TC-229SD

US Model
Canadian Model

(US model)

DOLBY FM
STEREO CASSETTE DECK

SPECIFICATIONS

Power Requirements: 120V ac, 60 Hz

Power Consumption: 32W

Dimensions: US model
Approx. 430 (w) x 170 (h) x 310 (d) mm
17 (w) x 6¾ (h) x 12½ (d) inches
including projecting parts are controls

Canadian model
Approx. 465 (w) x 170 (h) x 310 (d) mm
18⅜ (w) x 6¾ (h) x 12½ (d) inches
including projecting parts and controls

Weight: US model
Approx. 10.5 kg, 23 lb 3 oz
Canadian model
Approx. 11 kg, 24 lb 4 oz

Track: 4-track 2-channel stereo

Fast Forward Rewind Time: Approx. 70 seconds with Sony cassette C-60

Frequency Response: DOLBY NR OFF
With Ferri-Chrome cassette
20–18,000 Hz
30–16,000 Hz ±3 dB
With chromium dioxide cassette
20–17,000 Hz
30–15,000 Hz ±3 dB
With regular cassette
20–15,000 Hz

Wow and Flutter: 0.06% WRMS

S/N Ratio: DOLBY NR OFF
With Ferri-Chrome cassette
60 dB at peak level
With chromium dioxide cassette
56 dB at peak level
DOLBY NR ON
Improved by 5 dB at 1 kHz, 10 dB above 5 kHz

Total Harmonic Distortion: 1.3%

Record Bias Frequency: 105 kHz

* This set is equipped with DOLBY FM circuit.
* **'Dolby'** and the double-D symbol are the trade marks of Dolby Laboratory Inc. Noise reduction system manufactured under license from Dolby Laboratory Inc.
*0 dB = 0.775 V

— Continued on page 2 —

SERVICE MANUAL

Inputs: MIC (two phone jacks)
Sensitivity: 0.2 mV (–72 dB)
for low-impedance microphone
LINE IN (stereo binaural jack, two phono jacks)
Sensitivity: 0.06 V (–22 dB)
Impedance: 100 kΩ

Outputs: LINE OUT (two phono jacks)
Normal level: 0.775 V (0 dB)
Load impedance: 100 kΩ
with LINE OUT level control at "10"
suitable load impedance more than 10 kΩ
HEADPHONES (binaural jack)
for low impedance headphones

0 dB = 0.775 V

MODEL IDENTIFICATION

– Specification Label –

US model

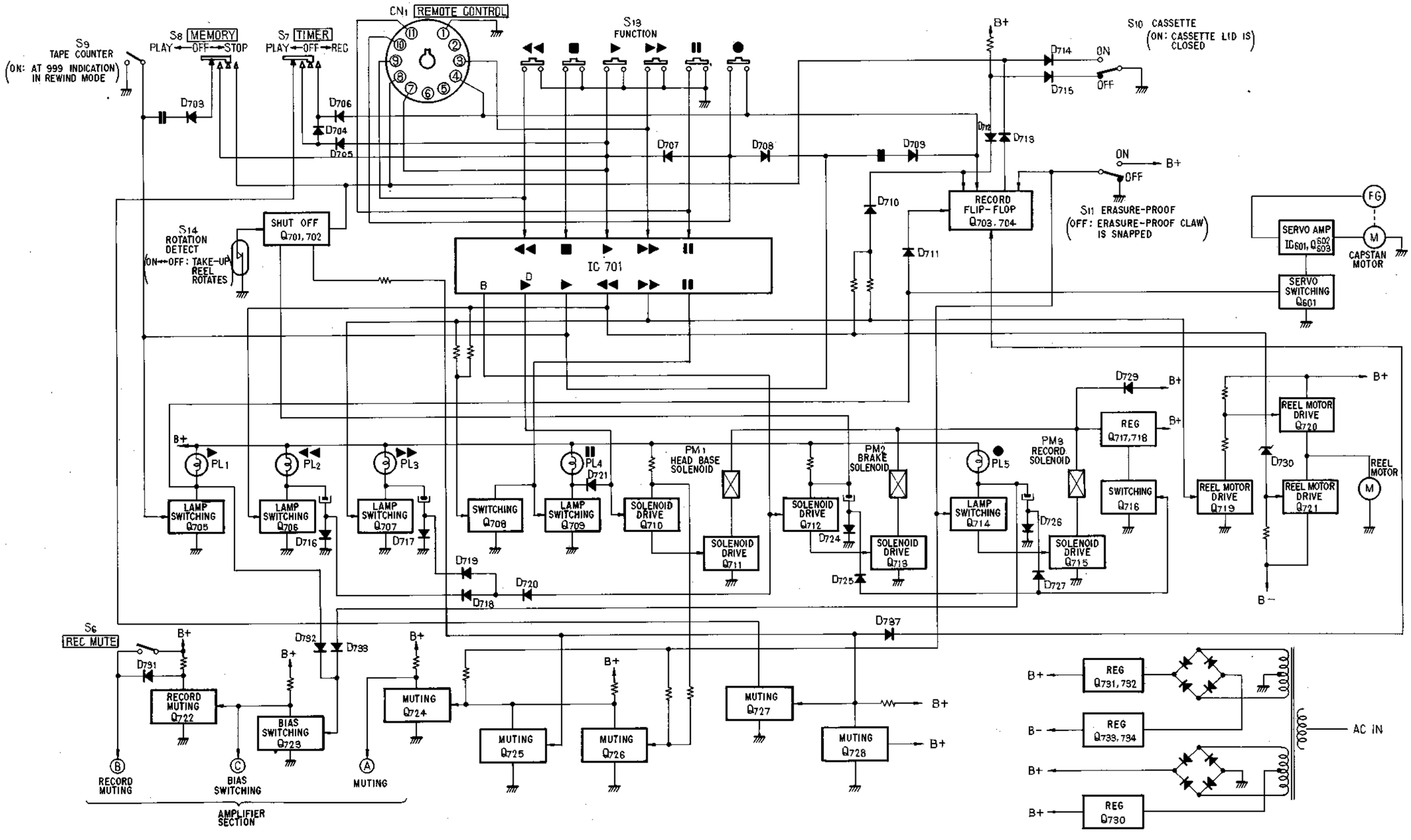
SONY
TAPECORDER TC-229SD
AC 120 V 60 Hz 32 W
NO.
MADE IN JAPAN
3-551-112-00

Canadian model

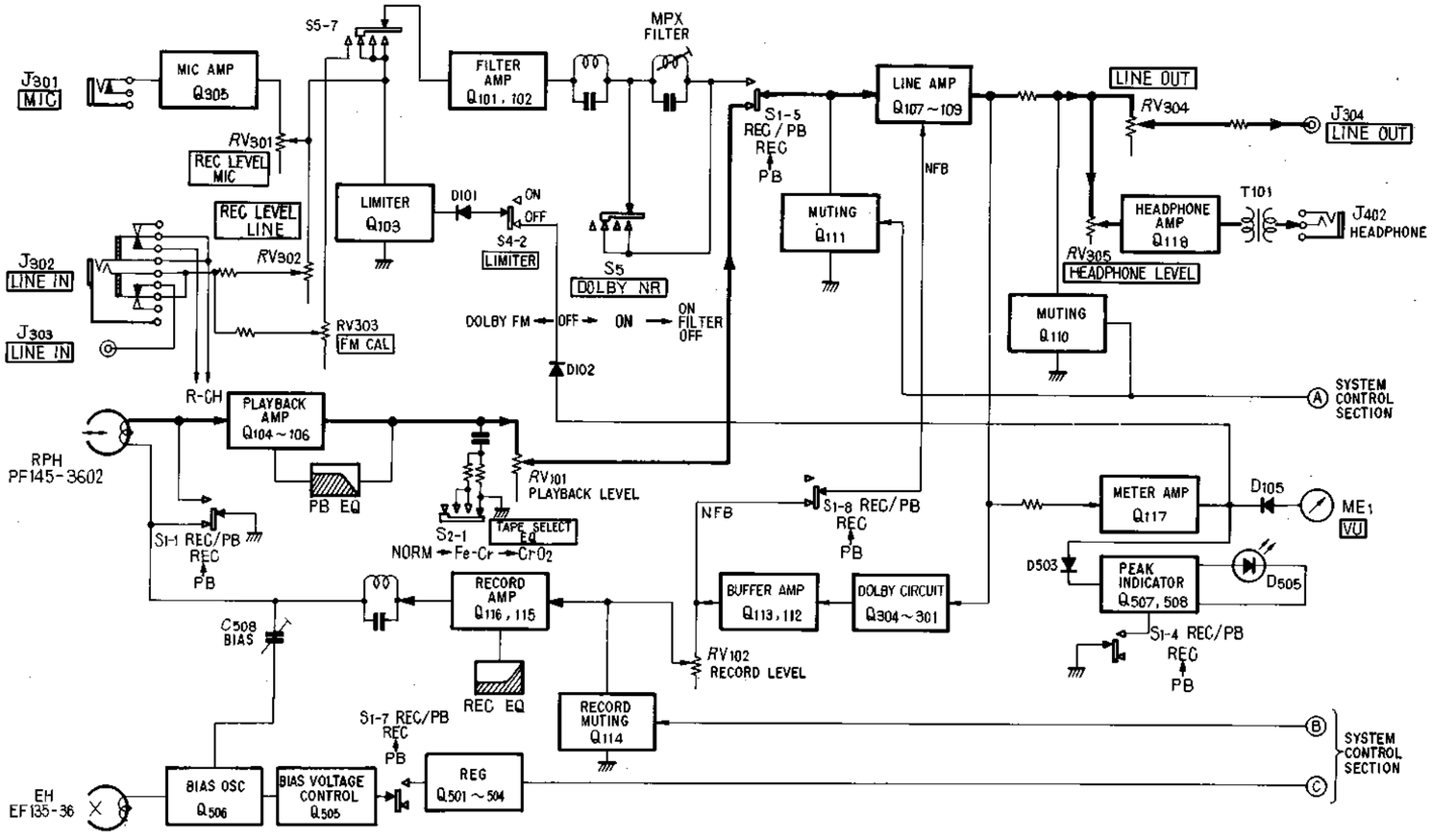
SONY
TAPECORDER TC-229SD
AC 120V 60Hz 32 W
NO.
MADE IN JAPAN 3-551-110-00

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM – System Control Section –



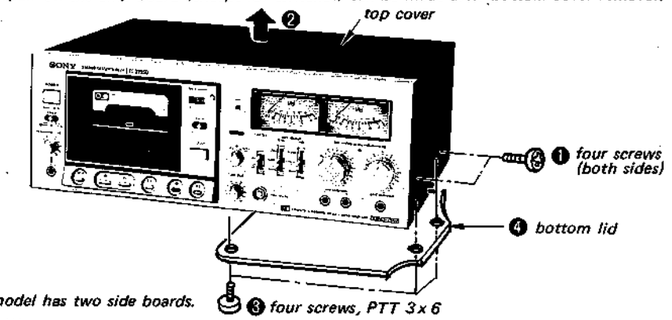
1-2. BLOCK DIAGRAM – Amplifier Section –



SECTION 2
DISASSEMBLY

TOP COVER AND BOTTOM LID REMOVAL

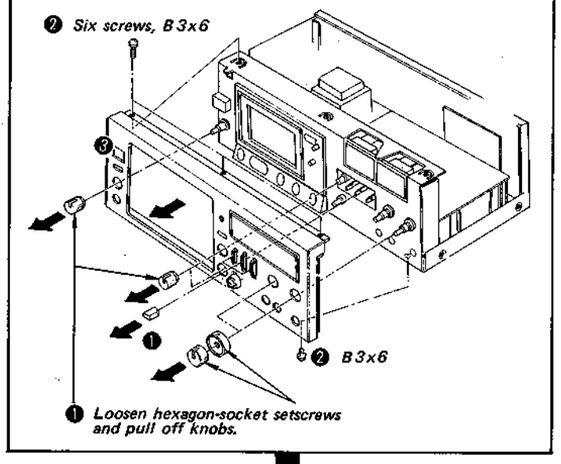
Note: *1. Checkouts on the amp, system control and servo amp boards can be made after the top cover removal.*
2. Repair on the amp board (except for switches) can be made after bottom cover removal.



