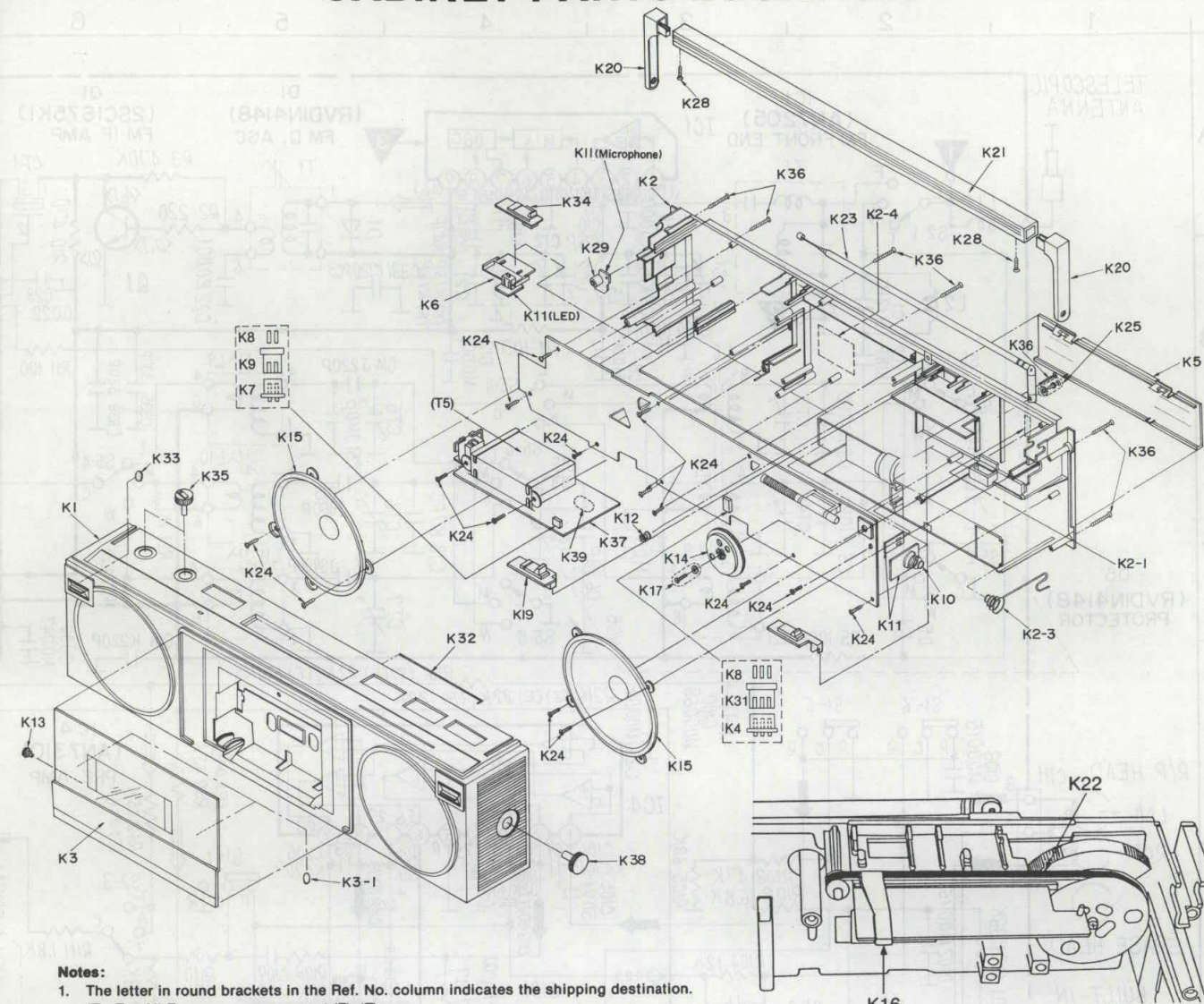


Fig. 7

- (2) Pull out the flywheel ass'y direction of arrow ③.

CABINET PARTS LOCATION



Notes:

- The letter in round brackets in the Ref. No. column indicates the shipping destination.
(Z)...For All European areas except (E). (F).
(E)...For United Kingdom.
(F)...For France.
- The letter in square brackets in the Ref. No. column indicates the color of the product.
[K]...Black Type, [S]...Silver Type, [R]...Red Type, [Y]...Yellow Type, [W]...White Type.
- The letter in the circle after the part name indicates the color of the part.
Ⓚ...Black, Ⓢ...Silver, Ⓡ...Red, Ⓨ...Yellow, Ⓦ...White.
- mark stands for that the parts are supplied in MESA.

