

Service Manual

Cassette Deck
RS-631

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



RS-631 MECHANISM SERIES

Specifications (Catalog specifications for sales)

Power requirement:	AC; 110/125/220/240V, 50/60Hz	Input:	MIC; sensitivity 0.25mV, applicable microphone impedance 400Ω~20KΩ
	Power consumption; 13W		LINE; sensitivity 60mV, input impedance 33KΩ
Motor:	FG servo DC motor		DIN; sensitivity 0.26mV, input impedance 1.5KΩ
Track system:	4-track 2-channel stereo recording and playback	Output:	LINE; output level 420mV, load impedance 47KΩ over
Tape speed:	4.8cm/s		DIN; output level 420mV, output impedance 10KΩ over
Wow and flutter:	0.06% (WRMS), ±0.15% (DIN)		HEADPHONE; output level 60mV, load impedance 8Ω
Frequency response:	CrO ₂ /FeCr tape; 25~16,000Hz	Rec/pb connection:	5P DIN type
	30~15,000Hz (DIN)	Head:	2-head system
	40~14,000Hz ±3dB		1-HPF head for record/playback
Normal tape;	25~14,000Hz		1-double-gap ferrite head for erasure
	30~13,000Hz (DIN)	Dimensions:	43.0cm(W) × 14.9cm(H) × 26.7cm(D)
	40~12,000Hz ±3dB	Weight:	7.6kg
Signal-to-noise ratio:	Dolby NR in; 67dB (above 5kHz)		
	Dolby NR out; 57dB (signal level = max. recording level, CrO ₂ /FeCr tape)		
Fast forward and			
rewind time:	Approx. 90 seconds with C-60 cassette tape		

Specifications are subject to change without notice.

 **Technics**

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

LOCATION OF CONTROLS AND COMPONENTS

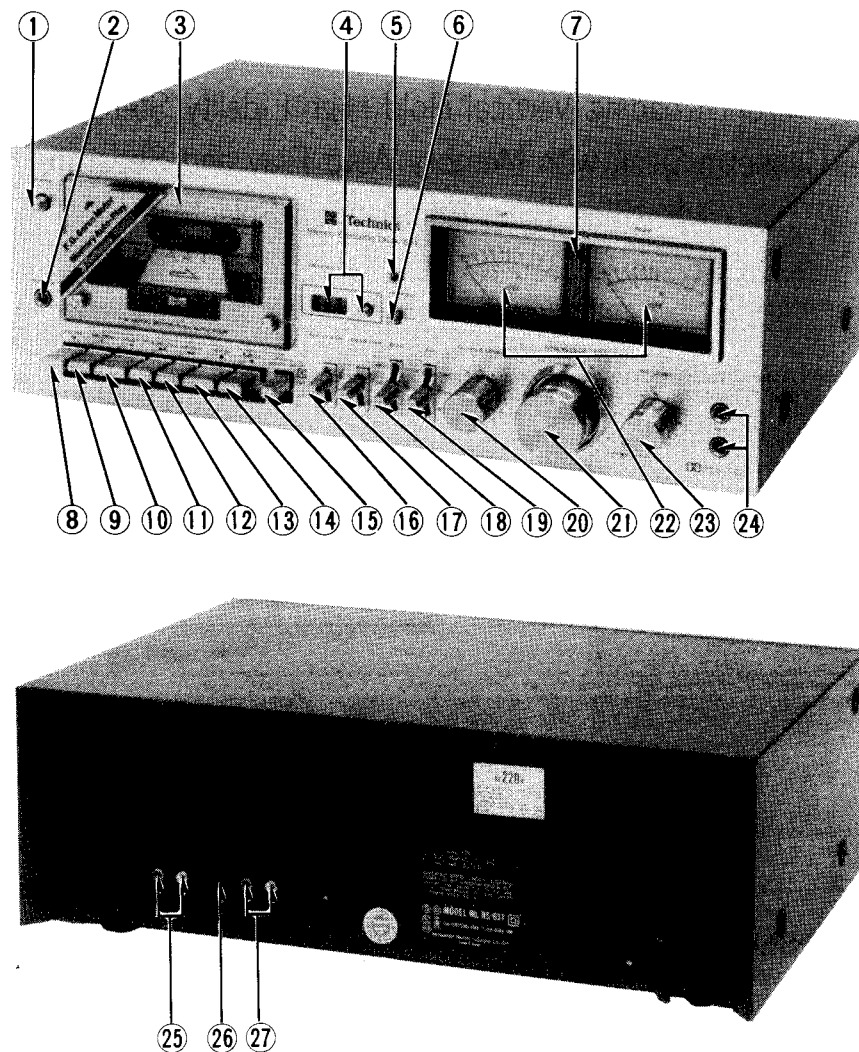
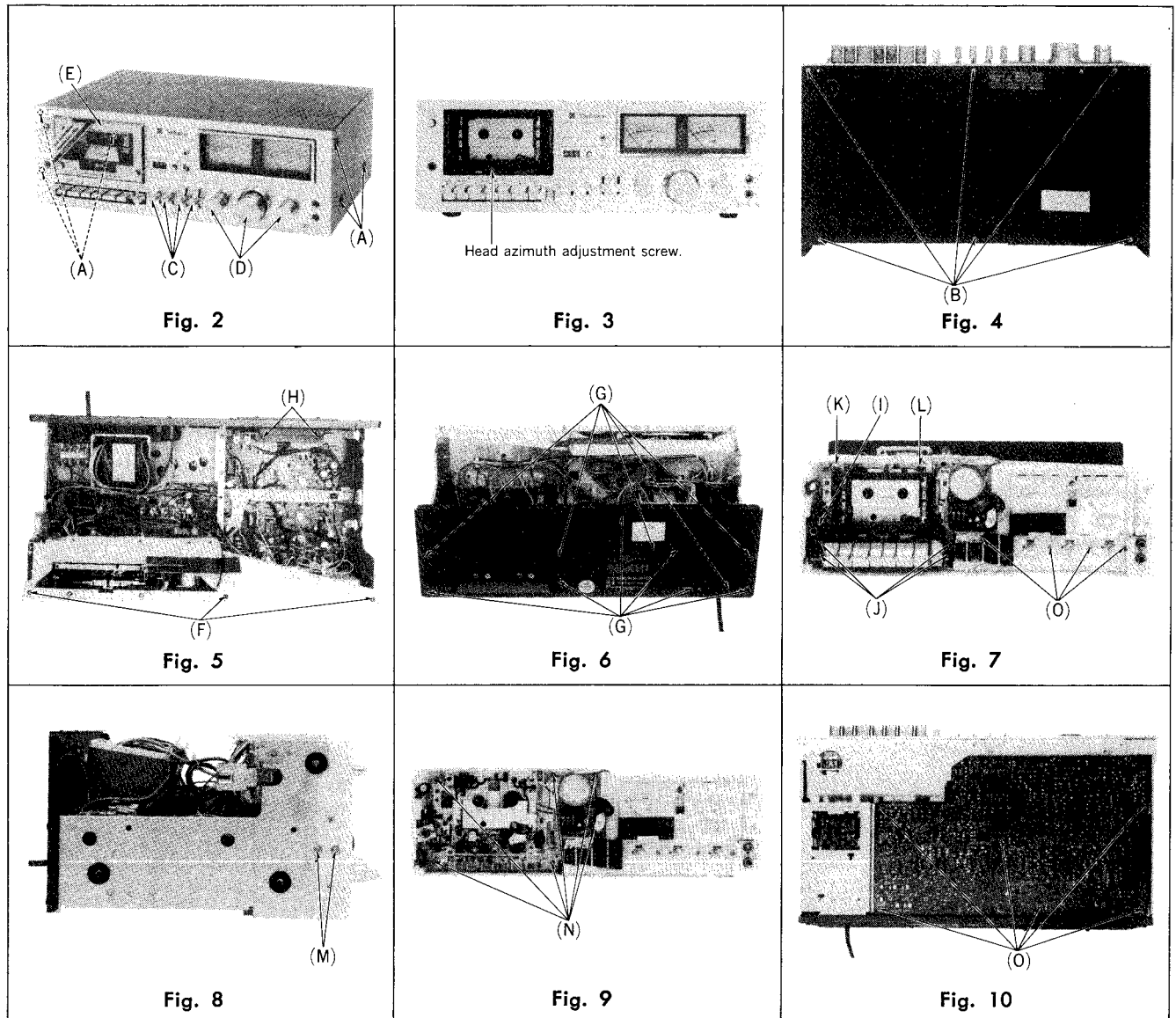


