ORDER NO. HAD85052560C9
A2

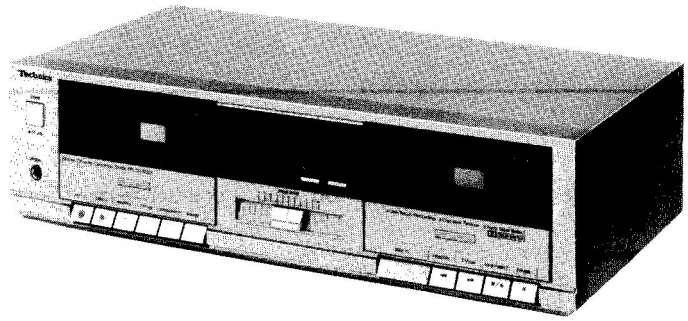
Service Manual

Cassette Deck

DOLBY SYSTEM

Dolby NR-Equipped
Double Cassette Deck

RS-D550W
RS-B17W
RS-B24W



Color

(K)...Black Type
(S)...Silver Type

- The photographs show RS-D550W (for [E] mark areas).
- The function and operating method of RS-B17W and RS-B24W are the same as for RS-D550W.

Color	Areas	
(K)	[M].....U.S.A.	(RS-B24W)
(K) (S)	[E].....All European areas except United Kingdom.	(RS-D550W)
(K) (S)	[EK].....United Kingdom.	(RS-D550W)
(K) (S)	[EH].....Holland.	(RS-D550W)
(K) (S)	[EGA]...F.R. Germany.	(RS-D550W)
(K)	[PA].....Far East PX.	(RS-B17W)
(K)	[PE].....European Military.	(RS-B17W)
(K) (S)	[XA].....Asia, Latin America, Middle East and Africa.	(RS-D550W)
(K) (S)	[XL].....Australia.	(RS-D550W)

RS-D550W MECHANISM SERIES
SPECIFICATIONS

Deck system	Stereo cassette deck
Track system	4-track 2-channel
Heads	
(TAPE 1) PLAY	MX head
(TAPE 2) REC/PLAY	MX head
Erasing	Double-gap ferrite head
Motors	
(TAPE 1) Capstan/reel table drive	DC motor
(TAPE 2) Capstan/reel table drive	DC motor
Recording system	AC bias
Bias frequency	80 kHz
Erasing system	AC bias
Tape speed	4.8cm/sec (1-7/8 ips)
Frequency response	
Metal	20Hz–17,000Hz
	30Hz–16,000Hz (DIN)
	40Hz–15,000Hz±3dB
CrO_2	20Hz–16,000Hz
	30Hz–15,000Hz (DIN)
	40Hz–14,000Hz±3dB
Normal	20Hz–15,000Hz
	30Hz–14,000Hz (DIN)
	40Hz–14,000Hz±3dB
S/N (Signal level = max. recording level, CrO_2 tape)	
Dolby B NR in	66 dB (CCIR)
NR out	56 dB (A weighted)
Wow and flutter	0.08% (WRMS)
	±0.16% (DIN)
Fast Forward and Rewind time	Approx. 110 seconds with C-60 cassette tape
Input sensitivity and impedance	
LINE	60mV/47kΩ
Output voltage and impedance	
LINE	400mV/1.5kΩ
HEADPHONES	80 mV/8Ω
Power consumption	12 W
Power supply [M]	.....AC; 120V, 60Hz
[E][EH][EGA]	.....AC; 220V, 50Hz/60Hz
[EK][XL]	.....AC; 240V, 50Hz/60Hz
[PA][PE][XA]	.....AC; 110V/127V/220V/240V, 50Hz/60Hz
	Preset power voltage 240V
Dimensions (W×H×D)	430×114×229mm
	(16-29/32"×4-15/32"×9")
Weight	3.5kg (7 lb)

Design and specifications are subject to change without notice.
* 'Dolby' and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

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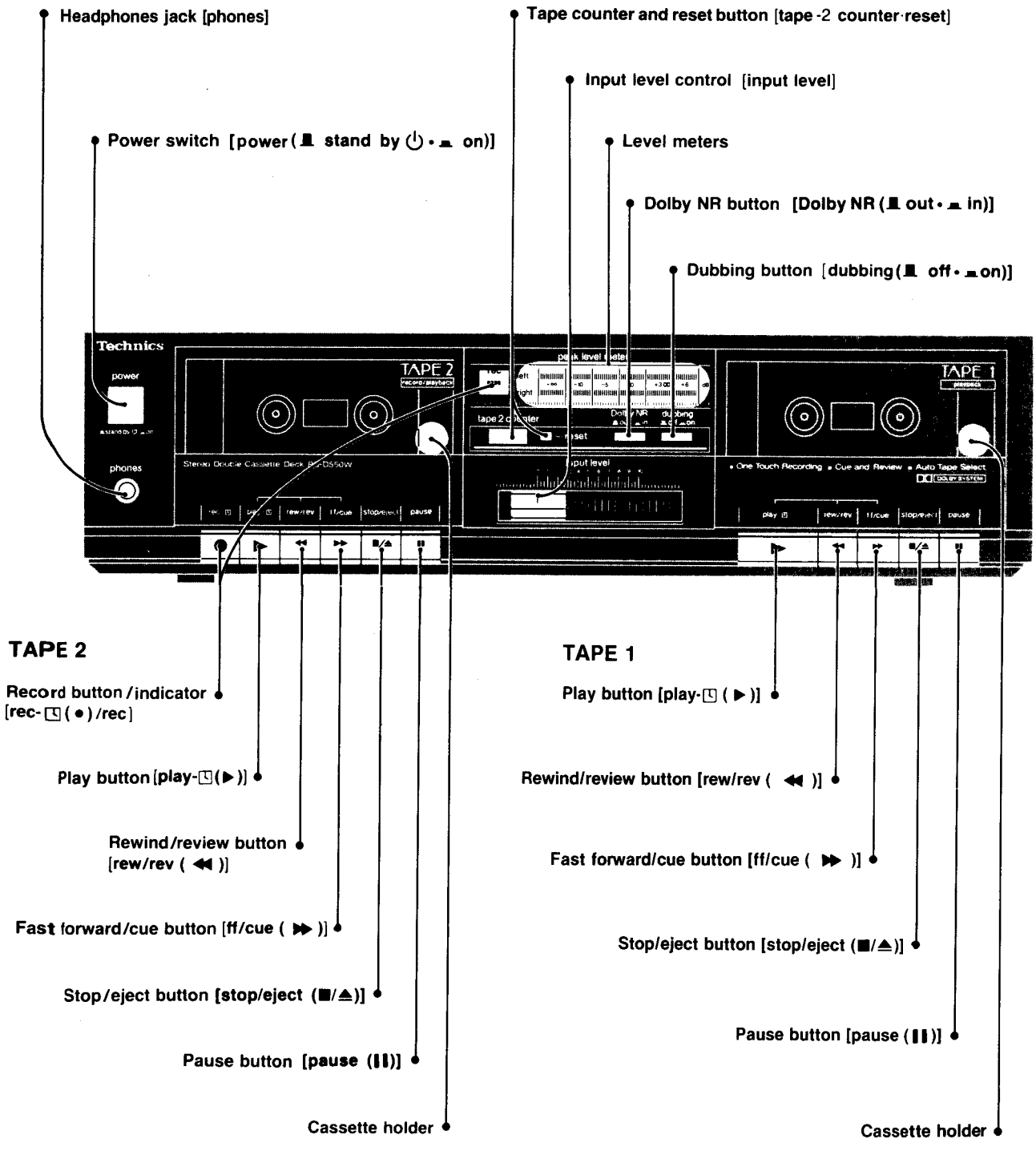
■ CONTENTS

■ LOCATION OF CONTROLS



ORDER NO. HAD8612789P9

Parts Change Notice

Model No. RS-D550W (E/EK/EH/EGA/XA/XL)
RS-B17W (PA/PE)

Service Manual
Order No. HAD85052560C9

Please revise the original parts list in the Service Manual to conform to the change (s) shown herein. If new part numbers are shown, be sure to use them when orderring parts.

Reason for Change *The circled item indicates the reason. If no marking, see the Notes in the bottom column.

1.	Improve performance
2.	Change of material or dimension
3.	To meet approved specification
4.	Standardization
5.	Addition
6.	Deletion
7.	Correction
8.	Other

Interchangeability Code **The circled item Indicates the interchangeability. If no marking, see the Notes in the bottom column.

	Parts		Set Production	
A	Original	→	Early	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
	New	→	Late	
B	Original	→	Early	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
	New	→	Late	
C	Original	→	Early	New parts only may be used in early or late production sets. Stock new parts.
	New	→	Late	
D	Original	→	Early	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
	New	→	Late	
E	Other			

Part Number

Model No.	Ref. No.	Original Part No.	New Part No.	Notes (*'**)	Part Name & Descriptions
RS-B17W/D550W	CN11	QJT1052	QJT1054	7, C	Contact
RS-B17W/D550W	149	SMQ4858	SMQ4854	7, C	Pause Button Level Ass'y

File this Parts Change Notice with your copy of the Service Manual.

Technics

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Printed in Japan
8612003 50 ® AH

ORDER NO. HAD8507179S0
A2

Service Manual

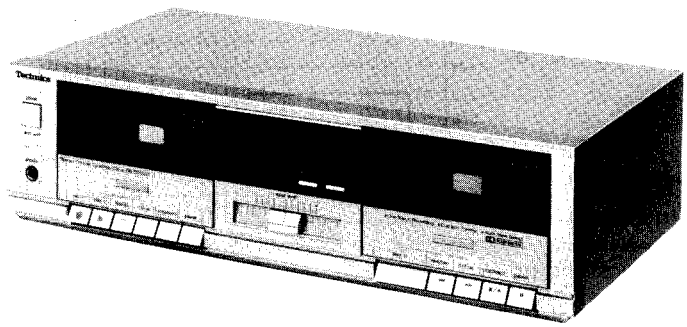
Supplement-1

Dolby NR-Equipped
Double Cassette Deck

* DOLBY SYSTEM

Cassette Deck

RS-D550W
RS-B17W
RS-B24W



- The photographs show RS-D550W (for [E] mark areas).
- The function and operating method of RS-B17W and RS-B24W are the same as for RS-D550W.

Color

(K)...Black Type
(S)...Silver Type

Color	Areas	
(K)	[M].....U.S.A.	(RS-B24W)
(K) (S)	[E].....All European areas except United Kingdom.	(RS-D550W)
(K) (S)	[EK].....United Kingdom.	(RS-D550W)
(K) (S)	[EH].....Holland.	(RS-D550W)
(K) (S)	[EGA]...F.R. Germany.	(RS-D550W)
(K)	[PA].....Far East PX.	(RS-B17W)
(K)	[PE].....European Military.	(RS-B17W)
(K) (S)	[XA].....Asia, Latin America, Middle East and Africa.	(RS-D550W)
(K) (S)	[XL].....Australia.	(RS-D550W)

RS-D550W MECHANISM SERIES

- Please use this manual together with the service manual for model No. RS-D550W/B17W/B24W (Original) order No. HAD85052560C9.

PARTS COMPARISON TABLE:

Please revise the original parts list in the Service Manual (RS-D550W/B17W/B24W) to conform to the changes shown herein.
If new part numbers are shown, be sure to use them when ordering parts.

Ref. No.	Part Name & Description	Part Numbers		Remarks
		Former Type	**New Type**	
CAPACITOR				
C31, 32	Capacitors	ECEA1HU4R7 (4.7μF)	**ECEA1HU3R3 (3.3μF)**	
*C306	Capacitor	ECKW1H103Z (0.01μF)	**EXRP103Z561S (0.01μF, 560Ω)**	
RESISTOR				
R309	Resistor	ERD25FJ561 (560Ω)	——	Deletion

*C306 is combination part.

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■ MEASUREMENTS AND ADJUSTMENTS (CORRECTION)

Ⓕ Overall frequency response (TAPE 2)

Condition:
- Record/playback mode
- Input level controls...MAX

Equipment:
- EVM (Electronic Voltmeter)
- ATT
- AF oscillator
- Oscilloscope
- Resistor (600Ω)
- Test tape (reference blank tape)
  - ...QZZCRA for Normal
  - ...QZZCRX for CrO_2
  - ...QZZCRZ for Metal

Note:

Before measuring and adjusting, the overall frequency response make sure of the playback frequency response (For the method of measurement, please refer to the playback frequency response).

(Recording equalizer is fixed)

1. Make connections as shown in fig. 11.
2. Insert the normal reference blank test tape (QZZCRA).
3. Supply a 1kHz signal from the AF oscillator through ATT to LINE IN.
4. Adjust ATT so that input level is −20dB below standard recording level (standard recording level = 0 VU).
5. Adjust the AF oscillator frequency to 1kHz, 50Hz, 100Hz, 200Hz, 500Hz, 4kHz, (8kHz and 10kHz) signals, and record these signals on the test tape.
6. Playback the signals recorded in step (5) and check if the frequency response curve is within the limits shown in the overall frequency response chart for normal tapes (fig. 10). (If the curve is within the charted specifications, proceed to steps (7 and 8).)
   If the curve is not within the charted specifications, adjust as follows;

Overall frequency response chart (Normal)

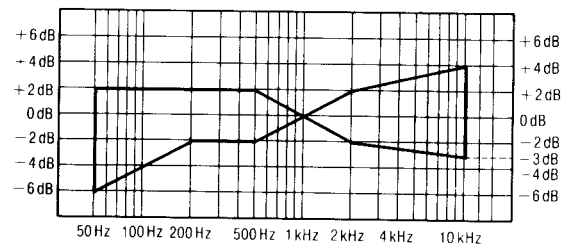


Fig. 10

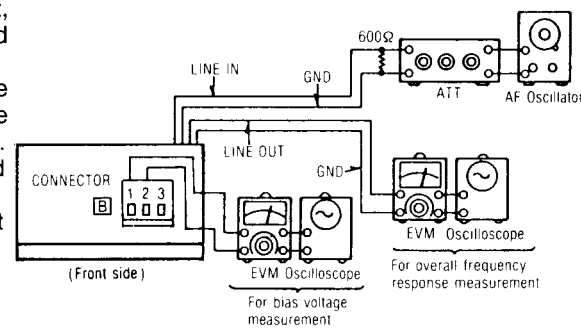


Fig. 11

Adjustment (A):

When the curve exceeds the overall specified frequency response chart (fig. 10) as shown in fig. 12.

1) Increase bias current by turning VR301 (L-CH) and VR302 (R-CH). (See fig. 1.)
2) Repeat steps 5 and 6 for confirmation (Proceed to steps (7 and 8) if the curve is now within the charted specifications as shown fig. 10.)
3) If the curve still exceeds the specifications (fig. 10), increase bias current further and repeat steps 5 and 6.

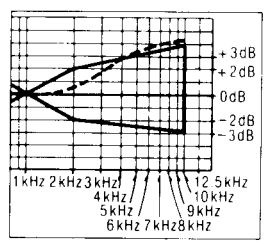


Fig. 12

Adjustment (B):

When the curve falls below the overall specified frequency response chart (fig. 10) as shown in fig. 13.

1) Reduce bias current by turning VR301 (L-CH) and VR302 (R-CH).
2) Repeat steps 5 and 6 for confirmation (Proceed to steps (7 and 8) if the curve is now within the charted specifications as shown fig. 10.)
3) If the curve still falls below the charted specifications (fig. 10), reduce bias current further and repeat steps 5 and 6.

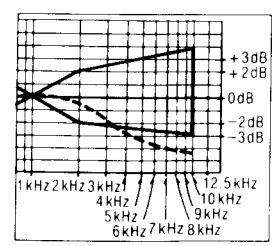


Fig. 13

7. Change test tape to CrO_2 reference blank test tape (QZZCRX), and record 1kHz, 50Hz, 100Hz, 200Hz, 500Hz, 4kHz, 8kHz, (10kHz and 12.5kHz) signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for CrO_2 tapes (fig. 14).
8. Change test tape to metal reference blank test tape (QZZCRZ), and record 1kHz, 50Hz, 100Hz, 200Hz, 500Hz, 4kHz, 8kHz, (10kHz and 12.5kHz,) signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for metal tapes (fig. 14).
9. Confirm that bias currents are approximately as follows when the UNIT is set at different tape mode.

   • Measure the voltage across the head using a EVM.

Reference value:	around 8V (Normal position) around 10V (CrO_2 position) around 15V (Metal position)

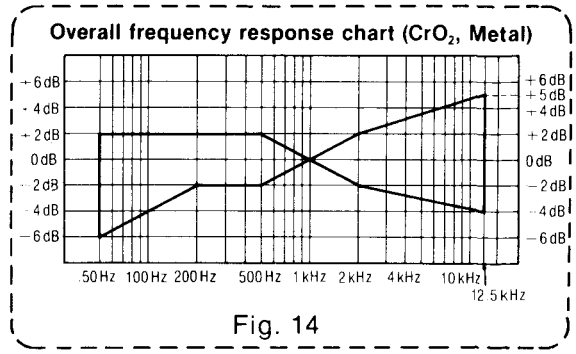
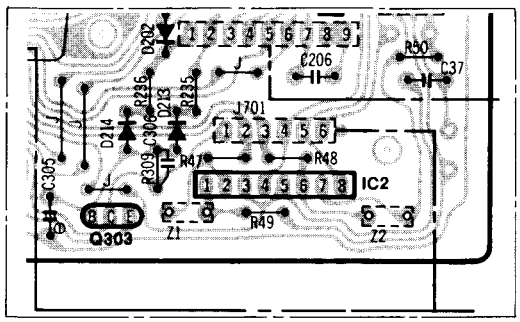


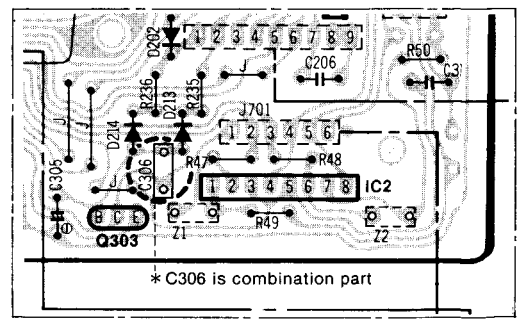
Fig. 14

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

(Type -A) **(DIFFERENCE)**

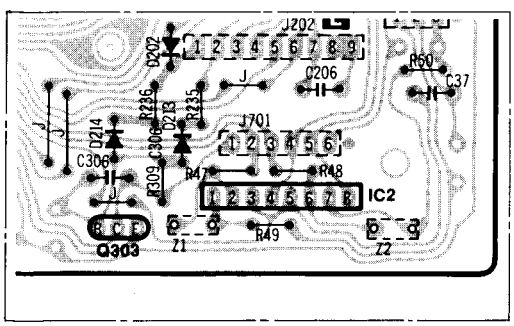


Former Type

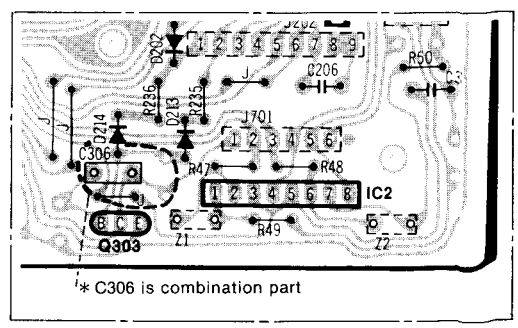


New Type

(Type-B) **(DIFFERENCE)**



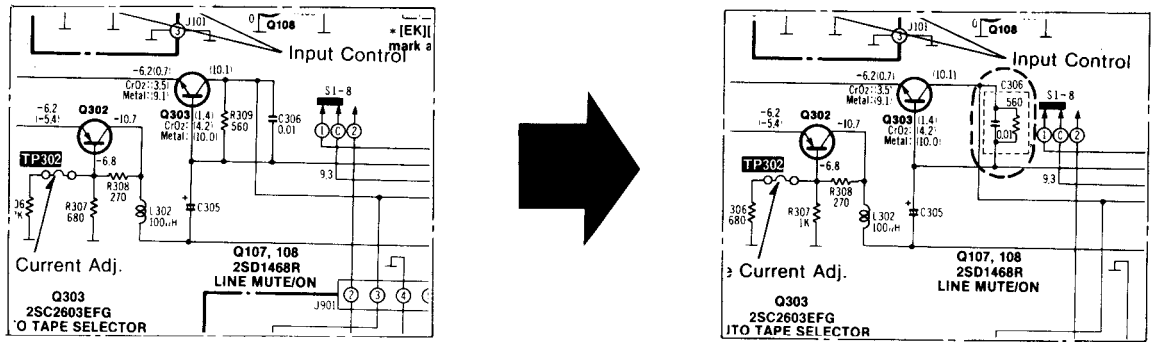
Former Type



New Type

■ SCHEMATIC DIAGRAM

(DIFFERENCE)

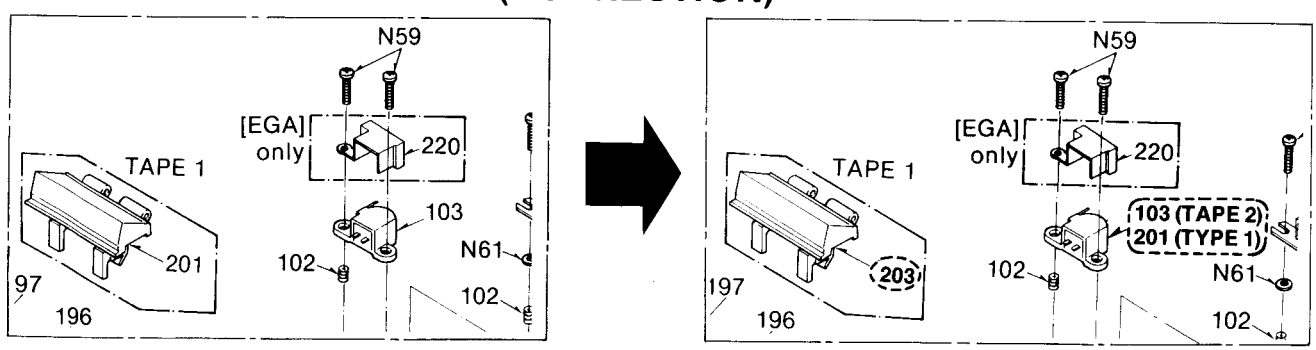


Former Type

New Type

■ MECHANICAL PARTS LOCATION

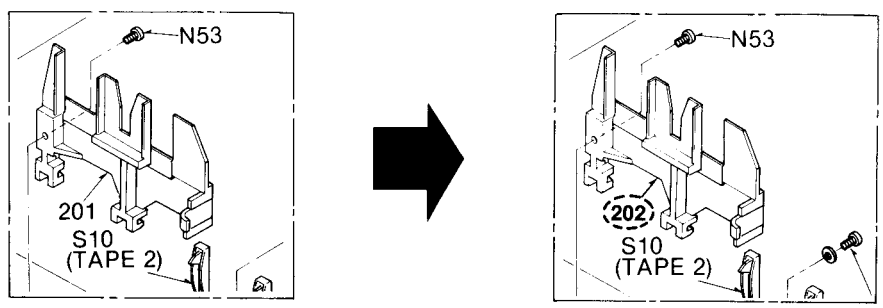
(CORRECTION)



Former Type

New Type

(CORRECTION)



Former Type

New Type

Printed in Japan
850710400 Ⓗ M.S

ORDER NO. HAD85052560C9-A

DEUTSCH

Cassette Deck

DEUTSCH

Verwenden Sie bitte diese Broschüre Zusammen mit der Service-Anieitung für das Modell Nr. RS-D550W.