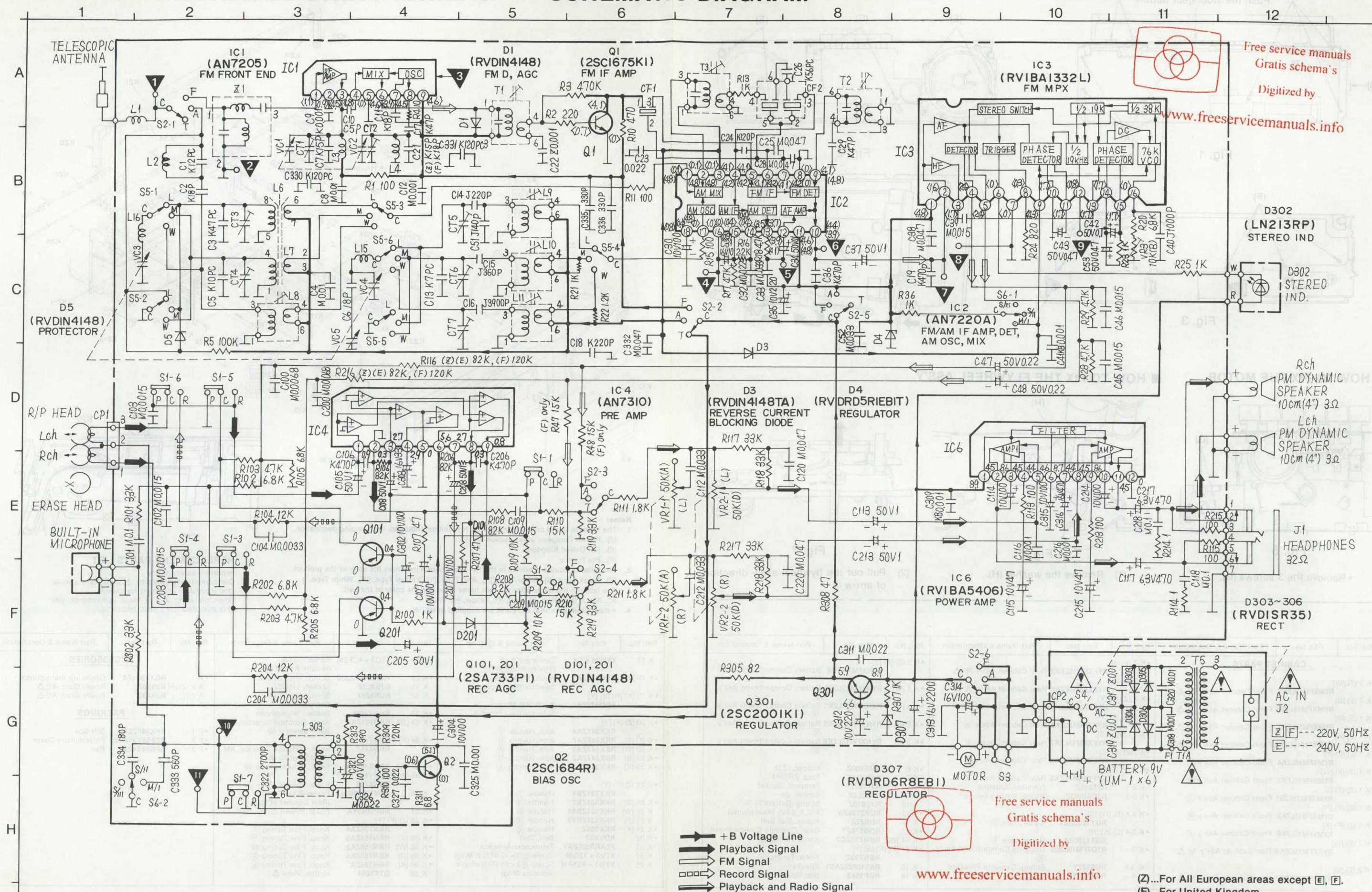
REPLACEMENT PARTS LIST

Important safety notice
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

| Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description |
|----------------------|--------------|-------------------------|----------------------|--------------|------------------------------|------------------------|--------------|-----------------------------|
| CABINET PARTS | | | CABINET PARTS | | | CABINET PARTS | | |
| • K 1 (E) [W] | RYMXFM15LEK8 | Front Cabinet Ass'y Ⓦ Δ | • K 2 (E) [R] | RYFXFM15LEK2 | Rear Cabinet Ass'y Ⓡ Δ | • K 5 (Z) (F) [Y] | RYNXFM15LZK8 | Battery Compartment Ass'y Ⓨ |
| • K 1 (E) [S] | RYMXFM15LE91 | Front Cabinet Ass'y Ⓢ Δ | • K 2 (E) [K] | RYFXFM15LZEK | Rear Cabinet Ass'y Ⓚ Δ | • K 5 [W] | RYNXFM15LZ10 | Battery Compartment Ass'y Ⓦ |
| • K 1 (E) [R] | RYMXFM15LEK2 | Front Cabinet Ass'y Ⓡ Δ | • K 2 (Z) (F) [Y] | RYFXFM15LZK4 | Rear Cabinet Ass'y Ⓨ | • K 5 [S] | RYNXFM15LZK5 | Battery Compartment Ass'y Ⓢ |
| • K 1 (E) [K] | RYMXFM15LZEK | Front Cabinet Ass'y Ⓚ Δ | • K 2 (Z) (F) [W] | RYFXFM15LZK8 | Rear Cabinet Ass'y Ⓦ | • K 5 [R] | RYNXFM15LZK9 | Battery Compartment Ass'y Ⓡ |
| • K 1 (Z) (F) [Y] | RYMXFM15LZK4 | Front Cabinet Ass'y Ⓨ | • K 2 (Z) (F) [S] | RYFXFM15LZK7 | Rear Cabinet Ass'y Ⓢ | • K 5 [K] | RYNXFM15LZKS | Battery Compartment Ass'y Ⓚ |
| • K 1 (Z) (F) [W] | RYMXFM15LFK8 | Front Cabinet Ass'y Ⓦ | • K 2 (Z) (F) [R] | RYFXFM15LZK2 | Rear Cabinet Ass'y Ⓡ | • K 6 | RME400Z | Holder, LED |
| • K 1 (Z) (F) [S] | RYMXFM15LZ91 | Front Cabinet Ass'y Ⓢ | • K 2 (Z) (F) [K] | RYFXFM15LZKS | Rear Cabinet Ass'y Ⓚ | • K 7 | RJP2G4Y | Plug, 2P/CP1 |
| • K 1 (Z) (F) [R] | RYMXFM15LZK2 | Front Cabinet Ass'y Ⓡ | • K 2-1 | RJT865Z | Terminal, Antenna | • K 8 | RJT707Z | Terminal, Socket |
| • K 1 (Z) (F) [K] | RYMXFM15LZKS | Front Cabinet Ass'y Ⓚ | • K 2-3 | RJC91003Z | Spring, Battery (+/-) | • K 9 | RJS2L3Z | Socket, 2p |
| • K 2 (E) [W] | RYFXFM15LEK8 | Rear Cabinet Ass'y Ⓦ Δ | • K 2-4 (E) [W] [S] | RGT1200ZA1 | Name Plate Ⓢ | • K 10 | RJC610Z | Spring (Battery (-)) |
| • K 2 (E) [S] | RYFXFM15LEK7 | Rear Cabinet Ass'y Ⓢ Δ | • K 2-4 (E) [K] [R] | RGT1200ZA | Name Plate Ⓢ | • K 11 | RUP2138ZA | P.C.B (LED, Microphone) |
| | | | • K 3 | RYQXFM15LZKS | Cassette Compartment Ass'y Ⓚ | • K 12 | RDR72Z | Pulley, Dial Belt |
| | | | • K 3-1 | RUS527Y | Spring, Cassette Pressure | • K 13 | RDG5782Y | Gear, Cassette Compartment |
| | | | • K 4 | RJP3G4Y | Plug, 3 pin | • K 14 [W] | RBN733ZC2 | Knob, Tuning Ⓦ |
| | | | | | | • K 14 [K] [R] [S] [Y] | RBN733Z | Knob, Tuning Ⓚ |
| | | | | | | • K 15 | RAS10P22ZAD1 | Speaker |
| | | | | | | • K 16 | RDP306Z | Dial Pointer Ⓦ |

| Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description |
|------------------------|--------------|---------------------------------------|------------------------|--------------|---|--------------------|-------------|-------------------------|
| • K 17 | XYN26 + C8 | Screw Ⓡ2.6×8 (Tuning Knob M'tg) | • K 28 | XTC3 + 8CFZM | Screw Ⓡ3×8 (Handle Arm M'tg) | ACCESSORIES | | |
| • K 19 [W] | RBD372ZA1 | Knob, FM Mode Selector/Beat Proof Ⓦ | • K 29 | WM034B7Z202 | Built-in Microphone | • A 1 | RQX4901ZA | Operating Instructions |
| • K 19 [K] [R] [S] [Y] | RBD372ZA | Knob, FM Mode Selector/Beat Proof Ⓚ | • K 31 | RJS3L3Z | Socket, 3P/CS2 | • A 2 (Z) (F) | RJA20Z | Power Cord, AC Δ |
| • K 20 (Z) (F) [Y] | RKX347ZA4 | Arm, Handle Ⓨ | • K 32 | RUS528Y | Spring, Cassette Compartment | • A 2 (E) | RJA43Z | Power Cord, AC Δ |
| • K 20 [S] | RKX347ZA7 | Arm, Handle Ⓢ | • K 33 | RHG720W | Rubber, Microphone | PACKINGS | | |
| • K 20 [W] | RKX347ZA8 | Arm, Handle Ⓦ | • K 34 [W] | RBD371ZA2 | Knob, Function Selector, AM Band Selector Ⓦ | • P 1 | RPK2402ZA | Gift Box |
| • K 20 [R] | RKX347ZA2 | Arm, Handle Ⓡ | • K 34 [K] [R] [S] [Y] | RBD371Z | Knob, Function Selector, AM Band Selector Ⓚ | • P 2 | XZB55X35A02 | Polyethylene Cover |
| • K 20 [K] | RKX347Z | Arm, Handle Ⓚ | • K 35 [W] | RBN670XA4 | Knob, Volume, Tone Ⓦ | • P 3 | RPN9524ZB | Pad |
| • K 21 (Z) (F) [Y] | RKX331ZB4 | Handle Ⓨ | • K 35 [K] [R] [S] [Y] | RBN670X | Knob, Volume, Tone Ⓚ | | | |
| • K 21 [S] | RKX331ZB7 | Handle Ⓢ | • K 36 | XTN3 + 40GM | Screw Ⓡ3×40 (Rear Cabinet M'tg) | | | |
| • K 21 [W] | RKX331ZB94 | Handle Ⓦ | • K 37 | RUP2045YA | P.C.B (Power) Δ | | | |
| • K 21 [R] | RKX331ZB93 | Handle Ⓡ | • K 38 (Z) (F) [Y] | RBN755ZA4 | Knob, Fine Tuning Ⓨ | | | |
| • K 21 [K] | RKX331Z | Handle Ⓚ | • K 38 [S] | RBN755ZA5 | Knob, Fine Tuning Ⓢ | | | |
| • K 22 | RDV40Z | Belt, Dial | • K 38 [W] | RBN755ZA2 | Knob, Fine Tuning Ⓦ | | | |
| • K 23 | XEARR225EAY | Telescopic Antenna | • K 38 [R] | RBN755ZA6 | Knob, Fine Tuning Ⓡ | | | |
| • K 24 | XTV3 + 12GM | Screw Ⓡ3×12 (P.C.B M'tg) | • K 38 [K] | RBN755ZA | Knob, Fine Tuning Ⓚ | | | |
| • K 25 | XYN3 + F25FN | Screw Ⓡ3×25 (Telescopic Antenna M'tg) | • K 39 | QTF1054 | Holder, Fuse Δ | | | |

SCHEMATIC DIAGRAM

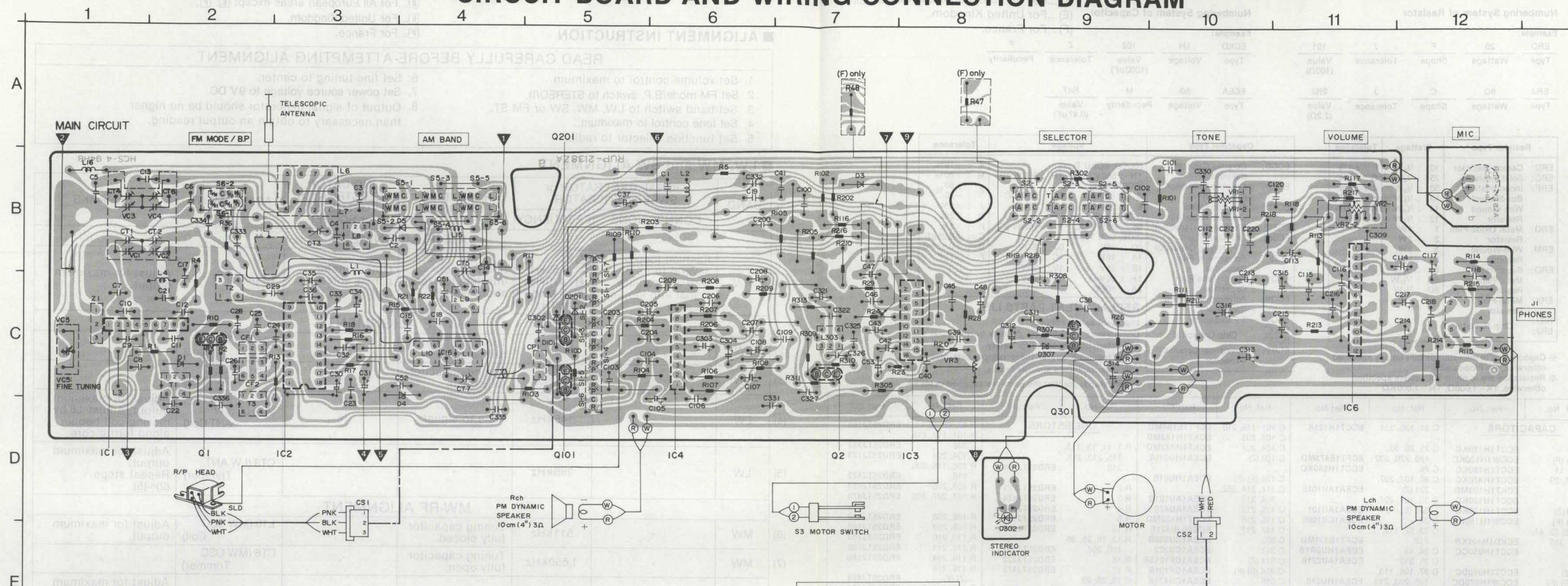
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(Z)...For All European areas except [E], [F].
 (E)...For United Kingdom.
 (F)...For France.

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



Notes: (for Schematic Diagram.)

