TC-K8/K8B

TC-K8 (Panel: Silver)

Canadian Model

TC K8B (Panel: Black)

E Model

AEP Model

UK Model

(TC-K8B)

STEREO CASSETTE DECK

SPECIFICATIONS

Power Requirements: 110, 120, 220, 240V ac, 50/60 Hz (E, AEP, UK model)
120V ac, 60 Hz (Canadian model)

Power Consumption: 35W (E, AEP, UK model)
32W (Canadian model)

AC Outlet: Unswitched 300W total (Canadian model)

Dimensions: Approx. 430 (w) × 170 (h) × 310 (d) mm
17 (w) × 6¾ (h) × 12¼ (d) inches
(E, AEP, UK model)
460 (w) × 170 (h) × 310 (d) mm
18⅛ (w) × 6¾ (h) × 12¼ (d) inches
(Canadian model)
Including projecting parts and controls

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ !

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES, LES VUES EXPLOSÉES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION: See page 50

Weight: Approx. 11 kg, 24 lb 5 oz (E, AEP, UK model)
11.8 kg, 26 lb 1 oz (Canadian model)

Track: 4-track 2-channel stereo

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

Frequency Response: DOLBY NR OFF
With Ferri-Chrome cassette
20–18,000 Hz (NAB)
30–16,000 Hz ±3 dB (NAB)
30–16,000 Hz (DIN)
With chromium dioxide cassette
20–17,000 Hz (NAB)
30–15,000 Hz ±3 dB (NAB)
30–15,000 Hz (DIN)
With standard cassette
20–15,000 Hz (NAB)
30–13,000 Hz (DIN)

Wow and Flutter: 0.045% WRMS
±0.12% (DIN)

S/N Ratio: DOLBY NR OFF
With Ferri-Chrome cassette
60 dB at peak level (NAB)
59 dB (DIN, 1975 rev.)
With chromium dioxide cassette
56 dB at peak level (NAB)
DOLBY NR ON
Improved by 5 dB at 1 kHz, 10 dB above 5 kHz

Total Harmonic Distortion: 1.3%

– Continued on page 2 –

SONY®

SERVICE MANUAL

Record Bias Frequency: 105 kHz

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)
output level 3.9 mV to 0.12 V (-46 to -16 dB)
at load impedance 8 Ω

Record/Playback Jack: Input impedance less than 10 kΩ
Output impedance less than 10 kΩ

Remote Control Connector: 11-pin connector

Liquid Crystal peak program meters

Response Range: -40 dB to +5 dB

Frequency Response: 20 Hz–20,000 Hz ± 1.5 dB

Response Time: 1 millisecond

Decay Time: 750 milliseconds (0 dB to -20 dB)

Overshoot: None

Indicator Elements: 64 elements for each channel

$\boxed{0\,dB = 0.775\,V}$

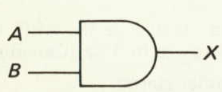
SECTION 1
OUTLINE

Circuit Description

A major feature of the TC-K8/K8B is the liquid crystal peak program meter which display input and output signals in analog bar graph form.

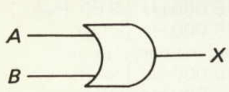
Some of the basic logic circuits employed in the meter circuit:

AND circuits: "H" output obtained only when all inputs are "H".



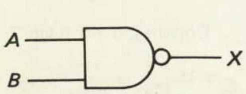
A	B	X
L	L	L
H	L	L
L	H	L
H	H	H

OR circuits: "H" output obtained when at least one input is "H".



A	B	X
L	L	L
H	L	H
L	H	H
H	H	H

NAND circuits: "L" output obtained when all inputs are "H". NAND circuits are formed by combining an AND circuit with a negating circuit.



A	B	X
L	L	H
H	L	H
L	H	H
H	H	L

Liquid Crystal Peak Program Meter Drive Circuits

1. Basic Frequency Generator Circuits for Liquid Crystal Drive (See Figs. 1 & 2.)
The signal generated by the multivibrator consisting of IC7-4, 7-5, C006, and R012 is passed through inverter IC7-6 to produce waveform Ⓐ. This signal is then divided into 7 different waveforms Ⓑ – Ⓗ by IC6.
   a) Clock pulse
   Clock pulses are reference signals employed to show the converted time as the number of pulses. In this cassette deck, waveform Ⓑ serves as the clock pulse. But waveforms Ⓐ and Ⓑ are combined in the IC12-1 AND circuit to obtain a delay of half a clock pulse. This output (waveform Ⓘ) is applied to CX762 to ensure reliable shift of the A/D converted serial signal.
   b) Strobe pulse
   The IC6 output waveforms Ⓑ to Ⓗ are applied to IC13 for a NAND operation (waveform Ⓙ). The strobe pulse is then formed by adding the output waveform Ⓚ from the IC7-1, R026, C007 delay circuit to the IC13 output waveform Ⓙ in an AND operation. This strobe pulse signal (waveform Ⓛ) is applied to CX762 and used as a reset signal.
   c) Drive pulse
   IC6 output (waveform Ⓗ) is used as an LCD drive signal, being applied to CX762 via inverter IC8.

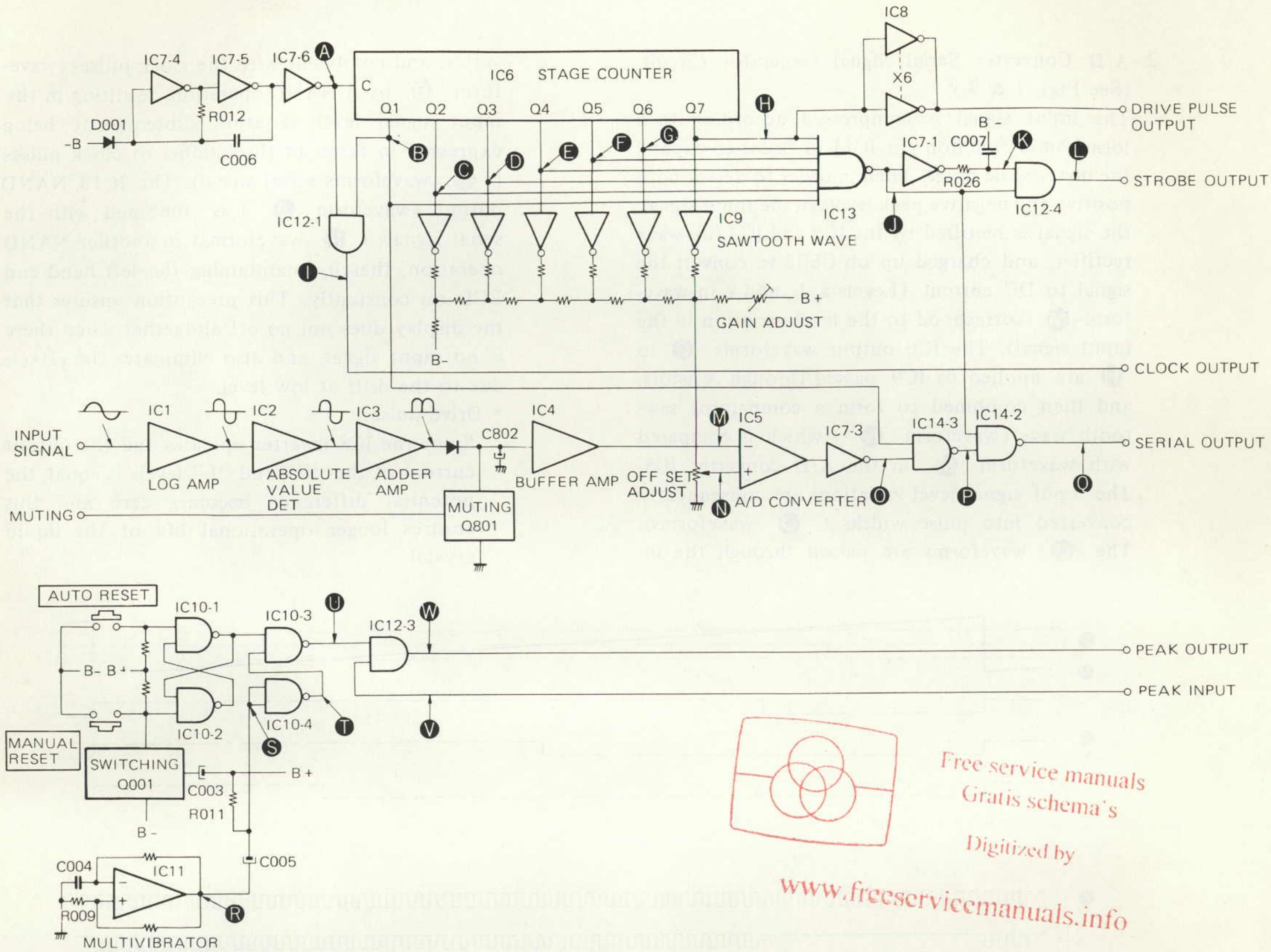

IC7-4
IC7-5
IC7-6
R012
D001
-B
C006
IC6 STAGE COUNTER
C
Q1 Q2 Q3 Q4 Q5 Q6 Q7
IC8
X6
B -
DRIVE PULSE OUTPUT
IC7-1
C007
R026
IC12-4
STROBE OUTPUT
IC13
IC12-1
IC9
SAWTOOTH WAVE
B +
GAIN ADJUST
B-
CLOCK OUTPUT
INPUT SIGNAL
IC1
LOG AMP
IC2
ABSOLUTE VALUE DET
IC3
ADDER AMP
C802
IC4
BUFFER AMP
MUTING
MUTING Q801
OFF SET ADJUST
IC5
A/D CONVERTER
IC7-3
IC14-3
IC14-2
SERIAL OUTPUT
AUTO RESET
IC10-1
IC10-3
IC12-3
B- B+
IC10-2
IC10-4
PEAK OUTPUT
PEAK INPUT
MANUAL RESET
SWITCHING Q001
C003
R011
B+
B -
C004
IC11
C005
R009
MULTIVIBRATOR

Fig. 1

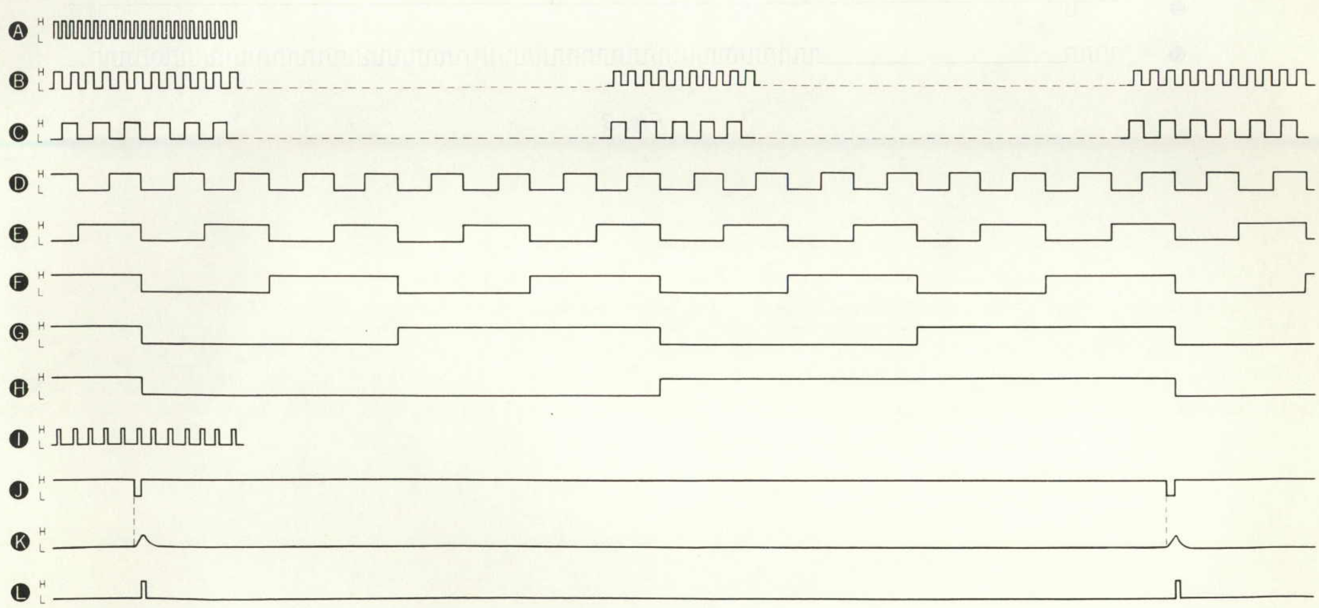

A
B
C
D
E
F
G
H
I
J
K
L

Fig. 2

2. A/D Converter Serial Signal Generator Circuit (See Figs. 1 & 3.)

The input signal is compressed according to a logarithmic function (in IC1) in order to expand the meter scale range. Then in order to detect both positive and negative peak levels in the input signal, the signal is rectified by the IC2 and IC3 full-wave rectifier, and charged up on C802 to convert the signal to DC current. (Levels a, b, and c in waveform- Ⓜ correspond to the level variation in the input signal). The IC6 output waveforms Ⓒ to Ⓗ are applied to IC9, passed through resistors, and then combined to form a comparator sawtooth wave (waveform Ⓝ) which is compared with waveform Ⓜ in the A/D converter IC5. The input signal level variations are consequently converted into pulse widths (Ⓞ waveforms). The Ⓞ waveforms are passed through the inverter, and combined with the clock pulses (waveform Ⓑ by a NAND operation, resulting in the input signal level variation subsequently being expressed in terms of the number of clock pulses (Ⓟ waveforms serial signal). The IC13 NAND output (waveform Ⓙ) is combined with the serial signals (Ⓟ waveforms) in another NAND operation, thereby maintaining the left hand end LCD on constantly. This precaution ensures that the display does not go off altogether when there is no input signal, and also eliminates the effects due to the drift at low level.

* Drive pulse

Since the IC8 inverter operates and the output current of the "H" and "L" levels is equal, the potential difference becomes zero and this ensures longer operational life of the liquid crystal.

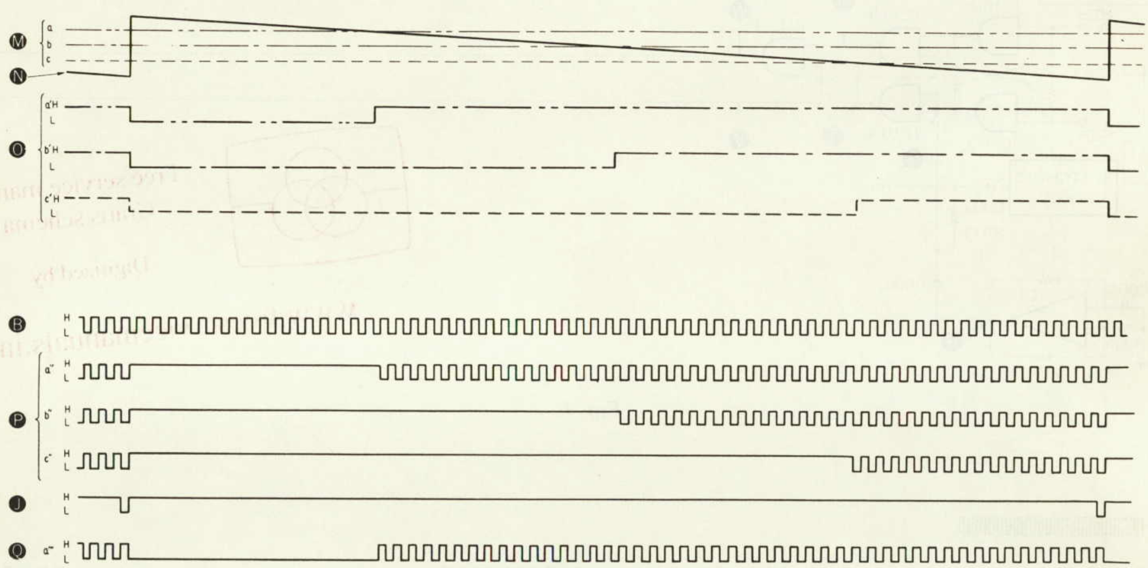
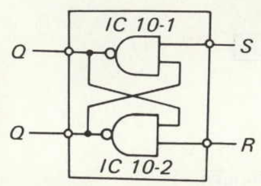


Fig. 3

 TC-K8/K8B

3. Meter Mode Switching (See Figs. 1, 4 & 5)
IC10-1 and IC10-2 constitute an RS flip-flop. When the power supply switch is turned on, Q001 turns on, and the input terminal of IC10-2 is grounded while C003 is being charged up. Therefore an "L" level signal is generated on the IC10-1 output terminal. When the MANUAL RESET switch is also turned on, an "L" level signal is generated on the IC10-1 output terminal in the same way. When the AUTO RESET switch is turned on, an "L" level signal is applied to the input terminal of IC10-1, resulting in the generation of an "H" level signal on the IC10-1 output terminal (See Fig. 4.) The signal (waveform R) generated in the multivibrator (IC11, C004, and R009) is differentiated by C005 and R011 (waveform S). The waveform S is then rectified by IC10-4 (waveform T), and combined with the IC10-1 output signal in a NAND operation (waveform U). The peak signal reset pulse is generated when the AUTO RESET switch is on, but not when the MANUAL RESET switch is on.