■ TECHNISCHE DATEN

System	Stereo-Cassettendeck
Spuren	4 Spuren, 2 Kanäle
Tonköpfe (TAPE 1) Wiedergabe	MX-Kopf
(TAPE 2) Aufnahme/Wiedergabe	MX-Kopf
Löschen	Ferrit-Kopf mit Doppelspalt
Motoren	
(TAPE 1) Capstan/Spulentellerantrieb	1-Motor
(TAPE 2) Capstan/Spulentellerantrieb	1-Motor
Aufnahmesystem	Wechselstrom-Vormagnetisierung
Vormagnetisier ungsfrequenz	80kHz
Löschsystem	Wechselstrom-Vormagnetisierung
Bandgsch windigkeit	4,8cm/s
Frequenzgang	
Reineisenbänder	20Hz∼17.000Hz
	30Hz∼16.000Hz (DIN)
	40Hz∼15.000Hz±3dB
CrO_2-Bänder	20Hz∼16.000Hz
	30Hz∼15.000Hz (DIN)
	40Hz∼14.000Hz±3dB
Normalbänder	20Hz∼15.000Hz
	30Hz∼14.000Hz (DIN)
	40Hz∼14.000Hz±3dB

Dynamischer Bereich	
Geräuschspannungsabstand:	
(Signalpegel = max. Aussteuerungspegel, CrO_2-Band)	
mit Dolby-B-Rauschunterdrückung	66dB (CCIR)
ohne Rauschunterdrückung	56dB (nach A bewertet)
Gleichlauschwankungen	0,08% (WRMS)
	±0,16% (DIN)
Umspulzeit	ca. 110 s für C-60-Cassette
Eingangsempfindlichkeit und Impedanz	
LINE	60mV/47kΩ
Ausgangsspannung und Impedanz	
LINE	400mV/1,5kΩ
HEADPHONES	80mV/8Ω
Stromanfnahme	12W
Stromversorgung	
	Netz 50Hz/60Hz, 220V für Europa außer England, 240V für England, 110V/127V/220V/240V für Ausländer
Abmessungen (B×H×T)	430×114×229mm
Gewicht	3,5kg

■ MESSUNGEN UND EINSTELL METHODEN

Anm.: Wenn nicht anders vorgeschrieben, Drehschalter und Steuereinrichtungen auf die folgenden Positionen stellen.
- Für saubere Köpfe sorgen.
- Für saubere Tonwelle und Andruckrolle sorgen.
- Auf normale Raumtemperatur achten: 20±5°C (68±9°F)
- Dolby-Schalter: AUS
- Eingangsregler: MAX

Ⓐ Senkrechtstellen des Kopfes (BAND [1], BAND [2])

Bedingung:
- Wiedergabe

Meßgerät:
- Elektronische Voltmeter
- Oszillograph
- Testband (azimuth)...QZZCFM

Ausgangsbalance-Justierung für linken und rechten Kanal

1. Den Meßaufbau zeigt Fig. 2.
2. 8kHz-Signal des Testbandes (QZZCFM) wiedergeben. Schraube (B) in Fig. 3 auf maximalen Ausgangspegel des linken und rechten Kanals abgleichen. Sind die Ausgangspegel des linken und rechten Kanals nicht gleichzeitig maximal, wie folgt justieren:
3. Durch Drehen der in Fig. 3 gezeigten Schraube (B) die Winkel A und C (Punkte, wo Spitzenausgangspegel für den linken und rechten Kanal erreicht werden) ermitteln. Anschließend den Winkel B zwischen dem Winkel A und C ermitteln, d.h. den Punkt, wo die Ausgangspegel des linken und rechten Kanals ausbalanciert (ausgeglichen) sind. (Siehe Fig. 3 und 4.)

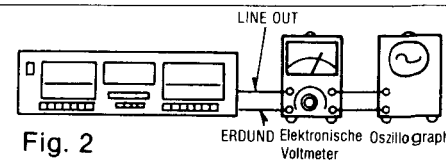


Fig. 2

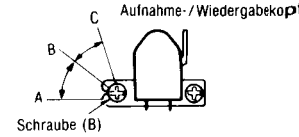


Fig. 3

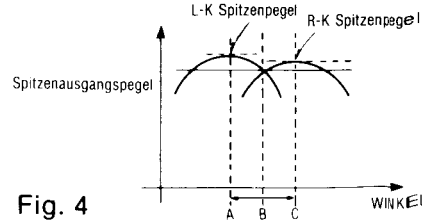


Fig. 4

Phasenjustierung für linken und rechten Kanal

4. Den Meßaufbau zeigt Fig. 5.
5. 8kHz-Signal des Testbandes (QZZCFM) wiedergeben. Schraube (B), wie in Fig. 3 gezeigt, so einstellen, daß Zeiger von zwei Röhrenvoltmeter auf Maximum ausschlagen und am Oszillographen eine Wellenform wie in Fig. 6 erreicht wird.

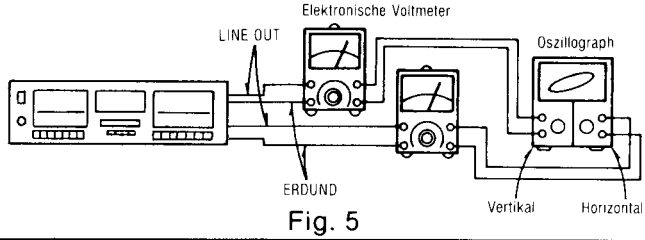


Fig. 5

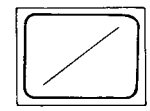


Fig. 6

Ⓑ Bandgeschwindigkeit (BAND [1], BAND [2])

Bedingung:
- Wiedergabe

Meßgerät:
- Elektronischer Digitalzähler
- Testband...QZZCWAT

Genauigkeit der Bandgeschwindigkeit

1. Den Meßaufbau zeigt Fig. 7.
2. Testband (QZZCWAT 3000Hz) wiedergeben und Ausgangssignal dem Zähler zuführen.
3. Frequenz messen.
4. Beträgt die auf dem Testband aufgezeichnete Frequenz 3000Hz, so ergibt sich die Genauigkeit nach folgender Formel:

$$\text{Genauigkeit der Bandgeschwindigkeit} = \frac{f-3000}{3000} \times 100(\%)$$

worin f die gemessene Frequenz ist.

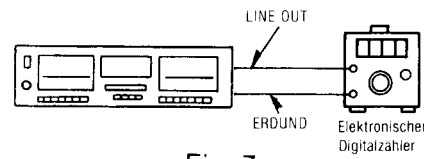


Fig. 7

5. Die Messung soll im mittleren Teil des Bandes erfolgen.

NORMALWERT:	BAND [1] 0,7% (3010±20Hz) BAND [2] (BAND [1]−15)±15Hz

6. Falls der Meßwert nicht im vorgeschriebenen Bereich liegt, bitte mit Bandgeschwindigkeitsregler VR wie in Fig. 1 gezeigt einstellen.

Anmerkung: Bitte bei dieser Einheit zum Justieren der Bandgeschwindigkeit keinen Metallschraubenzieher benutzen.

Schwankung der Bandgeschwindigkeit:

Messung, wie oben beschrieben für Anfang, mittleren Teil und Ende des Testbandes wiederholen und Schwankung wie folgt bestimmen:

$$\text{Schwankung} = \frac{f_1-f_2}{3000} \times 100(\%)$$

f_1 = Maximalwert
f_2 = Minimalwert

NORMALWERT: 1%

Ⓒ Frequenzgang bei Wiedergabe (BAND [1], BAND [2])

Bedingung:
- Wiedergabe

Meßgerät:
- Elektronische Voltmeter
- Oszillograph
- Testband...QZZCFM

1. Den Meßaufbau zeigt Fig. 2.
2. Gerät auf Wiedergabe schalten. Frequenzgang-Testband QZZCFM wiedergeben.
3. Ausgangsspannung bei 315Hz, 12,5kHz, 8kHz, 1kHz, 250Hz, 125Hz und 63Hz messen und jede Ausgangsspannung mit der Standardfrequenz 315Hz an der LINE OUT vergleichen.
4. Messungen an beiden Kanälen durchführen.
5. Prüfen, ob die gemessenen Werte innerhalb des in der Frequenzgang-Übersicht aufgeführten Bereichs liegen. (Siehe Fig. 8.)

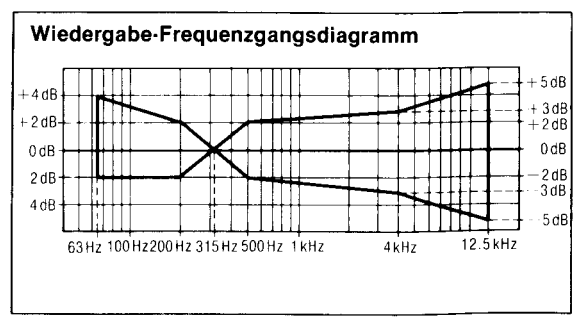


Fig. 8

Ⓓ Wiedergabe-Verstärkung (BAND [1], BAND [2])

Bedingung:
- Wiedergabe

Meßgerät:
- Elektronische Voltmeter
- Oszillograph
- Testband...QZZCFM

1. Den meßaufbau zeigt Fig. 2.
2. Den Standard-Aufnahmepegelteil der Testbandcassette (QZZCFM, 315Hz) wiedergeben und mit dem Elektronische Voltmeter den Ausgangspegel an den LINE OUT-Anschlüssen messen.
3. Messung an beiden Kanälen durchführen.

NORMALWERT: 0,4V±0,5dB (0,02V)

Einstellung:

1. Abweichungen können durch Abgleich von BAND [1] VR103 (linker Kanal) und VR104 (rechter Kanal), BAND [2] VR1 (linker Kanal) und VR2 (rechter Kanal) korrigiert werden.
2. Nach erfolgtem Abgleich ist der Frequenzgang bei Wiedergabe erneut zu kontrollieren.

Ⓔ Löschstrom (BAND [2])

Bedingung:
- Aufnahme

Meßgerät:
- Elektronische Voltmeter
- Oszillograph

1. Den Meßaufbau zeigt Fig. 9.
2. Die Aufnahme-und Pausentaste drücken.
3. Das Metallband-Referenzleerband (QZZCRZ) einsetzen.
4. Löschstrom nach folgender Formel emitteln:

$$\text{Löschstrom (A)} = \frac{\text{Die Spannung über beide Enden von R301}}{\text{1 (Ohm)}}$$

NORMALWERT: 155^{+20}_{-5}mA (Metal position) (155^{+20}_{-5}mV)

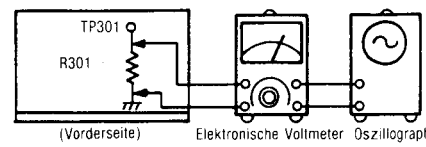


Fig. 9

5. Falls der Meßwert nicht im vorgeschriebenen Bereich liegt, auf folgenden Weise einstellen.

Einstellung:

- Beträgt der Löschstrom mehr als 150mA, unterbrechen Sie den Schaltdraht TP302.

Ⓕ Gesamtfrequenzgang (BAND [2])

Bedingung:
- Aufnahme und Wiedergabe
- Eingangsregler...MAX

Meßgerät:
- Elektronische Voltmeter
- NF-Generator
- Abschwächer
- Oszillograph
- Testband (Leerband)
  - ...QZZCRA für Normal
  - ...QZZCRX für CrO_2
  - ...QZZCRZ für Metall
- Widerstand (600Ω)

Anm.:

Vor Messung und Abgleich des Gesamtfrequenzganges ist sicherzustellen, daß der Frequenzgang bei Wiedergabe korrekt ist (Vgl. entspr. Abschnitt).

Gesamtfrequenzgang-Justierung durch Aufnahme-Vomagnetisierungsstrom

(Der Aufnahme-Entzerrer ist fest eingestellt.)

1. Den Meßaufbau zeigt Fig. 11.
2. Das Normalband-Referenzleerband (QZZCRZ) einsetzen.
3. An LINE IN ein Signal von 1kHz, −24dB zuführen. Das Gerät auf Aufnahme schalten.
4. Den Dämpfungswiderstand feineinstellen, bis die Ausgangsleistung an LINE OUT 0,4V beträgt.
   - Überprüfen, daß der Signalausgangspegel bei einer Ausgangs-Spannung von 0,4V −24±4dB beträgt.
5. Mit dem NF-Oszillator Signale von 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz und 10kHz zuführen, und diese Signale auf das Testband aufzeichnen.

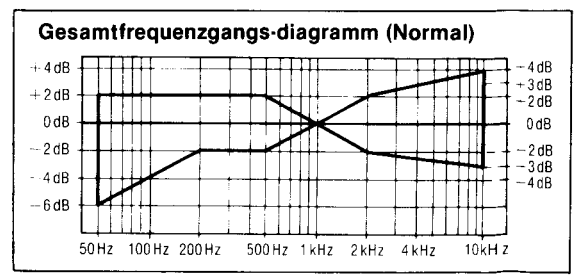


Fig. 10

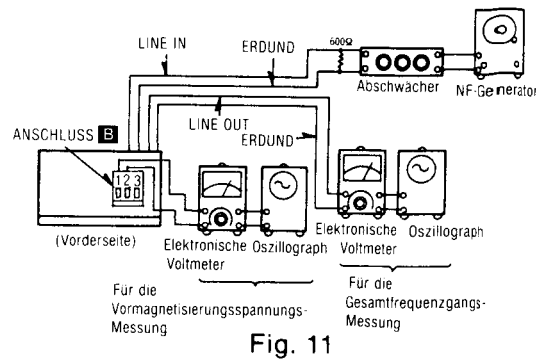


Fig. 11

6. Die in Schritt 5 aufgezeichneten Signale wiedergeben und überprüfen, ob die Frequenzgangkurve innerhalb des Bereichs liegt, der im Frequenzgangdiagramm für normales Band in Fig. 10 gezeigt ist. (Falls die Kurve innerhalb des vorgeschriebenen Bereichs liegt, mit den Schritten 7, 8 und 9 weiterfahren.)
   Falls die Kurve außerthalb des vorgeschriebenen Bereichs liegt, wie folgt justieren.

Justierung (A):

Wenn die Kurve den vorgeschriebenen Gesamtfrequenzgangbereich (Fig. 10) überschreitet, wie in Fig. 12 gezeigt.

1) Den Votmagnetisierungsstrom durch Abgleichen von VR301 (linker Kanal) und VR302 (rechter Kanal) erhöhen.

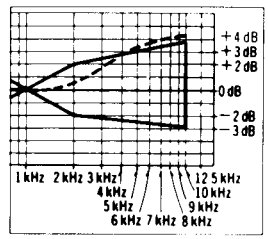


Fig. 12

2) Die Schritte 5 und 6 zur Überprüfung wiederholen. (Wenn die Kurve dabei innerhalb des vorgeschriebenen Bereichs liegt (Fig. 10) mit den Schritten 7, 8, und 9 weiterfahren.)
3) Wenn die Kurve den vorgeschriebenen Bereich (Fig. 10) noch immer überschreitet, den Vormagnetisierungsstrom weiter erhöhen, und die Schritte und wiederholen.

Justierung (B):

Wenn die Kurve unter den vorgeschriebenen Bereich für den Gesamtfrequenzgang (Fig. 10) absinkt, wie in Fig. 13 gezeigt:

1) Den Vormagnetisierungsstrom durch abgleichen von VR301 (linker Kanal) und VR302 (rechter Kanal) reduzieren.

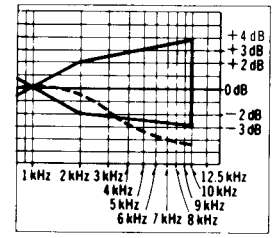


Fig. 13

2) Die Schritte 5 und 6 zur Überprüfung wiederholen. (Falls die Kurve dabei innerhalb des vorgeschriebenen Bereichs in Fig. 10 liegt, mit den Schritten 7, 8, und 9 weiterfahren.)
3) Falls die Kurve noch immer unter den vorgeschriebenen Bereich (Fig. 10) absinkt, den Vormagnetisierungsstrom weiter reduzieren, und Schritte 5 und 6 wiederholen.

7. Testband QZZCRX einlegen, und Signale von 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz und 12,5kHz aufzeichnen; Anschliessend die Signale wiedergeben und prüfen, ob die Kurve innerhalb des Bereichs liegt, der im Gesammtfrequenzgang-Diagramm für das CrO_2 Band dargestellt ist. (Fig. 14.)
8. Testband QZZCRZ einlegen und Signale von 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz und 12,5kHz aufnehmen. Anschließend die Signale wiedergeben und prüfen, ob die Kurve innerhalb des Bereichs im Gesamtfrequenzgangdiagramm für Metallband liegt. (Fig. 14.)
9. Überprüfen, daß die Vorspannung ungefähr den folgenden Werten entsprechen, wenn der Bandsortenschalter in die entsprechende Position gestellt ist.
   • Messen Sie die Spannung über dem Kopf mit einem Röhren voltmeter.

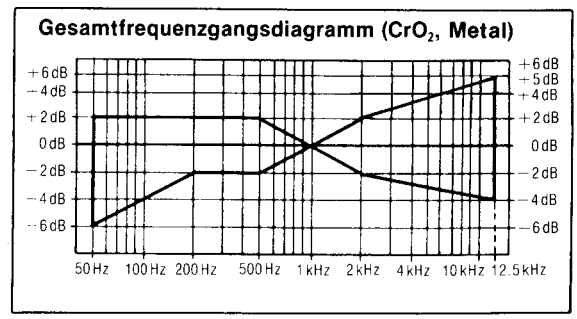


Fig. 14

	Ungefähr 8V (Normal position)
Bezugswert:	**Ungefähr 10V (CrO_2 position)**
	Ungefähr 15V (Metall position)

Ⓖ Gesamtverstärkung (BAND [2])

Bedingung:
- Aufnahme und Wiedergabe
- Eingangsregler: MAX
- Standard-Eingangspegel:
  NF-Eingang.....−24±4dB (63mV)

Meßgerät:
- Elektronische Voltmeter
- NF-Generator
- Abschwächer
- Oszillograph
- Widerstand (600Ω)
- Testband (Leerband)
  ...QZZCRA für Normal

1. Den Meßaufbau zeigt Fig. 15.
2. Normales Testleerband (QZZCRA) einlegen.
3. Gerät auf "Aufnahme" schalten.
4. Über den Abschwächer ein 1kHz-Signal (−24dB) vom NF-Generator dem NF-Eingang zuführen.
5. ATT justieren, bis der Monitorpegel an den LINE OUT-Anschlüssen 0,4V beträgt.
6. Eine bespielte Cassette wiedergeben und überprüfen, ob der Ausgangspegel an den LINE OUT-Anschlüssen 0,4V beträgt.
7. Wenn der gemessene Wert nicht 0,4V erreicht, die folgenden VR abgleichen: VR3 (L-CH) oder VR4 (R-CH).
8. Ab Punkt 2 wiederholen.

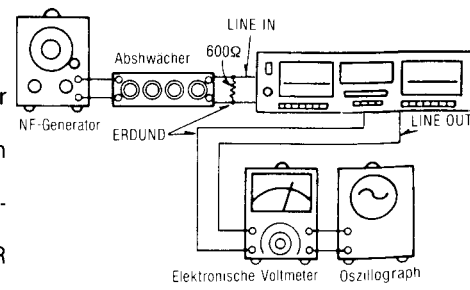


Fig. 15

Dolby-Schaltung

Bedingung:
- Aufnahme
- Eingangsregler...MAX

Meßgerät:
- Röhrenvoltmeter
- NF-Generator
- Abschwächer
- Oszillograph
- Widerstand (600Ω)

1. Den Meßaufbau zeigt Fig. 16.
2. Gerät auf "Aufnahme" stellen und Dolby-Schalter ausschalten. Dem NF-Eingang ein 5kHz-Signal zuführen, um an Nadel 7 (Linker Kanal) und Nadel 18 (Rechter Kanal) von IC401 17,5mV zu erhalten.
3. Prüfen, ob das Signal bei eingeschaltetem Dolby-Schalter um 8 (±2,5)dB (728mV) größer ist als bei ausgeschaltetem Dolby-Schalter.

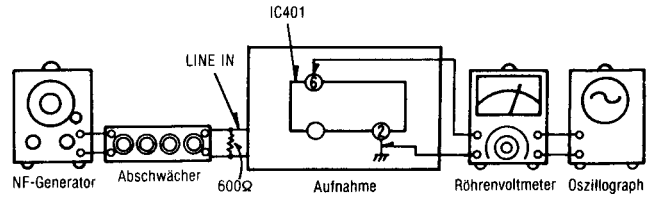


Fig. 16

FRANÇAIS

Ceci est à utiliser conjointement avec le manuel d'entretien du modèle No. RS-D550W.

■ CARACTERISTIQUES

Platine Platine magnéto-cassette stéréo
Pistes 4 pistes, 2 canaux
Têtes
(TAPE 1) LECTURE Tête en MX
(TAPE 2) ENREGISTREMENT/LECTURE Tête en MX
Effacement Tête en ferrite à double entrefer
Moteurs
(TAPE 1) Cabestan/Entraînement du tourne-disque 1-moteur
(TAPE 2) Cabestan/Entraînement du tourne-disque 1-moteur
Système d'enregistrement Polarisation CA
Fréquence de polarisation 80kHz
Système d'effacement Polarisation CA
Vitesse de défilement de la bande 4,8cm/sec.
Réponse en fréquence
Métal 20Hz~17.000Hz
30Hz~16.000Hz (DIN)
40Hz~15.000Hz±3dB
CrO_2 20Hz~16.000Hz
30Hz~15.000Hz (DIN)
40Hz~14.000Hz±3dB
Normal 20Hz~15.000Hz
30Hz~14.000Hz (DIN)
40Hz~14.000Hz±3dB

Rapport signal/bruit:
(niveau de signal = niveau d'enregistrement maximum, bande magnétique de type CrO_2)
Système de réduction de bruits Dolby B 66dB (CCIR)
Pas de système de réduction de bruits 56dB (A pondéré)
Pleurage et scinillement 0,08% (WRMS)
±0,16% (DIN)
Temps d'avance rapide et de rabobinage
Environ 110 secondes pour une cassette C-60
Sensibilité et impédance d'entrée
LIGNE 60mV/47kΩ
Tension et impédance de sortie
LIGNE 400mV/1,5kΩ
CASQUE D'ECOUTE 80mV/8Ω
Consommation 12W
Aimentation AC 50Hz/60Hz 220V pour l'Europe sauf la Grande Bretagne, 240V pour la Grande Bretagne, 110V/127V/220V/240V, pour les autres pays.
Dimensions (L×H×P) 430×114×229mm
Poids 3,5kg

■ METHODES DES MEASURES ET REGLAGES

REMARQUES: Placer les interrupteurs et les contrôles dans les positions suivantes, sauf indication contraire.
- Vérifier que les têtes soient propres.
- Vérifier que le cabestan et le galet presseur soient propres.
- Température ambiante admissible: 20±5°C
- Interrupteur de réduction de bruit: OUT
- Contrôles de niveau d'entrée: Maximum

Ⓐ **Réglage de l'azimut de tête (BANDE [1], BANDE [2])**	Condition: • Mode de lecture	Equipement: • Voltmètre électronique • Oscilloscope • Bande étalon (azimut) ...QZZCFM

Réglage de l'équilibre de la sortie au canal gauche/canal droit

1. Brancher les appareils comme indiqué dans la Fig. 2.
2. Reproduire le signal de 8kHz de la bande étalon (QZZCFM). Régler la vis (B) dans la Fig. 3 pour obtenir les niveaux de sortie maximum pour les canaux gauche et droit. Lorsque les niveaux de sortie des canaux gauche et droit ne sont pas simultanément à leur maximum, les régler à nouveau de la facon suivante.
3. Faire tourner la vis indiquée dans la Fig. 3 pour trouver les angles A et C (point où les niveaux de sortie de crête pour les canaux gauche et droit sont obtenus respectivement). Situer alors l'angle B entre les angles A et C, autrement dit, en un point où les niveaux de sortie des canaux gauche et droit atteignent tous deux leur maximum. (Voir les Fig. 3 et 4).