- S1-1~S1-7: Record/playback switch in "Playback" position.
(P...Playback, R...Record)
- S2-1~S2-6: Function select switch in "POWER OFF/TAPE" position.
(F...FM, A...AM, T...POWER OFF/TAPE)
- S3: Motor switch in "OFF" position.
- S4: AC/DC IN select switch in "DC IN" position.
- S5-1~S5-6: AM Band select switch in "LW" position.
(L...LW, M...MW, S...SW)
- S6-1, S6-2: FM Mode select/Beat proof switch in "STEREO/II" position.
(M/I...MONO/I, S/II...STEREO/II, S/III...STEREO/III)
- VR1-1, VR1-2: Tone control.
- VR2-1, VR2-2: Volume control.
- VR3: VCO adjustment VR.
- DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
< ...FM position, ()...AM position, []...Recording position,
No mark...Playback position.
- Battery current: No signal80mA
Maximum output (radio)800mA
Maximum output (tape)1,000mA

12. Important safety notice

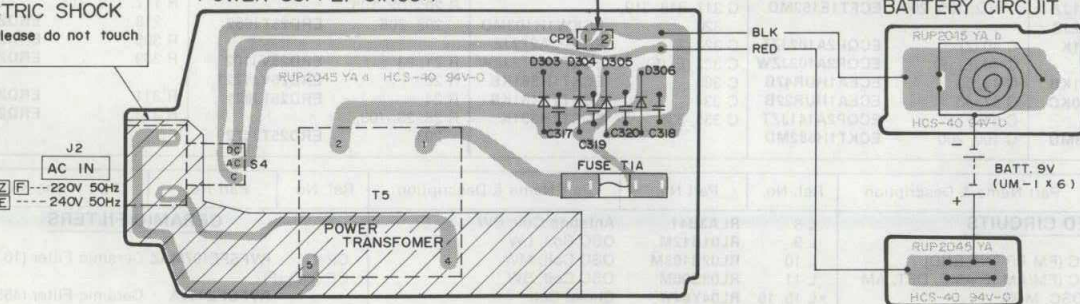
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

13. The supply parts number is described alone in the replacement parts list.

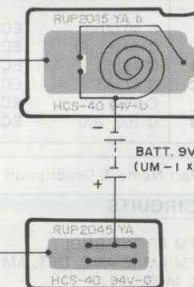
* This schematic diagram may be modified at any time with the development of new technology.

CAUTION
RISK OF ELECTRIC SHOCK
AC voltage line. Please do not touch
this portion.

POWER SUPPLY CIRCUIT



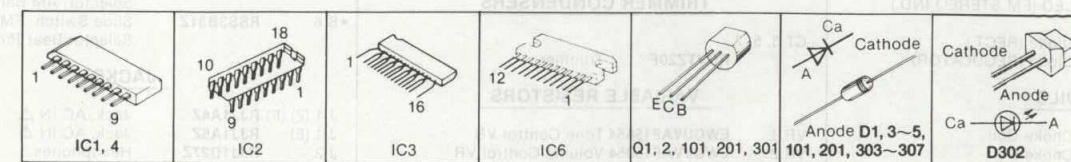
BATTERY CIRCUIT



(Z)...For All European areas except [E], [F].

(E)...For United Kingdom.

(F)...For France.



ELECTRICAL REPLACEMENT PARTS LIST

Numbering System of Resistor

Table with 5 columns: Example, ERD, 25, F, J, 101. Sub-headers: Type, Wattage, Shape, Tolerance, Value (100Ω). Rows: ERJ, 6G, C, J, 2R2. Sub-headers: Type, Wattage, Shape, Tolerance, Value (2.2Ω).

Table with 3 columns: Resistor Type, Wattage, Tolerance. Rows: ERD: Carbon Resistor, ERC: Solid Resistor, ERF: Incombustible Box-Shaped Wire-Wound Resistor, ERG: Metal Oxide-Film Resistor, ERM: Wire-Wound Resistor, ERO: Superstable Metal Film Resistor, ERX: Metal-Film Resistor, RRJ: Chip Resistor, ERJ: Chip Resistor.

* Capacity are in microtarads (μF) unless specified otherwise, P=Pico-farads.
* Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

Numbering System of Capacitor

Table with 5 columns: Example, ECKD, 1H, 102, Z, F. Sub-headers: Type, Voltage, Value (1000pF), Tolerance, Peculiarity. Rows: ECEA, 50, M, R47. Sub-headers: Type, Voltage, Peculiarity, Value (0.47μF).

Table with 3 columns: Capacitor Type, Voltage, Tolerance. Rows: ECCD: Ceramic Capacitor (Chitacon), ECKD: Ceramic Capacitor (Chitabar), ECFD: Semiconductor Ceramic Capacitor, ECE: Electrolytic Capacitor, ECS: Tantalum Fixed Electrolytic Capacitor, ECQ: Polystyrene Film Capacitor, ECQS: Polystyrene Film Capacitor, ECQV: T.F. Capacitor, ECU: Chip Capacitor, ECBT: Cylindrical Ceramic Capacitor.

REPLACEMENT PARTS LIST

Important safety notice
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
* mark stands for that the parts are supplied in MESA.

Table with 10 columns: Ref. No., Part No., Ref. No., Part No., Ref. No., Part No., Ref. No., Part No., Ref. No., Part No. Rows include CAPACITORS, RESISTORS, and various component part numbers.

Table with 5 columns: Ref. No., Part No., Part Name & Description, Ref. No., Part No., Part Name & Description, Ref. No., Part No., Part Name & Description. Rows include INTEGRATED CIRCUITS, TRANSISTORS, DIODES & RECTIFIERS, COILS, TRANSFORMERS, VARIABLE CAPACITORS, TRIMMER CONDENSERS, VARIABLE RESISTORS, CERAMIC FILTERS, FILTER, FUSES, and SWITCHES.

MEASUREMENTS AND ADJUSTMENTS

Z...For All European areas except E, F.
E...For United Kingdom.
F...For France.

ALIGNMENT INSTRUCTION

Table with 2 columns: 1-5, 6-8. Rows: 1. Set volume control to maximum. 2. Set FM mode/B.P. switch to STEREO/II. 3. Set band switch to LW, MW, SW or FM ST. 4. Set tone control to maximum. 5. Set function selector to radio. 6. Set fine tuning to center. 7. Set power source voltage to 9V DC. 8. Output of signal generator should be no higher than necessary to obtain an output reading.

LW, MW and SW ALIGNMENT

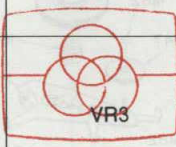
Table with 6 columns: BAND, SIGNAL GENERATOR or SWEEP GENERATOR, RADIO DIAL SETTING, INDICATOR (ELECTRONICS VOLTMETER or SCOPE), ADJUSTMENT, REMARKS. Rows include AM-IF ALIGNMENT, LW-RF ALIGNMENT, MW-RF ALIGNMENT, and SW-RF ALIGNMENT.

