ORDER NO. ARD-7809065C

Service Manual

Cassette Deck

RS-641

Front-Loading Vertical Hold High Fidelity Stereo
Cassette Deck with Memory Auto Play and Separate
3-Position Bias/Equalization Selectors

DOLBY SYSTEM

RS-631 MECHANISM SERIES

Specifications (Catalog specifications for sales)

Power requirement:	AC; 110/125/220/240 V, 50/60 Hz
Power consumption:	30 W (for European areas and Australia) 11 W (for PX and other area without European areas and Australia)
Motor:	FG servo DC motor
Track system:	4-track 2-channel stereo recording and playback
Tape speed:	4.8 cm/s, (1-7/8 ips.)
Wow and flutter:	0.05% (WRMS), 0.15% (DIN)
Frequency response:	CrO_2/FeCr tape; 25 ~ 16,000 Hz 30 ~ 15,000 Hz (DIN) 40 ~ 14,000 Hz ±3 dB Normal tape; 25 ~ 14,000 Hz 30 ~ 13,000 Hz (DIN) 40 ~ 12,000 Hz ±3 dB
Signal-to-noise ratio:	Dolby* NR in; 67 dB (above 5 kHz) Dolby NR out; 57 dB (signal = max. recording level, FeCr/CrO_2 type tape)
Fast forward and rewind time:	Approx. 90 seconds with C-60 cassette tape
Input:	MIC; sensitivity 0.25 mV, input impedance 10 KΩ, applicable microphone impedance 400Ω ~ 20 KΩ LINE; sensitivity 60 mV, input impedance 33 KΩ
Output:	LINE; output level 420 mV, output impedance 1 KΩ or less, load impedance 47 KΩ over HEADPHONE; output level 60 mV, load impedance 8Ω
Rec/pb connection:	5P DIN type; input sensitivity 0.26 mV, impedance 1.5 KΩ output level 420 mV, impedance 10 KΩ
Bias frequency:	83 kHz
Head:	2-head system 1-HPF head for record/playback 1-doubl-gap ferrite head for erasure
Dimensions:	43.0 cm(W) × 14.9 cm(H) × 26.7 cm(D) [17"(W) × 5-7/8"(H) × 10-1/2"(D)] for all of areas without PX 15.8 cm(H) × 46.6 cm(W) × 26.7 cm(D) [6-1/2"(H) × 18-3/8"(W) × 10-1/2"(D)] for PX
Weight:	7.6 kg for European areas 7.8 kg (16 lbs 5 oz) for other area without European areas 9 kg (19 lbs 14 oz) for PX

Specifications are subject to change without notice.
*'Dolby' and the double-D symbol are trademarks of Dolby Laboratories.

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

LOCATION OF CONTROLS AND COMPONENTS

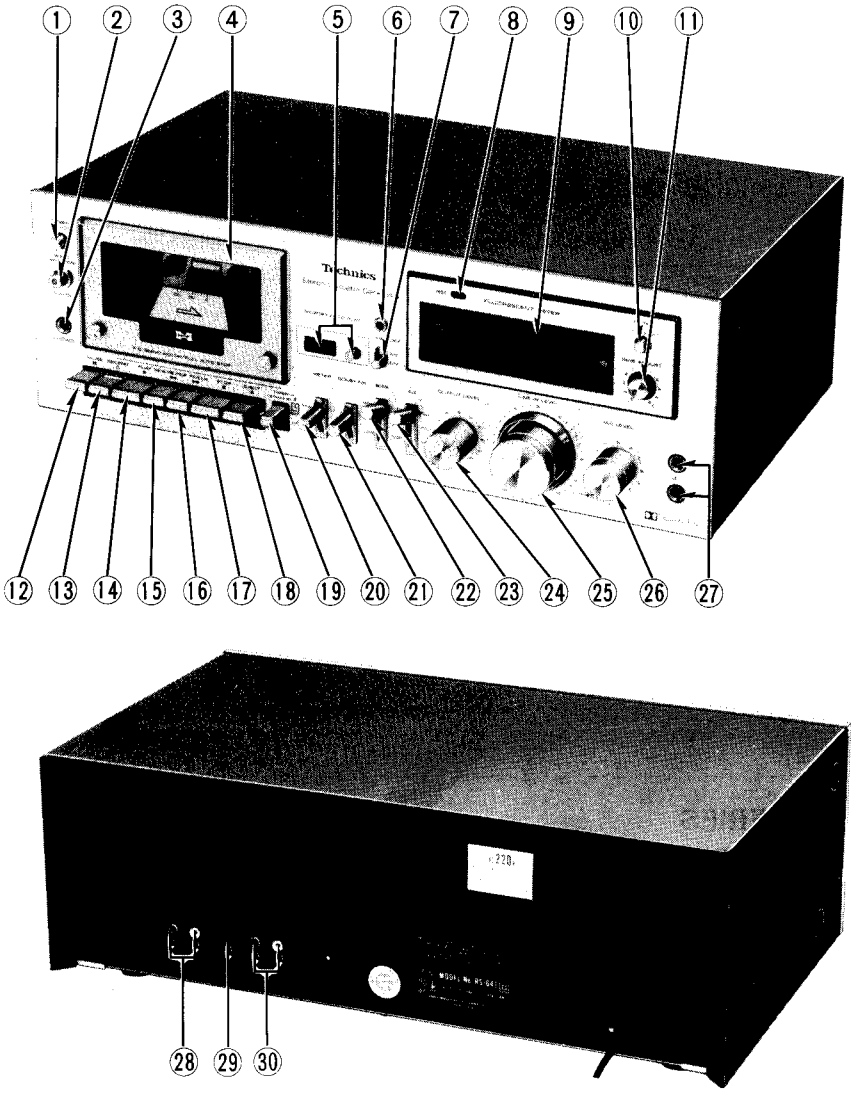


Fig. 1

① Power switch
② Music selector
③ Headphones jack
④ Cassette compartment door
⑤ Tape counter and reset button
⑥ Memory indication lamp
⑦ Memory switch
⑧ Recording indication lamp
⑨ Fluorescent level meters
⑩ Meter brightness switch
⑪ Bias adjustment control
⑫ Pause button
⑬ Record button
⑭ Playback button
⑮ Rewind/review button
⑯ Fast forward/cue button
⑰ Stop button
⑱ Eject button
⑲ Timer stand-by button
⑳ Peak-signal-check switch
㉑ Dolby noise-reduction switch
㉒ Bias selector
㉓ Equalization selector
㉔ Output level control
㉕ Line input level controls
㉖ Microphone level controls
㉗ Microphone jacks
㉘ Line output jacks
㉙ Record/playback connection socket
㉚ Line input jacks

DISASSEMBLY INSTRUCTIONS

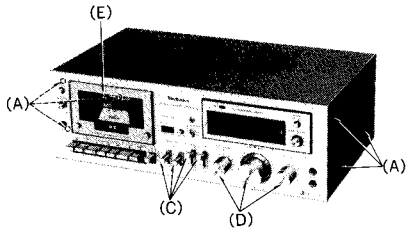


Fig. 2

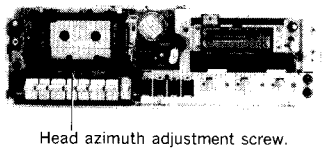


Fig. 3

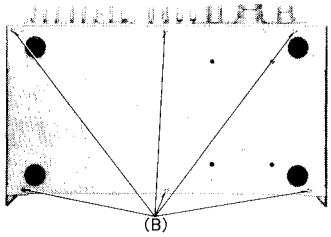


Fig. 4

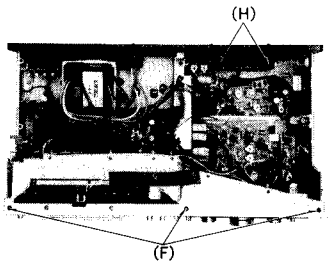


Fig. 5

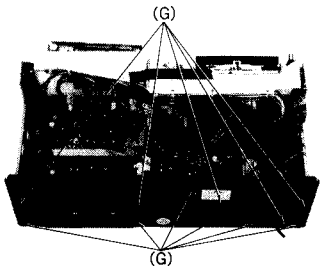


Fig. 6

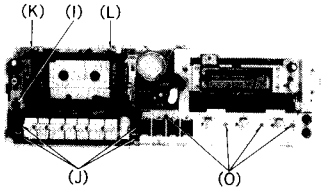


Fig. 7

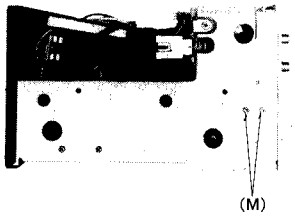


Fig. 8

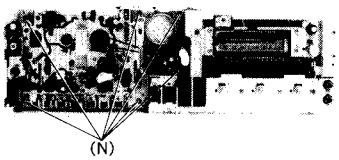


Fig. 9

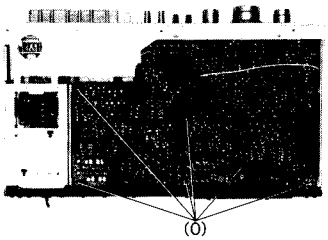


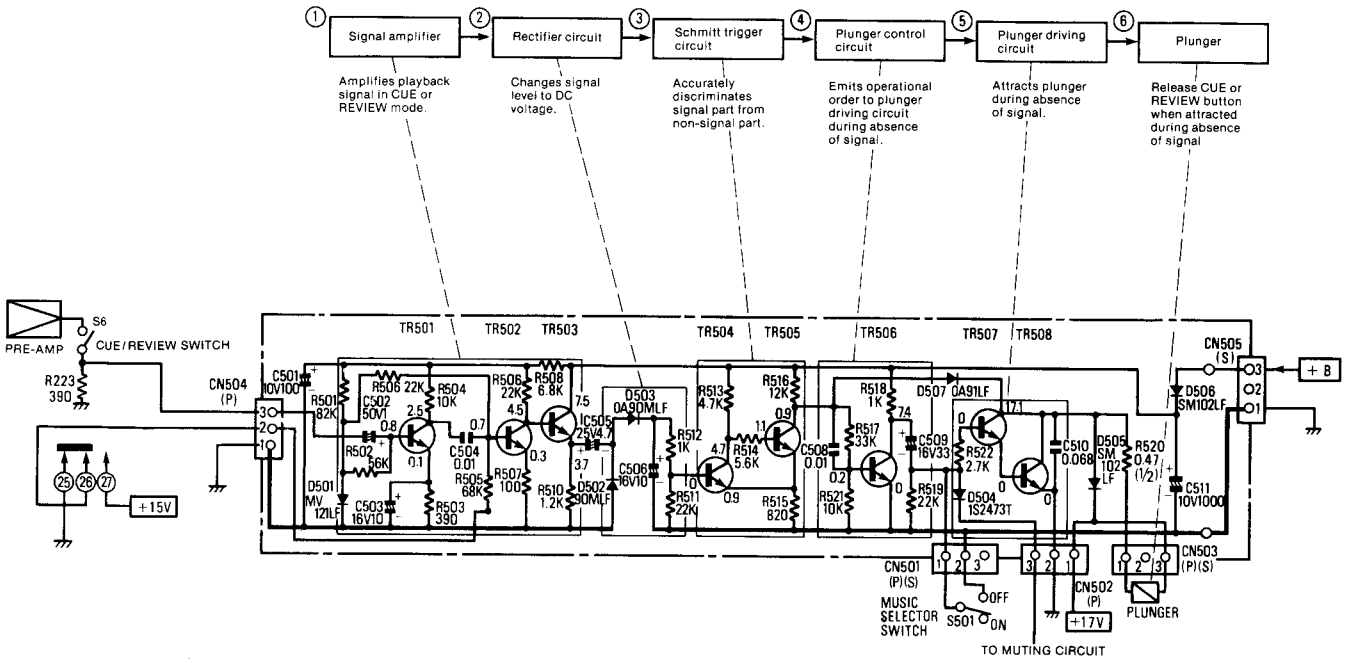
Fig. 10

Procedure	To remove —— .	Remove —— .	Shown in fig. —— .
1	Case cover	• 6 black screws ····· (A)	2
2	Bottom cover	• 6 screws ····· (B)	4
3	Front panel	• 4 lever knobs ····· (C) • 3 control knobs ····· (D) • Cassette lid ····· (E) ※ • 3 red screws ····· (F)	2 2 2, 3 5
3	Rear board	• 11 black screws ····· (G) • 2 red screws ····· (H)	6 5
5	Control button assembly and cassette holder	• Headphones jack cover ····· (I) • 4 red screws ····· (J) • Stop ring ····· (K) • Cassette holder spring ····· (L)	7 7 7 7
6	Mechanism	• 2 headphones jack holding screw ··· (M) • 6 red screws ····· (N)	8 9
6	Main amplifier	• 10 red screws ····· (O)	7, 10

※ The head azimuth can be adjusted by removing the cassette lid (E) as shown in fig. 3.

TECHNICAL EXPLANETION FOR MUSIC SELECTOR CIRCUIT

The tune selector circuit serves to automatically find the starting point of the desired tune on the tape. When the music selector button is pressed during CUE or REVIEW operation, the first unrecorded portion of the tape is accurately detected and the playback of the selected tune is automatically started at the beginning of the music signal part.