RS FLIP-FLOP

S	R	Q	Q̄
L	H	H	L
H	L	L	L

(Output Power)

Fig. 4

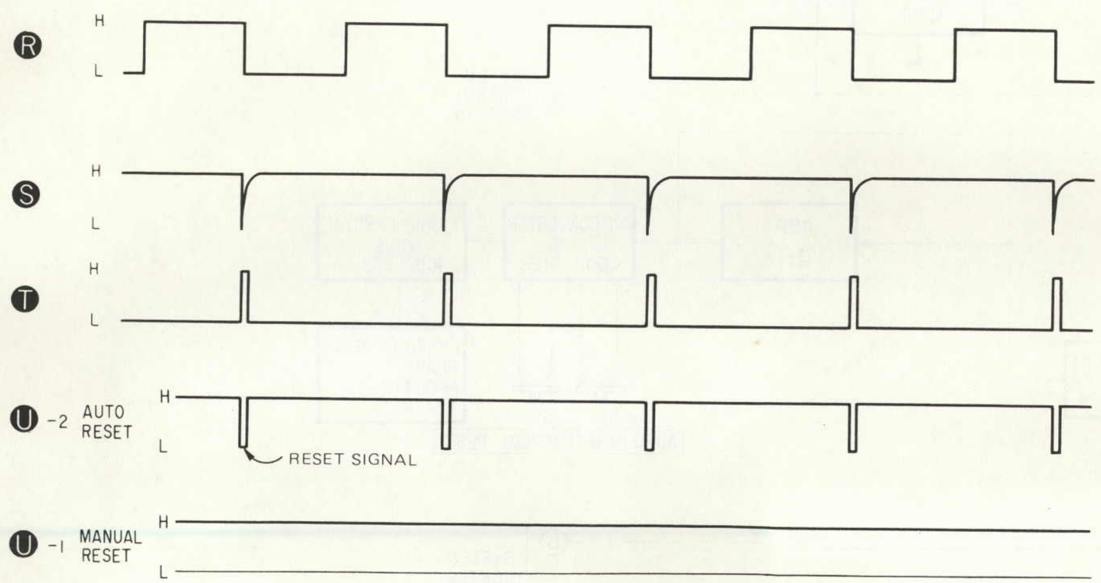


Fig. 5

Liquid Crystal

The TC-K8B features the liquid crystal peak program meter. Although liquid crystal comes in various different types, the liquid crystal molecules employed here are long and slender, and line up in the direction of an electric field. By orienting this liquid crystal parallel to the surface of a glass plate, and then setting up 2 such glass plates to be at right angles to a light beam, the liquid crystals within the liquid crystal cell line up as shown in Fig. 6. When 2 light polarizing glass plates are added to both sides of the cell, but no voltage applied across the cell, a light beam passed through polarizing plate A is rotated through 90° as it passes through the cell, and passed out again through polarizing plate B.

1. Liquid Crystal Cell when No Voltage is Applied.

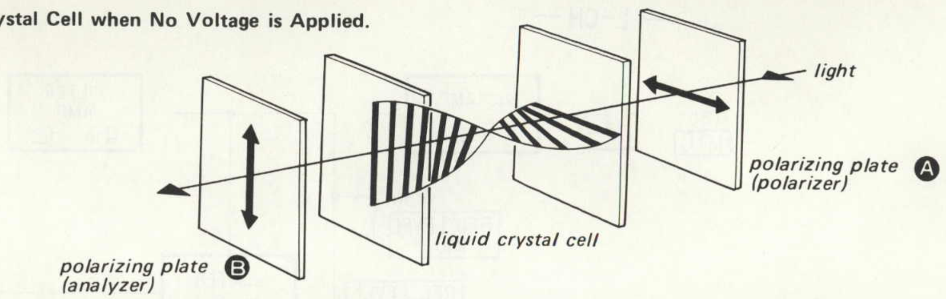


Fig. 6

When a voltage is then applied across the crystal cell, the liquid crystals change direction and align perpendicular to the surface of the glass plates (as shown in Fig.7.) The polarized light is no longer rotated through 90°, and consequently fail to pass through polarizing plate B. Therefore, the cell appears dark.

2. Liquid Crystal Cell with Voltage Applied.

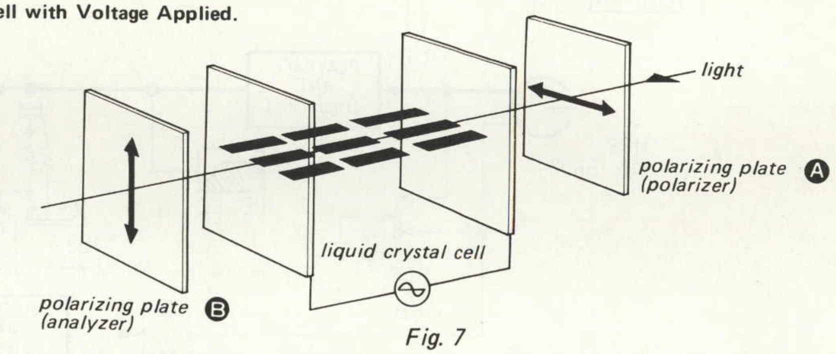


Fig. 7

However, rather than indicating peak level by the change between light and dark, the peak program meter employed in the TC-K8/K8B feature a color display. This is achieved by using a color polarizing plate on the light source side. All colors except the desired color polarized by polarizing plate (A), resulting in this non-polarized color passing through polarizing plate (B) when all other colors are blocked out.

3. Liquid Crystal Cell Structure

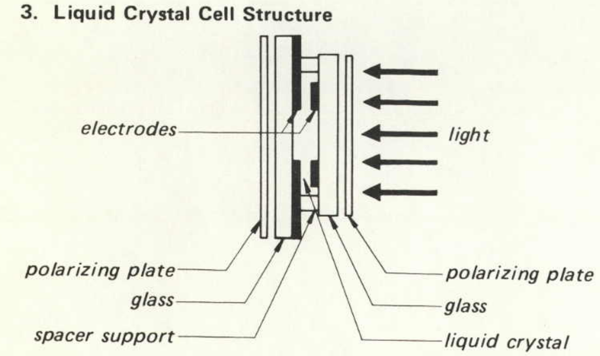


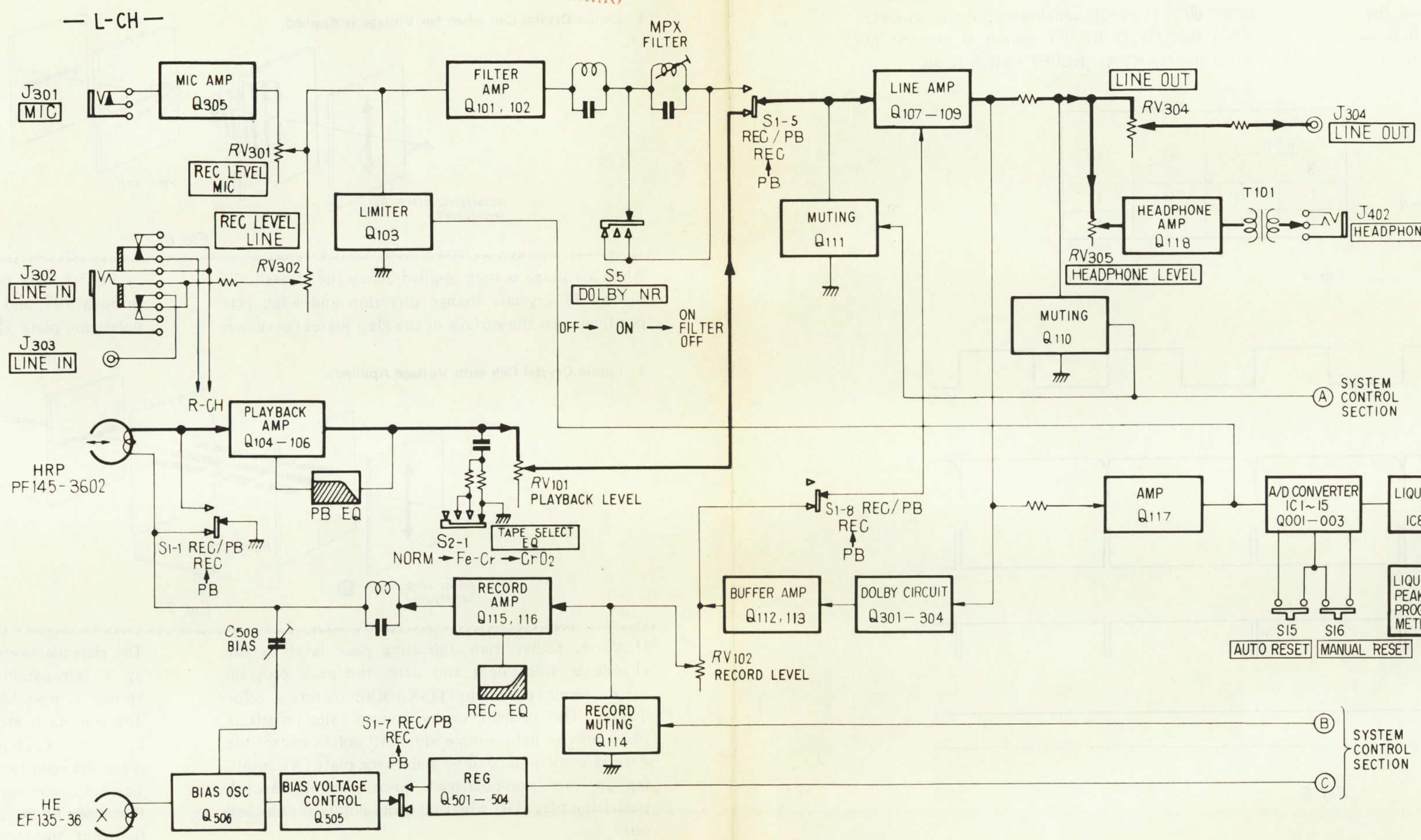
Fig. 8

The glass plates employed in this cell are made coated by a transparent, electrically conductive material known as nesa film (which contains indium oxide). The coating is etched to form meter scale. The two plates are separated by a spacing support, and the space between two plates is filled with liquid crystal. The voltage is applied to the electrodes mounted on the inside of the glass plates, and when viewed from the front, the meter display is colored.

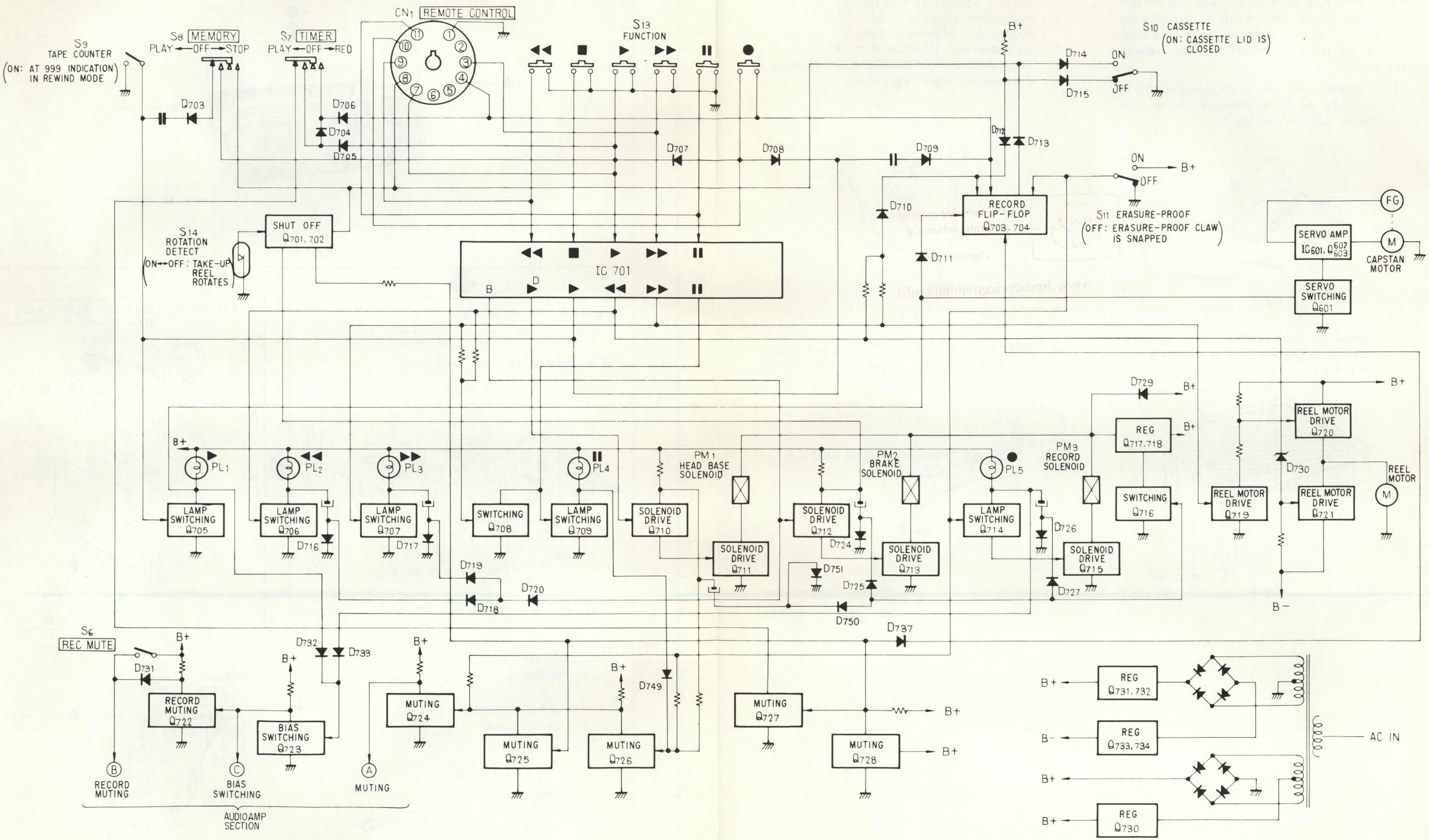
The TC-K8/K8B program meter consist of 64 separate elements in both left and right channels. The letters L and R also employ liquid crystal display. The colored polarizing plate is blue below the 0 dB level, and red above it. A fluorescent lamp has been employed as the light source because of the wide light spectrum required for the color display.

TC-K8/K8B

1. BLOCK DIAGRAMS — Audio Amp Section —



1. BLOCK DIAGRAMS — System Control Section —



 TC-K8/K8B

MOS IC HANDLING PRECAUTIONS

Since the insulation resistance of the oxidized film of MOS IC is generally very high and the film is extremely thin, the static electric charge on clothing or the body will cause the insulation to breakdown. Observe the following precautions when replacing this IC:

1. Maintain all the pins at the same potential by wrapping the IC in aluminum foil or other similar material. (See Fig. 1)

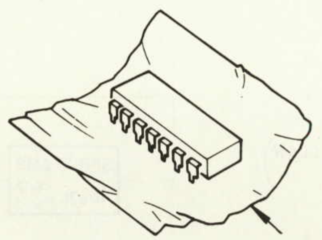


Fig. 1

2. Ground the work bench for static electricity. (See Fig. 2) (Place a sheet of aluminum onto the bench.)

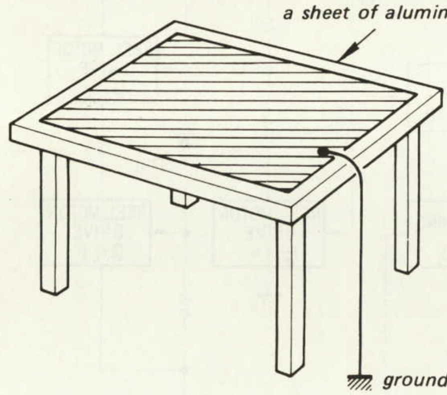


Fig. 2

3. If necessary to touch the MOS IC direct, grasp the IC at a point other than the pins. Moreover, wear cotton gloves or a cotton finger sack. (Gloves made of nylon or other similar material are undesirable. The static electricity on your body can be easily discharged by wrapping a ground wire around your wrist.)