FM ALIGNMENT

Table with 6 columns: BAND, SIGNAL GENERATOR or SWEEP GENERATOR, RADIO DIAL SETTING, INDICATOR (ELECTRONICS VOLTMETER or SCOPE), ADJUSTMENT, REMARKS. Rows include FM-IF ALIGNMENT and FM-IF ALIGNMENT.

| BAND | SIGNAL GENERATOR or SWEEP GENERATOR | | RADIO DIAL SETTING | INDICATOR (ELECTRONICS VOLTMETER or SCOPE) | ADJUSTMENT | REMARKS |
|---|--|-----------|----------------------------------|--|----------------------|---|
| | CONNECTIONS | FREQUENCY | | | | |
| FM-RF ALIGNMENT | | | | | | |
| FM | Connect to test point ▼ through FM dummy antenna. Negative side to test point ▼. | 86.2 MHz | Variable capacitor fully closed. | Output meter across voice coil. | L4 (FM OSC Coil) | (*2) Adjust for maximum output. |
| FM | | 109.2 MHz | Variable capacitor fully open. | " | CT2 (FM OSC Trimmer) | " |
| FM | | 106 MHz | Tune to signal. | " | CT1 (FM ANT Trimmer) | (*2) Adjust for maximum output. Repeat steps (3)~(5). |
| CT2 adjustment to center before FM-RF ALIGNMENT. (For F.R. Germany) | | | | | | |
| (*2) Three output responses will be present; proper tuning is the center frequency. | | | | | | |

SEPARATION ALIGNMENT

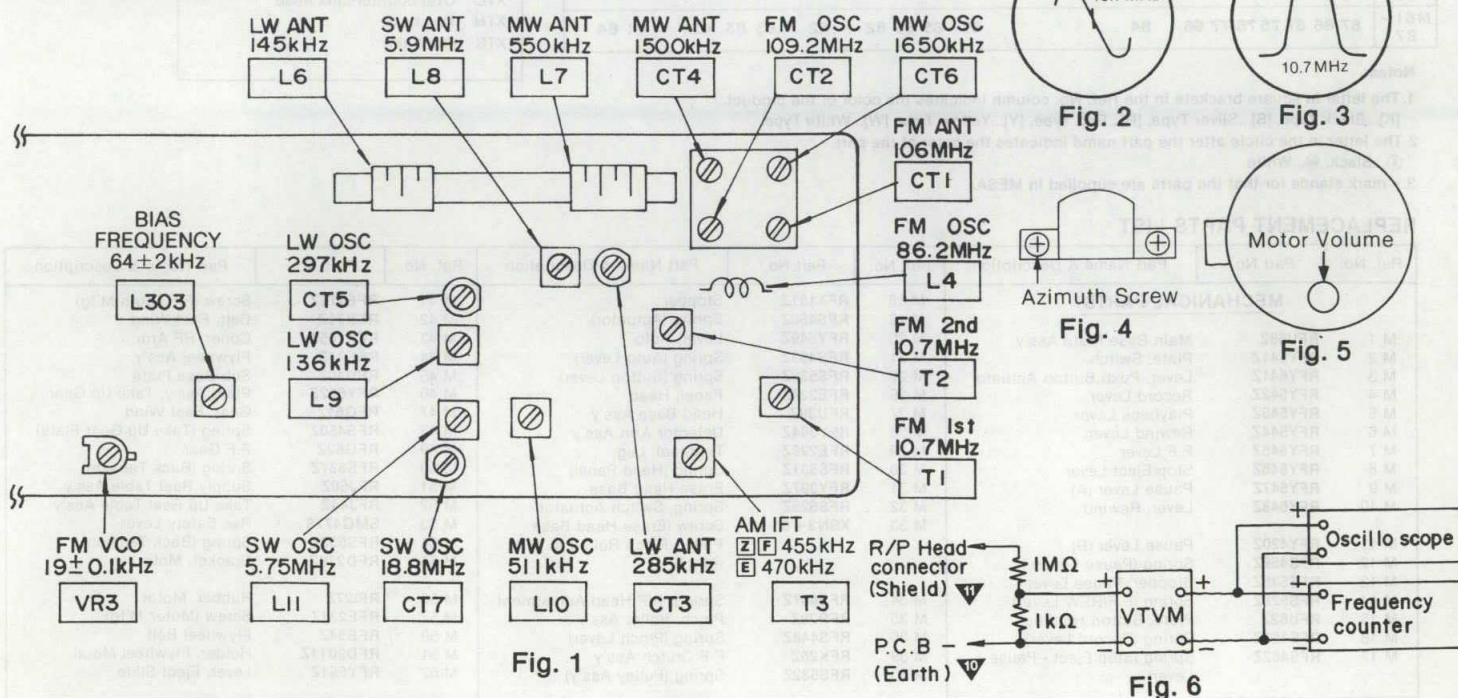
| ITEM | FM SIGNAL GENERATOR SOURCE CONNECTION | EQUIPMENT CONNECTION ELECTRONIC COUNTER | ADJUSTMENT | SPECIFICATION | REMARKS |
|-----------------------------|--|---|---|--|---|
| Adjustment of pilot signal. | 98MHz, 60dB Connect to test point ∇ through FM dummy antenna. Negative side to test point ∇ . | ∇ ...(+) ∇ ...(-) |  | Free service manuals Gratis schema's 19kHz by Digitized by www.freeservicemanuals.info | Adjust VR1, for 19kHz (± 100 Hz) reading on electronics counter. |

TAPE ADJUSTMENT

| ITEM | INPUT | MEASUREMENT POINT | SPECIFICATION | ADJUSTMENT POINT | REMARKS |
|----------------------------|----------------------|--------------------------------------|------------------|------------------|---|
| Azimuth | QZZCFM (8kHz, -20dB) | SP OUT (AC voltmeter & Oscilloscope) | Maximum output. | Azimuth screw | Playback mode FM Mode switch \rightarrow Stereo/II (Refer to Fig. 4) |
| Tape speed | QZZCWAT (3kHz) | SP OUT (Frequency counter) | 3000 ± 90 Hz | Motor Volume | Playback mode (Refer to Fig. 5) |
| Bias oscillation frequency | — | ∇ ...(+) ∇ ...(-) | 64 ± 2 kHz | L303 | Record mode Beat proof switch \rightarrow Stereo/II Tape selector \rightarrow Normal (Refer to Fig. 6) |
| Bias current | Use metal tape | ∇ ...(+) ∇ ...(-) | 11 ± 2 mV | — | Record mode Beat proof switch \rightarrow Stereo/II (Refer to Fig. 6) |

ALIGNMENT POINT

* Please refer to Circuit Board and Wiring Connection Diagram for test point locations.



MECHANISM PARTS LOCATION

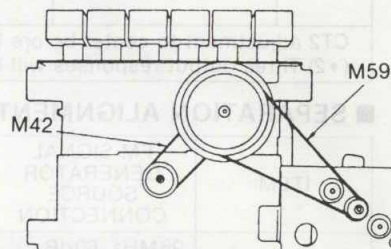
(FRONT VIEW)

SPECIFICATIONS

| | |
|-----------------------------|-----------------------|
| Pressure of pressure roller | 250~350g |
| Takeup tension | 25~65g-cm |
| Tape speed fluctuation | ±3% |
| Wow & flutter | Less than 0.2% (WRMS) |

Mechanism Operation: Auto Stop

• BELT LOCATION



NOTES:

When changing mechanism parts, apply the specified grease to the area marked show in the drawing "Mechanism Parts Location".

"x x" mark ...Fliol G-488 [SZZ0L10]

(Lubricating grease)

"△△" mark ...Silicone oil No. 4 [SZZ0L14]

(Lubricating oil)

Screw Dimensions Quick Reference

• Dimensions

XSN 3 + 10 = Pan head machine screw,
3mm in diameter, 10mm long.