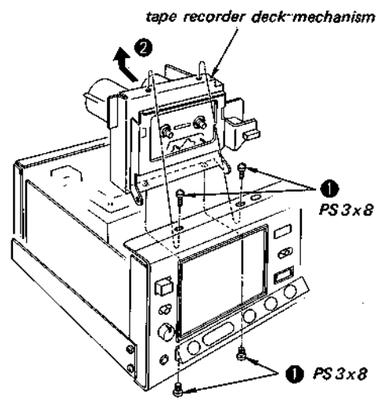
Note:
Canadian model has two side boards.

FRONT PANEL REMOVAL

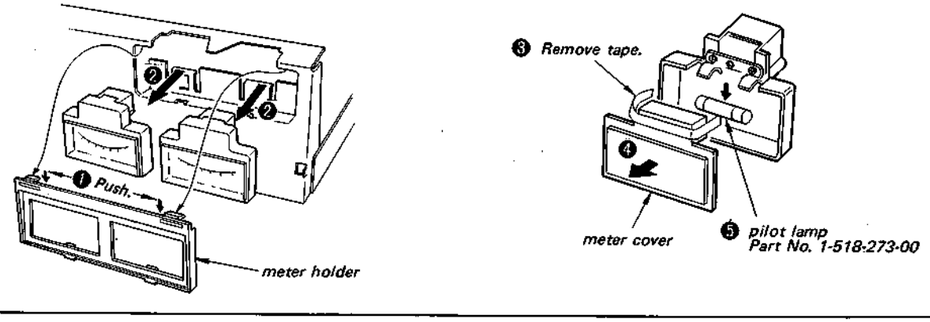
Note: *Replacements of jacks and variable resistors can be made after the front panel removal.*



TAPE RECORDER DECK REMOVAL



VU METER LAMP REMOVAL



SECTION 3
ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

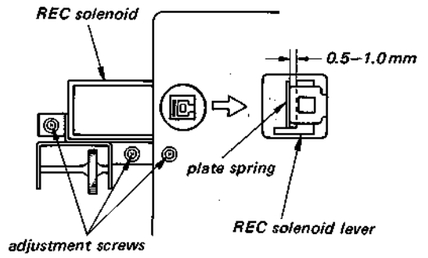
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers

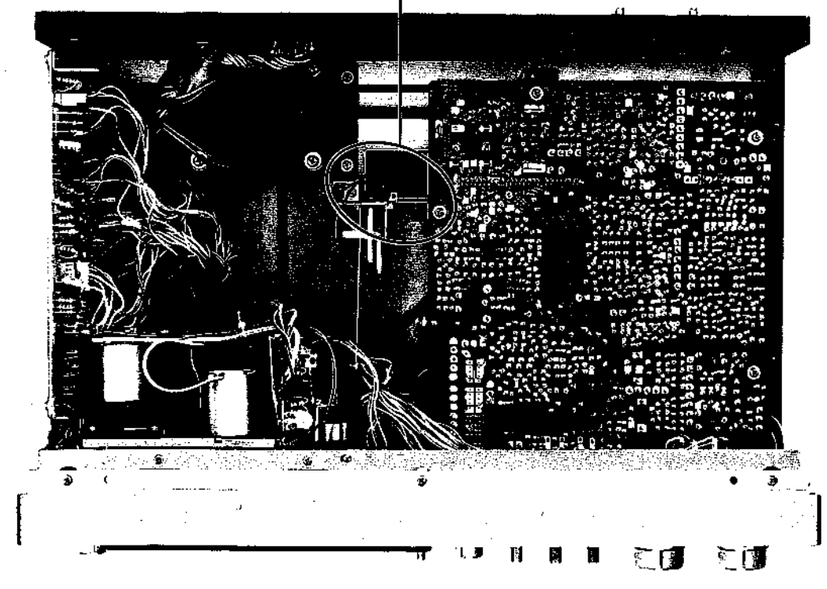
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply a suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

3-1. MECHANICAL ADJUSTMENT

Record Solenoid Position Adjustment

Adjust the record solenoid position to obtain the indicated clearance between plate spring and record solenoid lever.

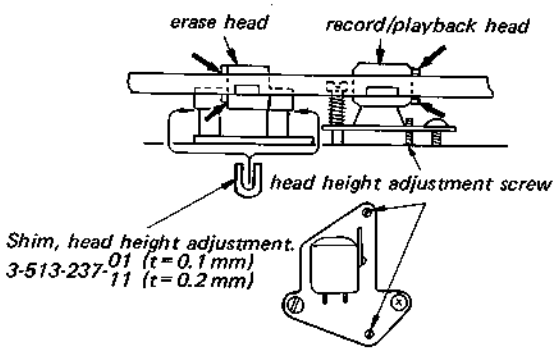




Tape Path Adjustment

– playback mode –

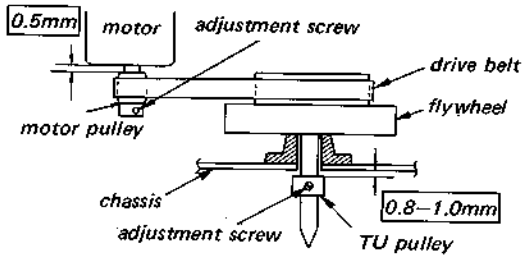
1. Adjust erase head height by adding or removing shim to eliminate tape curl at the erase head.
2. Adjust record/playback head height adjustment screw to eliminate tape curl at the record/playback head.

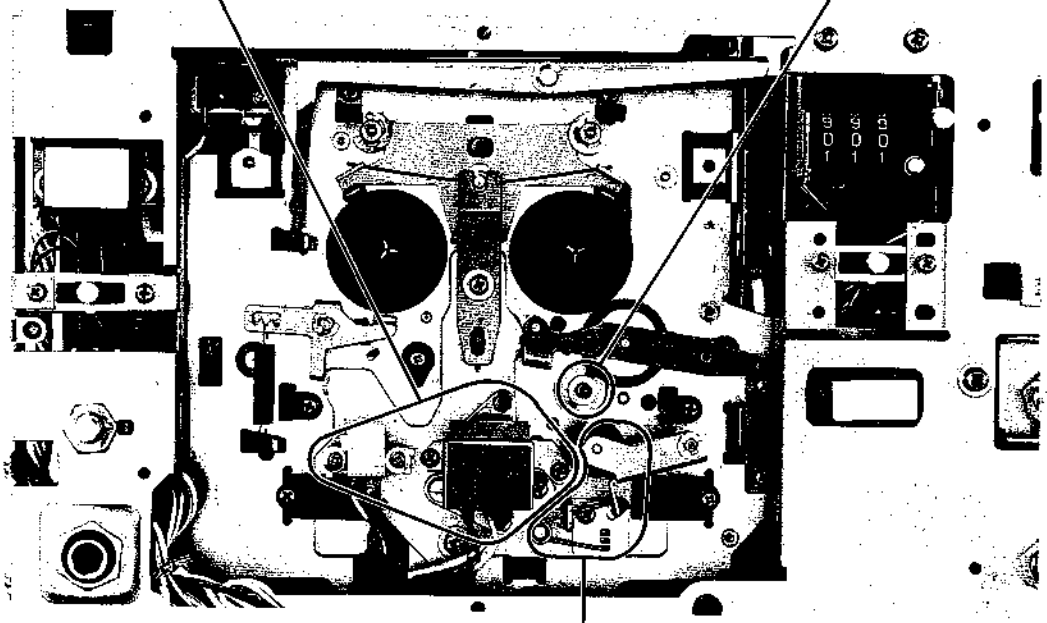


Pulley Height Adjustment

– stop mode –

Adjust position of motor and TU pulleys to obtain indicated clearances between motor and chassis.

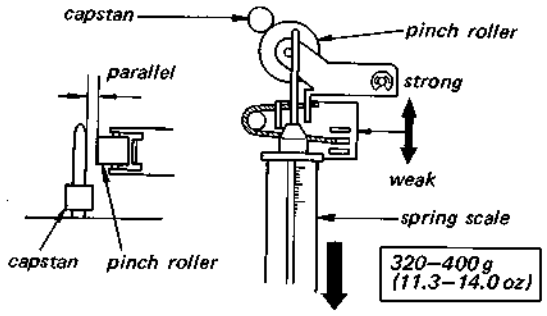




Pinch Roller Pressure Adjustment

– playback mode –

1. Pull the spring scale.
2. Slowly return the pinch roller and read the spring scale just when the pinch roller starts to rotate.
3. If necessary, change the hooking position.

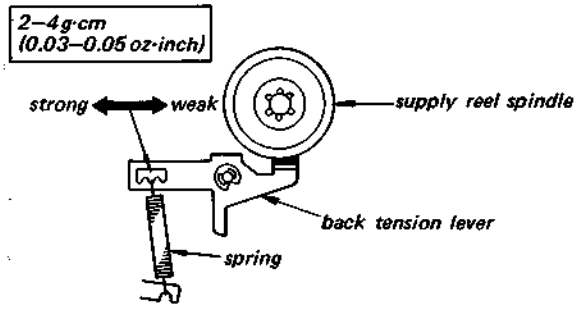


ADJUSTMENTS

Forward Back Tension Torque Adjustment

– playback mode –

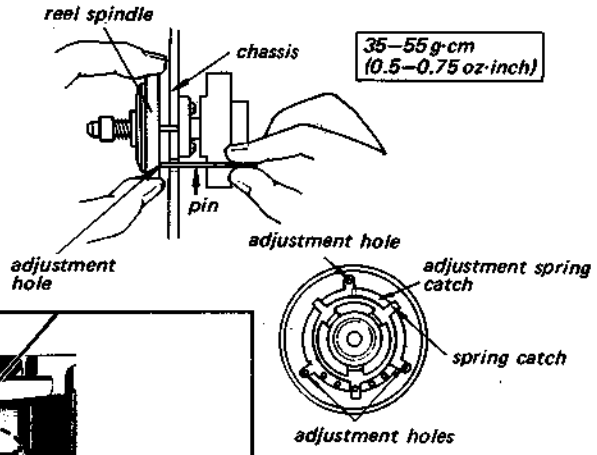
1. Place the type CQ-101 cassette torque meter in the set.
2. Adjust the spring-hook position to obtain the indicated torque.

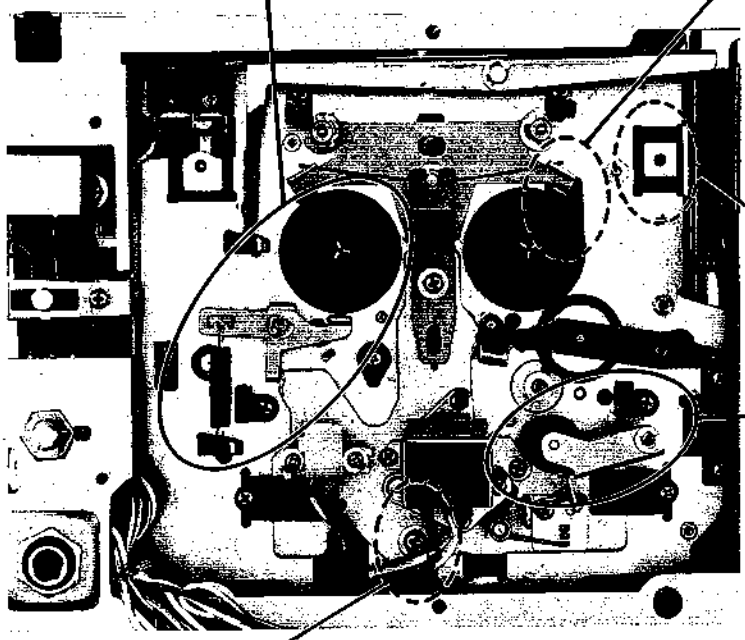


Forward Torque Adjustment

– playback mode –

1. Place the type CQ-101 cassette torque meter in the set.
2. Adjust the position of the adjustment spring catch using a suitable pin and turning the reel spindle to obtain the indicated torque.





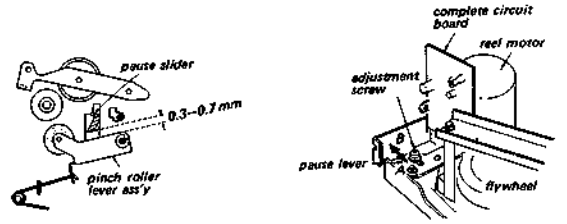
Pause Lever Position Adjustment

– playback mode –

– US, Canadian model Serial No. 700,401 and later –

Slide the pause lever up to A or B direction with loosening the adjustment screw as shown in Fig. 2 to obtain the rated clearance between the pinch roller lever assembly and the pause slider.

