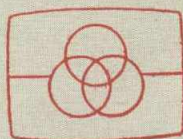


TC-FX5

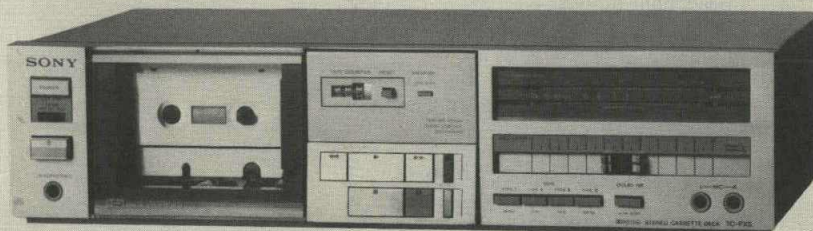


Free service manuals
Gratis schema's

Digitized by

www.freeservicemanuals.info

*AEP Model
UK Model
US Model
Canadian Model
E Model*



'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

STEREO CASSETTE DECK

SPECIFICATIONS

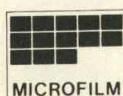
- Recording system:** 4-track 2-channel stereo
- Fast-forward and rewind time:** Approx. 90 sec. (with C-60 cassette)
- Bias frequency:** 105 kHz
- Signal-to-noise ratio:** DOLBY NR OFF
- With TYPE IV cassette (Sony METALLIC)
 - 59 dB at peak level (NAB)
 - 56 dB (DIN)
 - With TYPE III cassette (Sony FeCr)
 - 59 dB at peak level (NAB)
 - 56 dB (DIN)
 - With TYPE II cassette (Sony CD-α)
 - 57 dB at peak level (NAB)
- DOLBY NR ON**
- Improved by 5 dB at 1 kHz,
 - 10 dB above 5 kHz
- Total harmonic distortion:** 1.0% (with Sony METALLIC or FeCr cassette)
- Frequency response:** DOLBY NR OFF
- With TYPE IV cassette (Sony METALLIC)
 - 20 – 17,000 Hz
 - 30 – 15,000 Hz (±3 dB)
 - 30 – 13,000 Hz (±3 dB, 0 VU recording)
 - 30 – 15,000 Hz (DIN)
 - With TYPE III cassette (Sony FeCr)
 - 20 – 17,000 Hz
 - 30 – 15,000 Hz (±3 dB)
 - 30 – 15,000 Hz (DIN)
 - With TYPE II cassette (Sony CD-α)
 - 20 – 16,000 Hz
 - 30 – 15,000 Hz (±3 dB)
 - 30 – 15,000 Hz (DIN)
 - With TYPE I cassette (Sony BHF)
 - 20 – 15,000 Hz
 - 30 – 13,000 Hz (DIN)

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 A LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME 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 DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.



— Continued on page 2 —

SONY
SERVICE MANUAL

Wow and flutter:	0.04% WRMS (NAB) ±0.14% (DIN)
Inputs:	Microphone inputs (phone jacks) Sensitivity 0.25 mV (−70 dB) For a low-impedance microphone Line inputs (phono jacks) Sensitivity 77.5 mV (−20 dB) Input impedance 50 k ohms
Outputs:	Line outputs (phone jacks) Output level 0.435 V (−5 dB) at load impedance 50 k ohms Load impedance over 10 k ohms Headphone output Output level −28 dB at a load impedance of 8 ohms
Record/playback jack:	Input impedance less than 10 k ohms Output impedance less than 10 k ohms

General

Power requirements:	AEP model: 220 V ac, 50/60 Hz (240 V ac adjustable by authorized Sony personnel) UK model: 240 V ac, 50/60 Hz (220 V ac adjustable by authorized Sony personnel) E model: 110, 120, 220 or 240 V ac adjustable, 50/60 Hz US, Canadian model: 120 V ac, 60 Hz
Power consumption:	22 watts

Dimensions: Approx. 430 x 105 x 275 mm (w/h/d)
(16⁷/₈ x 4¹/₈ x 10⁷/₈ inches)

Weight: Approx. 5.3 kg (11 lbs 11 oz)

Supplied accessories: Connecting cord 2
Head cleaning tips 1 set

LED peak LEVEL meters

Response range:	−30 dB to +8 dB
Response time:	1 millisecond
Decay time (from 0 dB to −20 dB):	750 milliseconds
Overshoot:	none
Indicator elements:	16 elements for each channel

$$0\text{dB} = 0.775\text{V}$$

While the information given is correct at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in these specifications. We ask you to check with your appointed Sony dealer if clarification on any point is required.

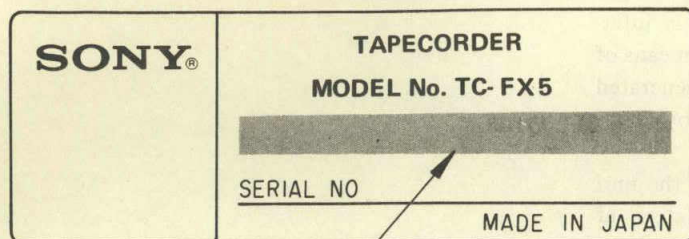
Note:

Appliance conforms with EEC Directive 76/889 regarding interference suppression.

Tape Transport Mechanism Type: TCM-110V.

MODEL IDENTIFICATION

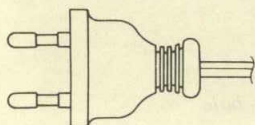
— Specification Label —



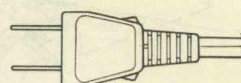
US, Canadian model: AC 120V 60Hz 22W
 AEP model: AC 220V~ 50/60Hz 22W
 UK model: AC 240V~ 50/60Hz 22W
 E model: AC 110, 120, 220, 240V~ 50/60Hz 22W

— Power Cord —

E1 model: euro-plug 1-551-530-00



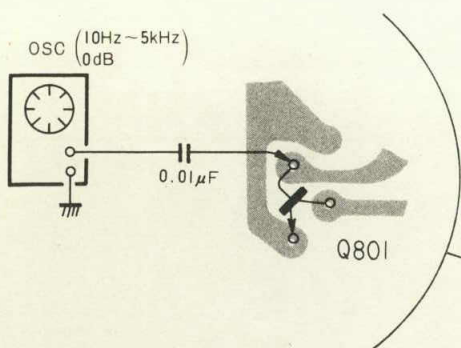
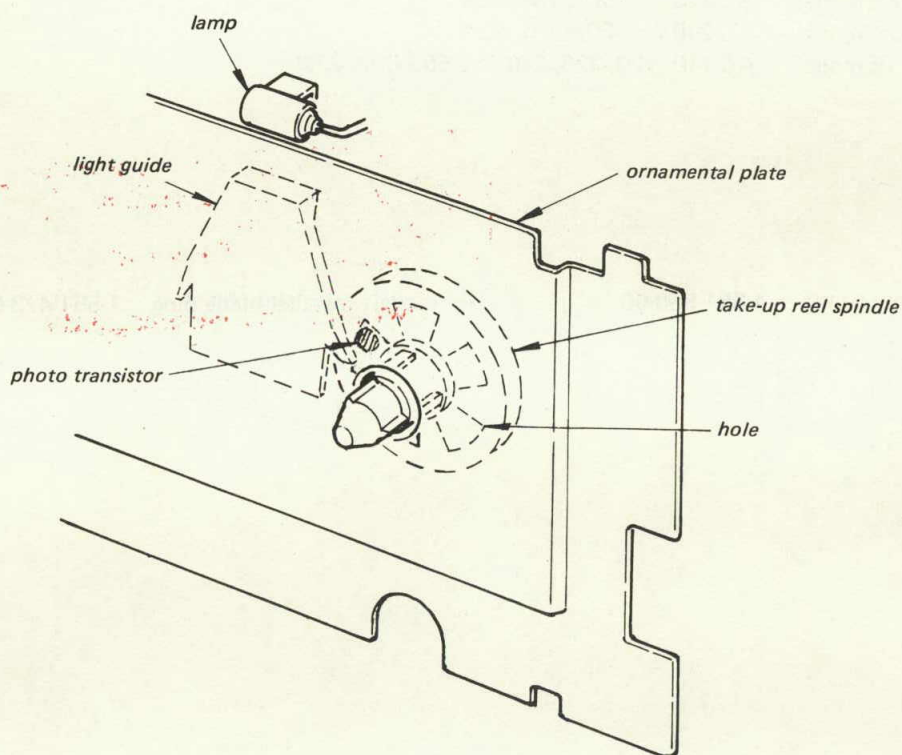
E2 model: parallel-blade plug 1-551-473-00



Shut-Off Detection and Precaution On Repairing

In this set, the shut-off detection is made optically. The take-up reel spindle has the five holes. The light of the lamp received by the light guide is intermittently applied to the photo transistor by means of the rotation of the reel spindle. The pulse generated by the photo transistor Q803 is amplified by Q801 and is fed to the mechanism control IC501.