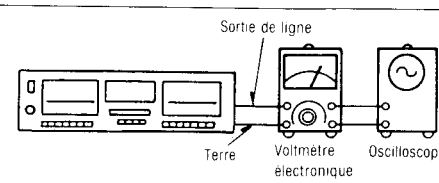


Fig. 2

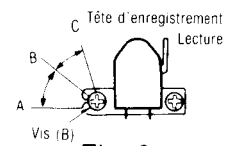


Fig. 3

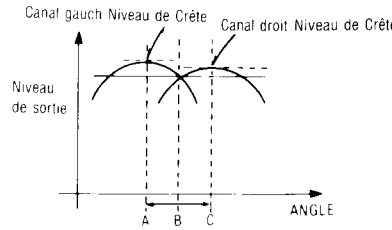


Fig. 4

Réglage (A):

Lorsque la courbe dépasse les spécifications du tableau de réponse de fréquence globale (Fig. 10), comme indiqué dans la Fig. 12.

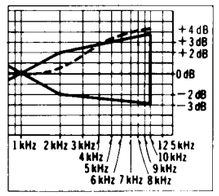


Fig. 12

1) Augmenter le courant de polarisation en tournant VR301 (canal gauche) et VR302 (canal droit).
2) Répéter les phases 5 et 6 pour confirmation. (Passer aux phases 7, 8 et 9 si la courbe est maintenant comprise dans les spécifications du tableau de la Fig. 10).
3) Si la courbe dépasse encore les spécifications (Fig. 10), augmenter encore le courant de polarisation et répéter les phases 5 et 6.

Réglage (B):

Lorsque la courbe tombe au-dessous des spécifications du tableau de fréquence globale (Fig. 10) comme indiqué dans la Fig. 13.

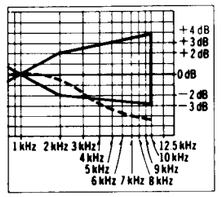


Fig. 13

1) Réduire le courant de polarisation en tournant VR301 (canal gauche) et VR302 (canal droit).
2) Répéter les phases 5 et 6 pour confirmation. (Passer aux phases 7, 8 et 9 si la courbe est maintenant comprise dans les spécifications du tableau de la Fig. 10).
5) Si la courbe tombe encore au-dessous des spécifications du tableau (Fig. 10), réduire encore le courant de polarisation et répéter les phases 5 et 6.

7. Enlever la bande étalon vierge normale et placer la bande étalon QZZCRX (bande CrO_2). Enregistrer les signaux de 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz et 12,5kHz. Reproduire ensuite ces signaux et vérifier si la courbe est comprise dans les limites indiquées par le tableau de réponse de fréquence globale pour les bandes CrO_2 (Fig. 14).
8. Changer la bande étalon pour la bande étalon vierge QZZCRZ (bande métallique), et enregistrer les signaux de 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz et 12,5kHz. Ensuite, lire les signaux et vérifier si la courbe se trouve entre les limites indiquées dans le tableau de réponse en fréquence globale pour les ruban CrO_2 (Fig. 14.).
9. Confirmer que les voltage de polarisation sont approximativement les suivants lorque le sélecteur de bande est mis sur ses différentes positions.
   • Mesurer la tension à la tête en utilisant un voltmètre électronique.

Tableau de l'ensemble das réponses en fréquence (CrO_2, Metal)

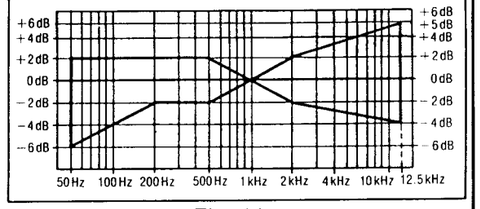


Fig. 14

Valeur référence:	**Autour de 8V (position: Normal)** **Autour de 10V (position: CrO_2)** **Autour de 15V (position: Metal)**

Ⓕ Gain global (BANDE [2])

Condition:
- Mode d'enregistrement/lecture
- Contrôles de niveau d'entrée ...MAX
- Niveau d'entrée standard:
  LINE IN .....−24±4dB (63mV)

Equipement:
- Voltmètre électronique
- Oscillateur AF
- Atténuateur
- Oscilloscope
- Résistance (600Ω)
- Bande étalon vierge...QZZCRA pour bande normale

1. Brancher les appareils comme indiqué dans la Fig. 15.
2. Introduire la bande étalon vierge (QZZCRA).
3. Placer l'UNITE en mode d'enregistrement.
4. Appliquer le signal de 1kHz de l'oscillateur AF à la borne LINE IN, par l'intermédiaire de l'atténuateur (−24dB).
5. Régler ATT jusqu'à ce que le niveau du moniteur aux sorties de ligne soit de 0,4V.
6. Faire jouer la bande enregistrée et s'assurer que le niveau de sortie aux sorties en ligne soit de 0,4V.
7. Si la valeur mesurée n'est pas de 0,42V, régler au moyen de VR3 (canal gauche) ou VR4 (canal droit).
8. Recommencer à partir de la phase (2).

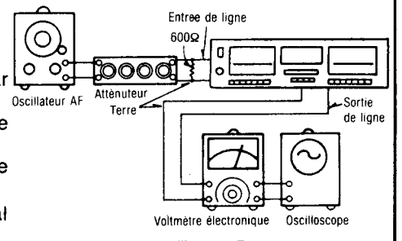


Fig. 15

Ⓗ Circuit de réduction de bruit Dolby

Condition:
- Mode d'enregistrement
- Contrôles de niveau d'entrée ...MAX

Equipement:
- Voltmètre électronique
- Oscillateur AF
- Atténuateur
- Oscilloscope
- Résistance (600Ω)

1. Brancher les appareils comme indiqué dans la Fig. 16.
2. Placer l'UNITE sur le mode d'enregistrement et régler l'interrupteur de réduction de bruit Dolby sur la position OUT. Appliquer un signal de 5kHz à la borne LINE IN afin d'obtenir 17,5mV à la pointe 7 (canal gauche) pointe 18 (canal droit) des IC401.
3. Vérifier que les valeurs à la pointe 6 (canal gauche) pointe 19 (canal droit) des IC401, lorsque l'interrupteur de réduction de bruit Dolby est sur la position IN, sont e 8 (±2,5)dB (728mV) plus élevées que les valéurs aux mêmes points lorsque l'interrupteur de réduction de bruit DOLBY est sur la position OUT.

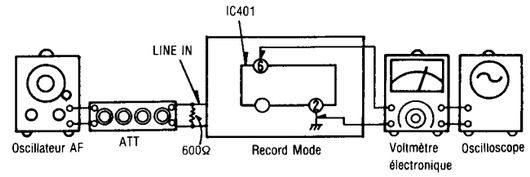


Fig. 16

Réglage de phase canal gauche/canal droit

4. Brancher les appareils comme indiqué dans la Fig. 5.
5. Reproduire le signal de 8kHz de la bande étalon (QZZCFM). Régler la vis (B) indiquée dans la Fig. 3 de sorte que les aiguilles des deux voltmètres électroniques oscillent au maximum, et qu'on obtienne sur l'oscilloscope une forme d'onde semblable à celle indiquée dans la Fig. 6.

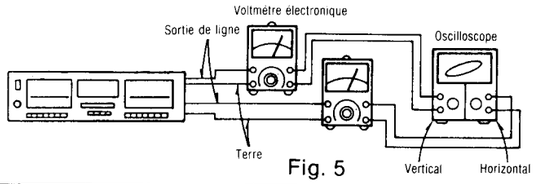


Fig. 5

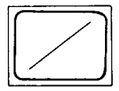


Fig. 6

Ⓑ Vitesse de défilement (BANDE [1], BANDE [2])

Condition:
- Mode de lecture

Equipement:
- Fréquencemètre numérique
- Bande étalon...QZZCWAT

Précision de la vitesse de défilement

1. Brancher les appareils comme indiqué dans la Fig. 7.
2. Lire la bande étalon (QZZCWAT, 3000Hz) et appliquer le signal de lecture au fréquencemètre numérique.
3. Mesurer sa fréquence.
4. Sur la base de 3000Hz, déterminer la valeur à l'aide de la formule.

$$\text{Précision de vitesse} = \frac{f-3000}{3000} \times 100(\%)$$

avec f = valeur mesurée.

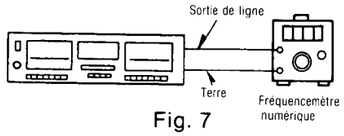


Fig. 7

5. Effectuer la mesure sur la partie médiane de la bande.

Valeur standard: BANDE [1] 0,7% (3010±20Hz)
BANDE [2] (BANDE [1]−15)±15Hz

6. Si la valeur mesurée ne correspond pas à la valeur standard, régler au moyen de la vis VR de réglage de la vitesse de défilement indiquée.
   Remarque: Utiliser un tournevis qui ne soit pas métallique pour le réglage de la précision de la vitesse de défilement sur cette unité.

Fluctuations de vitesse de défilement

Faire les mesures de la même façon que ci-dessus (au début, au milieu et en fin de bande) et déterminer la différence entre les valeurs maximale et minimale, puis calculer comme suit.

$$\text{Fluctuations de vitesse} = \frac{f_1-f_2}{3000} \times 100(\%)$$

f_1 = valeur maximale
f_2 = valeur minimale

Valeur standard: 1%

Ⓒ Réponse en fréquence à la lecture (BANDE [1], BANDE [2])

Condition:
- Mode de lecture

Equipement:
- Voltmètre électronique
- Oscilloscope
- Bande étalon ...QZZCFM

1. Brancher les appareils comme indiqué dans la Fig. 2.
2. Lire la portion de réponse en fréquence de la bande étalon (QZZCFM).
3. Mesurer les niveaux de sortie à 315Hz, 12,5kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, et 63Hz et comparer chaque niveau de sortie avec celui de la fréquence standard de 315Hz sur la borne LINE OUT.
4. Effectuer les mesures sur les deux canaux.
5. Vérifier que les valeurs mesurées se situent dans la bande spécifiée de la courbe de réponse en fréquence. (Voir Fig. 8).

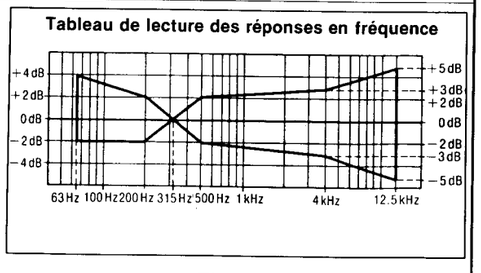


Fig. 8

Ⓓ Gain à la lecture (BANDE [1], BANDE [2])

Condition:
- Mode de lecture

Equipement:
- Voltmètre électronique
- Oscilloscope
- Bande étalon...QZZCFM

1. Brancher les appareils comme indiqué dans la Fig. 2.
2. Faire jouer la portion du niveau d'enregistrement normal sur la bande d'essai (QZZCFM, 315Hz) et, en utilisant un voltmètre électronique, mesurer le niveau de sortie aux sorties en ligne.
3. Effectuer les mesures sur les deux canaux.

Valeur standard: 0,4V±0,5dB (0,02V)

Réglage

1. Si la valeur mesurée ne correspond pas à la valeur standard régler BANDE [1] VR103 (canal gauche) ou VR104 (canal droit), BANDE [2] VR1 (canal gauche) ou VR2 (canal droit).
2. Après réglage, vérifier à nouveau la "réponse en fréquence à la lecture".

Ⓔ Courant d'effacement (BANDE [2])

Condition:
- Mode d'enregistrement

Equipement:
- Voltmètre électronique
- Oscilloscope

1. Brancher les appareils comme indiqué dans la Fig. 9.
2. Insérer la bande d'essai vierge de référence métallisée (QZZCRZ).
3. Appuyer sur les boutons d'enregistrement et de pause.
4. Lire le voltage sur le voltmètre électronique et calculer le courant d'effacement au moyen de la formule suivante:

$$\text{Courant d'effacement (A)} = \frac{\text{Voltage à la résistance R301}}{1\ (\Omega)}$$

Valeur standard: $155 \pm \frac{20}{5}$mA (bande métallique) ($155 \pm \frac{20}{5}$mV)

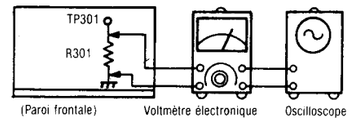


Fig. 9

5. Si la valeur mesurée ne correspond pas à la valeur standard, régler selon les instructions ci-après.

Réglage

- Si le courant d'effacement est supérieur à 150mA, couper le fil de connection TP302.

Ⓕ Réponse de fréquence globale (BANDE [2])

Condition:
- Mode enregistrement/lecture
- Contrôles de niveau d'entrée...MAX

Equipement:
- Voltmètre électronique
- Atténuateur
- Oscillateur
- Oscilloscope
- Résistance (600Ω)
- Bande étalon vierge
  ...QZZCRA pour bande normale
  ...QZZCRX pour bande CrO_2
  ...QZZCRZ pour bande métallique

Remarque:

Avant de mesurer et régler la réponse de fréquence globale vérifier que la réponse en fréquence à la lecture soit correcte (pout la méthode de mesure, se reporter au paragraphe intitulé "Réponse en fréquence à la lecture").
(Le compensateur d'enregistrement est fixe.)

1. Brancher les appareils comme indiqué dans la Fig. 11.
2. Introduire la bande étalon vierge normale (QZZCRA).
3. Appliquer le signal de 1kHz de l'oscillateur AF à la borne LINE IN, par l'intermédiaire de l'atténuateur.
4. Régler l'atténuateur de sorte que le niveau d'entrée soit de 20dB en-dessous du niveau d'enregistrement standard (niveau d'enregistrement standard = 0VU).
5. Régler l'oscillateur AF pour produire des signaux de 50Hz 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz et 10kHz et enregistrer ces signaux sur la bande étalon.
6. Reproduire les signaux enregistrés dans la phase 6, et vérifier si la courbe de réponse de fréquence se trouve dans les limites indiquées par la courbe de réponse de fréquence globale pour bandes normales (Fig. 10).
   (Si la courbe est comprise dans les spécifications, passer aux phases 7, 8 et 9).
   Si la courbe ne correspond pas aux spécifications du tableau, régler comme suit.

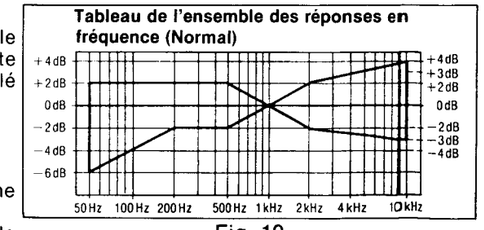


Fig. 10

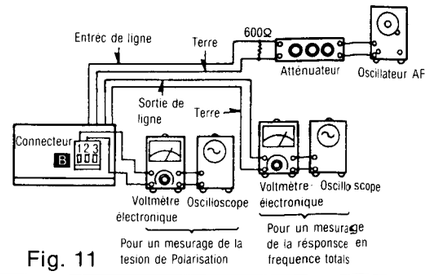


Fig. 11

Ⓓ Ganancia de reproducción (CINTA [1], CINTA [2])

Condición:
- Modo de reproducción

Equipo:
- EVM (Voltímetro electrónico)
- Osciloscopio
- Cinta de prueba...QZZCFM

1. La conexión del equipo de prueba se muestra en la Fig. 2.
2. Reproduzca la porción de nivel de grabación estándard en la cinta de prueba (QZZCFM 315Hz) y, usando EVM (voltímetro electrónico), mida el nivel de salida en "LINE OUTs" (salidas de línea).
3. Efectuar las medidas para ambos canales.

Valor normal: 0,4V±0,5dB (0,02V)

Ajuste

1. Si el valor medido no está comprendido dentro del valor normal, ajustar CINTA [1] [VR103 (L-CH), VR104 (R-CH)], CINTA [2] [VR1 (L-CH), VR2 (R-CH)].
2. Despues del ajuste, comprobar de nuevo la "respuesta de frecuencia de reproducción".

Ⓔ Corriente de borrado (CINTA [2])

Condición:
- Modo de grabación

Equipo:
- EVM (Voltímetro electrónico)
- Osciloscopio

1. La conexión del equipo de prueba se muestra en la Fig. 9.
2. Insertar la cinta de prueba virgen de referencia metálica (QZZCRZ).
3. Apretar los botones de pausa y grabación.
4. Tomar la lectura del voltaje en EVM y calcular la corriente de borrado mediante la fórmula siguiente:

$$\text{Corriente de borrado (A)} = \frac{\text{Voltaje entre terminales de R301}}{1\ (\Omega)}$$

Valor normal: $155 \pm \frac{20}{5}$mA (Mode de cinta...Metal) ($155 \pm \frac{20}{5}$mV)

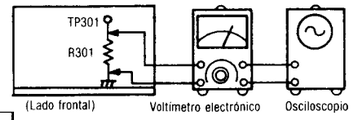


Fig. 9

5. Si el valor medido no está comprendido dentro del valor normal, ajustar de la forma siguiente:

Ajuste

- Si la corriente de borrado es mayor que 150mA, cortar el hilo del puente TP302.

Ⓕ Respuesta de frecuencia total (CINTA [2])

Condición:
- Modo de reproducción/ grabación
- Control de nivel de entrada ...MAX

Equipo:
- EVM (Voltímetro electrónico)
- ATT
- Oscilador de AF
- Osciloscopio
- Resistor (600Ω)
- Cinta de prueba (cinta en blanco de referencia)
  ...QZZCRA para Normal
  ...QZZCRX para CrO_2
  ...QZZCRZ para Metal

Nota:

Antes de medir y ajustar la respuesta de frecuencia total, asegurarse de la respuesta de frecuencia de reproducción. (Para el método de medida, sírvase consultar la respuesta de frecuencia de reproducción).
(Se fija el compensador de grabación.)

1. Efectuar las conexiones tal como se muestra en la Fig. 11.
2. Cargar la cinta de prueba (QZZCRA).
3. Aplicar una señal de 1kHz desde el oscilador de AF a través de ATT a LINE IN.
4. Ajustar el ATT de forma que el nivel de entrada sea de −20dB por debajo del nivel estándar de grabación (nivel estándar de grabación = 0VU).
5. Ajustar el oscilador de AF para generar señales de 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz y 10kHz y grabar, estas señales en la cinta de prueba.
6. Reproducir las señales grabadas en el paso 6, y comprobar si la curva de respuesta de frecuencia está dentro de los límites mostrados en el gráfico de respuesta de frecuencia total para las cintas normales (Fig. 10).
   (Si la curva está dentro de las especificaciones del gráfico, sequir con los pasos 7, 8 y 9).
   Si la curva no está dentro de las especificaciones del gráfico, ajustar de la forma siguiente:

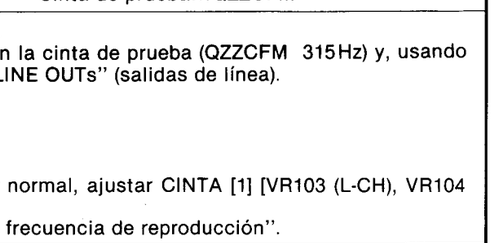


Fig. 10

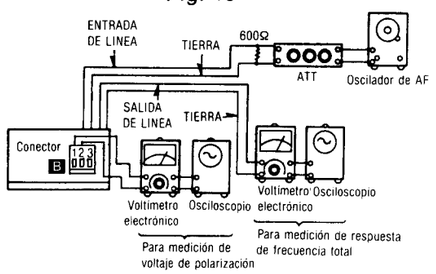


Fig. 11

Ajuste A:

Cuando la curva excede las especificaciones del gráfico de respuesta de frecuencia total (Fig. 10) tal como se muestra en la Fig. 12.

1) Aumentar la corriente de polarización girando VR301 (L-CH) y, VR302 (R-CH).
2) Repetir los pasos 5 y 6 para confirmación. (Sequir con los pasos 7, 8 y 9 si la curva está ahora dentro de las especificaciones del gráfico de la Fig. 10).
3) Si la curva todavía excede las especificaciones (Fig. 10), aumentar aún más la corriente de polarización y repetir los pasos 5 y 6.

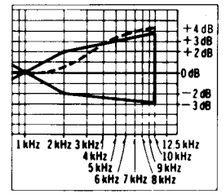


Fig. 12

Ajuste B:

Cuando la curva está por debajo de las especificaciones del gráfico de respuesta de frecuencia total (Fig. 10) tal como se muestra en la Fig. 13.

1) Reducir la corriente de polarización girando VR301 (L-CH) y VR302 (R-CH).
2) Repetir los pasos 5 y 6 para confirmación. (Seguir con los pasos 7, 8 y 9 si la curva está ahora dentro de las especificaciones del gráfico de la Fig. 10.)
3) Si la curva todavía cae por debajo de las especificaciones del gráfico (Fig. 10), reducir aún más la corriente de polarización y repetir los pasos 5 y 6.

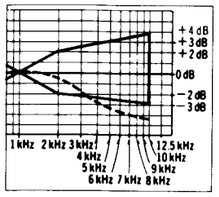


Fig. 13

7. Cambiar la cinta de prueba a QZZCRX y grabar señales de 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz y 12,5kHz. Luego, reproducir las señales y comprobar si la curva está dentro de los límites mostrados en el gráfico de respuesta de frecuencia total para las cintas CrO_2 (Fig. 14).
8. Cambiar la cinta de prueba a QZZCRZ, y grabar señales de 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz y 12,5kHz. Luego, reproducir las señales y comprobar si la curva está dentro de los limites mostrados en el gráfico de respuesta de frecuencia total para las cintas de Metal (Fig. 14.)
9. Asegurarse de que las tensión de polarización sean aproximadamente las que se indican a continuación cuando el aparato esté colocado en un modo de cinta distinto.
   - Medir la tensión en la cabeza utilizando el EVM.