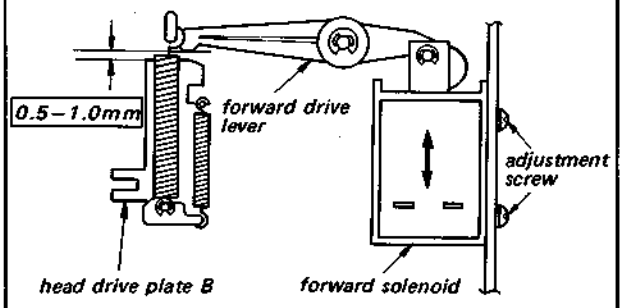
Sliding position of pause lever	Interval
A direction	narrow
B direction	wide



Forward Solenoid Position Adjustment

– playback mode –

Adjust the position of the forward solenoid to obtain the indicated clearance between the forward drive lever and head drive plate B.



Fast Forward and Rewind Torque Measurement

Use type CQ-201 cassette torque meter.

Fast Forward Torque: 75–130 g·cm (1.1–1.8 g·cm)

Rewind Torque: 75–130 g·cm (1.1–1.8 g·cm)

3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

Test Equipment/Tools Required:

audio oscillator (af osc)
VTVM
digital frequency counter
speed checker SONY LMF-30
oscilloscope
attenuator (600 Ω)
non-magnetic screwdriver
resistors ... 600 Ω (1/4 W), 10 kΩ (1/4 W), 100 kΩ (1/4 W)
blank tapes (completely erased with bulk eraser)
SONY CS-10 (HF), CS-20 (CrO_2), CS-30 (Fe-Cr)

BIAS and EQ switch settings in accordance with tape used are as follows.

Tape	BIAS switch	EQ switch
CS-10	NORMAL	NORMAL
CS-20	HIGH	CrO_2
CS-30	NORMAL	Fe-Cr

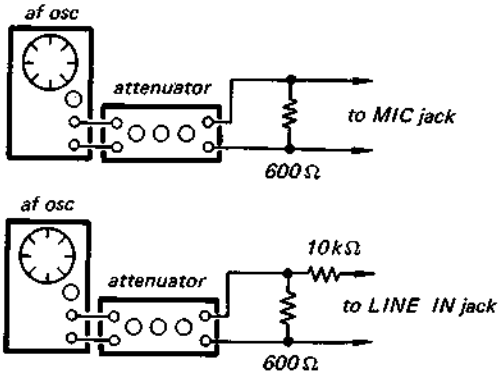
SONY test tapes
P-4-A81S (6.3 kHz, - 10 dB)
P-4-A82 (10 kHz, - 10 dB)
P-4-L81 (333 Hz, 0 dB)
WS-48 (3 kHz, 0 dB)

Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch:	OFF
LINE OUT control:	MAX
EQ switch:	NORMAL
BIAS switch:	NORMAL
HEADPHONE LEVEL:	MAX
TIMER switch:	OFF
MEMORY switch:	OFF
LIMITER switch:	OFF
REC MUTE switch:	OFF

Test Equipment Connections:

Input side:



Standard Record:

Deliver the standard input signal level to the input jack and set the MIC or LINE control to obtain the standard output signal elvel. Set the LINE control to MIN when MIC is used or set MIC control to MIN when LINE IN is used.

Standard Input Level

	MIC	LINE IN
source impedance	300Ω	10 kΩ
input level	0.77 mV (-60 dB)	0.25V (-10 dB)

Standard Output Level

	LINE OUT	HEADPHONES
load impedance	100 kΩ	8Ω
output level	0.775V (0 dB)	0.12V (-16 dB)

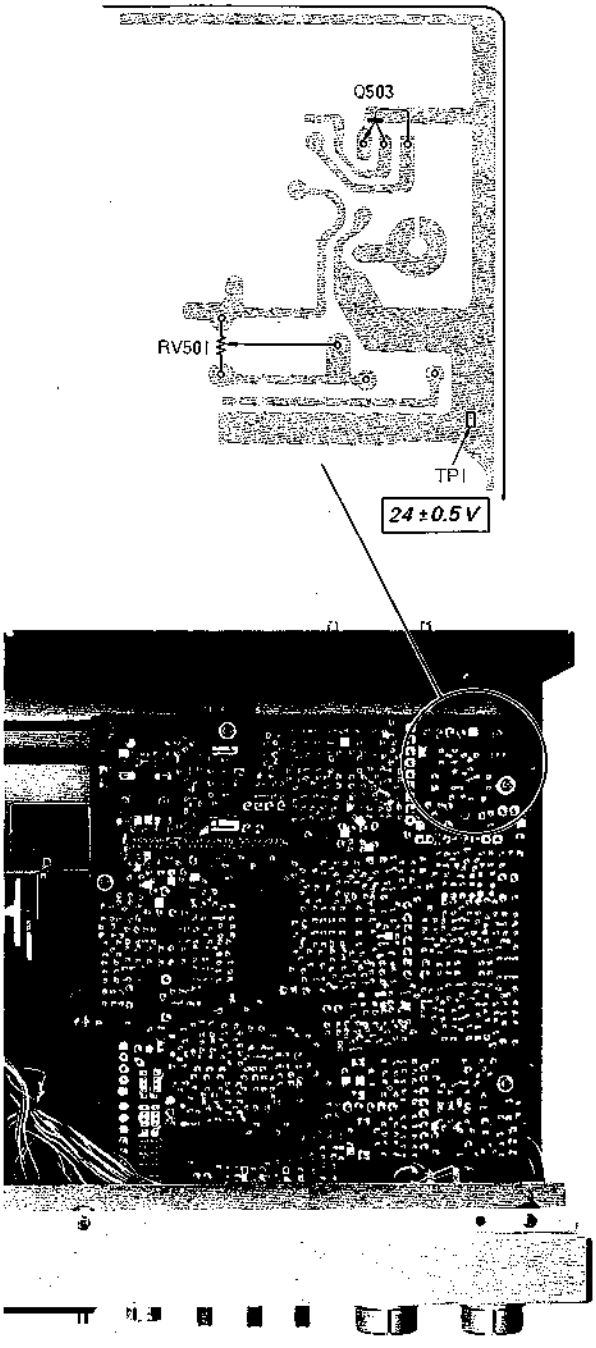
1. B+ Voltage Adjustment

Procedure:

Adjust RV501 for 24V VOM reading at TP1.

Adjustment Location:

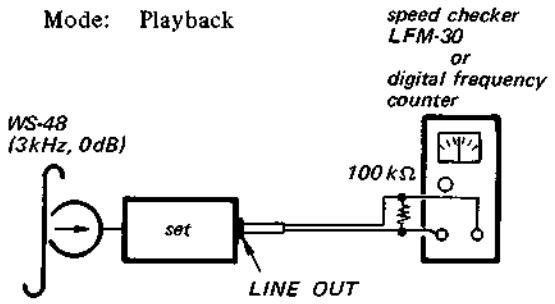
– amp board –



2. Tape Speed Adjustment

Procedure:

Mode: Playback



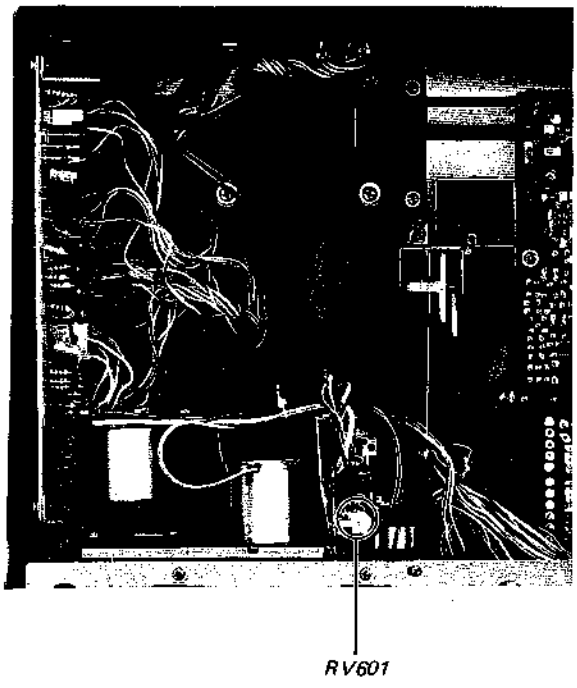
Adjust RV601 to obtain the specified values below.

Specification:

Speed checker	Digital frequency counter
−0.7–+0.7%	2,980–3,020 Hz

Frequency difference between beginning and end of tape should be within 0.7% (20 Hz).

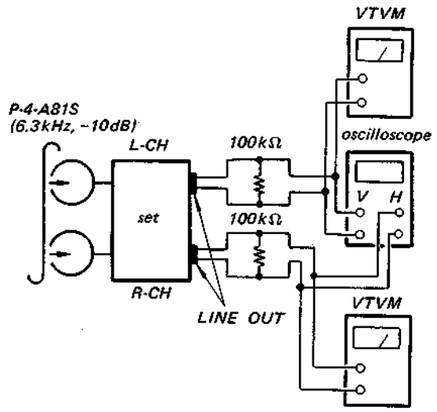
Adjustment Location:



3. Record/playback Head Azimuth Adjustment

Procedure:

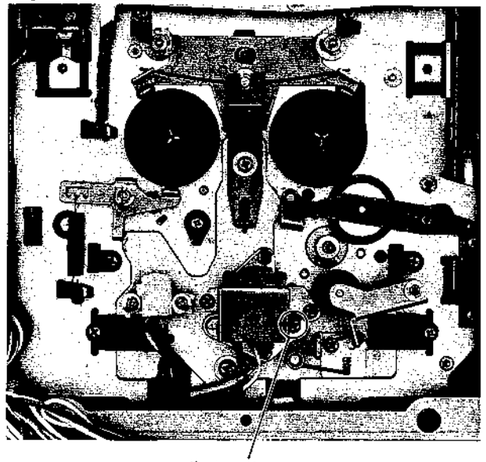
1. Mode: Playback



2.

Adjust	Oscilloscope patterns
azimuth adjustment screw to obtain the in-phase pattern around the highest VTVM readings.	[Allowance] *in-phase* (L) (R) ~ *90° out-of-phase* (L) (R) Level drop should be within 0.5 dB

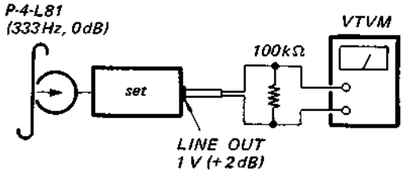
Adjustment Location:



4. Playback Level Adjustment

Procedure:

1. Mode: Playback



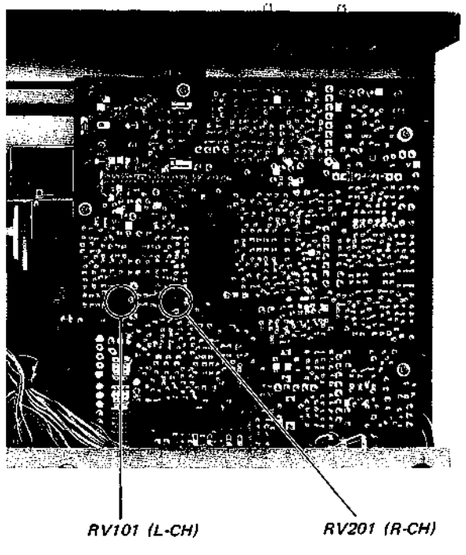
Adjust RV101 (L-CH) and RV201 (R-CH) to obtain 1 V (+2 dB) VTVM reading.

2. Assure that the LINE OUT level does not change when the mode is changed from playback to stop several times.

Specification:

LINE OUT level: 0.94–1.05 V (+1.5–+2.5 dB)
Level difference between channels: less than 0.5 dB

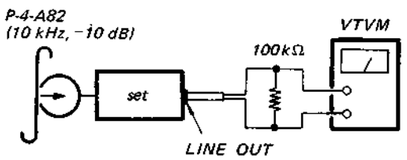
Adjustment Location:



5. Playback Equalizer Adjustment

Procedure:

Mode: Playback

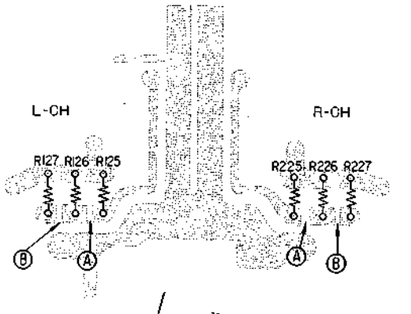


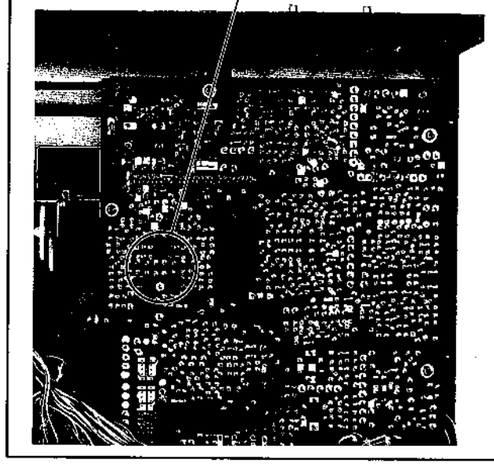
Adjust R125 (L-CH) and R225 (R-CH) for 0.27–0.37 V (−9.5–−6.5 dB) VTVM reading.