Accordingly, when it is necessary to repair the unit after removing the ornamental plate, connect an af oscillator to the base of Q801 as shown below, so as not to operate the shut-off mechanism.



Switch board (conductor side)

Handling Precautions for MOS ICs

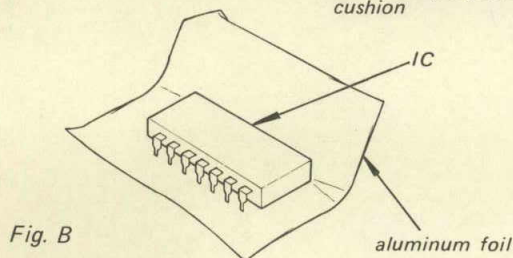
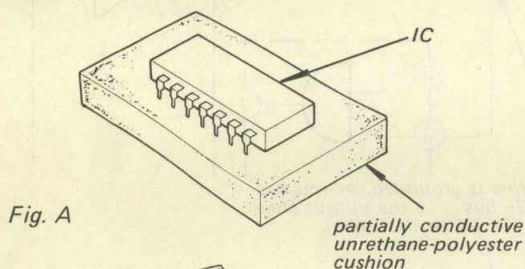
Generally, the insulation resistance of the oxide layer in MOS IC structures is very high, and the oxide layer is very thin. Because of this, it is possible that the static voltages usually present on clothes and the human body will be enough to generate a potential difference across the insulator, high enough to cause a breakdown of the insulating layer.

The following precautions should be taken while handling these ICs.

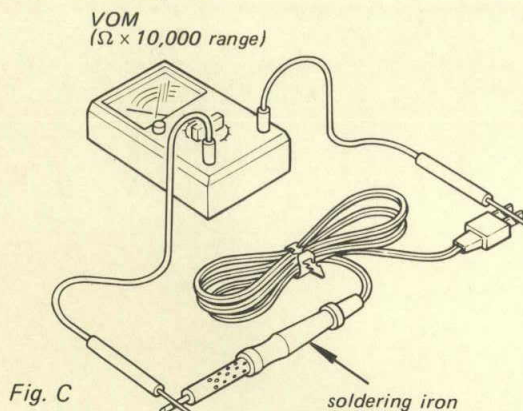
(Particular care should be taken under conditions of low humidity.)

Precautions in Replacing MOS ICs

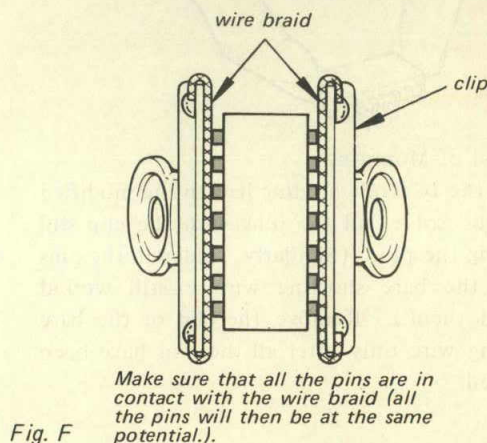
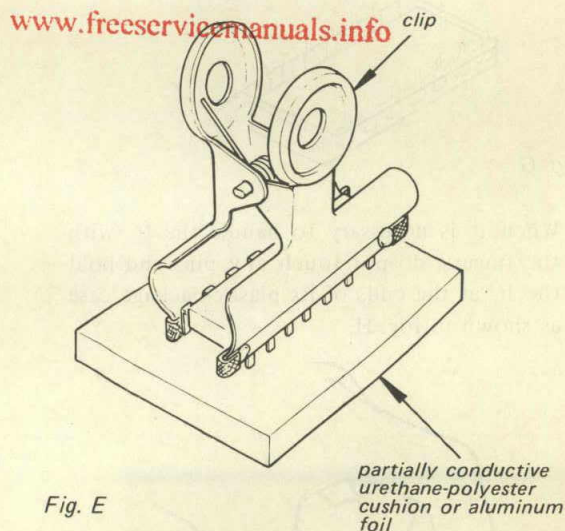
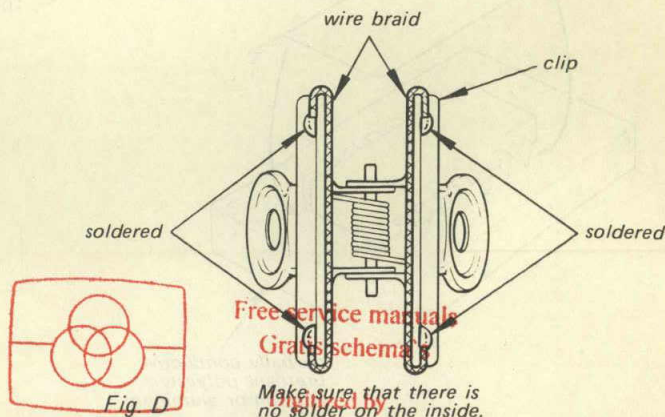
1. Store new ICs by inserting them into a urethane-polyester cushion (which is somewhat conductive), or wrapping it in aluminum foil, so that all the pins are at the same potential. (The ICs should be stored in that manner until mounted on the circuit board.)



2. Check the soldering iron for possible power-line leakage current. Make sure that there is no leakage path by connecting an ohmmeter to the tip of the soldering iron and the plug as shown in Fig. C. If there is a leakage path, use some other soldering iron.



3. Equalize any potential difference between the clothes, the tools in use, the work bench, the set being worked on, and the packaged IC by touching them all in succession with the hands or a conductive wire or tool.
4. The following are effective methods for handling ICs that remove the potential difference across the oxide layer.
 - Use a paper clip modified by soldering in a wire braid insert.



- Take a short length of fine bare wire and wind it around the IC so that it shorts all the pins of the IC, while it is still in the urethane-polyester cushion or aluminum foil. This ensures that all the pins are at the same potential.

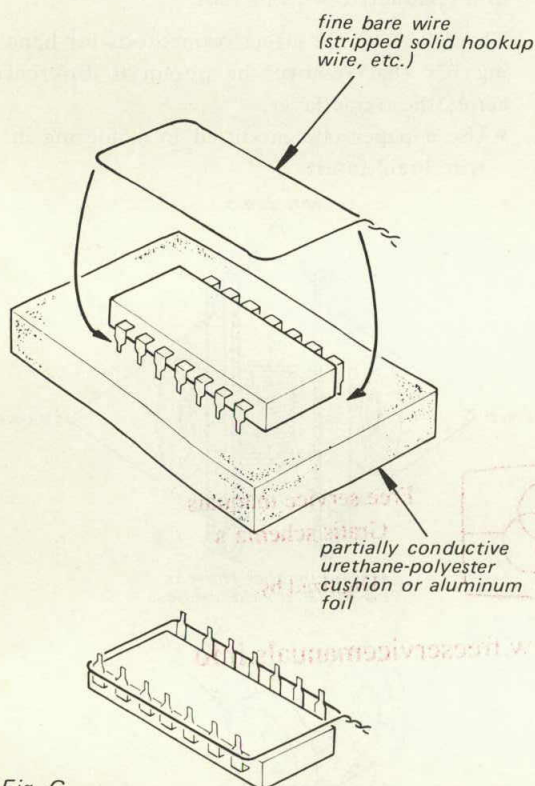


Fig. G

- When it is necessary to handle the IC with the fingers, do not touch any pin, and hold the IC at the ends of its plastic-package case as shown in Fig. H.

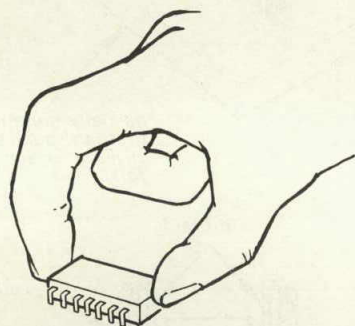


Fig. H

5. Method of Mounting

Insert the IC while holding it with the modified clip, and solder all the pins with the clip still shorting the pins. (Similarly, solder all the pins while the bare shorting wire is still wound around them.). Remove the clip or the bare shorting wire only after all the pins have been soldered.

Precaution while Checking C-MOS ICs

The C-MOS ICs (Complementary MOS) are MOS ICs that have their output sections made up of N-channel and P-channel push-pull stages to increase their speed of operation. If the output terminal of these ICs comes into contact with B+ or B- voltage, then the FET which is ON at that time will either become shorted or open.

This is valid for all the output sections that are connected together by the interconnections. Even the circuits that are physically separated (and not on the same board) can be destroyed simultaneously.