Fig. 1

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

DISASSEMBLY INSTRUCTIONS



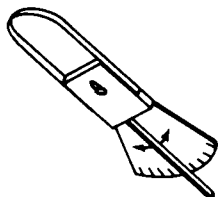
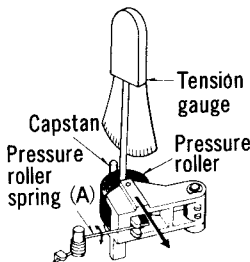
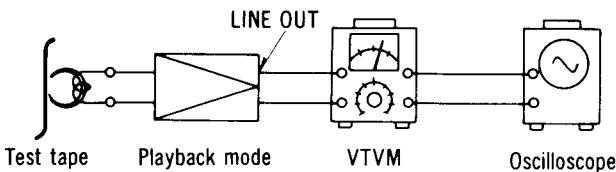
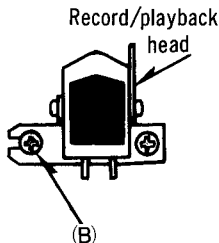
Procedure	To remove ———	Remove ———	Shown in fig. ———
1	Case cover	• 6 black screws (A)	2
2	Bottom cover	• 6 screws (B)	4
3	Front panel	• 4 lever knobs (C) • 3 control knobs (D) • Cassette lid (E) ※ • 3 red screws (F)	2 2 2, 3 5
3	Rear board	• 11 black screws (G) • 2 red screws (H)	6 5
5	Control button 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

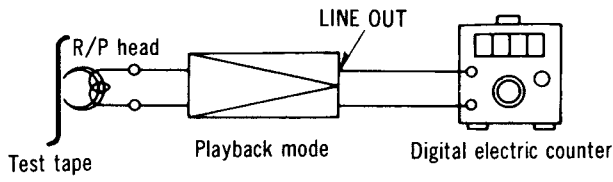
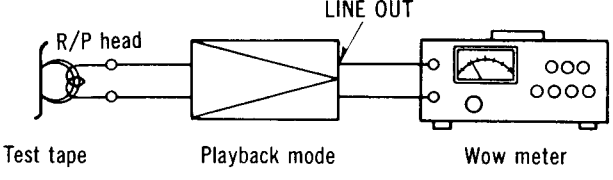
※ The head azimuth can be adjusted by removing the cassette lid (E) as shown in fig. 3.

MEASUREMENT AND ADJUSTMENT METHOD

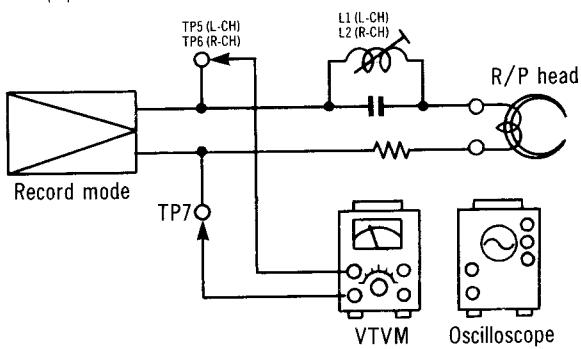
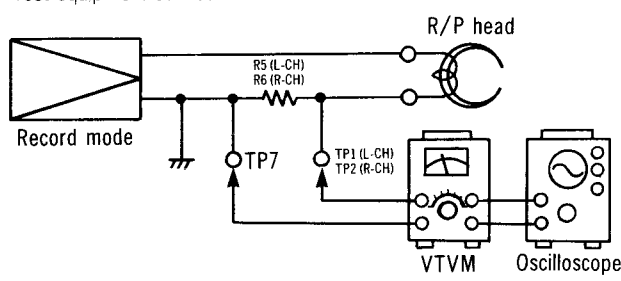
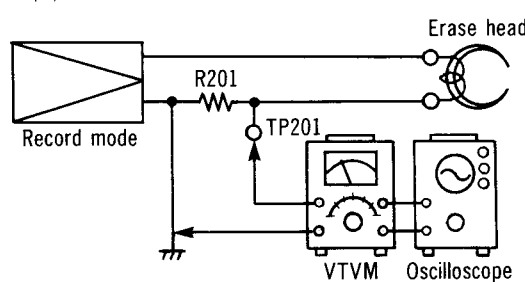
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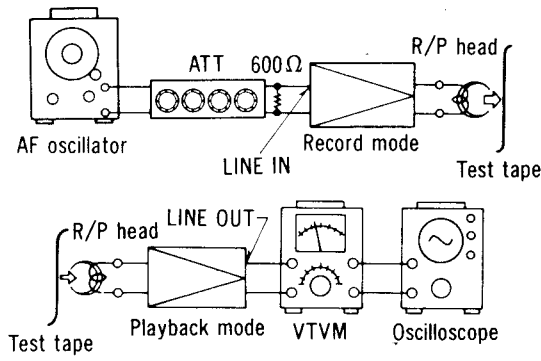
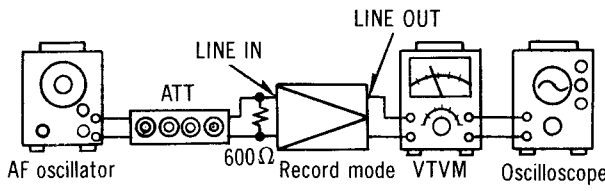
1. Make sure heads are clean.
2. Make sure capstan and pressure roller are clean.
3. Judgeable room temperature: $20 \pm 5^{\circ}\text{C}$ ($68 \pm 9^{\circ}\text{F}$).
4. Dolby NR switch: OUT.
5. Bias selector: LOW.
6. Equalizer selector: $120\mu\text{S}$.

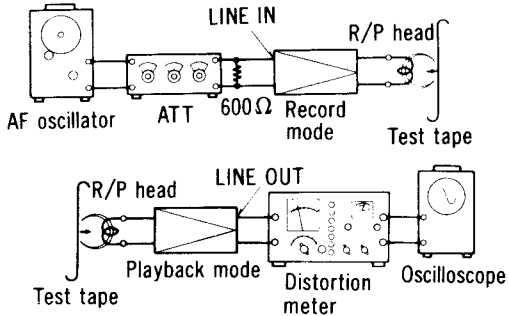
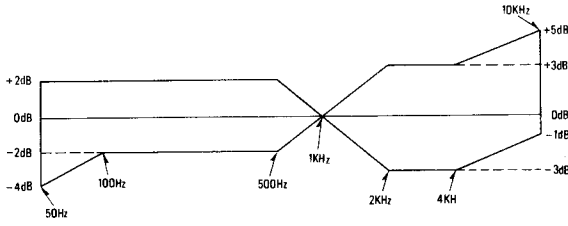
ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Pressure of pressure roller Equipment: * Tension gauge (max. 500 gr)  Fig. 11	- Place UNIT into playback mode. - Hook the tension gauge to pressure roller lever and pull it in the direction of the arrow as shown in fig. 12. - Measure the tension at the moment when 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	- Mount cassette torque meter on UNIT. - Place UNIT into playback mode and read takeup torque. - Measure several times and determine the mean value. Standard value: 55 ± 15 gr-cm	* Playback mode
Head azimuth adjustment Equipment: * VTVM * Oscilloscope * Test tape (azimuth) ...QZZCFM	Record/playback head adjustment - Test equipment connection is shown below.  Fig. 13 - Play azimuth tape (QZZCFM 8 kHz). - Adjust record/playback head angle adjustment-screw (B) in fig. 14 so that output level at LINE OUT becomes maximum. - Measure both channels, and adjust levels for equal output. - After adjustment lock head adjustment screw with lacquer.	* Playback mode  Fig. 14

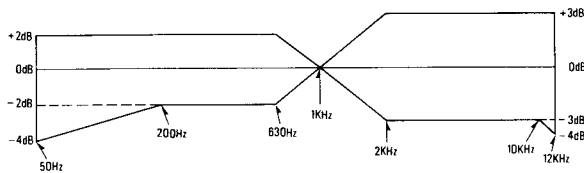
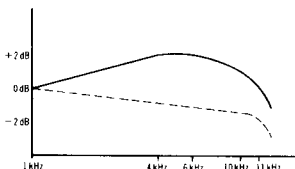
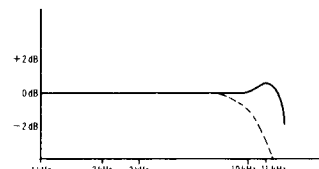
ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Tape speed Equipment: * Digital electronic counter or frequency counter (RP8067) * Test tape...QZZCWAT	Tape speed accuracy 1. Test equipment connection is shown below.  Fig. 15 2. Play test tape (QZZCWAT 3,000Hz), and supply playback signal to frequency counter. 3. Measure this frequency. 4. On the basis of 3,000Hz, 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: $\text{Tape speed fluctuation} = \frac{f_1 - f_2}{3,000} \times 100 (\%)$ f₁ = maximum value f₂ = minimum value Standard value: 1%	* Playback mode
Wow and flutter Equipment: * Wow meter * Test tape...QZZCWAT	1. Test equipment connection is shown below.  Fig. 16 2. Use wow test tape (3,000Hz) 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