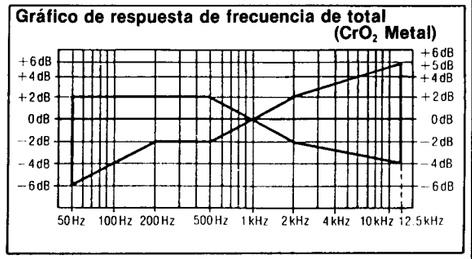


Fig. 14

	Unos 8V (posición Normal)
Valor de referencia:	**Unos 10V (posición CrO_2)**
	Unos 15V (posición Metal)

Ⓖ Ganancia total (CINTA [2])

Condición:
- Modo de reproducción/ grabación
- Controles del nivel de entrada ...MAX.
- Nivel de entrada normal:
  LINE IN .....−24±4dB (63mV)

Equipo:
- EVM (Voltímetro electrónico)
- Oscilador de AF
- ATT
- Osciloscopio
- Resistor (600Ω)
- Cinta de prueba (cinta en blanco de referencia)
  ...QZZCRA para Normal

1. La conexión del equipo de prueba se muestra en la Fig. 15.
2. Cargar la cinta normal en blanco de referencia (QZZCRA).
3. Poner el aparato en el modo grabación.
4. Suministrar una señal 1kHz (−24dB) desde el oscilador de AF a través de ATT a LINE IN (ENTRADA DE LINEA).
5. Ajuster ATT hasta que el nivel del monitor en "LINE OUTs" sea 0,4V.
6. Reproduzca la cinta grabada y asegúrese de que el nivel de salida en "LINE OUTs" sea 0,4V.
7. Si el valor medido no es de 0,42V, ajustarlo con VR3 (L-CH), VR4 (R-GH).
8. Repetir desde el punto (2).

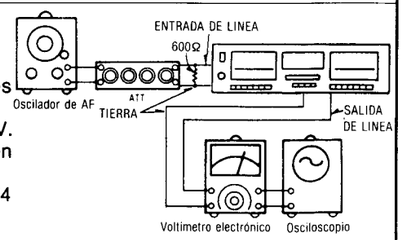


Fig. 15

ESPAÑOL

Sirvase utilizarse junto con manual de servicio para el model No. RS-D550W.

■ ESPECIFICACIONES TECNICAS

Sistema de platina	Platina de cassette estéreo
Sistema de pistas	4 pistas, 2 canales
Cabezas (TAPE 1) de REPROD	Cabeza de MX
(TAPE 2) de GRAB/REPROD	Cabeza de MX
de borrado	Cabezas de ferrita de 2 entrehierros
Motores	
(TAPE 1) Sistema de tracción de cinta/cabestante	Motor de CC
(TAPE 2) Sistema de tracción de cinta/cabestante	Motor de CC
Sistema de grabación	Polarización de CA
Frecuencia de polarización	80kHz
Sistema de borrado	Polarización de CA
Velocidad de cinta	4,8cm/seg.
Respuesta de frecuencia	
Metal	20Hz∼17.000Hz
	30Hz∼16.000Hz (DIN)
	40Hz∼15.000Hz±3dB
CrO_2	20Hz∼16.000Hz
	30Hz∼15.000Hz (DIN)
	40Hz∼14.000Hz±3dB
Normal	20Hz∼15.000Hz
	30Hz∼14.000Hz (DIN)
	40Hz∼14.000Hz±3dB
Señal a ruido:	
(niveau de señal = nivel de grabación máx. tipo de cinta CrO_2)	
con reducción de ruidos Dolby B	66dB (CCIR)
sin reducción de ruidos	56dB (promedio A)
Variación de velocidad	0,08% (WRMS) ±0,16% (DIN)
Tiempo de avance rápido y rebobinado	Approx. 110 segundos con cintas C-60
Sensibilidad de entrada e impedancia	
LINE	60mV/47kΩ
Voltaje de salida e impedancia	
LINE	400mV/1,5kΩ
HEADPHONES	80mV/8Ω
Consumo de corriente	12W
Alimentación de energía	CA 50Hz/60Hz, 220V para Europe realizar Royaume-Uni, 240V para Royaume-Uni, parâ otras áreas.
Dimensions (An.×Al×Prof.)	430×114×229mm
Peso	3,5kg

■ METODOS DE AJUSTE Y MEDIDA

NOTAS: Colocar los interruptores y controles en las posiciones siguientes a no ser que se especifique lo contrario:
- Asegurarse de que las cabezas estén limpias.
- Asegurarse de que los cabrestantes y los rodillos presores estén limpios.
- Temperatura ambiente aconsejable: 20±5°C (68±9°F)
- Interruptor NR: OUT
- Controles del nivel de entrada: Máximo

Ⓐ Ajuste de azimut de las cabezas (CINTA [1], CINTA [2])

Condición:
- Modo de reproducción

Equipo:
- EVM (Voltímetro electrónico)
- Osciloscopio
- Cinta de prueba (azimut) ...QZZCFM

Ajuste del equilibrio de salida L-CH/R-CH (canal izquierdo/canal derecho)

1. Efectuar las conexiones como muestra la Fig. 2.
2. Reproducir la señal de 8kHz desde la cinta de prueba (QZZCFM). Ajustar el tornillo (B) en Fig. 3 para obtener niveles L-CH y R-CH de salida máxima. Cuando los niveles de salida de L-CH y R-CH no están al máximo, al mismo tiempo, reajustar de la siguiente forma:
3. Girar el tornillo mostrado en Fig. 3 para buscar los ángulos A y C (puntos donde los niveles de salida de cresta se obtienen para los canales derecho y izquierdo). Luego, localizar el ángulo B entre los ángulos A y C, por ej., el punto donde los niveles de salida de R-CH y L-CH estén equilibrados. (Consultar Fig. 3 y 4.)

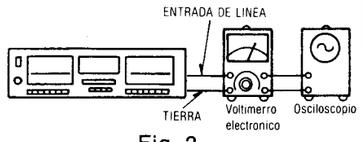


Fig. 2

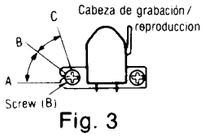


Fig. 3

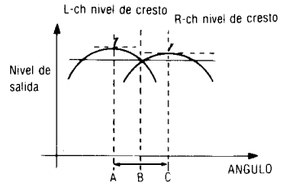


Fig. 4

ESPAÑOL

Ajuste de fase de L-CH/R-CH

4. Efectuar las conexiones como muestra la Fig. 5.
5. Reproducir la señal de 8kHz desde la cinta de prueba (QZZCFM). Ajustar el tornillo. (B) de la Fig. 3 de forma que las agujas indicadoras de los dos EVM giren hacia el máximo y se obtenga una forma de onda como la indicada en la Fig. 6 sobre el osciloscopio.

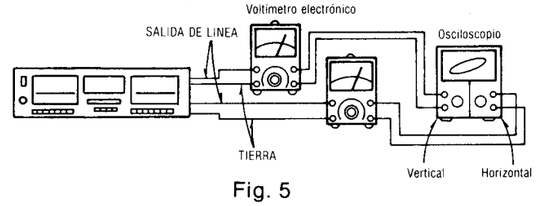


Fig. 5

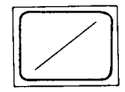


Fig. 6

Ⓑ Velocidad de la cinta (CINTA [1], CINTA [2])

Condición:
- Modo de reproducción

Equipo:
- Contador digital electrónico
- Cinta de prueba...QZZCWAT

Exactitud de la velocidad de cinta

1. La conexión del equipo de prueba se muestra en Fig. 7.
2. Reproducir la cinta de prueba (QZZCWAT 3.000Hz), y suministrar una señal de reproducción al contador digital electrónico.
3. Medir esta frecuencia.
4. Sobre la base de 3.000Hz, determinar el valor de la exactitud mediante la siguiente fórmula:

$$\text{Exactitud de la velocidad de cinta} = \frac{f-3.000}{3.000} \times 100(\%)$$

donde f = valor medido

5. Tomar medida en la sección media de la cinta.

Valor normal: CINTA [1] 0,7% (3010±20Hz)
CINTA [2] (CINTA [1]–15)±15Hz

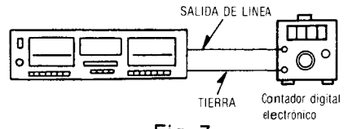


Fig. 7

6. Si el valor medido no está dentro del valor estándar, ajustarlo usando el ajuste de velocidad de cinta VR mostrado.

Nota: No utilizar destornilladores metálicos cuando ajuste la precisión de la velocidad de la cinta en este aparato.

Fluctuación de la velocidad de cinta

Efectuar las mediciones de la misma manera que antes (al comienzo, mitad y final de la cinta) y determinar la diferencia entre los valores máximo y mínimo. Calcular de la forma siguiente:

$$\text{Fluctuación de la velocidad de cinta} = \frac{f_1-f_2}{3.000} \times 100(\%)$$

f_1 = valor máximo,
f_2 = valor mínimo

Valor normal: menos de 1%

Ⓒ Respuesta de frecuencia de reproducción (CINTA [1], CINTA [2])

Condición:
- Modo de reproducción

Equipo:
- EVM (Voltímetro electrónico)
- Osciloscopio
- Cinta de prueba...QZZCFM

1. La conexión del equipo de prueba se muestra en la Fig. 2.
2. Reproducir la cinta de prueba de respuesta de frecuencia (QZZCFM).
3. Medir el nivel de salida en 315Hz, 12,5kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz y 63Hz y comparar cada nivel de salida con 315Hz de frecuencia normal, en LINE OUT.
4. Efectuar las medidas para ambos canales.
5. Asegurarse de que el valor medido está comprendido dentro de la gama especificada en el gráfico de la respuesta de frecuencia (mostrado en la Fig. 8).

Gráfico de respuesta de frecuencia de reproducción

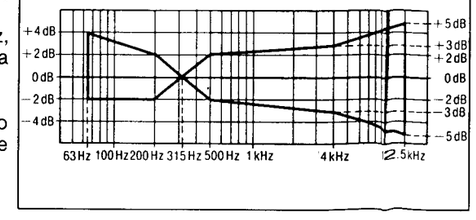


Fig. 8

ⓗ **Circuito Dolby de reducción de ruido (NR)**	Condición • Modo de grabación • Controles del nivel de entrada ...MAX	Equipo: • EVM • Oscilador de AF • ATT • Osciloscopio • Resistor (600Ω)

1. La conexión del equipo de prueba se muestra en la Fig. 16.
2. Colocar la UNIDAD en el modo de grabación. Colocar el interruptor NR en la posición OUT y suministrar una señal de 5kHz a LINE IN para obtener 17,5mV en el terminal 7 (L-CH) terminal 18 (R-CH) del IC401.
3. Confirmar que los valores en el terminal 6 (L-CH) terminal 19 (R-CH) del IC401 con el interruptor Dolby NR en la posición IN sena de 8 (±2,5)dB (728mV) mayores que los valores en la posición Dolby OUT del Interruptor NR.

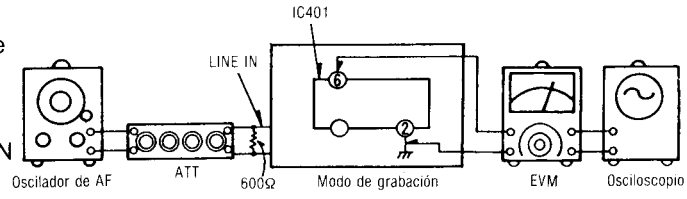


Fig. 16

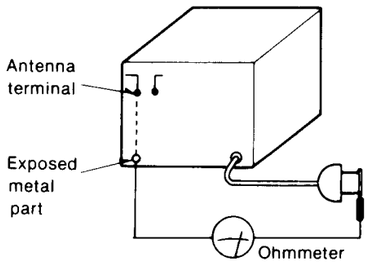
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

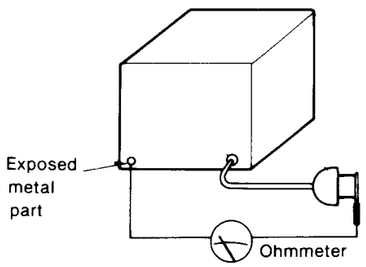
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	How to remove the case cover
Procedure 1	• Remove 4 screws (❶~❹).

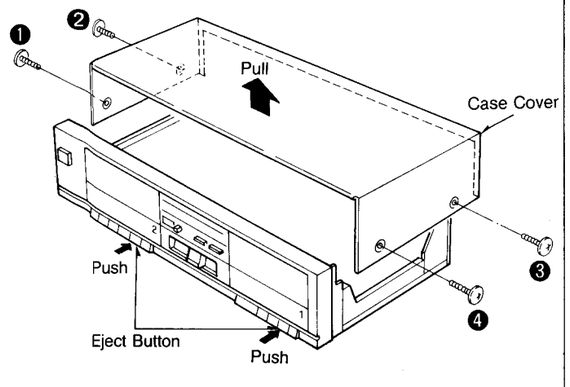


Fig.1

Ref. No. 2	How to remove the main P.C.B.
Procedure 1 → 2	• Remove 5 screws (❶~❺). • Remove the earth plate. • Remove the power rod (see fig. 3). • Pull 2 tabs aside. • Pull the back chasis in the direction of arrow Ⓐ and fell it in the direction of arrow Ⓑ.

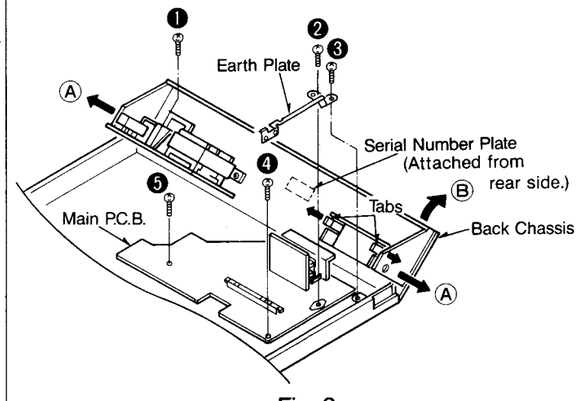
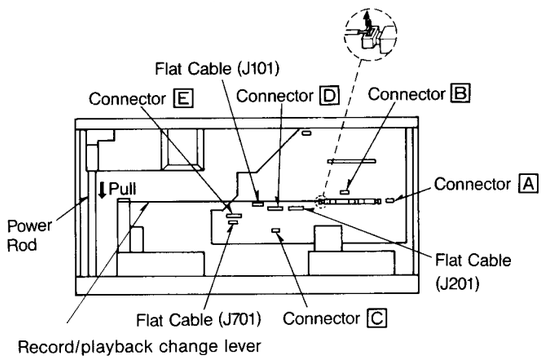
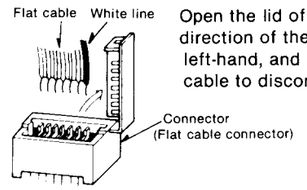


Fig. 2

Ref. No. 3	How to remove the front panel assembly
Procedure 1→3	• Pull out the connectors Ⓐ, Ⓑ, Ⓒ, Ⓓ and Ⓔ. • Remove flat cable J101, J201 and J701.



How to remove flat cable



Open the lid of connector in the direction of the arrow as shown left-hand, and extract the flat cable to disconnect.

Fig. 3

• Remove 3 screws (❶~❸).

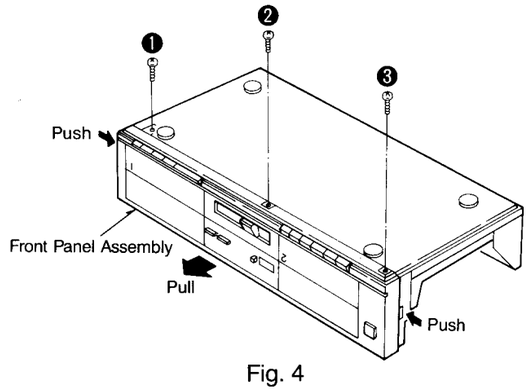


Fig. 4

Ref. No. 4	How to remove the volume P.C.B.
Procedure 1 → 4	• Remove 4 screws (❶~❹) (see fig. 5). • Remove 2 screws (❷, ❸) (see fig. 6). • Raise tabs in the direction of arrow Ⓐ and remove the volume P.C.B. in the direction of arrow Ⓑ (see fig. 6).

Ref. No. 5	How to remove the mechanism unit
Procedure 1 → 5	• Remove the record/playback change lever (see fig. 3). • Remove 4 screws (❶~❹). • Remove 2 screws (❺, ❻) (TAPE 2). • Remove 2 screws (❼, ❽) (TAPE 1). • Remove the counter belt (TAPE 2). • Push the eject button (see fig. 1). • Draw out the mechanism unit until it is not in touch with the main P.C.B., and lift it in the direction of arrow Ⓐ. Then draw out the bottom of mechanism unit in the direction of arrow Ⓑ. Subsequently, draw out the top of it in the direction of arrow Ⓒ. After that, take out the mechanism unit in the direction of arrow Ⓓ.

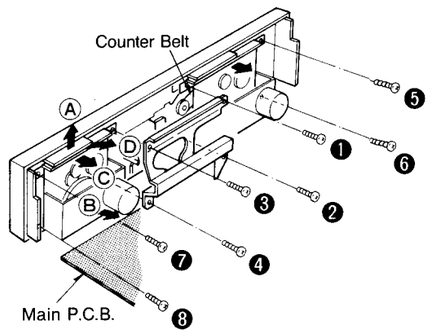


Fig. 5

Ref. No. 6	How to remove the LED meter P.C.B.
Procedure 1 → 6	• Remove 4 screws (❶~❹) (see fig. 5). • Remove one screw (❶). • Raise tabs in the direction of arrow Ⓐ and remove the LED meter P.C.B. in the direction of arrow Ⓑ.

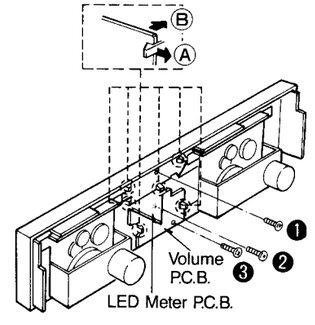


Fig. 6.

*** Serial No. Indication**

• The serial number plate of this product is attached to the back chassis (shown in fig. 2).

RS-D550W/RS-B17W/RS-B24W

■ MEASUREMENTS AND ADJUSTMENTS

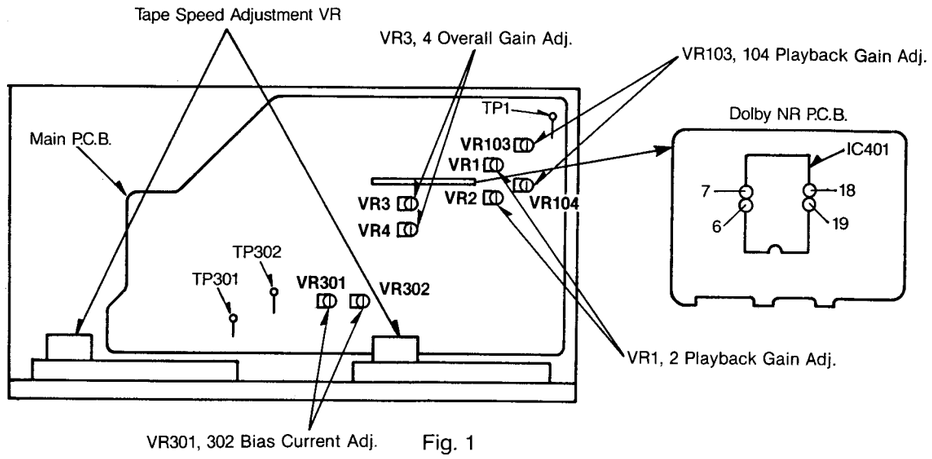


Fig. 1

NOTES: Set switches and controls in the following positions, unless otherwise specified.
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C (68±9°F)
- Input level controls: Maximum
- Dolby NR switch: OUT

Ⓐ Head azimuth adjustment (TAPE [1], TAPE [2])

Condition:
- Playback mode

Equipment:
- EVM (Electronic Voltmeter)
- Oscilloscope
- Test tape (azimuth)...QZZCFM

L-CH/R-CH output balance adjustment
1. Make connections as shown in fig. 2.

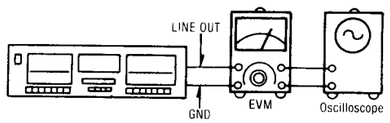


Fig. 2

2. Playback the 8kHz signal from the test tape (QZZCFM). Adjust screw (B) in fig. 3 for maximum output L-CH and R-CH levels. When the output levels of L-CH and R-CH are not at maximum at the same point adjust as follows.
3. Turn screw (B) shown in fig. 3 to find angles A and C (points where peak output levels for left and right channels are obtained). Then, locate angle B between angles A and C, i.e., point where L-CH and R-CH outputs are balanced. (Refer to figs. 3 and 4.)

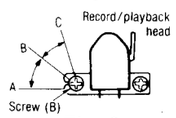


Fig. 3

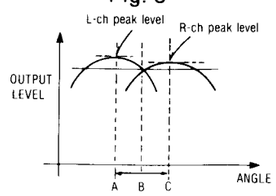


Fig. 4

L-CH/R-CH phase adjustment
4. Make connections as shown in fig. 5.
5. Playback the 8kHz signal from the test tape (QZZCFM). Adjust screw (B) shown in fig. 3 so that pointers of the two EVMs swing to maximum and a lissajous waveform as illustrated in fig. 6 is obtained on the oscilloscope.

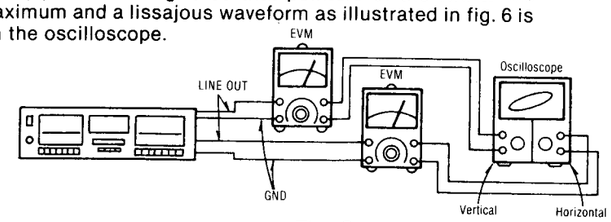


Fig. 5

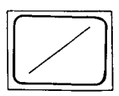


Fig. 6

Ⓑ Tape speed (TAPE [1], TAPE [2])

Condition:
- Playback mode

Equipment:
- Digital frequency counter
- Test tape...QZZCWAT

Tape speed accuracy
1. Test equipment connection is shown in fig. 7.
2. Playback test tape (QZZCWAT 3,000Hz), and supply playback signal to the digital 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

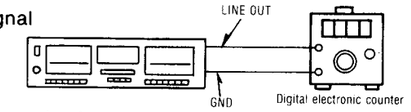


Fig. 7

5. Take measurement at middle section of tape.

Standard value: TAPE[1]3010±20Hz [TAPE[2](TAPE[1]−15)±15Hz]

6. If measured value is not within the standard value, adjust it by using the tape speed adjustment VR shown in fig. 1.
Note: Please use non metal type screwdriver when you adjust tape speed accuracy on this unit.

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 1%

Ⓒ Playback frequency response (TAPE [1], TAPE [2])

Condition:
- Playback mode

Equipment:
- EVM (Electronic Voltmeter)
- Oscilloscope
- Test tape...QZZCFM

1. Test equipment connection is shown in fig. 2.
2. Playback the frequency response portion of test tape (QZZCFM).
3. Measure output level at 315Hz, 12.5kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz and 63Hz, and compare each output level with the standard frequency 315Hz, at LINE OUT.
4. Make measurements for both channels.
5. Make sure that the measured values are within the range specified in the frequency response chart (Shown in fig. 8).