Example:

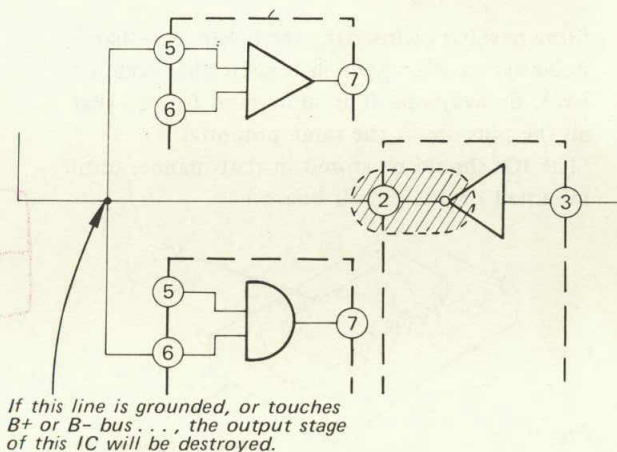


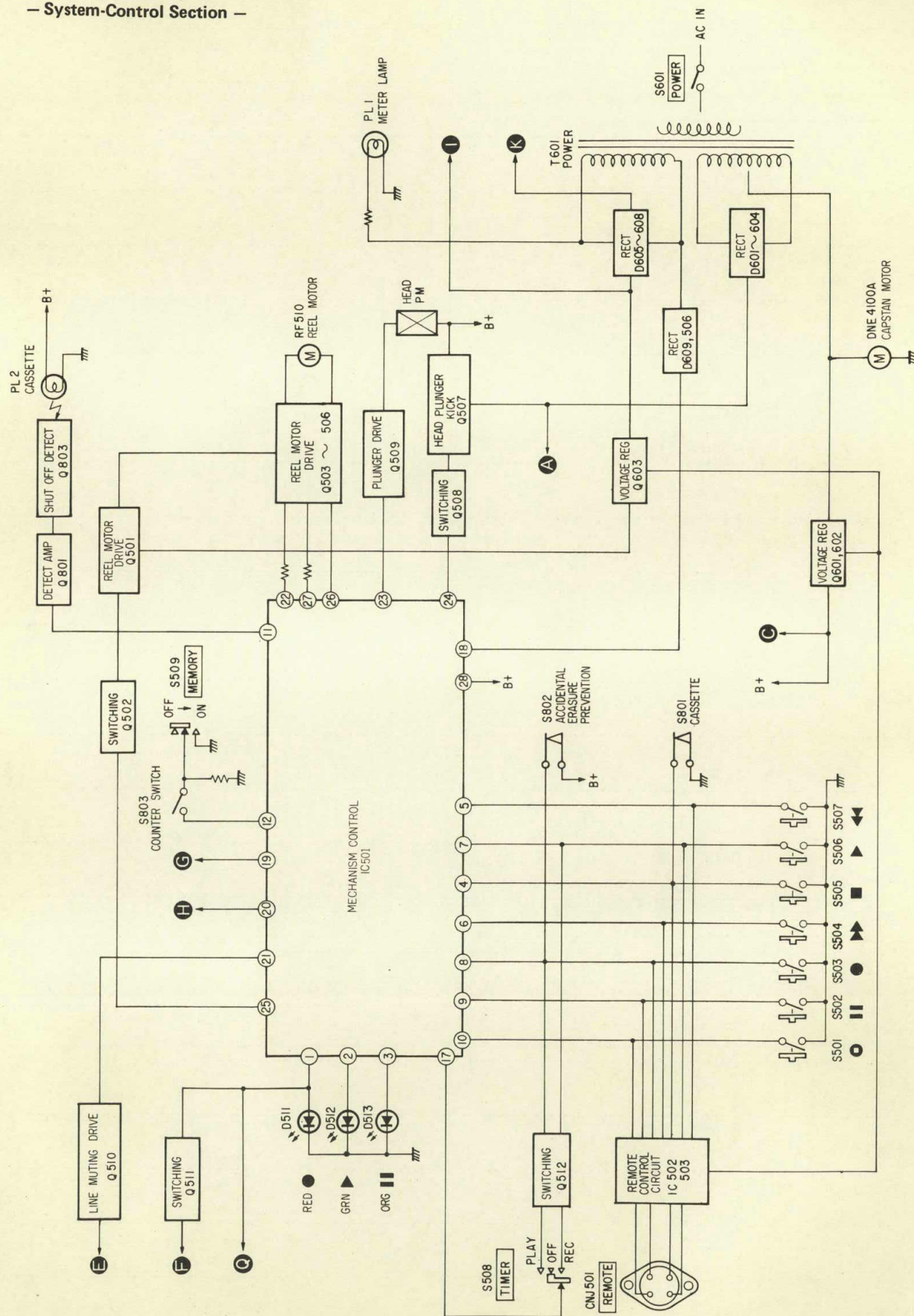
Fig. I

(MEMO)

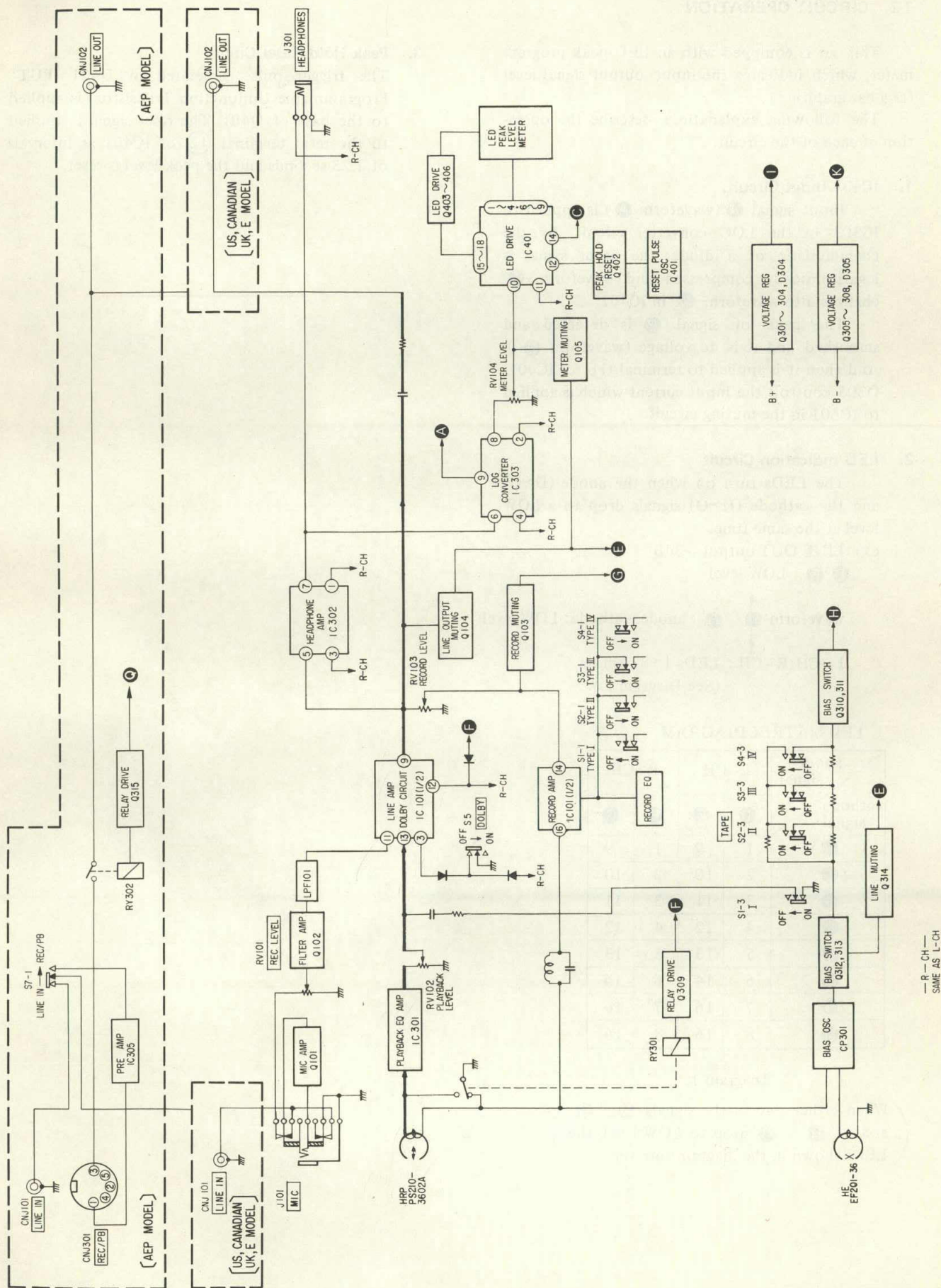
SECTION 1 OUTLINE

1-1. BLOCK DIAGRAMS

— System-Control Section —



— Audio Amp Section —



1.2. CIRCUIT OPERATION

This set is equipped with an LED peak program meter, which indicates the input output signal level (as a bar graph).