Type/Diameter/Length

• Types

| Precision machine screw | | Machine screw | |
|---------------------------------|-----------------------|---------------|-----------------------|
| XQC | Flat head | XSB | Binding head |
| XQG | Oval fillister head | XSC | Oval countersunk head |
| XQH | Flat fillister head | XSH | Flat fillister head |
| XQS | Flat head | XSN | Pan head |
| | | XSS | Flat head |
| Tapping/Tap-tight machine screw | | | |
| XTB | Binding head | | |
| XTC | Oval countersunk head | | |
| XTN | Pan head | | |
| XTS | Flat head | | |

| | | | | |
|----------|----------------------|-------|-------------|-------------------|
| M1 ~ 30 | 27 26 1 | 29 28 | 30 | 20 21 |
| M31 ~ 60 | 31 33 | 34 | 33 35 36 | 53 51 54 49 47 |
| M61 ~ 87 | 87 86 67 75 78 77 66 | 84 | 87 65 83 82 | 82 63 83 62 71 64 |

Notes:

1. The letter in square brackets in the Ref. No. column indicates the color of the product.

[K]...Black Type, [S]...Silver Type, [R]...Red Type, [Y]...Yellow Type, [W]...White Type.

2. The letter in the circle after the part name indicates the color of the part.

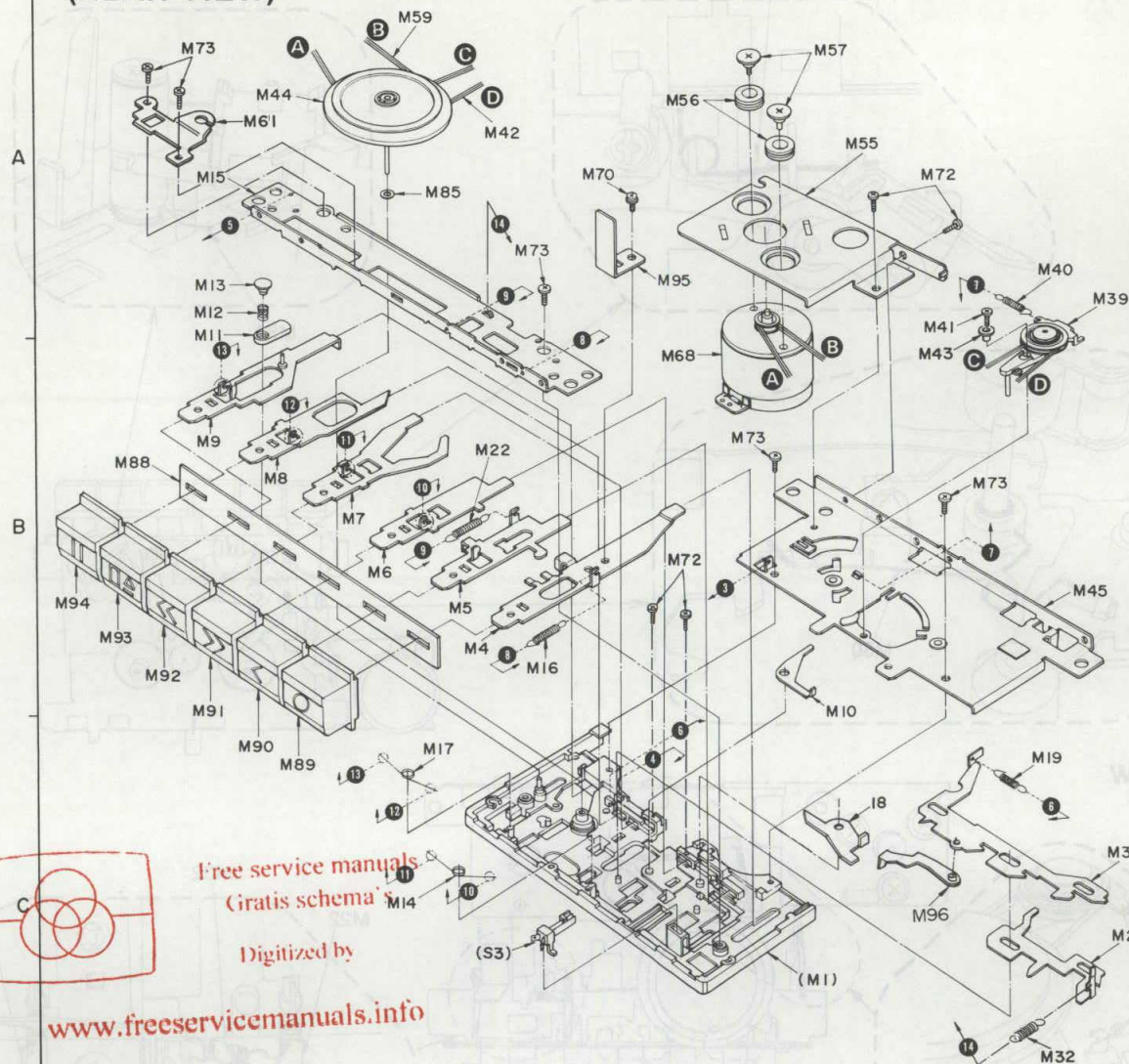
Ⓢ...Black, Ⓟ...White

3. * mark stands for that the parts are supplied in MESA.