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
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 8kHz, 4kHz, 1kHz, 315Hz, 250Hz, 120Hz and 63Hz, and compare each output level with standard frequency 315Hz, 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 frequency response chart Fig. 17 Adjustment method If the measured value is not standard, adjust VR1 (L-CH), VR2 (R-CH).	* Playback mode * Output level control ... MAX
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: 0.42V (−7dB) Adjustment method 1. If measured value is not standard, adjust VR3 (L-CH), VR4 (R-CH) (See fig. 28 on page 10). 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

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
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
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: $\text{Bias current (A)} = \frac{\text{Value read on VTVM (V)}}{10 (\Omega)}$ Standard value: 80 ± 20 (LOW position) 84 ± 20 (MED position) 100 ± 20 (HIGH position) 4. Adjust VR15 (L-CH) and VR16 (R-CH) (See adjustment part location on page 10).	* 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	* Record mode * Bias selector ... LOW

ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
	- Place UNIT into record mode and set the bias selector to LOW position. - 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 40 mA	
Overall gain Equipment: * AF oscillator * VTVM * ATT * Oscilloscope * Test tape (reference blank tape) ...QZZCRA for Normal	- Test equipment connection is shown in fig. 21.  Fig. 21 - Place UNIT into record mode, and equalizer selector to 120μS, bias selector to LOW (for normal tape). - Supply 1 kHz signal (−24 dB) from AF oscillator, through ATT, to LINE IN. - Adjust ATT until monitor level at LINE OUT becomes 0.42 V (−7 dB). - Using test tape, make recording. - Playback recorded tape, and make sure the value at LINE OUT on VTVM becomes 0.42 V. - If measured value is not 0.42 V, adjust VR9 (L-CH), VR10 (R-CH) (See fig. 28 on page 10). - Repeat from step (2).	* Record/playback mode * LINE IN level control ... MAX * Output level control ... MAX * Standard input level: MIC −72 ± 3 dB LINE IN ... −24 ± 3 dB
Level meter Equipment: * VTVM * Oscilloscope * AF oscillator * ATT	- Test equipment connection is shown in fig. 22.  Fig. 22 - Set the peak check switch to the "METER" position. - Supply 1 kHz signal from the AF oscillator, through the ATT, to the LINE IN jack. - Adjust ATT so that the monitor level at LINE OUT becomes 0.42 V. - Adjust VR11 (L-CH) and VR12 (R-CH) so that the level meters indicate 0 dB. - Set the peak check switch to the "IND" position. - Then adjust VR13 for R-CH so that left and right level meters show the same indication.	* Record mode * LINE IN level control ... MAX * Output level control ... MAX

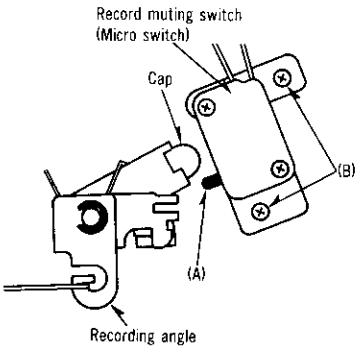
ITEM	MEASUREMENT & ADJUSTMENT	REMARKS
Overall distortion Equipment: * Distortion meter * AF oscillator * ATT * Oscilloscope * Test tape (reference blank tape) ... QZZCRA for Normal ... QZZCRX for CrO ₂	1. Test equipment connection is shown in fig. 23.  Fig. 23 2. Supply 1kHz signal to LINE IN and adjust ATT so that output level at LINE OUT indicates 0.42 V (−7 dB). 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% (CrO₂)	* 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	Note: Before measuring, and adjusting, make sure of the playback frequency response (For the method of measurement, please refer to the playback frequency response). - Test equipment connection is shown in fig. 21. - Load reference blank test tape and place UNIT into record mode. - Supply 1kHz signal from AF oscillator through ATT to LINE IN. - Adjust ATT so that input level is −20 dB below standard recording level (standard recording level = 0 VU). - At this time, LINE OUT level indicates 0.042 V. - Record each frequency 50 Hz, 100 Hz, 200 Hz, 1 kHz, 2 kHz, 4 kHz and 10 kHz (12 kHz for CrO₂ tape) at the same level. - Playback and express in dB the difference between playback output level of each frequency based on playback output level of 1 kHz. - 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 CrO₂ 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 CrO₂ tape below. Overall frequency response chart (CrO₂)  Fig. 25	
Overall frequency response adjustment (As a standard for adjustment)	Adjustment 1—Using bias current - 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). - When it becomes lower, as shown by dotted line, reduce the bias current by turning VR15 (L-CH), VR16 (R-CH). Note: - For adjustment when the bias current is lower than the standard value use the procedure indicated in adjustment 2, because reducing the bias current beyond this point may worsen the distortion factor. - 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	- 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). - 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 0.42V (−7 dB). 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 40dB (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

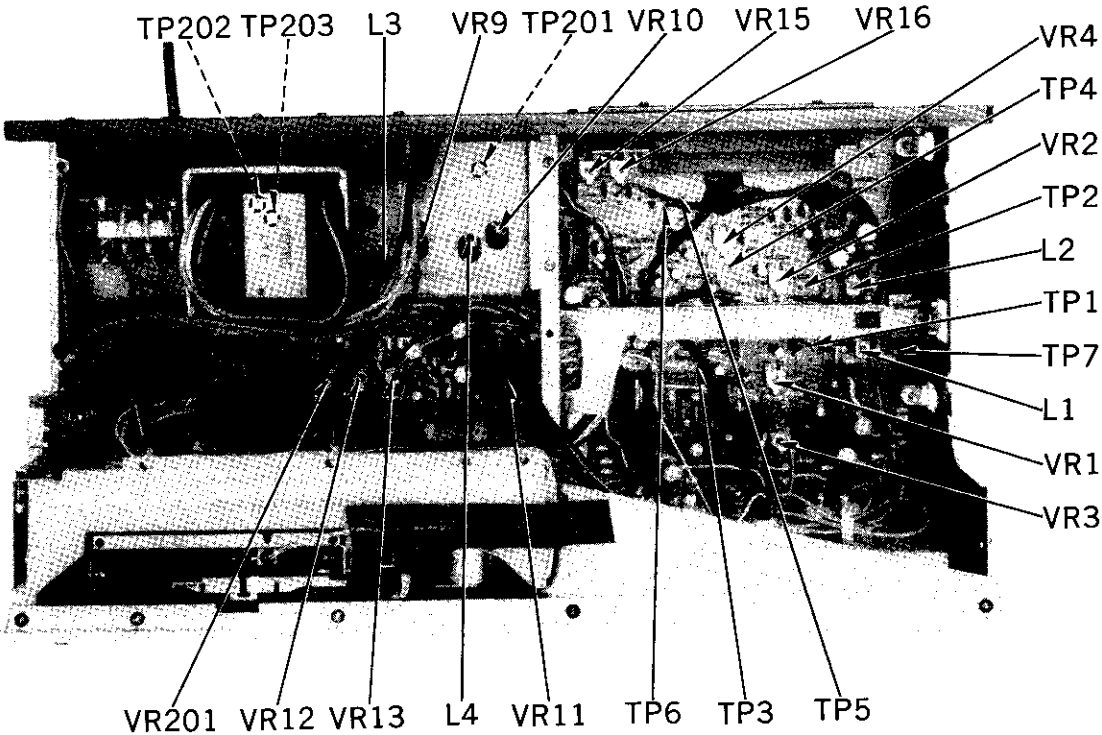
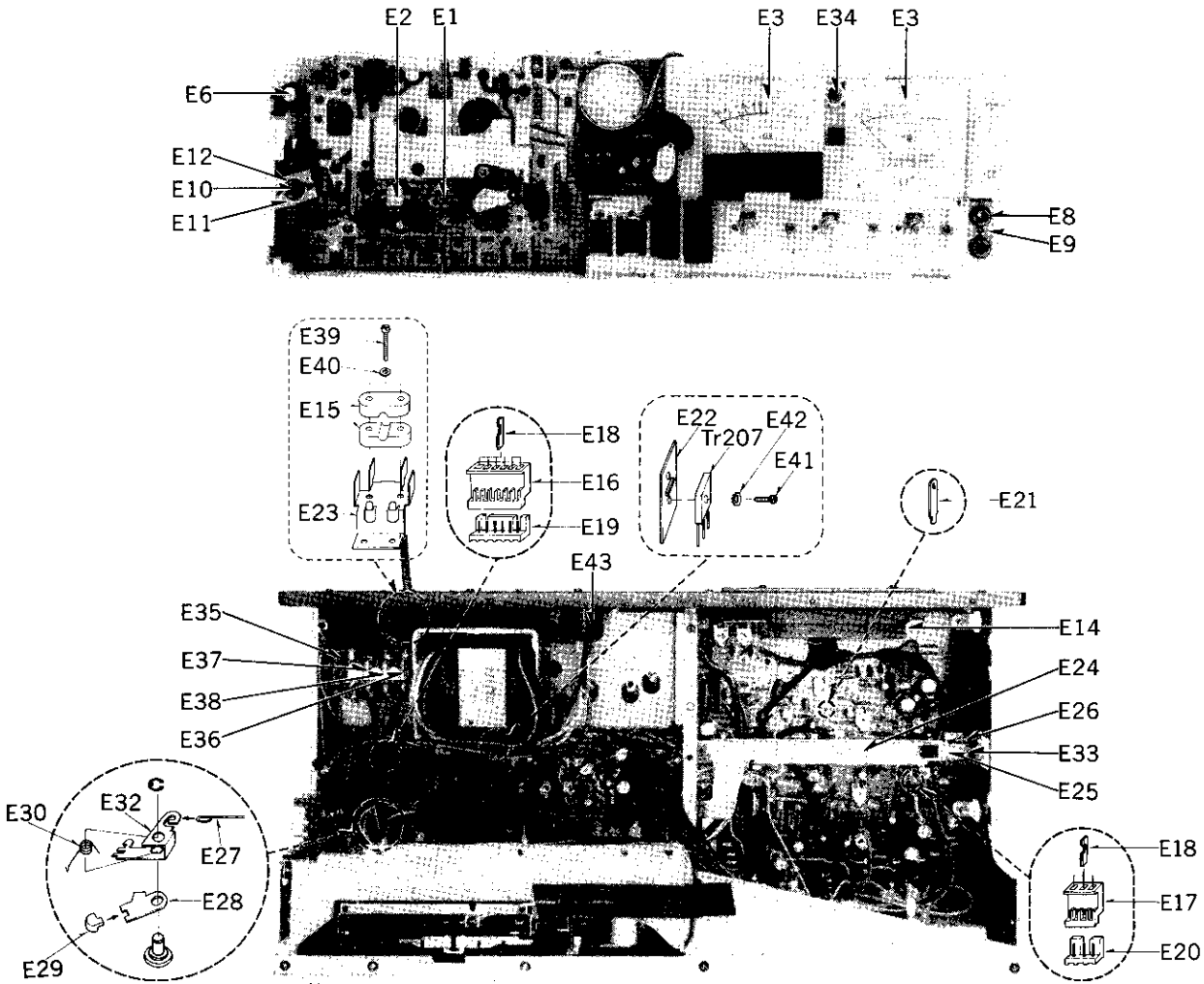