The following explanations describe the operation of each of the circuit.

1. IC401 Input Circuit.

Input signal **A** (waveform **A**) is applied to IC303 in the LOG converter circuit. By the characteristic of a diode, the input signal is logarithmically compressed and waveform **A** changes into waveform **B** in IC401.

The peak of signal **B** is detected and smoothed and it is dc voltage (waveform **C**). And then it is applied to terminal **(11)** of IC401. Q205 controls the input current which is applied to IC601 in the muting circuit.

2. LED Indication Circuit

The LEDs turn on when the anode (D~G) and the cathode (H~O) signals drop to a LOW level at the same time.

ex) LINE OUT output -3dB

D, F : LOW level

↓
waveform **H** - **O** : anode, cathode: LOW level

↓
L-CH/R-CH : LEDs 1~8 turn on
(See Diagram 1.)

LED MATRIX DIAGRAM

anode signal cathode signal	L-CH		R-CH	
	D	E	F	G
H	1	9	1	9
I	2	10	2	10
J	3	11	3	11
K	4	12	4	12
L	5	13	5	13
M	6	14	6	14
N	7	16	7	16
O	8	16	8	16

Diagram 1.

(When either two of the signals **D** - **G** and of **H** - **O** drop to LOW level, the LEDs shown in the diagram turn on.)

3. Peak Hold Reset Circuit

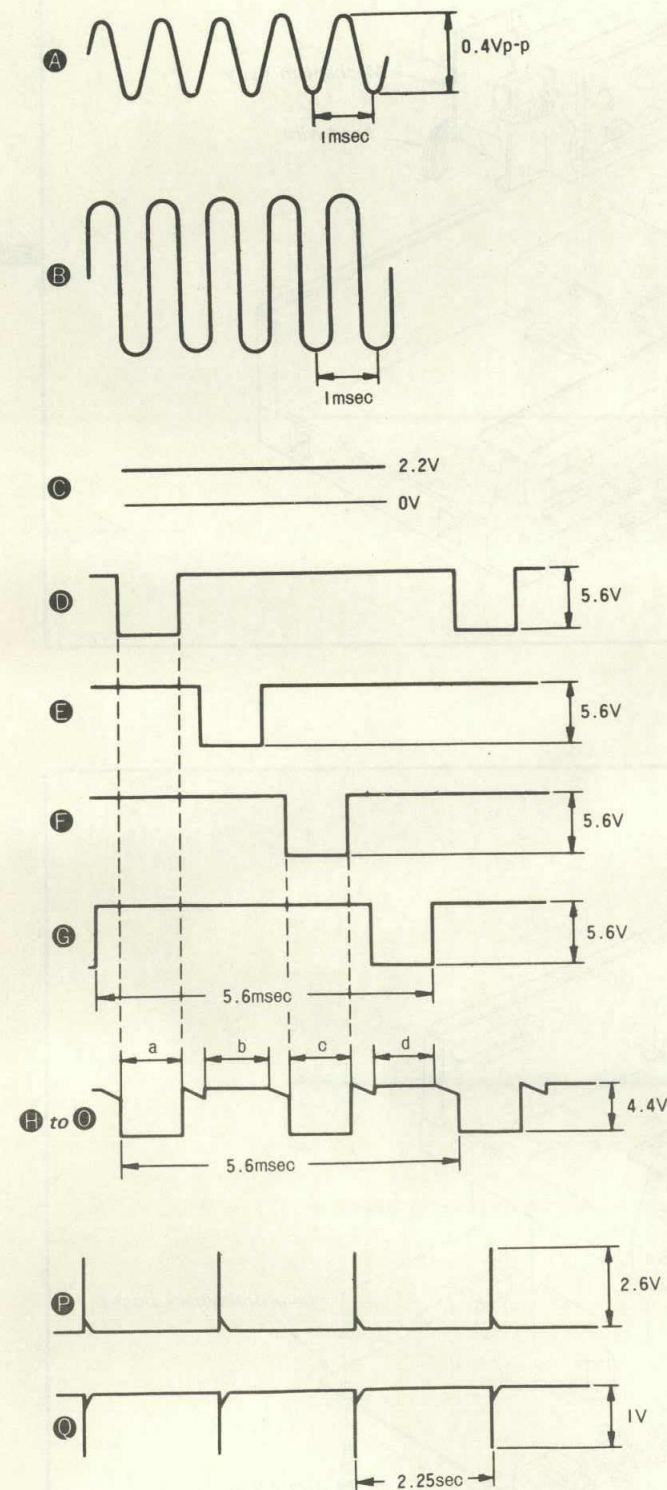
The trigger pulse generated by Q401 (PUT Programmable Unijunction Transistor) is applied to the base of Q401. The reset signal is applied to the reset terminal **(12)** of IC401 at intervals of 2.25 seconds and the peak level is reset.

Measuring Condition

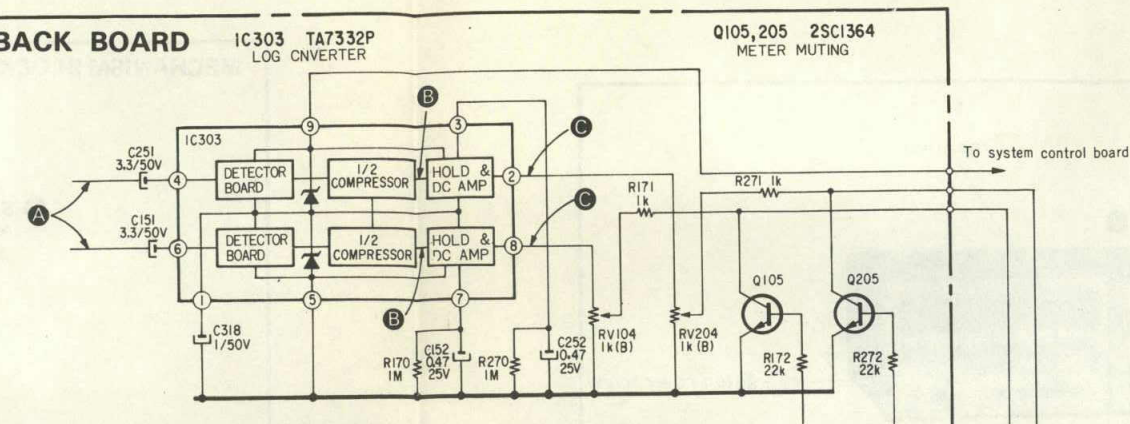
LINE IN : 1kHz, 0.25V (-10dB)

LINE OUT : 1.1V (+3dB)