Fig. 3

4. Short all the pins of the IC before beginning any work. Also ground the soldering iron.

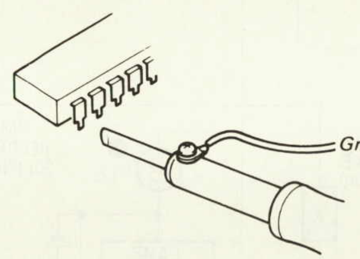


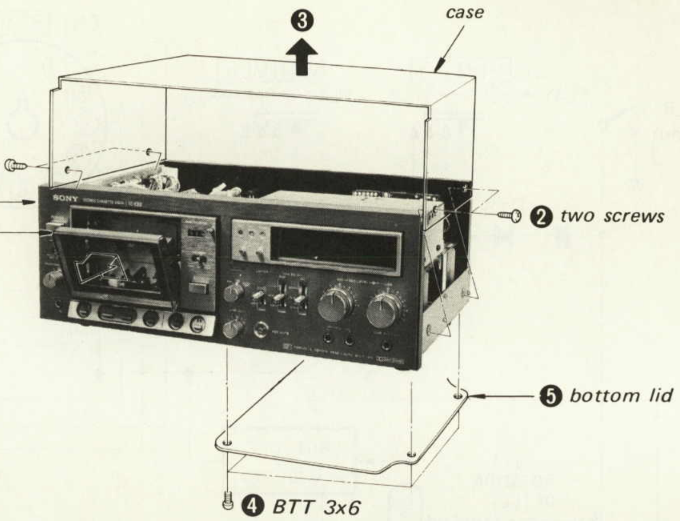
Fig. 4

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

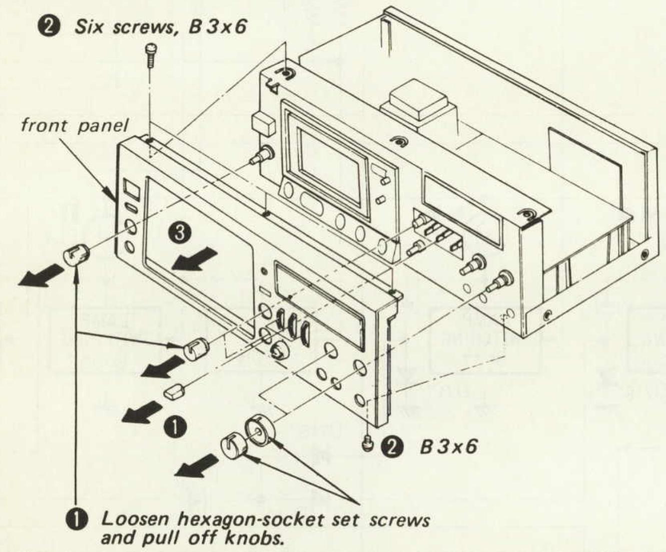
CASE AND BOTTOM LID REMOVAL

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

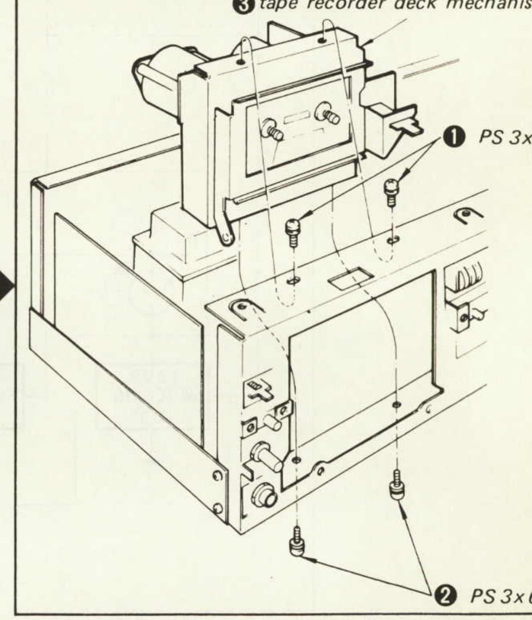


FRONT PANEL REMOVAL

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

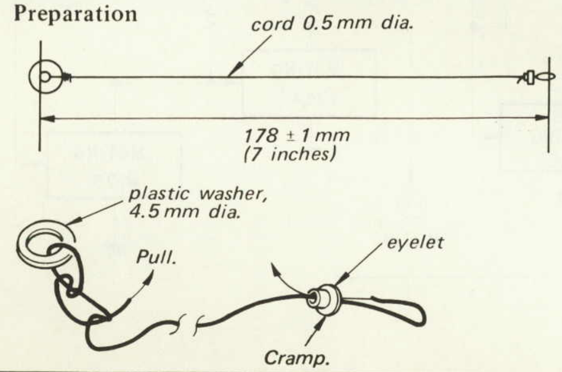


TAPE RECORDER DECK REMOVAL

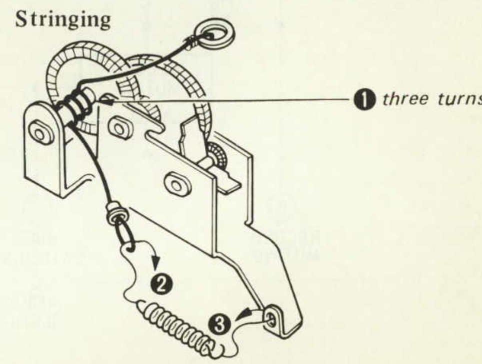


STRINGING OF CASSETTE HOLDER DAMPER

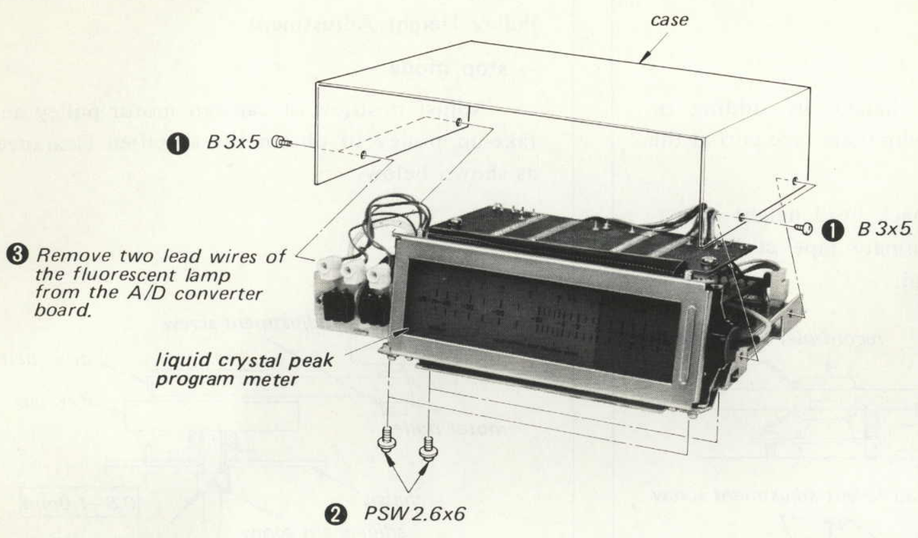
1. Preparation



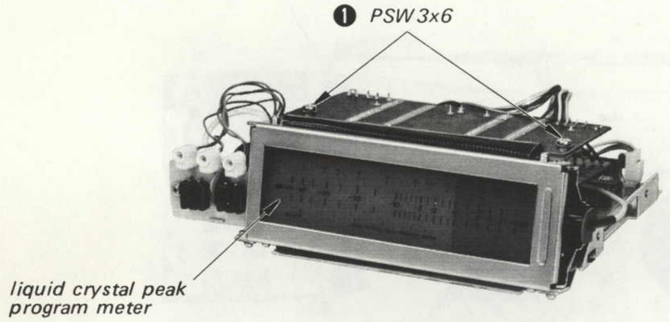
2. Stringing



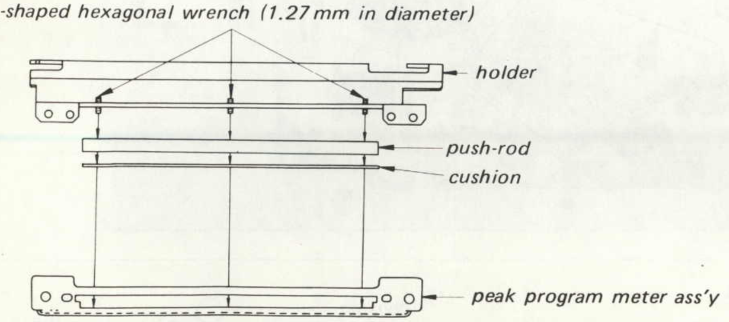
LIQUID CRYSTAL PEAK PROGRAM METER REMOVAL

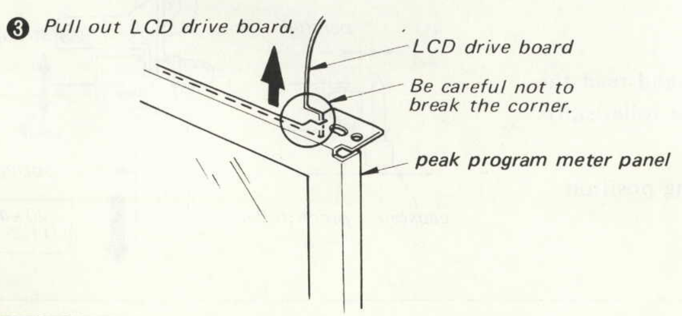


LCD DRIVE BOARD (FLEXIBLE BOARD) REMOVAL

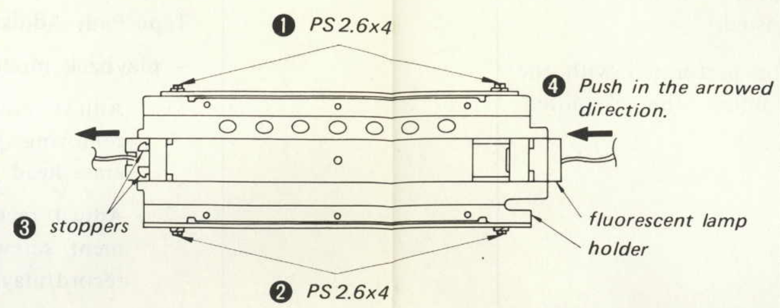


❷ Loosen three screws (SC, hexagonal socket)
L-shaped hexagonal wrench (1.27 mm in diameter)





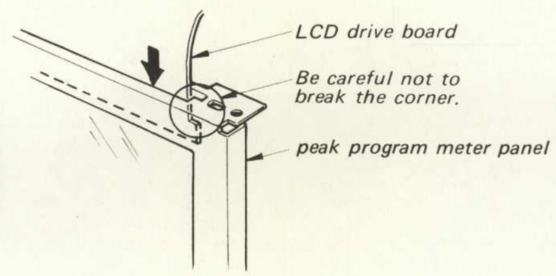
FLUORESCENT LAMP REMOVAL



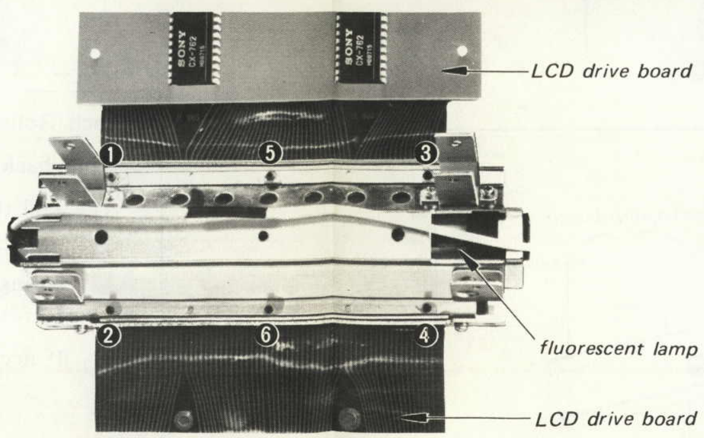
Caution:
Since the LCD drive board is easy to remove, when removing the fluorescent lamp, be careful not to break the corner of the LCD drive board.

INSTALLATION OF LCD DRIVE BOARD

1. Insert the LCD drive board in the arrowed direction.

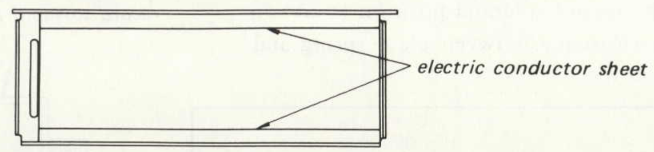


2. Tighten six screws (SC, hexagonal socket) in the numerical order (① – ⑥).



SERVICING PRECAUTIONS

* The liquid crystal peak program meter assembly and the LCD (liquid crystal) drive board are connected by electric conductor sheets (the black bands). This conductor plate is "pasted" onto the liquid crystal assembly, and must not be removed during repairs.
* To check for any defects in the liquid crystal meter and the IC (CX-762), interchange the L-CH and R-CH input connectors to the flexible circuit board.
* Since the LCD drive section is mounted on a flexible circuit board, be particularly careful whenever removing and re-installing.
* The liquid crystal drive IC (CX-762) is a MOS-IC which also must be handled with considerable care.



TC-K8/K8B

SECTION 3
ADJUSTMENT

PRECAUTION

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

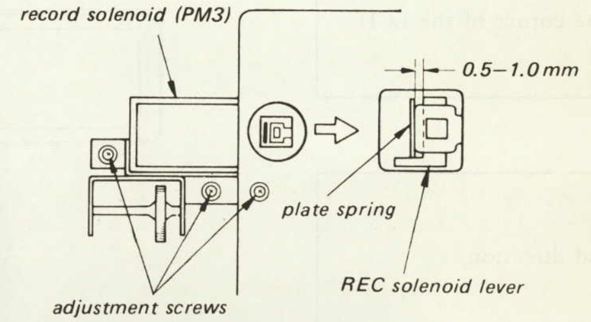
record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

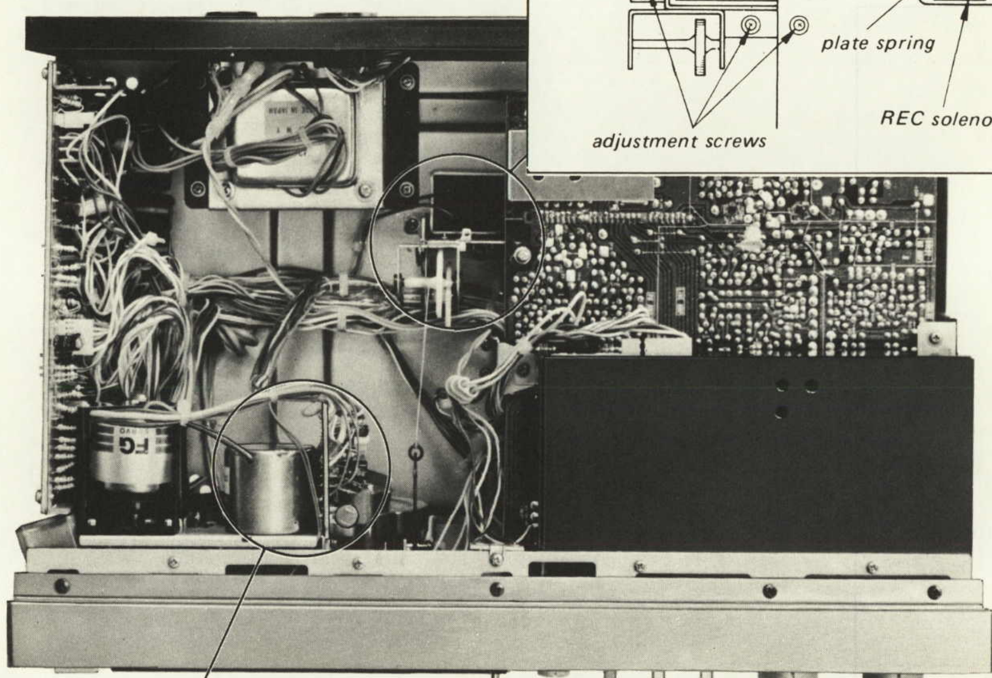
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply a suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise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

3-1. MECHANICAL ADJUSTMENTS

Record Solenoid Position Adjustment

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



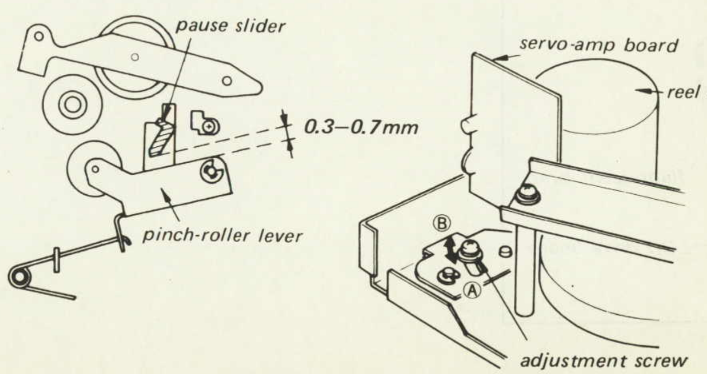


Pause Lever Position Adjustment

– PAUSE mode –

Loosen the adjustment screw and slide it in the direction Ⓐ or Ⓑ to obtain the specified clearance as shown below.

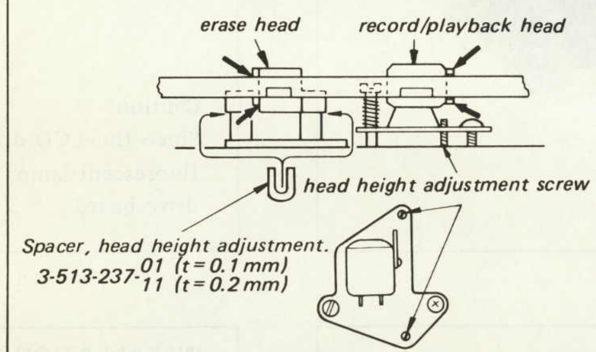
Sliding direction of adjustment screw	Clearance
direction Ⓐ	narrow
direction Ⓑ	wide



Tape Path Adjustment

– playback mode –

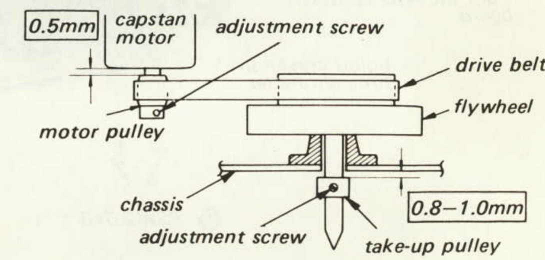
1. Adjust erase head height by adding or removing spacer to eliminate tape curl at the erase head.
2. Adjust record/playback head height adjustment screw to eliminate tape curl at the record/playback head.

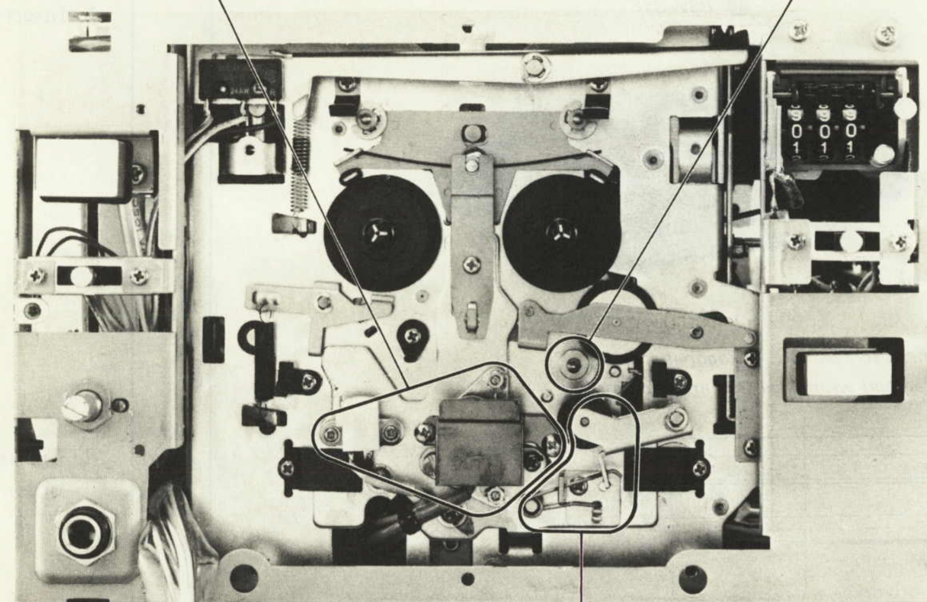


Pulley Height Adjustment

– stop mode –

Adjust position of capstan motor pulley and take-up pulley to obtain the specified clearances as shown below.

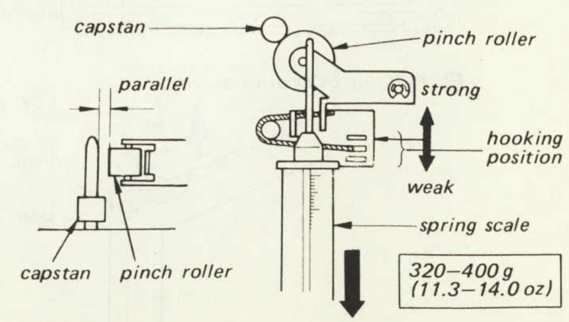




Pinch Roller Pressure Adjustment

– 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.



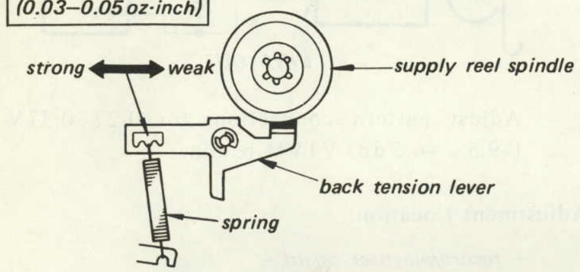
TC-K8/K8B

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 specified torque.