Playback frequency response chart

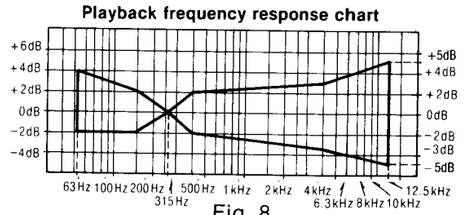


Fig. 8

Ⓓ Playback gain (TAPE [1], TAPE [2])

Condition:
- Playback mode

Equipment:
- EVM (Electronic Voltmeter)
- Oscilloscope
- Test tape...QZZCFM

1. Test equipment connection is shown in fig. 2.
2. Playback standard recording level portion on test tape (QZZCFM 315Hz) and, using EVM, measure the output level at LINE OUTs.
3. Make measurements for both channels.

Standard value: 0.4V±0.02V

Adjustment
1. If the measured value is not within the standard, adjust TAPE [1] VR103 (L-CH) or VR104 (R-CH), Tape [2] VR1 (L-CH) or VR2 (R-CH) (See fig. 1).
2. After adjustment, check "Playback frequency response" again.

Ⓔ Erase current (TAPE [2])

Condition:
- Record mode

Equipment:
- EVM (Electronic Voltmeter)
- Oscilloscope
- Test tape (reference blank tape)...QZZCRZ for Metal

1. Test equipment connection is shown in fig. 9.
2. Insert the metal tape.
3. Press the record and pause buttons.
4. Read voltage on EVM and calculate erase current by following formula:

$$\text{Erase current (A)} = \frac{\text{Voltage across resistor R301}}{1\ (\Omega)}$$

Standard value: 155 $^{+20}_{-5}$mA (Metal) (155 $^{+20}_{-5}$mV)

5. If the measured value is not within the standard value adjust it by following the adjustment instructions.

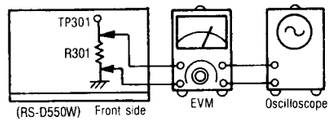


Fig. 9

Adjustment

If the erase current is less than 150mA, cut the TP302 (See fig. 1).

Ⓕ Overall frequency response (TAPE 2)

Condition:
- Record/playback mode
- Input level controls...MAX

Equipment:
- EVM (Electronic Voltmeter)
- ATT
- AF oscillator
- Oscilloscope
- Resistor (600Ω)
- Test tape (reference blank tape)
  - ...QZZCRA for Normal
  - ...QZZCRX for CrO_2
  - ...QZZCRZ for Metal

Note:

Before measuring and adjusting, the overall frequency response make sure of the playback frequency response (For the method of measurement, please refer to the playback frequency response).

(Recording equalizer is fixed)

1. Make connections as shown in fig. 11.
2. Insert the normal reference blank test tape (QZZCRA).
3. Supply a 1kHz signal from the AF oscillator through ATT to LINE IN.
4. Adjust ATT so that input level is −20dB below standard recording level (standard recording level = 0 VU).
5. Adjust the AF oscillator frequency to 1kHz, 50Hz, 100Hz, 200Hz, 500Hz, 4kHz, 8kHz, 10kHz and 12.5kHz signals, and record these signals on the test tape.
6. Playback the signals recorded in step 6, and check if the frequency response curve is within the limits shown in the overall frequency response chart for normal tapes (fig. 10). (If the curve is within the charted specifications, proceed to steps 7, 8 and 9.)
   If the curve is not within the charted specifications, adjust as follows;

Overall frequency response chart (Normal)

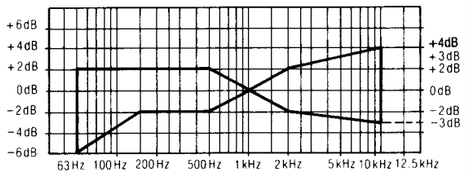


Fig. 10

Fig. 11

Adjustment (A):

When the curve exceeds the overall specified frequency response chart (fig. 10) as shown in fig. 12.

1) Increase bias current by turning VR301 (L-CH) and VR302 (R-CH). (See fig. 1.)
2) Repeat steps 5 and 6 for confirmation (Proceed to steps 7, 8 and 9 if the curve is now within the charted specifications as shown fig. 10.)
3) If the curve still exceeds the specifications (fig. 10), increase bias current further and repeat steps 5 and 6.

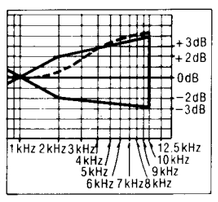


Fig. 12

Adjustment (B):

When the curve falls below the overall specified frequency response chart (fig. 10) as shown in fig. 13.

1) Reduce bias current by turning VR301 (L-CH) and VR302 (R-CH).
2) Repeat steps 5 and 6 for confirmation (Proceed to steps 7, 8 and 9 if the curve is now within the charted specifications as shown fig. 10.)
3) If the curve still falls below the charted specifications (fig. 10), reduce bias current further and repeat steps 5 and 6.

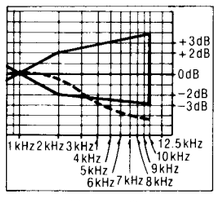


Fig. 13

7. Place UNIT into CrO_2 tape mode.
8. Change test tape to CrO_2 reference blank test tape (QZZCRX), and record 1kHz, 50Hz, 100Hz, 200Hz, 500Hz, 4kHz, 8kHz, 10kHz and 15kHz signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for CrO_2 tapes (fig. 14).
9. Place UNIT into metal tape mode and change test tape to metal reference blank test tape (QZZCRZ), and record 1kHz, 50Hz, 100Hz, 200Hz, 500Hz, 4kHz, 8kHz, 10kHz, 12.5kHz and 15kHz signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for metal tapes (fig. 14).
10. Confirm that bias currents are approximately as follows when the UNIT is set at different tape mode.
    - Measure the voltage across the head using a EVM.

Reference value: around 8V (Normal position)
around 10V (CrO_2 position)
around 15V (Metal position)

Overall frequency response chart (CrO_2, Metal)

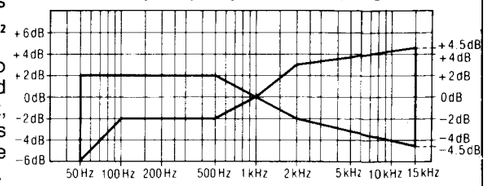


Fig. 14

Ⓖ Overall gain (TAPE 2)

Condition:
- Record/playback mode
- Input level controls...MAX
- Standard input level; LINE IN...−24±4dB (63mV)

Equipment:
- EVM (Electronic Voltmeter)
- ATT
- Resistor (600Ω)
- Test tape (reference blank tape) ...QZZCRA for Normal
- AF oscillator
- Oscilloscope

1. Test equipment connection is shown in fig. 15.
2. Insert the normal reference blank tape (QZZCRA).
3. Place UNIT into record mode.
4. Supply a 1kHz signal through ATT (−24dB) from AF oscillator, to LINE IN.
5. Adjust ATT until monitor level at LINE OUT becomes 0.4V.
6. Playback recorded tape, and make sure that the output level at LINE OUT becomes 0.4V.
7. If measured value is not 0.4V, adjust it by suing VR3 (L-CH) or VR4 (R-CH).
8. Repeat from step (2).

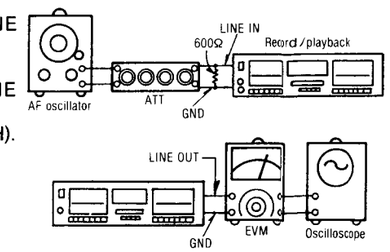


Fig. 15

Ⓗ Dolby NR circuit

Condition:
- Record mode
- Input level controls...MAX

Equipment:
- EVM (Electronic Voltmeter)
- ATT
- Resistor (600Ω)
- AF oscillator
- Oscilloscope

1. Test equipment connection is shown in fig. 16.
2. Place UNIT into record mode, set the Dolby NR switch to OUT position and supply a 5kHz signal to LINE IN to obtain 17.5mV at pin 7 (L-CH) {Pin 18 (R-CH)} of IC401.
3. Confirm that the values at pin 6 (L-CH) {pin 19 (R-CH)} with Dolby NR switch in the IN position are 8 (±2.5)dB (728mV) greater than the values at the OUT position of the Dolby NR switch.

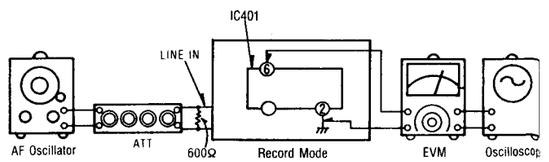


Fig. 16

■ ELECTRICAL PARTS LIST

REPLACEMENT PARTS LIST

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

NOTES: RESISTORS
ERD .....Carbon
ERG .....Metal-oxide
ERS.....Metal-oxide
ERO .....Metal-film
ERX.....Metal-film
ERQ .....Fuse type metallic
ERC .....Solid
ERF.....Cement

CAPACITORS
ECBA .....Ceramic
ECG□.....Ceramic
ECK□.....Ceramic
ECC□.....Ceramic
ECF□.....Ceramic
ECQM.....Polyester film
ECQE .....Polyester film
ECQF .....Polypropylene
ECE□.....Electrolytic
ECEDN ...Non polar electrolytic
ECQS .....Polystyrene
ECS□.....Tantalum
QCS .....Tantalum

Areas

* [M] For U.S.A.	* [PA] For Far East PX.
* [E] For European areas except United Kingdom.	* [PE] For European Military.
* [EK] For United Kingdom.	* [XA] For Asia, Latin America, Middle East and Africa.
* [EH] For Holland.	* [XL] For Australia.
* [EGA] For F.R. Germany.	

• RESISTORS

Ref. No.	Part No.	Value
R 1, 2	ERD25TJ104	100k
R 3, 4, 5, 6	ERD25TJ153	15k
R 7, 8	ERD25FJ820	82
R 9, 10	ERD25FJ101	100
R 11, 12	ERD25FJ272	2.7k
R 13, 14	ERD25TJ183	18k
R 15, 16	ERD25TJ274	270k
R 17, 18	ERD25FJ562	5.6k
R 19, 20	ERD25FJ472	4.7k
R 21, 22	ERD25TJ153	15k
R 23, 24	ERD25FJ561	560
R 25, 26	ERD25FJ271	270
R 27, 28	ERD25TJ223	22k
R 29, 30	ERD25TJ153	15k
R 31, 32, 33, 34	ERD25FJ103	10k
R 35, 36	ERD25FJ471	470
R 37, 38	ERD25FJ222	2.2k
R 39, 40	ERD25FJ102	1k
R 41, 42 [E][EH][EGA][XA]	ERD25FJ470	47
R 41, 42 [EK][XL]	ERD2FCJ820	82
R 43, 44	ERD25FJ3R3	3.3
R 45, 46	ERD25FJ472	4.7k
R 47, 48	ERD25TJ393	39k
R 49, 50	ERD25FJ121	120
R 51, 52	ERD25FJ102	1k
R 101, 102	ERD25TJ104	100k
R 103, 104	ERD25FJ820	82
R 105, 106	ERD25TJ824	820k
R 107, 108	ERD25TJ183	18k
R 109, 110	ERD25TJ153	15k
R 111, 112	ERD25TJ104	100k
R 113, 114	ERD25TJ473	47k
R 115, 116	ERD25FJ102	1k
R 117, 118	ERD25FJ472	4.7k
R 119, 120	ERD25TJ333	33k
R 121, 122	ERD25TJ473	47k
R 123, 124	ERD25TJ223	22k
R 125, 126	ERD25TJ474	470k
R 127, 128	ERD25FJ102	1k
R 129, 130	ERD25FJ222	2.2k
R 131, 132	ERD25FJ103	10k
R 133, 134	ERD25FJ101	100
R 201	ERD25FJ472	4.7k
R 202	ERD25TJ223	22k
R 203	ERD25FJ472	4.7k
R 204	ERD25TJ223	22k
R 205, 206, 207, 208, 209	ERD25FJ103	10k
R 210	ERD25TJ563	56k
R 211	ERD25FJ103	10k
R 212, 213, 214, 215	ERD25TJ223	22k
R 216, 217	ERD25FJ103	10k
R 218	ERD25TJ104	100k
R 219, 220	ERD25FJ103	10k
R 221, 222	ERD25TJ104	100k
R 223	ERD25FJ103	10k
R 224, 225	ERD25FJ102	1k
R 226	ERD25FJ392	3.9k
R 227	ERD25FJ103	10k
R 228	ERD25TJ123	12k
R 229, 230	ERD25FJ103	10k
R 231	ERD25TJ563	56k
R 232, 233	ERD25FJ332	3.3k
R 234	ERD25TJ123	12k
R 235	ERD25FJ470	47
R 236	ERD25FJ331	330
R 237, 238	ERD25FJ472	4.7k
R 239	ERD25TJ225	2.2M
R 240	ERD25FJ102	1k
R 301	ERD25FJ1R0	1.0
R 302	ERD25FJ100	10
R 303, 304	ERD25FJ562	5.6k
R 305	ERD25FJ100	10
R 306	ERD25FJ681	680
R 307	ERD25FJ102	1k
R 308	ERD25FJ271	270
R 401, 402	ERD25FJ242	2.4k
R 403, 404	ERD25FJ471	470
R 405, 406	ERD25FJ473	47k
R 407, 408	ERD25FJ432	4.3k
R 409, 410	ERD25FJ332	3.3k
R 411, 412	ERD25FJ102	1k
R 413, 414	ERD25TJ274	270k
R 415, 416	ERD25TJ184	180k
R 417, 418	ERD25FJ470	47
R 419	ERD25FJ512	5.1k
R 420	ERD25FJ103	10k
R 421	ERD25FJ102	1k
R 601, 602 [E][EH][EGA][XA] ⚠	ERD25FJ100	10
R 601, 602 [EK][XL] ⚠	ERD2FCJ100	10
R 603, 604 ⚠	ERD25FJ102	1k
R 605, 606 ⚠	ERD2FCJ4R7	4.7
R 607, 608 [EK][XL] ⚠	ERQ14LKR56P	0.56
R 701, 702	ERD25TJ363	36k
R 703, 704	ERD25FJ472	4.7k
R 705, 706	ERD25TJ154	150k
R 707	ERD25FJ562	5.6k
R 708, 709 [E][EH][EGA][XA] **R 708, 709** [EK][XL]	ERD25FJ270	27
	ERD25FJ330	33
R 710	ERD25FJ222	2.2k
R 711, 712	ERD25FJ561	560
R 713, 714 [EK][XL]	ERD25FJ330	33
R 715, 716 [EK][XL]	ERD25FJ390	39
R 901	ERD25FJ102	1k
R 902, 903	ERD25FJ103	10k

• CAPACITORS

Ref. No.	Part No.	Value
C 1, 2	ECKD1H821KB	820p
C 3, 4	ECQB1H682JZ	0.0068
C 5, 6	ECEA0JU101	100
C 11, 12	ECQB1H123JZ	0.012
C 13, 14	ECQB1H682JZ	0.0068
C 15, 16	ECQB1H332JZ	0.0033
C 17, 18	ECKD2H121KB	120p
C 19, 20	ECKD1H122KB	0.0012
C 21, 22, 23, 24, 25, 26	ECEA1HU010	1
C 27, 28, 29, 30	ECEA1CU100	10
C 31, 32	ECEA1HU4R7	4.7
C 33, 34	ECEA1AU221	220
C 35, 36	ECKD1H223ZF	0.022
C 37	ECKD1H223ZF	0.022
C 101, 102	ECKD1H821KB	820p
C 105, 106	ECEA0JU101	100
C 107, 108	ECCD1H121K	120p
C 109, 110	ECQB1H392JZ	0.0039
C 111, 112, 113, 114	ECEA1HU010	1
C 115	ECKD1H223ZF	0.022
C 201	ECEA1CU100	10
C 202, 203	ECEA1HU4R7	4.7
C 204	ECEA1CU100	10
C 205, 206	ECKD1H223ZF	0.022
C 207	ECEA1AU221	220
C 301	ECQP1183JZ	0.018
C 302	ECEA1HF4R7	4.7
C 303	ECFDD153KXY	0.015
C 304	ECFDD822KVY	0.0082
C 306	ECKW1H103ZF	0.01
C 401, 402	ECKD1H221KB	220p
C 403, 404	ECQB1H472JZ	0.0047
C 405, 406	ECQM1H333JZ	0.033
C 407, 408	ECQM1H473JZ	0.047
C 409, 410	ECQM1H334JZ	0.33
C 411, 412	ECQM1H104JZ	0.1
C 601, 602 ⚠	ECEA1AU221	220
C 603, 604 ⚠	ECKD1H223ZF	0.022
C 605, 606 ⚠	ECEA1CU102	1000
C 607 ⚠	ECEA1CU331	330
C 608 ⚠	ECKD2H472PE	0.0047
C 701, 702	ECEA1HU2R2	2.2
C 703	ECKD1H103ZF	0.01

INTEGRATED CIRCUITS

IC 1	M5219L	IC
IC 2	M5218L	IC
IC 101	M5219L	IC
IC 401	NE657	IC
IC 701	AN6888	IC

TRANSISTORS

Q 1, 2	2SA1115E	Transistor
Q 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	2SC2603EFG	Transistor
Q 101, 102, 103, 104, 105, 106	2SC2603EFG	Transistor
Q 107, 108	2SD1468R	Transistor
Q 201	2SA1115E	Transistor
Q 202	2SC2603EFG	Transistor
Q 203, 204, 205	2SA1115E	Transistor
Q 206, 207, 208	2SC2603EFG	Transistor
Q 209	2SA1115E	Transistor
Q 301	2SD592ANC-Q	Transistor
Q 302 [E][EH][EGA][XA]	2SA1115E	Transistor
Q 302 [EK][XL]	2SB621A-R	Transistor
Q 303 [E][EH][EGA][XA]	2SC2603EFG	Transistor
Q 303 [EK][XL]	2SD592ANC-Q	Transistor
Q 601	2SD592ANC-Q	Transistor
Q 602	2SB621A-R	Transistor
Q 901	2SA1115E	Transistor
Q 902	2SC2603EFG	Transistor

DIODES & RECTIFIERS

D 201, 202, 203	1SS254	Diode
D 204 ⚠	SM112	Rectifier
D 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218	1SS254	Diode
D 601 ⚠	MA4180H	Zener
D 602, 603, 604, 605, 606, 607 ⚠	SM112	Rectifier
D 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712	LN121260P	LED BLOCK
D 701, 702, 703, 704	LN464YCP	LED
D 705, 706, 707, 708, 709, 710	LN864RCP	LED
D 711, 712	LN464YCP	LED
D 713	LN846RP	LED
D 901	SVDMC911	Diode

VARIABLE RESISTORS

VR 1, 2	EVNK6AA00B24	Playback Gain Adj
VR 3, 4	EVNK6AA00B24	Overall Gain Adj
VR 101, 102	EWAPB1X05A54	Input Control
VR 103, 104	EVNK6AA00B24	Playback Gain Adj
VR 301, 302	EVNK6AA00B15	Bias Current Adj.

COMBINATION PARTS

Z 1, 2	EXRP220K124T	Combination Parts

COILS

L 1, 2	QLQX0343KWA	Bias Trap Coil
L 301	QLB0198KA	Bias Oscillation Coil
L 302	QLQX1011Y	Choke Coil
L 401, 402	QLM9Z10K	MPX Coil

TRANSFORMERS

T 1 [E][EH][EGA] ⚠	SLT5K211S	AC Power Transformer
T 1 [EK][XL] ⚠	SLT5K212S	AC Power Transformer
T 1 [XA] ⚠	SLT5K215S	AC Power Transformer

SWITCHES

S 1	QSSA209TA	Record/Playback Selector
S 2, 3	SSH2098	Push Switch (NR/Dubbing)
S 4, 5, 6, 7	SMQT1451	Leaf Switch (Play/Motor)
S 8, 9, 10	SMQT1462	Auto Tape Select Switch
S 11, 12	SMQ4882	Leaf Switch (FF/REW)
S 13 ⚠	SSH1069	Power ON/OFF Switch
S 14 [XA] ⚠	SSR227	AC Voltage Selector

JACK

J 1	SJJ126B	Headphones Jack

CONNECTORS

CN 1	QJS1920TN	2 Pin Socket
CN 2	QJS1921TN	3 Pin Socket
CN 3	QJS1923TN	9 Pin Socket
CN 4	QJP1921TN	3 Pin Plug
CN 5	QJT1090	Check Pin
CN 6	SJS5519	5 Pin Jumper Connector
CN 7	QJP1923TN	9 Pin Plug
CN 8	QJP1920TN	2 Pin Plug
CN 9	SJS5327	3 Pin Jumper Connector
CN 10	SJS5627	6 Pin Jumper Connector
CN 11	QJT1052	Contact
CN 12	QJP1922TN	5 Pin Plug
CN 13	QJS1922TN	5 Pin Socket

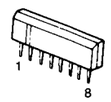
• Change of Parts List (RS-B24W [M] from RS-D550W [E])

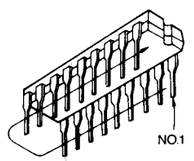
Ref. No.	Change of Parts No. RS-D550W [E]	→ RS-B24W [M]	Description
T1 ⚠	SLT5K211S	SLT5K210S	AC Power Transformer

* The parts list of RS-B17W [PA][PE] are the same as for RS-D550W [XA].