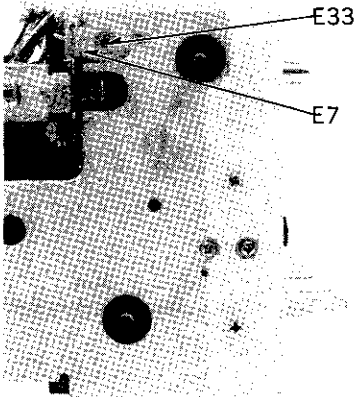
Fig. 28

ELECTRICAL PARTS LOCATION

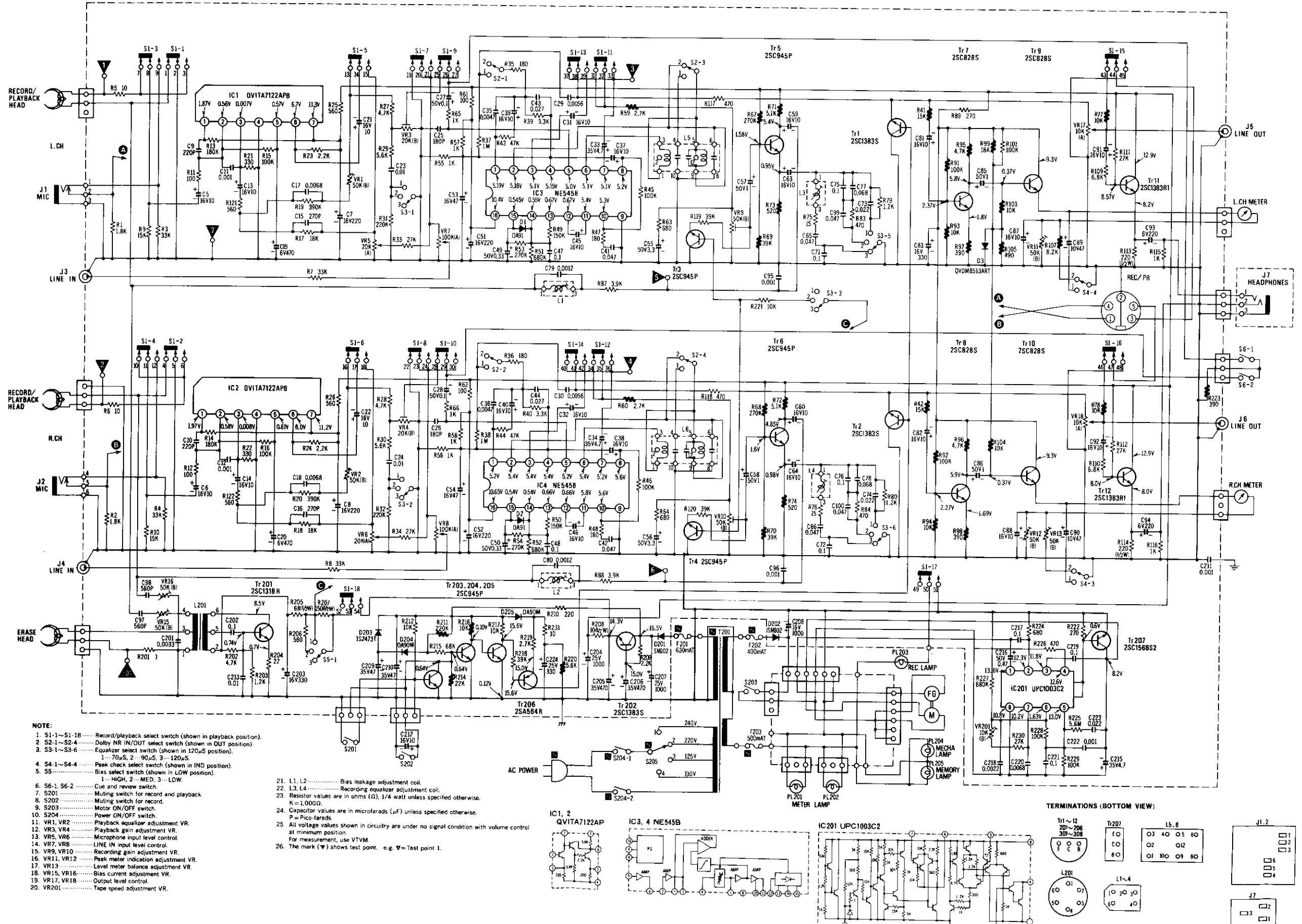


NOTE:
1. Symbols after Ref. No. indicate: ▲ for Scandinavia, ● for United Kingdom.
2. ⚡ indicates that only parts specified by the manufacturer be used for safety.

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
			E21	QJT0053	Check Pin
			E22	QTH111B	Heat Sink
E1	WY456Z	Record/Playback Head	E23	QMA3370	Cord Angle
E2	QWY2122Z	Erase Head	E24	QMA3202	Switch Lever
E3	QSL9010RNM	Level Meter with Pilot Lamp	E25	QMA3208	Friction Metal
E4 ●	QFC1204M	AC Power Cord	E26	QBT1787	Lock Lever Spring
E4 ▲	QFC1205M	"	E27	QBS1115	Recording Connection Wire
E5	QBJ1425	Power Cord Bushing	E28	QMA3247	Muting Detection Lever
E6	QXB0531	Push Button (Power Switch)	E29	QMF1692	Cap
E7	QMA3204	Power Switch Angle	E30	QBN1558	Muting Return Spring
E8	QJA0444	Microphone Jack	E31	QMA3257	Micro Switch Holding Plate
E9	QMA3229	Microphone Jack Angle	E32	QMA3203	Recording Angle
E10	QJA0249	Headphones Jack	E33	XSNQ0004S	Step Screw
E11	QMA3205	Headphones Jack Angle	E34	QBG1222	Pilot Lamp Cover
E12	QNQ1070	Nut	E35	QTF1039	Fuse Holder
E13	QEJ5002HA	Jack Board Assembly	E36	XBAQ0003	Fuse (500mA)
E14	QMA3207	Jack Board Angle	E37	XBAQ0008	Fuse (630mA)
E15	QTD1164	Power Cord Clamper	E38	XBAQ0007	Fuse (400mA)
E16	QJS1922TN	6 Pin Housing	E39	XSN3+25	Screw ⌀3×25
E17	QJS1921TN	3 Pin Housing	E40	XWA3B	Spring Washer 3ø
E18	QJT1054	Contact	E41	XSN26+6	Screw ⌀2.6×6
E19	QJP1922TN	6 Pin Post	E42	XWC26B	Lock Washer 2.6ø
E20	QJP1921TN	3 Pin Post	E43	RUV387ZB	Switch Cover