2–4 g·cm (0.03–0.05 oz·inch)

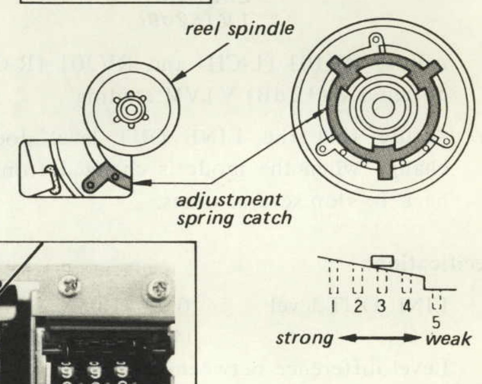


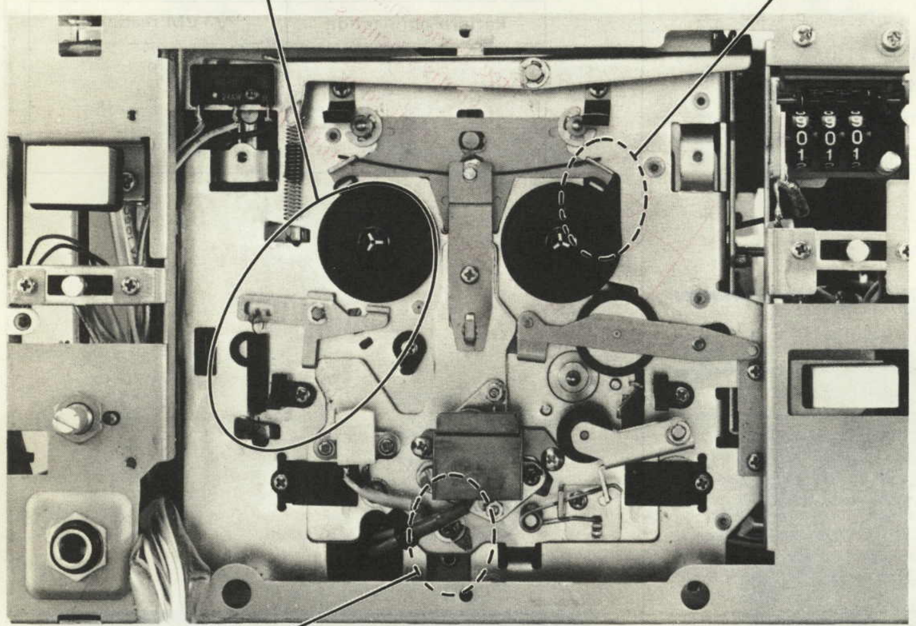
Forward Torque Adjustment

– 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 specified torque.

35–55 g·cm (0.5–0.75 oz·inch)

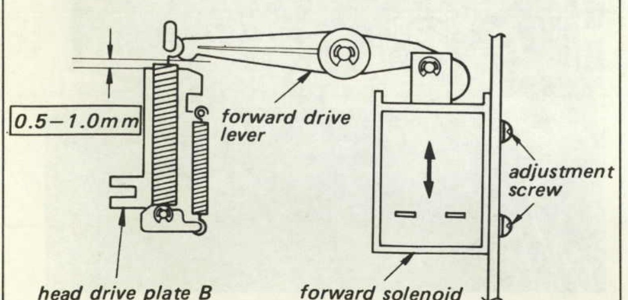




Forward Solenoid Position Adjustment

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

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 LFM-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

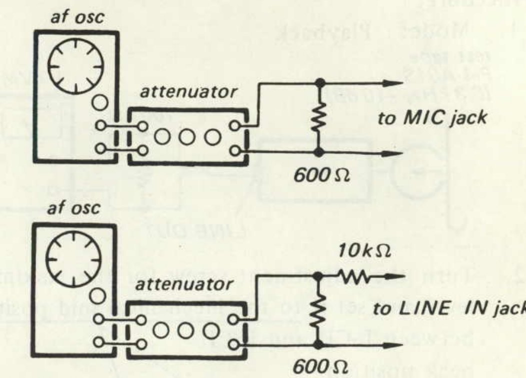
SONY test tapes
P-4-A81S (6.3 kHz, -10 dB)
P-4-A82 (10 kHz, -10 dB)
P-4-L81 (333 Hz, 0 dB)
WS-48 (3 kHz, 0 dB)

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:

Supply the standard input level signal to the input jack and set the MIC or LINE control to obtain the standard output level signal. 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	300 Ω	10 kΩ
input level	0.77 mV (-60 dB)	0.25 V (-10 dB)

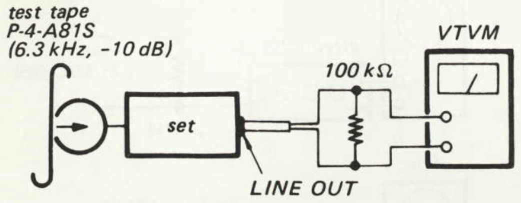
Standard Output Level

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

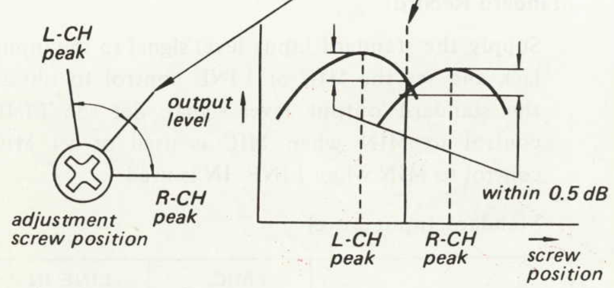
Record/playback Head Azimuth Adjustment

Procedure:

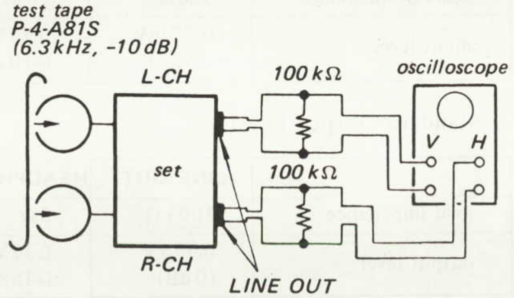
1. Mode: Playback

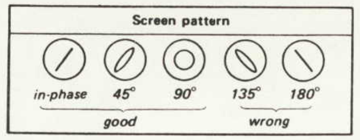


2. Turn the adjustment screw for the maximum level and set it to the mechanical mid position between L-CH and R-CH peak position.

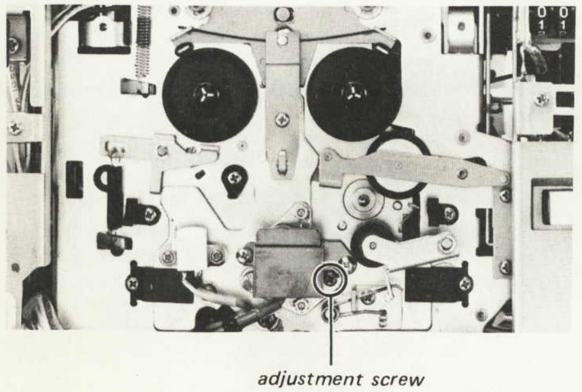


3. Mode: Playback





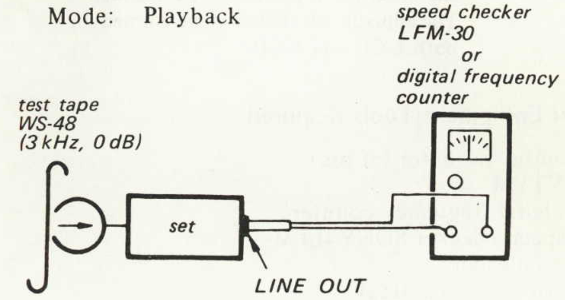
Adjustment Location:



Tape Speed Adjustment

Procedure:

Mode: Playback



Adjust RV601 to obtain the specified values below.

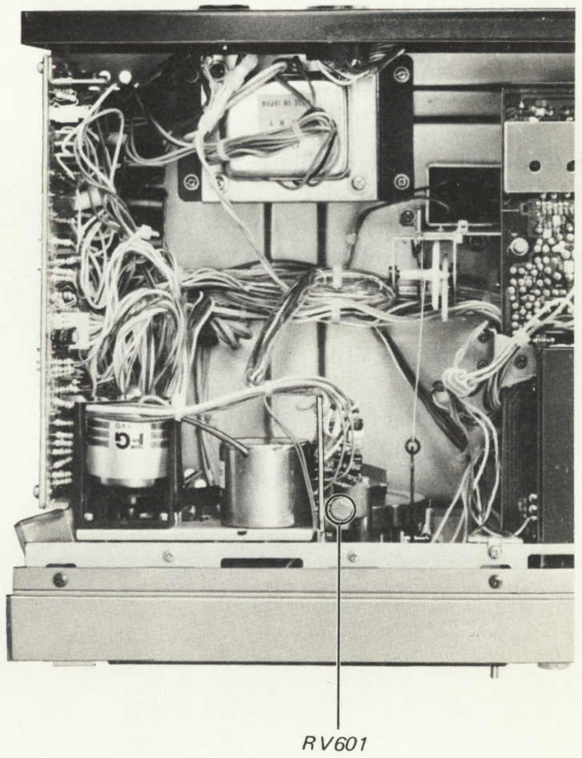
Specification:

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:

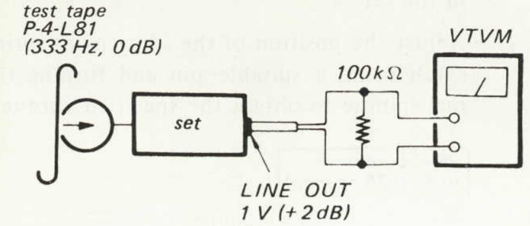
– servo amp board –



Playback Level Adjustment

Procedure:

1. Mode: Playback



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

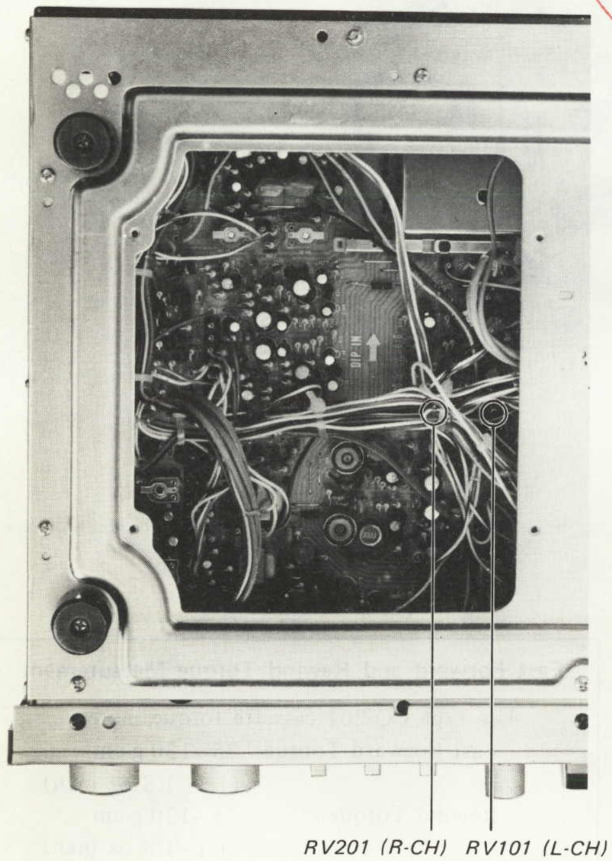
2. Assure that the LINE OUT level does not change when the mode is changed from playback to stop several times.

Specification:

LINE OUT level:	0.92–1.05 V (+1.5–+2.5 dB)
Level difference between channels:	less than 0.5 dB

Adjustment Location:

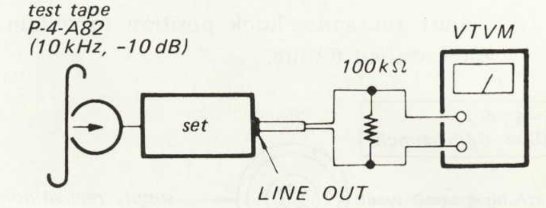
– record/playback board –



Playback Equalizer Adjustment

Procedure:

Mode: Playback

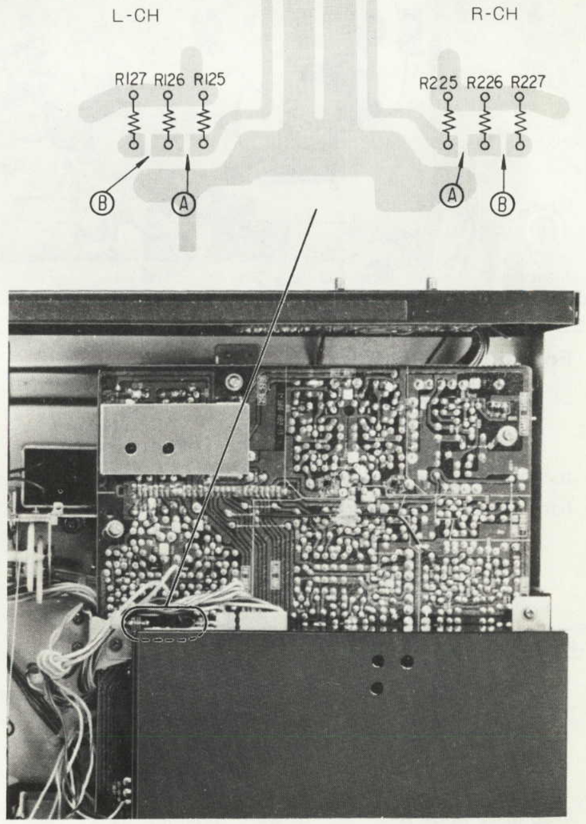


Adjust pattern connections for 0.27–0.37 V (-9.5 – -6.5 dB) VTVM reading.

Adjustment Location:

– record/playback board –

Pattern connection	VTVM reading
(open)	up
Ⓐ	
Ⓐ and Ⓑ	down

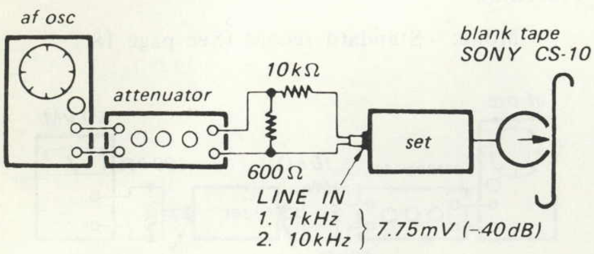


Note: After this adjustment, confirm the playback level.

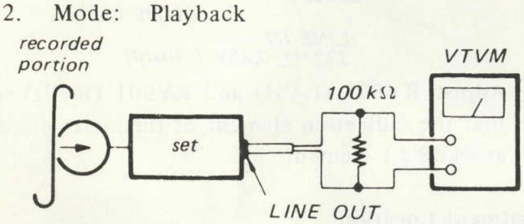
Record Bias Adjustment

Procedure:

1. Mode: Standard record (See page 18.)



2. Mode: Playback



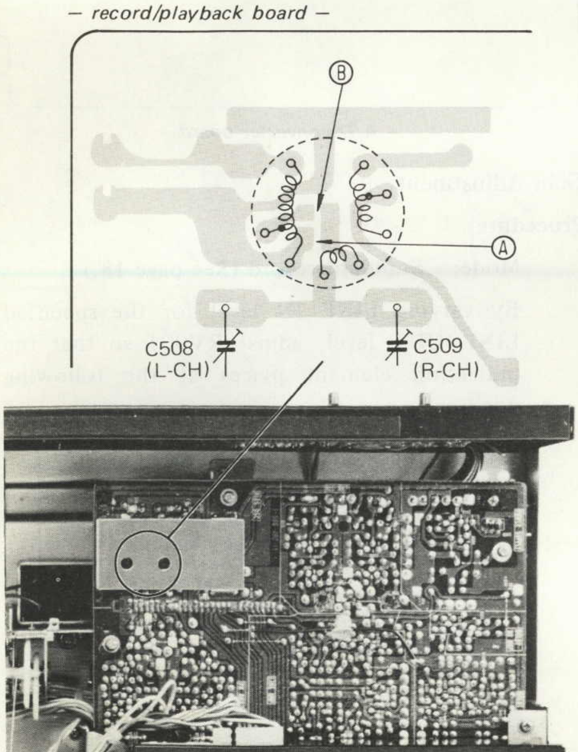
Adjust C508 (L-CH) and C509 (R-CH) to make 10 kHz and 1 kHz signal output levels equal.

Level difference between the two output levels: within 0.5 dB

Adjustment Location:

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

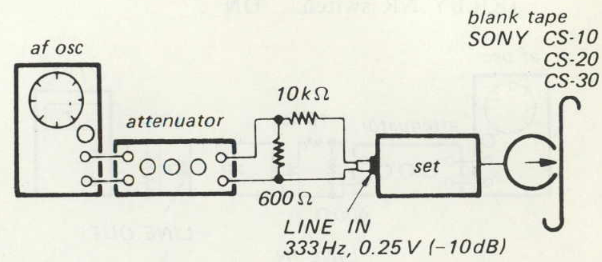
— record/playback board —



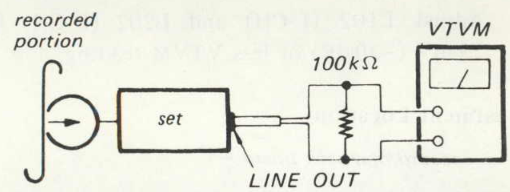
Record Level Adjustment

Procedure:

1. Mode: Standard record (See page 18.)



2. Mode: Playback



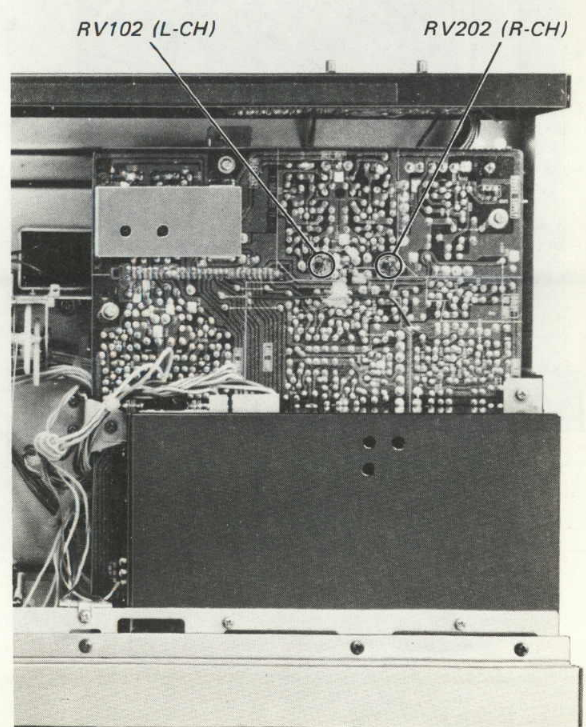
Adjust RV102 (L-CH) and RV202 (R-CH) to obtain 0.775 V (0 dB) VTVM reading.