With TAPE SELECT EQ switch set to Fe-Cr or CrO_2: 0.15–0.22 V (−14.5–−11 dB)

Adjustment Location:

Bridge patterns	High frequency level
(open)	↑ up
Ⓐ	
Ⓐ and Ⓑ	↓ down

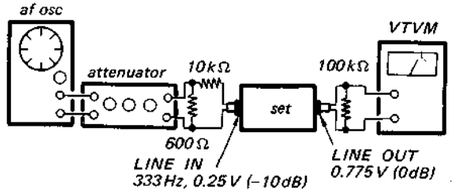




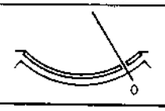
6. VU Meter Calibration

Procedure:

1. Mode: Standard record (See page 11.)



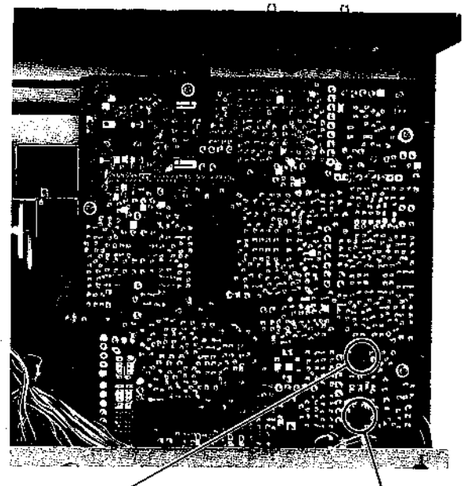
2.

Adjust	VU meter reading: 0 VU
RV103 (L-CH) RV203 (R-CH)	

Specification:

When the LINE IN level is adjusted to make 0VU indication, VTVM reading should be 0.74–0.82 V (−0.5–+0.5 dB).

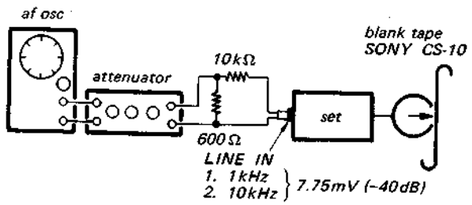
Adjustment Location:



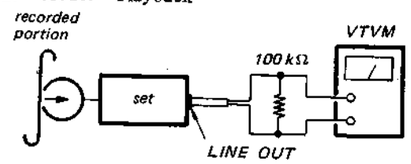
7. Record Bias Adjustment

Procedure:

1. Mode: Standard record (See page 11.)



2. Mode: Playback

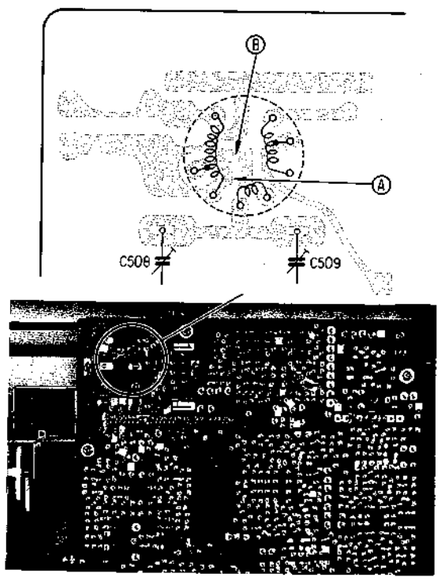


Adjust C508 (L-CH) and C509 (R-CH) to make 10 kHz and 1 kHz signal output levels equal.

Level difference between the two output levels: 0.74–0.82 V (0 dB ±0.5 dB)

Adjustment Location:

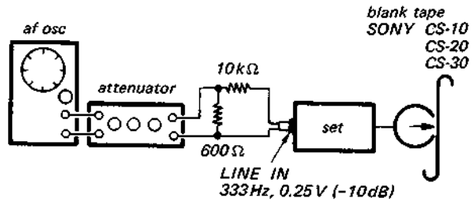
Note: Normally, patterns at (A) are bridged. If adjustment is not made with trimmers fully tightened, remove solder bridge at (A) and bridge patterns at (B), and repeat the adjustment.



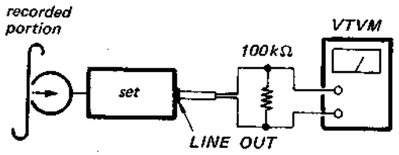
8. Record Level Adjustment

Procedure:

1. Mode: Standard record (See page 11.)



2. Mode: Playback



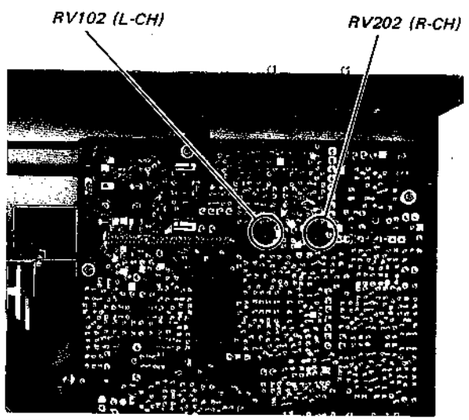
Adjust RV102 (L-CH) and RV202 (R-CH) to obtain 0.775 V (0 dB) VTVM reading.

3. Change the blank tape to CS-20 and CS-30, and perform the same record and playback procedure. Measure LINE OUT level.

Specification:

SONY tape	LINE OUT level
CS-10	0.73–0.82 V (–0.5–+0.5 dB)
CS-20	0.61–0.775 V (–2–0 dB)
CS-30	0.61–0.82 V (–2–+0.5 dB)

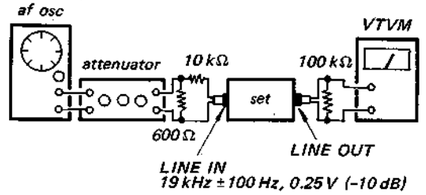
Adjustment Location:



9. MPX Filter Adjustment

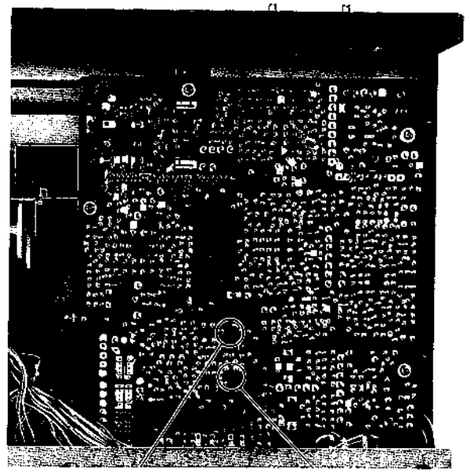
Procedure:

Mode: Standard record (See page 11.)
DOLBY NR switch: ON



Adjust L102 (L-CH) and L202 (R-CH) for 25 mV (–30 dB) or less VTVM reading.

Adjustment Location:

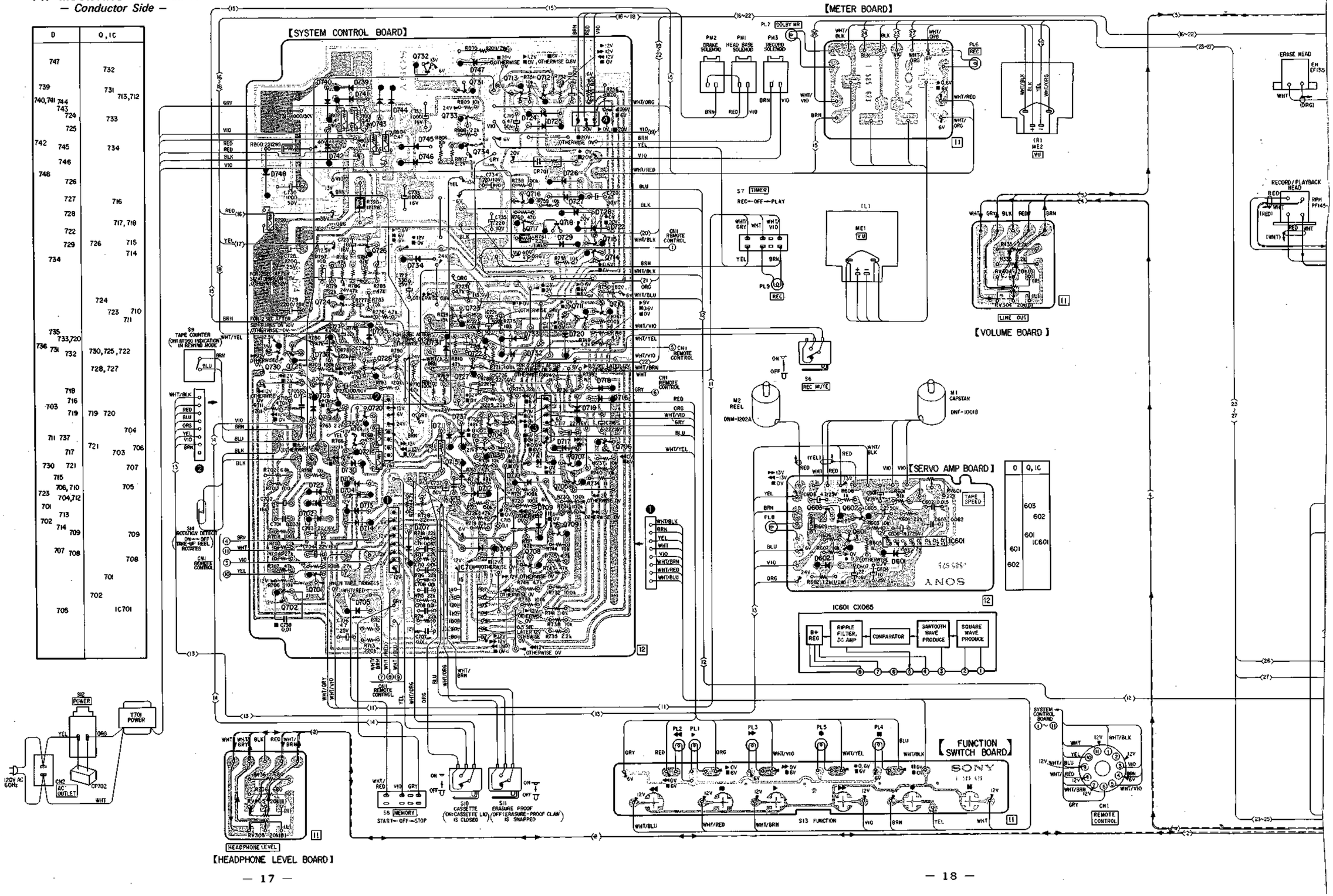


SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM (Canadian model Serial No. up to 700,400)

— Conductor Side —

D	Q, IC
747	732
739	731, 713, 712
740, 741, 744, 743	
724	733
725	
742	734
745	
746	
748	
726	
727	716
728	717, 718
722	
729	726, 715
734	714
	724
	723, 710, 711
735	733, 720
736, 731	732, 730, 725, 722
	728, 727
718	
716	
703	
719	719, 720
	704
711, 737	
717	721, 703, 706
730	721
	707
715	
723	706, 710, 705
704, 712	
701	
702	713
714	
709	709
707	708
708	
	701
	702
705	IC701