■ TERMINAL GUIDE OF TRANSISTORS, DIODES AND IC'S

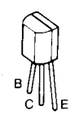
M5218L, M5219L



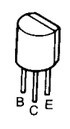


AN6888	18 pin
NE657	24 pin

2SA1115E, 2SC2603EFG

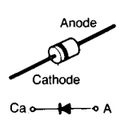


2SD592ANC-Q 2SB621A-R

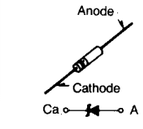


2SD1468R

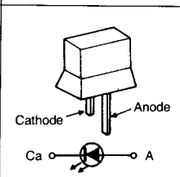
SM112, 1SS254



MA4180H



LN846RP



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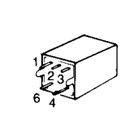

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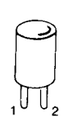
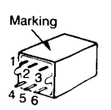


QLBO198KA



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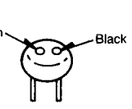
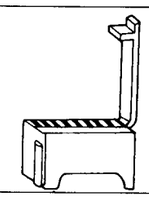
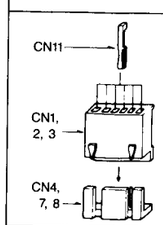


QJT1090

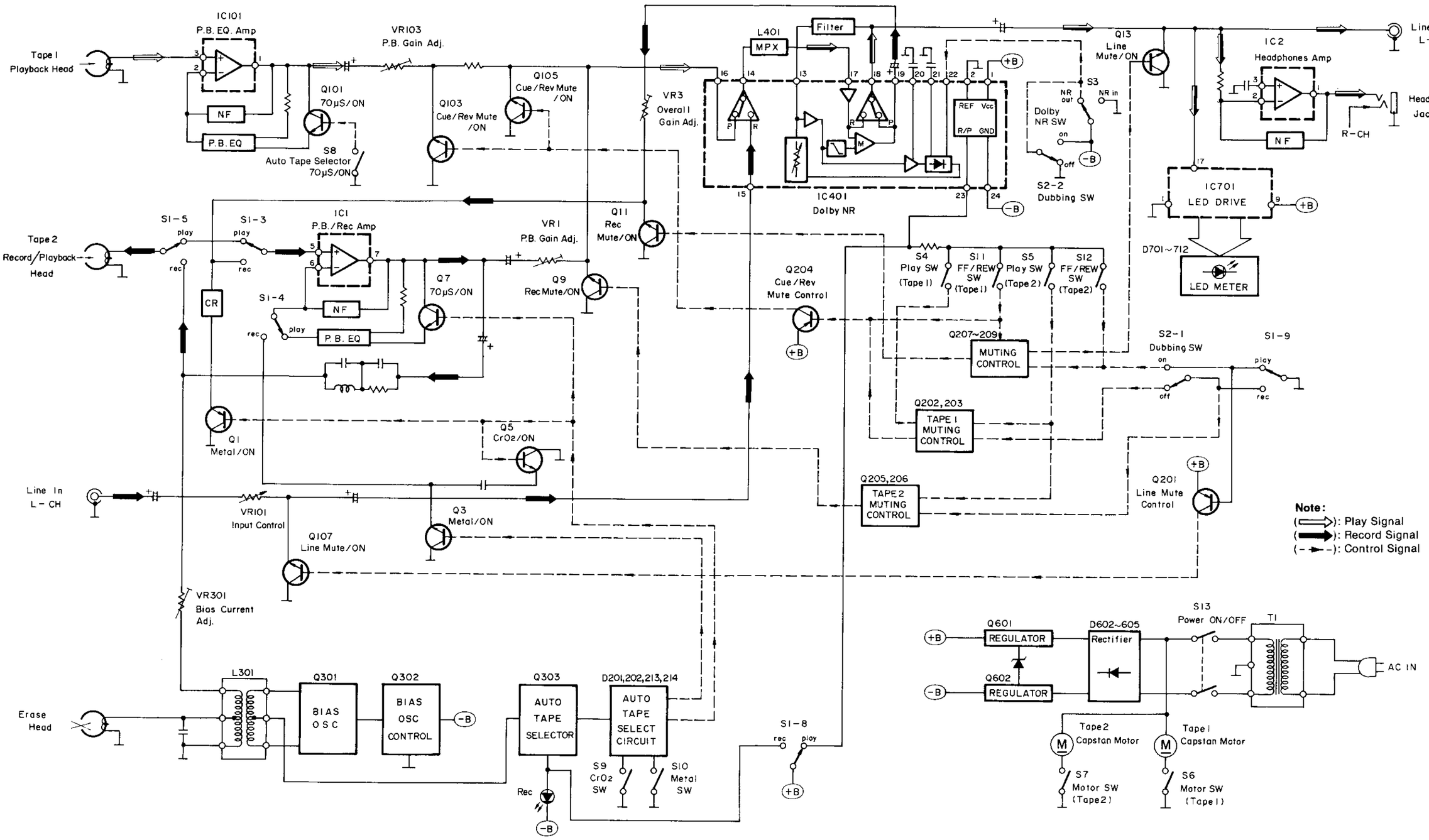


CN6	SJS5519	5 Pin		
CN9	SJS5327	3 Pin		
CN10	SJS5627	6 Pin		



2 Pin	CN1	QJS1920TN	CN8	QJP1920TN
3 Pin	CN2	QJS1921TN	CN4	QJP1921TN
9 Pin	CN3	QJS1923TN	CN7	QJP1923TN
	CN11	QJT1054		

■ BLOCK DIAGRAM



■ SC

A

B

C

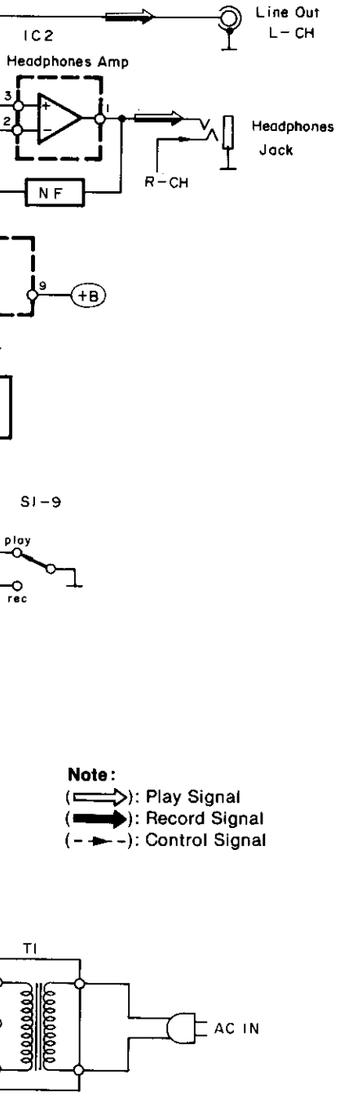
D

E

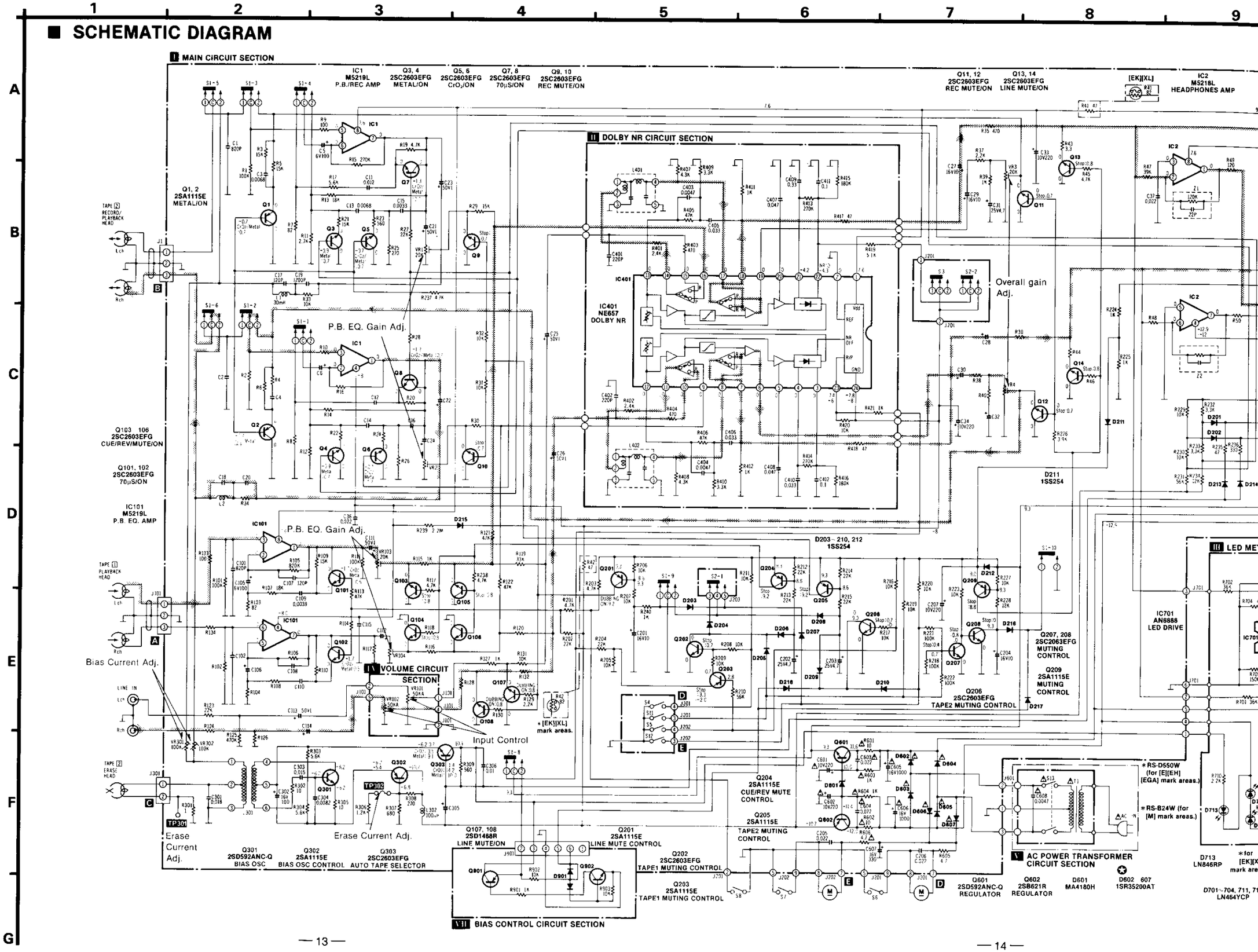
F

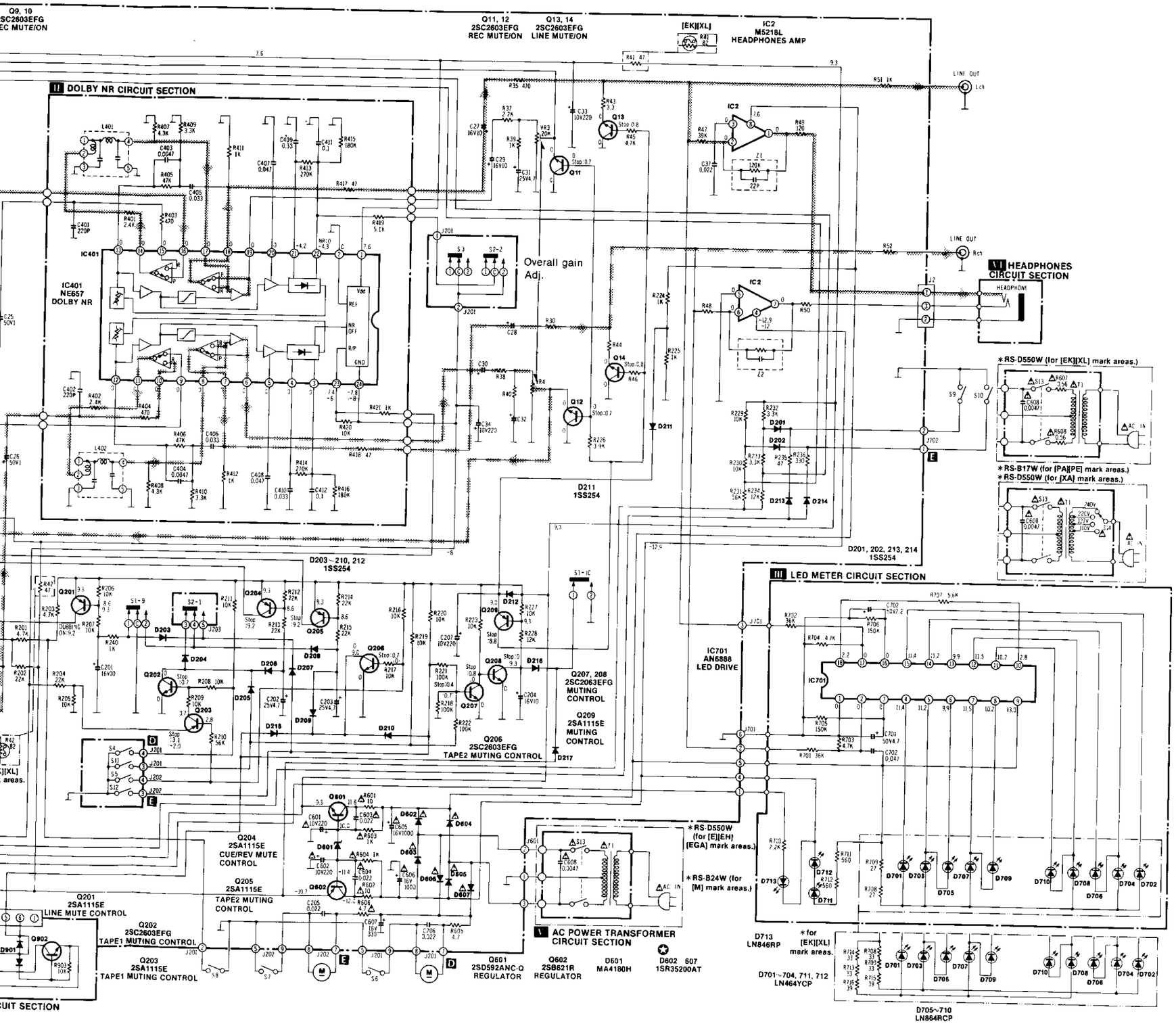
G

■ SCHEMATIC DIAGRAM



Note:
(⇨): Play Signal
(➡): Record Signal
(- ► -): Control Signal





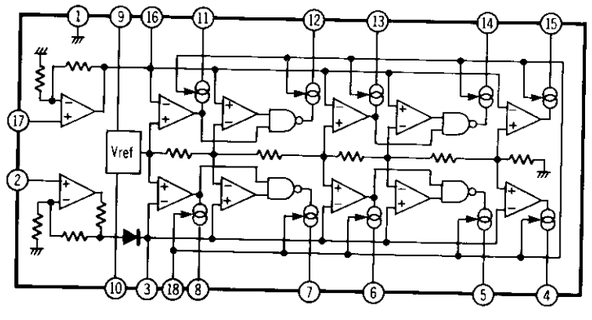
NOTES:

- **S1-1 ~ S1-10** : Record/playback switch (shown in **playback** position).
- **S2** : Dubbing switch (shown in **OFF** position).
- **S3** : Dolby NR switch (shown in **OUT** position).
- **S4** : Tape [1] PLAY switch (shown in **OFF** position).
- **S5** : Tape [2] PLAY switch (shown in **OFF** position).
- **S6** : Tape [1] motor switch (shown in **OFF** position).
- **S7** : Tape [2] motor switch (shown in **OFF** position).
- **S8** : Tape [1] auto tape select switch (for CrO_2 mode).
- **S9** : Tape [2] auto tape select switch (for CrO_2 mode).
- **S10** : Tape [2] auto tape select switch (for **Metal** mode).
- **S11** : Tape [1] FF/REW switch (shown in **OFF** position).
- **S12** : Tape [2] FF/REW switch (show in **OFF** position).
- **S13** : Power ON/OFF switch (shown in **OFF** position).
- **S14** : AC voltage selector (For [XA][PE][PA] mark areas).
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000Ω, 1M=1,000kΩ
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  - ( ) ..... Voltage values at record mode.
  - CrO_2 ..... Voltage values at CrO_2 tape mode.
  - Metal..... Voltage values at Metal tape mode.
  - DUBBING ON .. Voltage values at dubbing on.
  - B ..... Voltage values at Dolby NR-B mode.
  - For measurement use EVM.
- (——) indicates B (bias).
- (-x-x-) indicates the flow of the playback signal.
- (-·-·-) indicates the flow of the recording signal.
- Important safety notice
  Components identified by △mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- The part no. of diodes mentioned in the schematic diagram stand for production part No. Regarding the part No. with ✪ mark the production part No. are different from the replacement part No.
  Therefore, when placing an order for replacement part, please use the part No. in the replacement parts list.
- **The supply parts number is described alone in the replacement parts list.**

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

EQUIVALENT CIRCUIT

IC701: AN6888



SPECIFICATIONS * Input level control ...MAX

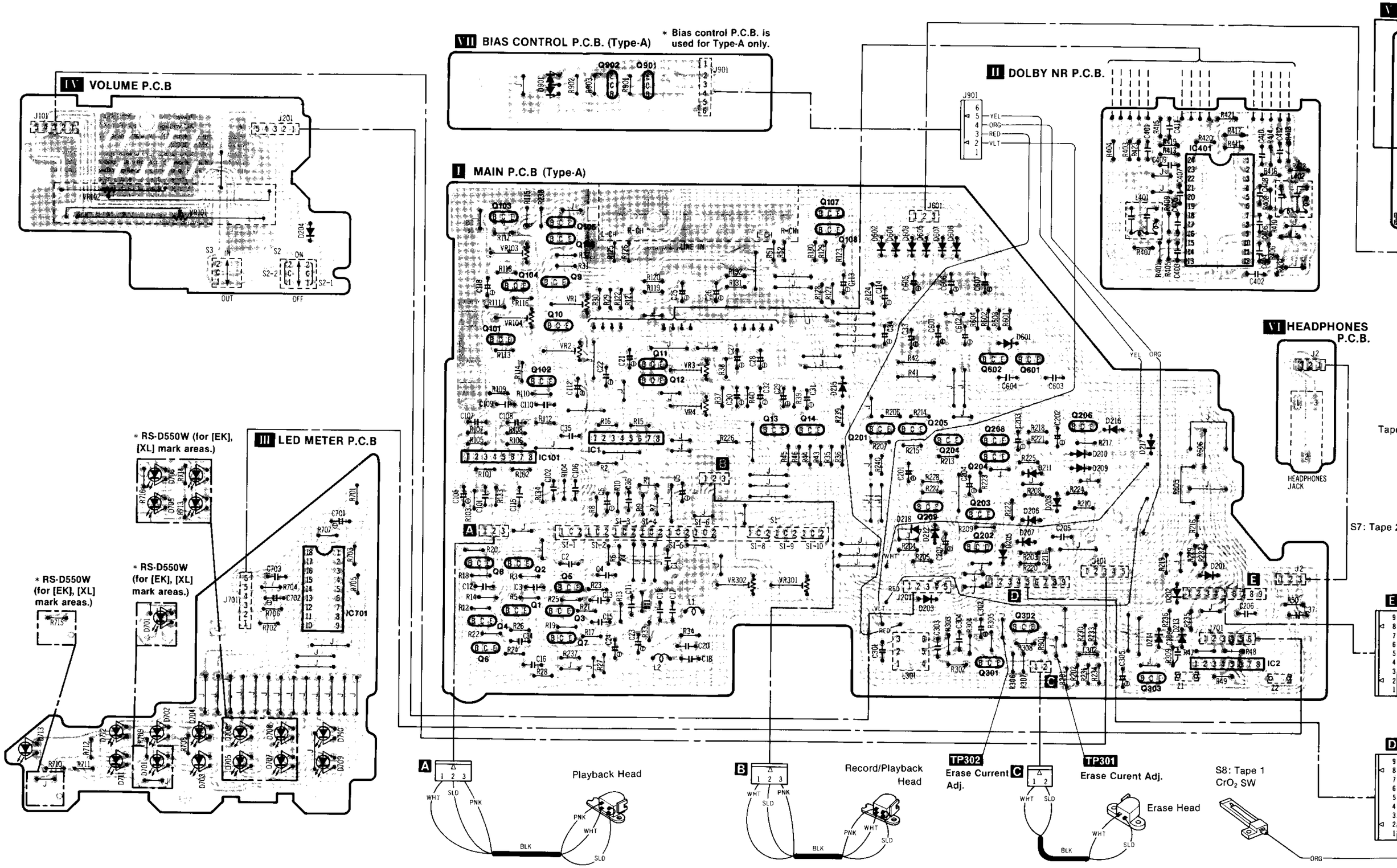
Playback S/N ratio * Test tape...QZZCFM	Greater than 45dB
Overall distortion * Test tape ...QZZCRA for Normal ...QZZCRX for CrO_2 ...QZZCRZ for Metal	Normal..... Less than 3.5% CrO2, Metal..... Less than 4%
Overall S/N ratio * Test tape...QZZCRA	Greater than 43dB (without NAB filter)

***Caution!**

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

RS-D550W/RS-B17W/RS-B24W RS-D550W/RS-B17

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



NOTES:

* This product is available in two different types of P.C. Boards. For repair and servicing, foll according to the type used.
  - **Type-A** ..... RS-D550W ([EK][XA][XL] mark areas) and RS-B24W [M] mark areas) s A○55○○ [A] ○○○.
    RS-B17W ([PA][PE] mark areas) sets with serial No. G○55○○ [A] ○
  - **Type-B** ..... RS-D550W ([EK][XA][XL] mark areas) and RS-B24W ([M] mark areas) s A○55○○ [B] ○○○.
    RS-B17W ([PA][PE] mark areas) sets with serial No. G○55○○ [B] ○
    RS-D550W ([E][EH][EGA] mark areas) sets with serial No. A○5○○○
* The serial number plate of this product is attached to the back chassis (see fig. 5 on page

V AC POWER TRANSFORMER P.C.B

AC IN

AC Inlet

S13: POWER ON/OFF SW

DOLBY NR P.C.B.

VI HEADPHONES P.C.B.

HEADPHONES JACK

T1: AC Power Transformer

* RS-D550W (for [EK], [XL] mark areas.)

S14: AC Voltage Selector

* RS-D550W (for [XA] mark areas.)
* RS-B17W (for [PE] mark areas.)

Tape 2 Capstan Motor

Tape 2 Lug Terminal (To Mechanism Unit)

S7: Tape 2 Motor SW

S5: Tape 2 Play SW

S12: Tape 2 FF/REW SW

S9: Tape 2 CrO_2 SW

S10: Tape 2 Metal SW

S6: Tape 1 Motor SW

Tape 1 Capstan Motor

Tape 1 Lug Terminal (To Mechanism Unit)

S4: Tape 1 Play SW

S8: Tape 1 CrO_2 SW

S11: Tape 1 FF/REW SW

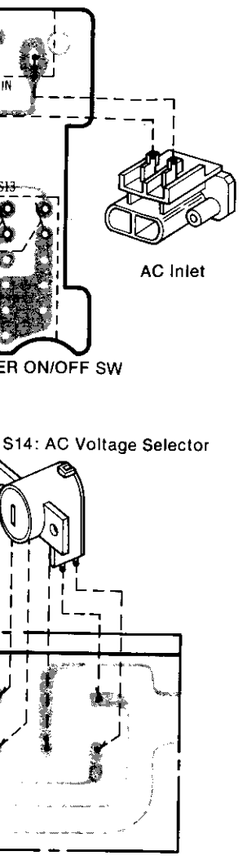
TP301 Erase Curent Adj.