Specification:

LINE OUT level: 0.73– 0.81 V (-0.5–+0.5 dB)

Adjustment Location:

— record/playback board —

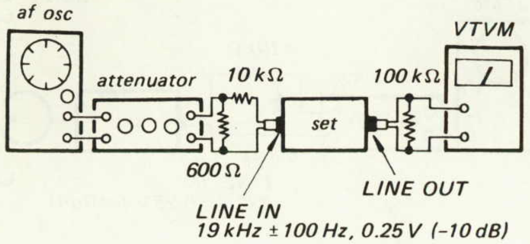


MPX Filter Adjustment

Procedure:

Mode: Standard record (See page 18.)

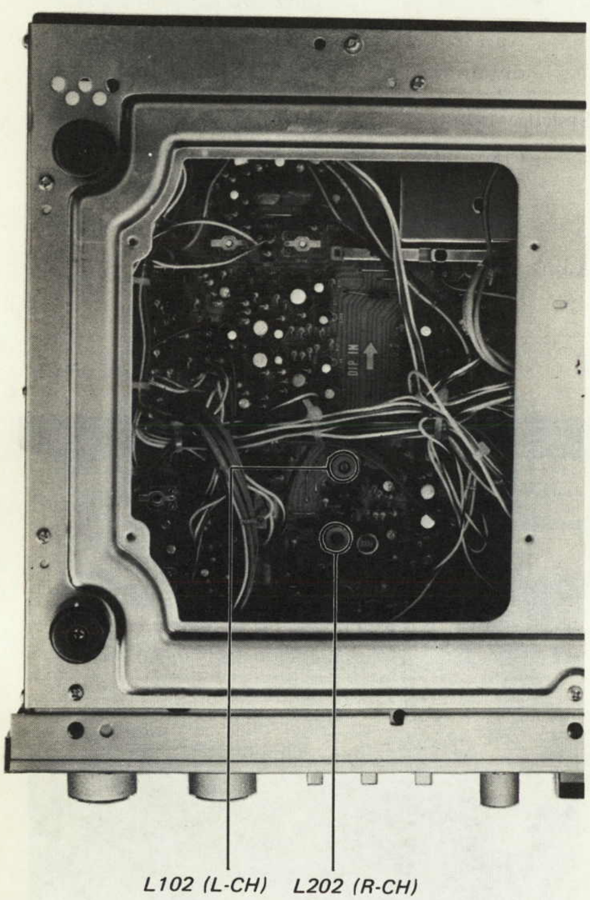
DOLBY NR switch: ON



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

Adjustment Location:

— record/playback board —

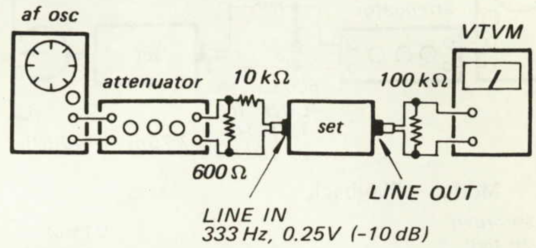


Liquid Crystal Peak Program Meter Offset/Gain Adjustment

Offset Adjustment

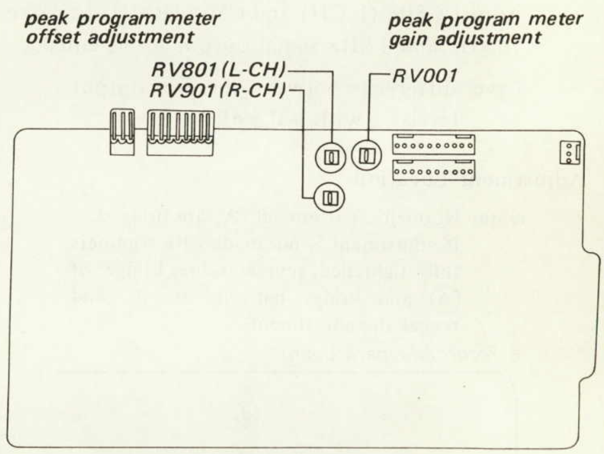
Procedure:

Mode: Standard record (See page 18.)



Adjust RV801 (L-CH) and RV901 (R-CH) so that the indication element of the meter places at −4 dB ± 1 element.

Adjustment Location:



— A/D converter board —

Gain Adjustment

Procedure:

Mode: Standard record (See page 18.)

By varying LINE IN level for the specified LINE OUT level, adjust RV001 so that the indication element places at the following position.

LINE OUT	Indication Element Position
8 dB	4 dB ± 1 element
4 dB	0 dB ± 1 element
-6 dB	-10 dB ± 1 element
-26 dB	-30 dB ± 1 element
-41 dB	the leftmost element only

SECTION 4
DIAGRAMS

4-1. SCHEMATIC DIAGRAM — Audio Amp Section —

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

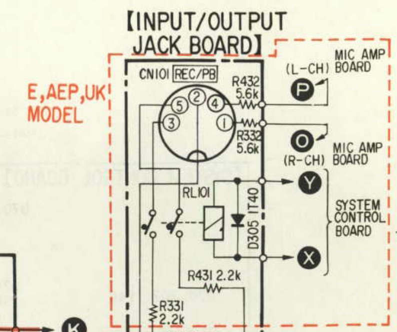
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

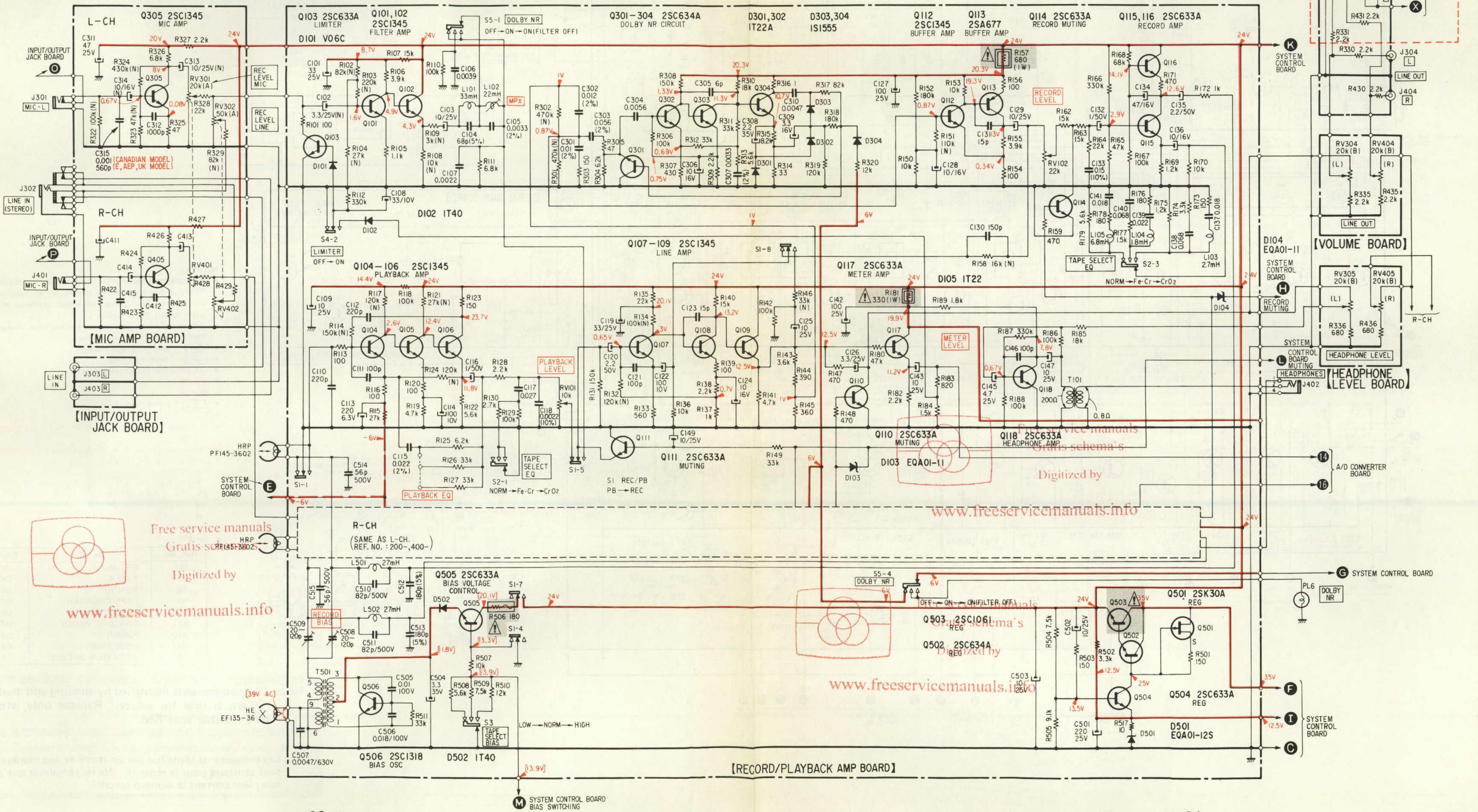
Note:
- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : 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 (20kΩ/V).
- [ ] : record mode
- AC voltage readings in the bias oscillator circuit are taken with a VTVM.

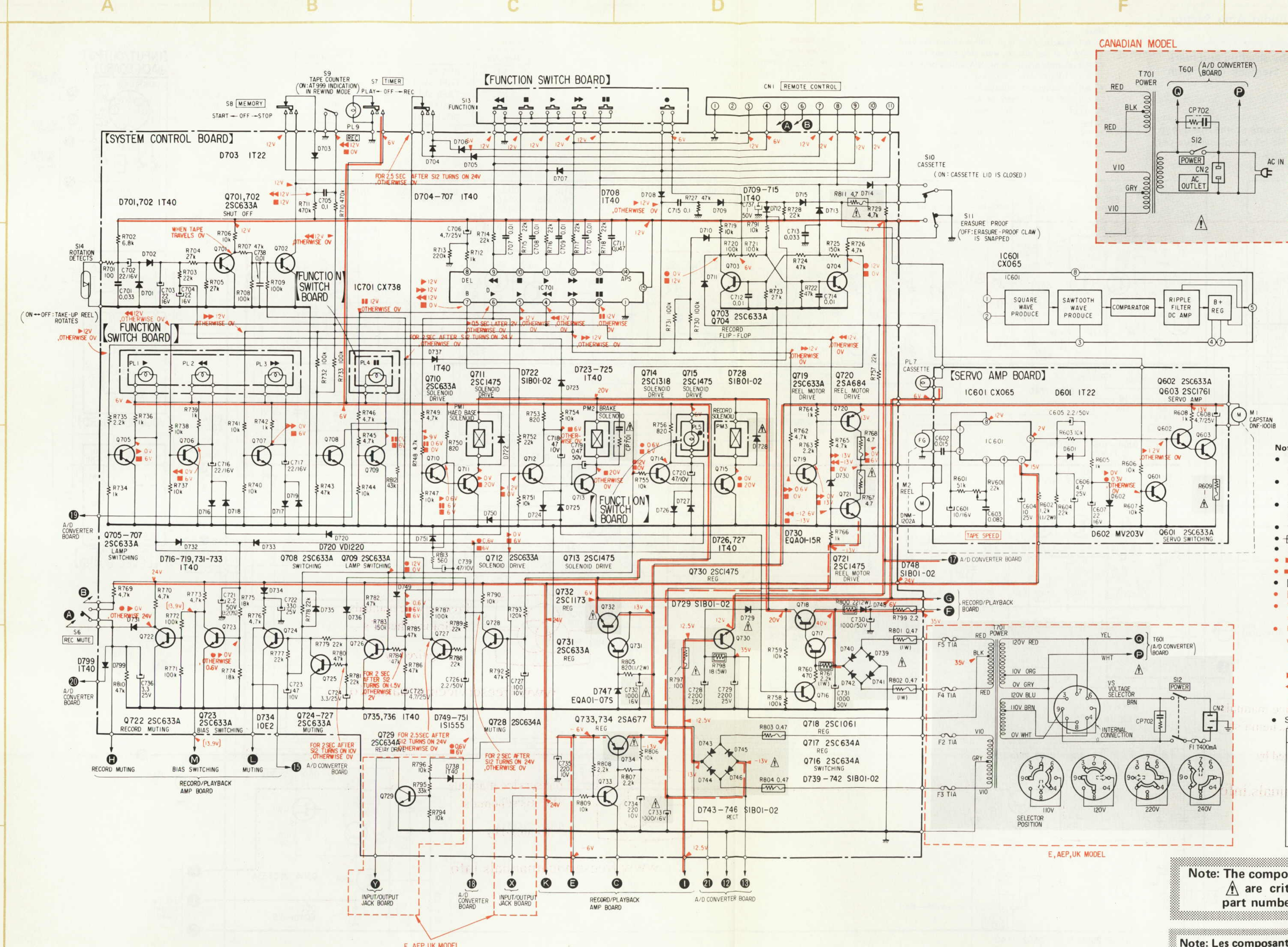
- Switch

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





4-2. SCHEMATIC DIAGRAM — System Control Section —



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.
- 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 and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

8/12/2013

4-3. MOUNTING DIAGRAMS — Conductor Side —

System Control, Headphone Level, Line Out, Servo Amp, Function Switch, Record/Playback, Input/Output Jack, Mic Amp Circuit Board.

4-4. MOUNTING DIAGRAMS – *Conductor Side* –

A/D Converter, LCD Drive Circuit Board

• A/D CONVERTER BOARD

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

IC1–3, 5: μPC4558C (μPC4558)
IC4, 11: μPC1458C (μPC1458)

IC6: TC4024P (TC4024)
IC7–9: CD4069
IC12: TC4081P (TC4081)
IC13: TC4068P (TC4068)

(Top view)

IC15: μPC78L05

IC16: μA79M05

IC801, 802, 901, 902: CX762

Q001–003, 801: 2SC1364 (2SC1363)

D001–004, D801, 810: 1S1555

• RECORD/PLAYBACK AMP BOARD

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

Q101, 102, 104–107, Q112, 305, 201, 202, Q204–207, 212, 405: 2SC1362 (2SC1345)
Q108, 109, 208, 209: 2SC1364 (2SC1345)
Q103, 110, 111, Q114–118, 203, 210, Q211, 214–218, Q301–304, 401–404, Q504, 505, 728: 2SC1364 (2SC633A)
Q502: 2SC1364

Q113, 213: 2SA678 (2SA677)

Q501: 2SK30A

Q503: 2SC1061

Q506: 2SC1475 (2SC1318)

D101, 201: 10E2 (V06C)
D102, 202, D502: 1S1555 (1T40)
D301, 302, D401, 402: 1T22AM
D303, 304, D403, 404: 1S1555

D103, 104, D203, 204: EQB01-11Z (EQA01-11)
D501: EQB01-12Z (EQA01-12S)

• SYSTEM CONTROL BOARD

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

Q601, 602, 701–710, Q712, 719, 722–729, Q731: 2SC1364 (2SC633A)
Q716, 717, 728: 2SC634A

Q733, 734: 2SA678 (2SA677)

Q718: 2SC1061
Q732: 2SC1173

Q711, 713–715, Q721, 730: 2SC1475
Q714: (2SC1318)

Q603: 2SC1760 (2SC1761)

Q720: 2SA684

IC601: CX065A (CX065)

(Marking side view)

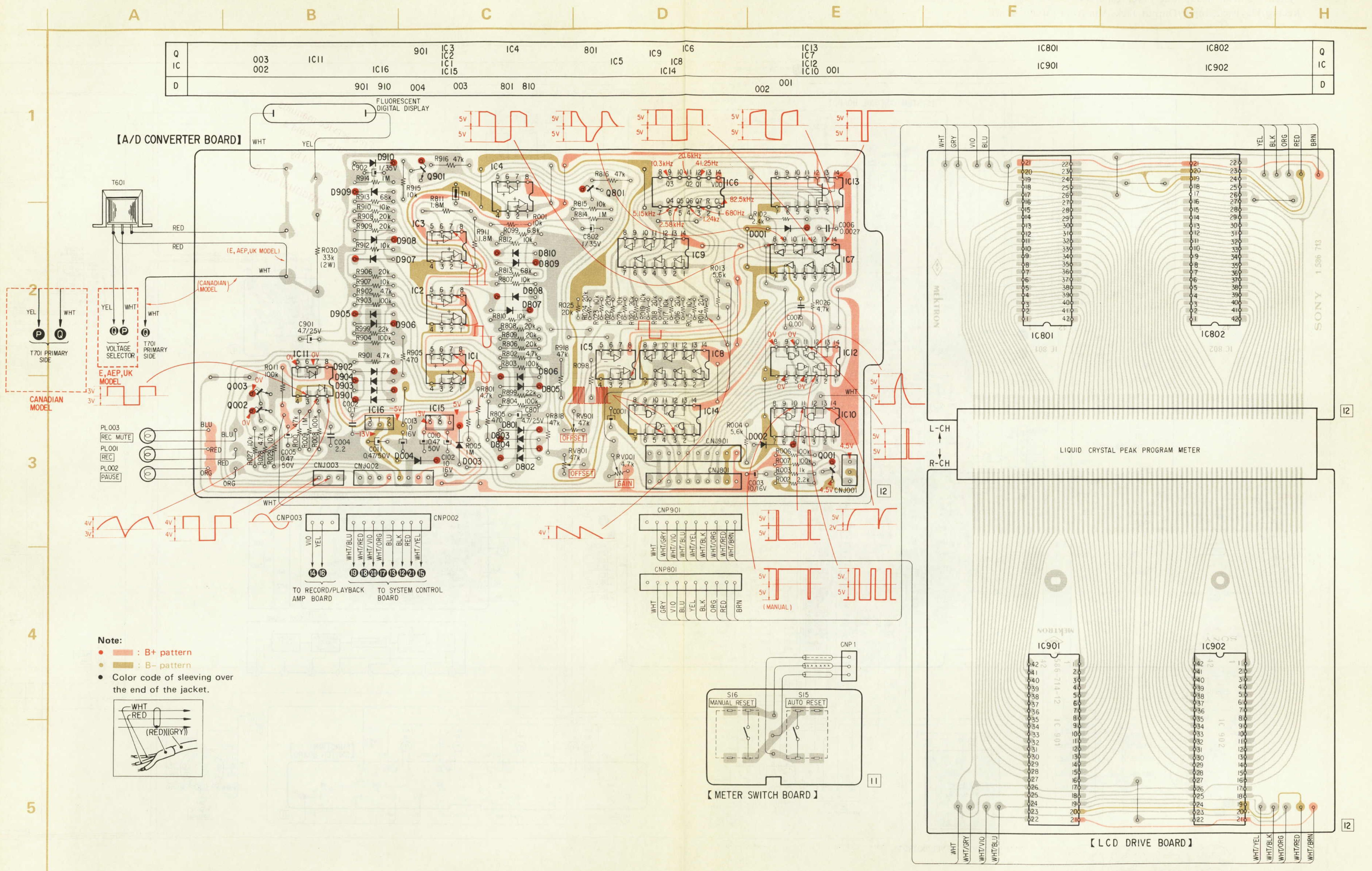
IC701: CX738A (CX738)