SCHEMATIC DIAGRAM MODEL RS-631



CIRCUIT BOARD

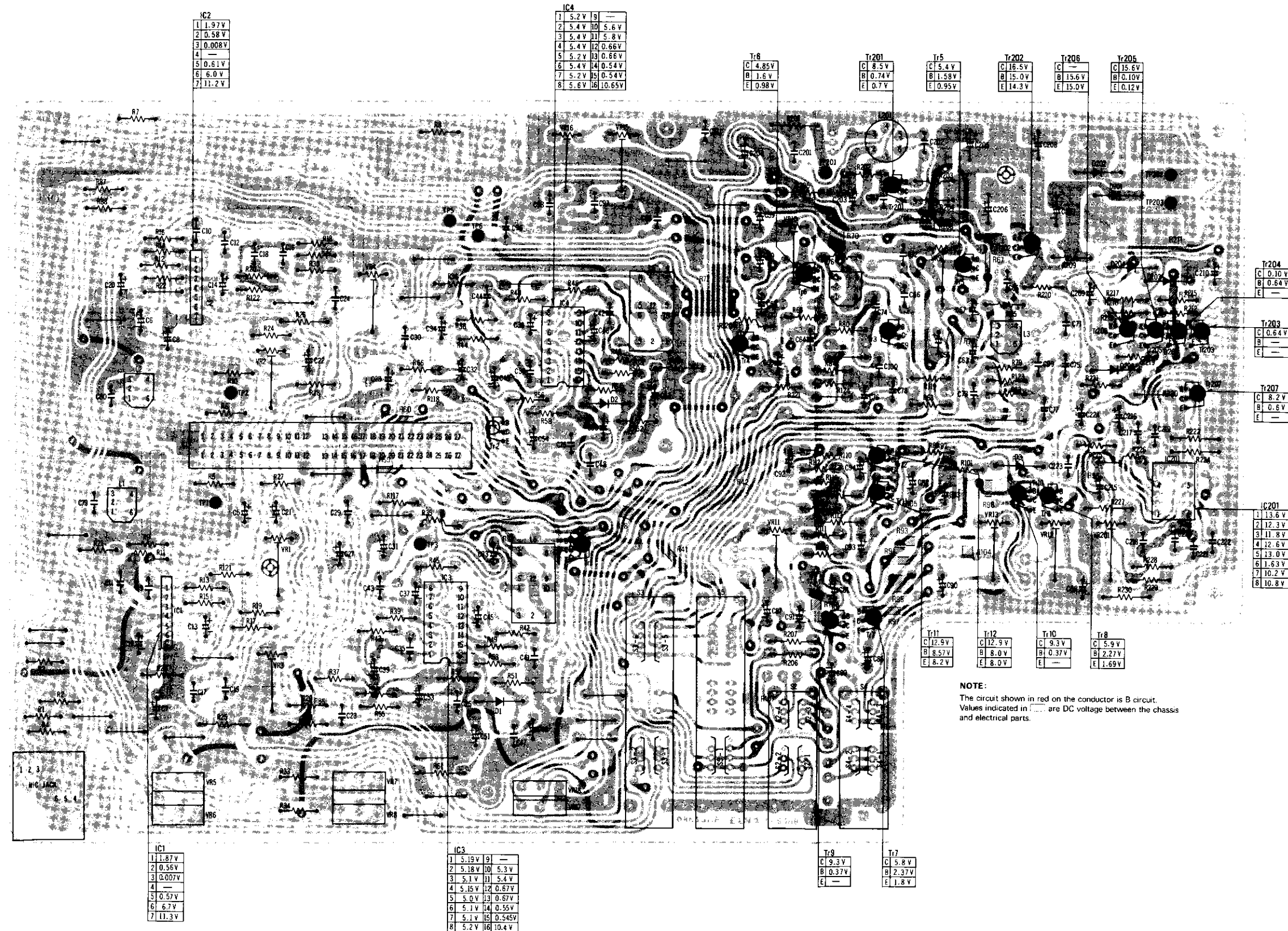
MAIN CIRCUIT BOARD

NOTE: 1 Symbols after Ref. No. indicate:
▲ for Scandinavia.
● for United Kingdom.
2 Indicates that only parts specified by the manufacturer be used for safety.

Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
TRANSFORMERS			SWITCHES			PILOT LAMPS		
T201 ▲	QLPD27ELC	Power Transformer	S1	QSSI202	Slide Switch (Record/Playback Selector)	S203	QSB0178	Leaf Switch (Motor ON/OFF)
T201 ●	QLPA37ELC	"	S2	QST4215	Lever Switch (Dolby IN/OUT Selector)	S204	QSW2214	Push Switch (Power ON/OFF)
COILS			S3	QST6311	Lever Switch (EQ Selector)	S205	QSR1407	Rotary Switch (AC Voltage Selector)
L1, 2, 3, 4	QLQM0333	Coil	S4	QST4215	Lever Switch (Peak Check Selector)	PL201	XAMQ35	Level Meter Lamp
L5, 6	QLM923K	MPX Trap Coil	S5	QST6311	Lever Switch (Bias Selector)	PL202	XAMQ35	"
L201	QLB0155	Oscillator Coil	S6	QSB0186	Leaf Switch (Cue/Review Switch)	PL203	XAMQ22P500N	Pilot Lamp (for Record)
			S201	QSB0178	Leaf Switch (Muting Switch)	PL204	XAMQ34S600W	Pilot Lamp (for Mechanism)
			S202	QSM0070	Micro Switch (Muting Switch)	PL205	XAMQ21P400N	Pilot Lamp (for Memory)

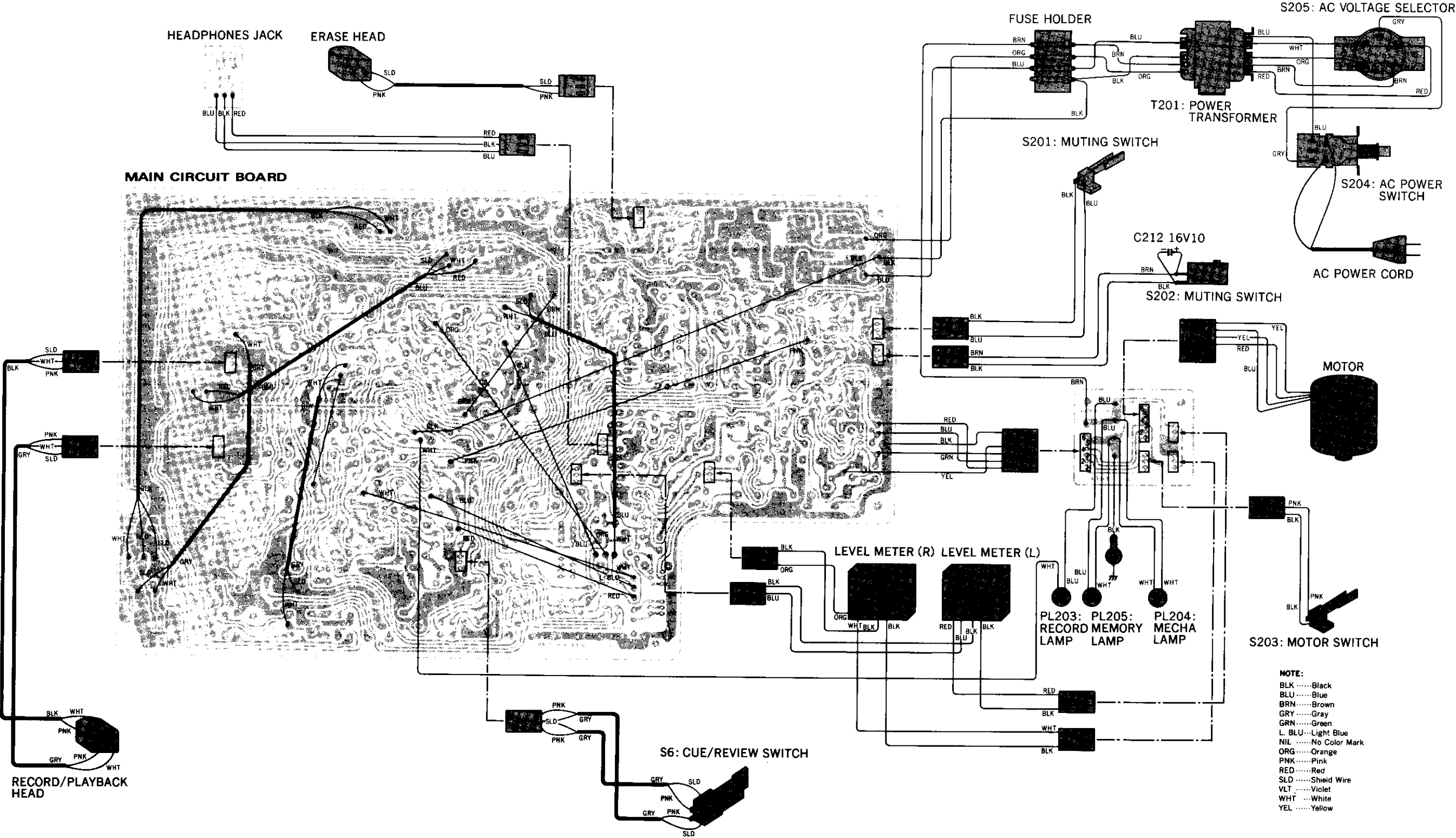
NOTE: RESISTORS ERD Carbon
ERG Metal oxide
CAPACITORS ECEA Electrolytic
ECCD Ceramic
ECKD Ceramic
ECQM Polyester
ECOS Polystyrene