REPLACEMENT PARTS LIST

| Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description |
|-------------------------|----------|-----------------------------------|----------|----------|---|----------|----------|-----------------------------|
| MECHANICAL PARTS | | | | | | | | |
| M 1 | RFX68Z | Main Base Plate Ass'y | M 18 | RFX101Z | Stopper | M 41 | RFE172Z | Screw (F.F. Cruth M'tg) |
| M 2 | RFY541Z | Plate, Switch | M 19 | RFS466Z | Spring (Actuator) | M 42 | RFB71Z | Belt, Fast Wind |
| M 3 | RFY641Z | Lever, Push Button Actuator | M 20 | RFY549Z | Lever, Auto | M 43 | RFX145Z | Collar, RF Arm |
| M 4 | RFY542Z | Record Lever | M 21 | RFS453Z | Spring (Auto Lever) | M 44 | RFF37Z | Flywheel Ass'y |
| M 5 | RFY543Z | Playback Lever | M 22 | RFS530Z | Spring (Button Lever) | M 45 | RFU40Z | Sub Base Plate |
| M 6 | RFY544Z | Rewind Lever | M 26 | RFE227Z | Panel, Head | M 46 | RFY652Z | Plate Ass'y, Take Up Gear |
| M 7 | RFY545Z | F.F. Lever | M 27 | RFU39Z | Head Base Ass'y | M 47 | RFQ61Z | Gear, Fast Wind |
| M 8 | RFY546Z | Stop/Eject Lever | M 28 | RFY394Z | Detector Arm Ass'y | M 48 | RFS450Z | Spring (Take Up Gear Plate) |
| M 9 | RFY547Z | Pause Lever (A) | M 29 | RFE228Z | Terminal, Lug | M 49 | RFQ62Z | F.F. Gear |
| M 10 | RFY548Z | Lever, Rewind | M 30 | RFS531Z | Spring (Head Panel) | M 50 | RFS537Z | Spring (Back Tension) |
| M 11 | RFY420Z | Pause Lever (B) | M 31 | RFY397Z | Erase Head Base | M 51 | RFJ50Z | Supply Reel Table Ass'y |
| M 12 | RFS459Z | Spring (Pause Lever) | M 32 | RFS625Z | Spring, Switch Actuator | M 52 | RFJ44Z | Take Up Reel Table Ass'y |
| M 13 | RFS536Z | Stopper, Pause Lever | M 33 | XSN3 + 6 | Screw (Erase Head Base Plate • Pinch Rolle etc. M'tg Φ3×6) | M 53 | SMQ4778 | Rec Safety Lever |
| M 14 | RFS529Z | Spring (F.F./REW Lever) | M 34 | RFS447Z | Spring, R/P Head Adjustment | M 54 | RFS533Z | Spring (Back Tension) |
| M 15 | RFU62Z | Plate, Button Holding | M 35 | RFR29Z | Pinch, Roller Ass'y | M 55 | RFD219Z | Bracket, Motor |
| M 16 | RFS463Z | Spring (Record Lever) | M 36 | RFS448Z | Spring (Pinch Lever) | M 56 | RFI27Z | Rubber, Motor |
| M 17 | RFS462Z | Spring (Stop/Eject • Pause Lever) | M 39 | RFK20Z | F.F. Crutch Ass'y | M 57 | RFB231Z | Screw (Motor M'tg) |
| | | | M 40 | RFS532Z | Spring (Pulley Ass'y) | M 59 | RFB54Z | Flywheel Belt |
| | | | | | | M 61 | RFD9011Z | Holder, Flywheel Metal |
| | | | | | | M 62 | RFY551Z | Lever, Eject Slide |

(REAR VIEW)

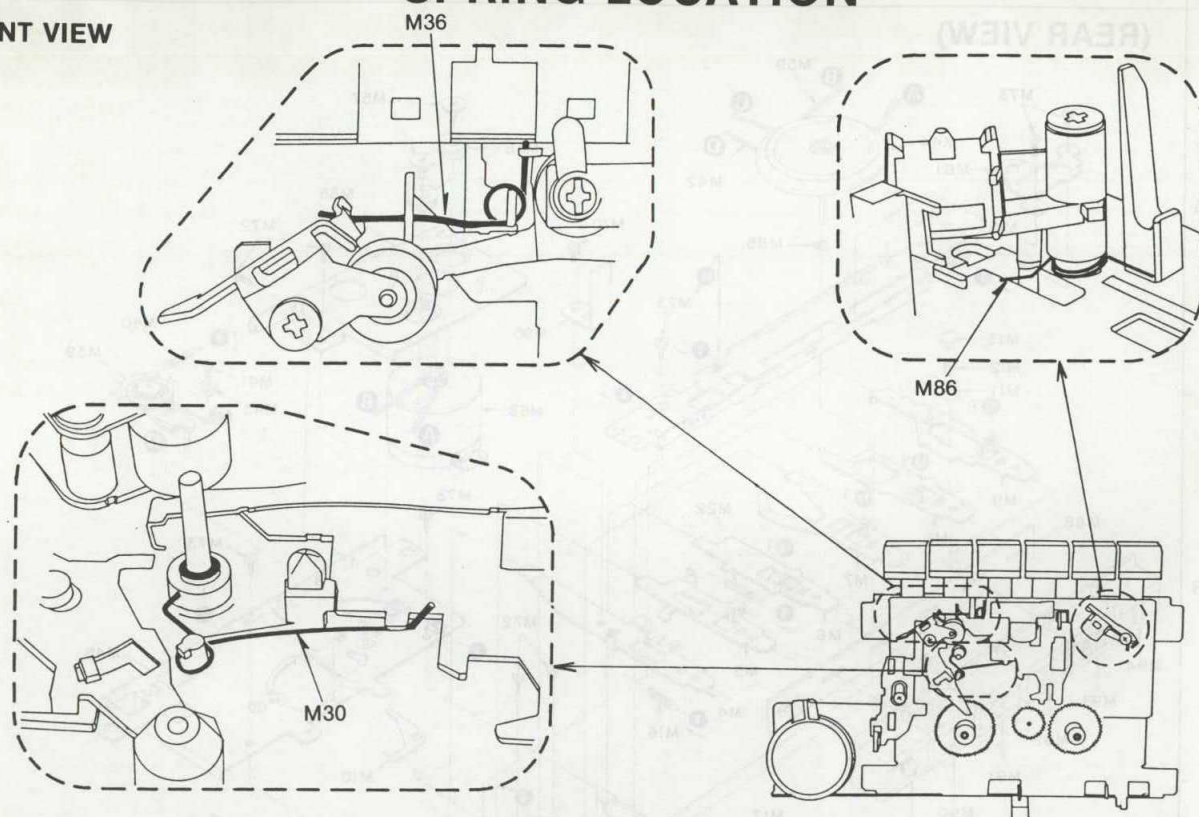


| | | | | |
|----------|----------------------------|----------------------|-----------|-------------------|
| M1 ~ 30 | 15 9 11 12 13 8 | 7 6 14 17 5 4 22 16 | (1) 10 18 | 19 3 2 |
| M31 ~ 60 | 44 | 59 42 | 56 57 55 | 41 43 40 32 45 39 |
| M61 ~ 96 | 94 93 88 92 73 91 61 90 89 | 85 73 70 95 68 72 73 | 96 72 73 | |