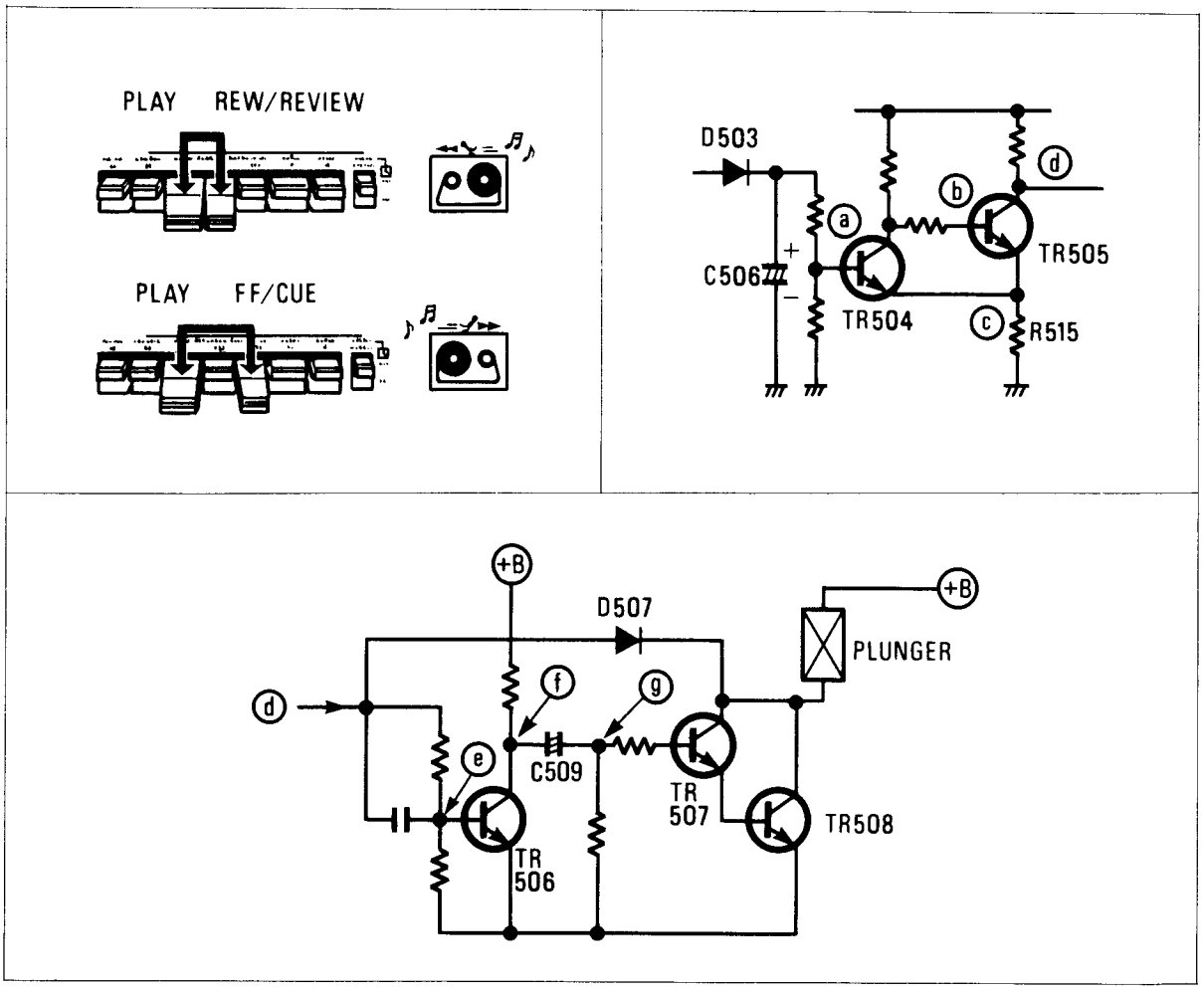
Operation

1. Set the tune selector to ON.
2. Depress the PLAYBACK button and REVIEW/REWIND (or FF/CUE) button simultaneously.
3. When the tape reaches a portion where there is no signal, the REWIND/REVIEW (or FF/CUE) button is released and the tape is automatically played back.

Principle of operation

1. When CUE or REVIEW is operated, the signal from the pre-amplifier is applied to the base of TR501. (The signal is taken out as a monaural signal.)
2. The voltage is amplified by TR501, 502, 503.
3. The signal from the emitter of TR503 is rectified by D502 and D503.
   Therefore, the voltage applied to the base of TR504 increases during presence of signal, and decreases during absence of signal.
4. TR504, 505 form the schmitt trigger circuit.
   1) TR504 and TR505
      TR504, 505 use R515 as their common emitter resistor.
   2) During presence of signal, the potential at ⓐ increases, therefore TR504 turns ON and TR505 turns OFF because of Low potential at ⓑ, and the potential at ⓓ increases.
   3) During absence of signal, the potential at ⓐ decreases. When the potential at ⓑ becomes higher than that at ⓒ, TR505 turns ON and TR504 turns OFF, and the potential at ⓓ decreases.
   4) Therefore, when the playback signal condition changes from presence to "absence" during CUE or REVIEW mode, the potential at ⓓ changes from "H" to "L".

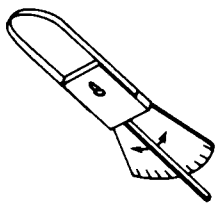
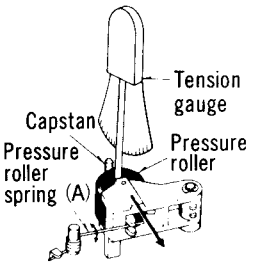
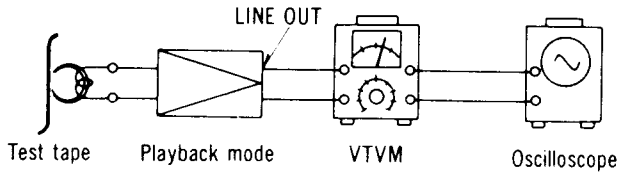
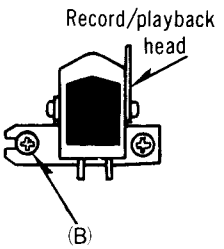
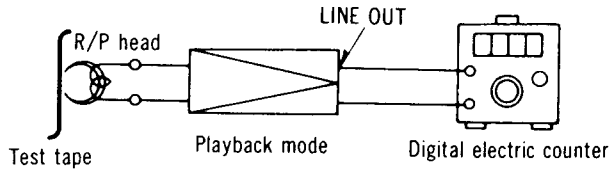
5. TR506, 507, 508 serve to control and drive the plunger.
When the potential at ⓓ is "High", the potential at ⓔ increases and TR506 turns ON, and the potential at ⓕ decreases. Therefore TR507 and TR508 turns OFF.
When the potential at ⓓ changes from "High" to "Low", the potential at ⓔ descreases and TR506 turns OFF and the potential at ⓕ increases. Then the charging of C509 is started. At that time, the potential at ⓖ also increases. Therefore, TR507 turns ON, followed by TR508, thus causing the plunger to be attracted.
The plunger is attracted only while C509 is being charged. When C509 has been completely charged, the potential at ⓖ decreases and the plunger will be released.

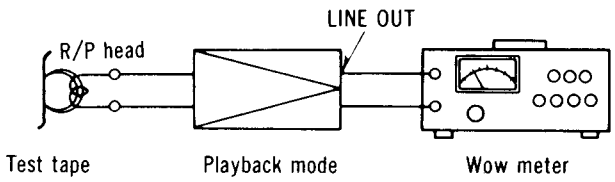


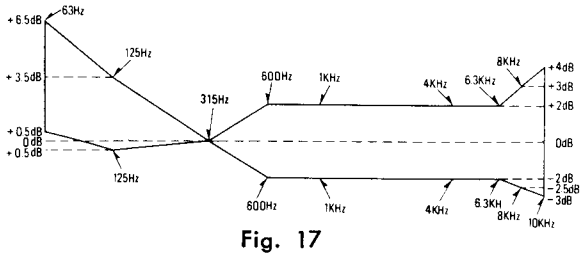
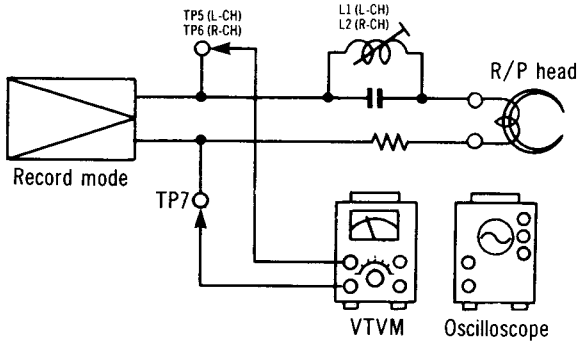
MEASUREMENT AND ADJUSTMENT METHOD

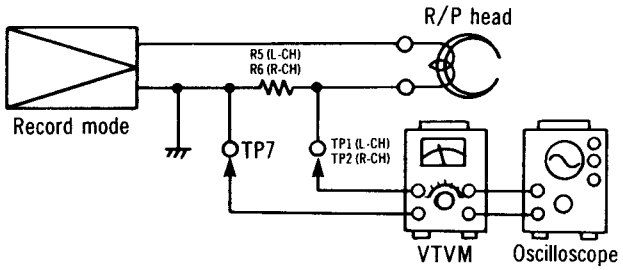
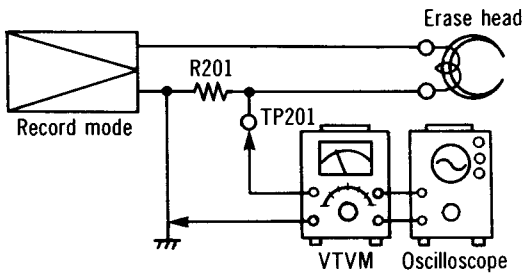
NOTE:

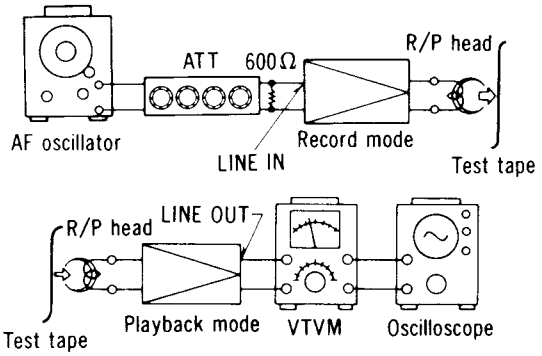
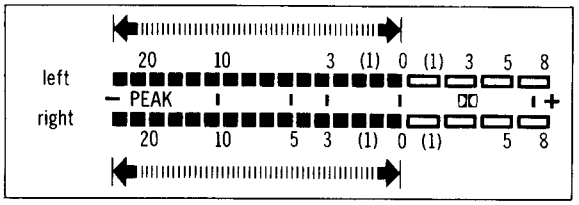
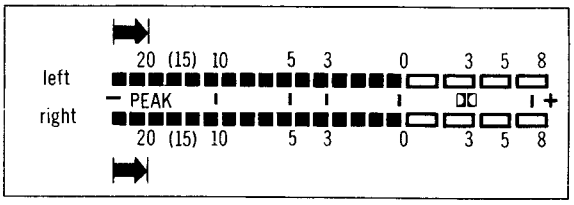
1. Make sure heads are clean.
2. Make sure capstan and pressure roller are clean.
3. Judgeable room temperature: 20±5°C (68±9°F).
4. Dolby NR switch: OUT.
5. Bias selector: LOW.
6. Equalizer selector: 120μS.
7. Bias adjustment control: Center.
8. Peak check switch: OUT.

