ORDER NO. ARD-7905033C

Service Manual

Cassette Deck

RS-M65

FG Servo Controlled Direct-Drive Flat Type Cassette Deck

(Black Face
Silver Face)

This is the Service Manual for the following areas.

- [D]·····For All European areas except United Kingdom.
- [B]·····For United Kingdom.
- [N]·····For Asia, Latin America, Middle East and Africa areas.
- [A]·····For Australia.
- [X]·····For PX.

RS-M85 MECHANISM SERIES

Specifications

Power requirements: AC; 110/125/220/240V, 50-60Hz (not necessary Forconversion)
Preset power voltage: 220V for Europe except England, 240V for England and Australia

Power consumption: 30W (for All European areas and Australia)
27W (for Asia, Latin America, Middle East, Africa areas PX)

Motors: 2-motor system
Brushless FG servo controlled direct-drive motor for capstan drive
1-DC coreless motor fo reel-table drive

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

Tape speed: 4.8cm/s (1-7/8ips)

Wow and flutter: 0.035% (WRMS), ±0.10% (DIN)

Frequency response: CrO_2/Fe-Cr tape; 20~18,000Hz
30~18000Hz (DIN)
30~16,000Hz ±3dB
Normal tape; 20~16,000Hz
30~16,000Hz (DIN)
30~14,000Hz ±3dB

Signal-to-noise ratio: Dolby* NR in; 69dB above 5kHz)
Dolby NR out; 59dB
(signal level = max. recording level, Fe-Cr/CrO_2 type tape)

Fast forward and rewind time: Approx. 80 seconds with C-60 cassette tape

Inputs: MIC; sensitivity 0.25mV, input impedance 47KΩ applicable microphone impedance 400Ω~10KΩ
LINE; sensitivity 60mV, input impedance 56KΩ

Output: LINE; output level 700mV, load impedance 22KΩ over
HEADPHONE; output level 75mV, load impedance 8Ω

Rec/pb connection: 5P DIN type; input sensitivity 0.25mV, impedance 6.4KΩ, output level 700mV, impedance 1.5KΩ

Heads: 2-head system
1-SX (Sendust Extra) head for record/playback
1-double-gap ferrite head for erasure

Bias frequency: 85kHz

Dimensions: 43cm(W)×9.7cm(H)×34.7cm(D)
〔16-7/8"(W)×3-7/8"(H)×13-5/8"(D)〕

Weight: 7.1kg (15lbs 11oz)

Specifications are aubject 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

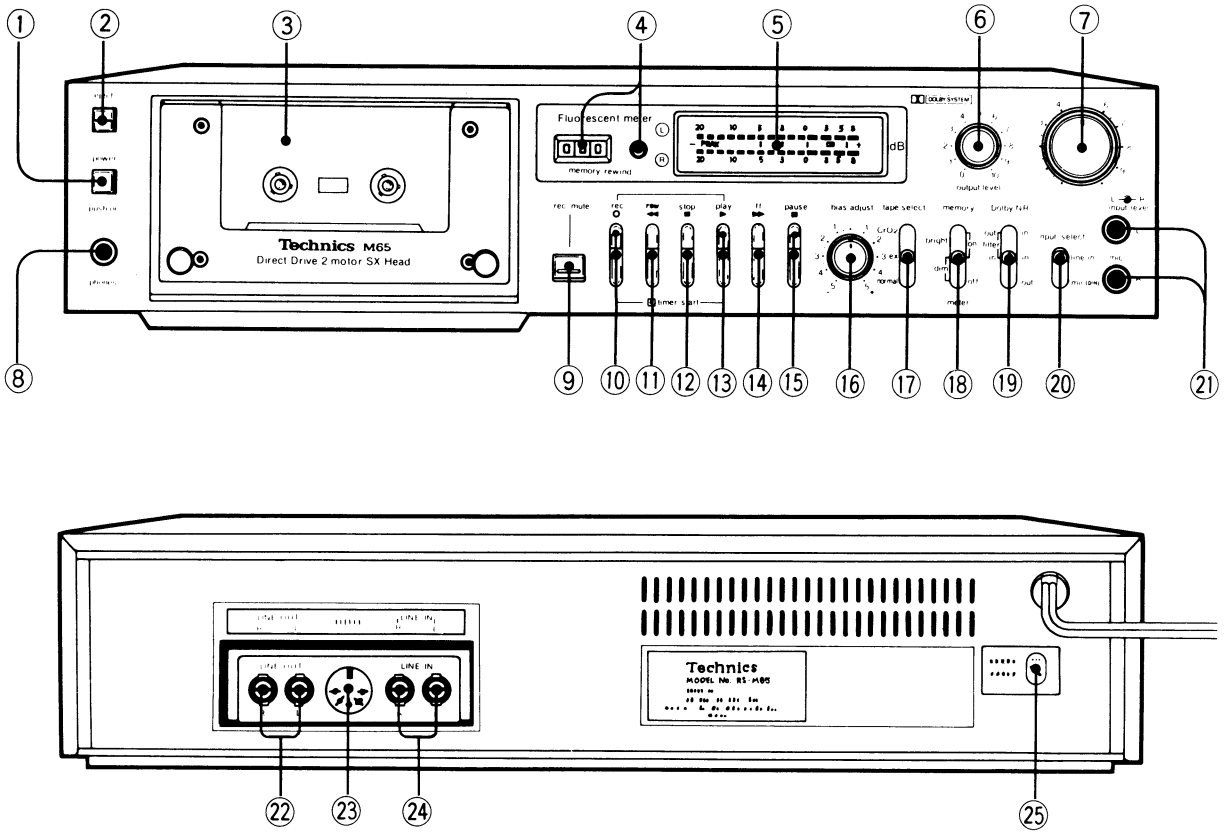


Fig. 1

① Power swith
② Eject button
③ Cassette holder
④ Tape counter and reset button
⑤ FL (Fluorescent Level) Meters
⑥ Output level control
⑦ Input level controls
⑧ Headphones jack
⑨ Record-muting switch
⑩ Record button with record indication lamp
⑪ Rewind button
⑫ Stop button
⑬ Playback button with playback indication lamp
⑭ Fast-forward button
⑮ Pause button with pause indication lamp
⑯ Bias-adjustment control
⑰ Tape selector
⑱ Memory/meter-brightness switch
⑲ Dolby noise-reduction switch
⑳ Input selector
㉑ Microphone jacks
㉒ Line output jacks
㉓ Record/playback connection socket
㉔ Line input jacks
㉕ Voltage selector

DISASSEMBLY INSTRUCTIONS

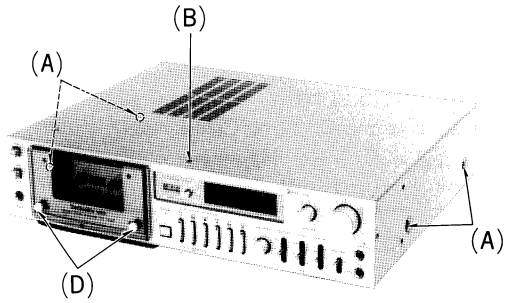


Fig. 2

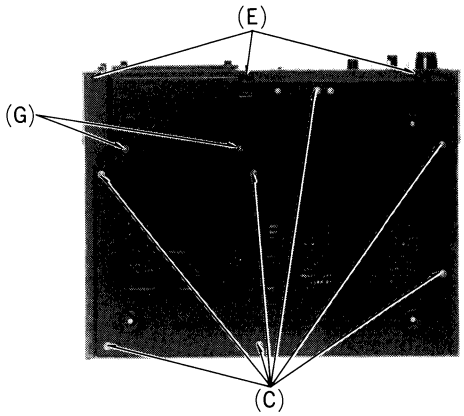


Fig. 3

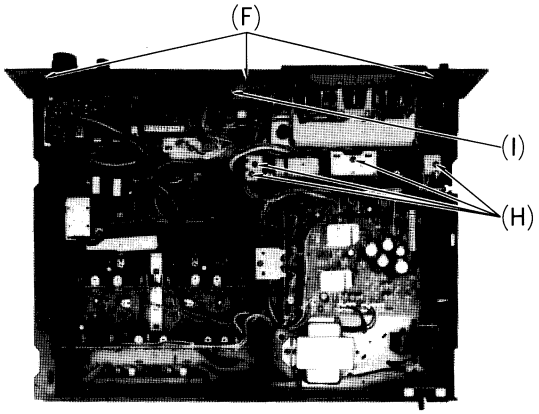


Fig. 4

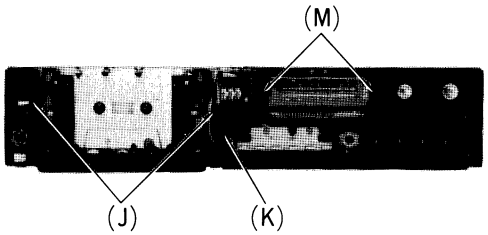


Fig. 5

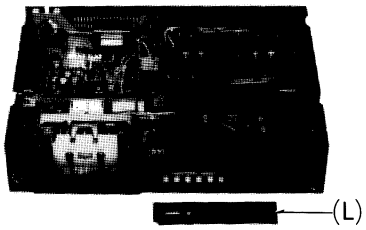


Fig. 6

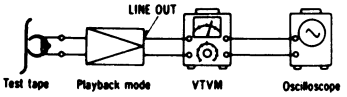
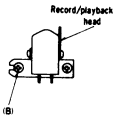
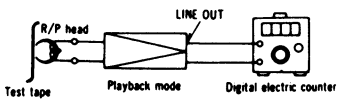
Procedure	To remove ——.	Remove ——.	Shown in fig. ——.
1	Case cover	• 4 screws ····· (A) • 1 screw ····· (B)	2 2
2	Bottom cover	• 7 red screws ····· (C)	3
3	Front panel	• 2 cassette lid holding screws ····· (D)※ • 3 screws ····· (E) • 3 red screws ····· (F)	2 3 4
4	Mechanism	• 2 red screws ····· (G) • 4 red screws ····· (H) • Red screw ····· (I) • 2 red screws ····· (J) • Metal screw ····· (K)	3 4 4 5 5
5	FL level meter	• Meter cover ····· (L) • 2 meter holders ····· (M)	6 5

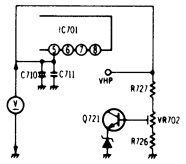
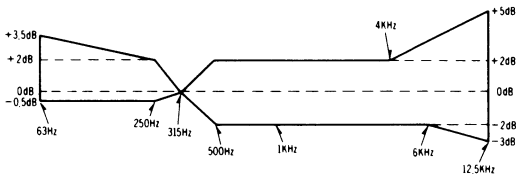
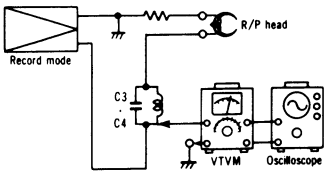
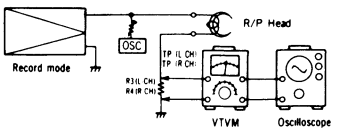
※ The head azimuth can be adjusted by removing the cassette lid.

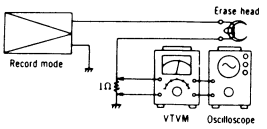
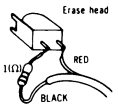
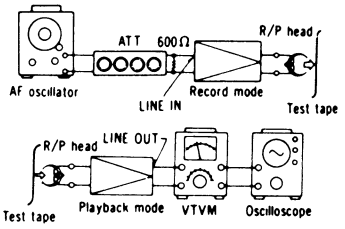
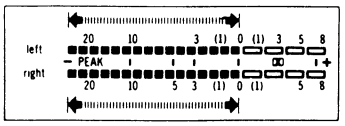
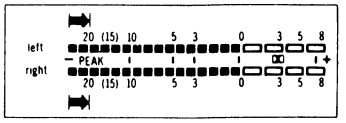
MEASUREMENT AND ADJUSTMENT METHODS

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. Meter selector: Peak, dim
5. Dolby NR switch: OUT
6. Tape selector: Normal
7. Input selector: Line in
8. Bias adjustment control: Center
9. Output level control: Maximum
10. Input level control: Maximum