Erase Head

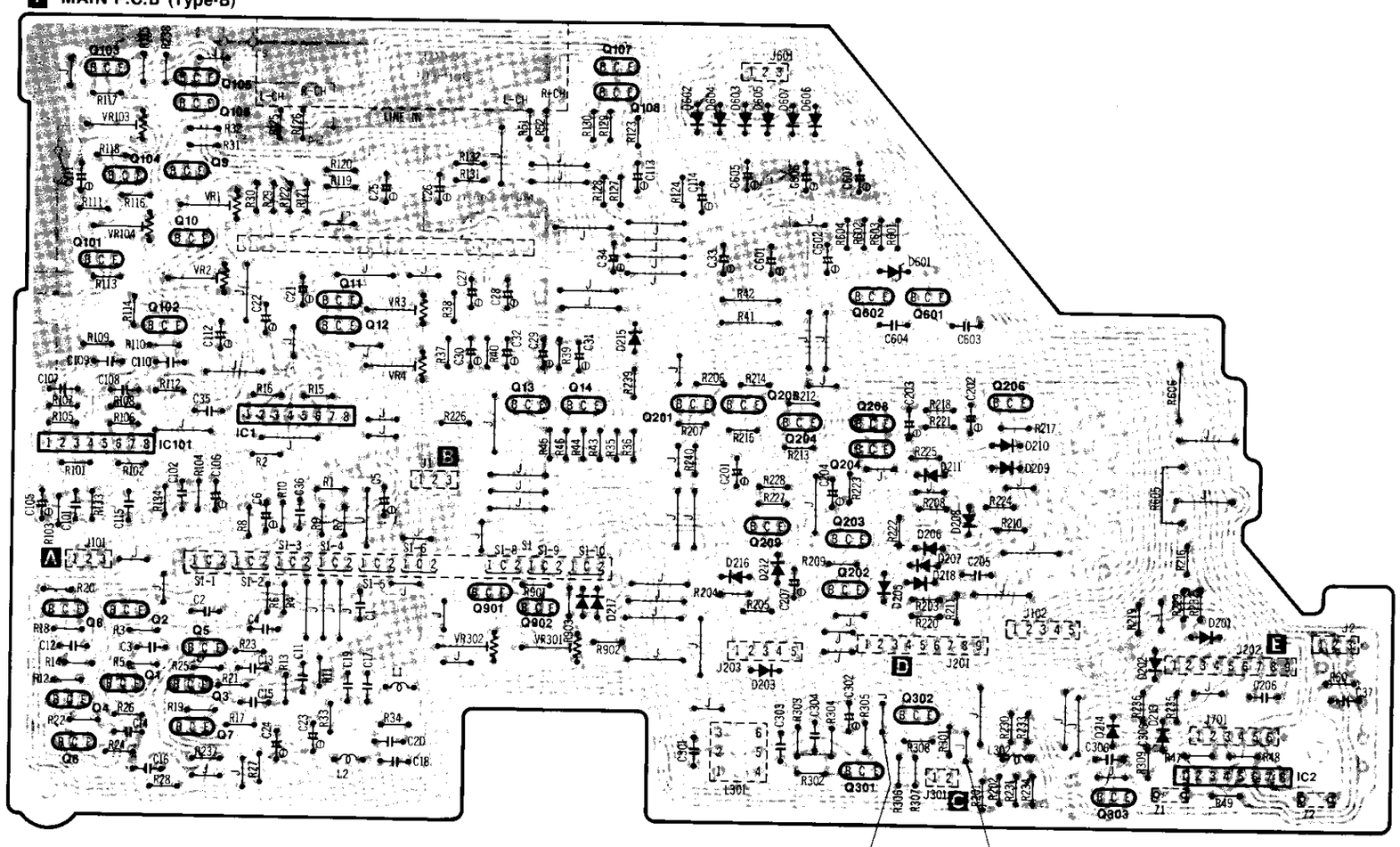
I MAIN P.C.B (Type-B)

NOTES:

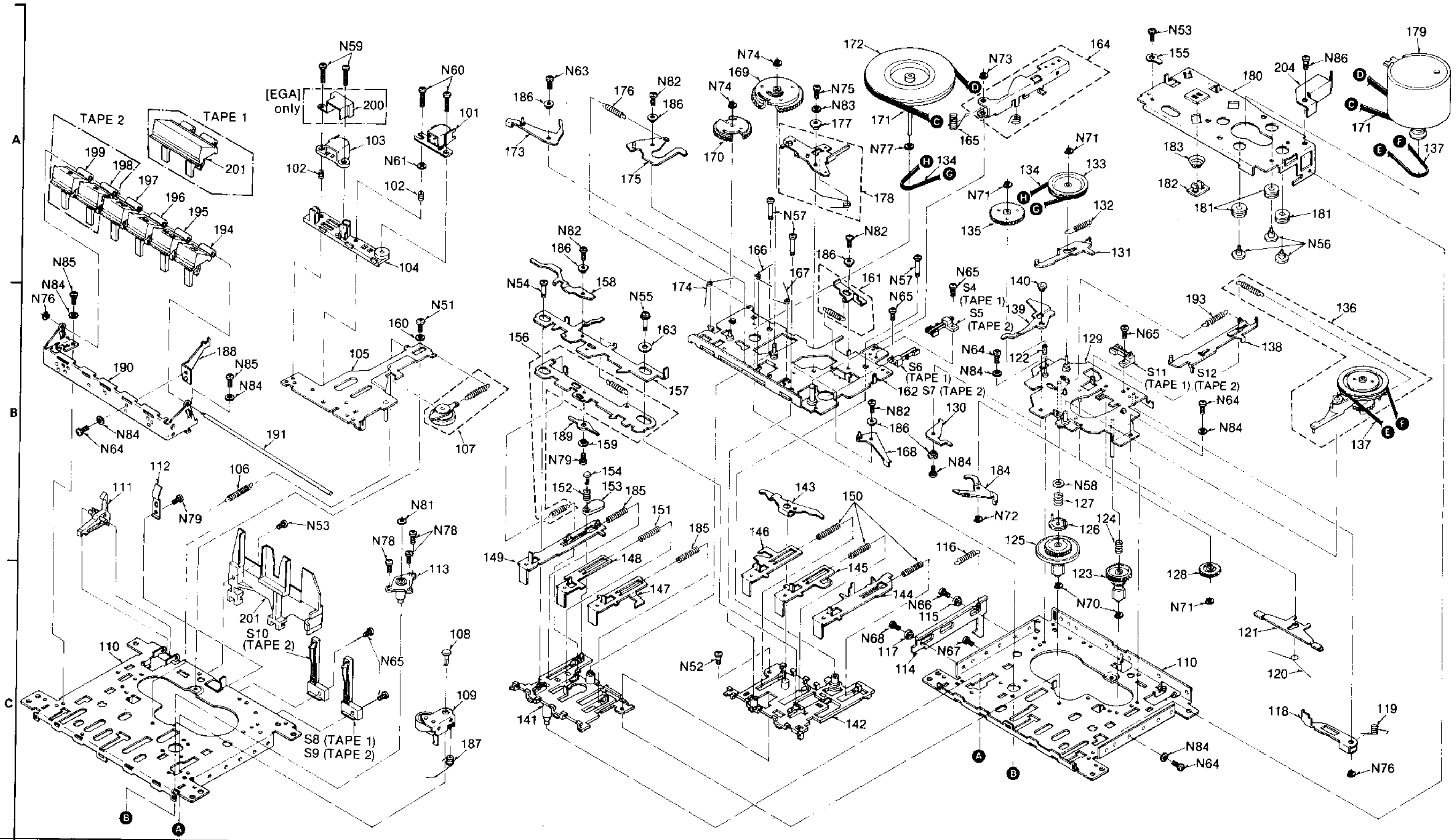
* This product is available in two different types of P.C. Boards. For repair and servicing, follow the instructions according to the type used.
  - **Type-A** ..... RS-D550W ([EK][XA][XL] mark areas) and RS-B24W [M] mark areas) sets with serial No. A○55○○ [A] ○○○.
    RS-B17W ([PA][PE] mark areas) sets with serial No. G○55○○ [A] ○○○.
  - **Type-B** ..... RS-D550W ([EK][XA][XL] mark areas) and RS-B24W ([M] mark areas) sets with serial No. A○55○○ [B] ○○○.
    RS-B17W ([PA][PE] mark areas) sets with serial No. G○55○○ [B] ○○○.
    RS-D550W ([E][EH][EGA] mark areas) sets with serial No. A○5○○○ [A] ○○○.
* The serial number plate of this product is attached to the back chassis (see fig. 5 on page 3).



I **MAIN P.C.B (Type-B)**



■ MECHANICAL PARTS LOCATION



A	199 198 197 196 195 194 102 103 102 104 101 173 186 158 176 175 186 174 170 169 167 186 177 172 171 178 134 165 135 134 164 133 132 131 155 182 183 180 181 204 181 171 179 137
B	190 111 188 106 191 105 160 107 149 156 189 159 152 153 148 163 157 154 185 151 185 143 146 161 186 162 168 150 130 184 139 140 122 129 127 193 138 136 137
C	110 112 113 108 109 187 141 147 142 145 117 144 114 115 116 125 126 123 124 128 110 121 120 118 119

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
101	QWY4165G	R.P Head
102	SMQ4596	Head Spring
103	QWY2138G	E, Head
104	SMQ4768	Head Base
105	RFD135Z	Head Panel Ass'y
106	SMQ4770	Head Panel Spring
107	SMQ4772	Take Up Roller Shaft Ass'y
108	SMQ4774	Function Lever Stopper
109	SMQ4776-1	Pinch Roller Arm Ass'y
110	SMQT1458	Chassis
111	SMQ4778	REC, Safety Lever (TAPE 2)
112	SMQ4780	Pack Hold Spring
113	SMQ4782	Flywheel Metal
114	RFY183Z	Eject Slide Lever
115	SMQ4786	Collar
116	RFS103Z	E.H, Base Spring
117	SMQ4788	Collar
118	RFY184Z	Control Lever
119	RFS379Z	Control Lever Spring
120	SMQ4792	Brake Spring
121	SMQ4794	Brake Arm Ass'y
122	SMQT1549	Cam Gear Spring
123	SMQ4800	Supply Reel Ass'y
124	SMQ4802	Back Tension Spring
125	SMQ4804	Take Up Reel Ass'y
126	SMQ4806	Sensing Piece
127	SMQ4808	Sensing Piece Spring
128	SMQ4810	FF, Gear
129	RFU16Z	Reel Base Ass'y
130	SMQ4814	T, Roller Kick Lever
131	SMQ4818	Sensing Lever
132	SMQ4820	Sensing Lever Spring
133	SMQ4822	Pully
134	SMQ4824	Full Auto Belt
135	SMQ4826	Cam Gear
136	SMQ4828	R.F, Clutch Arm Ass'y
137	SMQ4830	R.F, Belt
138	SMQ4832	R.F, Slide Lever Ass'y
139	SMQ4834	Auto Lever
140	SMQ4938	Auto Lever Collar
141	SMQ4836	Button Base (L)
142	SMQ4840	Button Base (R)
143	SMQ4842	REC, Stoper
144	SMQ4844	REC, Button Lever
145	SMQ4846	Play Button Lever
146	SMQ4848	RWD, Button Lever
147	SMQ4850	FF, Button Lever
148	SMQ4852	Stop Button Lever
149	SMQ4858	Pause Button Lever Ass'y
150	SMQ4856	Button Lever Spring
151	SMQ4858	Button Lever Spring
152	SMQ4860	Pause Lever Spring
153	SMQ2444	Pause Lever
154	SMQ4862	P, Stopper
155	SJD202-1	Lug Plate
156	SMQ4866	Push Button Function Ass'y
157	SMQ4868	Switch Function Lever
158	SMQ4872	E, Kick Lever
159	RFX85Z	Collar
160	SMQ4168	Collar
161	SMQ4880	REC, Function Lever Ass'y
162	SMQT1455	Sub Chassis Ass'y
163	RFN73Z	Spacer
164	SMQ4884	REC, Function Arm Ass'y
165	SMQ4886	REC, Function Arm Spring
166	SMQ4888	M, Gear Spring
167	SMQ4890	M, Trigger Arm Spring
168	SMQ4892	M, Trigger Arm Ass'y
169	SMQ4894	M, Gear
170	SMQ4896	P, Gear
171	SMQ4898	Main Belt
172	SMQ4900	Flywheel Ass'y
173	SMQ4902	P, Trigger Arm Ass'y
174	SMQ4904	P, Trigger Arm Spring
175	SMQ4906	Pause Arm Ass'y
176	SMQ4908	Pause Arm Spring
177	SMQ4910	Lift Arm Collar
178	SMQ4912	Lift Arm Ass'y
179	SMQSD3920	Motor Ass'y (TAPE 1)
179	SMQSD3919	Motor Ass'y (TAPE 2)
180	SMQT1456	F.M, Hold Plate
181	SMQ4916	Motor Rubber
182	SMQ4920	Flywheel Patch Plate
183	SMQ4922	Damper Spring
184	SMQ4940	Kick Lever
185	SMQ4858	Button Lever Spring
186	SMQ4816	Collar
187	SMQT1453	Pinch Roller Spring
188	SMQ4960	Stopper
189	RFY353Z	R.F, Stoper
190	SMQT1457	Button Flame
191	SMQ4958	Button Lever Shaft
193	RFS378Z	RF Slide Lever SP
194	SBCSD250-1	Rec Button Ass'y (TAPE 2)
195	SBCSD250-2	Play Button Ass'y (TAPE 2)
196	SBCSD250-3	Rew Button Ass'y
197	SBCSD250-4	FF Button Ass'y
198	SBCSD250-5	Stop Button Ass'y
199	SBCSD250-6	Pause Button Ass'y
200 [EGA]	QTS1652	Head Shield Plate
201	QWY2175G	E. Head (Dummy)
202	SMQT1461	Switch Clamper
203	SBCSD550W-1	Play Button Ass'y (TAPE 1)
204	SMN1984-1	Kick Angle
SCREWS, NUTS & WASHERS		
N 51	XSB26 + 4FZ	Screw
N 52	SMQ4838	Collar Screw
N 53	XSN26 + 3	Screw
N 54	SMQ4870	Collar Screw
N 55	SMQ4878	Collar Screw
N 56	SMQ4918	Collar Screw
N 57	SMQ4942	Collar Screw
N 58	SMQT1454	Polyslider Washer
N 59	XSN2 + 8	Screw ⊕2 × 8
N 60	XSN2 + 6	Screw ⊕2 × 6
N 61	XWG2	Washer 2φ
N 63	SMQT1460	Screw (For Camera)
N 64	XSN2 + 4	Tams Screw ⊕2 × 4
N 65	XSN2 + 6	Tams Screw ⊕2 × 5
N 66	XSN26 + 5	Screw ⊕2.6 × 5
N 67	XSN2 + 5	Screw ⊕2 × 5
N 68	XSN2 + 6	Screw ⊕2 × 6
N 69	XSN2 + 5	Screw ⊕2 × 5
N 70	RFE133Z	E-Ring 1.5φ Special
N 71	SMQ4930	Polyslider Washer
N 72	XUC12FT	E-Ring 1.2φ
N 73	XUC3FT	E-Ring 3.0φ
N 74	XUC2FT	E-Ring 2.0φ
N 75	XSN26 + 6	Screw ⊕2.6 × 6
N 76	XUC15FT	E-Ring 1.5φ
N 77	SMQ4932	Polyslider Washer
N 78	SMQ4934	Screw (For Camera) ⊕2 × 3
N 79	XSN26 + 3	Screw ⊕2.6 × 3
N 80	SMQ4944	Screw (For Camera) ⊕2 × 4.5
N 81	SMQ4936	Nylon Washer 2 × 5 × 0.5
N 82	SMQ4926	Screw (For Camera) ⊕2 × 2.5
N 83	XWA2B	Washer 2φ
N 84	XWA26B	Washer 26φ
N 85	XSN26 + 4	Spring ⊕26 + 4
N 86	QHQ1168	Screw

• Change of

Ref. No.	RS-[
MECHANICAL	
194	SBCS
195	SBCS
196	SBCS

* The parts list

Rec S
(
Supply
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Head p
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Record/Play
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E
Rec bu
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Play bu
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Ca
Pau
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Flywhe
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FM ho
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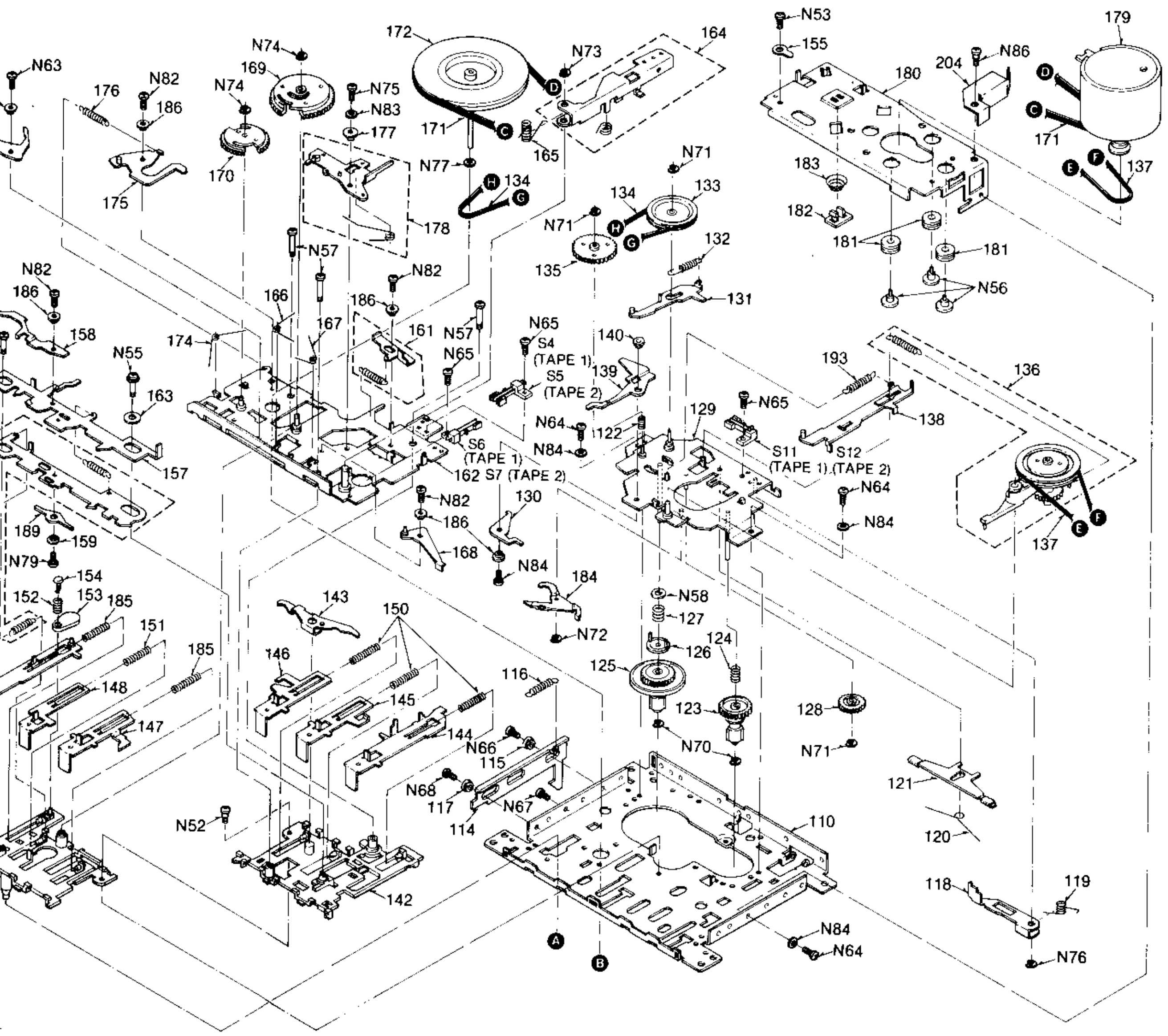


86	158	176	175	186	174	170	169	167	186	177	172	171	178	134	165	135	134	164	133	132	131	155	182	183	180	181	204	181	171	179	137										
89	159	152	153	148	163	157	154	185	151	185	143	146	161	186	162	168	150	130	184	139	140	122	129	127	193	138	136	137													
147	142	145	117	144	114	115	116	125	126	123	124	128	110	121	120	118	119																								

art Name & Description
use Button Lever Ass'y
tton Lever Spring
tton Lever Spring
use Lever Spring
use Lever
Stopper
Plate
h Button Function
'y
tch Function Lever
Kick Lever
lar
lar
C, Function Lever
'y
Chassis Ass'y
cer
C, Function Arm Ass'y
C, Function Arm Spring
Gear Spring
Trigger Arm Spring
Trigger Arm Ass'y
Gear
ear
n Belt

Ref. No.	Part No.	Part Name & Description
172	SMQ4900	Flywheel Ass'y
173	SMQ4902	P, Trigger Arm Ass'y
174	SMQ4904	P, Trigger Arm Spring
175	SMQ4906	Pause Arm Ass'y
176	SMQ4908	Pause Arm Spring
177	SMQ4910	Lift Arm Collar
178	SMQ4912	Lift Arm Ass'y
179	SMQSD3920	Motor Ass'y (TAPE 1)
179	SMQSD3919	Motor Ass'y (TAPE 2)
180	SMQT1456	F.M, Hold Plate
181	SMQ4916	Motor Rubber
182	SMQ4920	Flywheel Patch Plate
183	SMQ4922	Damper Spring
184	SMQ4940	Kick Lever
185	SMQ4858	Button Lever Spring
186	SMQ4816	Collar
187	SMQT1453	Pinch Roller Spring
188	SMQ4960	Stopper
189	RFY353Z	R.F, Stoper
190	SMQT1457	Button Flame
191	SMQ4958	Button Lever Shaft
193	RFS378Z	RF Slide Lever SP
194	SBCSD250-1	Rec Button Ass'y (TAPE 2)
195	SBCSD250-2	Play Button Ass'y (TAPE 2)

Ref. No.	Part No.	Part Name & Description
196	SBCSD250-3	Rew Button Ass'y
197	SBCSD250-4	FF Button Ass'y
198	SBCSD250-5	Stop Button Ass'y
199	SBCSD250-6	Pause Button Ass'y
200		
[EGA]	QTS1652	Head Shield Plate
201	QWY2175G	E. Head (Dummy)
202	SMQT1461	Switch Clamper
203	SBCSD550W-1	Play Button Ass'y (TAPE 1)
204	SMN1984-1	Kick Angle