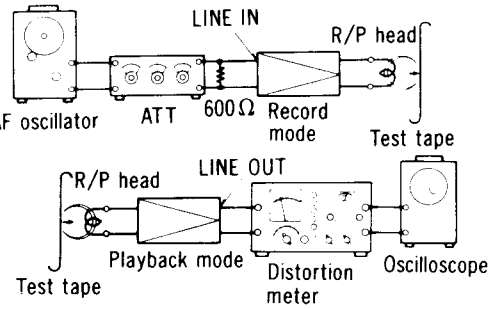
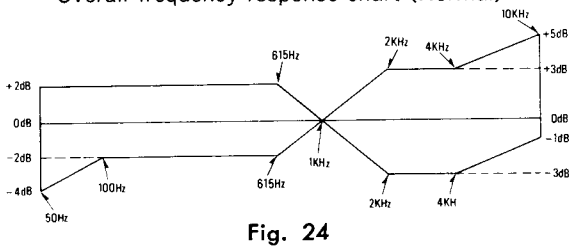
ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Pressure of pressure roller Equipment: * Tension gauge (max. 500 gr)  Fig. 11	1. Place UNIT into playback mode. 2. Hook the tension gauge to pressure roller lever and pull it in the direction of the arrow as shown in fig. 12. 3. Measure the tension at the moment when the pressure roller moves away from the capstan. **Standard value: 400±50 gr** **Adjustment method** Bend the part (A) of the pressure roller spring in either direction shown by the arrow until the correct pressure is attained.	* Playback mode  Fig. 12
Takeup tension Equipment: * Cassette torque meter ···QZZSRKCT	1. Mount cassette torque meter on UNIT. 2. Place UNIT into playback mode and read takeup torque. 3. Measure several times and determine the mean value. **Standard value: 50±15 gr-cm**	* Playback mode
Head azimuth adjustment Equipment: * VTVM * Oscilloscope * Test tape (azimuth) ···QZZCFM	**Record/playback head adjustment** 1. Test equipment connection is shown below.  Fig. 13 2. Play azimuth tape (QZZCFM 8kHz). 3. Adjust record/playback head angle adjustment screw (B) in fig. 14 so that output level at LINE OUT becomes maximum. 4. Measure both channels, and adjust levels for equal output. 5. After adjustment lock head adjustment screw with lacquer.	* Playback mode  Fig. 14
Tape speed Equipment: * Digital electronic counter or frequency counter (RP8067) * Test tape ··· QZZCWAT	**Tape speed accuracy** 1. Test equipment connection is shown below.  Fig. 15	* Playback mode

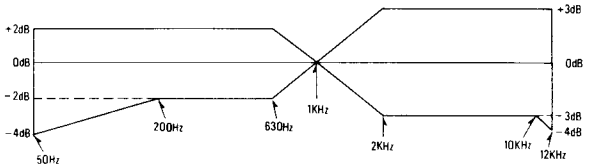
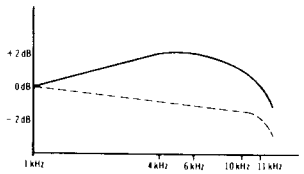
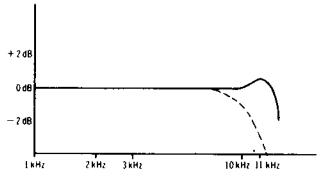
ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
	2. Play test tape (QZZCWAT 3,000 Hz), and supply playback signal to frequency counter. 3. Measure this frequency. 4. On the basis of 3,000 Hz, determine value by following formula: $\text{Tape speed accuracy} = \frac{f - 3{,}000}{3{,}000} \times 100\ (\%)$ where, f = measured value 5. Take measurement at middle section of tape. **Standard value: ±1.5%** **Adjustment method** 1. Play the test tape (middle). 2. Adjust VR201 so that frequency becomes 3,000 Hz. **Tape speed fluctuation** Make measurements in same manner as above (beginning, middle and end of tape), and determine difference between maximum and minimum values and calculate as follows: $\text{Tape speed fluctuation} = \frac{f_1 - f_2}{3{,}000} \times 100\ (\%)$ f_1 = maximum value f_2 = minimum value **Standard value: 1%**	
Wow and flutter Equipment: * Wow meter * Test tape ··· QZZCWAT	1. Test equipment connection is shown below.  **Fig. 16** 2. Use wow test tape (3,000 Hz) and measure its playback signal on wow meter. 3. Wow and flutter is expressed in percentage and that measurement can be weighted by JIS network (WRMS). 4. Measure at middle section of test tape. **Standard value: 0.1% (WRMS)**	* Playback mode
Playback frequency response Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM	1. Test equipment connection is as same as "Head azimuth adjustment" but use the test tape instead of head azimuth tape (See fig. 17). 2. Place UNIT into playback mode. 3. Playback frequency response test tape. 4. Measure output level at 8 kHz, 4 kHz, 1 kHz, 315 Hz, 250 Hz, 125 Hz and 63 Hz, and compare each output level with standard frequency 315 Hz, at LINE OUT. 5. Make measurement for both channels. 6. Make sure that the measured value is within the range specified in the frequency response chart.	* Playback mode * Output level control ··· MAX

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
	Playback frequency response chart  **Fig. 17** Adjustment method If the measured value is not standard, adjust VR1 (L-CH), VR2 (R-CH).	
Playback gain Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM	1. Test equipment connection is shown in fig. 13. 2. Play standard recording level portion on test tape (QZZCFM 315Hz), and using VTVM measure the output level at LINE OUT jack. 3. Make measurement for both channels. Standard value: 0.39V Adjustment method 1. If measured value is not standard, adjust VR3 (L-CH), VR4 (R-CH) (See fig. 28 on page 12). 2. After adjustment, check "Playback frequency response" again.	* Playback mode * Output level control ··· MAX
Playback S/N ratio Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM * Empty cassette	1. Test equipment connection is shown in fig. 13. 2. Play standard recording level test tape (QZZCFM 315Hz) and read output level on VTVM. Refer to "Playback gain adjustment". 3. Place empty cassette (which has been cut) and playback again. 4. Measure noise level at this time using VTVM, and determine ratio of this level to test tape output signal voltage (315Hz). Standard value: Greater than 43dB	* Playback mode * Output level control ··· MAX
Bias leak Equipment: * VTVM * Oscilloscope	1. Test equipment connection is shown below.  **Fig. 18** 2. Place UNIT into record mode. 3. Adjust trap coil L1 (L-CH), L2 (R-CH), so that measured value on VTVM becomes minimum. 4. Take adjustment for both channels.	* Record mode

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Bias current Equipment: * VTVM * Oscilloscope	1. Test equipment connection is shown below.  **Fig. 19** 2. Place UNIT into record mode, and bias selector to "LOW". 3. Read voltage on VTVM and calculate bias current by following formula: $\text{Bias current (A)} = \frac{\text{Value read on VTVM (V)}}{10\ (\Omega)}$ 4. Adjust VR15 (L-CH) and VR16 (R-CH) (See adjustment part location on page 12). 5. Then, change bias selector to "HIGH" and measure bias current. 6. If measured value is not within standard, adjust VR605. **Standard value:** 190μA (LOW position) 195μA±20μA (MED position) 255μA±30μA (HIGH position)	* Record mode * When bias current is adjusted on one channel only, note that bias current on the other channel may vary.
Erase current Equipment: * VTVM * Oscilloscope	1. Test equipment connection is shown below.  **Fig. 20** 2. Place UNIT into record mode and set the bias selector to LOW position. 3. Read voltage on VTVM and calculate erase current by following formula: $\text{Erase current (A)} = \frac{\text{Value read on VTVM (V)}}{1\ (\Omega)}$ **Standard value:** More than 40mA (Normal) More than 45mA (FeCr) More than 55mA (CrO_2)	* Record mode * Bias selector···LOW

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Overall gain Equipment: * AF oscillator * VTVM * ATT * Oscilloscope * Test tape (reference blank tape) ··· QZZCRA for Normal	1. Test equipment connection is shown in fig. 21.  **Fig. 21** 2. Place UNIT into record mode, and equalizer selector to 120μS, bias selector to LOW (for normal tape). 3. Supply 1kHz signal (−24dB) from AF oscillator, through ATT, to LINE IN. 4. Adjust ATT until monitor level at LINE OUT becomes 0.39V. 5. Using test tape, make recording. 6. Playback recorded tape, and make sure the value at LINE OUT on VTVM becomes 0.39V. 7. If measured value is not 0.39V, adjust VR9 (L-CH), VR10 (R-CH) (See fig. 28 on page 12). 8. Repeat from step (2).	* Record/playback mode * LINE IN level control ··· MAX * Output level control ··· MAX * Standard input level: MIC ····· −72±3dB LINE IN ··· −24±3dB DIN ····· −36±3dB * Bias adjustment control ··· Center
Fluorescent meter Equipment: * VTVM * AF oscillator * ATT	1. Test equipment connection is shown in fig. 21. 2. Set the meter brightness switch to "BRIGHT" position. 3. Supply 1kHz signal (−24dB) to the LINE IN jack, then press the record button. 4. Adjust the ATT so that the output level at LINE OUT jack becomes 0.66V. (=standard input level). 5. Adjustment at "0dB".  **Fig. 22** A. Adjust VR603 (L-CH) and VR604 (R-CH) so that the Fluorescent meters show an illuminated indication up to "0dB" when the input signal level is 0.9dB higher than the standard input level. B. Then confirm that the Fluorescent meters show an illuminated indication up to "+1dB" when the input signal level is 1.0dB higher than the standard input level. 6. Adjustment at "−20dB"  **Fig. 22-1**	* Record mode * Mic level control ····· MIN. * LINE IN level control ··· MAX. * Output level control ··· MAX. * Tepe selectors ··· normal position

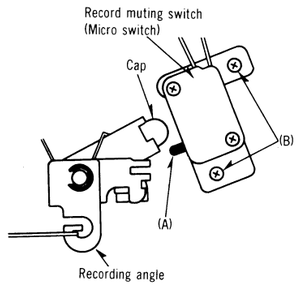
ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
	A. Adjust VR601 (L-CH) and VR602 (R-CH) so that the Fluorescent meters show an illuminated indication up to "−20 dB" when the input signal level is 15.1 dB lower than the standard input level. B. Then confirm that the Fluorescent meters show an illuminated indication up to "−15 dB" when the input signal level is 15.0 dB lower than the standard input level.	
Overall distortion Equipment: * Distortion meter * AF oscillator * ATT * Oscilloscope * Test tape (reference blank tape) ··· QZZCRA for Normal ··· QZZCRX for CrO_2	1. Test equipment connection is shown in fig. 23.  **Fig. 23** 2. Supply 1 kHz signal to LINE IN and adjust ATT so that output level at LINE OUT indicates 0.39 V. 3. Make recording. 4. Playback and measure distortion factor of output signal. 5. When the distortion factor does not satisfy the standard, check the bias current. When the bias current is lower than standard, distortion will increase. Care should be exercised in the adjustment because the bias current also has an influence on the overall frequency response. Refer to "The overall frequency response" and "The bias current adjustment". **Standard value:** **Less than 2.5% (Normal)** **Less than 4.0% (CrO_2)**	* Record/playback mode * LINE IN level control ··· MAX * Output level control ··· MAX
Overall frequency response Equipment: * VTVM * AF oscillator * ATT * Test tape (reference blank tape) ··· QZZCRA for Normal ··· QZZCRX for CrO_2 ··· QZZCRY for FeCr	**Note:** Before measuring, and adjusting, make sure of the playback frequency response (For the method of measurement, please refer to the playback frequency response). 1. Test equipment connection is shown in fig. 21. 2. Load reference blank test tape and place UNIT into record mode. 3. Supply 1 kHz signal from AF oscillator through ATT to LINE IN. 4. Adjust ATT so that input level is −20 dB below standard recording level (standard recording level = 0 VU). 5. At this time, LINE OUT level indicates 0.039 V. 6. Record each frequency 50 Hz, 100 Hz, 200 Hz, 1 kHz, 2 kHz, 4 kHz and 10 kHz (12 kHz for CrO_2 tape) at the same level. 7. Playback and express in dB the difference between playback output level of each frequency based on playback output level of 1 kHz. 8. Make sure that the measured value is within the range specified in the overall frequency response chart. **Overall frequency response chart (Normal)**  **Fig. 24**	* Record/playback mode * LINE IN level control ··· MAX * Output level control ··· MAX

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
	9. Set the bias selector to CrO_2 position. 10. Measure as same as manner above. 11. Make sure that the measured value is within the range specified in the overall frequency response chart for CrO_2 tape below. **Overall frequency response chart (CrO_2, FeCr)**  **Fig. 25**	
Overall frequency response adjustment (As a standard for adjustment)	**Adjustment 1—Using bias current** 1. When the frequency response between the middle- and high-frequency range becomes higher than the standard value, as shown by the solid line in fig. 26, increase the bias current by turning VR15 (L-CH), VR16 (R-CH) for normal tape and VR605 for CrO_2 tape. 2. When it becomes lower, as shown by dotted line, reduce the bias current by turning VR15 (L-CH), VR16 (R-CH) for normal tape and VR605 for CrO_2 tape. **Note:** 1. For adjustment when the bias current is lower than the standard value use the procedure indicated in adjustment 2, because reducting the bias current beyond this point may worsen the distortion factor. 2. For the method of bias current measurement, refer to "Bias current adjustment" on page 6.  **Fig. 26** **Adjustment 2—Using the peaking coil for recording equalization** When the frequency response is flat in the middle-frequency range and makes a sharp rise or drop in the high-frequency range, as shown in fig. 27, adjust by turning the peaking coil L3 (L-CH), L4 (R-CH) for normal tape recording equalization.  **Fig. 27**	
Dolby NR circuit Equipment: * VTVM * AF oscillator * ATT * Oscilloscope	1. Place UNIT into record mode, set the Dolby NR switch to OUT position and supply to LINE IN to obtain −34.5dB at TP3 (L-CH), TP4 (R-CH) (frequency 5kHz). 2. Confirm that the value at IN position is 8(±2.5)dB greater than the value at OUT position of Dolby NR switch.	* Record mode * LINE IN level control ... MAX

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Overall S/N ratio Equipment: * VTVM * AF oscillator * ATT * Oscilloscope * Test tape (reference blank tape) ···QZZCRA	1. Test equipment connection is shown in fig. 21. 2. Supply 1kHz signal to LINE IN and adjust ATT so that output level at LINE OUT indicates 0.39V. 3. Make recording. 4. Make another recording without supplying signal (disconnect input plug to LINE IN). 5. Rewind to recorded part and playback. 6. Measure output signal level and no signal level (noise), and determine the ratio in decibels (dB). 7. The value is difference between "Playback S/N and overall S/N", but for decibel calculation refer to "Playback S/N measurement" on page 5. Standard value: Greater than 43dB (without NAB filter)	* Record/playback mode * LINE IN level control ···MAX * Output level control ···MAX * Erase the tape with a bulk tape eraser.