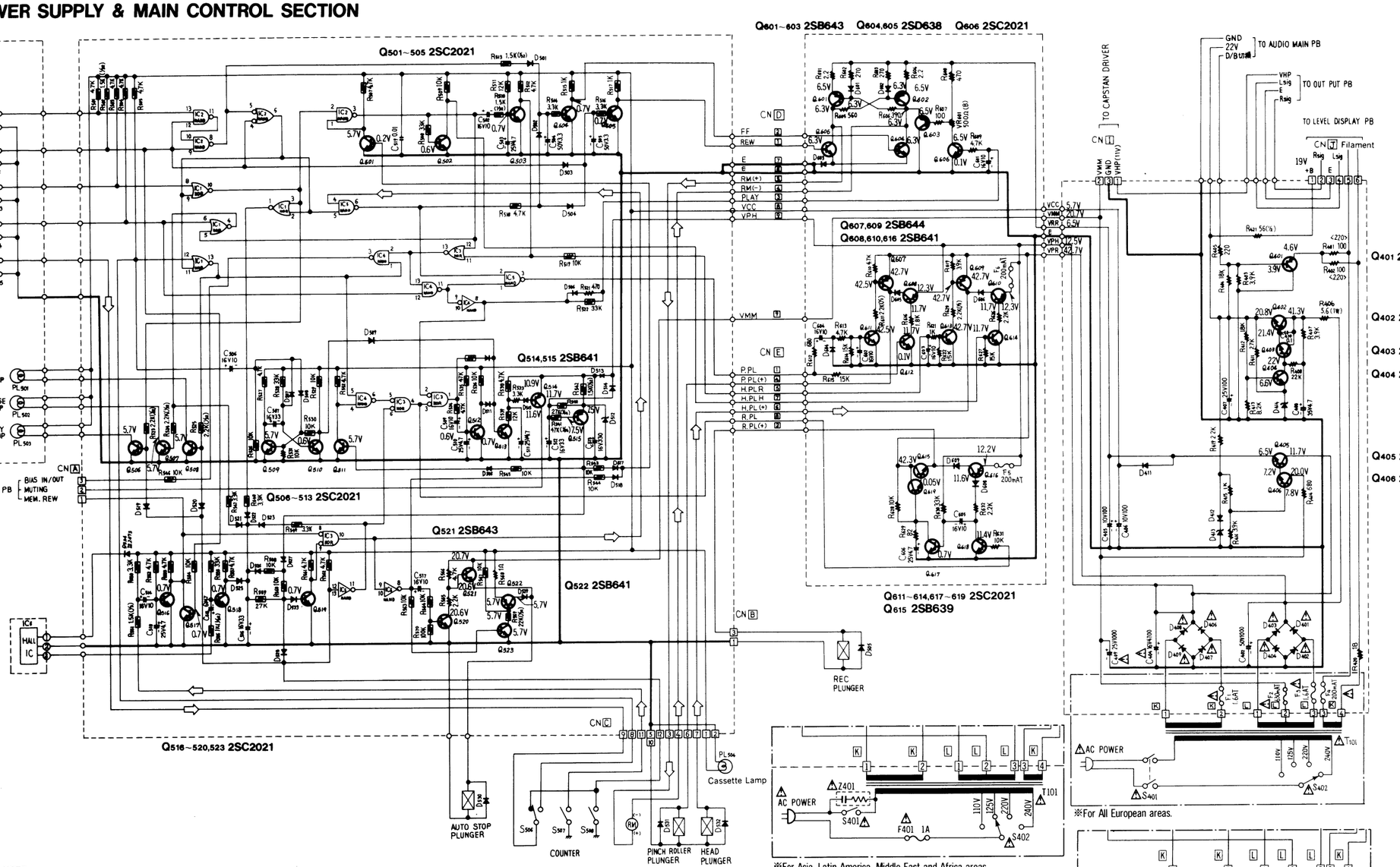
ITEM	MEASUREMENT & ADJUSTMENT
Takeup tension Condition: * Playback mode Equipment: * Cassette torque meter ··· QZZSRKCT	1. Mount cassette torque meter on UNIT. 2. Place UNIT into playback mode and read takeup torque. 3. Measure several times and determine the mean value. **Standard value: 45±15 gr-cm** **Adjustment method** If measured value is not standard, adjust VR601.
Head azimuth adjustment Condition: * Playback mode Equipment: * VTVM * Oscilloscope * Test tape (azimuth) ··· QZZCFM * Tape path viewer ··· QZZCRD	**Record/playback head adjustment** 1. Test equipment connection is shown in fig. 8. 2. Playback azimuth tape (QZZCFM 8kHz). 3. Adjust record/playback head angle adjustment screw (B) in fig. 9 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.  Fig. 8 **Erase head adjustment** 1. Test equipment connection is the same above but use the tape path viewer (QZZCRD) instead of test tape (QZZCFM). 2. Playback this tape. 3. Adjust screw (C) shown in fig. 10 so that the tape may not get curled or malformed by tape guide of the erase head. 4. After adjustment, lock head adjust screw with lacquer.  Fig. 9  Fig. 10
Tape speed Condition: * Playback mode Equipment: * Digital electronic counter * Test tape ··· QZZCWAT	**Tape speed accuracy** 1. Test equipment connection is shown in fig. 11. 2. Playback 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.  Fig. 11 **Standard value: ±0.4%** **Adjustment method** 1. Playback the test tape (middle). 2. Adjust tape speed adjustment VR701 so that frequency becomes 3,000Hz. **Tape speed fluctuation** Make measurements in same manner as above (beginning, middle and end of tape), and determine the 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: Less than 0.3%**

ITEM	MEASUREMENT & ADJUSTMENT
Capstan motor circuit adjustment	**Standard DC power supply voltage adjustment** 1. Measure the DC voltage between ⑤ terminal of IC701 and ground as shown in fig. 12. **Standard value: 11±0.05V** 2. If measured voltage is not within standard, adjust VR702.  **Fig. 12**
Playback frequency response Condition: * Playback mode * Output level control ··· MAX Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM	1. Test equipment connection is as same as "Head azimuth adjustment" but use the test tape (QZZCFM) instead of head azimuth tape (See fig. 8). 2. Place UNIT into playback mode. 3. Playback the frequency response test tape (QZZCFM). 4. Measure output level at 12.5kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz and 63Hz, and compare each output level with the 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. 7. If measured value is not in standard, adjust VR1 (L-CH), VR2 (R-CH) (See fig. 24). **Playback frequency response chart**  **Fig. 13**
Playback gain Condition: * Playback mode * Output level control ··· MAX Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM	1. Test equipment connection is shown in fig. 8. 2. Playback 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: 0.66±0.05V**
Playback S/N ratio Condition: * Playback mode * Output level control ··· MAX Equipment: * VTVM * Oscilloscope * Test tape ··· QZZCFM * Empty cassette	1. Test equipment connection is shown in fig. 8. 2. Playback 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 47dB**
Bias leak Condition: * Record mode * Input level control ··· MAX Equipment: * VTVM * Oscilloscope	1. Test equipment connection is shown in fig. 14. 2. Place UNIT into record mode. 3. Adjust trap coils L1 (L-CH), L2 (R-CH), so that measured value become minimum (See fig. 24). 4. Make adjustment for both channels.  **Fig. 14**
Bias current Condition: * Record mode * Bias adjustment control ··· Center Equipment: * VTVM * Oscilloscope	1. Test equipment connection is shown in fig. 15. 2. Place UNIT into record mode, and tape selector to normal position. 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: About 0.40mA**  **Fig. 15** 4. If measured valu is not in standard, adjust L1 (L-CH), and L2 (R-CH). 5. Then changing the tape selector to Fe-Cr position measure the bias current.

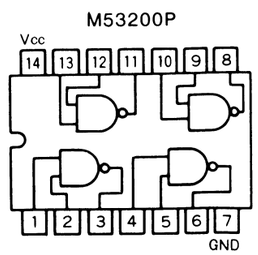
ITEM	MEASUREMENT & ADJUSTMENT
	Standard value: About 0.48 mA 6. Change the tape selector to CrO_2 position, measure the bias current. **Standard value: About 0.57 mA**
Erase current Condition: * Record mode Equipment: * VTVM * Oscilloscope * Resistor (1Ω)	1. Connect 1Ω resistor between ground side terminal of erase head ground lead wire removed (See fig. 16). 2. Connect VTVM to both ends of 1Ω resistor. 3. Place UNIT into record mode, and measure voltage across the 1Ω resistor. 4. Determine erase current with the following formula: $\text{Erase current (A)} = \frac{\text{Voltage across both ends of } 1\Omega}{1\Omega}$ **Standard value: 60±15 mA (bias selector ··· low)**  **Fig. 16**  **Fig. 17**
Overall gain Condition: * Record/playback mode * Input level control ··· MAX * Standard input level: MIC ····· −72±3 dB LINE IN ··· −24±3 dB DIN ····· −36±3 dB * Bias adjustment control ··· Center * Output level control ··· MAX Equipment: * AF oscillator * VTVM * Oscilloscope * ATT * Test tape (reference blank tape) ··· QZZCRA for Normal ··· QZZCRX for CrO_2 ··· QZZCRY for Fe-Cr	1. Test equipment connection is shown in fig. 18. 2. Place UNIT into record mode. 3. Supply 1 kHz signal (−24 dB) from AF oscillator, through ATT to LINE IN. 4. Adjust ATT until monitor level at LINE OUT becomes 0.66 V. 5. Using test tape, make recording. 6. Playback recorded tape, and measure the output level at LINE OUT on VTVM. 7. If the measured value increases, connection points for R93, R94 (Fe-Cr) or R97, R98 (CrO_2) should be shorted. 8. If the measured value decreases, connection points for R91, R92 (Fe-Cr) or R95, R96 (CrO_2) should be unsoldered. **Standard value: 0.66±0.05 V (Normal position), 0.66±1.5 dB (Fe-Cr position, CrO_2 position)**  **Fig. 18**
Fluorescent meter Condition: * Record mode * Input level control ··· MAX * Output level control ··· MAX * Tape selectors ··· Normal position Equipment: * VTVM * AF oscillator * ATT	1. Test equipment connection is shown in fig. 18. 2. Set the meter function selector to the "bright" position. 3. Supply 1 kHz signal (−24 dB) to the LINE IN jack, then press the record button. 4. Adjust the ATT so that the output level at LINE OUT jack becomes 0.66 V (= standard input level). 5. Adjustment at "0 dB": A. Adjust VR301 (L-CH) and VR302 (R-CH) so that the Fluorescent meters show an illuminated indication up to "0 dB" when the input signal level is 0.9 dB higher than the standard input level. B. Then confirm that the Fluorescent meters show an illuminated indication up to "+1 dB" when the input signal level is 1 dB higher than the standard input level.  **Fig. 19**  **Fig. 20** 6. Adjustment at "−20 dB": A. Adjust VR303 (L-CH) and VR304 (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 dB lower than the standard input level. 7. Repeat twice between steps 3 and 6 above.

SCHEMATIC DIAGRAM

POWER SUPPLY & MAIN CONTROL SECTION



M53200P



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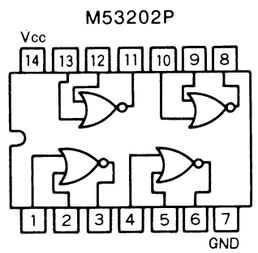


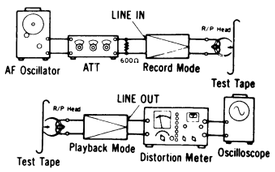
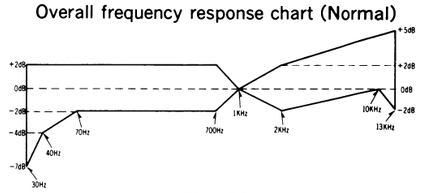
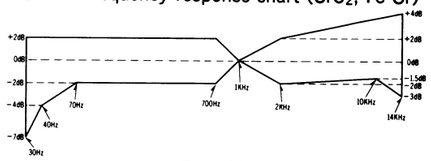
NOTE:

1. S501……Fast forward button switch.
2. S502……Rewind button switch.
3. S503……Playback button switch.
4. S504……Pause button switch.
5. S505……Record button switch.
6. S506……Accidental erase prevention switch.
7. S507……Counter switch.
8. S508……Cassette detection switch.
9. S401……Power ON/OFF switch.
10. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise. K=1,000Ω.
11. Values of R401 and R402 indicated in 〈 〉 are used for All European areas.
12. Capacitor values are in microfarads (μF) unless specified otherwise. P=Pico-farads.
13. All voltage values shown in circuitry are under no signal condition with volume control at minimum position. For measurement, use VTVM.
14. F5, F6 are used for All European areas.
15. ▭ indicates printed resistor.