(Top view)

D701, 702, 704–707, D709–721, 723–727, D731–733, 735–738, D749–751, 799: 1S1555 (1T40)
D722, 728, 729, D739–746, 748: 10E2 (SIB01-02)
D734: 10E2
D601, 703, 708: 1T22AM (1T22)

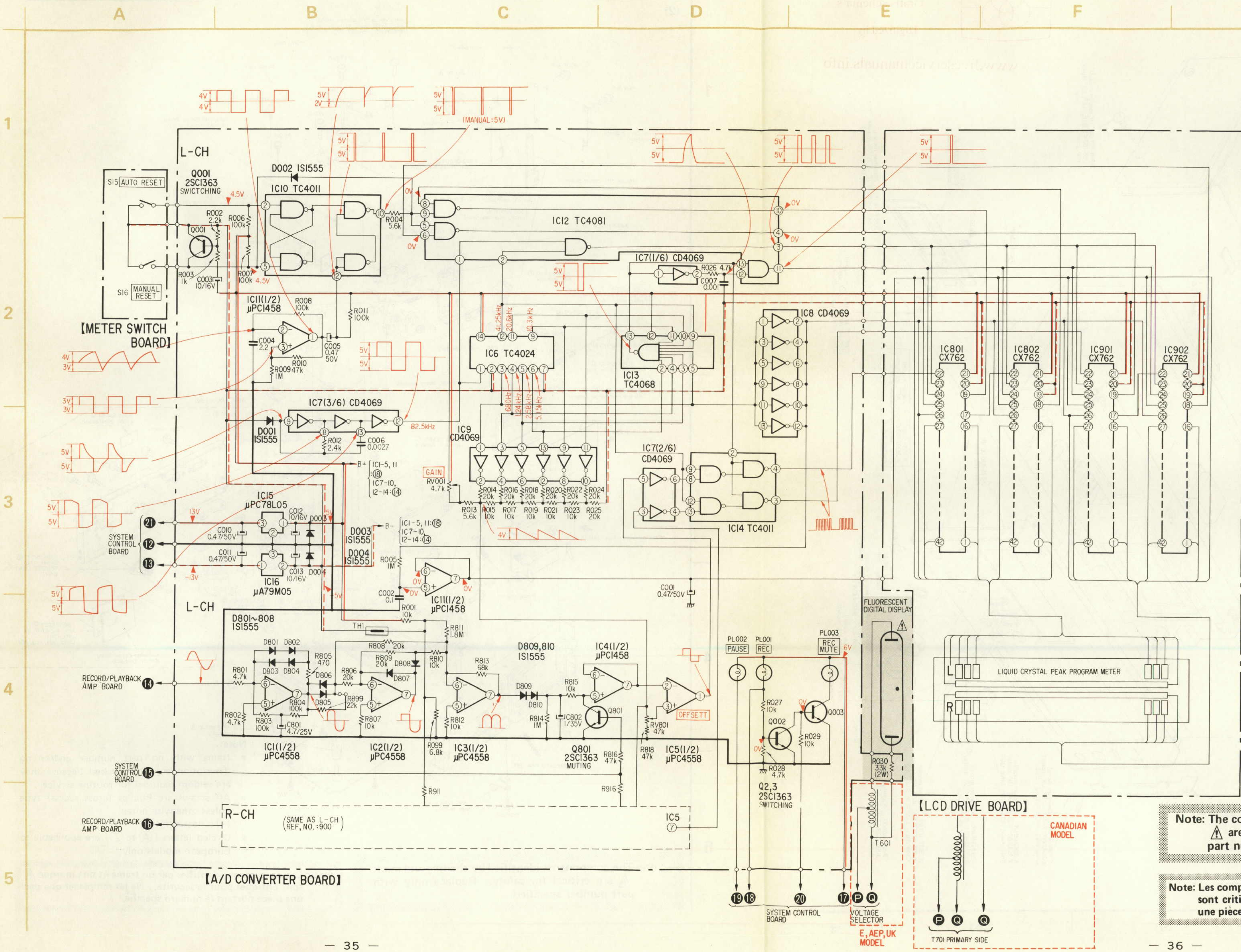
D730: EQB01-15 (EQA01-15R)
D747: EQB01-07 (EQA01-07S)

D602: MV203V



Note:
• ▬ : B+ pattern
• ▬ : B– pattern
• Color code of sleeving over the end of the jacket.

4-5. SCHEMATIC DIAGRAM — A/D Converter Section —



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
- ▬ : 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 (20kΩ/V).

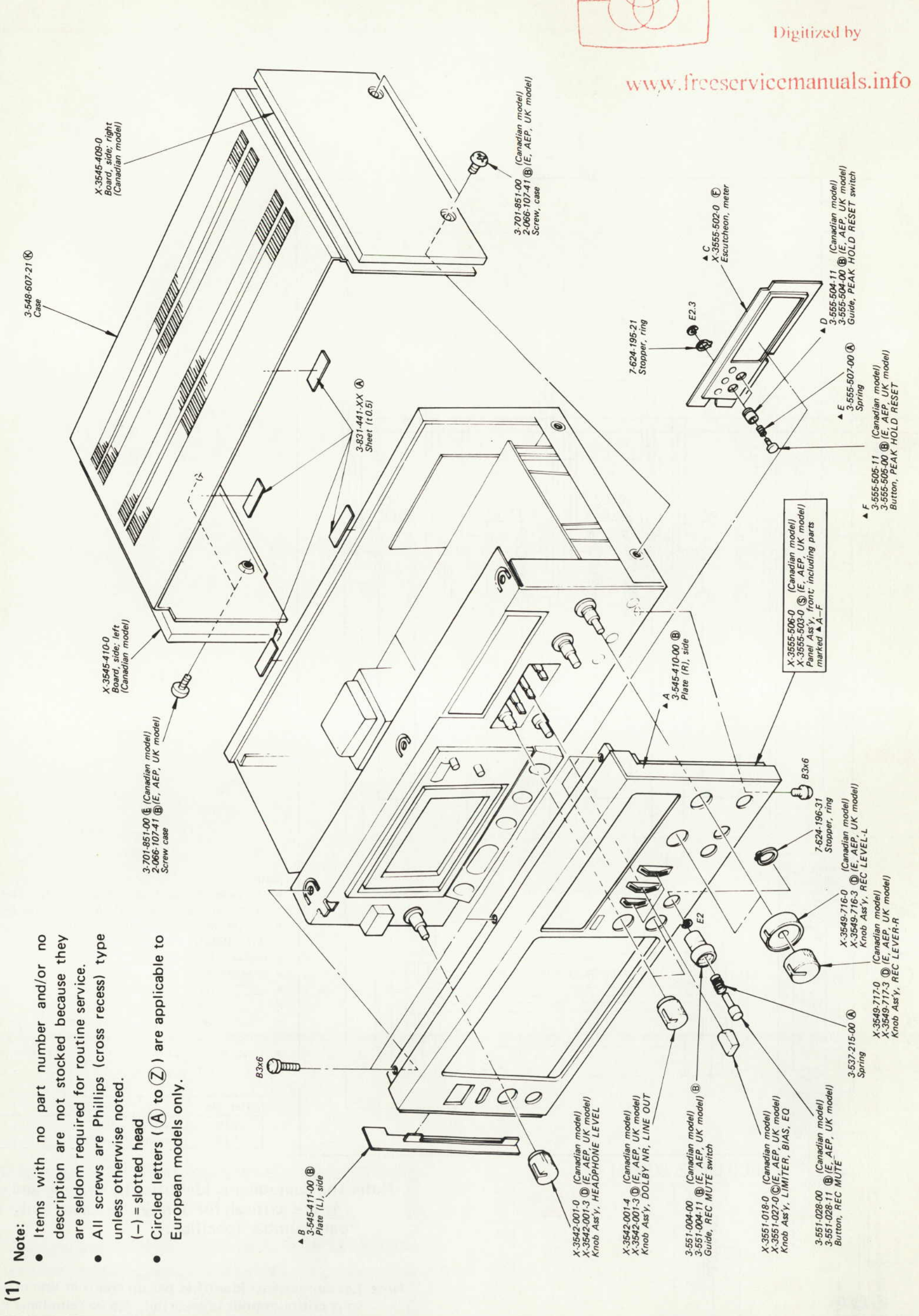
Ref. No.	Switch	Position
S15	AUTO RESET	OFF
S16	MANUAL RESET	OFF

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

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

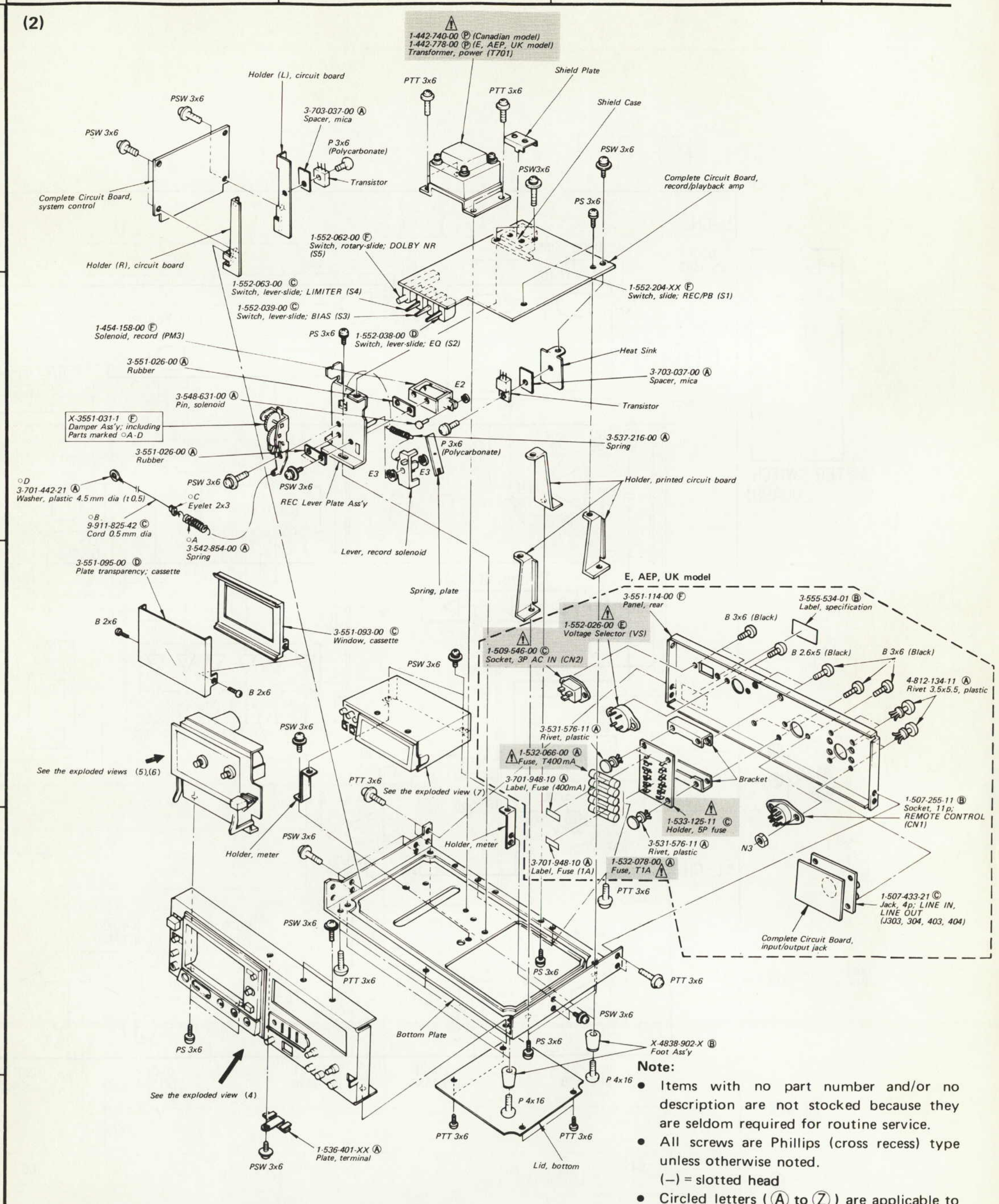
SECTION 5
EXPLODED VIEWS

(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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

(2)



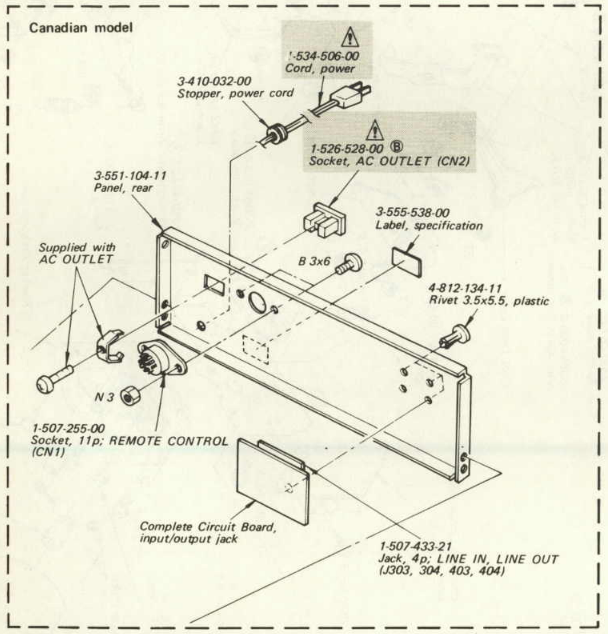
Note:
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

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

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

A B C D

(3)

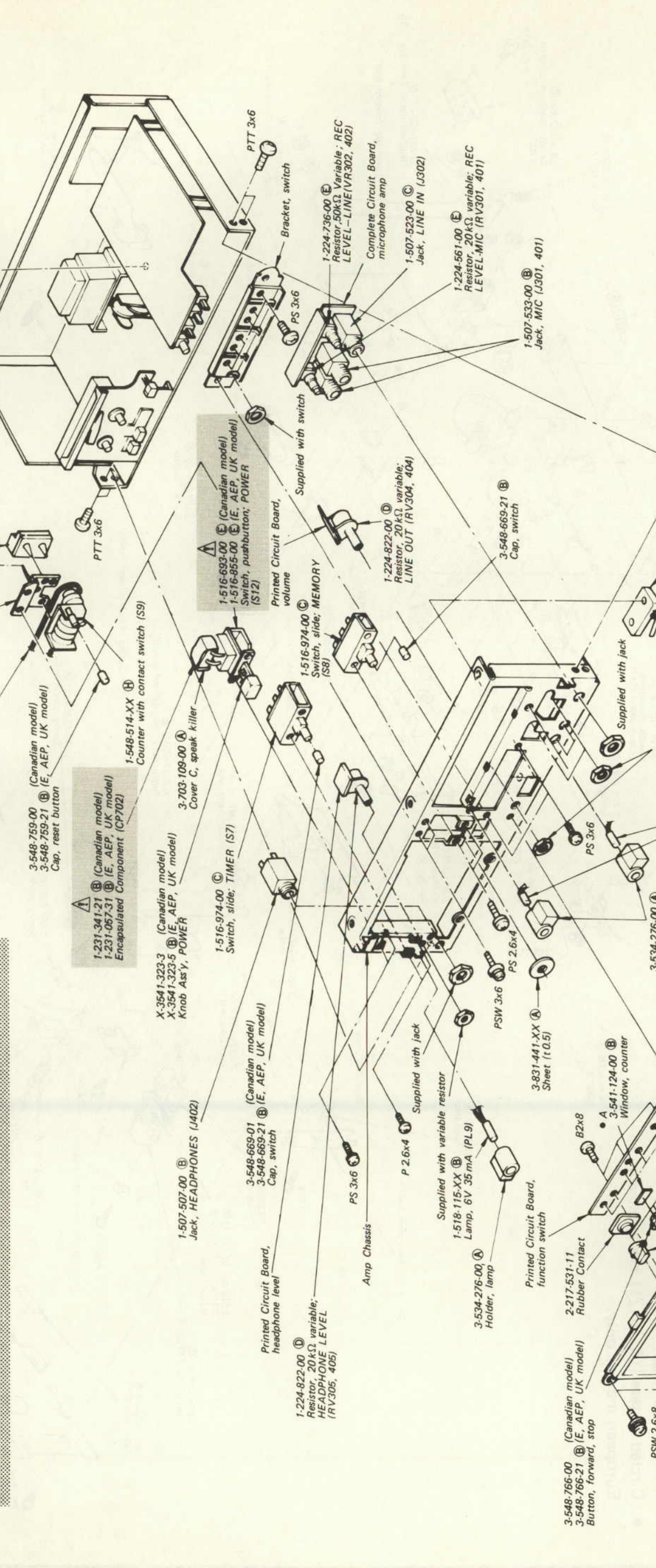


Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

(4)