HOW TO INSTALL THE RECORD-MUTING SWITCH

1. Lock the record button, and then mount it with screw (B) so that the cap and micro switch (A) do not contact each other.
2. Then play the music tape. Durring the playback, press the record button lightly several times, confirm whether the playback sound is interrupted or not.



ADJUSTMENT PARTS LOCATION

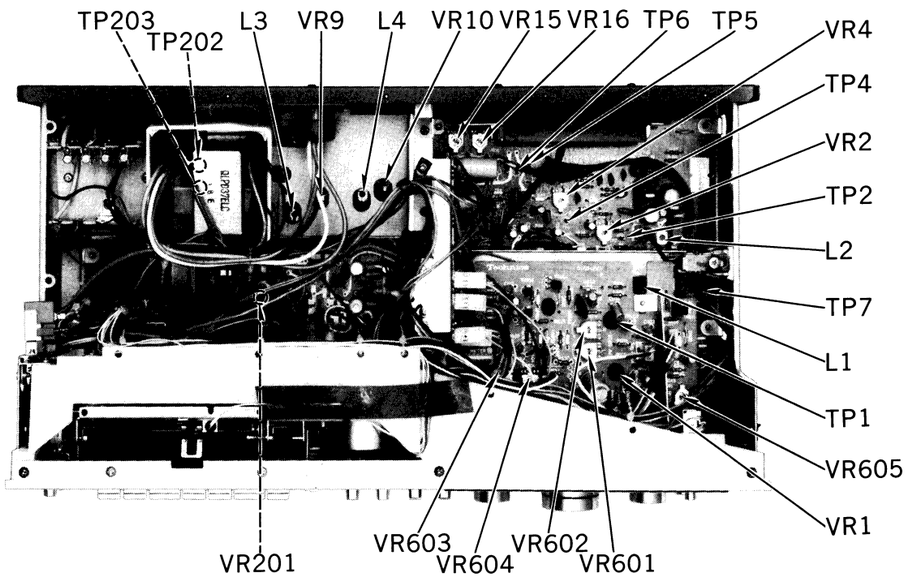
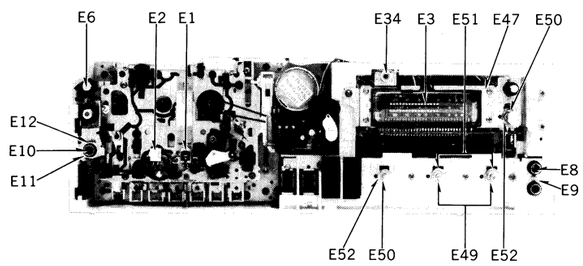


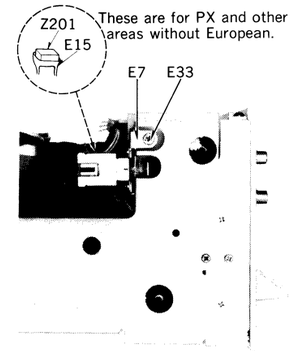
Fig. 28

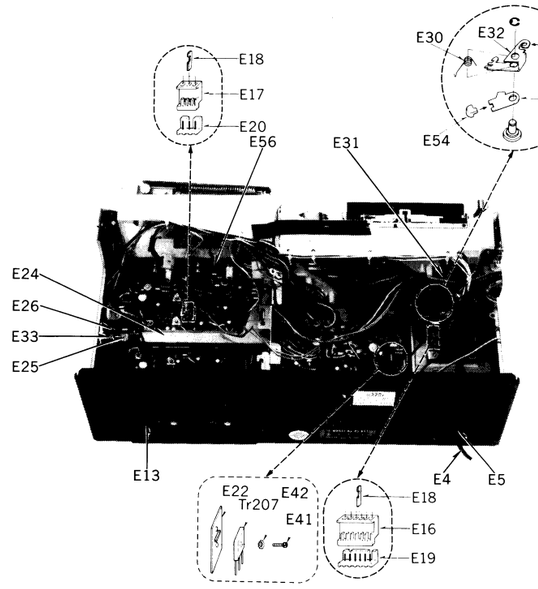
NOTE: 1. Symbols after Ref. No. indicate;
●·····for United Kingdom
○·····for Australia
□·····for other European areas
△·····for other areas without European
⊠·····for PX
Ref. No. without symbols apply to all areas.
2. ⊠ indicated that only parts specified by the manufacturer be used for safety.

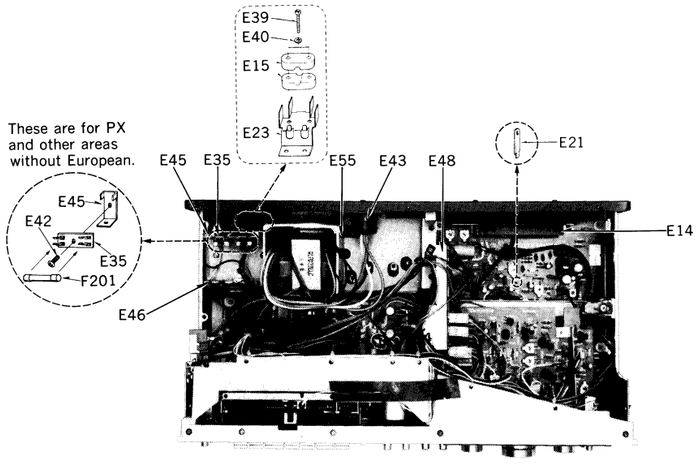
Ref. No.		Part No.	Part Name & Description
		ELECTRICAL PARTS	
E1	●□	WY456Z	Record/Playback Head
E1	○△	WY1422Z	〃
E2		QWY2122ZA	Erase Head
E3		QSLS001RFA	Fluorescent Meter
E4	□ ⊠	QFC1204M	AC Power Cord
E4	○ ⊠	QFC1208M	〃
E4	⊠ ⊠	QFC1200M	AC Power Cord (for PACEX)
E4	△⊠ ⊠	QFC1203M	AC Power Cord (for AAFES)
E4	● ⊠	QFC1205M	AC Power Cord
E5	●○ □	QBJ1425	Power Cord Bushing
E6	●□	QXB0531	Push Switch Button (Power Switch)
E6	△⊠	QXB0499	〃
E7		QMA3204	Power Switch Angle
E8		QJA0444H	Microphone Jack
E9		QMA3229	Microphone Jack Angle
E10		QJA0249H	Headphones Jack
E11		QMA3328	Headphones Jack Angle
E12		QNQ1070	Nut
E13		QEJ5002HA	Jack Board Assembly
E14		QMA3207	Jack Board Angle
E15	●○ □	QTD1164	Power Cord Clamper
E16		QJS1922TN	6 Pin Housing
E17		QJS1921TN	3 Pin Housing
E18		QJT1054	Contact
E19		QJP1922TN	6 Pin Post
E20		QJP1921TN	3 Pin Post
E21		QJT1041	Check Pin
E22		QTH1118	Heat Sink
E23	●□	QMA3370	Cord Angle
E24		QMA3202	Switch Lever
E25		QMA3208	Friction Metal
E26		QBT1787	Lock Lever Spring
E27		QBS1115	Recording Connection Wire
E28		QMA3247	Muting Detection Lever
E29		QMF1692	Panel Holding Plate
E30		QBN155B	Muting Return Spring
E31		QMA3257	Micro Switch Holding Plate
E32		QMA3203	Recording Angle
E33		XSNQ0004S	Step Screw
E34		QBG1222	Pilot Lamp Cover
E35	●□	QTF1039	Fuse Holder
E35	△⊠	QTF1049	〃
E39		XSN3+25S	Screw ⊕3×25
E40		XWA3B	Spring Washer 3φ
E41		XSN26+6	Screw ⊕2.6×6
E42		XWC26B	Lock Washer 2.6φ
E43		RUV387ZB	Switch Cover
E44	△⊠	QTW1118	Spark Killer Cover
E45	△⊠	QMA3418	Fuse Angle
E45	●□	QMA3492	〃
E46	●□	RJR222B	Lug Terminal
E47		QMA3356	Meter Holding Angle
E48		QMA3277	Playback Holding Angle
E49		QNQ1039	Nut 9φ
E50		QNQ1004	Nut 8φ
E51		QWQ1133	Washer 9φ
E52		QWQ2002	Washer 8φ
E53		XSN4+8S	Screw ⊕4×8
E54		QKJ0218	Cap
E55		QMA3371	Trans Angle
E56		QMA3206	Volume Angle

ELECTRICAL PARTS LOCATION



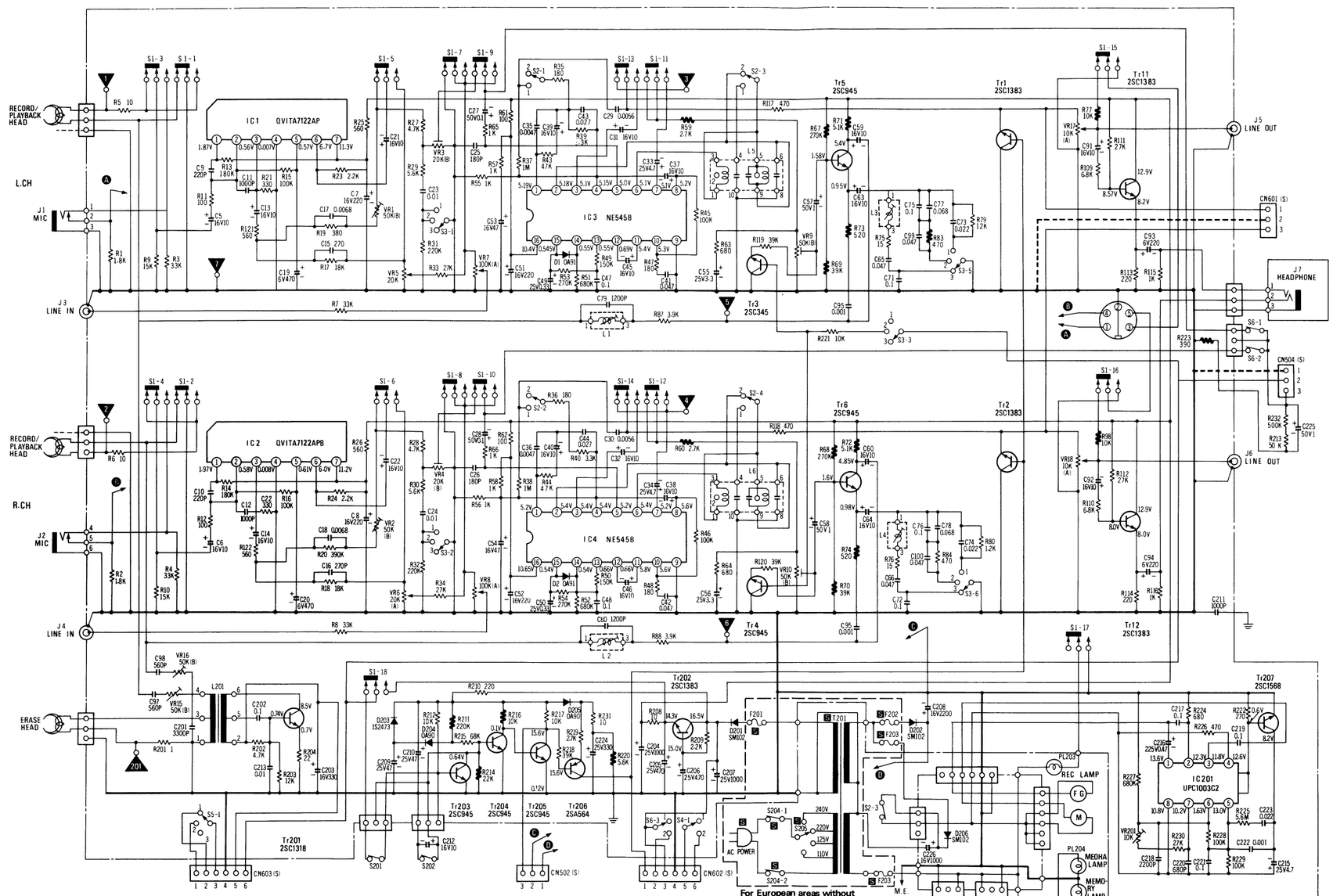


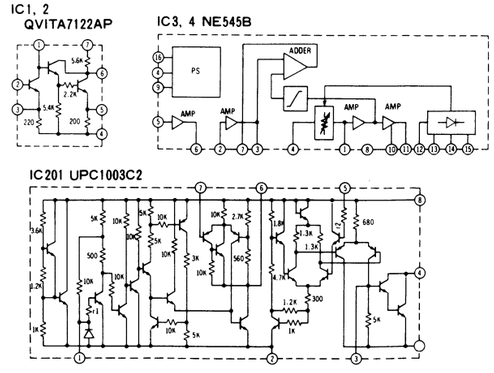




SCHEMATIC DIAGRAM MODEL RS-641

Main Amp Section

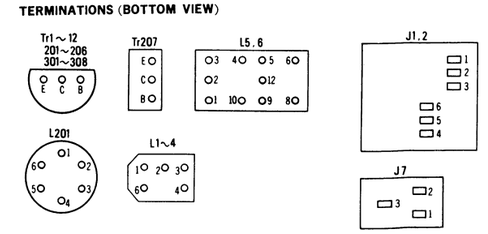




NOTE:

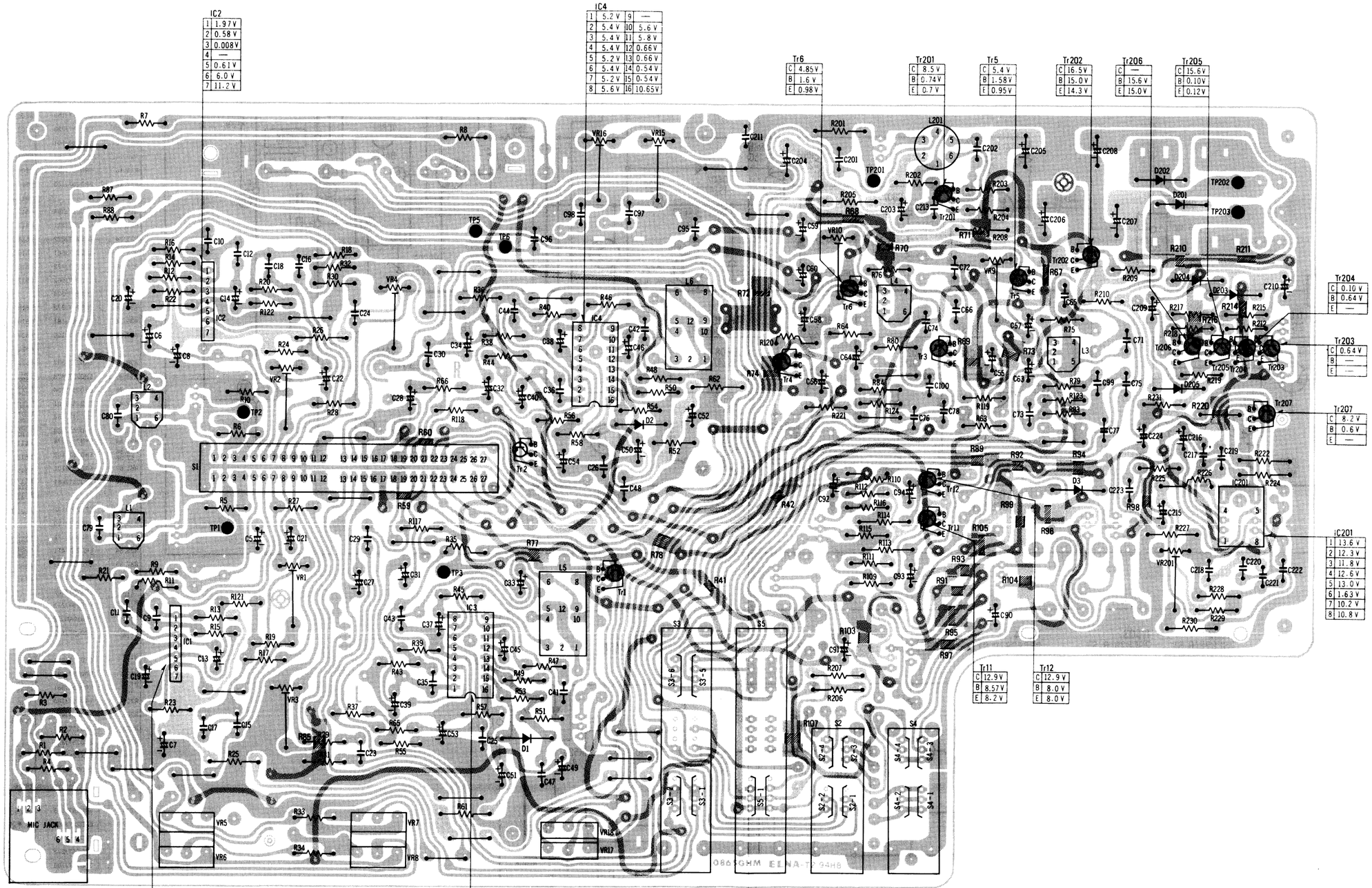
1. S1-1 – S1-18 ..... Record/playback select switch (shown in playback position).
2. S2-1 – S2-4 ..... Dolby NR IN/OUT select switch (shown in OUT position).
3. S3-1 – S3-6 ..... Equalizer select switch (shown in 120μS position).
   1···70μS, 2···90μS, 3···120μS.
4. S4-1 – S4-3 ..... Peak check select switch (shown in IND position).
5. S5 ..... Bias select switch (shown in LOW position).
   1···HIGH, 2···MED, 3···LOW.
6. S6-1, S6-2 ..... Cue and review switch.
7. S201 ..... Muting switch for record and playback.
8. S202 ..... Muting switch for record.
9. S203 ..... Motor ON/OFF switch.
10. S204 ..... Power ON/OFF switch.
11. S205 ..... Voltage select switch.
12. S601 ..... Bright switch.
13. VR1, 2 ..... Playback equalizer adjustment VR.
14. VR3, 4 ..... Playback gain adjustment VR.
15. VR5, 6 ..... Microphone input level control.
16. VR7, 8 ..... LINE IN input level control.
17. VR9, 10 ..... Recording gain adjustment VR.
18. VR15, 16 ..... Bias current adjustment VR (for normal tape).
19. VR17, 18 ..... Output level control.
20. VR201 ..... Tape speed adjustment VR.
21. VR601, 602 ..... Fluorescent meter adjutment VR (for −20dB indication).
22. VR603, 604 ..... Fluorescent meter adjustment VR (for 0dB indication).
23. VR605 ..... Bias current adjustment VR (for CrO_2 tape).
24. VR606 ..... Bias adjustment control.
25. L1, 2 ..... Bias leakage adjustment coil.
26. L3, 4 ..... Recording equalizer adjustment coil.
27. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise.
    K=1,000Ω.
28. Capacitor values are in microfarads (μF) unless specified otherwise.
    P=Pic-farads.
29. All voltage values shown in circuitry are under no signal condition with volume control at minimum position.
    For measurement, use VTVM.
30. The mark (▼) shows test point. e.g. ▼=Test point 1.

TERMINATIONS (BOTTOM VIEW)



CIRCUIT BOARD

MAIN CIRCUIT BOARD

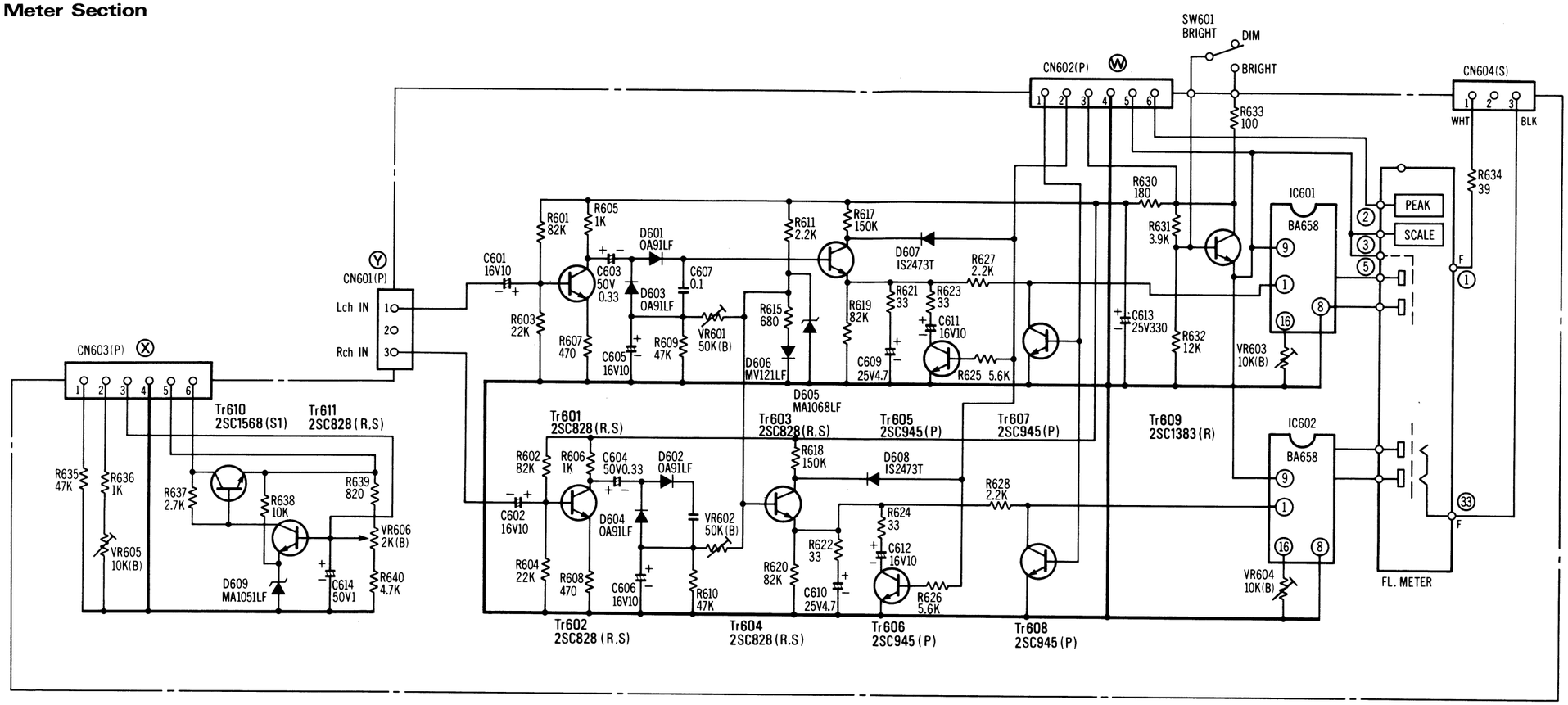


NOTE:

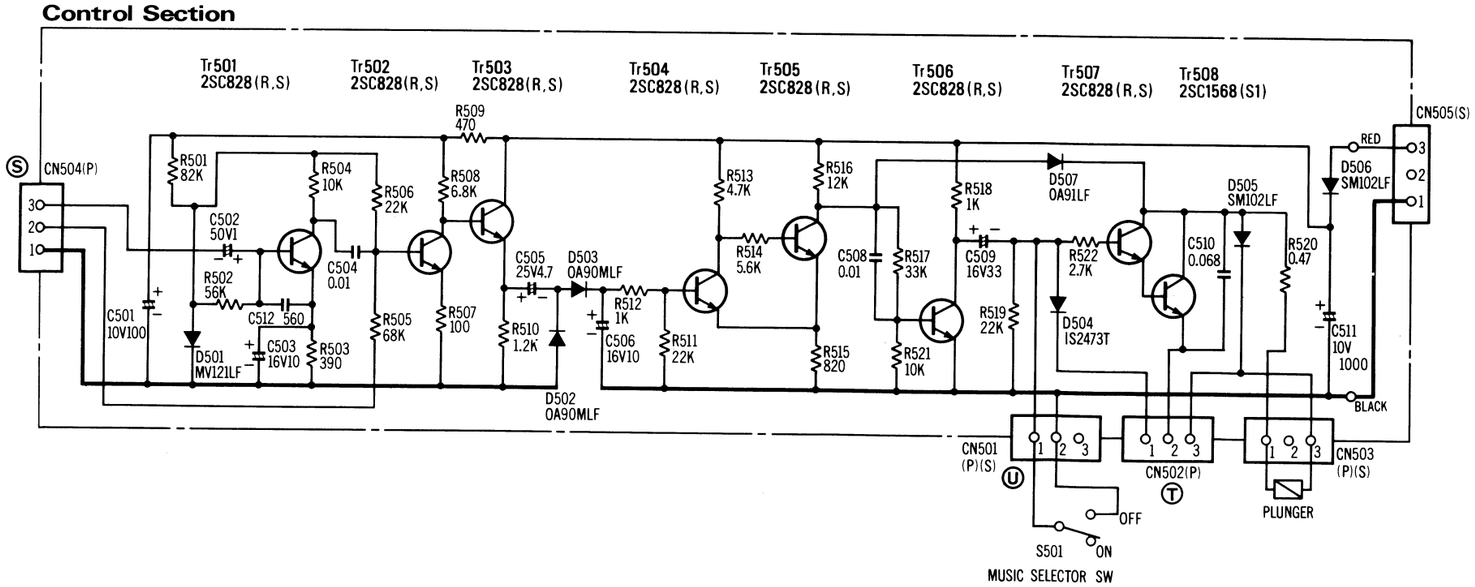
The circuit shown in red on the conductor is B circuit. Values indicated in [ ] are DC voltages between the chassis and electrical parts.