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	ERD25TJ682
R3, 4	ERD25TJ100
R5, 6	ERD25TJ104
R7, 8	ERD25TJ563
R9, 10	ERD25TJ101
R11, 12	ERD25TJ224
R13, 14	ERD25TJ471
R15, 16	ERD25TJ224
R19, 20	ERD25TJ103
R21, 22	ERD25TJ273
R23, 24	ERD25TJ103
R25, 26	ERD25TJ181
R27, 28	ERD25TJ273
R29	ERD25TJ562
R31, 32	ERD25TJ124
R33, 34	ERD25TJ562
R35, 36	ERD25TJ563
R39, 40	ERD25TJ123
R41, 42	ERD25TJ182
R43, 44	ERD25TJ472
R45, 46	ERD25TJ562
R47, 48	ERD25TJ224
R49, 50	ERD25TJ333
R51, 52	ERD25TJ101
R53, 54	ERD25TJ683
R55, 56	ERD25TJ102
R57, 58	ERD25TJ101
※For Asia, Latin America, Middle East, Africa areas, Australia and PX.	
ⓁⓂ	ERQ12HJ560
※For All European areas.	
R59, 60	ERD25TJ104
R61, 62	ERD25TJ102
R63, 64	ERD25TJ104
R65, 66	ERD25TJ562
R67, 68	ERD25TJ471
R69, 70	ERD25TJ103
R71, 72	ERD25TJ224
R73, 74	ERD25TJ473
R75, 76	ERD25TJ563
R77, 78	ERD25TJ562
R79, 80	ERD25TJ153
R81, 82	ERD25TJ332
R83, 84	ERD25TJ333
R85, 86	ERD25TJ332
R87, 88	ERD25TJ103
R89, 90	ERD25TJ822
R91, 92, 93, 94	ERD25TJ273
R95, 96	ERD25TJ123
R97, 98	ERD25TJ563
R99, 100	ERD25TJ473
R101, 102	ERD25TJ392
R103, 104	ERD25TJ224
R105, 106	ERD25TJ333
R107	ERD25TJ152
R108	ERD25TJ821
R109, 110	ERD25TJ562
R111, 112	ERD25TJ821
R113, 114	ERD25TJ220
R115, 116	ERD25TJ821
R117, 118	ERD25TJ222
R119, 120	ERD25TJ472
R121, 122	ERD25TJ104
R123, 124	ERD25TJ152
R125	ERD25TJ682
R126	ERD25TJ473
R129	ERD25TJ822
R130	ERD25TJ183
R131	ERD25TJ222
R132	ERD25TJ472
R133	ERD25TJ821
R134	ERD25TJ332
R135, 136, 137, 138	ERD25TJ472
R201, 202	ERD25TJ154
R203, 204	ERD25TJ104
R205, 206	ERD25TJ273
R207, 208	ERD25TJ223
R209, 210	ERD25TJ154
R211, 212	ERD25TJ272
R213, 214	ERD25TJ222
R215, 216	ERD25TJ274
R217, 218	ERD25TJ473
R219, 220	ERD25TJ332
R221, 222	ERD25TJ392
R223, 224	ERD25TJ102
R225, 226	ERD25TJ185
R227, 228	ERD25TJ105
R229, 230	ERD25TJ153
R231, 232	ERD25TJ101
R233, 234	ERD25TJ472
R235, 236	ERD25TJ103
R237, 238, 239, 240	ERD25TJ822
R241, 242	ERD25TJ333
R243, 244	ERD25TJ154
R245, 246	ERD25TJ333
R247, 248	ERD25TJ272
R249, 250	ERD25TJ102
R251, 252	ERD25TJ560
R253, 254	ERD25TJ820
R255, 256	ERD25TJ153
R257, 258	ERD25TJ274
R259, 260	ERD25TJ224
R261, 262	ERD25TJ822
R263, 264	ERD25TJ222
R265	ERD25TJ274
R266	ERD25TJ274
R301, 302	ERD25TJ223
R303, 304	ERD25TJ333
R305, 306	ERD25TJ473
R307, 308	ERD25TJ154
R309, 310	ERD25TJ223
R311, 312	ERD25TJ102
R313, 314	ERD25TJ221
R315, 316	ERD25TJ823
R318	ERD25TJ822
R320	ERD25TJ681

ITEM	MEASUREMENT & ADJUSTMENT
Overall distortion Condition: * Input level control ··· MAX * Output level control ··· MAX * Bias adjustment control ··· Center Equipment: * Distortion meter * 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 0.66 V (−4 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 the 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 3.5%**  **Fig. 21**
Overall frequency response Condition: * Record/playback mode * Input level control ··· MAX * Output level control ··· MAX * Bias adjustment control ··· Center Equipment: * VTVM * AF oscillator * ATT * Test tape (reference blank tape) ··· QZZCRA for Normal ··· QZZCRX for CrO_2 ··· QZZCRY for Fe-Cr	**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. 18. 2. Load reference blank test tape and place UNIT into record mode. 3. Supply 1kHz 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 0.066 V. 6. Record each frequency 30 Hz, 40 Hz, 70 Hz, 700 Hz, 1 kHz, 2 kHz, 7 kHz, 10 kHz and 13.5 kHz (16 kHz for CrO_2 and Fe-Cr) 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. 9. If the measured value decreases at high frequency range, connection points for C5 (L-CH), C6 (R-CH) should be shorted to increase at high frequency range. **Overall frequency response chart (Normal)**  **Fig. 22** **Overall frequency response chart (CrO_2, Fe-Cr)**  **Fig. 23**
Dolby NR circuit Condition: * Record mode * Input level control ··· MAX 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 −34.5 dB at TP (L-CH), TP (R-CH) (frequency 5 kHz). 2. Confirm that the value at IN position is 8 dB greater than the value at OUT position of Dolby NR switch. 3. When it is not in condition above, adjust as follows. 4. Set the VR201 (L-CH), VR202 (R-CH) to maximum. 5. Set the Dolby NR switch to IN position. 6. At this time adjust VR203 (L-CH), VR204 (R-CH) so that the reading of VTVM becomes 10 dB greater than the value in step (1) above. 7. Adjusting VR201 (L-CH), VR202 (R-CH) make the reading of VTVM become 2 dB smaller than the value obtainted through the adjustment in step (6) above.

ITEM	MEASUREMENT & ADJUSTMENT
Overall S/N ratio Condition: * Record/playback mode * Input level control ··· MAX * Erase the tape with a bulk tape eraser. * Output level control ··· MAX * Bias adjustment control ··· Center Equipment: * VTVM * AF oscillator * ATT * Oscilloscope * Test tape (reference blank tape) ··· QZZCRA	1. Test equipment connection is shown in fig. 18. 2. Supply 1kHz signal to LINE IN and adjust ATT so that output level at LINE OUT indicates 0.66 V. 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 ratio". **Standard value: Greater than 45 dB (without NAB filter)**

ADJUSTMENT PARTS LOCATION

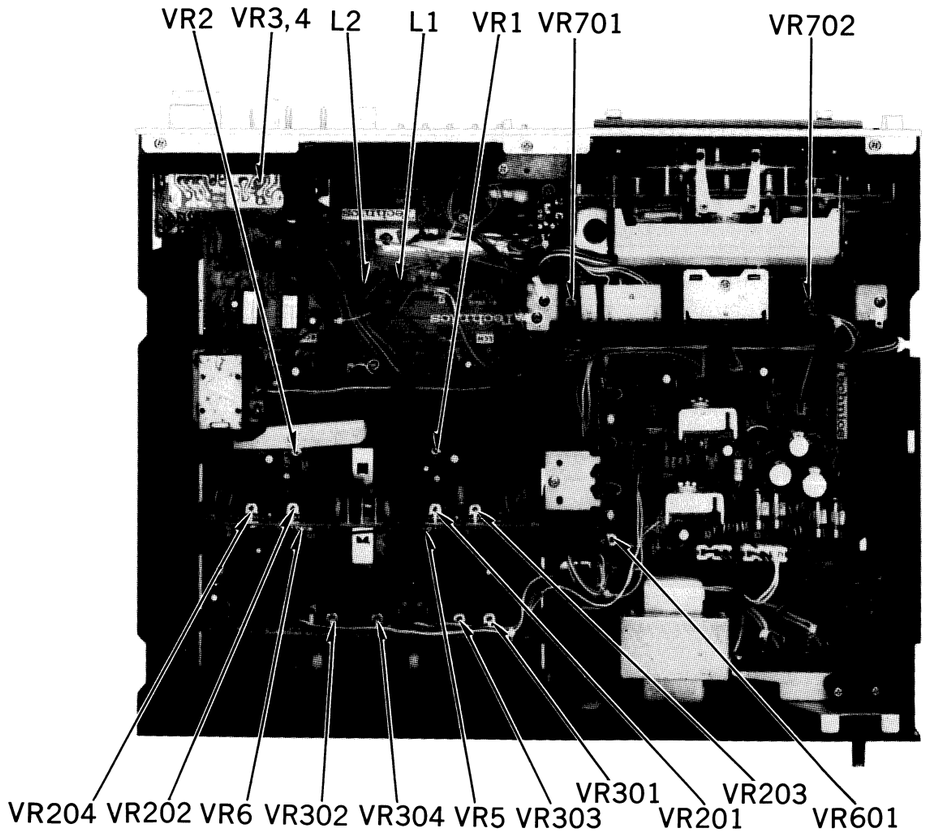
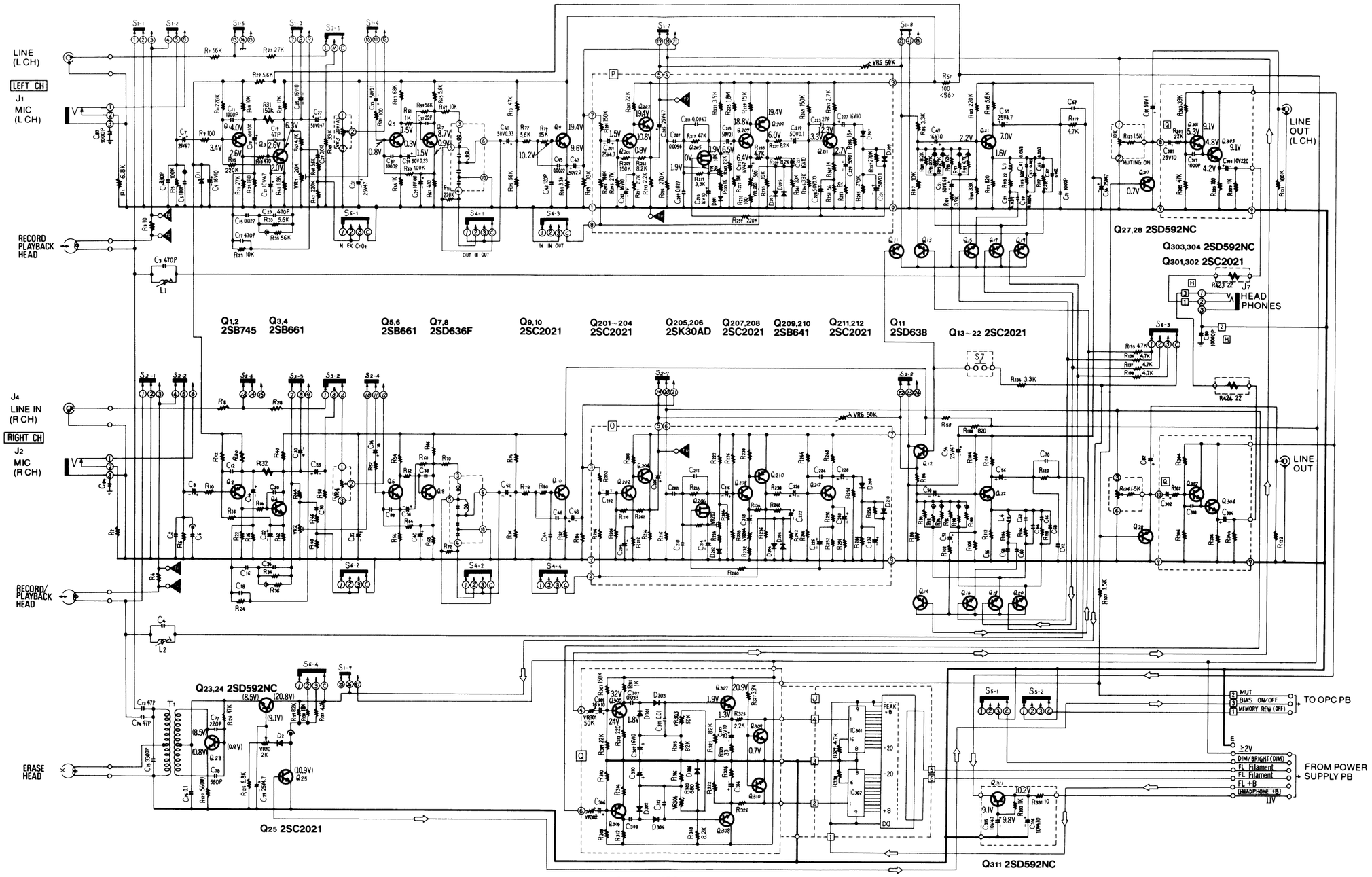


Fig. 24

SCHEMATIC DIAGRAM

MAIN AMP SECTION



NOTE:

1. S1-1~S1-8 ····· Record/playback select switch L-CH (shown in playback position).
2. S2-1~S2-9 ····· Record/playback select switch R-CH (shown in playback position).
3. S3-1, S3-2 ····· Input select switch (L···LINE IN, M···MIC).
4. S4-1~S4-4 ····· Dolby NR switch (shown in "OUT" position).
   1···Filter-OUT/IN, 2···Filter-IN/IN, 3···Filter-OUT/OUT.
5. S5-1, S5-2 ····· Memory rewind switch/meter brightness select switch (shown in memory rewind OFF/meter brightness DIM position).
   1···Memory rewind OFF/DIM, 2···Memory rewind ON/DIM,
   3···Memory rewind ON/BRIGHT.
6. S6-1, S6-2 ····· Tape select switch (shown in "Normal" position).
   1···Normal, 2···Fe-Cr, 3···CrO2.
7. S7 ····· Muting switch for record and playback.
8. VR1, 2 ····· Playback level adjustment VR.
9. VR3, 4 ····· Input level control.
10. VR5, 6 ····· Recording level adjustment VR.
11. VR7, 8 ····· Output level control.
12. VR10 ····· Bias control adjustment VR.
13. VR301, 302 ····· Fluorescent meter adjustment VR (for 0dB).
14. VR303, 304 ····· Fluorescent meter adjustment VR (for −20dB).
15. L1, 2 ····· Bias leakage adjustment coil.
16. L3, 4 ····· Recording equalizer coil.
17. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise.
    K=1,000Ω.
18. Values of R57 and R58 indicated in 〈 〉 are used for All European areas.
19. Capacitor values are in microfarads (μF) unless specified otherwise.
    P=Pico-farads.
20. All voltage values shown in circuitry are under no signal condition with volume control at minimum position.
    For measurement, use VTVM.
21. ⏦ indicates printed resistor.