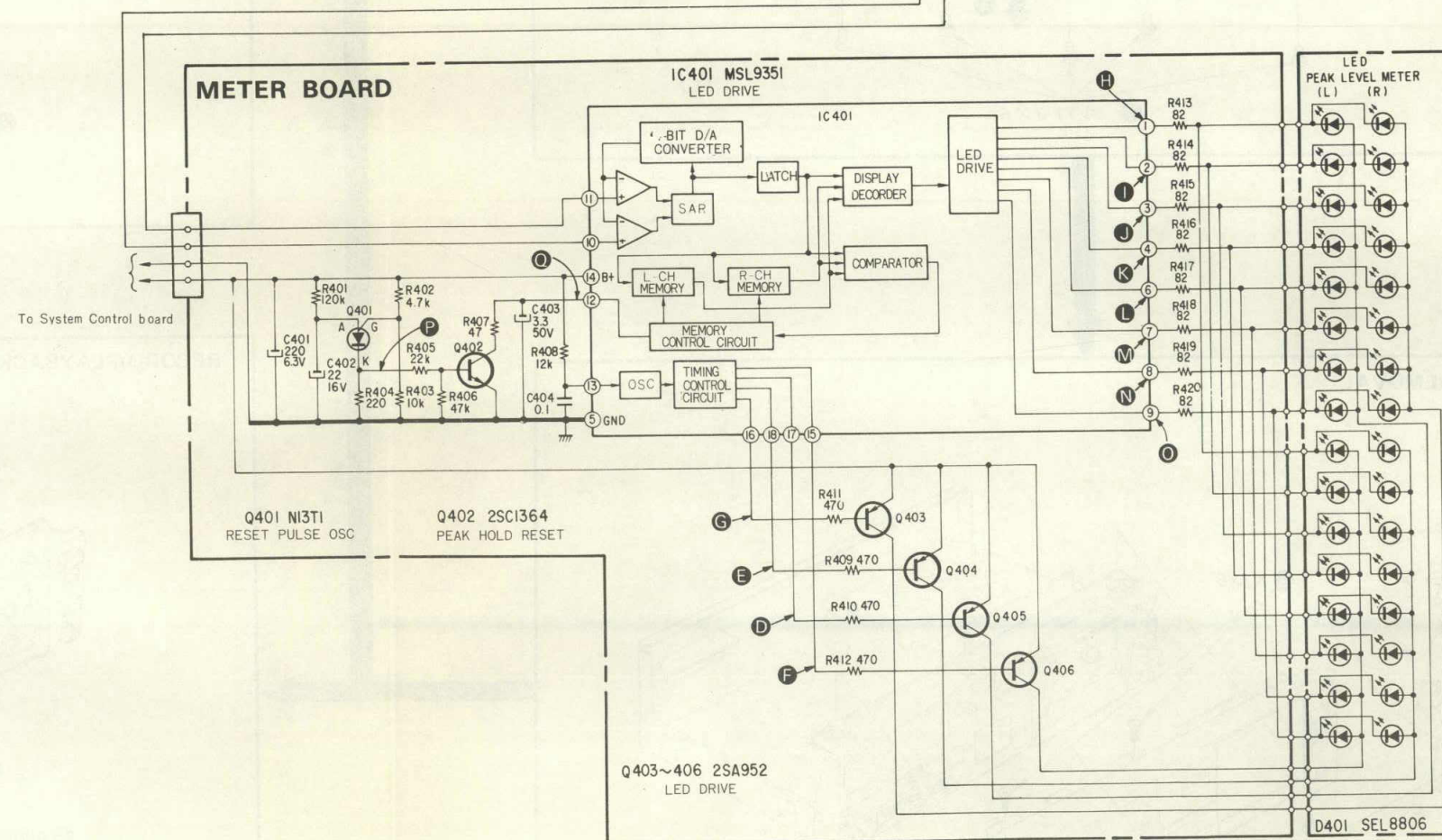
Mode : record/forward



RECORD/PLAYBACK BOARD



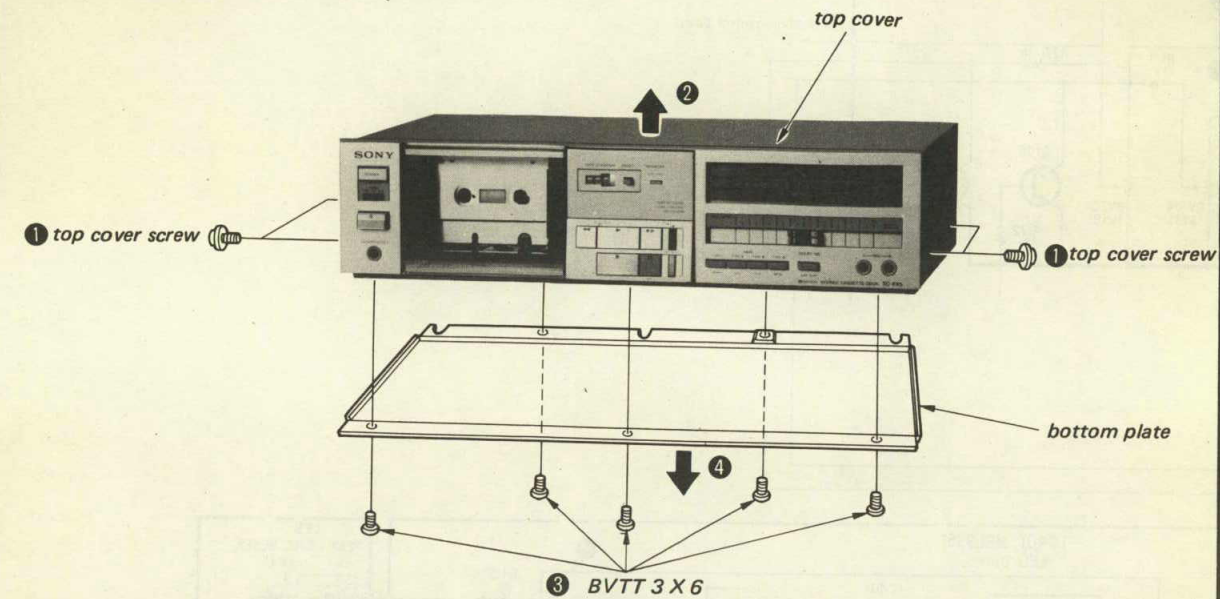
METER BOARD



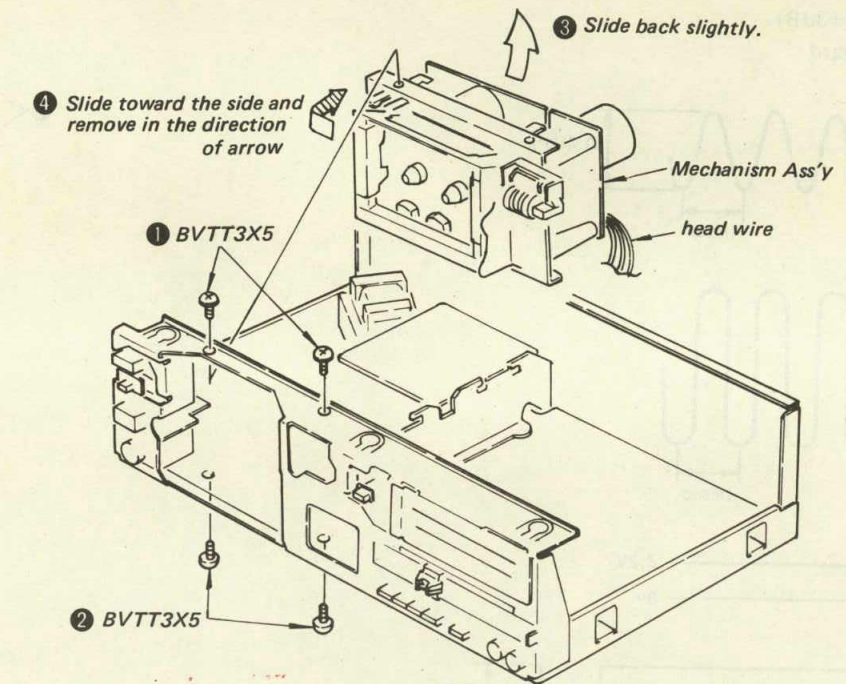
SECTION 2 DISASSEMBLY

- Follow the disassembly procedure in the numerical order given.