【RECORD/PLAYBACK AMP BOARD】

【INPUT/OUTPUT JACK BOARD】

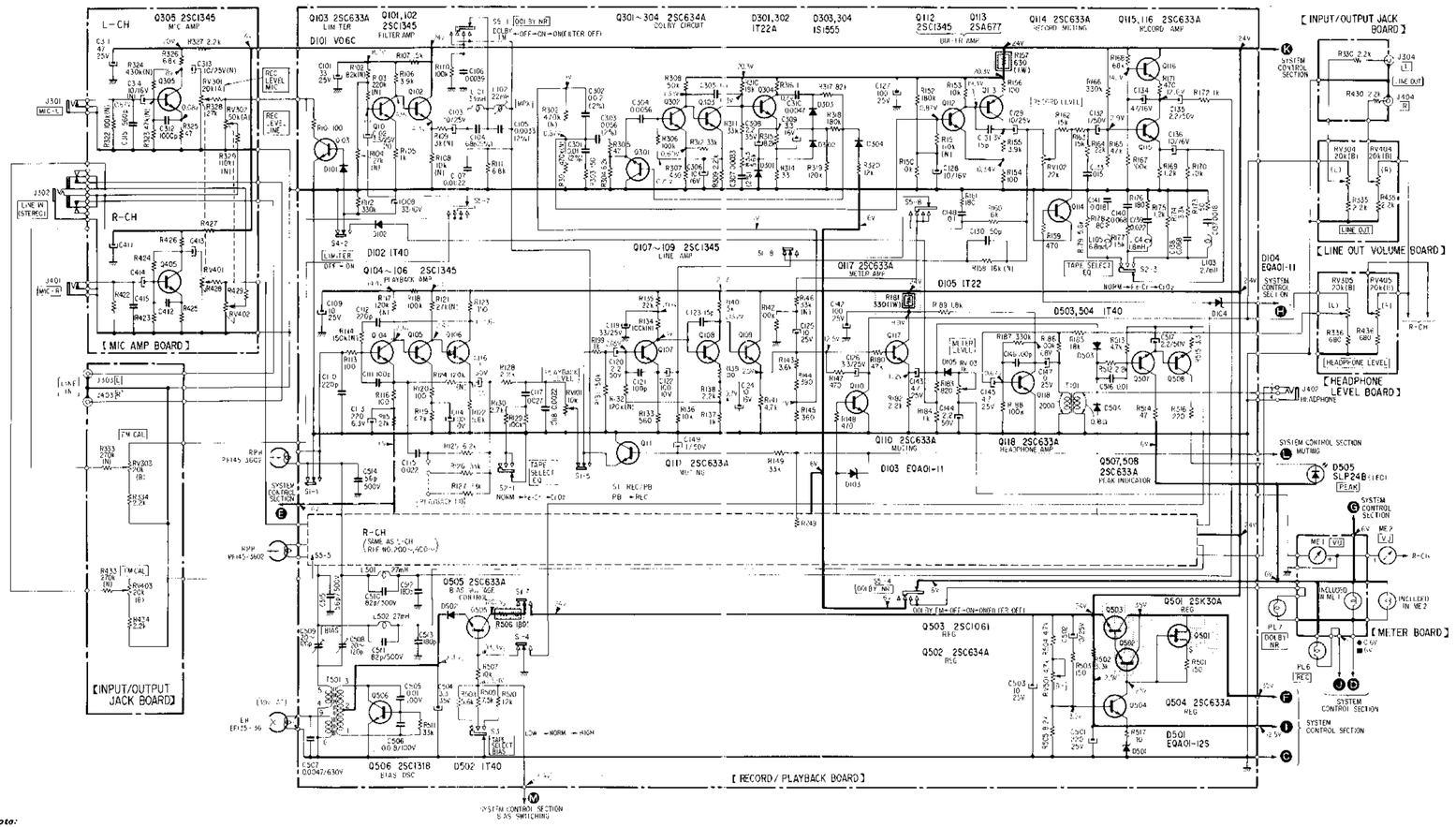
【MIC AMP BOARD】

Q	D
506 508 116,216,501,502,503 507	
115 504 215	501
	502
505 114 214	505 104
212,213 207 208,209 211	
104,204	401
210 105,205 402 403 404	103
106,206 111,110,401 109	402 404 403
108 107 301,302,303,304	304 303 302
101,102 112 113 103	301 101
117	105
203 118 201,202	503
218	201,504
217	205
	202 102

Note:
- : B+ pattern
- : B- pattern
- Signal Path
  - : L-CH
  - : R-CH
  - : COMMON
- Color code of sleeving over the end of the jacket.

Note:
- DC resistance measurements shown with coils connected on circuit.

4-2. SCHEMATIC DIAGRAM — Amplifier Section (Canadian model Serial No. up to 700,400) —



Note:

- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- : fusible resistor.
- {N} : low-noise capacitor and resistor.
- 2% indicates component tolerance.

- : B+ bus.
- : B− bus.
- : panel designation.
- : adjustment for repair.

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken in playback mode (indicated by ▶) with a VOM (20 kΩ/V).
  [ ] : record mode

- AC voltage readings in the bias oscillator circuit are taken with a VTVM.
- Switch

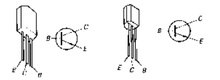
Ref. No.	Switch	Position
S1	REC/PB	PB
S2	TAPE SELECT EQ	NORMAL
S3	TAPE SELECT BIAS	LOW
S4	LIMITER	OFF
S5	DOLBY NR	OFF

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

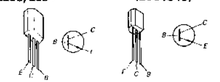
Q101, 201 / Q102, 202 / Q104–107 / Q204–207 / Q112, 212 / Q305, 405 : 2SC632A (2SC1345)



Q103, 203 / Q110, 111 / Q210, 211 / Q114–118 / Q214–218 / Q504, 505 / Q507, 508 / Q601, 602 / Q701–710 / Q712, 719 / Q722–727 / Q730, 731 / Q301–304 / Q401–404 / Q502 : 2SC634A (2SC633A)

Q716, 727 / Q728 : 2SC634A

Q108, 109 / Q208, 209 : 2SC634A (2SC1345)



Q113, 213 / Q733, 734 : 2SA678 (2SA677)

Q501: 2SK30A

Q503 / Q718 : 2SC1061

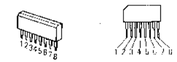
Q732: 2SC1173

Q506 / Q714 / Q711 / Q713 / Q715 / Q721 : 2SC1475 (2SC1318)

Q603: 2SC1760 (2SC1761)

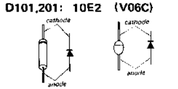
Q720: 2SA684

IC601: CX065A (CX065)



IC701: CX738A

D101,201: 10E2 (V06C)



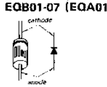
D102, 202 / D502–504 / D701, 702 / D704–707 / D709–721 / D723–727 / D731–733 / D735–737 / D105, 205 / D601, 703 : 1T22A (1T22)

D708 / D301, 401 : 1T22A

D302, 402 / D303, 403 / D304, 404 : 1S1555

D734: 10E2

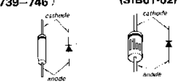
D103, 104: EQB01-11Z (EQA01-11)
D501: EQB01-12Z (EQA01-12S)
D730: EQB01-15 (EQA01-15R)
D747: EQB01-07 (EQA01-07S)



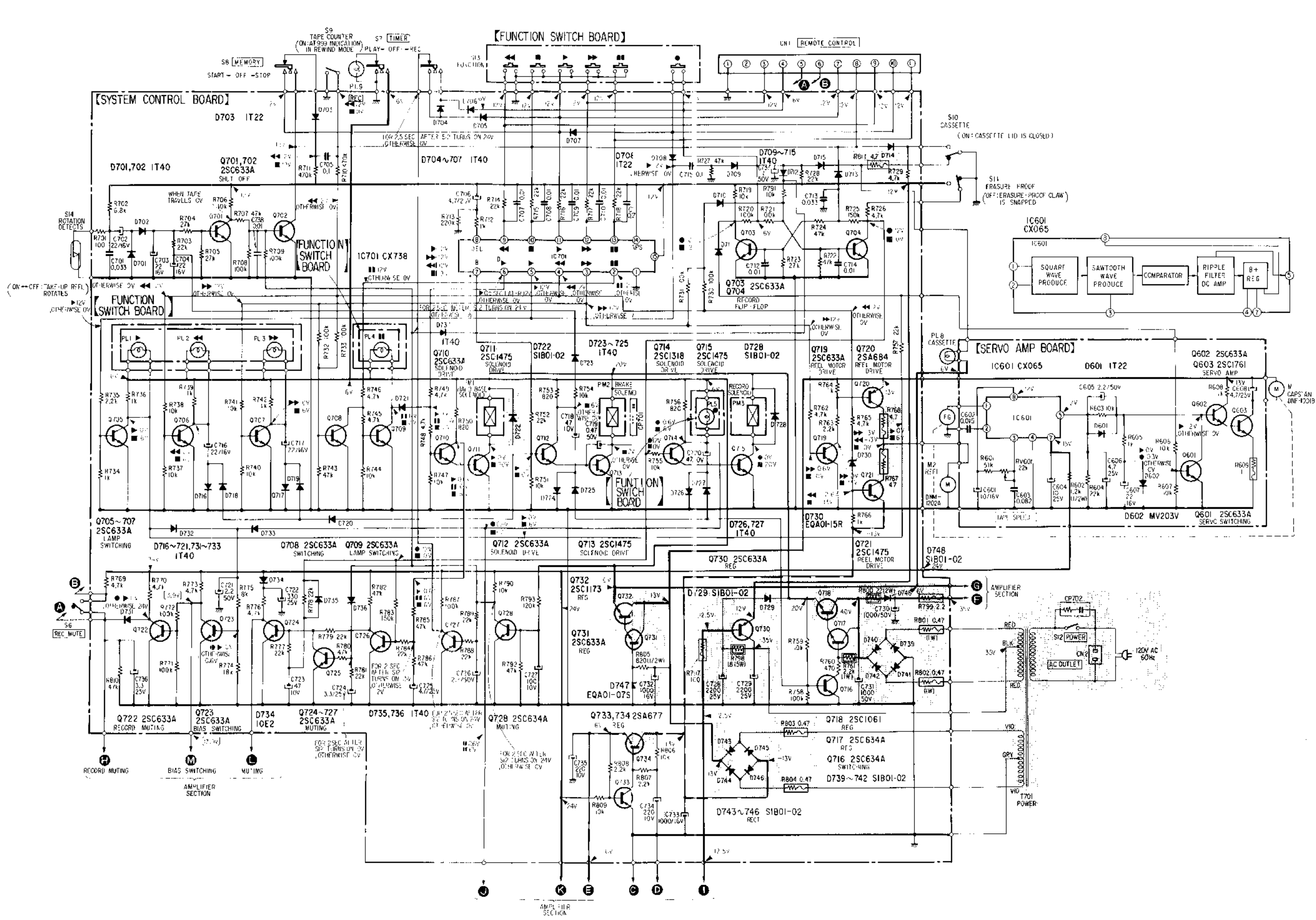
D505: SLP24B

D602: MV203V

D722 / D728 / D729 / D748 / D739–746 : 10E2 (SIB01-02)



4-3. SCHEMATIC DIAGRAM – System Control Section (Canadian model Serial No. up to 700,400) -



Note:

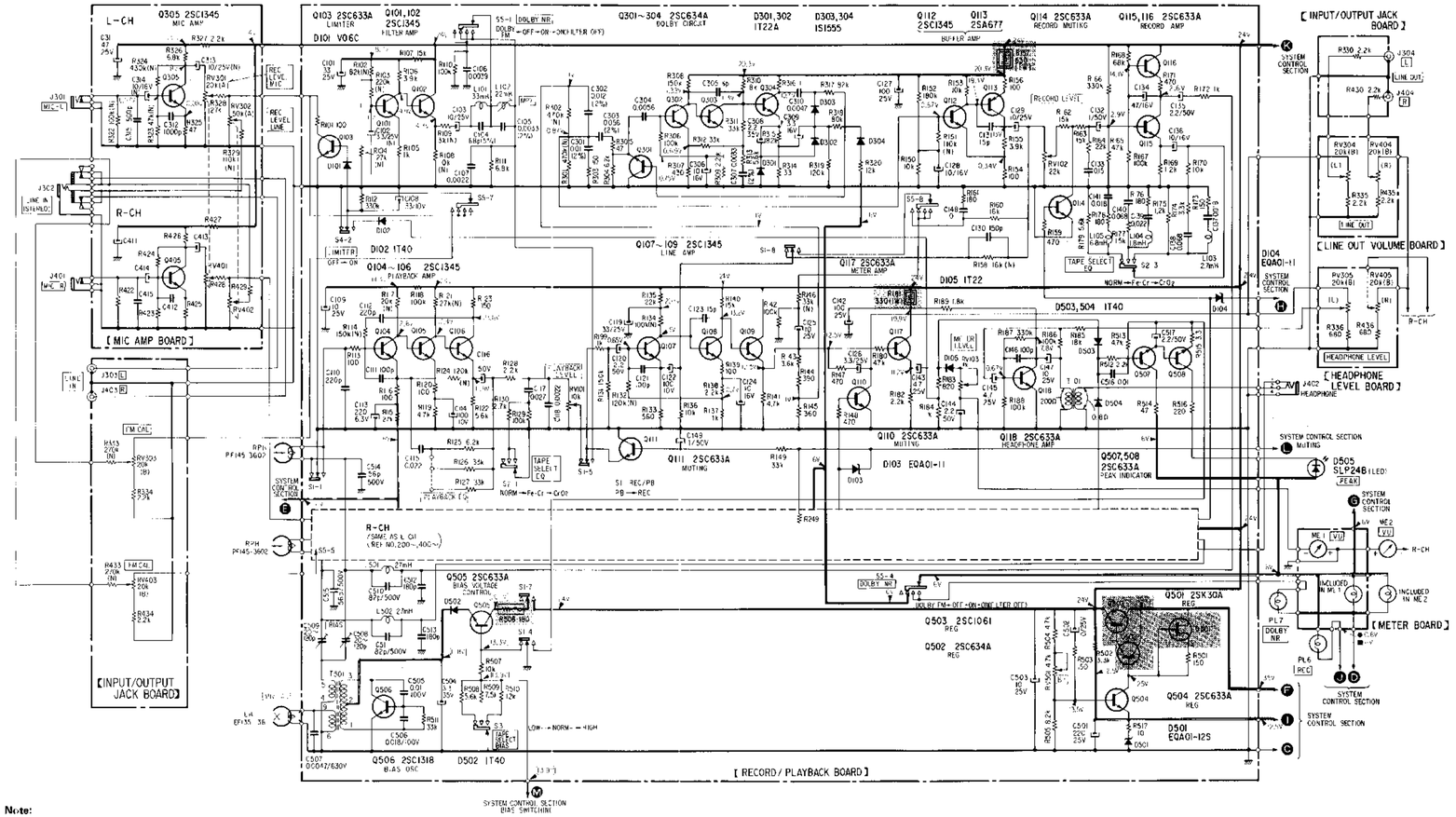
- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- (symbol) : nonflammable resistor.
- (symbol) : fusible resistor.
- 2% indicates component tolerance.
- (symbol) : B+ bus.
- (symbol) : B– bus.
- [ ] : panel designation.
- [ ] : adjustment for repair.

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken in playback mode (indicated by ▶) with a VOM (20 kΩ/V).
  - ■: STOP
  - ▶: FORWARD
  - ▶▶: FAST FORWARD
  - ◀◀: REWIND
  - II: PAUSE
  - ●: RECORD
- Switch

Ref. No.	Switch	Position
S6	REC MUTE	OFF
S7	TIMER	OFF
S8	MEMORY	OFF
S9	TAPE COUNTER	OFF
S10	CASSETTE	OFF
S11	ERASURE PROOF	OFF
S12	POWER	OFF
S13	FUNCTION	OFF
S14	ROTATION DETECT	OFF

Note: The components identified by shading are critical for safety. Replace only with part number specified.

4-4. SCHEMATIC DIAGRAM — Amplifier Section (US model, Canadian model Serial No. 700,401 and later) —



Note:

- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- {N} : low-noise capacitor and resistor.
- 2% indicates component tolerance.

- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B− bus.
- ▭ : panel designation.
- ▭ : adjustment for repair.

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken in playback mode (indicated by ▶) with a VOM (20 kΩ/V).
  [ ] : record mode

- AC voltage readings in the bias oscillator circuit are taken with a VTVM.
- Switch

Ref. No.	Switch	Position
S1	REC/PB	PB
S2	TAPE SELECT EQ	NORMAL
S3	TAPE SELECT BIAS	LOW
S4	LIMITER	OFF
S5	DOLBY NR	OFF

Note: The components identified by shading are critical for safety. Replace only with part number specified.

4-5. SCHEMATIC DIAGRAM – System Control Section (US model, Canadian model Serial No. 700,401 and later) –

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

Q101, 201 / Q102, 202 / Q104–107 / Q204–207 / Q112, 212 / Q305, 405: 2SC632A (2SC1345)

Q503 / Q718: 2SC1061

Q732: 2SC1173

Q506 / Q714: 2SC1475 (2SC1318)

Q711 / Q713 / Q715 / Q721: 2SC1475

Q103, 203 / Q110, 111 / Q210, 211 / Q114–118 / Q214–218 / Q504, 505 / Q507, 508 / Q601, 602 / Q701–710 / Q712, 719 / Q722–727 / Q730, 731: 2SC634A (2SC633A)

Q301–304 / Q401–404 / Q502 / Q716, 727 / Q728: 2SC634A

Q603: 2SC1760 (2SC1761)

Q720: 2SA684

Q108, 109 / Q208, 209: 2SC634A (2SC1345)

Q113, 213 / Q733, 734: 2SA678 (2SA677)

Q501: 2SK30A

IC601: CX065A (CX065)

IC701: CX738A

D101, 201: 10E2 (V06C)

D102, 202 / D502–504 / D701, 702 / D704–707 / D709–720 / D723–727 / D731–733 / D735–737: 1S1555 (1T40)

D105, 205 / D601, 703 / D708: 1T22A (1T22)

D301, 401 / D302, 402: 1T22A

D303, 403 / D304, 404 / D749–751: 1S1555

D734: 10E2

D103, 104: EQB01-11Z (EQA01-11)
D501: EQB01-12Z (EQA01-12S)
D730: EQB01-15 (EQA01-15R)
D747: EQB01-07 (EQA01-07S)

D505: SLP24B

D602: MV203V

D722 / D728 / D729 / D748 / D739–746: 10E2 (SIB01-02)

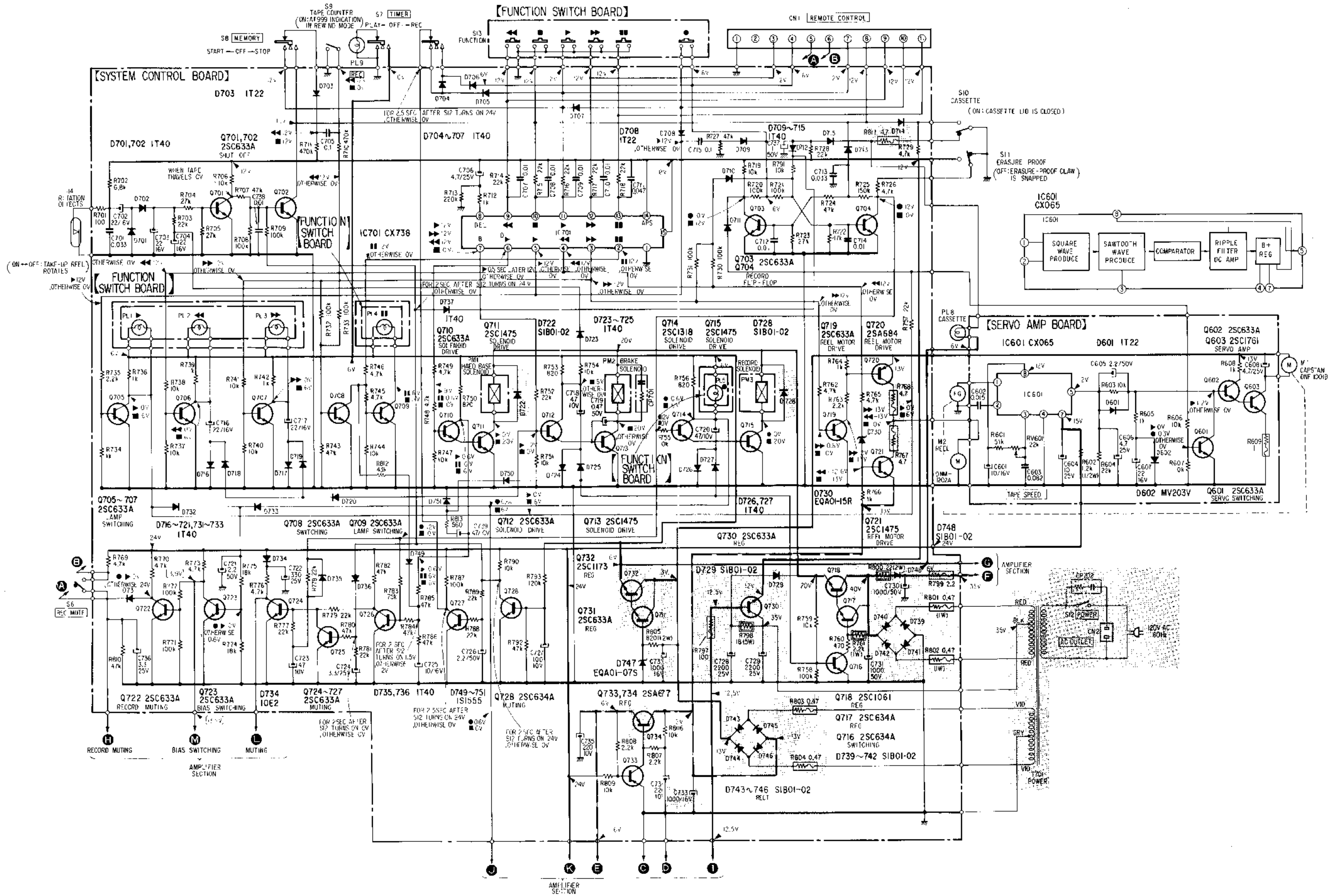
Note:

- All capacitors are in μF unless otherwise noted. pF – μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted
- [symbol] : nonflammable resistor
- [symbol] : fusible resistor.
- 2% indicates component tolerance.
- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B– bus.
- [ ] : panel designation.
- [ ] : adjustment for repair.

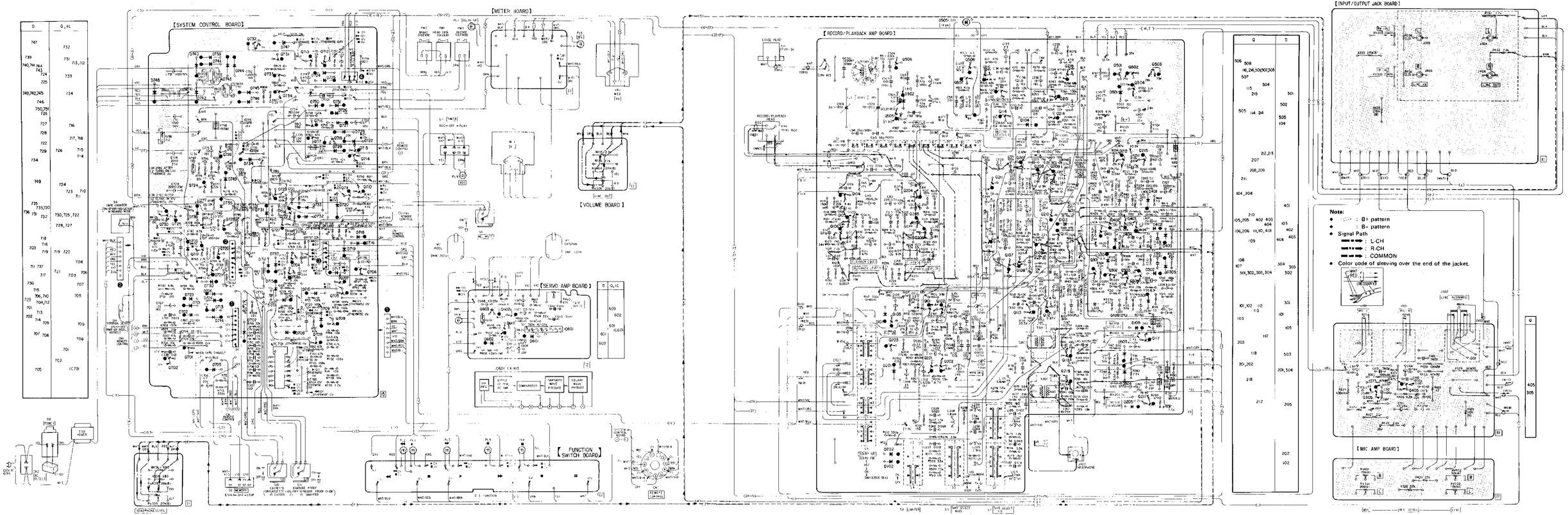
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken in playback mode (indicated by ▶) with a VOM (20 kΩ/V).
  - ■: STOP
  - ▶: FORWARD
  - ▶▶: FAST FORWARD
  - ◀◀: REWIND
  - ❚❚: PAUSE
  - ●: RECORD
- Switch

Ref. No.	Switch	Position
S6	REC MUTE	OFF
S7	TIMER	OFF
S8	MEMORY	OFF
S9	TAPE COUNTER	OFF
S10	CASSETTE	OFF
S11	ERASURE PROOF	OFF
S12	POWER	OFF
S13	FUNCTION	OFF
S14	ROTATION DETECT	OFF

Note: The components identified by shading are critical for safety. Replace only with part number specified.