SCHEMATIC DIAGRAM MODEL RS-641

Meter Section



Control Section



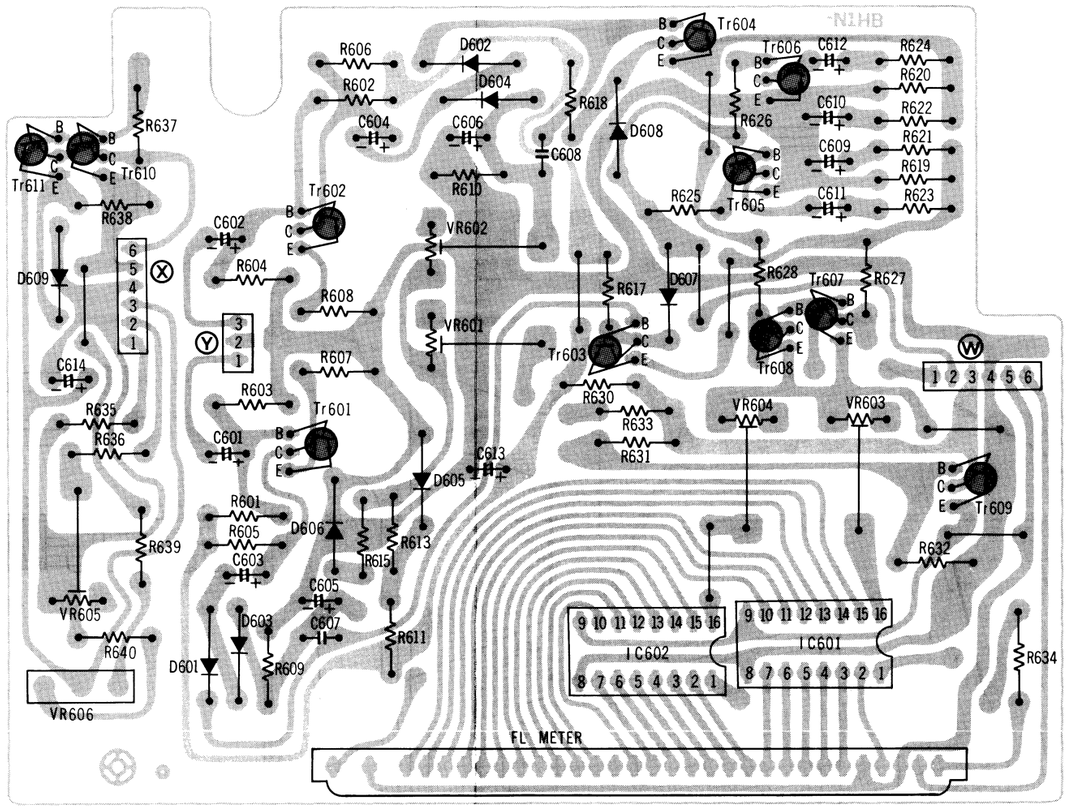
NOTE: RESISTORS
ERD ··· Carbon
ERG ··· Metal-oxide
ERO ··· Metal-film
ERX ··· Metal-film
ERQ ··· Fuse type metallic
ERC ··· Solid
ERF ··· Cement

CAPACITORS
ECG□ ····· Ceramic
ECK□ ····· Ceramic
ECC□ ····· Ceramic
ECF□ ····· Ceramic
ECQM ····· Polyster
ECQE ····· Polyster
ECQF ····· Polypropylene
ECE□ ····· Electrolytic
ECE□N ··· Non polar electrolytic
ECQS ····· Polystyrene
ECS□ ····· Tantalum

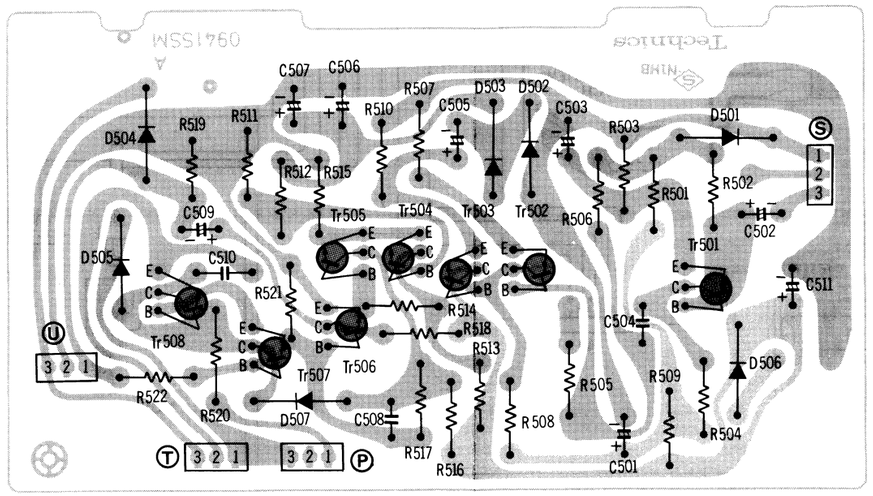
Ref. No.	Part No.
	RESISTORS
R1, 2	ERD25TJ182
R3, 4	ERD25TJ333
R5, 6	ERD25TJ100
R7, 8	ERD25TJ333
R9, 10 ●□	ERD25TJ153
R9, 10 ○△ ⊠	ERD25TJ223
R11, 12	ERD25TJ101
R13, 14	ERD25TJ184
R15, 16	ERD25TJ104
R17, 18	ERD25TJ183
R19, 20	ERD25TJ394
R21, 22	ERD25TJ331
R23, 24	ERD25TJ222
R25, 26	ERD25TJ561
R27, 28	ERD25TJ472
R29, 30	ERD25TJ562
R31, 32	ERD25TJ224
R33, 34	ERD25TJ273
R35, 36	ERD25TJ181
R37, 38	ERD25TJ105
R39, 40	ERD25TJ332
R43, 44	ERD25TJ473
R45, 46	ERD25TJ104
R47, 48	ERD25TJ181
R49, 50	ERD25TJ154
R51, 52	ERD25TJ684
R53, 54	ERD25TJ274
R55, 56, 57, 58	ERD25TJ102
R61, 62	ERD25TJ101
R63, 64	ERD25TJ681
R65, 66	ERD25TJ102
R75, 76	ERD25TJ150
R79, 80	ERD25TJ122
R83, 84	ERD25TJ471
R87, 88	ERD25TJ392
R89	ERD25TJ271
R109, 110	ERD25TJ682
R111, 112	ERD25TJ273
R113, 114	ERG12ANJ221
R115, 116	ERD25TJ102
R117, 118	ERD25TJ471
R119, 120	ERD25TJ393
R121, 122	ERD25TJ561
R201	ERD25TJ1R0
R202	ERD25TJ472
R203	ERD25TJ122
R204	ERD25TJ220
R208	ERX12ANJ100
R209	ERD25TJ222
R212	ERD25TJ103
R215	ERD25TJ683
R217	ERD25TJ103
R218	ERD25TJ393
R219	ERD25TJ272
R221	ERD25TJ103
R222	ERD25TJ271
R224	ERD25TJ681
R225	ERC14GK565
R226	ERD25TJ471
R227	ERD25TJ684
R228, 229	ERD25TJ104
R230	ERD25TJ273
R231	ERD25TJ100
R501	ERD25TJ823
R502	ERD25TJ563
R503	ERD25TJ391
R504	ERD25TJ103
R505	ERD25TJ683
R506	ERD25TJ223
R507	ERD25TJ101
R508	ERD25TJ682
R509	ERD25TJ471
R510	ERD25TJ122
R511	ERD25TJ223
R512	ERD25TJ102
R513	ERD25TJ472
R516	ERD25TJ223
R517	ERD25TJ333
R518	ERD25TJ102
R519	ERD25TJ223
R520	ERX12ANJR47
R521	ERD25TJ103
R522	ERD25TJ272
R601, 602	ERD25TJ823
R603, 604	ERD25TJ223
R605, 606	ERD25TJ102
R607, 608	ERD25TJ471
R609, 610	ERD25TJ473
R611	ERD25TJ222
R613	ERD25TJ182
R615	ERD25TJ681
R617, 618	ERD25TJ154
R619, 620	ERD25TJ823
R621, 622, 623, 624	ERD25TJ330
R625, 626	ERD25TJ562
R627, 628	ERD25TJ222
R630	ERD25TJ181
R631	ERD25TJ222
R632	ERD25TJ123
R634	ERG12ANJ390
R635	ERD25TJ473
R636	ERD25TJ102
R637	ERD25TJ272
R638	ERD25TJ103
R639	ERD25TJ821
R640	ERD25TJ472
	VARIABLE RESISTORS
VR1, 2 ●○□ △⊠	EVLS3AA00B54
VR3, 4	EVLS3AA00B24
VR5, 6	EWKN3AF21A24
VR7, 8	EWKN3AF21A15
VR9, 10 ●○□ △⊠	EVLS3AA00B54
VR15, 16 ●□	EVLS3AA00B54
VR15, 16 ○△ ⊠	EVLS3AA00B15
VR17, 18	EWK9KA025A14
VR201	EVLS3AA00B14
VR601, 602	EVLS3AA00B54
VR603, 604, 605	EVLS3AA00B14
VR606	EVHGXAF25B23
	CAPACITORS
C5, 6	ECEA16Z10

CIRCUIT BOARD

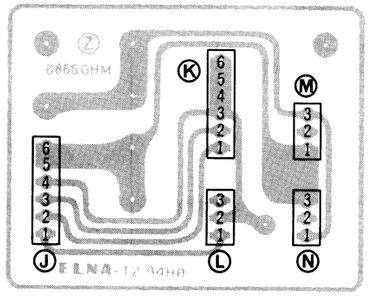
METER CIRCUIT BOARD



CONTROL CIRCUIT BOARD



INTERMEDIATION CIRCUIT BOARD



NOTE:

The circuit shown in red on the conductor is B circuit.

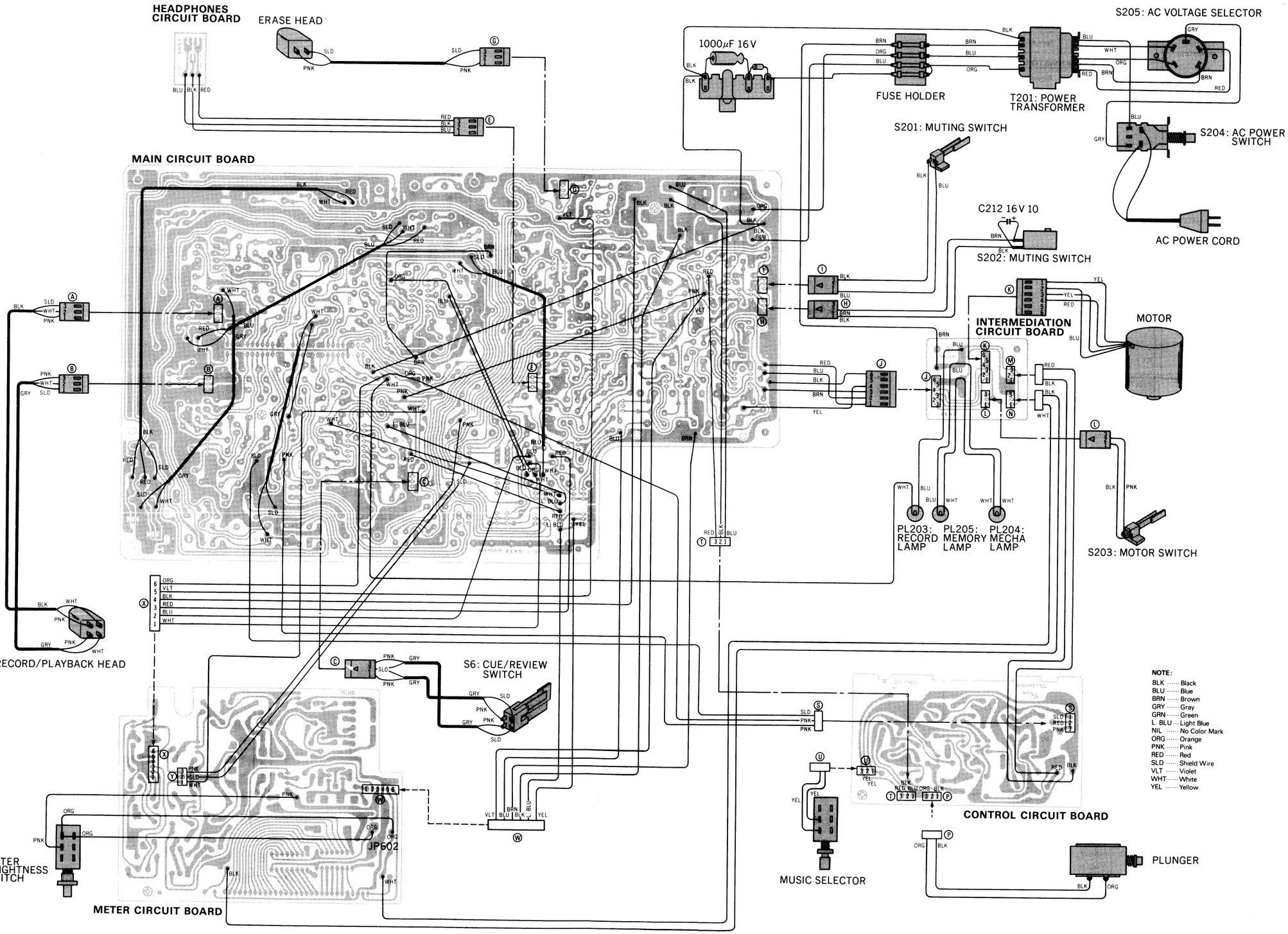
NOTE: 1. Symbols after Ref. No. indicate;
●……for United Kingdom △……for other areas without European
○……for Australia ☒……for PX
□……for other European areas Ref. No. without symbols apply to all areas.
2. ☒ indicated that only parts specified by the manufacturer be used for safety.