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

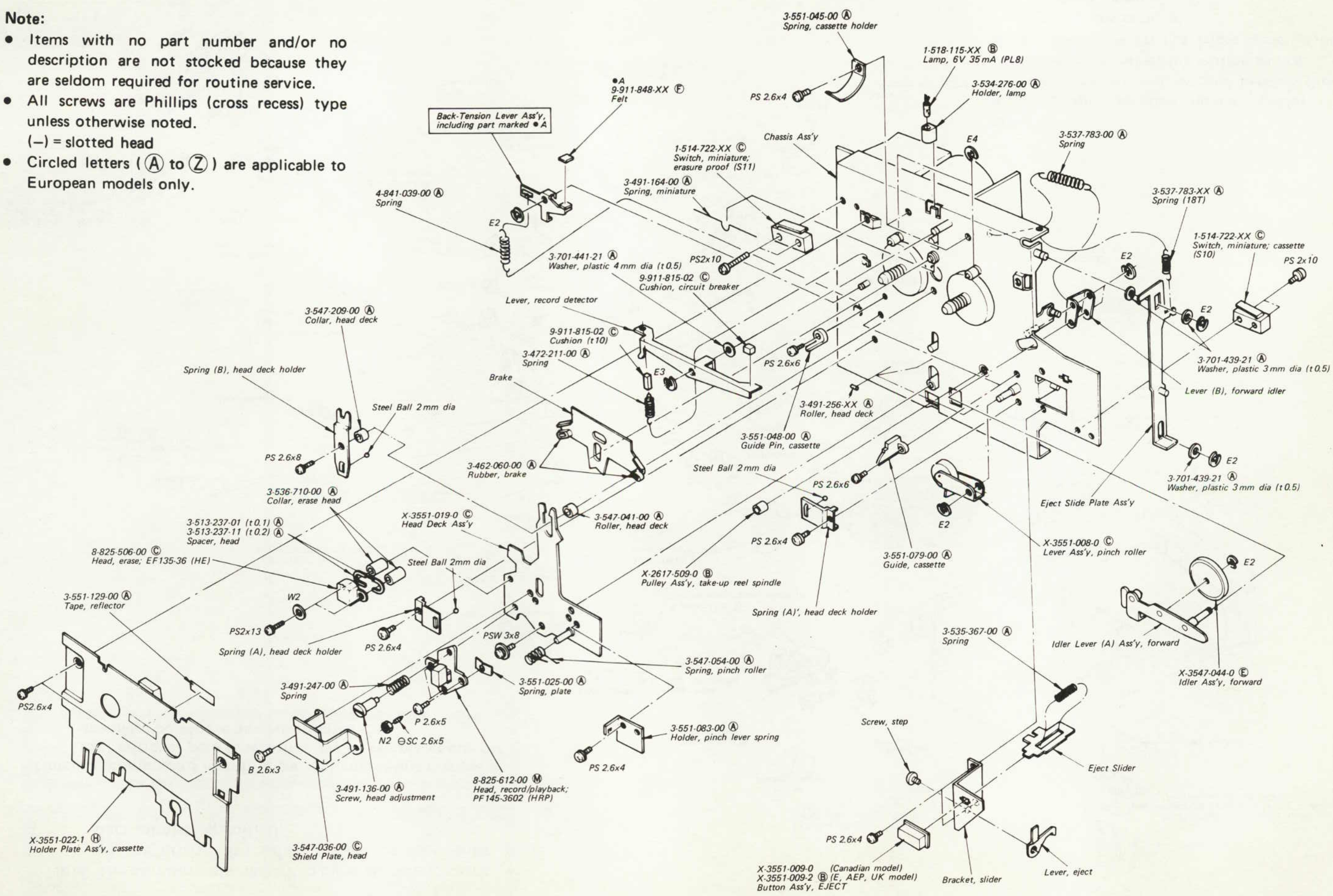
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

A	B	C	D	E

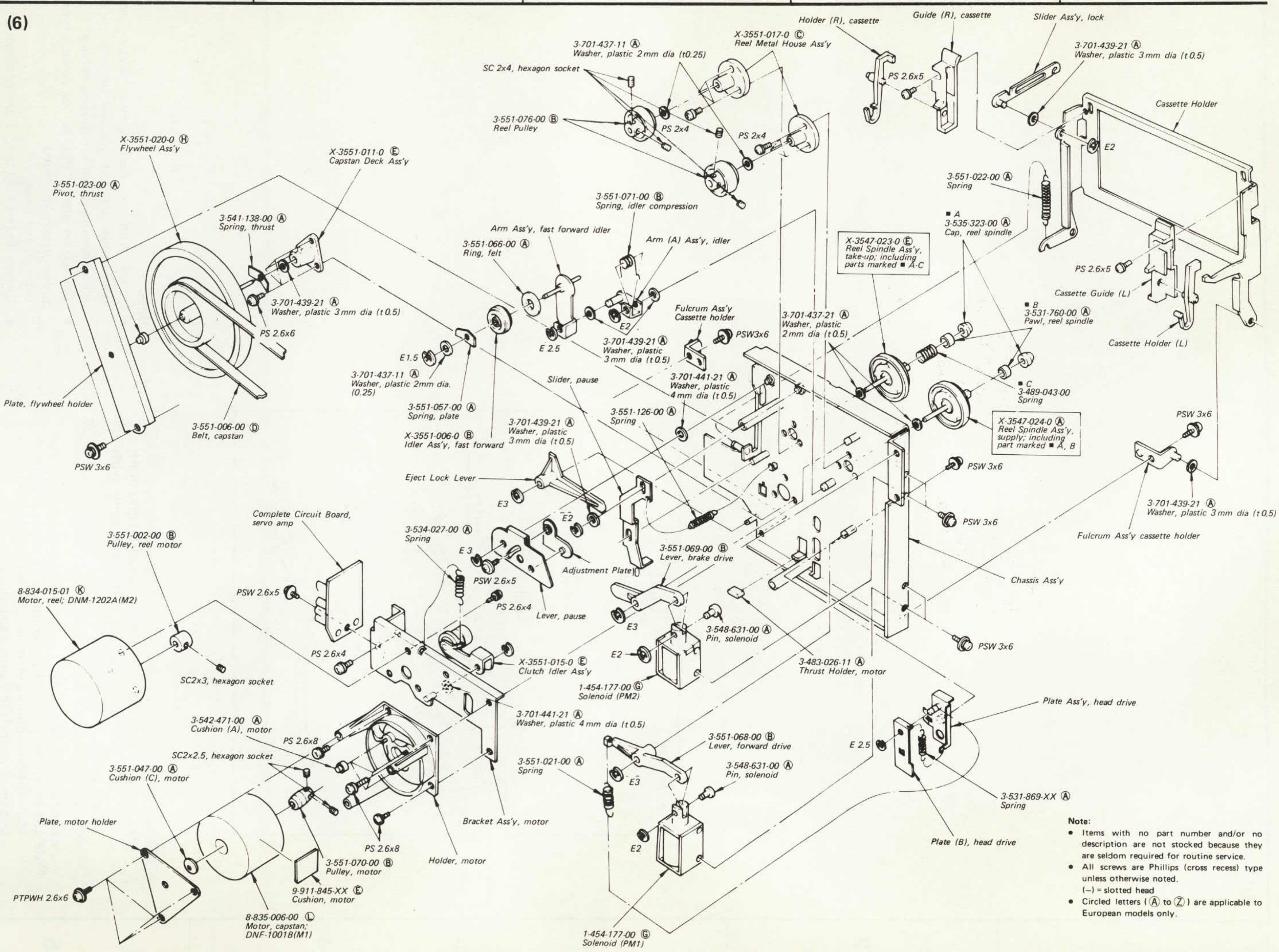
(5)

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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



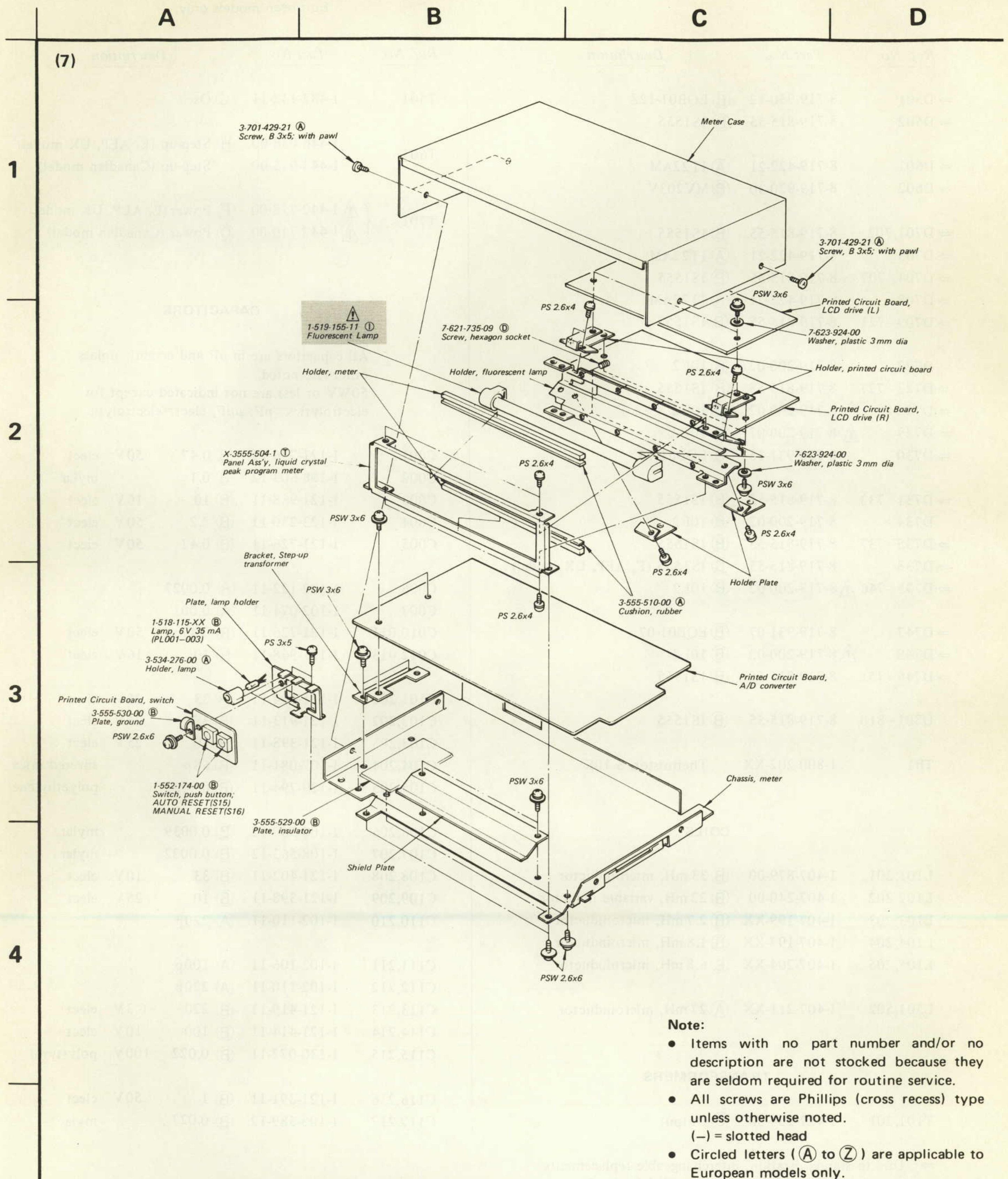
A	B	C	D	E

(6)



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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

(7)



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
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

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

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

1/4 WATT CARBON RESISTORS Ⓐ

Note: Circled letter Ⓐ is applicable to European model only.

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-244-601-11	10	1-244-625-11	100	1-244-649-11	1.0k	1-244-673-11	10k	1-244-697-11	100k	1-244-721-11	1.0M	1-244-745-11
1.1	1-244-602-11	11	1-244-626-11	110	1-244-650-11	1.1k	1-244-674-11	11k	1-244-698-11	110k	1-244-722-11	1.1M	1-244-746-11
1.2	1-244-603-11	12	1-244-627-11	120	1-244-651-11	1.2k	1-244-675-11	12k	1-244-699-11	120k	1-244-723-11	1.2M	1-244-747-11
1.3	1-244-604-11	13	1-244-628-11	130	1-244-652-11	1.3k	1-244-676-11	13k	1-244-700-11	130k	1-244-724-11	1.3M	1-244-748-11
1.5	1-244-605-11	15	1-244-629-11	150	1-244-653-11	1.5k	1-244-677-11	15k	1-244-701-11	150k	1-244-725-11	1.5M	1-244-749-11
1.6	1-244-606-11	16	1-244-630-11	160	1-244-654-11	1.6k	1-244-678-11	16k	1-244-702-11	160k	1-244-726-11	1.6M	1-244-750-11
1.8	1-244-607-11	18	1-244-631-11	180	1-244-655-11	1.8k	1-244-679-11	18k	1-244-703-11	180k	1-244-737-11	1.8M	1-244-751-11
2.0	1-244-608-11	20	1-244-632-11	200	1-244-656-11	2.0k	1-244-680-11	20k	1-244-704-11	200k	1-244-728-11	2.0M	1-244-752-11
2.2	1-244-609-11	22	1-244-633-11	220	1-244-657-11	2.2k	1-244-681-11	22k	1-244-705-11	220k	1-244-729-11	2.2M	1-244-753-11
2.4	1-244-610-11	24	1-244-634-11	240	1-244-658-11	2.4k	1-244-682-11	24k	1-244-706-11	240k	1-244-730-11	2.4M	1-244-754-11
2.7	1-244-611-11	27	1-244-635-11	270	1-244-659-11	2.7k	1-244-683-11	27k	1-244-707-11	270k	1-244-731-11	2.7M	1-244-755-11
3.0	1-244-612-11	30	1-244-636-11	300	1-244-660-11	3.0k	1-244-684-11	30k	1-244-708-11	300k	1-244-732-11	3.0M	1-244-756-11
3.3	1-244-613-11	33	1-244-637-11	330	1-244-661-11	3.3k	1-244-685-11	33k	1-244-709-11	330k	1-244-733-11	3.3M	1-244-757-11
3.6	1-244-614-11	36	1-244-638-11	360	1-244-662-11	3.6k	1-244-686-11	36k	1-244-710-11	360k	1-244-734-11	3.6M	1-244-758-11
3.9	1-244-615-11	39	1-244-639-11	390	1-244-663-11	3.9k	1-244-687-11	39k	1-244-711-11	390k	1-244-735-11	3.9M	1-244-759-11
4.3	1-244-616-11	43	1-244-640-11	430	1-244-664-11	4.3k	1-244-688-11	43k	1-244-712-11	430k	1-244-736-11	4.3M	1-244-760-11
4.7	1-244-617-11	47	1-244-641-11	470	1-244-665-11	4.7k	1-244-689-11	47k	1-244-713-11	470k	1-244-737-11	4.7M	1-244-761-11
5.1	1-244-618-11	51	1-244-642-11	510	1-244-666-11	5.1k	1-244-690-11	51k	1-244-714-11	510k	1-244-738-11	5.1M	1-244-762-11
5.6	1-244-619-11	56	1-244-643-11	560	1-244-667-11	5.6k	1-244-691-11	56k	1-244-715-11	560k	1-244-739-11		
6.2	1-244-620-11	62	1-244-644 11	620	1-244-668-11	6.2k	1-244-692-11	62k	1-244-716-11	620k	1-244-740-11		
6.8	1-244-621-11	68	1-244-645-11	680	1-244-669-11	6.8k	1-244-693-11	68k	1-244-717-11	680k	1-244-741-11		
7.5	1-244-622-11	75	1-244-646-11	750	1-244-670-11	7.5k	1-244-694-11	75k	1-244-718-11	750k	1-244-742-11		
8.2	1-244-623-11	82	1-244-647-11	820	1-244-671-11	8.2k	1-244-695-11	82k	1-244-719-11	820k	1-244-743-11		
9.1	1-244-624-11	91	1-244-648-11	910	1-244-672-11	9.1k	1-244-696-11	91k	1-244-720-11	910k	1-244-744-11		

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

- L: *Length in mm*
- D: *Diameter in mm*
- *Type of head*
- *Indicated slotted-head only.*

Unless otherwise indicated, it means cross-recessed head (Phillips type).

Nut, Washer, Retaining ring: N 3

- *Diameter of usable screw or shaft*
- *Reference designation*

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		braizer-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	

Note:
Circled letters ((A) to (Z)) are applicable to European models only.

SECTION 6
ELECTRICAL PARTS LIST

SEMICONDUCTORS

Transistors

Ref. No.	Part No.	Description
⇒Q001–003	8-729-663-47	(B) 2SC1364
⇒Q101,201 ⇒Q102,202	8-729-665-47	(B) 2SC1362
⇒Q103,203	8-729-663-47	(B) 2SC1364
⇒Q104–107 ⇒Q204–207	8-729-665-47	(B) 2SC1362
⇒Q108–111 ⇒Q208–211	8-729-663-47	(B) 2SC1364
⇒Q112,212	8-729-665-47	(B) 2SC1362
⇒Q113,213	8-727-788-00	(B) 2SA678
⇒Q114–120 ⇒Q214–220	8-729-663-47	(B) 2SC1364
⇒Q301–304 ⇒Q401–404	8-729-663-47	(B) 2SC1364
⇒Q305,405	8-729-665-47	(B) 2SC1362
⇒Q501	8-729-203-04	(B) 2SK30A
⇒Q502	8-729-663-47	(B) 2SC1364
Q503	⚠ 8-729-316-12	(D) 2SC1061
⇒Q504,505	8-729-663-47	(B) 2SC1364
⇒Q506	8-760-413-10	(B) 2SC1475
⇒Q507–509	8-729-663-47	(B) 2SC1364
⇒Q601,602	8-729-663-47	(B) 2SC1364
⇒Q603	8-763-314-00	(C) 2SC1760
⇒Q701–710	8-729-663-47	(B) 2SC1364
Q711	8-760-413-10	(B) 2SC1475
⇒Q712	8-729-663-47	(B) 2SC1364
Q713–715	8-760-413-10	(C) 2SC1475
⇒Q716,717	8-729-663-47	(B) 2SC1364
Q718	⚠ 8-729-316-12	(D) 2SC1061
⇒Q719	8-729-663-47	(B) 2SC1364
Q720	8-729-468-43	(C) 2SA684
Q721	8-760-413-10	(B) 2SC1475
⇒Q722–728	8-729-663-47	(B) 2SC1364
⇒Q729	8-729-663-47	(B) 2SC1364 (E, AEP, UK model)
Q730	⚠ 8-760-413-10	(C) 2SC1475
⇒Q731	8-729-663-47	(B) 2SC1364
Q732	⚠ 8-729-217-33	(C) 2SC1173
⇒Q733	8-727-788-00	(B) 2SA678
⇒Q734	⚠ 8-727-788-00	(B) 2SA678
⇒Q801	8-729-663-47	(B) 2SC1364

ICs

Ref. No.	Part No.	Description
⇒IC1–3	8-759-145-58	μPC4558C
⇒IC4	8-759-114-58	μPC1458C
⇒IC5	8-759-145-58	μPC4558C
⇒IC6	8-759-240-24	TC4024P
⇒IC7–9	8-759-940-69	CD4069
⇒IC10	8-759-240-11	TC4011P
⇒IC11	8-759-114-58	μPC1458C
⇒IC12	8-759-240-81	TC4081P
⇒IC13	8-759-240-68	TC4068P
⇒IC14	8-759-240-11	TC4011P
IC15	8-759-178-05	μPC78L05
IC16	8-759-979-05	μA79M05
⇒IC601	8-759-600-65	(F) CX065A
⇒IC701	8-759-107-38	(J) CX738A
IC801,802 IC901,902	8-759-907-62	CX762

Diodes

Ref. No.	Part No.	Description
D001–004	8-719-815-55	(B) 1S1555
⇒D101,201	8-719-200-02	(B) 10E2
⇒D102,202	8-719-815-55	(B) 1S1555
⇒D103,104 ⇒D203,204	8-719-930-11	(B) EQB01-11Z
⇒D105,205	8-719-422-21	(A) 1T22AM
⇒D301,401 ⇒D302,402	8-719-422-21	(A) 1T22AM
D303,403 D304,404	8-719-815-55	(B) 1S1555
⇒D305	8-719-815-55	(B) 1S1555 (E, AEP, UK model)
⇒D501	8-719-930-12	(B) EQB01-12Z
⇒D502	8-719-815-55	(B) 1S1555
⇒D601	8-719-422-21	(A) 1T22AM
⇒D602	8-719-920-30	(B) MV203V
⇒D701,702	8-719-815-55	(B) 1S1555
⇒D703	8-719-422-21	(A) 1T22AM
⇒D704–707	8-719-815-55	(B) 1S1555
⇒D708	8-719-422-21	(A) 1T22AM
⇒D709–721	8-719-815-55	(B) 1S1555
⇒D722	8-719-200-02	(B) 10E2
⇒D723–727	8-719-815-55	(B) 1S1555
⇒D728	⚠ 8-719-200-02	(B) 10E2
⇒D729	⚠ 8-719-200-02	(B) 10E2
⇒D730	8-719-931-15	(B) EQB01-15
⇒D731–733	8-719-815-55	(B) 1S1555
D734	8-719-200-02	(B) 10E2
⇒D735–737	8-719-815-55	(B) 1S1555
⇒D738	8-719-815-55	(B) 1S1555 (E, AEP, UK model)
⇒D739–746	⚠ 8-719-200-02	(B) 10E2
⇒D747	8-719-931-07	(B) EQB01-07
⇒D748	⚠ 8-719-200-02	(B) 10E2
⇒D749–751	8-719-815-55	(B) 1S1555
D801–810	8-719-815-55	(B) 1S1555
Th1	1-800-202-XX	Thermistor, S-10K

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

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

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Circled letters ((A) to (Z)) are applicable to European models only.