Ref. No.	Part No.	Ref. No.	Part No.
RESISTORS		CAPACITORS	
R1, 2	ERD25TJ182	VR5, 6	EWKN3AF21A24
R3, 4	ERD25TJ333	VR7, 8	EWKN3AF21A15
R5, 6	ERD25TJ100	VR17, 18	EWK9KA025A14
R7, 8	ERD25TJ333	VR201	EVLS3AA00B14
R9, 10	ERD25TJ153	CAPACITORS	
R11, 12	ERD25TJ101	C5, 6	ECEA16210
R13, 14	ERD25TJ184	C7, 8	ECEA16V220
R15, 16	ERD25TJ104	C9, 10	ECCD1H221K
R17, 18	ERD25TJ183	C11, 12	ECKD1H102MD
R19, 20	ERD25TJ394	C13, 14	ECEA16V10
R21, 22	ERD25TJ331	C15, 16	ECCD1H271K
R23, 24	ERD25TJ222	C17, 18	ECKD1H682MD
R25, 26	ERD25TJ561	C19, 20	ECEA6V470
R27, 28	ERD25TJ472	C21, 22	ECEA16V10
R29, 30	ERD25TJ562	C23, 24	ECQM05103KZ
R31, 32	ERD25TJ224	C25, 26	ECCD1H181K
R33, 34	ERD25TJ273	C27, 28	ECEA502R1
R35, 36	ERD25TJ181	C29, 30	ECQM05562JZ
R37, 38	ERD25TJ105	C31, 32	ECEA16V10
R39, 40	ERD25TJ332	C33, 34	ECEA3524R7
R43, 44	ERD25TJ473	C35, 36	ECQM05472JZ
R45, 46	ERD25TJ104	C37, 38	ECEA16V10
R47, 48	ERD25TJ181	C41, 42	ECQM05473KZ
R49, 50	ERD25TJ154	C43, 44	ECQM05273JZ
R51, 52	ERD25TJ684	C45, 46	ECEA16V10
R53, 54	ERD25TJ274	C47, 48	ECQM05104KZ
R55, 56	ERD25TJ102	C49, 50	ECEA502R33
R57, 58	ERD25TJ101	C51, 52	ECEA16V220
R61, 62	ERD25TJ101	C53, 54	ECEA16V47
R63, 64	ERD25TJ681	C55, 56	ECEA502R33
R65, 66	ERD25TJ102	C57, 58	ECEA5021
R75, 76	ERD25TJ150	C59, 60	ECEA16V10
R79, 80	ERD25TJ122	C63, 64	ECQM05473KZ
R83, 84	ERD25TJ471	C65, 66	ECQM05104KZ
R87, 88	ERD25TJ392	C67, 68	ECQM05223KZ
R89	ERD25TJ271	C71, 72	ECQM05104KZ
R101	ERD25TJ104	C73, 74	ECQM05223KZ
R109, 110	ERD25TJ682	C75, 76	ECQM05104KZ
R111, 112	ERD25TJ273	C77, 78	ECQM05683KZ
R113, 114	ERG12ANJ221	C79, 80	ECQM05122KZ
R115, 116	ERD25TJ102	C81, 82	ECEA16V10
R117, 118	ERD25TJ471	C83	ECEA16V330
R119, 120	ERD25TJ393	C85, 86	ECEA50V1
R121, 122	ERD25TJ561	C87, 88	ECEA16V10
R201	ERD25TJ180	C89, 90	ECEA16V47
R202	ERD25TJ472	C91, 92	ECEA16V10
R203	ERD25TJ122	C93, 94	ECEA6V220
R204	ERD25TJ220	C95, 96	ECQM05102KZ
R205	ERG12ANJ680	C97, 98	ECKD1H561K8
R206	ERD25TJ561	C99, 100	ECQM05473KZ
R207	ERG12ANJ151	C201	ECQS1332K2
R208	ERG12ANJ100	C202	ECQM05104KZ
R209	ERD25TJ222	C203	ECEA16V330
R210	ERD25TJ221	C204	ECEA25V1000
R212	ERD25TJ103	C205	ECEA35V470
R215	ERD25TJ683	C207	ECEA25V1000
R217	ERD25TJ103	C208	ECEA16V1000
R218	ERD25TJ393	C209	ECEA35V47
R219	ERD25TJ272	C211	ECKD1H102MD
R221	ERD25TJ103	C212	ECEA16M10
R222	ERD25TJ271	C213	ECKD1H1032F
R224	ERD25TJ681	C215	ECEA35V4R7
R225	ERC140K565	C216	ECEA502R47
R226	ERD25TJ471	C217	ECQM05104KZ
R227	ERD25TJ684	C218	ECQM05222KZ
R228, 229	ERD25TJ104	C219	ECQM05104KZ
R230	ERD25TJ273	C220	ECQM05682JZ
R231	ERD25TJ100	C221	ECQM05104KZ
VARIABLE RESISTORS		C222	ECQM05102KZ
VR1, 2	EVLS3AA00B54	C223	ECQM05223KZ
VR3, 4	EVLS3AA00B24	C224	ECEA25V330