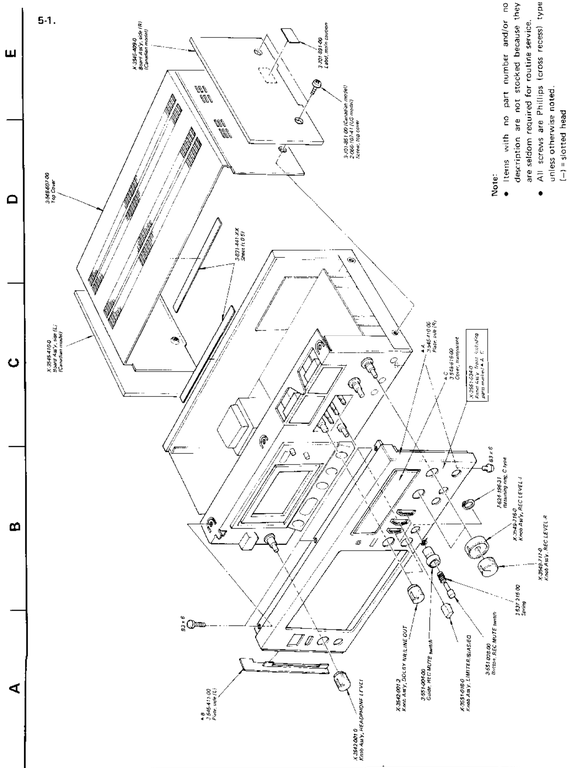


4-6. MOUNTING DIAGRAM (US model, Canadian model Serial No. 700,401 and later) —
— Conductor Side —



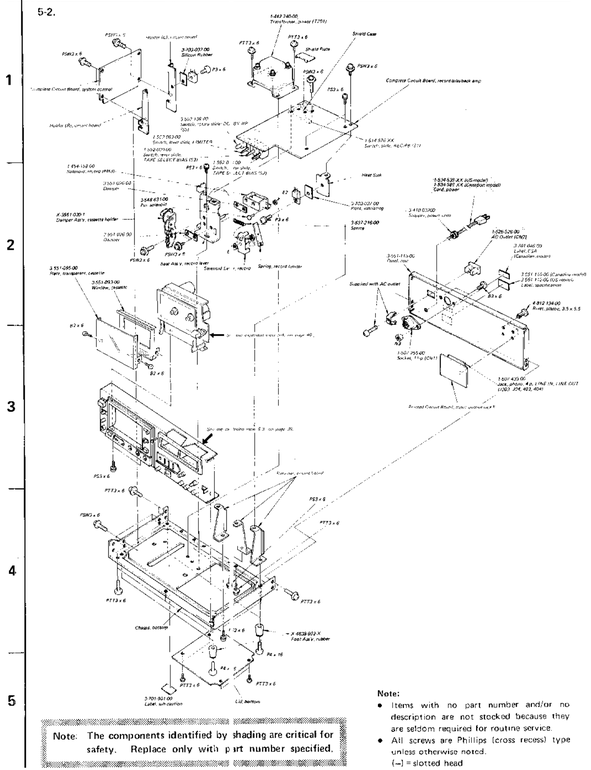
SECTION 6
EXPLODED VIEWS

5-1.



Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(–) = slotted head

5-2.

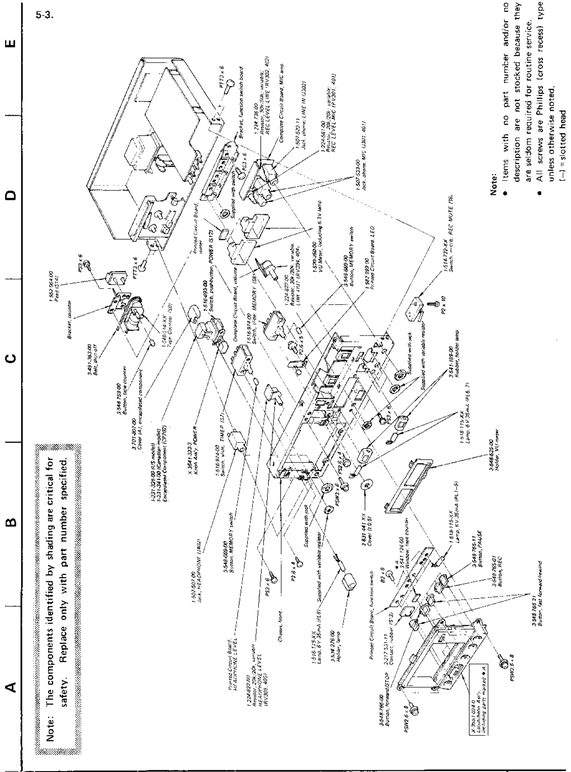


Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(–) = slotted head

TC-229SD TC-229SD

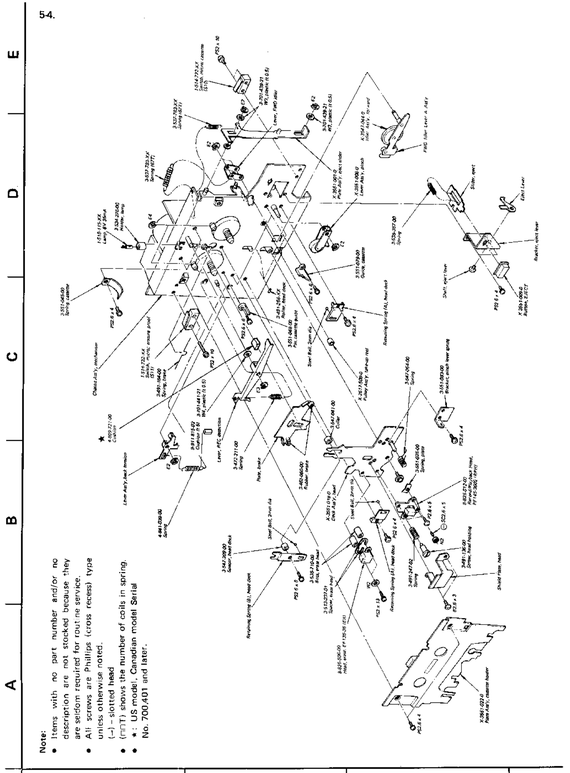
5-3.



Note: The components identified by shading are critical for safety. Replace only with part number specified.

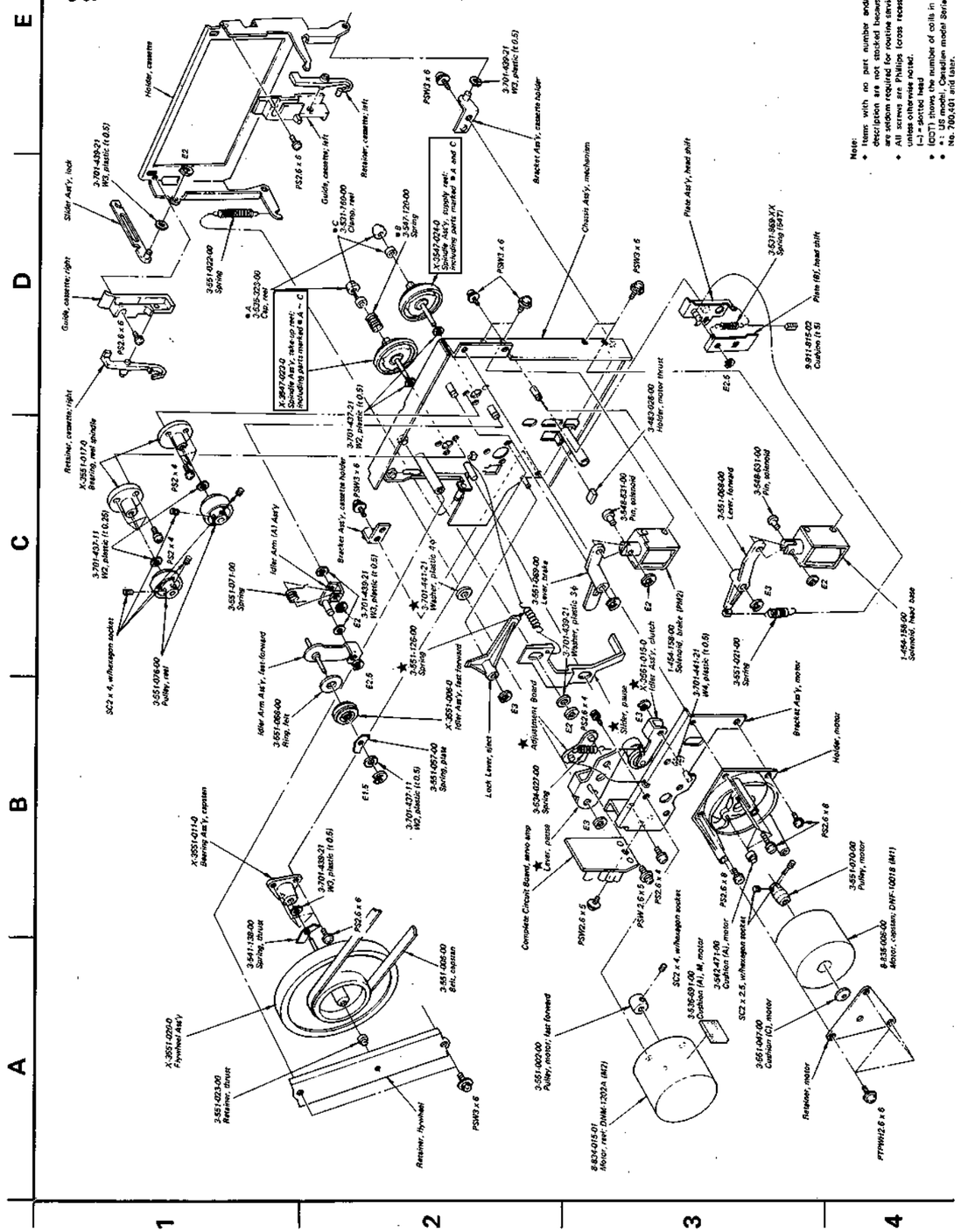
Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(–) = slotted head

5-4.



Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Philips (cross recess) type unless otherwise noted.
(–) = slotted head
- (???) shows the number of coils in spring.
- ★: US model, Canadian model Serial No. 700,401 and later.

5-5.



SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
		PRINTED CIRCUIT BOARD
	1-582-999-00	LED
		SEMICONDUCTORS
		Transistors
⇒ Q101,201 ⇒ Q102,202		2SC632A
⇒ Q103,203		2SC634A
⇒ Q104–107 ⇒ Q204–207		2SC632A
⇒ Q108–111 ⇒ Q208–211		2SC634A
⇒ Q112,212		2SC632A
⇒ Q113,213		2SA678
⇒ Q114–118 ⇒ Q214–218		2SC634A
Q301–304 Q401–404		2SC634A
⇒ Q305,405		2SC632A
[redacted]		
⇒ Q504,505		2SC634A
⇒ Q506		2SC1475
⇒ Q507,508		2SC634A
⇒ Q601,602		2SC634A
⇒ Q603		2SC1760
⇒ Q701–710		2SC634A
Q711		2SC1475
⇒ Q712		2SC634A
⇒ Q713–715		2SC1475
Q716,717		2SC634A
[redacted]		
⇒ Q719		2SC634A
Q720		2SA684
Q721		2SC1475
⇒ Q722–728		2SC634A

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Ref. No.	Part No.	Description
[redacted]		
⇒ Q733		2SA678
[redacted]		
IC601		CX065A
IC701		CX738A
		Diodes
⇒ D101,201		10E2
⇒ D102,202		1S1555
⇒ D103,104		EQB01-11Z
⇒ D105,205		1T22A
D301,401 D302,402		1T22A
D303,403 D304,404		1S1555
⇒ D501		EQB01-12Z
⇒ D502–504		1S1555
D505		SLP24B (LED)
⇒ D601		1T22A
D602		MV203V
⇒ D701,702		1S1555
⇒ D703		1T22A
⇒ D704–707		1S1555
⇒ D708		1T22A
⇒ D709–720		1S1555
⇒ D721		1S1555 (Canadian model Serial No. up to 700,400)
[redacted]		
⇒ D723–727		1S1555
[redacted]		
⇒ D730		EQB01-15
⇒ D731–733		1S1555
D734		10E2
⇒ D735–737		1S1555
[redacted]		
⇒ D747		EQB01-07
[redacted]		
⇒ D749–751		1S1555 (US model, Canadian model Serial No. 700,401 and later)

 TC-229SD

Ref. No.	*Part No.*	*Description*

COILS

Ref. No.	Part No.	Description
L101,201	1-407-879-00	33 mH, microinductor
L102,202	1-407-240-00	Inductor, variable
L103,203	1-407-199-XX	2.7 mH, microinductor
L104,204	1-407-197-XX	1.8 mH, microinductor
L105,205	1-407-204-XX	6.8 mH, microinductor
L501,502	1-407-211-XX	27 mH, microinductor

TRANSFORMERS

Ref. No.	Part No.	Description
T101,201	1-427-284-00	OUTPUT
T501	1-433-132-11	OSC

[redacted]

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics.
(pF = μμF, elect = electrolytic)

Ref. No.	Part No.	Value	Voltage	Description
C101,201	1-121-404-11	3.3	25 V	elect
C102,202	1-121-913-11	3.3	25 V	elect
C103,203	1-121-398-11	10	25 V	elect
C104,204	1-107-081-11	68p		silvered mica
C105,205	1-129-794-11	0.0033	100 V	polyethylene
C106,206	1-108-569-12	0.0039		mylar
C107,207	1-108-563-12	0.0022		mylar
C108,208	1-121-402-11	33	10 V	elect
C109,209	1-121-398-11	10	25 V	elect
C110,210	1-102-110-11	220p		
C111,211	1-102-106-11	100p		
C112,212	1-102-110-11	220p		
C113,213	1-121-419-11	220		elect
C114,214	1-121-414-11	100	10 V	elect
C115,215	1-108-587-12	0.022		mylar
C116,216	1-121-391-11	1	50 V	elect
C117,217	1-108-589-12	0.027		mylar
C118,218	1-108-230-12	0.0022		mylar
C119,219	1-121-404-11	33	25 V	elect
C120,220	1-121-450-11	2.2	50 V	elect
C121,221	1-102-106-11	100p		
C122,222	1-121-414-11	100	10 V	elect
C123,223	1-102-956-11	15p		
C124,224	1-121-651-11	10	16 V	elect
C125,225	1-121-398-11	10	25 V	elect
C126,226	1-121-392-11	3.3	25 V	elect
C127,227	1-121-416-11	100	25 V	elect
C128,228	1-121-651-11	10	16 V	elect
C129,229	1-121-398-11	10	25 V	elect
C130,230	1-102-108-11	150p		
C131,231	1-102-956-11	15p		
C132,232	1-121-391-11	1	50 V	elect
C133,233	1-108-252-12	0.15		mylar
C134,234	1-121-409-11	47	16 V	elect
C135,235	1-121-450-11	2.2	50 V	elect
C136,236	1-121-651-11	10	16 V	elect
C137,237	1-108-585-12	0.018		mylar
C138,238	1-108-599-12	0.068		mylar
C139,239	1-108-587-12	0.022		mylar
C140,240	1-108-599-12	0.068		mylar
C141,241	1-108-585-12	0.018		mylar
C142,242	1-121-416-11	100	25 V	elect
C143,243	1-121-395-11	4.7	25 V	elect
C144,244	1-121-450-11	2.2	50 V	elect
C145,245	1-121-395-11	4.7	25 V	elect
C146,246	1-102-106-11	100p		
C147,247	1-121-398-11	10	25 V	elect
C148,248	1-108-251-12	0.1		mylar
C149,249	1-121-391-11	1	50 V	elect
C301,401	1-129-701-11	0.01	100 V	polyethylene
C302,402	1-129-896-11	0.012	100 V	polyethylene
C303,403	1-129-899-11	0.056	100 V	polyethylene
C304,404	1-108-573-12	0.0056		mylar
C305,405	1-102-943-11	6p		
C306,406	1-121-651-11	10	16 V	elect
C307,407	1-129-794-11	0.0039	100 V	polyethylene
C308,408	1-131-217-11	2.2	35 V	tantalum
C309,409	1-131-197-11	3.3	16 V	tantalum
C310,410	1-108-571-12	0.0047		mylar

Ref. No.	Part No.	Value	Voltage	Description
C311,411	1-121-410-11	47	35 V	elect
C312,412	1-102-074-11	0.001		
C313,413	1-121-748-11	10	25 V	elect
C314,414	1-121-916-11	10	16 V	elect
C315,415	1-102-074-11	0.001		
C501	1-121-422-11	220	25 V	elect
C502,503	1-121-398-11	10	25 V	elect
C504	1-131-218-11	3.3	35 V	tantalum
C505	1-108-377-12	0.01	100 V	mylar
C506	1-108-380-12	0.018	100 V	mylar
C507	1-129-710-11	0.0047	630 V	polyethylene
C508,509	1-141-010-XX			
C510,511	1-107-037-11	82p		silvered mica
C512,513	1-107-137-11	180p		silvered mica
C514,515	1-107-165-11	56p	500 V	silvered mica
C516	1-108-239-12	0.01		mylar
C601	1-121-651-11	10	16 V	elect
C602	1-108-583-12	0.015		mylar
C603	1-108-550-11	0.082		mylar
C604	1-121-398-11	10	25 V	elect
C605	1-121-986-11	2.2	50 V	elect
C606	1-121-395-11	4.7	25 V	elect
C607	1-121-990-11	22	16 V	elect
C608	1-121-395-11	4.7	25 V	elect
C701	1-161-019-11	0.033		(boundary layer)
C702	1-131-201-11	22	16 V	tantalum
C703	1-121-990-11	22	16 V	elect
C704	1-121-479-11	22	16 V	elect
C705	1-161-025-11	0.1		(boundary layer)
C706	1-121-395-11	4.7	25 V	elect
C707–710	1-161-013-11	0.01		(boundary layer)
C711	1-161-021-11	0.047		(boundary layer)
C712	1-161-013-11	0.01		(boundary layer)
C713	1-161-019-11	0.033		(boundary layer)
C714	1-161-013-11	0.01		(boundary layer)
C715	1-161-025-11	0.1		(boundary layer)
C716,717	1-121-479-11	22	16 V	elect
C718	1-121-352-11	47	10 V	elect
C719	1-121-726-11	0.47	50 V	elect
C720	1-121-352-11	47	10 V	elect
C721	1-121-986-11	2.2	50 V	elect
C722	1-121-654-11	33	25 V	elect
C723	1-121-352-11	47	10 V	elect
C724	1-121-392-11	3.3	25 V	elect
C725	1-121-395-11	4.7	25 V	elect (Canadian model Serial No. up to 700,400)
	1-121-968-11	10	16 V	elect (US model, Canadian model Serial No. 700,401, and later)
C726	1-121-986-11	2.2	50 V	elect
C727	1-121-976-11	100	10 V	elect
C728,729	1-123-067-11	2200	25 V	elect
C730,731	1-123-061-11	1000	50 V	elect
C732,733	1-121-944-11	1000	16 V	elect
C734,735	1-121-420-11	220	10 V	elect
C736	1-121-392-11	3.3	25 V	elect
C737	1-121-391-11	1	50 V	elect
C738	1-161-013-11	0.01		(boundary layer)
C739	1-121-352-11	4.7	10 V	elect (US model, Canadian model Serial No. 700,401 and later)

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted.
Check schematic diagram for values.

Ref. No.	Part No.	Value	Wattage	Description
R157,257	1-213-141-11	680	1W	fuse
R181,281	1-213-137-11	330	1W	fuse
R506	1-217-402-11	180	¼W	fuse
R609	1-217-375-11	1	¼W	fuse
R761	1-213-147-11	2.2k	1W	metal oxide
R767,768	1-217-383-11	4.7	¼W	fuse
R797	1-217-399-11	100	¼W	fuse
R798	1-206-517-11	18	3W	metal oxide
R799	1-217-379-11	2.2	¼W	fuse
R800	1-206-471-11	22	2W	metal oxide
R801,802	1-217-465-11	0.47	1W	fuse
R803,804	1-217-371-11	0.47	1W	fuse
R811	1-217-383-11	4.7	¼W	fuse

Ref. No.	Part No.	Description
RV101,201	1-224-645-XX	10 k, adjustable
RV102,202	1-224-646-XX	22 k, variable
RV103,203	1-224-642-XX	1 k, adjustable
RV301,401	1-224-561-00	20 k/20 k, variable (REC LEVEL-MIC)

Ref. No.	Part No.	Description
RV302,402	1-224-736-00	50 k/50 k, variable (REC LEVEL-LINE)
RV303,403	1-224-709-00	20 k, variable (FM CAL)
RV304,404	1-224-822-00	20 k/20 k, variable (LINEOUT)
RV305,405	1-224-822-00	20 k/20 k, variable (HEADPHONE LEVEL)
RV501	1-224-646-XX	4.7 k, adjustable
RV601	1-224-635-00	22 k, variable

SWITCHES

S1	1-514-976-XX	Slide, REC/PB
S2	1-552-038-00	Lever Slide, TAPE SELECT EQ
S3	1-552-039-00	Lever Slide, TAPE SELECT BIAS
S4	1-552-063-00	Lever Slide, LIMITER
S5	1-552-138-00	Rotary Slide, DOLBY NR
S6	1-514-722-XX	REC MUTE
S7,8	1-516-974-00	TIMER, MEMORY
S9	1-548-514-XX	Tape Counter
S10,11	1-514-722-XX	Micro
S12	1-516-693-00	Pushbutton, POWER
S13	2-217-531-00	Contact, rubber
S14	1-552-064-00	Reed

JACKS

J301,401	1-507-533-00	Jack, phone; MIC
J302	1-507-523-11	Jack, phone; LINE IN
J402	1-507-507-00	Jack, HEADPHONE

MISCELLANEOUS

CN1	1-507-255-00	Socket, 11-p
CN2	1-526-528-00	AC Outlet
CP701	1-231-057-31	Encapslated Component
CP702	1-231-925-00	Encapslated Component (US model)
	1-231-341-00	Encapslated Component (Canadian model)
EH	8-825-506-00	Head, erase; EF135-36

Ref. No.	Part No.	Description
M1	8-835-006-00	Motor, capstan; DNF-1001B
M2	8-834-015-01	Motor, reel; DNM-1202A
ME1,2	1-520-250-00	VU Meter
	1-518-273-00	Lamp, 6.3 V; be included in VU meter
PL1–8	1-518-115-XX	Lamp, 6 V 35 mA
PM1–3	1-454-158-00	Solenoid
R.P.H	8-825-612-00	Record/playback Head, RF145-3602
	1-534-538-XX	Cord, power (US model)
	1-534-986-XX	Cord, power (Canadian model)

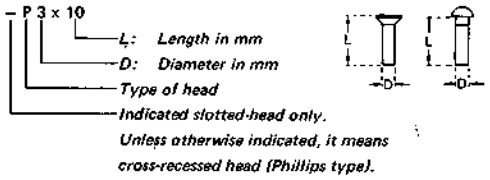
ACCESSORIES & PACKING MATERIALS

Part No.	Description
X-3549-745-0	Cushion Ass'y
X-3701-018-2	Tips Ass'y, head cleaning (Canadian model)
1-534-049-31	Cord, connection; RK-74
3-429-126-00	Bag, plastic
3-548-180-00	Cushion, front
3-548-778-00	Cushion
3-548-781-00	Cushion, rear
3-548-790-00	Cushion (Canadian model)
3-551-117-00	Carton (Canadian model)
3-551-118-00	Carton (US model)
3-701-630-00	Polyethylene
3-701-891-00	Label, main caution
3-701-901-00	Label, sub caution
3-770-209-21	Manual, instruction (US model)
3-770-209-31, 3-794-059-31	Manual, instruction (Canadian model)

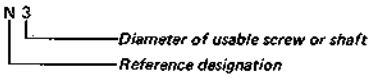
Note: The components identified by shading are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	