COILS

Ref. No.	Part No.	Description
L101,201	1-407-879-00	(B) 33 mH, microinductor
L102,202	1-407-240-00	(B) 22 mH, variable inductor
L103,203	1-407-199-XX	(B) 2.7 mH, microinductor
L104,204	1-407-197-XX	(B) 1.8 mH, microinductor
L105,205	1-407-204-XX	(B) 6.8 mH, microinductor
L501,502	1-407-211-XX	(A) 27 mH, microinductor

TRANSFORMERS

Ref. No.	Part No.	Description
T101,201	1-427-284-00	(C) Output
T501	1-433-132-11	(C) Osc
T601	1-446-038-00 1-443-015-00	(H) Step-up (E, AEP, UK model) Step-up (Canadian model)
T701	⚠ 1-442-778-00 ⚠ 1-442-740-00	(P) Power (E, AEP, UK model) (Q) Power (Canadian model)

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.	Description		
C001	1-121-726-11	(B) 0.47	50V	elect
C002	1-108-603-12	(B) 0.1		mylar
C003	1-121-968-11	(B) 10	16V	elect
C004	1-123-230-11	(B) 2.2	50V	elect
C005	1-121-726-11	(B) 0.47	50V	elect
C006	1-102-122-11	(A) 0.0027		
C007	1-102-074-11	(A) 0.001		
C010,011	1-121-726-11	(B) 0.47	50V	elect
C012,013	1-121-968-11	(B) 10	16V	elect
C101,201	1-121-404-11	(B) 33	25V	elect
C102,202	1-121-913-11	(B) 3.3	25V	elect
C103,203	1-121-398-11	(B) 10	25V	elect
C104,204	1-107-081-11	(B) 68p		silvered mica
C105,205	1-129-794-11	(B) 0.0033		polyethylene
C106,206	1-108-569-12	(B) 0.0039		mylar
C107,207	1-108-563-12	(B) 0.0022		mylar
C108,208	1-121-402-11	(B) 33	10V	elect
C109,209	1-121-398-11	(B) 10	25V	elect
C110,210	1-102-110-11	(A) 220p		
C111,211	1-102-106-11	(A) 100p		
C112,212	1-102-110-11	(A) 220p		
C113,213	1-121-419-11	(B) 220	6.3V	elect
C114,214	1-121-414-11	(B) 100	10V	elect
C115,215	1-130-072-11	(B) 0.022	100V	polystyrol
C116,216	1-121-391-11	(B) 1	50V	elect
C117,217	1-108-589-12	(B) 0.027		mylar

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

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

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description			
C118,218	1-108-230-12	Ⓐ	0.0022		mylar
C119,219	1-121-404-11	Ⓑ	33	25V	elect
C120,220	1-121-450-11	Ⓑ	2.2	50V	elect
C121,221	1-102-106-11	Ⓐ	100p		
C122,222	1-121-414-11	Ⓑ	100	10V	elect
C123,223	1-102-956-11	Ⓐ	15p		
C124,224	1-121-651-11	Ⓑ	10	16V	elect
C125,225	1-121-398-11	Ⓑ	10	25V	elect
C126,226	1-121-392-11	Ⓑ	3.3	25V	elect
C127,227	1-121-416-11	Ⓑ	100	25V	elect
C128,228	1-121-651-11	Ⓑ	10	16V	elect
C129,229	1-121-398-11	Ⓑ	10	25V	elect
C130,230	1-102-108-11	Ⓐ	150p		
C131,231	1-102-956-11	Ⓐ	15p		
C132,232	1-121-391-11	Ⓑ	1	50V	elect
C133,233	1-108-252-12	Ⓑ	0.15		mylar
C134,234	1-121-409-11	Ⓑ	47	16V	elect
C135,235	1-121-450-11	Ⓑ	2.2	50V	elect
C136,236	1-121-651-11	Ⓑ	10	16V	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	25V	elect
C143,243	1-121-398-11	Ⓑ	10	25V	elect
C145,245	1-121-395-11	Ⓑ	4.7	25V	elect
C146,246	1-102-106-11	Ⓐ	100p		
C147,247	1-121-398-11	Ⓑ	10	25V	elect
C149,249	1-121-398-11	Ⓑ	10	25V	elect
C301,401	1-129-701-11	Ⓑ	0.01	100V	polyethylene
C302,402	1-129-896-11	Ⓑ	0.012	100V	polyethylene
C303,403	1-129-899-11	Ⓑ	0.056	100V	polyethylene
C304,404	1-108-573-12	Ⓑ	0.0056		mylar
C305,405	1-102-943-11	Ⓐ	6p		
C306,406	1-121-651-11	Ⓑ	10	16V	elect
C307,407	1-129-794-11	Ⓑ	0.0033	100V	polyethylene
C308,408	1-131-217-11	Ⓑ	2.2	35V	tantalum
C309,409	1-131-197-11	Ⓑ	3.3	16V	tantalum
C310,410	1-108-571-12	Ⓑ	0.0047		mylar

Ref. No.	Part No.	Description			
C311,411	1-121-410-11	Ⓑ	47	25V	elect
C312,412	1-102-074-11	Ⓐ	1000p		
C313,413	1-121-748-11	Ⓑ	10	25V	elect
C314,414	1-121-916-11	Ⓑ	10	16V	elect
C315,415	1-102-115-11	Ⓐ	560p (E, AEP, UK model)		
	1-102-074-11	Ⓐ	0.001 (Canadian model)		
C501	1-121-422-11	Ⓑ	220	25V	elect
C502,503	1-121-398-11	Ⓑ	10	25V	elect
C504	1-131-218-11	Ⓑ	3.3	35V	elect
C505	1-108-377-12	Ⓐ	0.01	100V	mylar
C506	1-108-380-12	Ⓐ	0.018	100V	mylar
C507	1-129-710-11	Ⓑ	0.0047	630V	polyethylene
C508,509	1-141-010-XX	Ⓑ			trimmer
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		silvered mica
C601	1-121-651-11	Ⓑ	10	16V	elect
C602	1-108-583-12	Ⓑ	0.015		mylar
C603	1-130-134-11	Ⓑ	0.082	100V	polyethylene
C604	1-121-398-11	Ⓑ	10	25V	elect
C605	1-121-986-11	Ⓑ	2.2	50V	elect
C606	1-121-395-11	Ⓑ	4.7	25V	elect
C607	1-121-990-11	Ⓑ	22	16V	elect
C608	1-121-395-11	Ⓑ	4.7	25V	elect
C701	1-161-019-11	Ⓐ	0.033		ceramic (boundary layer)
C702	1-131-201-11	Ⓑ	22	16V	tantalum
C703	1-121-990-11	Ⓑ	22	16V	elect
C704	1-121-479-11	Ⓑ	22	16V	elect
C705	1-161-025-11	Ⓑ	0.1		ceramic (boundary layer)
C706	1-121-395-11	Ⓐ	4.7	25V	elect
C707–710	1-161-013-11	Ⓑ	0.01		ceramic (boundary layer)
C711	1-161-021-11	Ⓐ	0.047		ceramic (boundary layer)
C712	1-161-013-11	Ⓐ	0.01		ceramic (boundary layer)
C713	1-161-019-11	Ⓐ	0.033		ceramic (boundary layer)

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description			
C714	1-161-013-11	Ⓐ	0.01		ceramic (boundary layer)
C715	1-161-025-11	Ⓑ	0.1		ceramic (boundary layer)
C716,717	1-121-479-11	Ⓑ	22	16V	elect
C718	1-121-352-11	Ⓑ	47	10V	elect
C719	1-121-726-11	Ⓑ	0.47	50V	elect
C720	1-121-352-11	Ⓑ	47	10V	elect
C721	1-121-986-11	Ⓑ	2.2	50V	elect
C722	1-121-654-11	Ⓑ	330	25V	elect
C723	1-121-975-11	Ⓑ	47	10V	elect
C724	1-121-392-11	Ⓑ	3.3	25V	elect
C725	1-121-395-11	Ⓑ	4.7	25V	elect
C726	1-121-986-11	Ⓑ	2.2	50V	elect
C727	1-121-976-11	Ⓑ	100	10V	elect
C728,729	⚠ 1-123-067-11	Ⓒ	2200	25V	elect
C730,731	⚠ 1-123-061-11	Ⓒ	1000	50V	elect
C732,733	⚠ 1-121-944-11	Ⓔ	1000	16V	elect
C734,735	1-121-420-11	Ⓑ	220	10V	elect
C736	1-121-392-11	Ⓑ	3.3	25V	elect
C737	1-121-391-11	Ⓑ	1	50V	elect
C738	1-161-013-11	Ⓐ	0.01		ceramic (boundary layer)
C739	1-121-352-11	Ⓑ	47	10V	elect
C801,901	1-121-395-11	Ⓐ	4.7	25V	elect
C802,902	1-131-215-11	Ⓑ	1	35V	tantalum

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted.
Refer to the list on page 44 for their part numbers.

Ref. No.	Part No.	Description			
R030	⚠ 1-206-700-11	Ⓑ	33k	2W	metal oxide
R157,257	⚠ 1-213-141-11	Ⓐ	680	1W	metal oxide
R181,281	⚠ 1-213-137-11	Ⓐ	330	1W	metal oxide
R506	⚠ 1-217-402-11	Ⓑ	180	¼W	fusible
R602	1-244-875-11	Ⓐ	1.2k	½W	carbon
R609	⚠ 1-217-375-11	Ⓑ	1	¼W	fusible

Ref. No.	Part No.	Description			
R761	⚠ 1-213-147-11	Ⓐ	2.2k	1W 5%	metal oxide
R767,768	⚠ 1-217-383-11	Ⓑ	4.7	¼W 5%	fusible
R797	⚠ 1-217-399-11	Ⓑ	100	¼W	fusible
R798	⚠ 1-217-301-11		18	5W	wirewound
R799	⚠ 1-217-379-11	Ⓑ	2.2	¼W 5%	fusible
R800	⚠ 1-206-471-11	Ⓑ	22	2W	metal oxide
R801,802	⚠ 1-217-465-11	Ⓑ	0.37	1W	fusible
R803,804	⚠ 1-217-371-11	Ⓑ	0.47	¼W	fusible
R805	1-244-871-11	Ⓐ	820	½W	carbon
R811	⚠ 1-217-383-11	Ⓑ	4.7	¼W	fusible
RV001	1-224-251-XX	Ⓒ	4.7k, adjustable		
RV101,201	1-224-645-XX	Ⓑ	10k, adjustable		
RV102,202	1-224-646-XX	Ⓑ	22k, adjustable		
RV301,401	1-224-561-00	Ⓔ	20k, variable; REC LEVEL MIC		
RV302,402	1-224-736-00	Ⓔ	50k/50k, variable; REC LEVEL LINE		
RV304,404 RV305,405	1-224-822-00	Ⓓ	20k/20k, variable; LINE OUT HEADPHONE LEVEL		
RV601	1-224-491-00	Ⓑ	22k, adjustable		
RV801,901	1-224-252-XX	Ⓒ	47k, adjustable		

SWITCHES

Ref. No.	Part No.	Description
S1	1-552-204-00	Ⓕ Slide, REC/PB
S2	1-552-038-00	Ⓓ Lever-slide, EQ
S3	1-552-039-00	Ⓒ Lever-slide, BIAS
S4	1-552-063-00	Ⓒ Lever-slide, LIMITER
S5	1-552-062-00	Ⓕ Rotary-slide, DOLBY NR
S6	1-514-722-XX	Ⓒ Miniature, REC MUTE
S7	1-516-974-00	Ⓒ Slide, TIMER
S8	1-516-974-00	Ⓒ Slide, MEMORY
S10	1-514-722-XX	Ⓒ Miniature, cassette
S11	1-514-722-XX	Ⓒ Miniature, erasure proof
S12	⚠ 1-516-855-00	Ⓔ Pushbutton, POWER (E, AEP, UK model)
	⚠ 1-516-693-00	Ⓔ Pushbutton, POWER (Canadian model)
S14	1-552-064-00	Ⓔ Reed, rotation detect

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

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*
S15	1-552-174-00	Ⓑ Pushbutton, AUTO RESET
S16	1-552-174-00	Ⓑ Pushbutton, MANUAL RESET

JACKS

Ref. No.	*Part No.*	*Description*
J301,401	1-507-533-00	Ⓑ MIC
J302	1-507-523-00	Ⓒ LINE IN
J303,403 J304,404	1-507-433-21	Ⓒ 4p, LINE IN, LINE OUT
J402	1-507-507-00	Ⓒ HEADPHONES

FUSES

Ref. No.	*Part No.*	*Description*
F1	⚠ 1-532-066-00	Ⓑ Fuse, T400 mA (E, AEP, UK model)
F2–5	⚠ 1-532-078-00	Ⓑ Fuse, 1 A (E, AEP, UK model)

MISCELLANEOUS

Ref. No.	*Part No.*	*Description*
CN1	1-507-255-00	Ⓒ Socket, 11p; remote control
CN2	⚠ 1-509-546-00	Ⓔ Socket, 3p; AC IN (E, AEP, UK model)
	⚠ 1-526-528-00	Ⓑ Socket, AC OUTLET (Canadian model)
CN101	1-509-549-00	Ⓑ Connector, record/playback (E, AEP, UK model)
CP1,2 CP701	⚠ 1-231-057-31	Ⓑ Encapsulated Component
CP702	⚠ 1-231-057-31	Ⓑ Encapsulated Component (E, AEP, UK model)
	⚠ 1-231-341-00	Ⓓ Encapsulated Component (Canadian model)
HE	8-825-506-00	Ⓒ Head, erase; EF135-36
HRP	8-825-612-00	Ⓜ Head, record/playback; PF145-3602
M1	8-835-006-00	Ⓛ Motor, capstan; DNF-1001B
M2	8-834-015-01	Ⓚ Motor, reel; DNM-1202A
PL1–9	1-518-115-XX	Ⓑ Lamp, 6V 35 mA
PM1,2	1-454-177-00	Ⓖ Solenoid
PM3	1-454-158-00	Ⓕ Solenoid

Ref. No.	*Part No.*	*Description*
RL101	1-515-294-00	Relay, reed (E, AEP, UK model)
VS	⚠ 1-552-026-00	Ⓔ Voltage Selector (E, AEP, UK model)
	⚠ 1-519-155-11	Ⓘ Fluorescent Lamp
	⚠ 1-533-125-11	Ⓓ Holder, 5p fuse (E, AEP, UK model)
	1-536-401-XX	Ⓑ Plate, terminal
	1-548-514-XX	Ⓗ Counter with Contact Switch (S9)
	⚠ 1-551-506-00	Ⓓ Cord, power (Canadian model)

ACCESSORIES & PACKING MATERIALS

Part No.	*Description*
X-3549-745-0	Ⓒ Cushion Ass'y
X-3701-105-0	Ⓐ Tip Ass'y, head cleaning
1-534-049-31	Ⓔ Cord, connection; RK-74
1-534-487-XX ⚠	Ⓒ Cord, power (E, AEP, UK model)
3-429-126-00	Bag, plastic; set (Canadian model)
3-541-250-00	Ⓐ Sticker, loading
3-548-778-00	Ⓑ Cushion (E, AEP, UK model)
3-548-780-00	Ⓒ Cushion, lower; front (E, AEP, UK model)
3-548-781-00	Ⓒ Cushion, lower; rear (E, AEP, UK model)
3-548-788-00	Cushion, lower; front (Canadian model)
3-548-789-00	Cushion, lower; rear (Canadian model)
3-548-790-00	Cushion (Canadian model)
3-555-533-00	Ⓕ Carton (E, AEP, UK model)
3-555-536-00	Carton (Canadian model)
3-770-392-31	Manual, instruction (Canadian model)
3-770-392-52	Ⓗ Manual, instruction (E, AEP, UK model)
4-837-003-00	Ⓒ Bag, plastic; set (E, AEP, UK model)

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

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MODEL IDENTIFICATION

– Specification Label –

TC-K8
Canadian model

SONY
TAPECORDER TC-K8
AC 120V 60Hz 32W
NO.
MADE IN JAPAN

TC-K8B
E, AEP, UK model

SONY
TAPECORDER TC-K8B
110 120 220 240V ~50/60Hz 35W
NO.
MADE IN JAPAN

Free service manuals
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