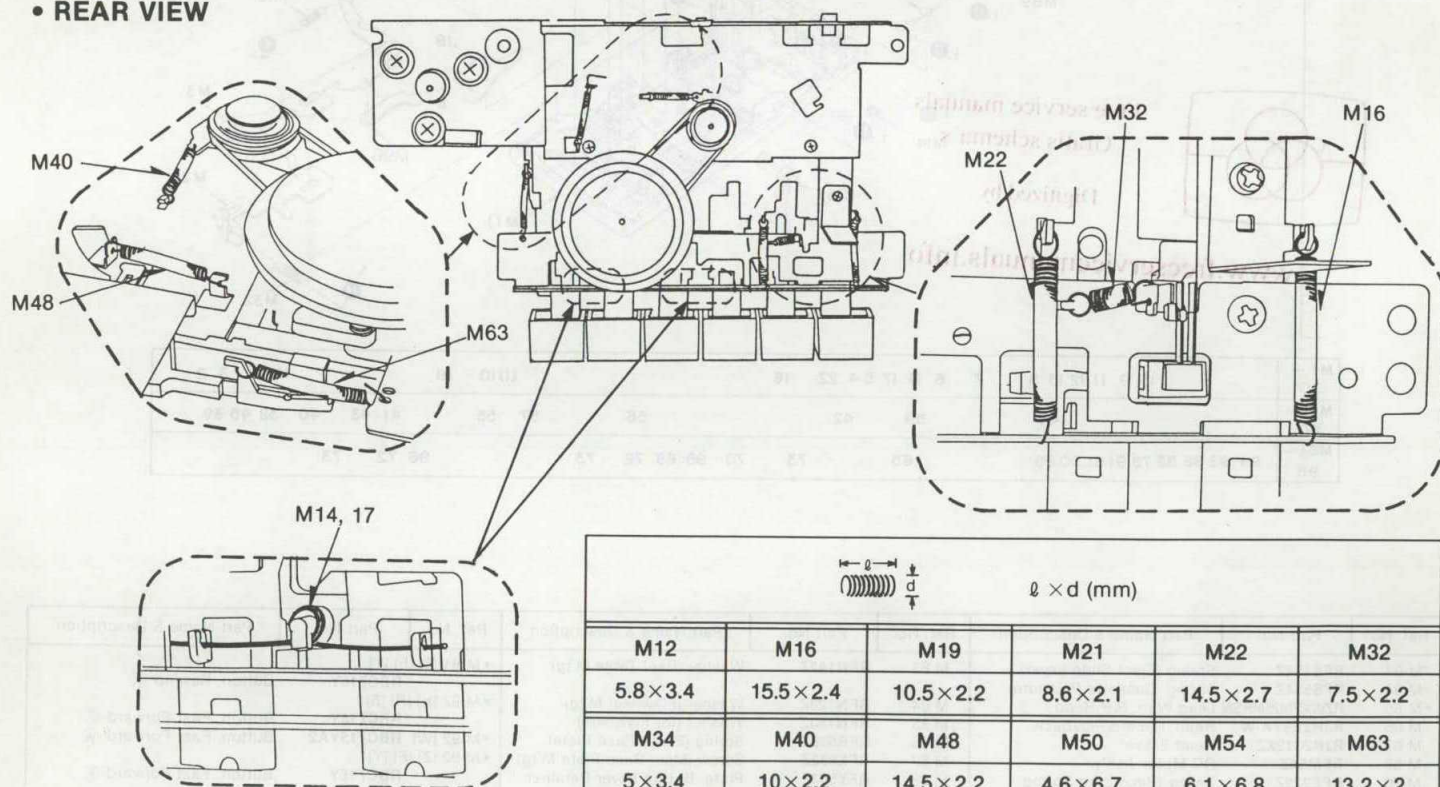
| Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description | Ref. No. | Part No. | Part Name & Description |
|----------|-------------|---|--------------------|-----------|------------------------------|--------------------|-----------|--------------------------|
| M 63 | RFS454Z | Spring (Eject Slide Lever) | M 83 | RFN142Z | Washer (Reel Table M'tg) | • M 91 (Z) (F) [Y] | RBC716Y | Button, Rewind (K) |
| M 64 | RFS534Z | Spring (Cassette Pressure) | M 84 | RFN123Z | Washer (Flywheel M'tg) | • M 92 [K] [R] [S] | RBC715Y | Button, Fast Forward (K) |
| • M 65 | RZWXFM25MKS | Lead Wire, R/P Head | M 85 | RFN153Z | Washer (for Flywheel) | • M 92 [W] | RBC715YA2 | Button, Fast Forward (W) |
| M 66 | RJH2E9YA-W | Head, Record/Playback | M 86 | RFS535Z | Spring (Erase Base Plate) | • M 92 (Z) (F) [Y] | RBC715Y | Button, Fast Forward (K) |
| M 67 | RJH2C12XZ | Head Erase | M 87 | RFE232Z | Screw (Main Base Plate M'tg) | • M 93 [K] [R] [S] | RBC714Y | Button, Stop/Eject (K) |
| M 68 | RFM54Z | DC Motor Ass'y | M 88 | RFY553Z | Plate, Button Lever Retainer | • M 93 [W] | RBC714YA2 | Button, Stop/Eject (W) |
| M 70 | RFE229Z | Screw (Recording Spring M'tg $\Phi 2 \times 3$) | • M 89 [K] [R] [S] | RBC718Y | Button, Record (K) | • M 93 (Z) (F) [Y] | RBC714Y | Button, Stop/Eject (K) |
| M 71 | XTN2 + 3B | Screw (Cassette Retainer Spring M'tg $\Phi 2 \times 3$) | • M 89 (Z) (F) [Y] | RBC718Y | Button, Record (K) | • M 94 [K] [R] [S] | RBC713Y | Button, Pause (K) |
| M 72 | XTN2 + 4B | Screw (Motor Bracket M'tg $\Phi 2 \times 4$) | • M 89 [W] | RBC718YA2 | Button, Record (W) | • M 94 [W] | RBC713YA2 | Button, Pause (W) |
| M 73 | XSB2 + 4 | Screw (Button Holding Plate • Sub Base Plate M'tg $\Phi 2 \times 4$) | • M 90 [K] [R] [S] | RBC717Y | Button, Playback (K) | • M 94 (Z) (F) [Y] | RBC713Y | Button, Pause (K) |
| M 75 | XSN2 + 6 | Screw (Head Base M'tg $\Phi 2 \times 6$) | • M 90 [W] | RBC717YA2 | Button, Playback (W) | • M 95 | RUS702ZA | Spring (Record) |
| M 77 | RFE89Z | Screw (R/P Head M'tg) | • M 90 (Z) (F) [Y] | RBC717Y | Button, Playback (K) | M 96 | RFY591 | Lever, E Kick |
| M 78 | RFE230Z | Screw (Head Adjustment) | • M 91 [K] [R] [S] | RBC716Y | Button, Rewind (K) | | | |
| M 82 | RFN143Z | Washer (F.F • Fast Wind Gear M'tg) | • M 91 [W] | RBC716YA2 | Button, Rewind (W) | | | |

SPRING LOCATION

• FRONT VIEW



• REAR VIEW



| $\ell \times d$ (mm) | | | | | |
|----------------------|----------|----------|---------|----------|---------|
| M12 | M16 | M19 | M21 | M22 | M32 |
| 5.8×3.4 | 15.5×2.4 | 10.5×2.2 | 8.6×2.1 | 14.5×2.7 | 7.5×2.2 |
| M34 | M40 | M48 | M50 | M54 | M63 |
| 5×3.4 | 10×2.2 | 14.5×2.2 | 4.6×6.7 | 6.1×6.8 | 13.2×2 |

| $\ell 1$: long $\ell 2$: short $\ell 1 \times \ell 2$ (mm) | | | $\ell 1$: long $\ell 2$: short $\ell 1 \times \ell 2$ (mm) | |
|--|-----------|---------|--|--------|
| M14 | M17 | M36 | M30 | M86 |
| 14.5×14.5 | 14.5×14.5 | 19.5×83 | 23.8×9.4 | 11×9.5 |

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