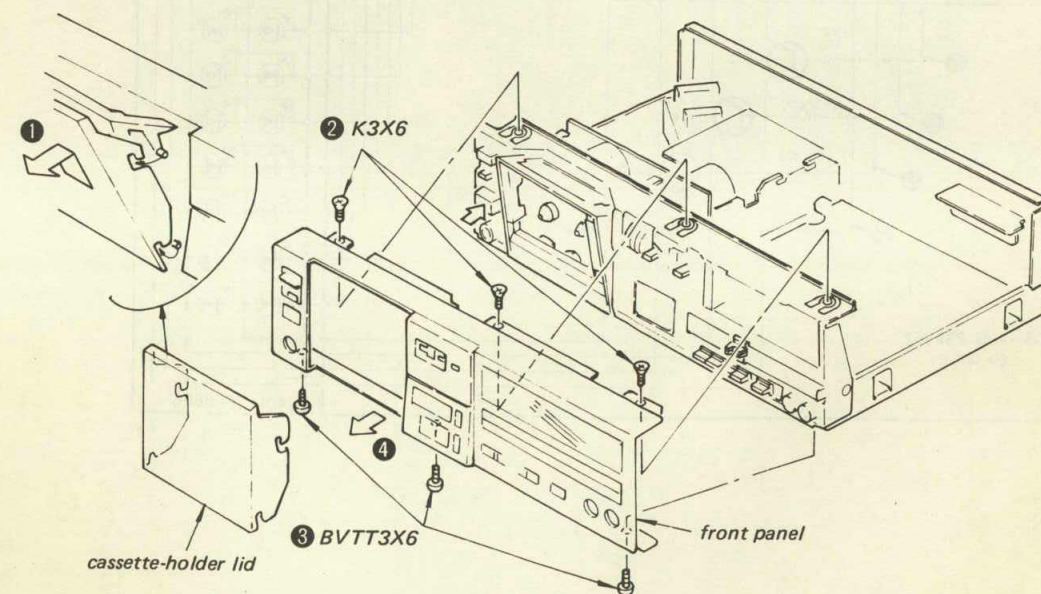
TOP COVER/BOTTOM PLATE REMOVAL



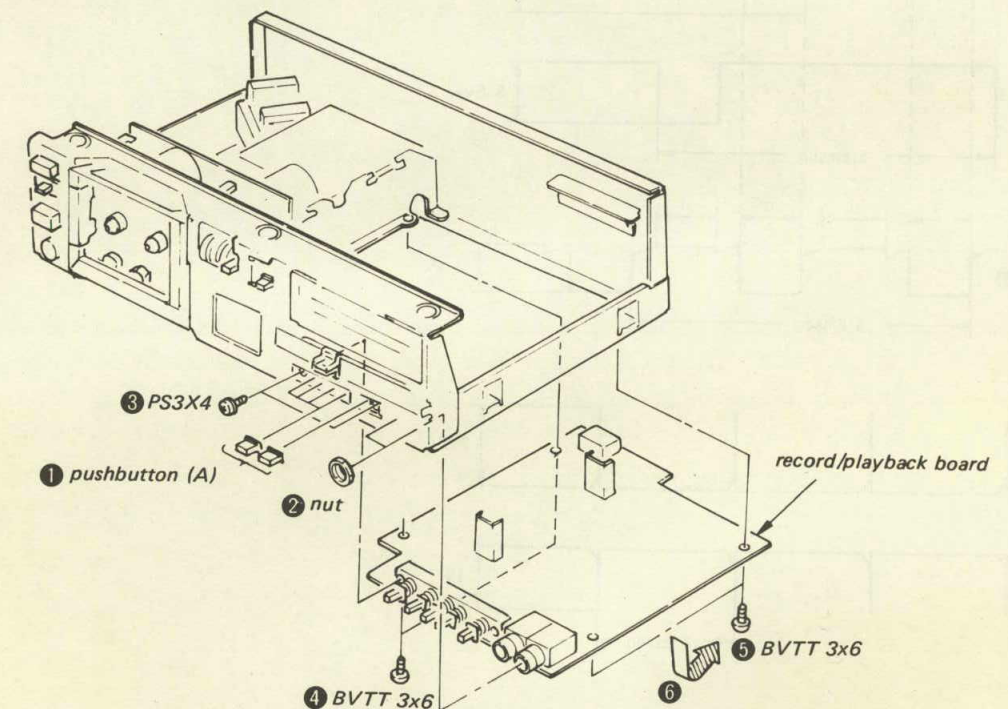
MECHANISM BLOCK REMOVAL



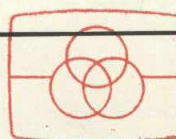
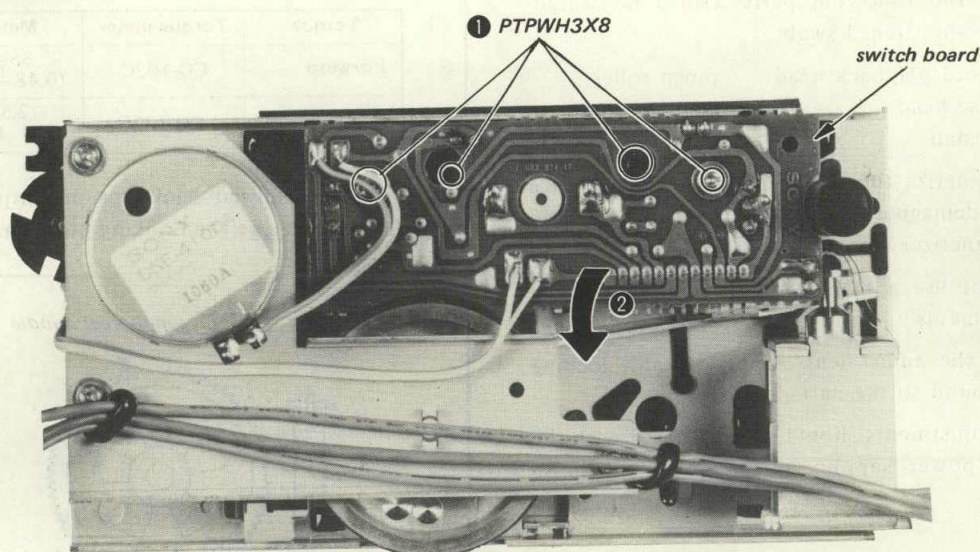
FRONT PANEL REMOVAL



RECORD/PLAYBACK BOARD REMOVAL



SWITCH BOARD REMOVAL



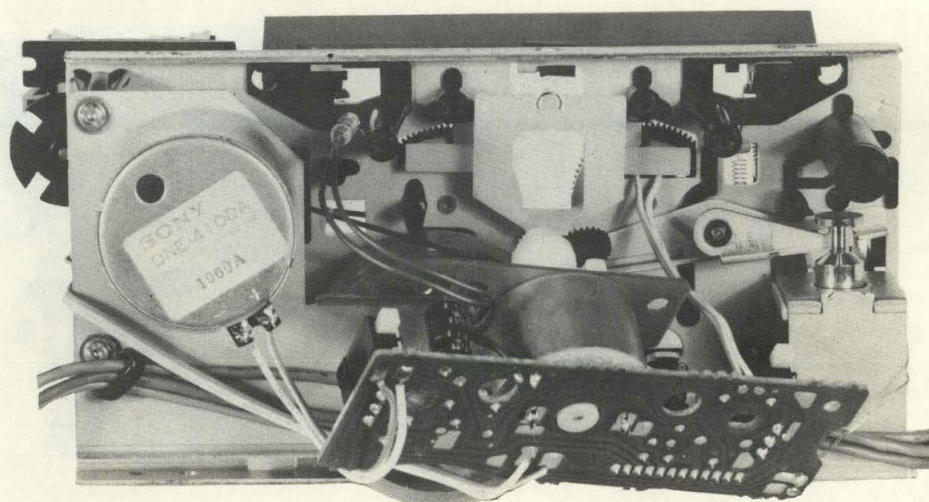
Free service manuals
Gratis schema's

Digitized by

www.freesevicemanuals.info

INSIDE OF MECHANISM BLOCK

rear view



Refer to mechanical adjustments for front view.

SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

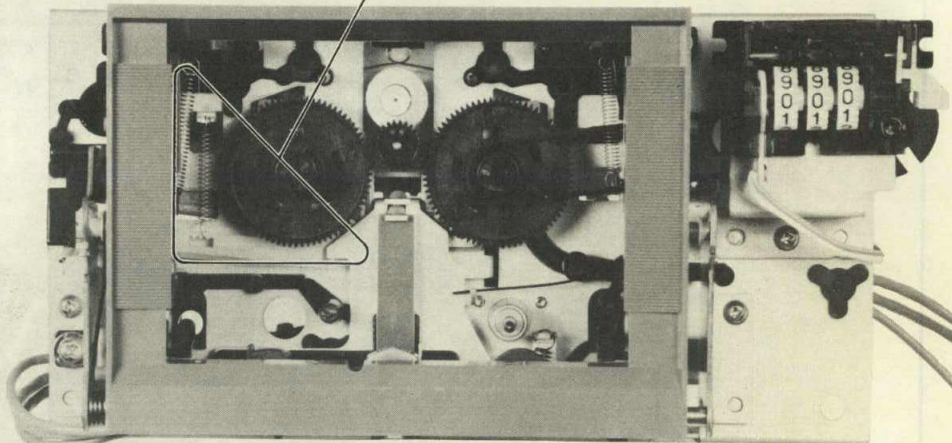
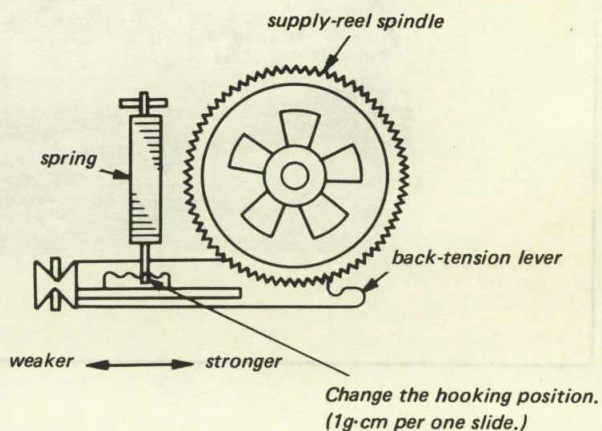
1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement and Back Tension Torque Adjustment

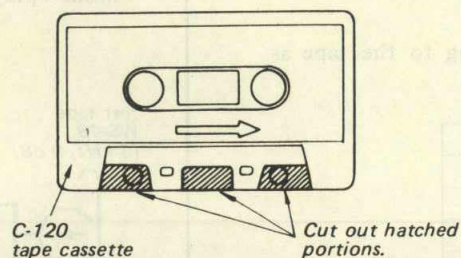
Torque	Torque meter	Meter reading
Forward	CQ-102C	35–55 g·cm (0.48–0.76 oz·inch)
Back tension	CQ-102C	2.5–4.5 g·cm (0.04–0.06 oz·inch)