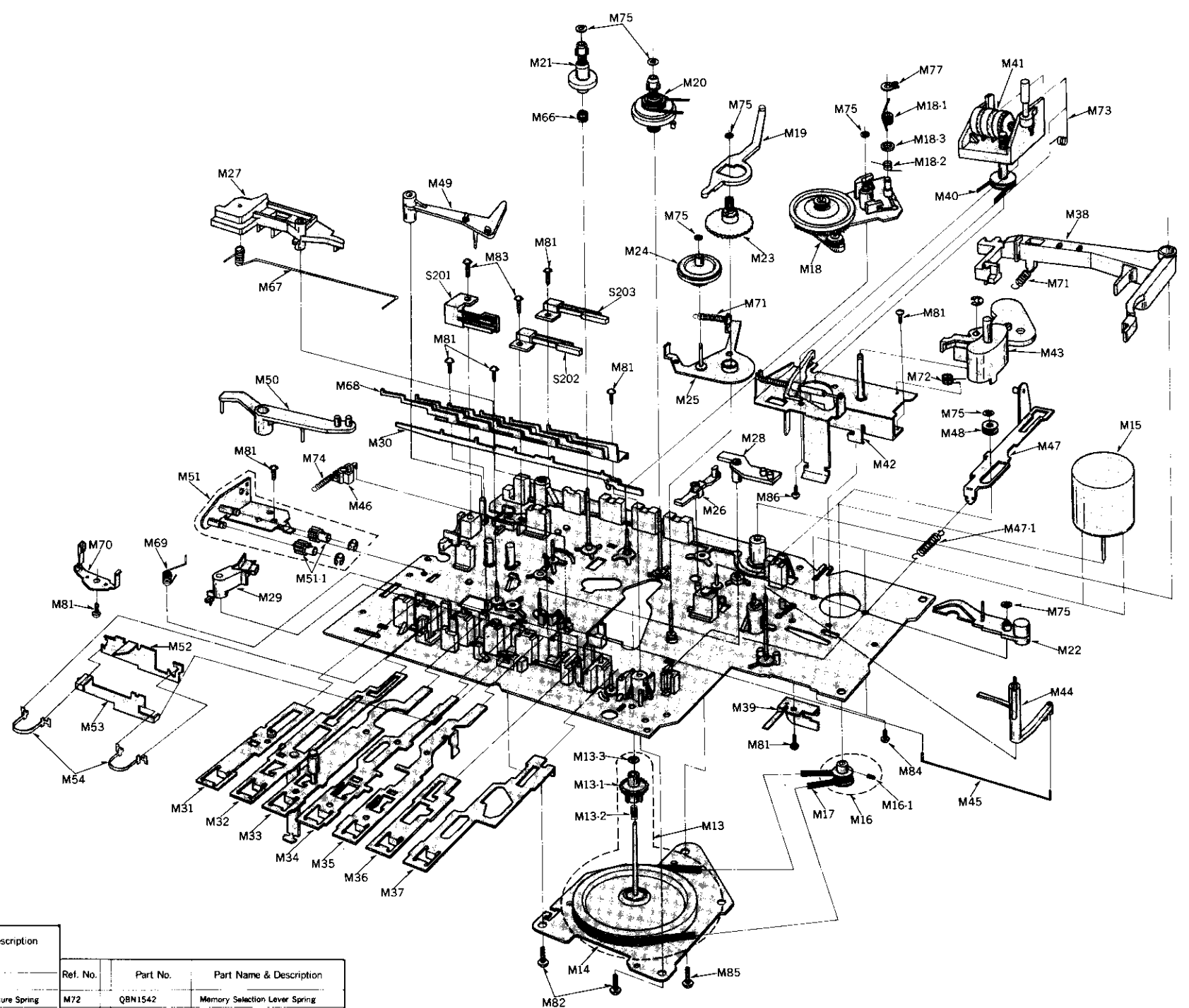
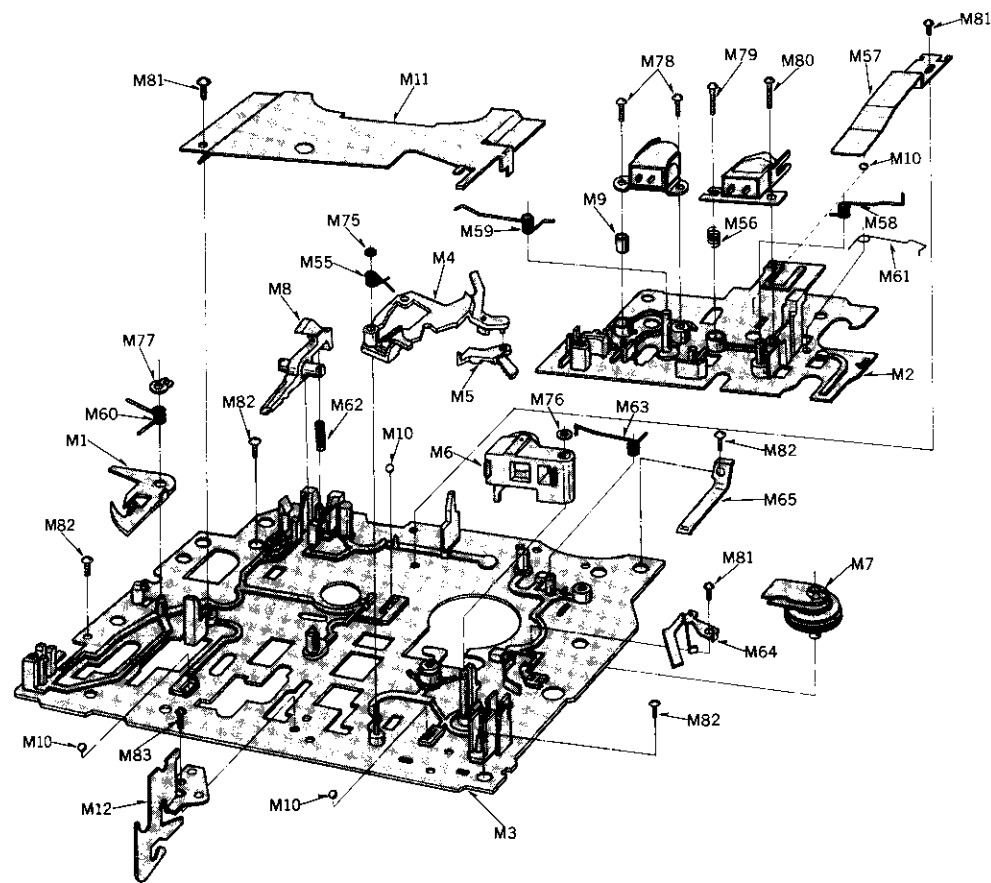


NOTE:
The circuit shown in red on the conductor is B circuit.
Values indicated in [] are DC voltage between the chassis and electrical parts.

WIRING CONNECTION DIAGRAM MODEL RS-631



EXPLODED VIEWS

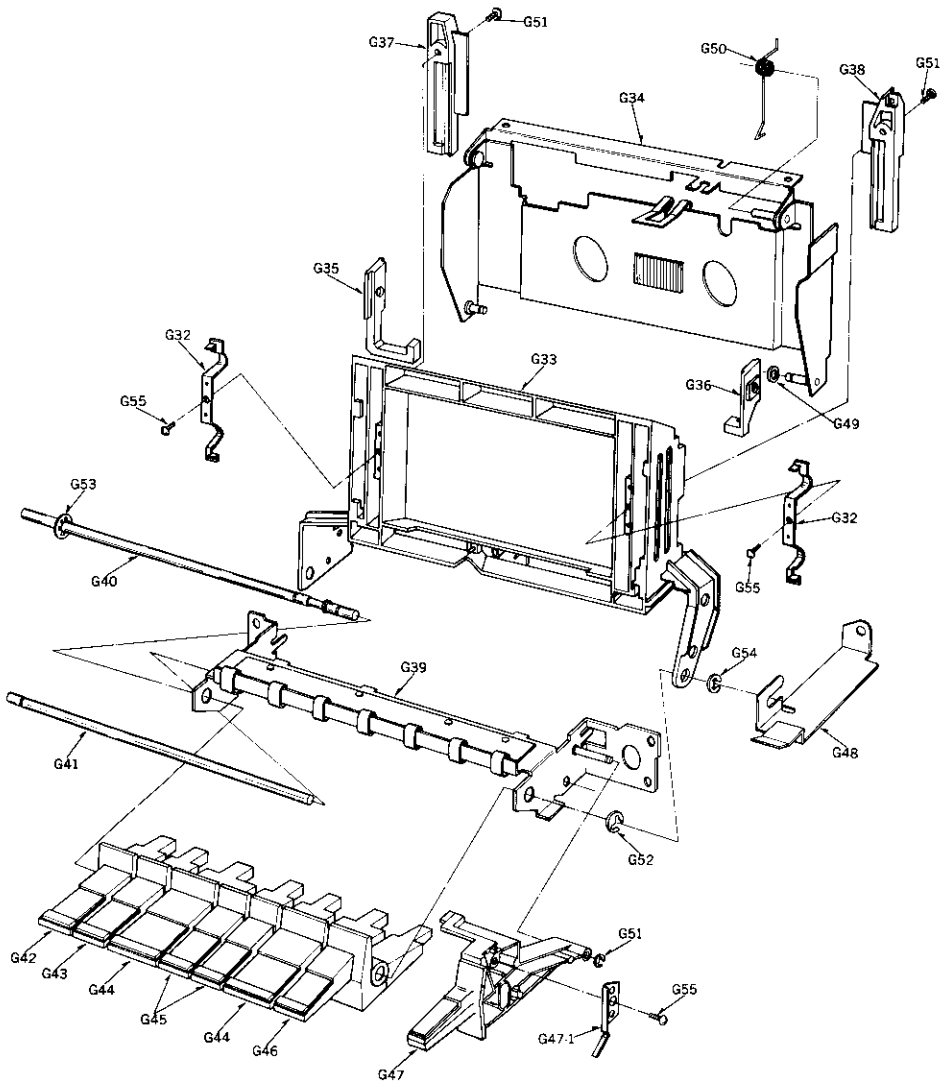
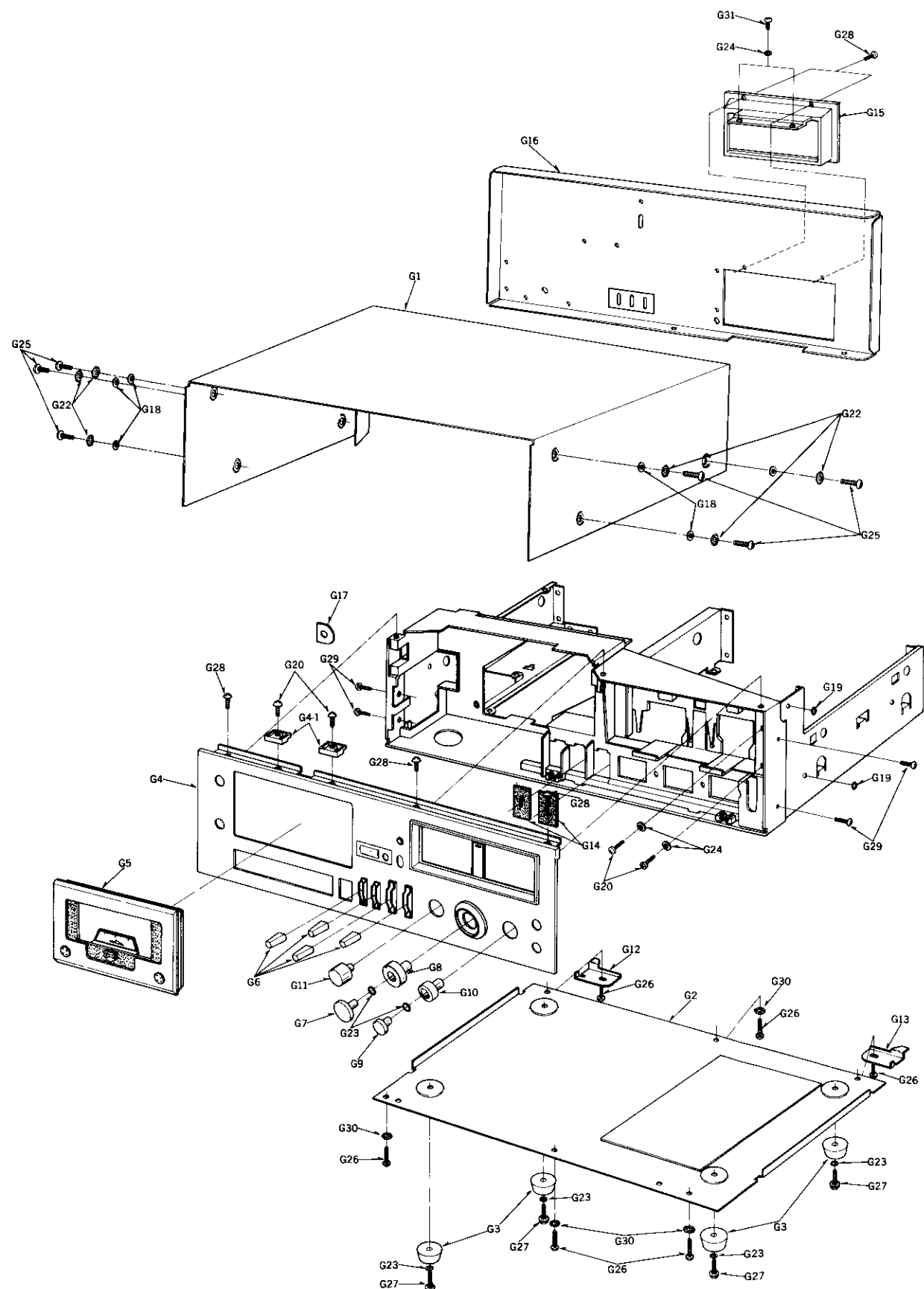


Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
M1	QML2898	Pause Lock Plate	M26	QML3042	Auto-Stop Obstruction Lever
M2	QMK1612	Head Base Plate	M27	QML3217	Pause Lever
M3	QXK1951	Upper Base Plate Assembly	M28	QML3049	Cue Lever
M4	QML3047	Obstruction Lever	M29	QML3124	Lock Release Arm
M5	QML3048	Driving Lever	M30	QXR0275	Lock Rod Assembly
M6	QXL1057	Pressure Roller Lever Assembly	M31	QXR0342	Pause Rod Assembly
M7	QXL0098	Takeup Idler Assembly	M32	QXR0343	Record Rod Assembly
M8	QML3051	Erase Safety Lever	M33	QXR0344	Playback Rod Assembly
M9	QMC0061	Erase Head Spacer	M34	QMR1624	Rewind Rod-A
M10	QDK1012	Steel Ball 2.5φ	M35	QMR1623	Fast Forward Rod-A
M11	QMF1939	Chassis Cover-A	M36	QMR1622	Stop Rod-A
M12	QMA3186	Fulcrum Angle	M37	QMR1621	Eject Rod-A
M13	QXF0131	Flywheel	M38	QML3038	Switch Arm
M13-1	QDG1116	Capstan Gear	M39	QMA3173	Connection Wire Holding Angle
M13-2	QBC1301	Capstan Spring	M40	QDB0240	Counter Belt
M13-3	QBW2049	Washer	M41	QXC0017	Tape Counter
M14	QXH0272	Flywheel Retainer Assembly	M42	QXA0649	Counter Angle Assembly
M15	MHN82RSD	Motor	M43	QXL1135	Memory Selection Lever (for Silver Face Unit)
M16	QXP0567	Motor Pulley Assembly	M44	QXL1151	Memory Selection Lever (for Black Face Unit)
M16-1	XSN2+3	Screw Φ2×3	M45	QML3205	Connection Lever
M17	QDB0241	Flywheel Belt	M46	QBS1113	Connection Wire
M18	QXL1136	Fast Forward Arm Assembly	M47	QMD0016	Rewind Brake Cam
M18-1	QBN1517	Fast Forward Spring	M47-1	QXR0345	Eject Rod-B
M18-2	QBN1559	Fast Forward Arm Spring	M48	QBT1619	Idler Spring
M18-3	QMC0080	Collar	M49	QBJ2088	Counter Pulley
M19	QML3040	Cam Lever	M50	QML3206	Muting Arm
M20	QXD0067	Takeup Reel Table Assembly	M51	QML3207	Muting Lever
M21	QXD0084	Supply Reel Table Assembly	M51-1	QXG1031	Damper Gear Assembly
M22	QXL1055	Auto-Stop Lever Assembly	M52	QDG1102	Holder Gear
M23	QDG1096	Cam Gear	M53	QMR1628	Obstruction Rod-A
M24	QXG1026	Auto-Stop Gear Assembly	M54	QMR1629	Obstruction Rod-B
M25	QXL1037	Gear Lever Assembly	M55	QBP1770	Obstruction Rod Spring

Ref. No.	Part No.	Part Name & Description
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
M71	QBT1682	Lock Holding Spring

Ref. No.	Part No.	Part Name & Description
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 Φ2×10
M81	XTN26+5B	Tapping Screw Φ2.6×5
M82	XTN3+10B	Tapping Screw Φ3×10
M83	XTN26+8B	Tapping Screw Φ2.6×8
M84	XSN26+3	Screw Φ2.6×3
M85	XTN3+20B	Tapping Screw Φ3×20
M86	XSN3+5S	Screw Φ3×5

CABINET PARTS



ACCESSORIES

NOTE: Symbols after Ref. No. indicate:
▲---for Scandinavia.
●---for United Kingdom.

Ref. No.	Part No.	Part Name & Description
A1	RP023A	Connection Cord
A2	QFT6TCJNTBFZ	Demonstration Tape
A3 ▲	QQT2227	Instruction Book
A3 ●	QQT2228	"

PACKINGS

Ref. No.	Part No.	Part Name & Description
P1	QPN3651	Inside Carton
P2	QPA0331	Inner Cushion
P3	XZB50X65A05	Poly Bag
P4	QPA0340	Spacer
P5	QRS0285	Pad

NOTE: Symbols after Ref. No. indicate:
▲---for Scandinavia.
●---for United Kingdom.

Ref. No.	Part No.	Part Name & Description
G1 ▲	QGC1079	Case Cover
G1 ●	QGC1080	"
G2	QGC1080	Bottom Cover
G3	QKA1065	Rubber Foot
G4	QYP0715	Front Panel Assembly (for Silver Face Unit)
(G4)	QYP0716	Front Panel Assembly (for Black Face Unit)
G4-1	QKJ0235	Stopper
G5	QYF0308	Cassette Lid Assembly (for Silver Face Unit)
(G5)	QYF0309	Cassette Lid Assembly (for Black 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	QK2769	Jack Board Ornament
G16	QGC1092	Back Cover
G17	QKJ0237	Headphones Spacer
G18	QBK7143	Fiber Washer
G19	QBH2040	Spacer
G20	XSN3+BS	Screw ⌀3×8
G21	QBW2023	Washer
G22	XWC48FN	Lock Washer
G23	XWA4B	Spring Washer
G24	XWA3B	"
G25	XSN4+8RVS	Screw ⌀4×8
G26	XTN3+14B	Tapping Screw ⌀3×14
G27	XSN4+10S	Screw ⌀4×10
G28	XTN3+10B	Tapping Screw ⌀3×10
G29	XSS3+6S	Screw ⌀3×6
G30	XWC3B	Lock Washer
G31	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	QMN1851	Push Button Shaft-B
G42	QGO1370	Push Button (PAUSE)
G43	QGO1371	Push Button (REC)
G44	QGO1373	Push Button (PLAY, STOP)
G45	QGO1374	Push Button (FF, REW)
G46	QGO1372	Push Button (EJECT)
G47	QXB0508	Timer Button Assembly
G47-1	QBP1774	Timer Button Spring
G48	QMA3269	Reinforcement Angle
G49	QBW2017	Washer
G50	QBN1554	Chassis Cover Spring
G51	XUC25FT	Stop Ring 2.5φ
G52	XUC4FT	Stop Ring 4φ
G53	QNC1080	Stop Ring
G54	XUC3FT	Stop Ring 3φ
G55	XTN26+5B	Screw ⌀2.6×5
G56	XTN26+8B	Screw ⌀2.6×8