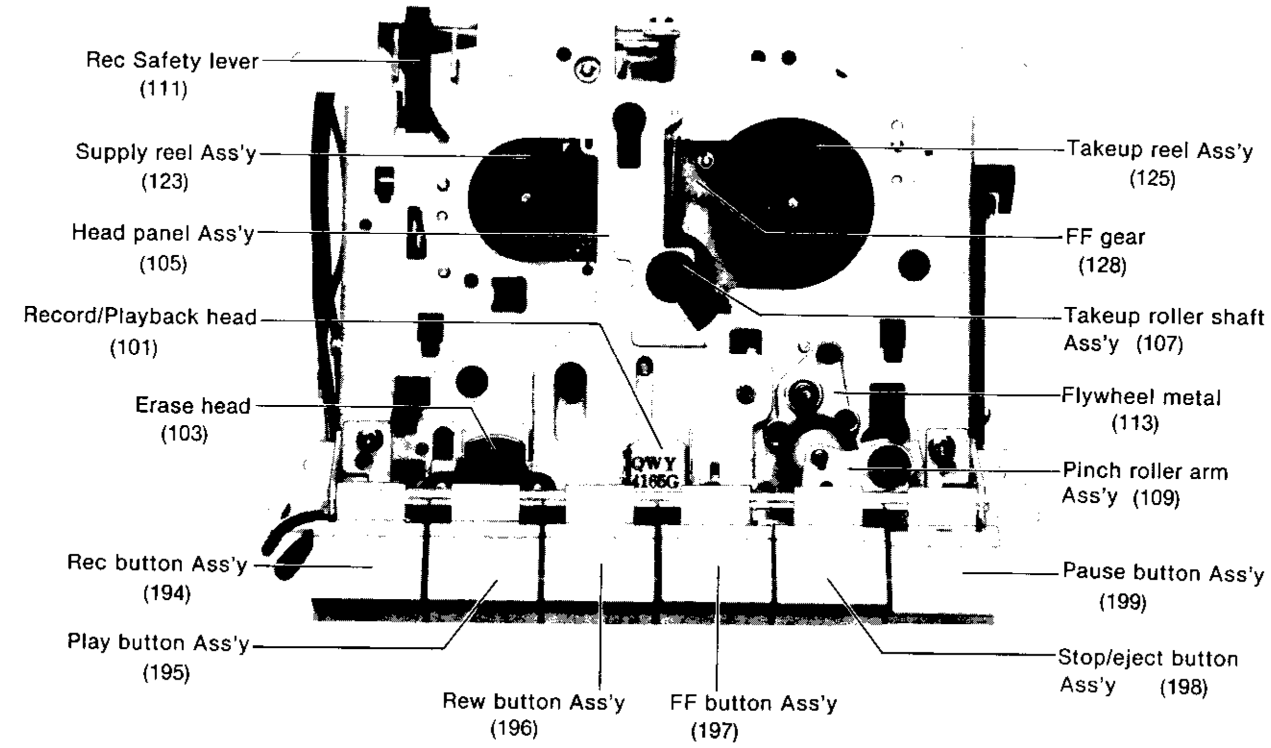
SCREWS, NUTS & WASHERS

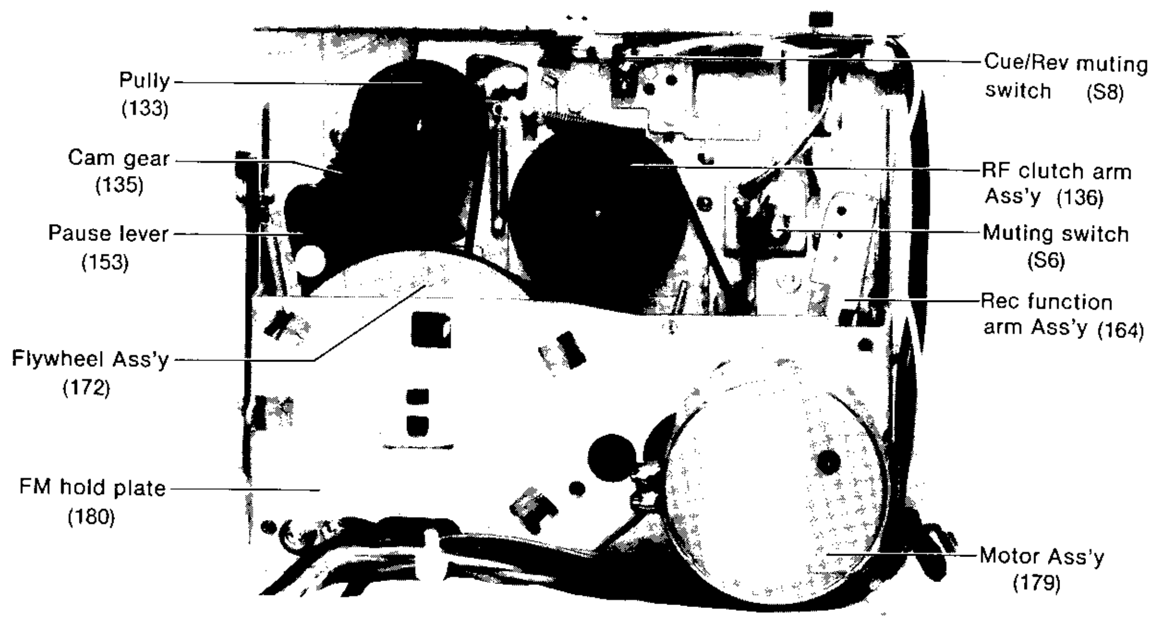
Ref. No.	Part No.	Part Name & Description
N 51	XSB26 + 4FZ	Screw
N 52	SMQ4838	Collar Screw
N 53	XSN26 + 3	Screw
N 54	SMQ4870	Collar Screw
N 55	SMQ4878	Collar Screw
N 56	SMQ4918	Collar Screw
N 57	SMQ4942	Collar Screw
N 58	SMQT1454	Polyslider Washer
N 59	XSN2 + 8	Screw ⊕2 × 8
N 60	XSN2 + 6	Screw ⊕2 × 6
N 61	XWG2	Washer 2φ
N 63	SMQT1460	Screw (For Camera)
N 64	XSN2 + 4	Tams Screw ⊕2 × 4
N 65	XSN2 + 6	Tams Screw ⊕2 × 5
N 66	XSN26 + 5	Screw ⊕2.6 × 5
N 67	XSN2 + 5	Screw ⊕2 × 5
N 68	XSN2 + 6	Screw ⊕2 × 6
N 69	XSN2 + 5	Screw ⊕2 × 5
N 70	RFE133Z	E-Ring 1.5φ Special
N 71	SMQ4930	Polyslider Washer
N 72	XUC12FT	E-Ring 1.2φ
N 73	XUC3FT	E-Ring 3.0φ
N 74	XUC2FT	E-Ring 2.0φ
N 75	XSN26 + 6	Screw ⊕2.6 × 6
N 76	XUC15FT	E-Ring 1.5φ
N 77	SMQ4932	Polyslider Washer
N 78	SMQ4934	Screw (For Camera) ⊕2 × 3
N 79	XSN26 + 3	Screw ⊕2.6 × 3
N 80	SMQ4944	Screw (For Camera) ⊕2 × 4.5
N 81	SMQ4936	Nylon Washer 2 × 5 × 0.5
N 82	SMQ4926	Screw (For Camera) ⊕2 × 2.5
N 83	XWA2B	Washer 2φ
N 84	XWA26B	Washer 26φ
N 85	XSN26 + 4	Spring ⊕26 + 4
N 86	QHQ1168	Screw

- **Change of Part List (RS-B17W from RS-D550W)**

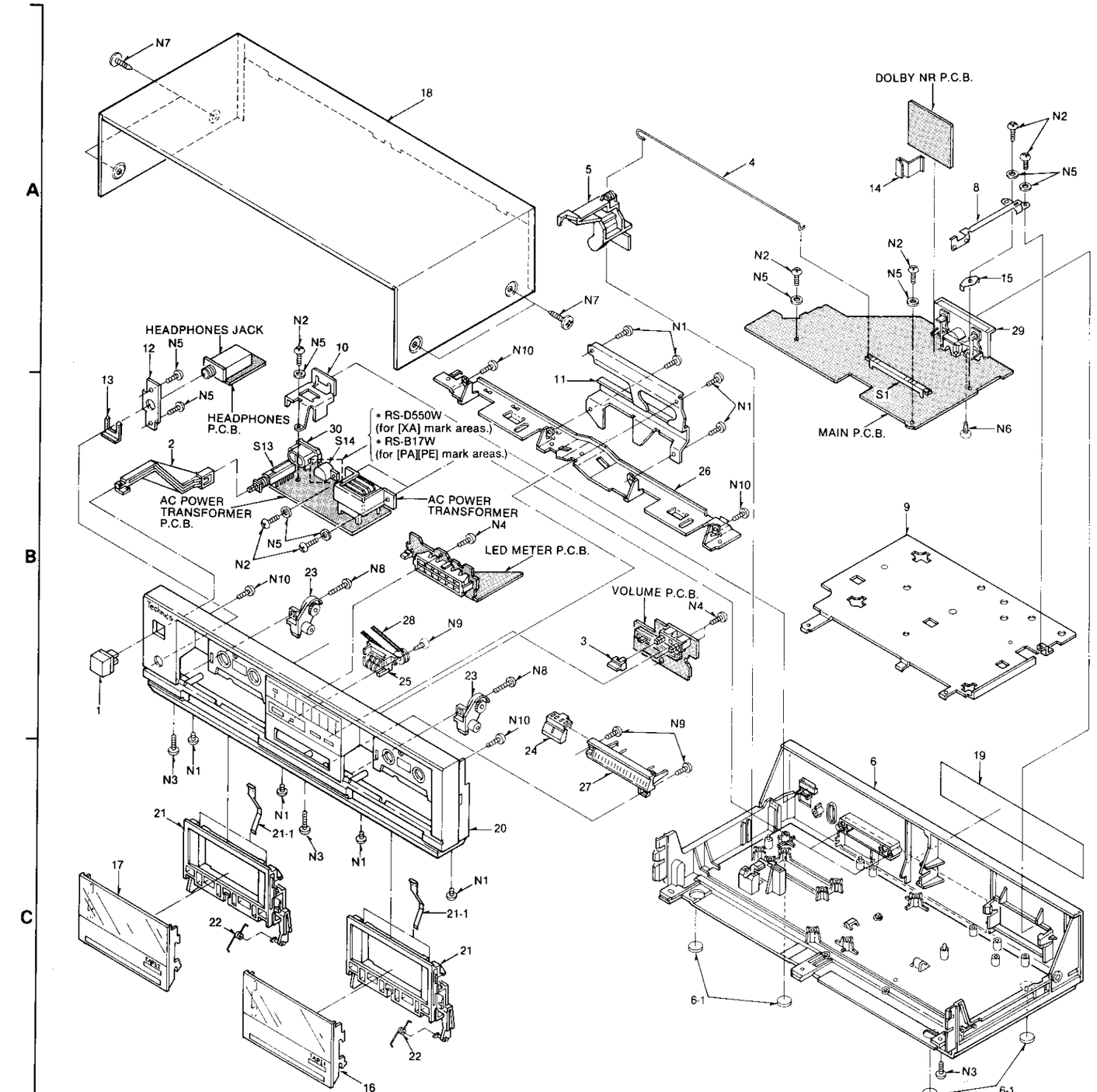
Ref. No.	Change of Part No. RS-D550W	➡ RS-B17W	Description	Ref. No.	Change of Part No. RS-D550W	➡ RS-B17W	Description
MECHANICAL PARTS				197	SBCSD250-4	SBCSB17W-4	FF Button Ass'y
194	SBCSD250-1	SBCSB17W-1	Rec Button Ass'y	198	SBCSD250-5	SBCSB17W-5	Stop Button Ass'y
195	SBCSD250-2	SBCSB17W-2	Play Button Ass'y (TAPE 2)	199	SBCSD250-6	SBCSB17W-6	Pause Button Ass'y
196	SBCSD250-3	SBCSB17W-3	Rew Button Ass'y	203	SBCSD550W-1	SBCSB17W-7	Play Button Ass'y (TAPE 1)

* The parts list of RS-B24W are the same as for RS-D550W.





■ CABINET PARTS LOCATION



A	18 11 5 4 14 15 8 29
B	1 13 12 30 10 23 25 28 23 24 26 3 9
C	17 21 22 16 20 21-1 21 27 6-1 19 6-1

Areas

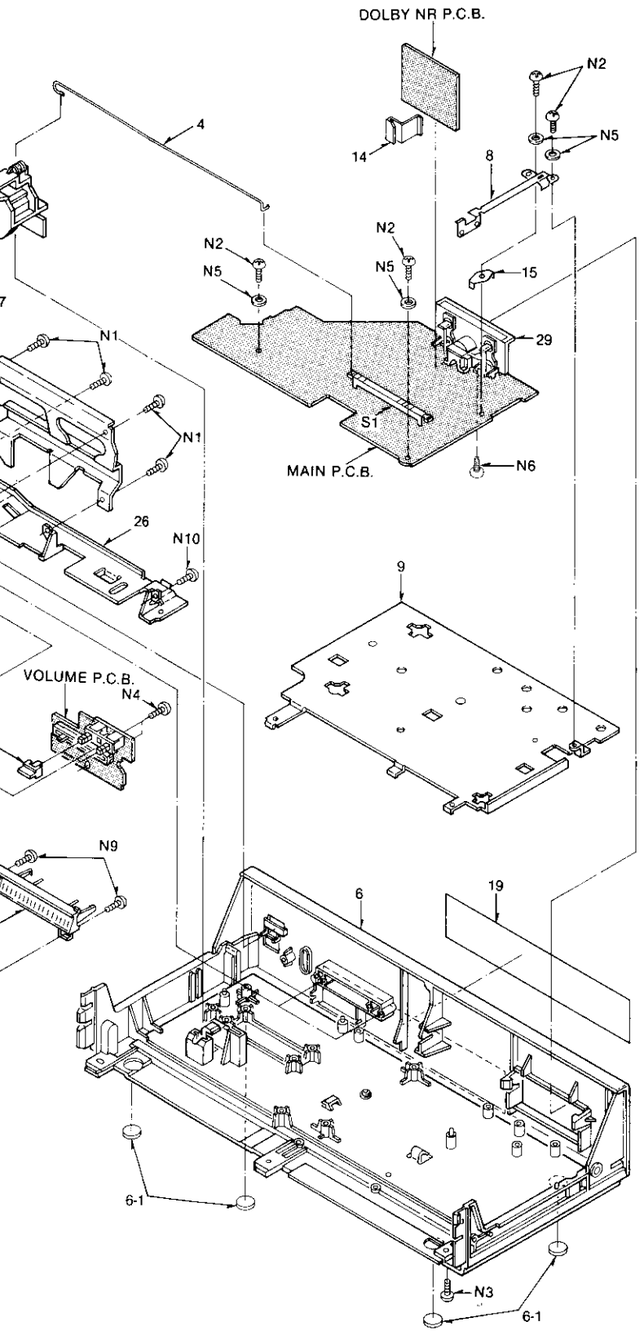
* [M] For U.S.A. * [E] For European areas except United Kingdom. * [EK] For United Kingdom. * [EH] For Holland. * [EGA] For F.R. Germany.	* [PA] For Far East PX. * [PE] For European Mil * [XA] For Asia, Latin A * [XL] For Australia.

REPLACEMENT PARTS LIST

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

Ref. No.	Part No.	Part Name & Description
CABINET PARTS		
1	SBC666	Power Button
2	SUB234	Power Switch Rod
3	SBC745	Push Button
4	SUB235	Record/Playback Wire
5	SMQ1030-1	Record Lever
6 [E] [EK][EH] [EGA]		
[XL]	SKMSD250-SE	Main Case
6 [XA]	SKMSD250-SEK	Main Case
6-1	QKA1094	Case Foot
8	SUS795	Earth Plate
9	SMC6377	Shield Plate
10	SMN1965	Holder Angle
11	SMN1980	Strengthen Angle
12	SMN1975	Headphones Angle
13	QMA4624	Headphones Holder
14	SME103-5	P.C.B. Holder
15	SNE55-1	Earth Plate
16	SGE1745-3 "Black Type"	Cassette Lid (1) Assembly
16	SGE1745-5 "Silver Type"	Cassette Lid (1) Assembly
17	SGE1745-4 "Black Type"	Cassette Lid (2) Assembly
17	SGE1745-6 "Silver Type"	Cassette Lid (2) Assembly
18	SKC1781K99 "Black Type"	Case Cover
18	SKC1781S98 "Silver Type"	Case Cover
19 [E]	SGT36141	Main Name Plate
19 [EK]	SGT35682	Main Name Plate
19 [EH] [EGA]	SGT35551	Main Name Plate
19 [XA]	SGT36061	Main Name Plate
19 [XL]	SGT36031	Main Name Plate
20	SGYSD550W-KE "Black Type"	Front Panel Assembly
20	SGYSD550W-SE "Silver Type"	Front Panel Assembly
21	SGXSD450-SE	Cassette Holder Assembly
21-1	QBP2006A	Tape Pressure Spring
22	SUS797	Holder Spring
23	SGXSD250-SE	Damper Gear Assembly
24	SBD125	Volume Knob
25	SJN16	Tape Counter
26	SMN1976-1	Mechanism Angle
27	SGXSD550W-KM "Black Type"	Slide Guide Assembly
27	SGXSD550W-SE "Silver Type"	Slide Guide Assembly
28	SMQ20009	Counter Belt
29	QEJ5039C	Jack Board
30 ⚠	SJS9230	AC Inlet

Ref. No.	Part No.	P
SCREWS, NUTS & WASH		
N 1	XTV3+10BFN	Tap
N 2	XTN3+12B	Tap
N 3	XTB3+10BFN	Tap
N 4	XTV3+8BFN	Tap
N 5	XWG3	Wa
N 6	XTV3+10BFZ	Tap
N 7	QHQ1324K "Black Type"	Orn
N 7	QHQ1324 "Silver Type"	Orn
N 8	XTV3+12BFN	Tap
N 9	XTN26+8B	Tap
N 10	XTB3+6BFN	Tap
ACCESSORIES		
A 1 [XA] ⚠	SJP9215	AC
A 2 [E] [EH][XA] [XL]	SQF12388	Inst
A 2 [EK]	SQF12538	Inst
A 2 [EGA]	SQF12539	Inst
A 3 [E][EH] [EGA] ⚠	SJA171	AC
A 3 [EK] ⚠	SFDAC05G02	AC
A 3 [XA] ⚠	SJA168	AC
A 3 [XL] ⚠	SJA157	AC
A 4	SJP2264	Pin
PACKINGS		
P 1 [E][EH] [EGA] [XA][XL]	SPG5316 "Black Type"	Cart
P 1 [E][EH] [EGA] [XA][XL]	SPG5317 "Silver Type"	Cart
P 1 [EK]	SPG5318 "Black Type"	Cart
P 1 [EK]	SPG5319 "Silver Type"	Cart
P 3	SPS4608	Cus
P 3	SPS4609	Cus
P 4	SPS4616	Pad
P 5	XZB50X65A02	Poly
P 6	SPS4627	Upp



5	4			14	15	8	29	
3					9			
7	6-1					19	6-1	

Areas

* [M] For U.S.A. * [E] For European areas except United Kingdom. * [EK] For United Kingdom. * [EH] For Holland. * [EGA] For F.R. Germany.	* [PA] For Far East PX. * [PE] For European Military. * [XA] For Asia, Latin America, Middle East and Africa. * [XL] For Australia.

REPLACEMENT PARTS LIST

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

Ref. No.	Part No.	Part Name & Description
CABINET PARTS		
1	SBC666	Power Button
2	SUB234	Power Switch Rod
3	SBC745	Push Button
4	SUB235	Record/Playback Wire
5	SMQ1030-1	Record Lever
6 [E] [EK][EH] [EGA]		
[XL]	SKMSD250-SE	Main Case
6 [XA]	SKMSD250-SEK	Main Case
6-1	QKA1094	Case Foot
8	SUS795	Earth Plate
9	SMC6377	Shield Plate
10	SMN1965	Holder Angle
11	SMN1980	Strengthen Angle
12	SMN1975	Headphones Angle
13	QMA4624	Headphones Holder
14	SME103-5	P.C.B. Holder
15	SNE55-1	Earth Plate
16	SGE1745-3 "Black Type"	Cassette Lid (1) Assembly
16	SGE1745-5 "Silver Type"	Cassette Lid (1) Assembly
17	SGE1745-4 "Black Type"	Cassette Lid (2) Assembly
17	SGE1745-6 "Silver Type"	Cassette Lid (2) Assembly
18	SKC1781K99 "Black Type"	Case Cover
18	SKC1781S98 "Silver Type"	Case Cover
19 [E]	SGT36141	Main Name Plate
19 [EK]	SGT35682	Main Name Plate
19 [EH] [EGA]	SGT35551	Main Name Plate
19 [XA]	SGT36061	Main Name Plate
19 [XL]	SGT36031	Main Name Plate
20	SGYSD550W-KE "Black Type"	Front Panel Assembly
20	SGYSD550W-SE "Silver Type"	Front Panel Assembly
21	SGXSD450-SE	Cassette Holder Assembly
21-1	QBP2006A	Tape Pressure Spring
22	SUS797	Holder Spring
23	SGXSD250-SE	Damper Gear Assembly
24	SBD125	Volume Knob
25	SJN16	Tape Counter
26	SMN1976-1	Mechanism Angle
27	SGXSD550W-KM "Black Type"	Slide Guide Assembly
27	SGXSD550W-SE "Silver Type"	Slide Guide Assembly
28	SMQ20009	Counter Belt
29	QEJ5039C	Jack Board
30 ⚠	SJS9230	AC Inlet

Ref. No.	Part No.	Part Name & Description
SCREWS, NUTS & WASHERS		
N 1	XTV3+10BFN	Tapping Screw ⊕3×10
N 2	XTN3+12B	Tapping Screw ⊕3×12
N 3	XTB3+10BFN	Tapping Screw ⊕3×10
N 4	XTV3+8BFN	Tapping Screw ⊕3×8
N 5	XWG3	Washer 3φ
N 6	XTV3+10BFZ	Tapping Screw ⊕3×10
N 7	QHQ1324K "Black Type"	Ornament Screw
N 7	QHQ1324 "Silver Type"	Ornament Screw
N 8	XTV3+12BFN	Tapping Screw ⊕3×12
N 9	XTN26+8B	Tapping Screw ⊕2.6×8
N 10	XTB3+6BFN	Tapping Screw ⊕3×6
ACCESSORIES		
A 1 [XA] ⚠	SJP9215	AC Plug Adaptor
A 2 [E] [EH][XA] [XL]	SQF12388	Instruction Book
A 2 [EK]	SQF12538	Instruction Book
A 2 [EGA]	SQF12539	Instruction Book
A 3 [E][EH] [EGA] ⚠	SJA171	AC Power Cord
A 3 [EK] ⚠	SFDAC05G02	AC Power Cord
A 3 [XA] ⚠	SJA168	AC Power Cord
A 3 [XL] ⚠	SJA157	AC Power Cord
A 4	SJP2264	Pin Cord
PACKINGS		
P 1 [E][EH] [EGA] [XA][XL]	SPG5316 "Black Type"	Carton Box
P 1 [E][EH] [EGA] [XA][XL]	SPG5317 "Silver Type"	Carton Box
P 1 [EK]	SPG5318 "Black Type"	Carton Box
P 1 [EK]	SPG5319 "Silver Type"	Carton Box
P 3	SPS4608	Cushion (L)
P 3	SPS4609	Cushion (R)
P 4	SPS4616	Pad
P 5	XZB50X65A02	Poly Bag
P 6	SPS4627	Upper Pad

• Change of Part List (RS-B17W [PA][PE] from RS-D550W [E] "Black Type")

Ref. No.	Change of Parts No. RS-D550W [E] "Black Type"	➡ RS-B17W [PA][PE]	Description
CABINET PARTS			
1	SBC666	SBC666-1	Power Button
3	SBC745	SBC745-1	Push Button
6	SKMSD250-SE	SKMSD250-SEK	Main Case
16	SGE1745-5	SGE1748-1	Cassette Lid (1) Assembly
17	SGE1745-6	SGE1748-2	Cassette Lid (2) Assembly
19	SGT36141	SGT35740	Main Name Plate
20	SGYSD550W-KE	SGYSB17W-KE	Front Panel Assembly
24	SBD125	SBD125-1	Volume Knob
ACCESSORIES			
A2	SQF12388	SQF12541	Instruction Book
A3 ⚠	SJA171	SJA168	AC Power Cord
PACKING			
P1	SPG5316	SPG5349	Carton Box

• Change of Part List (RS-B24W [M] from RS-D550W [E] "Black Type")

Ref. No.	Change of Parts No. RS-D550W [E] "Black Type"	➡ RS-B24W [M]	Description
CABINET PARTS			
16	SGE1745-5	SGE1752-1	Cassette Lid (1) Assembly
17	SGE1745-6	SGE1752-2	Cassette Lid (2) Assembly
19	SGT36141	SGT35971	Main Name Plate
20	SGYSD550W-KE	SGYSB24W-KE	Front Panel Assembly
ACCESSORIES			
A2	SQF12388	SQF12446	Instruction Book
A3 ⚠	SJA171	SJA170	AC Power Cord
A4	SJP2264	QEB0125A	Pin Cord
PACKING			
P1	SPG5316	SPG5400	Carton Box

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