2. If the specified back-tension torque is not obtained, change the hooking position.

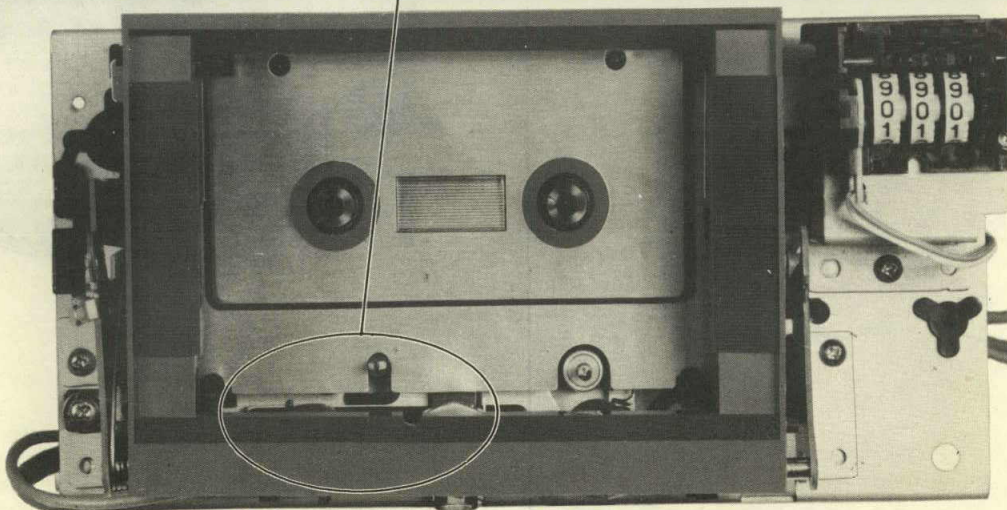
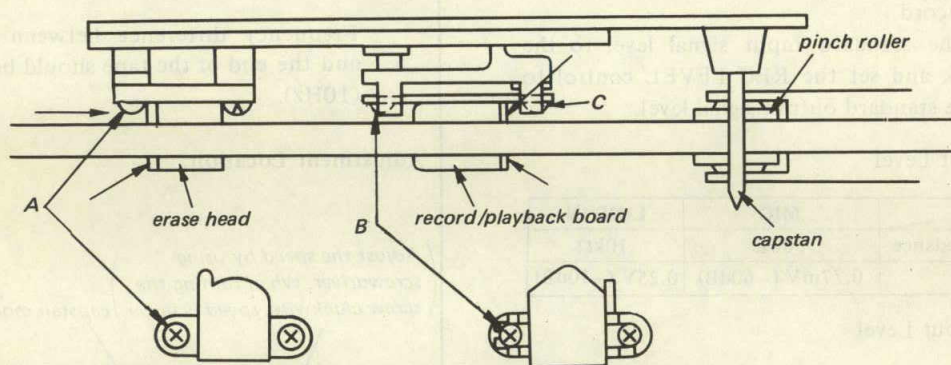


Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights by using the adjustment screw A, B, C, to eliminate tape curl and tape twist at portions shown by arrow.



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.

- Set the TAPE switches according to the tape as follows.

Tape	TAPE switch
CS-10	TYPE I
CS-20	TYPE II
CS-30	TYPE III
CS-40	TYPE IV

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

DOLBY NR switch : OFF
 TAPE switch : TYPE I
 TIMER STANDBY switch : OFF

- Standard Record :

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Standard Input Level

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

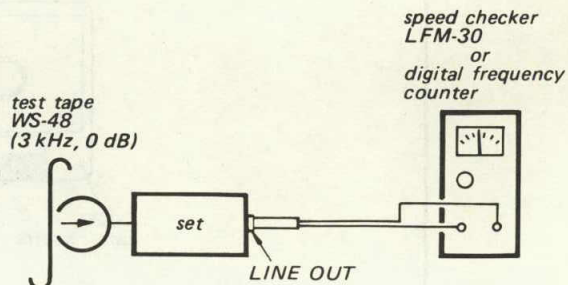
Standard Output Level

	HEAD- PHONES	LINE OUT
load impedance	8 Ω	47k Ω
output level	39mV (-26dB)	0.44V (-5dB)

Capstan Motor Speed Adjustment

Procedure:

Mode : playback



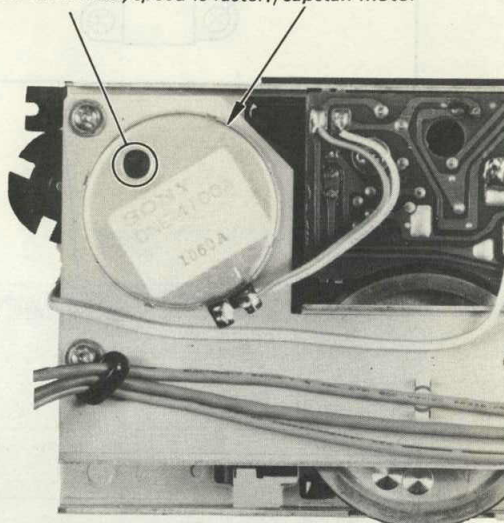
Specification:

Speed checker	Digital frequency counter
-0.17 ~ +0.17%	2.995 ~ 3.005Hz

Frequency difference between the beginning and the end of the tape should be within 0.34% (10Hz).

Adjustment Location:

(Adjust the speed by using screwdriver. When turning the screw clockwise, speed is faster.) capstan motor



Reel Motor Adjustment

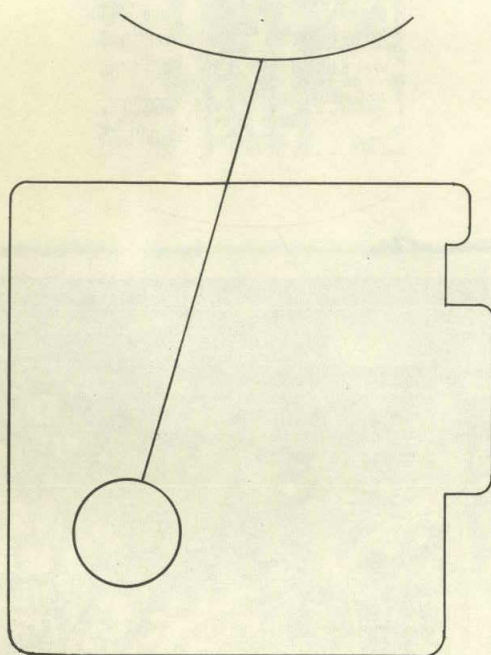
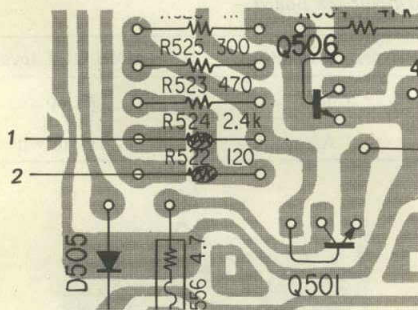
Procedure:

Install the fast-forward and rewind torque meter (CQ-201B) and bridge the patterns to obtain the specified torque value in fast-forward or rewind mode.

Specification: 80~140 g·cm (1.11~1.94 oz. inch)

Adjustment Location:

Pattern connection	Torque
1 · 2 open	low
2 bridge	↑
1 bridge	↓
1 · 2 bridge	high



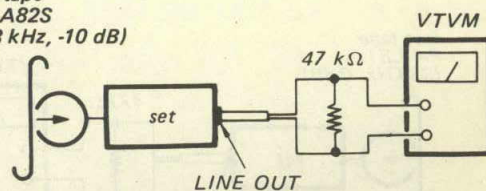
System Control board
(Conductor Side)

Record/playback Head Azimuth Adjustment

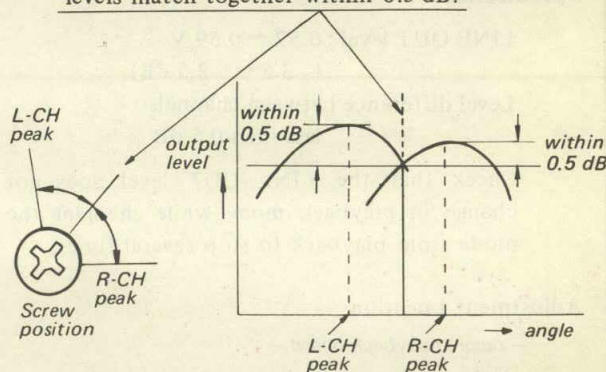
Procedure:

- Mode: playback

test tape
P-4-A82S
(6.3 kHz, -10 dB)

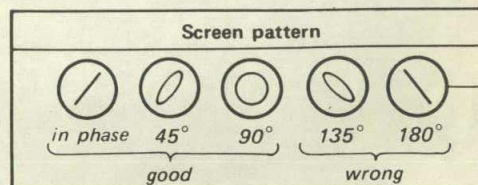
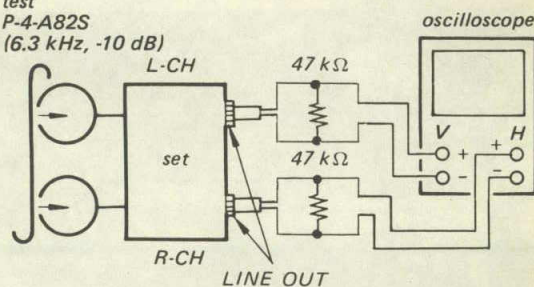


- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw where both of output levels match together within 0.5 dB.