NOTE: ⚠ indicates that only parts specified by the manufacturer be used for safety.

Ref. No.	Part No.	Ref. No.	Part No.
R321, 322		R609, 610	
	ERD25TJ823		ERD25TJ472
R323, 324		R611	ERG12ANJ222
	ERD25TJ330	R612	ERD25TJ681
R325, 326		R613	ERD25TJ472
	ERD25TJ222	R614, 615	
R327	ERD25TJ392		ERD25TJ153
R329, 330		R616	ERD25TJ182
	ERD25TJ472	R619	ERD25TJ392
R331	ERD25TJ100	R620	ERG12ANJ222
R332, 333, 334			
	ERD25TJ102	R621	ERD25TJ102
R335, 336		R622	ERD25TJ153
	ERD25TJ101	R626	ERD25TJ222
		R627	ERD25TJ153
R401, 402		R628	ERD25TJ103
NAX ⚠	ERD25TJ101	R629	ERD25TJ820
※For Asia, Latin America, Middle East, Africa areas, Australia and PX.		R630	ERD25TJ333
		R631	ERD25TJ103
DB ⚠	ERD25TJ221	R632	ERD25TJ222
※For All European areas.		R701	ERD25TJ183
R403	ERD25TJ392	R702	ERD25TJ153
R404	ERD25TJ183	R703	ERD25TJ822
R405	ERD25TJ221	R704	ERD25TJ392
R406	ERX1ANJ5R6	R705	ERO25CKF8202
R407	ERD25TJ392	R706	ERD25TJ104
R408	ERD25TJ223	R707	ERD25TJ103
R411	ERD25TJ272	R708	ERD25TJ273
R412	ERD25TJ183	R709	ERD25TJ471
R413	ERD25TJ822	R710	ERD25TJ102
		R711	ERX12ANJ1R8
R414, 415			
	ERD25TJ681		
R416	ERD25TJ392	R712, 713	
			ERD25TJ270
R417	ERD25TJ222	R714, 715, 716, 717	
R418	ERD25TJ183		ERD25TJ471
R419	ERD25TJ222	R718	ERD25TJ332
R420	ERD25TJ180	R719	ERD25TJ271
R421	ERG12ANJ560	R720, 721	
R423, 424			ERD25TJ122
	ERD25TJ220	R722	ERD25TJ561
R436	ERX1ANJ4R7	R723, 724	
R521	ERD25TJ471		ERD25TJ222
		R725	ERD25TJ102
R531	ERD25TJ103	R726	ERD25TJ562
R533	ERD25TJ332	R727	ERD25TJ332
R565	ERD25TJ222		
R566	ERD25TJ472		
R568	ERD25TJ1R0		
R601	ERD25TJ2R2		
R602, 603			
	ERD25TJ271		
R604	ERD25TJ2R2		
R605	ERD25TJ561		
R606	ERD25TJ391		
R607	ERD25TJ101		
R608	ERD25TJ471		

VARIABLE RESISTORS

VR1, 2	EVNK4AA00B24
VR3, 4	EWKNXAF22A24
VR5, 6	EVNK4AA00B54
VR7, 8	EWKEUA033A14
VR10	EVHM7AF20B23
VR201, 202	
	EVNK0AA00B14
VR203, 204	
	EVNK0AA00B52

Ref. No.	Part No.	Part Name & Description
TRANSFORMERS		
T1	QLB0185	Bias Oscillator Transformer
T101		
BNAX ⚠	QLPA45EMX	Power Transformer
※For United Kingdom, Asia, Latin America, Middle East, Africa areas, Australia and PX.		
DB ⚠	QLPD35EMX	〃
※For All European areas except United Kingdom.		
COILS		
L1, 2	QLQX1032W	Coil
L3, 4	QLQX2421Y	〃
L5	QLM9Z5K	MPX Filter Coil
SWITCHES		
S1, 2	QSSI204	Record/Playback Select Switch
S3	QST4221	Lever Switch
S4, 5, 6	QST4311	〃
S7	EVQPAR11K	Key Board Switch
S401		
NX ⚠	QSW1206AA	Power Switch
※For Asia, Latin America, Middle East, Africa areas and PX.		
BBA ⚠	QSW2214A	〃
※For All European areas and Australia.		
S402 ⚠	QSR1407H	AC Power Voltage Select switch
S501, 502, 503, 504, 505		
	QSWXA01A	Switch
S506	QSM0067	Micro Switch
S507	Refer to M31	Counter Switch
S508	QSB0238	Leaf Switch
PILOT LAMPS		
PL501, 502, 503		
	XAMQ34S300W	Pilot Lamp
PL504	XAMQ41S500	〃

Ref. No.	Part No.
VR301, 302, 303, 304	
	EVNK0AA00B54
VR601	EVNK0AA00B52
VR701	EVNK0AA00B53
VR702	EVNK0AA00B13

CAPACITORS

C1, 2	ECCD1H331K
C3, 4	ECQS1471JZ
C5, 6	ECCD1H181K
C7, 8	ECEA25M4R7
C10	ECEA1HS100
C11, 12	ECQM05102KZ
C13, 14	ECEA10M100
C15, 16	ECQM05223JZ
C17, 18	ECKD1H471KB
C19, 20	ECCD1H470KC
C21, 22	ECEA1AS470
C23, 24	ECKD1H471KB
C25, 26	ECEA1HS100
C27, 28	ECEA50MR47
C29, 30	ECQM05123KZ
C31, 32	ECEA1ES470
C33, 34	ECEA50MR1
C35, 36	ECEA50ZR33
C37, 38	ECCD1H220KC
C39, 40	ECEA1ES101
C41, 42	ECEA50ZR33
C43, 44	ECCD1H121K
C45, 46	ECQM05122KZ
C47, 48	ECEA50Z2R2
C49, 50	ECEA1HS100
C51, 52	ECEA50ZR68
C54	ECEA1ES470
C55, 56	ECEA25Z4R7
C57, 58	ECQM05393JZ
C59, 60	ECQM05562JZ
C61, 62	ECQM05683KZ
C63, 64	ECQM05223KZ
C65, 66	ECQM05333KZ
C67, 68	ECQM05103KZ
C69, 70	ECQM05332KZ
C71, 72	ECKD1H471KB
C73, 74	ECCD1H470KC
C75	ECQF6332KZ
C76	ECQM05104MZ
C77	ECCD1H221K
C78	ECQS1561JZ
C79	ECEA25Z4R7
C81, 82	ECEA50Z1
C83, 84	ECKD1H102KB
C85, 86	ECQM05682KZ
C87, 88	ECKD1H102KB
C201, 202	
	ECEA25Z4R7
C203, 204	
	ECEA1HS100
C205, 206	
	ECEA25Z4R7
C207, 208	
	ECQM05562JZ
C209, 210	
	ECQM05273JZ
C211, 212	
	ECQM05472JZ
C213, 214	
	ECEA1HS100
C215, 216	
	ECEA50MR1
C217, 218	
	ECEA1ES470
C219, 220	
	ECEA50ZR1
C221, 222	
	ECEA1HS100
C223, 224	
	ECCD1H270KC
C225, 226	
	ECEA50ZR33
C227, 228	
	ECEA1HS100
C229, 230, 231, 232	
	ECEA50ZR1
C301, 302	
	ECEA1HS100
C303, 304	
	ECEA1AS221
C305, 306	
	ECEA1HS100
C307, 308	
	ECQM05333MZ
C309, 310	
	ECEA1HS100
C311, 312	
	ECQM05103KZ
C313, 314	
	ECEA1HS100
C315	ECEA1AS470
C316	ECEA1AS471
C401 ⚠	ECEA1HS471
C402 ⚠	ECEA1HS102
C403 ⚠	ECEA1CS102
C404 ⚠	ECEA1AS472
C405, 406	
	ECEA1AS101
C407	ECEA1ES101
C408	ECEA1HS470
C409	ECEA1VS102
C410	ECQM05104MZ
C502	ECEA1HS100
C503	ECEA25Z4R7
C504, 505	
	ECEA50Z3R3
C506	ECEA16N10
C507	ECEA1CS330
C509	ECEA1HS100
C510, 511	
	ECEA25Z4R7
C512	ECEA1CS330
C513	ECEA1CS331
C514	ECEA1HS100
C515	ECEA1AS470
C516	ECEA1CS330
C517	ECEA1HS100
C518	ECEA25Z4R7
C519	ECKD1H103ZF
C601, 602, 603, 604, 605	
	ECEA1HS100
C606	ECEA25Z4R7
C701	ECQM05393KZ
C702	ECQM05683KZ
C703	ECQM05104KZ
C704	ECKD1H471KB
C705	ECQM05123KZ
C706	ECQM05182KZ
C707	ECQM05332KZ
C708	ECQS1681JZ
C709	ECQM05223KZ
C710	ECEA1ES470
C711	ECQM05473KZ
C712	ECQM05562KZ
C713	ECQM05473KZ
C714	ECEA50ZR47
C715	ECQM05123KZ
C716	ECEA50ZR1
C717, 718	
	ECEA50N1
C719	ECEA1ES101
C720	ECKD1H152KB

COMBINATION PARTS

Z1	
NAX ⚠	QCR0008T
※For Asia, Latin America, Middle East, Africa areas, Australia and PX.	

TRANSISTORS

Q1, 2	2SA721
Q3, 4, 5, 6	
	2SC1327
Q7, 8	2SC945
Q9, 10	2SC945
Q11, 12	2SC1317
Q13, 14, 15, 16, 17, 18, 19, 20, 21, 22	2SC945
Q23, 24	2SC1383
Q25	
NAX	2SC945
※For Asia, Latin America, Middle East, Africa areas, Australia and PX.	
DB	2SC1383
※For All European areas.	
Q27, 28	2SC1383
Q201, 202, 203, 204	
	2SC945
Q205, 206	
	2SK30AD
Q207, 208	
	2SC945
Q209, 210	
	2SA564
Q211, 212, 301, 302	
	2SC945
Q303, 304	
	2SC1383
Q305, 306, 307, 308, 309, 310	
	2SC945
Q311	2SC1383
Q401	2SA564
Q402	2SC1226
Q403, 404	
	2SC945
Q405	2SC1226
Q406, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513	
	2SC945
Q514, 515	
	2SA719
Q516, 517, 518, 519, 520	
	2SC945
Q521	2SA719
Q522	2SA719
Q523	2SC945
Q601, 602, 603	
	2SA719
Q604, 605	
	2SC1317
Q606	2SC945
Q607	2SA720
Q608	2SA719
Q609	2SA720
Q610	
DB	2SA885
※For All European areas.	
NAX	2SA719
※For Asia, Latin America, Middle East, Africa areas, Australia and PX.	
Q611, 612, 613, 614	
	2SC945
Q615	2SC1318
Q616	
NAX	2SA719
※For Asia, Latin America, Middle East, Africa areas, Australia and PX.	
DB	2SA885
※For All European areas.	
Q617, 618, 619, 701	
	2SC945
Q702, 703, 704, 705, 706, 707	
	2SA564
Q708, 709, 710, 711	
	2SA719
Q712, 713, 714, 715	
	2SC1846
Q716, 717, 718	
	2SC945
Q719	2SC1846
Q720, 721	
	2SC945

INTEGRATED CIRCUITS

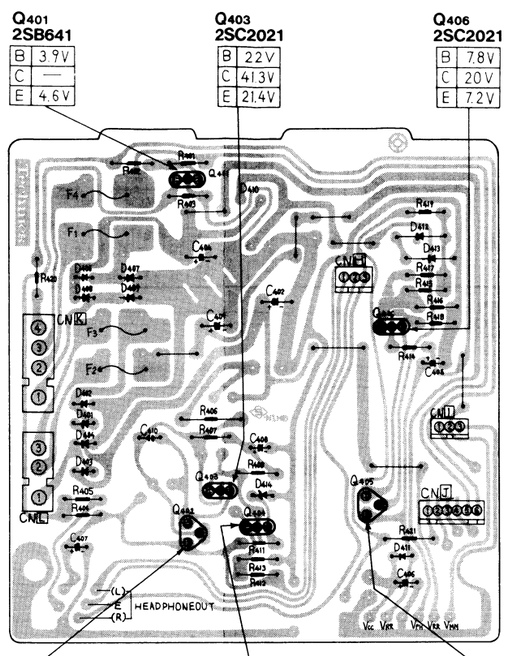
IC1	M53202P
IC2	M53200P
IC3	M53202P
IC4, 5	M53200P
IC6	DN835
IC301, 302	
	QVIBA658
IC701	AN660