Ref. No.	Part No.	Ref. No.	Part No.
C7, 8	ECEA1CS221	C223●□	ECQM05223KZ
C9, 10	ECCD1H221K	C223○△ ☒	ECQM05103KZ
C11, 12	ECKD1H102MD	C224	ECEA1ES331
C13, 14	ECEA1HS100	C225	ECEA2AS010
C15, 16	ECCD1H271K		
C17, 18	ECKD1H682MD	C226	ECEB1CS102
C19, 20	ECEA0JS471	C501	ECEA1AS101
C21, 22	ECEA16Z10	C502	ECEA2AS010
C23, 24	ECQM05103KZ	C503	ECEA1HS100
		C504	ECQM05103KZ
C25, 26	ECCD1H181K	C505	ECEA1JS4R7
C27, 28	ECEA50ZR1	C506	ECEA16Z10
C29, 30	ECQM05562JZ	C508	ECQM05103KZ
C31, 32	ECEA1HS100	C509	ECEA1CS330
C33, 34	ECEA25Z4R7	C510	ECQM05683KZ
C35, 36	ECQM05472JZ		
C37, 38, 39, 40	ECEA1HS100	C511	ECEA1AS102
C41, 42	ECQM05473KZ	C512	ECKD1H561KB
C43, 44	ECQM05273JZ	C601, 602	ECEA1HS100
C45, 46	ECEA1HS100	C603, 604	ECEA50ZR33
		C605, 606	ECEA1HS100
C47, 48	ECQM05104KZ	C607, 608	ECQM05104KZ
C49, 50	ECEA50ZR33	C609, 610	ECEA1JS4R7
C51, 52	ECEA1CS221	C611, 612	ECEA1HS100
C53, 54	ECEA1ES470	C613	ECEA1ES331
C55, 56	ECEA50Z3R3	C614	ECEA2AS010
C57, 58	ECEA50Z1		
C59, 60, 63, 64	ECEA1HS100		
C65, 66 ●□	ECQM05473KZ		
C65, ○△ 66 ☒	ECQM05563KZ		
C71, 72	ECQM05104KZ		
C73, 74 ●□	ECQM05223KZ		
C73, ○△ 74 ☒	ECQM05393KZ		
C75, 76	ECQM05104KZ		
C77, 78	ECQM05683KZ		
C79, 80	ECQM05122KZ		
C81, 82	ECEA1HS100		
C83	ECEA1CS331		
C85, 86	ECEA2AS010		
C87, 88	ECEA1HS100		
C89, 90	ECEA1ES470		
C91, 92	ECEA1HS100		
C93, 94	ECEA1AS221		
C95, 96 ●□	ECQM05102KZ		
C95, ○△ 96 ☒	ECKD1H471KB		
C97, 98	ECKD1H561KB		
C99, 100 ●□	ECQM05473KZ		
C99, ○△ 100 ☒	ECQM05683KZ		
C201	ECQS1332KZ		
C202	ECQM05104KZ		
C203	ECEA1CS331		
C204	ECEA1VS10[illegible]		
C205, 206	ECEA1VS471		
C207	ECEA1VS102		
C208	ECEA1CS222		
C209, 210	ECEA1HS470		
C211	ECKD1H102MD		
C212	ECEA16M10		
C213	ECKD1H103ZF		
C215	ECEA1JS4R7		
C216	ECEA50ZR47		
C217	ECQM05104KZ		
C218	ECQM05222KZ		
C219	ECQM05104KZ		
C220	ECQM05682JZ		
C221	ECQM05104KZ		
C222	ECQM05102KZ		

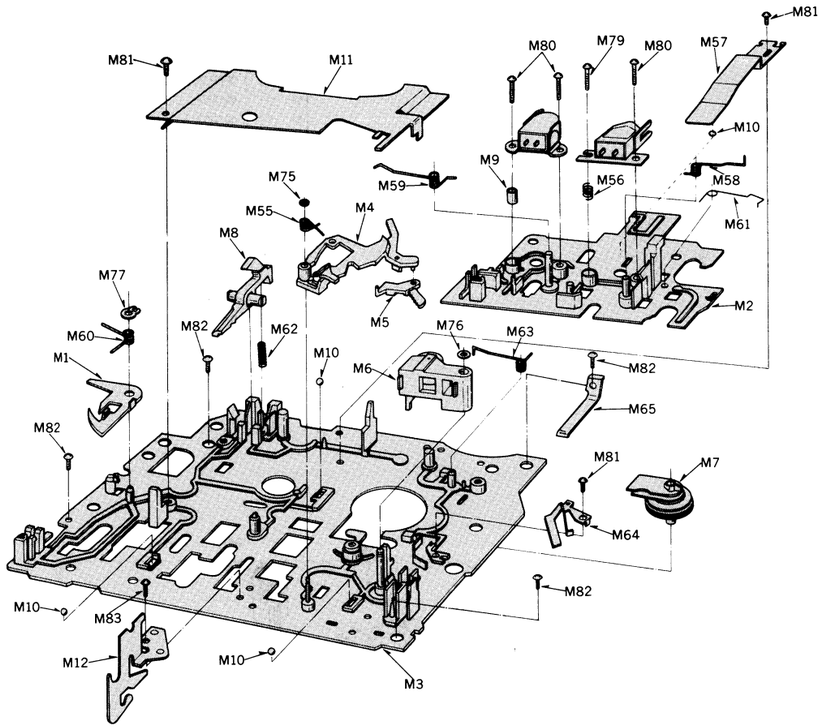
Ref. No.	Part No.	Part Name & Description
		COMBINATION PART
Z201 △☒	QCR0008T	Spark Killer
		TRANSISTORS
Tr1, 2	2SC1383	Transistor
Tr3, 4, 5, 6	2SC945	"
Tr11, 12	2SC1383	"
Tr201	2SC1318	"
Tr202	2SC1383	"
Tr203, 204, 205	2SC945	"
Tr206	2SA564	"
Tr207	2SC1568	"
Tr501, 502, 503, 504, 505, 506, 507	2SC828	"
Tr508	2SC1568	"
Tr601, 602, 603, 604	2SC828	"
Tr605, 606, 607, 608	2SC945	"
Tr609	2SC1383	"
Tr610	2SC1568	"
Tr611	2SC828	"
		INTEGRATED CIRCUITS
IC1, 2	QVITA7122APB	Integrated Circuit
IC3, 4	NE545B	"
IC201	UPC1003C2	"
IC601, 602	QVIBA658	"
		DIODES
D1, 2	OA91	Diode
D201, 202	SM102	"
D203	1S2473T	"
D204, 205	OA90M	"
D206	SM102	"
D501	MV121	"
D502, 503	OA90M	"
D504	1S2473T	"
D505, 506	SM102	"
D507, 601, 602, 603, 604	OA91	"
D605	MA1068	"
D606	MV121	"
D607, 608	1S2473T	"
D609	MA1051	"
		TRANSFORMERS
T201 □ ☒	QLPD27ELCA	Power Transformer
T201●☒ ☒	QLPA37ELCA	"
T201○△ ☒	QLPA42ELCA	"
		COILS
L1, 2, 3, 4	QLQM0333	Coil
L5, 6	QLM9Z3K	MPX Trap Coil
L201	QLB0155	Bias Oscillator Coil
		SWITCHES
S1	QSS1202	Slide Switch (Record/Playback Selector)
S2	QST4215	Lever Switch (Dolby IN/OUT Selector)
S3	QST6311	Lever Switch (Equalizer Selector)
S4	QST4215	Lever Switch (Dolby IN/OUT Selector)
S5	QST6311	Lever Switch (Equalizer Selector)
S6	QSB0178	Leaf Switch (Cue/Review Switch)
S201	QSM0070	Micro Switch (Muting Switch)
S202	QSB0186	Leaf Switch (Muting Switch)
S203	QSB0178	Leaf Switch (Motor ON/OFF)
S204 ☒ ☒	QSW1206A	Push Switch (Power ON/OFF)
S204●○ □ ☒	QSW2214	"

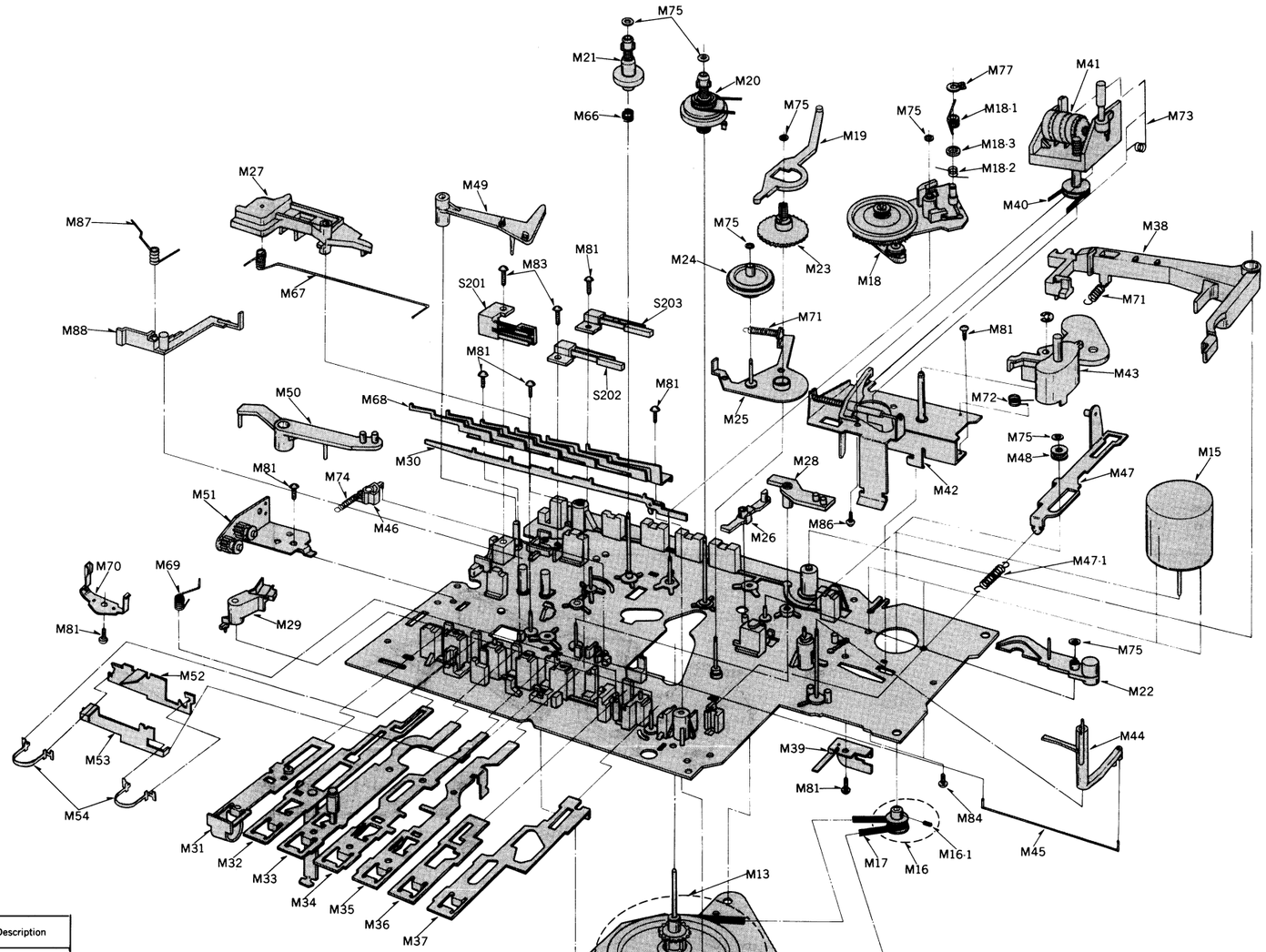
Ref. No.	Part No.	Part Name & Description
S205 ☒	QSR1407H	Rotary Switch (AC Voltage Selector)
S501, 601	ESB3910	Push Switch
		PILOT LAMPS
PL203	XAMQ22P500N	Pilot Lamp (for Record)
PL204	XAMQ34S600W	Pilot Lamp (for Mechanism)
PL205	XAMQ21P400N	Pilot Lamp (for Memory)
		FUSES
F201 △☒ ☒	XBAQ0008	Fuse (630mAT)
F201 ●□ ☒	XBA2E03NS5	Fuse (300mAT)
F202 ●□ ☒	XBAQ0004	Fuse (1AT)
F203 ●□ ☒	XBAQ0003	Fuse (500mAT)
F204 ●□ ☒	XBAQ0007	Fuse (400mAT)