DIODES

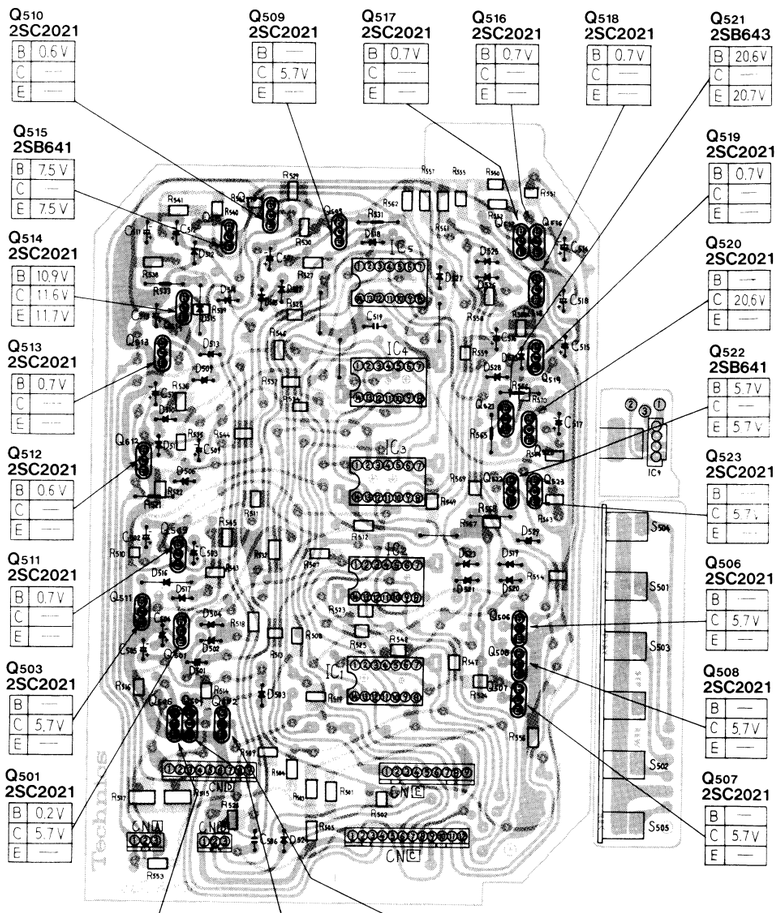
D1	MA1051
D2	1S2473
D201, 202	
	OA90
D203, 204, 205, 206	
	1S2473
D207, 208	
	OA90
D209, 210	
	1S2473
D301, 302, 303, 304	
	OA90
D306	MV121
D401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411	
⚠	SM102
D412	MV121
D413	MA1082
D414	MA1062
D501, 502, 503, 504	
	1S2473
D505	SM102
D506, 507, 508, 509, 510, 511	
	1S2473
D512	MA1075
D513, 514	
	SM102
D515, 516	
	MV121
D517, 518	
	1S2473
D519, 520	
	OA90
D521, 522, 523, 524, 525, 526, 527, 528	
	1S2473
D529, 530, 531, 532	
	SM102
D533, 601, 602	
	1S2473
D603	SM102
D604	1S2473
D605, 606	
	SM102
D608	1S2473
D609	SM102
D701	MA150
D702	MA1062

CIRCUIT BOARD

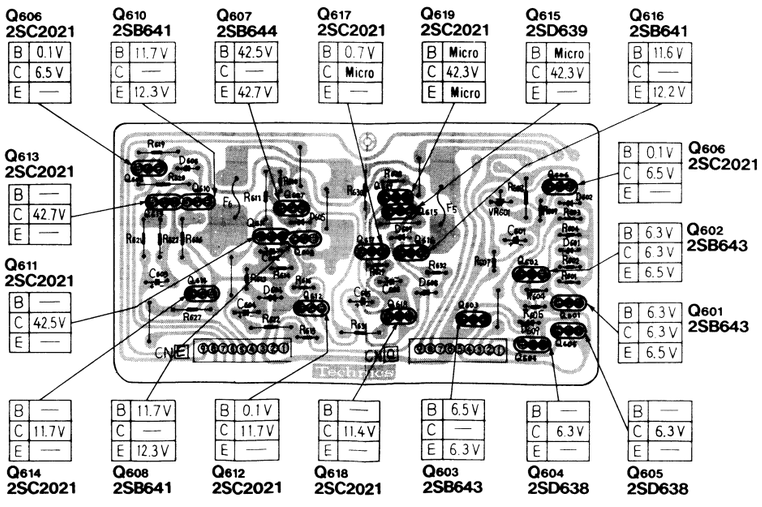
POWER SUPPLY CIRCUIT BOARD



MAIN CONTROL CIRCUIT BOARD

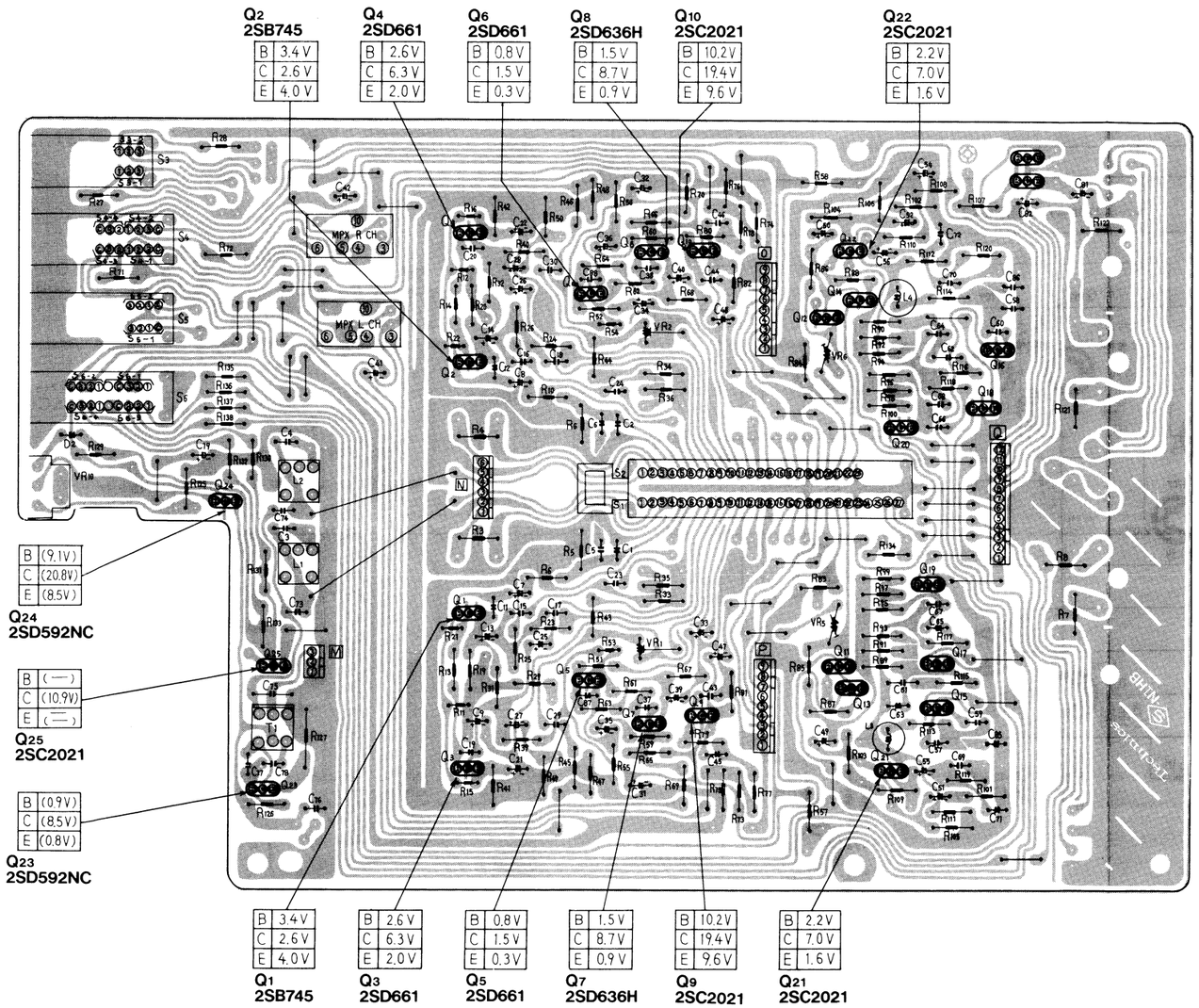


PLUNGER DRIVING CIRCUIT BOARD

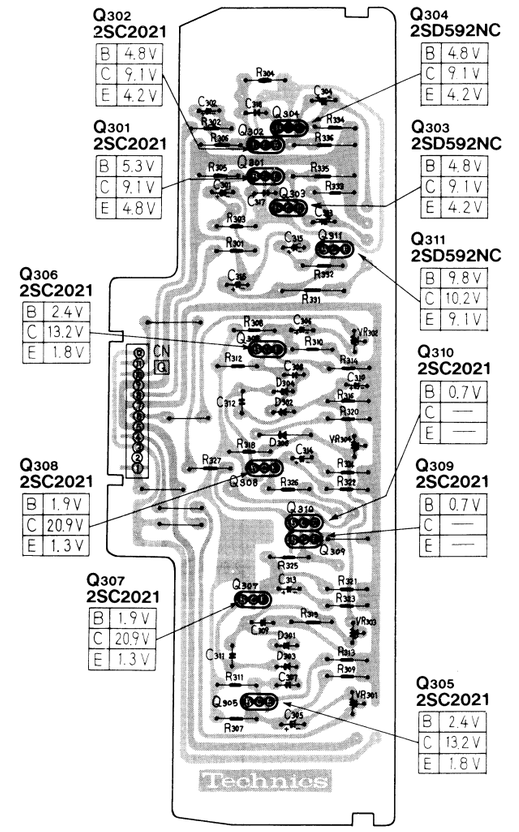


CIRCUIT BOARD

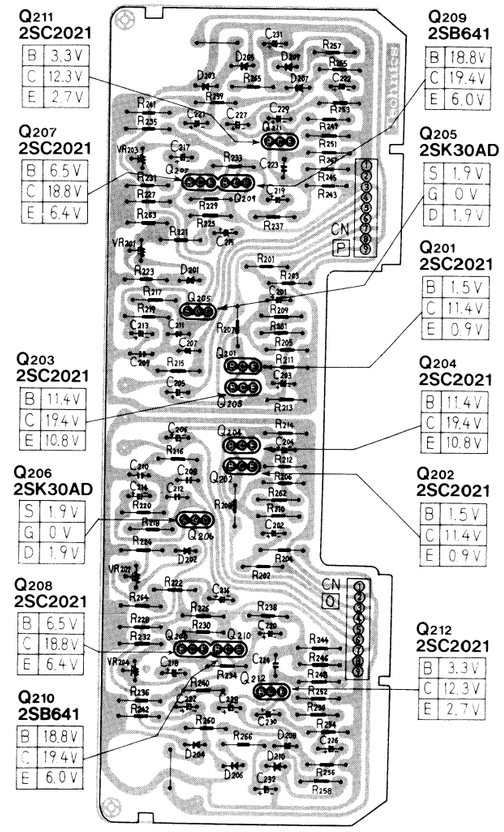
MAIN AMP CIRCUIT BOARD



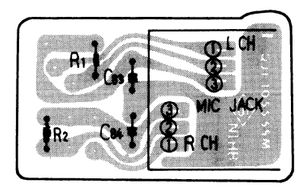
METER OUTPUT CIRCUIT BOARD



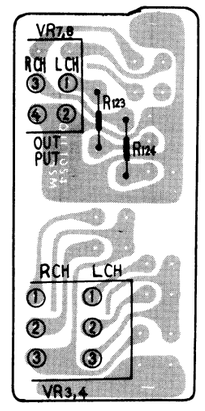
DOLBY CIRCUIT BOARD



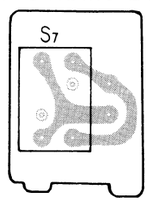
MIC JACK CIRCUIT BOARD



VR CIRCUIT BOARD



MUTING CIRCUIT BOARD

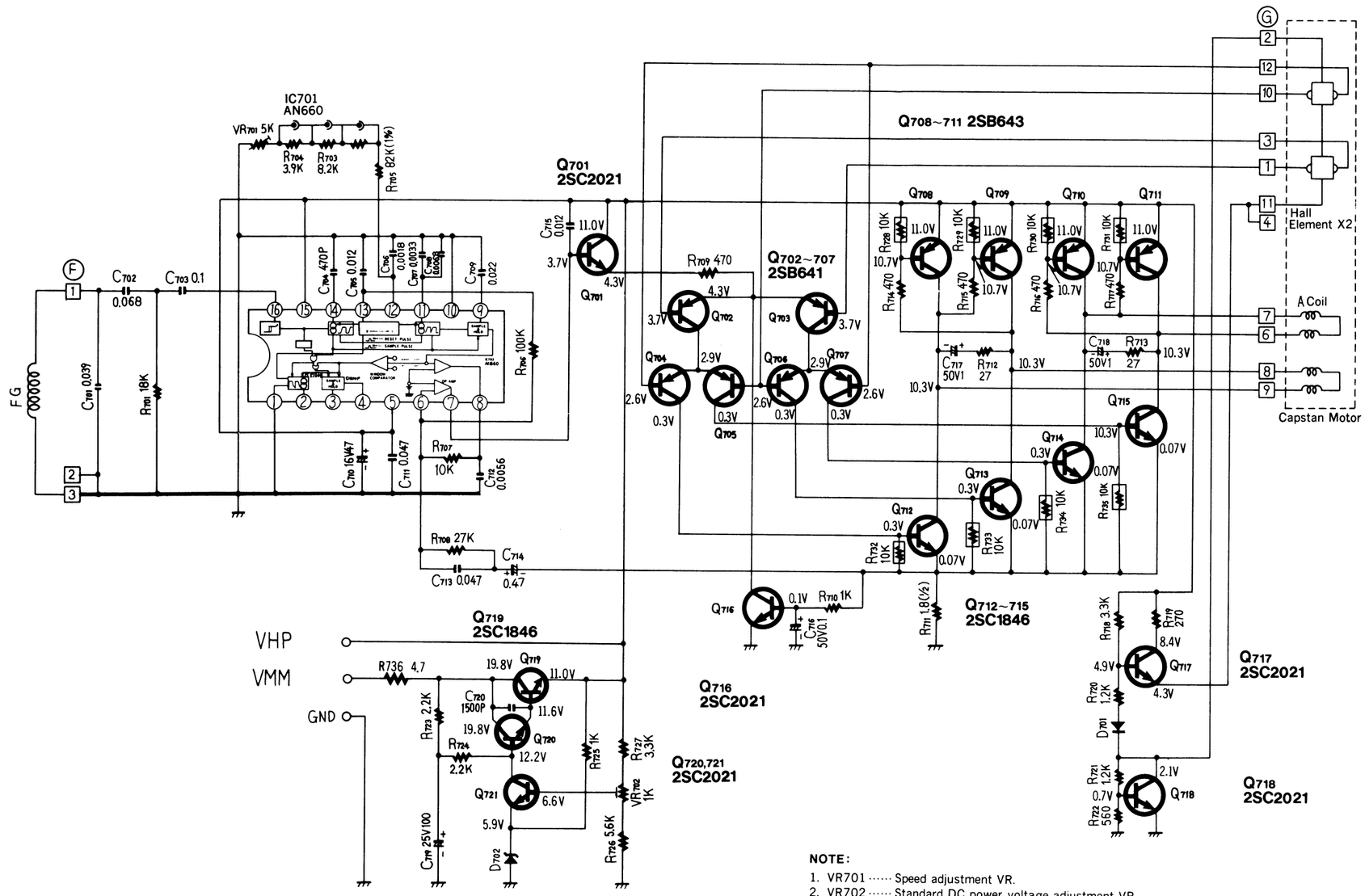


NOTE:

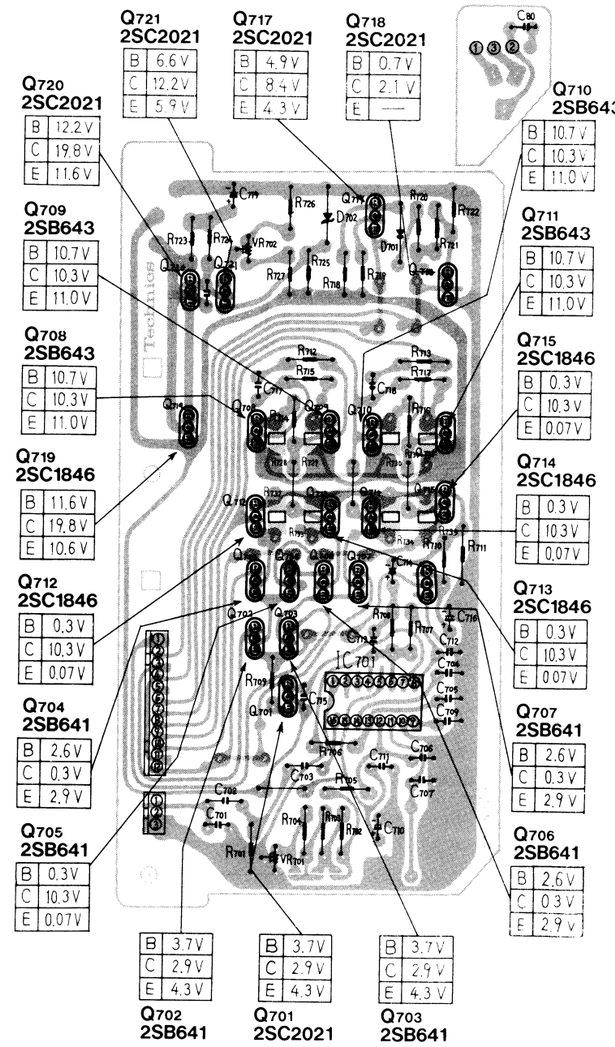
The circuit shown in red on the conductor is B circuit.
Values indicated in ☐ are DC voltage between the chassis and electrical parts.

SCHEMATIC DIAGRAM

CAPSTAN DRIVING SECTION



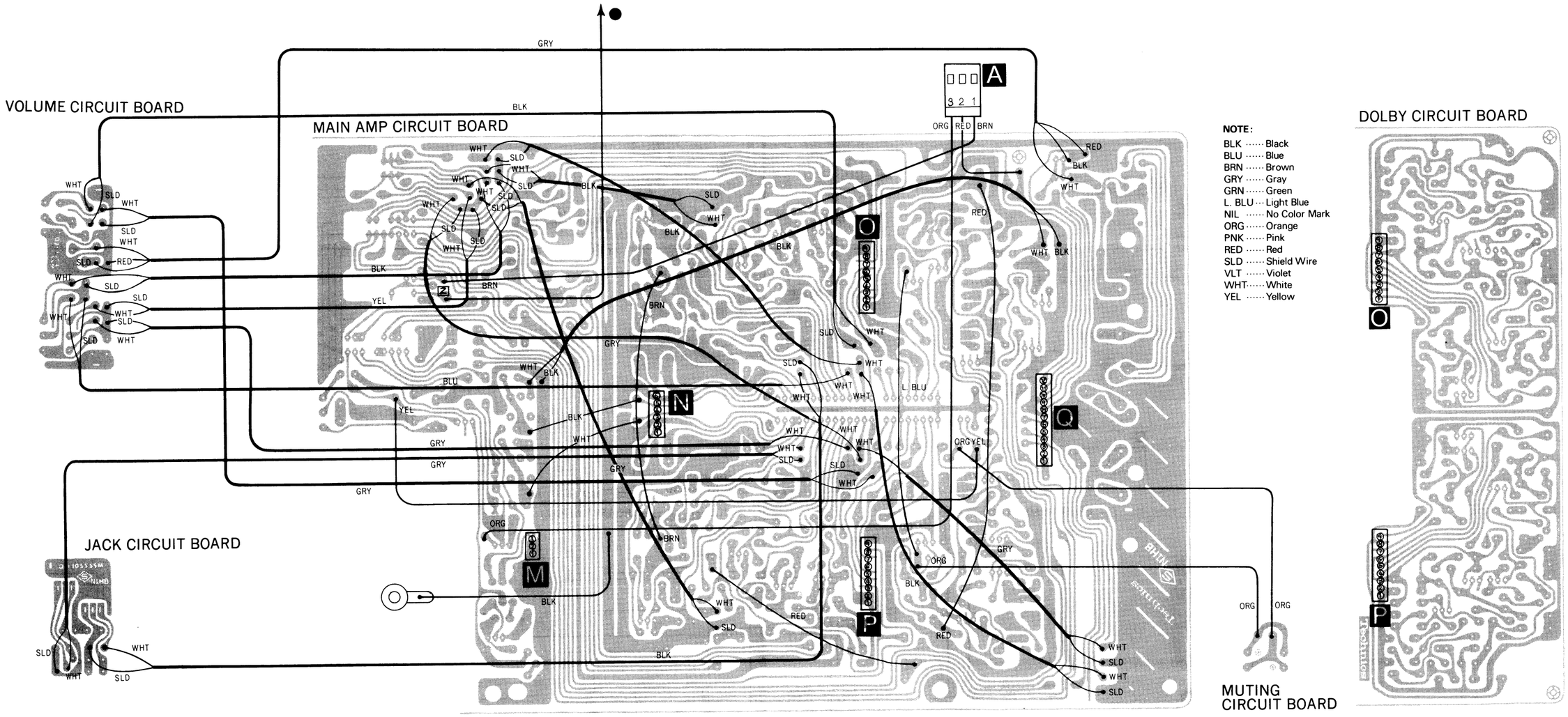
CAPSTAN DRIVING CIRCUIT BOARD



NOTE:

1. VR701 ····· Speed adjustment VR.
2. VR702 ····· Standard DC power voltage adjustment VR.
3. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise. K = 1,000Ω.
4. Capacitor values are in microfarads (μF) unless specified otherwise. P = Pico-farads.
5. All voltage values shown in circuitry under no signal condition with volume control at minimum position. For measurement, use VTVM.
6. ⏦ indicates printed resistor.

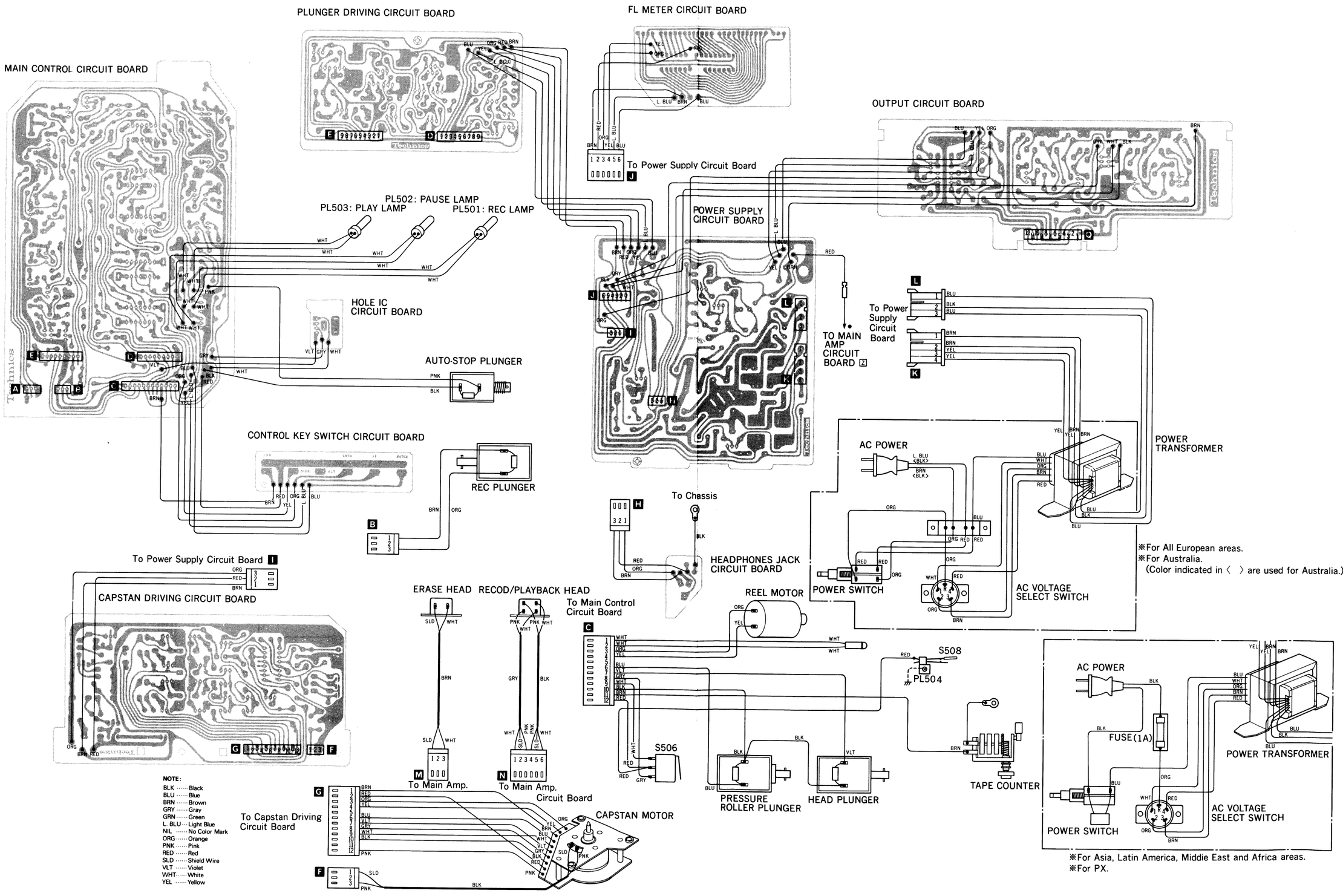
WIRING CONNECTION DIAGRAM



NOTE:

BLK ..... Black
BLU ..... Blue
BRN ..... Brown
GRY ..... Gray
GRN ..... Green
L. BLU ... Light Blue
NIL ..... No Color Mark
ORG ..... Orange
PNK ..... Pink
RED ..... Red
SLD ..... Shield Wire
VLT ..... Violet
WHT ..... White
YEL ..... Yellow

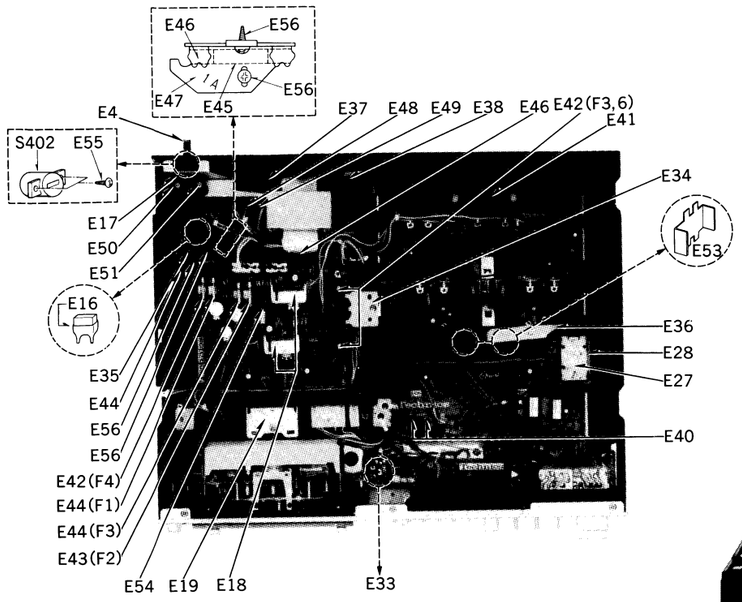
WIRING CONNECTION DIAGRAM

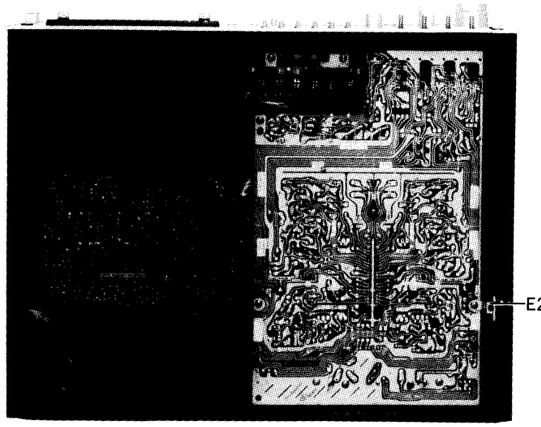


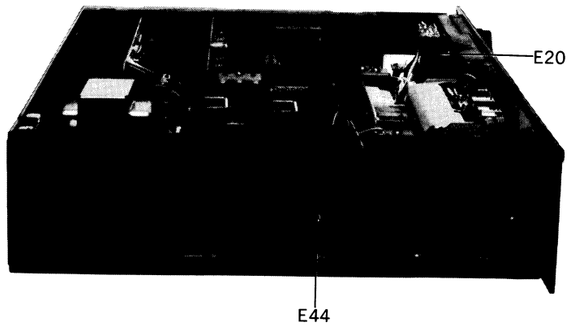
NOTE:

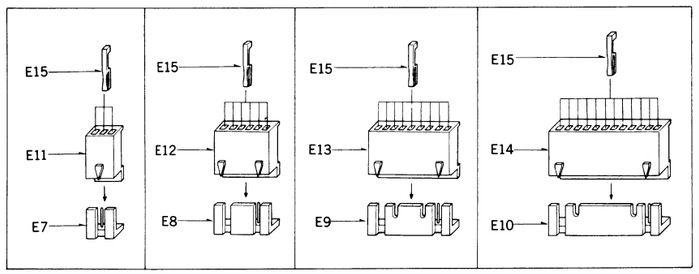
BLK	Black
BLU	Blue
BRN	Brown
GRY	Gray
GRN	Green
L. BLU	Light Blue
NIL	No Color Mark
ORG	Orange
PNK	Pink
RED	Red
SLD	Shield Wire
VLT	Violet
WHT	White
YEL	Yellow

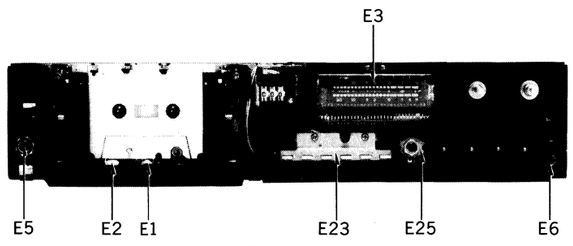
ELECTRICAL PARTS LOCATION

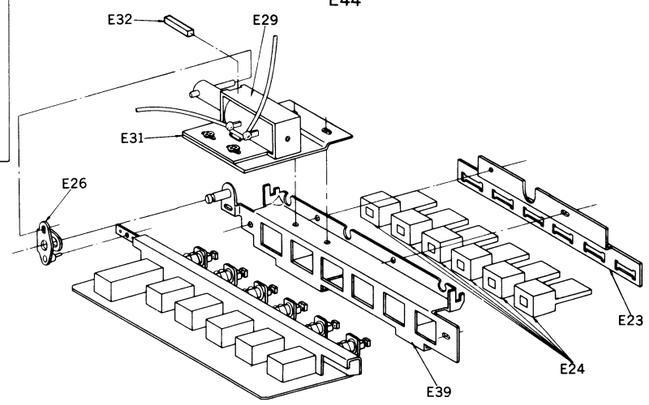








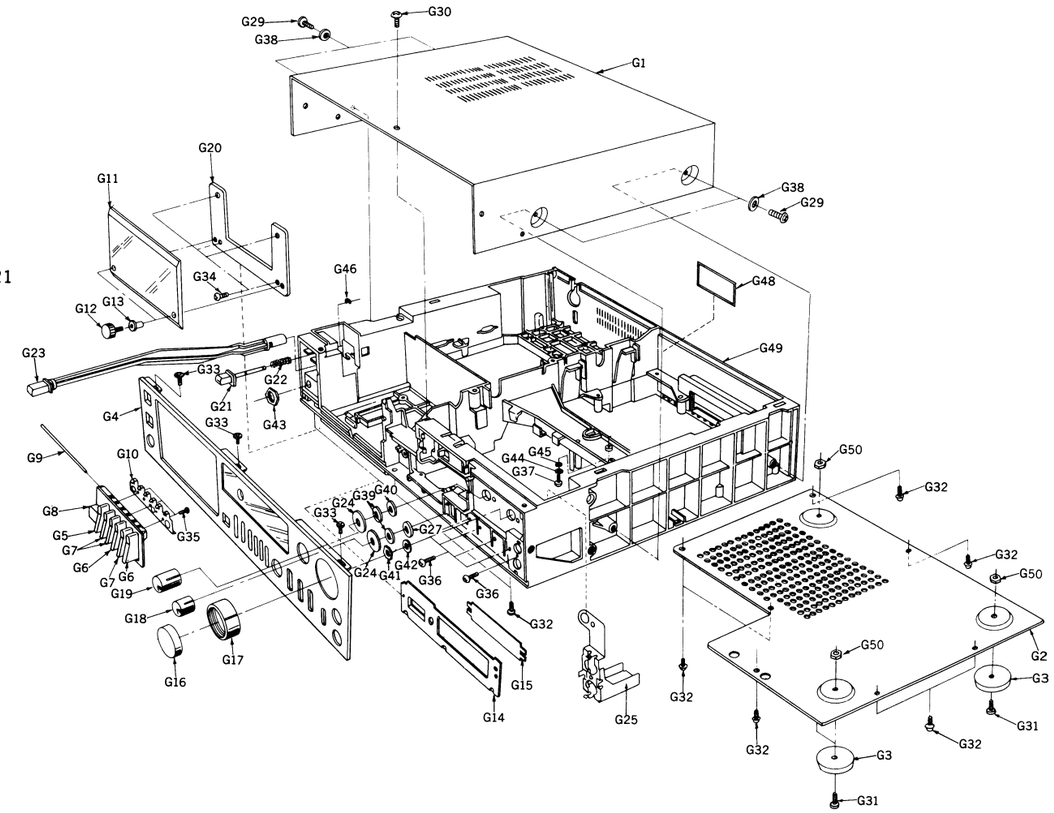




NOTE: △ indicates that only parts specified by the manufacturer be used for safety.

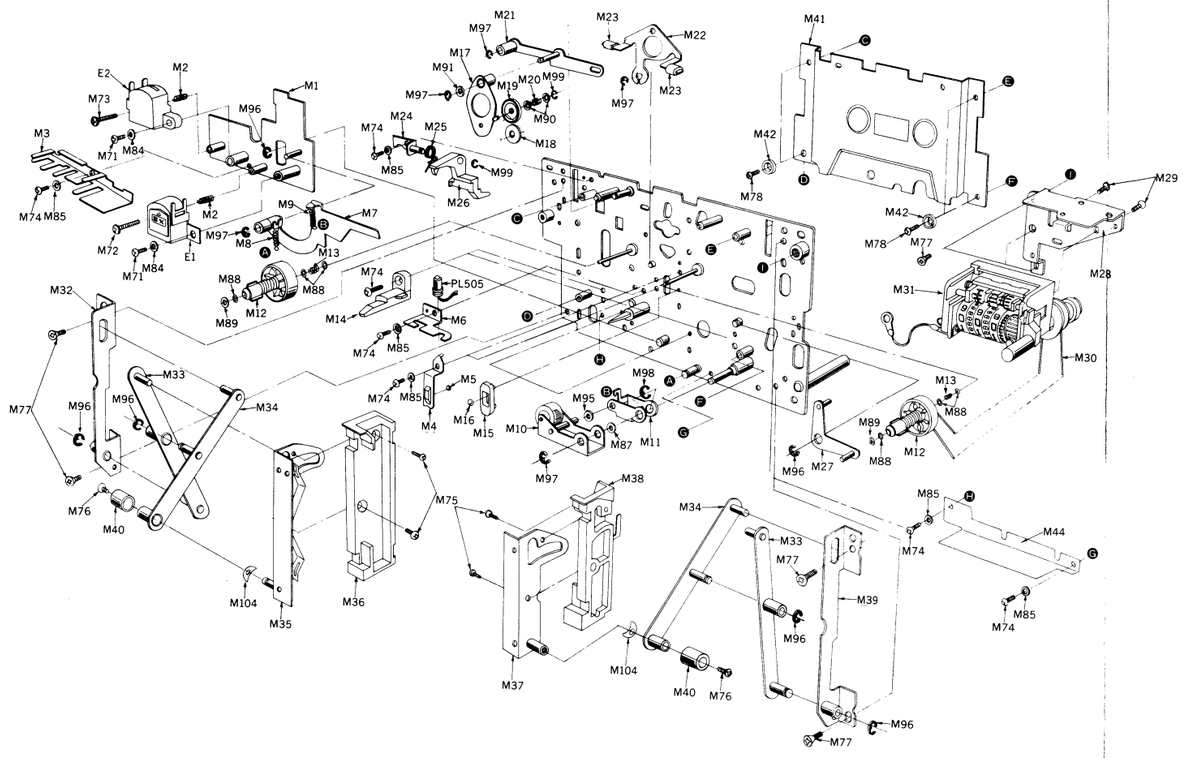
Ref. No.		Part No.	Part Name & Description
		ELECTRICAL PARTS	
E1		QWY4118ZA	Record/Playback Head
E2		QWY2122ZB	Erase Head
E3		QSLS002RF	Fluorescent Level Meter
E4	NX △	QFC1203M	AC Power Cord
		*For Asia, Latin America, Middle East, Africa areas and PX.	
	B △	QFC1205M	"
		*For United Kingdom.	
	D △	QFC1204M	"
		*For All European areas except United Kingdom.	
	A △	QFC1208M	"
		*For Australia.	
E5		QJA0249C	Headphones Jack
E6		QJA0444H	Microphone Jack
E7		QJP1921TN	3 Pin Plug
E8		QJP1922TN	6 Pin Plug
E9		QJP1923TN	9 Pin Plug
E10		QJP1924TN	12 Pin Plug
E11		QJS1921TN	3 Pin Socket
E12		QJS1922TN	6 Pin Socket
E13		QJS1923TN	9 Pin Socket
E14		QJS1924TN	12 Pin Socket
E15		QJT1054	Contact
E16	NX	QTW1118	Spark Killer Cover
		*For Asia, Latin America, Middle East, Africa areas and PX.	
E17	NX	QTD1129	Cord Bushing
		*For Asia, Latin America, Middle East, Africa areas and PX.	
	BEA	QBJ1425S	"
		*For All European areas and Australia.	
E18		QTH1088	Heat Sink for Q402, 405
E19		QTH1144	Heat Sink for Q719
E20		QTS1450	Shield Plate
E21		QJC0020	Earth Plate-A
E23		QMA3590	Rod Guide
E24		QMR1720	Control Rod
E25		QMF2038	Correction Plate
E26		QXL1245	Auto-Stop Lever
E27			
	MAX	QME0147BK	Record Plunger
		*For Asia, Latin America, Middle East, Africa areas, Australia and PX.	
	DE	QME0153	"
		*For All European areas.	
E28		QMF2021	Plunger Holding Plate
E29		QME0150	Auto-Stop Plunger
E31		QMA3589	Plunger Holding Angle
E32		QBG1634	Cushion
E33		QMA3579	Hall Device Angle
E34		QMA3580	P.B. Angle
E35		QMA3578	Power Angle
E36		QXL1244	Record/Playback Lever
E37		QMA3577	Trans Angle
E38		QEQ1472	Shield Plate
E39		QXA0737	Switch Angle
E40		QJT1067	Check Pin
E41		QEJ5002S	Jack Board
E42	DE △	XBAQ0013	Mini Fuse 4, 5, 6 (200mAT)
		*For All European areas.	
E43	DE △	XBA0008	Mini Fuse 2 (630mAT)
		*For All European areas.	
E44	DE △	XBA0010	Mini Fuse 1, 3 (1.6AT)
		*For All European areas.	
E45	NX △	XBA2E10NR5	Fuse 401 (1A)
		*For Asia, Latin America, Middle East, Africa areas and PX.	
E46	NX △	QTF1033	Fuse Holder (1A)
		*For Asia, Latin America, Middle East, Africa areas and PX.	
E47	NX	QMA3122	Fuse Angle
		*For Asia, Latin America, Middle East, Africa areas and PX.	
E48			
	DEA	QJT4017	4 Pin Mold Terminal
		*For All European areas and Australia.	
E49			
	DEA	XSN3+8S	Screw ⊕3×8 (PH)
		*For All European areas and Australia.	
E50			
	DEA	QTD1164	Cord Clamper
		*For All European areas and Australia.	
E51			
	DEA	XSN3+20S	Screw ⊕3×20 (PH)
		*For All European areas and Australia.	
E52			
	DEA	XSS3+6S	Screw ⊕3×6
		*For All European areas and Australia.	
E53		QTS1273	Shielding Board
E54	DE	QZE0003	Porcelain Tube
		*For All European areas.	
E55		XTN3+6B	Tapping Screw ⊕3×6
E56		XTN3+8B	Tapping Screw ⊕3×8