WIRING CONNECTION DIAGRAM MODEL RS-641



EXPLODED VIEWS





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Ref. No.	Part No.	Part Name & Description
		MECHANICAL PARTS
M1	QML2898	Pause Lock Plate
M2	QMK1612	Head Base Plate
M3	QXK1951	Upper Base Plate Assembly
M4	QML3047	Obstruction Lever
M5	QML3048	Driving Lever
M6	QXL1057	Pressure Roller Lever Assembly
M7	QXI0098	Takeup Idler Assembly
M8	QML3051	Erase Safety Lever
M9	QMC0061	Erase Head Spacer
M10	QOK1012	Steel Ball 2.5φ
M11	QMF1939	Chassis Cover-A
M12	QMA3186	Fulcrum Angle
M13	QXF0131	Flywheel
M14	QXH0275	Flywheel Retainer Assembly
M15	MHN8E2RSD	Motor
M16	QXP0567	Motor Pulley Assembly
M16-1	XSN2+3	Screw ⊕2×3
M17	QOB0241	Flywheel Belt
M18	QXL1136	Fast Forward Arm Assembly
M18-1	QBN1517	Fast Forward Spring
M18-2	QBN1559	Fast Forward Arm Spring
M18-3	QMC0080	Collar
M19	QML3040	Cam Lever
M20	QXD0067	Takeup Reel Table Assembly
M21	QXD0084	Supply Reel Table Assembly
M22	QXL1055	Auto-Stop Lever Assembly
M23	QDG1096	Cam Gear
M24	QXG1026	Auto-Stop Gear Assembly
M25	QXL1037	Gear Lever Assembly
M26	QML3042	Auto-Stop Obstruction Lever
M27	QML3217	Pause Lever
M28	QML3049	Cue Lever
M29	QML3294	Lock Release Arm
M30	QXR0275	Lock Rod Assembly
M31	QXR0342	Pause Rod Assembly
M32	QXR0343	Record Rod Assembly
M33	QXR0344	Playback Rod Assembly
M34	QMR1624	Rewind Rod-A
M35	QMR1623	Fast Forward Rod-A
M36	QMR1622	Stop Rod-A
M37	QMR1621	Eject Rod-A
M38	QML3038	Switch Arm
M39	QMA3173	Connection Wire Holding Angle
M40	QDB0240	Counter Belt
M41	QXC0017	Tape Counter
M42	QXA0649	Counter Angle Assembly
M43	QXL1135	Memory Selection Lever (for Silver Face Unit)
M43	QXL1151	Memory Selection Lever (for Black Face Unit)
M44	QML3205	Connection Lever
M45	QBS1113	Connection Wire
M46	QMD0016	Rewind Brake Cam
M47	QXR0345	Eject Rod-B
M47-1	QBT1619	Idler Spring
M48	QBJ2088	Counter Pulley

Ref. No.	Part No.	Part Name & Description
M49	QML3206	Muting Arm
M50	QML3207	Muting Lever
M51	QXG1031	Damper Gear Assembly
M52	QMR1628	Obstruction Rod-A
M53	QMR1629	Obstruction Rod-B
M54	QBP1770	Obstruction Rod Spring
M55	QBN1515	Connection Spring
M56	QBC1278	Head Spring
M57	QBP1773	Head Base Plate Pressure Spring
M58	QBN1488	Pressure Roller Spring
M59	QBN1481	Playback Spring
M60	QBN1480	Pause Lock Spring
M61	QBN1514	Timer Spring
M62	QBC1193	Safety Lever Spring
M63	QBN1513	Idler Spring
M64	QBP1723	Click Spring
M65	QBP1777	Holder Reinforcement Spring
M66	QBC1279	Back Tension Spring
M67	QBN1555	Pause Spring
M68	QBP1664	Operation Rod Spring
M69	QBN1531	Lock Release Arm Spring
M70	QBP1662	Lock Rod Spring

Ref. No.	Part No.	Part Name & Description
M71	QBT1682	Lock Holding Spring
M72	QBN1542	Memory Selection Lever Spring
M73	QBN1543	Reset Reinforcement Spring
M74	QBT1833	Brake Cam Spring
M75	QBW2008	Snap Washer
M76	QBW2046	〃
M77	XUB4FT	Stop Ring C4φ
M79	QHQ1226	Screw
M80	XSN2+10	Screw ⊕2×10
M81	XTN26+5B	Tapping Screw ⊕2.6×5
M82	XTN3+10B	Tapping Screw ⊕3×10
M83	XTN26+8B	Tapping Screw ⊕2.6×8
M84	XSN26+3	Screw ⊕2.6×3
M85	XTN3+20B	Tapping Screw ⊕3×20

Ref. No.	Part No.	Part Name & Description
M86	XSN3+5S	Screw ⊕3×5
M87	QBN1574	Brake Spring
M88	QXL1177	Brake Arm
M89	QXL1161A	Lock Release Lever
M90	XUC2FT	Stop Ring 2φ
M92	QME0130	Plunger
M93	XWA3B	Washer
M94	XSN3+8S	Screw ⊕3×8
M95	QBC1317	Plunger Spring

CABINET PARTS

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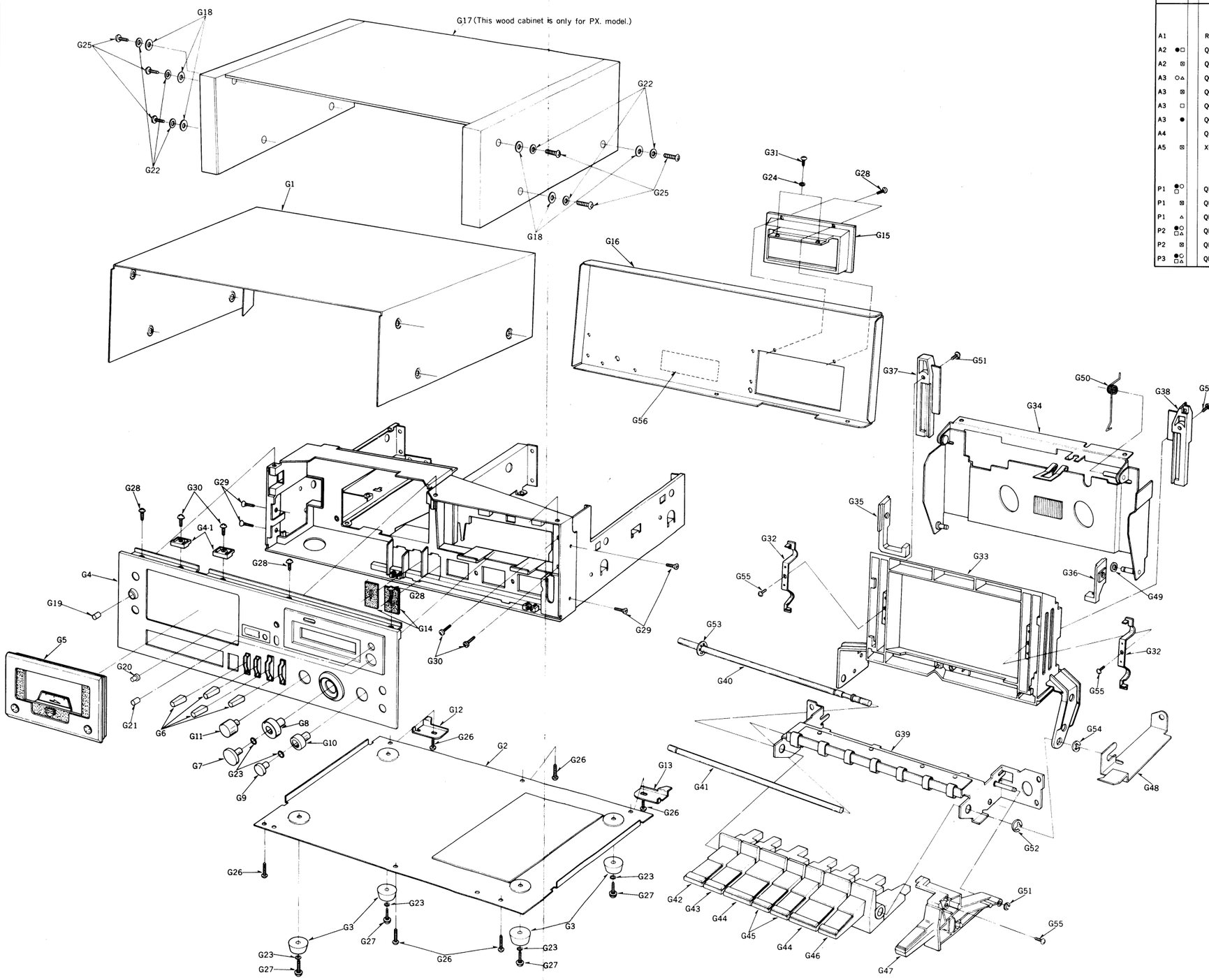
Ref. No.		Part No.	Part Name & Description
		CABINET PARTS	
G1	○□△⊠	QGC1079	Case Cover
G1	●	QGC1086	〃
G2		QGC1080	Bottom Cover
G3		QKA1065	Rubber Foot
G4	●○□△	QYP0754	Front Panel Assembly (for Silver Face Unit)
G4	□	QYP0755	Front Panel Assembly (for Black Face Unit)
G4	⊠	QYP0756	Front Panel Assembly (for Silver Face Unit)
G4-1		QKJ0235	Stopper
G5	⊠	QYF0308	Cassette Lid Assembly (for Silver Face Unit)
G5	□	QYF0309	Cassette Lid Assembly (for Black Face Unit)
G5	●○□△	QYF0337	Cassette Lid Assembly (for Silver Face Unit)
G6		QYT0461	Lever Knob
G7		QYT0458	Volume Knob-A
G8		QYT0457	Volume Knob-B
G9		QYT0459	Volume Knob-C
G10		QYT0460	Volume Knob-D
G11		QYT1387	Volume Knob-E
G12		QMA3261	Reinforcement Angle-A
G13		QMA3262	Reinforcement Angle-B
G14		QBH0060	Spacer
G15		QGK2769	Jack Board Ornament
G16	○	QGC1094	Back Cover
G16	●□△⊠	QGC1092	〃
G17	⊠	QKW1286	Wood Cabinet
G18		QBK7143	Fiber Washer
G19		QXB0534	Music Select Button
G20		QXB0533	Bright Button
G21		QYT0480	Bias Adjust
G22		XWA4B	Spring Washer
G23		XWA4B	〃
G24		XWA3B	〃
G25		XSN4+8BVS	Screw ⊕4×8
G26		XTN3+15B	Tapping Screw ⊕3×15
G27		XSN4+10S	Screw ⊕4×10
G28		XTN3+10B	Tapping Screw ⊕3×10
G29		XSS3+6S	Screw ⊕3×6
G30		XSN3+8S	Screw ⊕3×8
		Cassette Holder Section	
G32		QBP1771	Holder Spring
G33		QKF6008	Cassette Holder
G34		QXH0271	Chassis Cover Assembly
G35		QKF6010	Holder Piece-L
G36		QKF6009	Holder Piece-R
G37		QMG0050	Holder Slider-L
G38		QMG0049	Holder Slider-R
G39		QXA0637	Push Button Holding Angle
G40		QMN2240	Push Button Shaft-A
G41		QMN1861	Push Button Shaft-B
G42		QGO1473	Push Button (PAUSE)
G43		QGO1474	Push Button (REC)
G44		QGO1476	Push Button (PLAY, STOP)
G45		QGO1477	Push Button (FF, REW)
G46		QGO1475	Push Button (EJECT)
G47		QXB0556	Timer Button Assembly
G48		QMA3269	Reinforcement Angle
G49		QBW2017	Washer
G50		QBN1554	Chassis Cover Spring
G51		XUC25FT	Stop Ring 2.5ϕ
G52		XUC4FT	Stop Ring 4ϕ
G53		QNQ1080	Stop Ring
G54		XUC3FT	Stop Ring 3ϕ
G55		XTN26+5B	Screw ⊕2.6×5
G56	□	QGS2578	Name Plate
G56	●	QGS2579	〃
G56	⊠	QGS2580	〃
G56	△	QGS2581	〃



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Ref. No.		Part No.	Part Name & Description
		ACCESSORIES	
A1		RP023A	Connection Cord
A2	●□	QFT6TCJNTBFZ	Demonstration Tape
A2	⊠	QFT1TCCPTRJZ	〃
A3	○△	QQT2324	Instruction Book
A3	⊠	QQT2322	〃
A3	□	QQT2320	〃
A3	●	QQT2321	〃
A4		QJP0603S	Plug Adaptor
A5	⊠	XBA2E03NS5	Fuse
		PACKINGS	
P1	●○□	QPN3717	Inside Carton
P1	⊠	QPN3718	〃
P1	△	QPN3733	〃
P2	●○□△	QPA0369	Inner Cushion-A (Left)
P2	⊠	QPA0402	〃
P3	●○□△	QPA0370	Inner Cushion-B (Right)

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