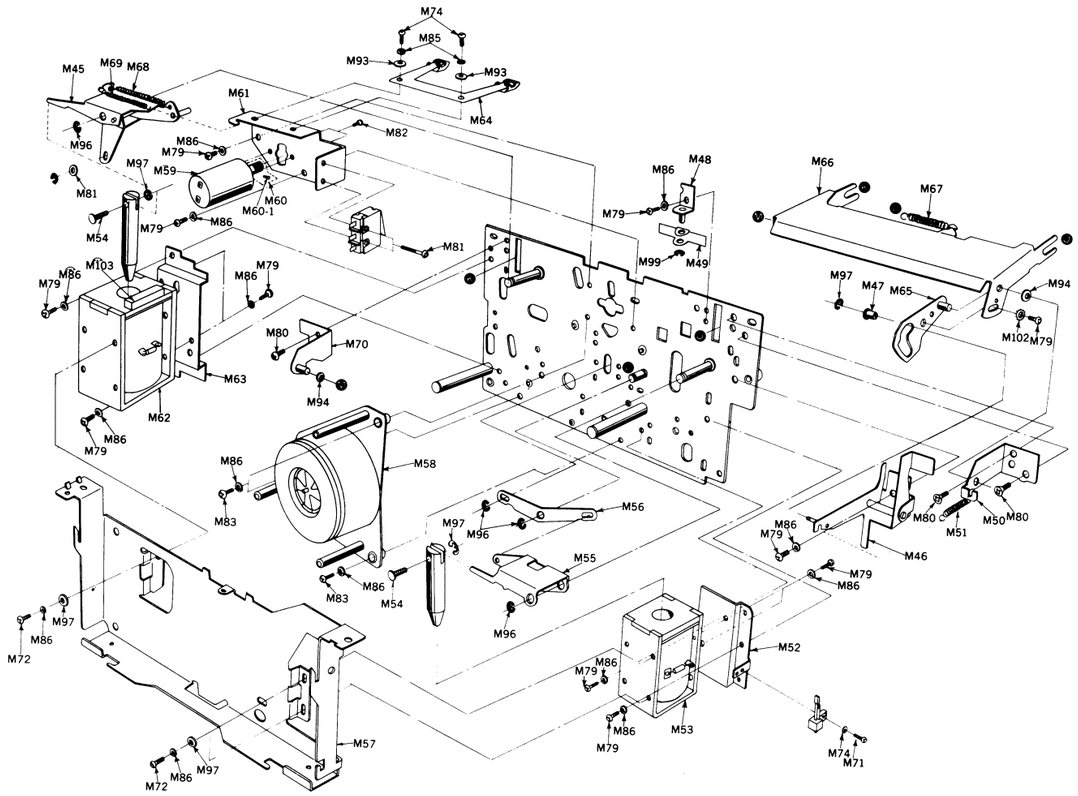
CABINET PARTS



Ref. No.		Part No.	Part Name & Description
		CABINET PARTS	
G1		QGC1126K	Case Cover
		"Black Type"	
		QGC1126	"
		"Silver Type"	
G2		QKS1270	Bottom Cover
G3		QKA1076	Rubber Foot
G4		QYP0858	Front Panel Assembly
		"Black Type"	
		QYP0846	"
		"Silver Type"	
G5		QXB0528	Control Button (REC)
G6		QXB0529	Control Button (PLAY, PAUSE)
G7		QGO1416	Control Button (FF, REW, STOP)
G8		QGO1503	Control Button (REC MUTE)
G9		QMN1531	Button Shaft
G10		QBP1831	Button Spring
G11		QGK2922	Cassette Lid
G12		QHQ1272	Cassette Lid Holder
		"Black Type"	
		QHQ1280	"
		"Silver Type"	
G13		QBG1551	Cushion Rubber
G14		QKJ0246	Meter Cover-A
		"Black Type"	
		QKJ0313	"
		"Silver Type"	
G15		QGL1130	Meter Cover-B
G16		QYT0532	Volume Knob-A Assembly
		"Black Type"	
		QYT0503	"
		"Silver Type"	
G17		QYT0504K	Volume Knob-B Assembly
		"Black Type"	
		QYT0504	"
		"Silver Type"	
G18		QYT0467	Volume Knob-C Assembly
		"Black Type"	
		QYT0506	"
		"Silver Type"	
G19		QYT0533	Volume Knob Assembly
		"Black Type"	
		QYT0505	"
		"Silver Type"	
G20		QGK2927K	Cassette Lid Holding Plate
		"Black Type"	
		QGK2927	"
		"Silver Type"	
G21		QGO1504K	Eject Button
		"Black Type"	
		QGO1504	"
		"Silver Type"	
G23		QXB0630	Power Button Assembly
		"Black Type"	
		QXB0606	"
		"Silver Type"	
G24		QBJT0017	Spacer
G25		QJC0021	Earth Plate-B
G27		QMF2038	Mounting Plate
G29		XYA4+BJ10K	Screw ⊕4×10
G30		XSS3+8BVS	Screw ⊕3×8
		"Black Type"	
		XSS3+8BNS	"
		"Silver Type"	
G31		XTN4+10B	Tapping Screw ⊕4×10
G32		XTN3+10B	Tapping Screw ⊕3×10
G33	NX	XTN3+8B	Tapping Screw ⊕3×8
		*For Asia, Latin America, Middle East, Africa areas and PX.	
G34		XSN26+4	Screw ⊕2.6×4
		"Black Type"	
		XSN26+4	"
		"Silver Type"	
G35		XTN2+5B	Tapping Screw ⊕2×5
G36		XSN3+6S	Screw ⊕3×6
G37		XSN3+8S	Screw ⊕3×8
G38		XWA4B	Spring Washer 4φ
G39		QNQ1004	Nut
G40		XWS8A	Washer
G41		QNQ1039	Nut
G42		XWS9A	Washer
G43		QNQ1070	Nut
G44		XWA3B	Spring Washer 3φ
G45		XWG3	Flat Washer 3φ
G46		XUC25FT	Stop Ring 2.5φ
G48	X	QGS2641	Main Name Plate
		*For PX.	
	N	QGS2666	"
		*For Asia, Latin America, Middle East and Africa areas.	
	BA	QGS2682	"
		*For United Kingdom and Australia.	
	D	QGS2683	"
		*For All European areas except United Kingdom.	
G49		QYM0542	Main Case
		"Black Type"	
		QYM0538	"
		"Silver Type"	
G50		XNG4S	Nut
		ACCESSORIES	
A1		RP023A	Connection Cord
A2	X	QQT2561	Instruction Book
		*For PX.	
	N	QQT2562	"
		*For Asia, Latin America, Middle East and Africa areas.	
	A	QQT2563	"
		*For Australia.	
	D	QQT2605	"
		*For All European areas except United Kingdom.	
	B	QQT2604	"
		*For United Kingdom.	
A3		QFTC30S011TZ	Demonstration Tape
A4	N	QJP0603S	AC Plug Adaptor
		*For Asia, Latin America, Middle East and Africa areas.	
		PACKINGS	
P1	X	QPN3826	Inside Carton
		*For PX.	
	DEBNA	QPN3827	"
		*For All European areas, Asia, Latin America, Middle East, Africa areas and Australia.	
P2		QPA0450	Inner Cushion-L
P3		QPA0451	Inner Cushion-R
P4		XZB50X65A02	Poly Bag
P5		QPA0461	Spacer (Bottom Side)

EXPLODED VIEWS





Ref. No.	Part No.	Part Name & Description
	MECHANICAL PARTS	
M1	QXK2029	Head Base Plate Assembly
M2	QBCA0008	Head Spring
M3	QTD1261	Head Wires Clamper
M4	QBP1733	Steel Ball Holder-A
M5	QDK1012	Steel Ball 2.5ϕ
M6	QMA3321	Lamp Cover
M7	QXL1168	Pressure Roller Lever Assembly
M8	QBT1490	Eject Lever Spring
M9	QBT1441	Pressure Roller Spring
M10	QXL1166	Pressure Roller Assembly
M11	QML3267	Pressure Roller Lever-1
M12	QXD0087	Reel Table
M13	QBC1272	Back Tension Spring
M14	QMG0054	Cassette Guide
M15	QMH2009	Steel Ball Holder-B
M16	QDK1006	Steel Ball 3ϕ
M17	QXL1189	Idler Lever Assembly
M18	QBF1260	Idler Felt
M19	QXI0101	Idler Assembly
M20	QBC1308	Idler Spring

Ref. No.	Part No.	Part Name & Description
M21	QXL1164	Brake Lever Assembly
M22	QML3273	Brake
M23	QBG1132	Stopper Rubber
M24	QXA0714	Detection Angle Assembly
M25	QBN1573	Detection Lever Spring
M26	QML3285	Detection Lever
M27	QXL1172	Lever-A Assembly
M28	QMA3588	Counter Angle
M29	XSS3+8S	Screw ⊕3×8
M30	QDB0215	Counter Belt-B
M31	QXA0768	Tape Counter Assembly
	"Black Type"	
	QXA0744	"
	"Silver Type"	
M32	QXA0703	Angle-L Assembly
M33	QXL1191	Link Lever-A Assembly
M34	QXL1190	Link Lever-B Assembly
M35	QXA0706	Holder Angle-L Assembly
M36	QMH2027	Cassette Holder-L
M37	QXA0705	Holder Angle-R Assembly
M38	QMH2028	Cassette Holder-R
M39	QXA0704	Angle-R Assembly
M40	QKJ0245	Spacer-A

Ref. No.	Part No.	Part Name & Description
M41	QXH0277	Mechanism Cover
M42	QMZ1213	Spacer-B
M43	QBP1135	Spring Washer
M44	QTS1451	Mechanism Shield Plate
M45	QXL1165	Lever-B Assembly
M46	QXL1188	Eject Lever Assembly
M47	QDP1758	Roller
M48	QXA0713	Angle Assembly
M49	QML3284	Release Lever
M50	QMA3314	Connector Angle
M51	QBT1753	Playback Lever Spring
M52	QMA3591	Plunger Angle-L
M53	QME0141	Plunger
M54	QMN2095	Plunger Pin
M55	QXL1171	Plunger Lever-L Assembly
M56	QML3276	Plunger Lever
M57	QXA3591	Reinforcement Angle
M58	QXK2121	Capstan Motor Assembly
M59	MKCN22AE5	Reel Motor
M60	QXP0574	Motor Pulley Assembly
M60-1	XXE26D3FZ	Set Screw

Ref. No.	Part No.	Part Name & Description
M61	QMA3313	Motor Angle
M62	QXE0243	Plunger
M63	QMA3312	Plunger Angle-R
M64	QXH0276	Cassette Holding Cushion
M65	QXL1173	Lock Lever Assembly
M66	QML3282	Connector Lever
M67	QBT1553	Holder Spring-R
M68	QBT1405	Lever Spring
M69	QBT1713	Record Spring
M70	QXA0702	Connector Angle-R Assembly
M71	XSN2+6	Screw ⊕2×6
M72	XSN3+6S	Screw ⊕3×6
M73	QHQ1230	Head Adjustment Screw
M74	XWA2B	Washer
M75	XSN26+4BVS	Screw ⊕2.6×4
M76	XSS2+4	Screw ⊕2×4
M77	XSS3+4S	Screw ⊕3×4
M78	QHQ1185	Step Screw
M79	XSN3+5S	Screw ⊕3×5
M80	XSS3+6S	Screw ⊕3×6
M81	QBK7123	Washer
M82	XSN2+3	Screw ⊕2×3

Ref. No.	Part No.	Part Name & Description
M83	XSN3+8S	Screw ⊕3×8
M84	XWA2	Spring Washer 2ϕ
M85	XWA26	Spring Washer 2.6ϕ
M86	XWA3	Spring Washer 3ϕ
M87	QBW2016	Poly Washer
M88	QBW2012	"
M89	QBW2008	"
M90	QBW2015	"
M91	QBW2017	"
M92	QBW2018	"
M93	XWG26	Fiber Washer
M94	QBW2019	Poly Washer
M95	QBK7123	Fiber Washer
M96	XUC3FT	Stop Ring 3ϕ
M97	XWG3	Fiber Washer
M98	XUC5FT	Stop Ring 5ϕ
M99	XUC2FT	Stop Ring 2ϕ
M100	XSN26+6	Screw ⊕2.6×6
M101	XWG26	Flat Washer
M102	XWC3	Lock Washer
M103	QBG1634	Rubber Cushion

SPECIFICATIONS

Pressure of pressure roller	400±30 gr
Takeup tension (Use cassette torque meter ··· QZZSRKCT)	45±15 gr-cm
Wow and flutter (Test tape ··· QZZCWAT)	Less than 0.04% (WRMS)

Printed in Japan.