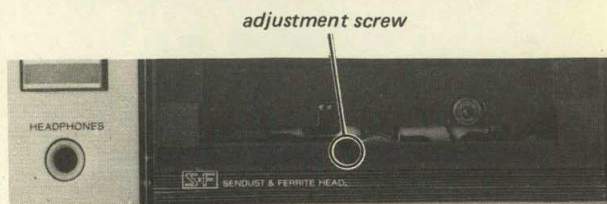


- Phase Check
Mode: playback

test
P-4-A82S
(6.3 kHz, -10 dB)



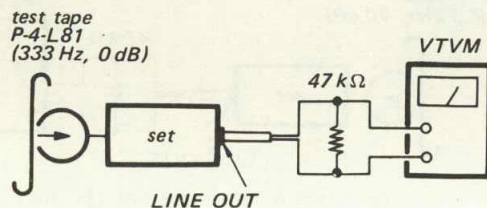
Adjustment Location:



Playback Level Adjustment

Procedure:

Mode : playback



Specification:

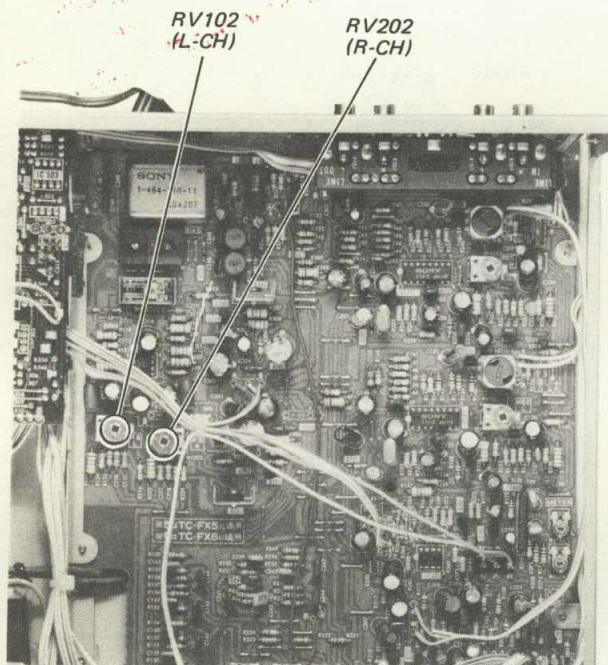
LINE OUT level : 0.52 ~ 0.59 V
(-3.5 ~ -2.5 dB)

Level difference between channels :
less than 0.5 dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location:

— record/playback board —

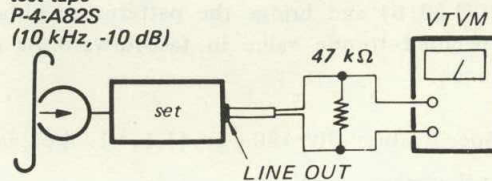


Playback Equalizer Adjustment

Procedure:

Mode: playback

test tape
P-4-A82S
(10 kHz, -10 dB)



Specification:

LINE OUT level (TYPE I) :

0.12 ~ 0.25 V (-16 ~ -10dB)

LINE OUT level (TYPE II, III, IV) :

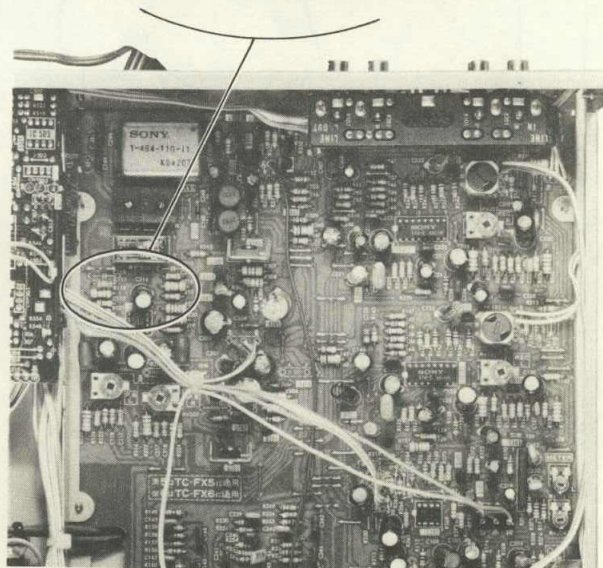
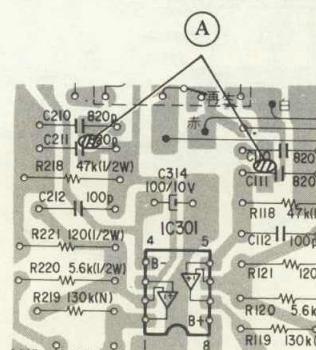
0.08 ~ 0.15 V (-20 ~ -14 dB)

Level difference between channels :
less than 3 dB

Adjustment Location:

— record/playback board —

Pattern connection	LINE OUT level
open	↑ up
A	↓ down



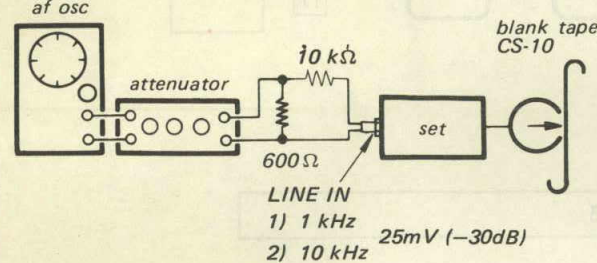
Record Bias Adjustment

Setting:

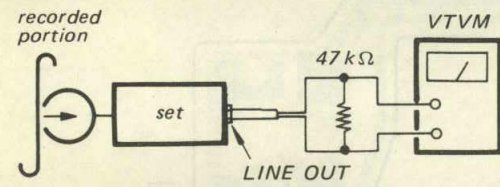
REC LEVEL control: standard record
(See page 18)

Procedure:

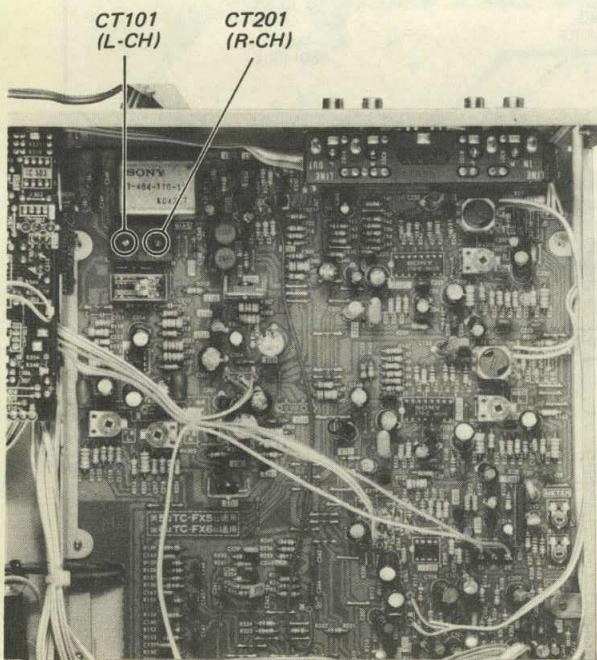
1. Mode: record



2. Mode: playback



Adjust CT101 (L-CH) and CT201 (R-CH) so that the LINE OUT level of 10 kHz signal is 0 dB relative to that of 1 kHz.



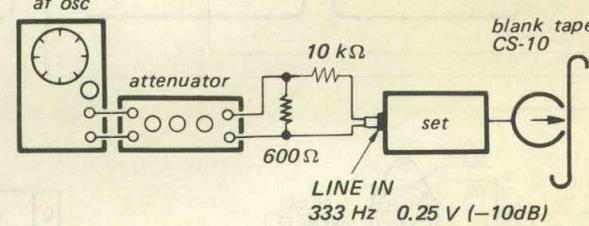
Record Level Adjustment

Setting:

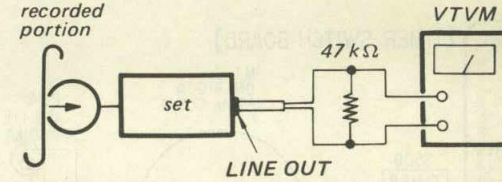
REC LEVEL control: standard record
(See page 18)

Procedure:

1. Mode: record



2. Mode: playback

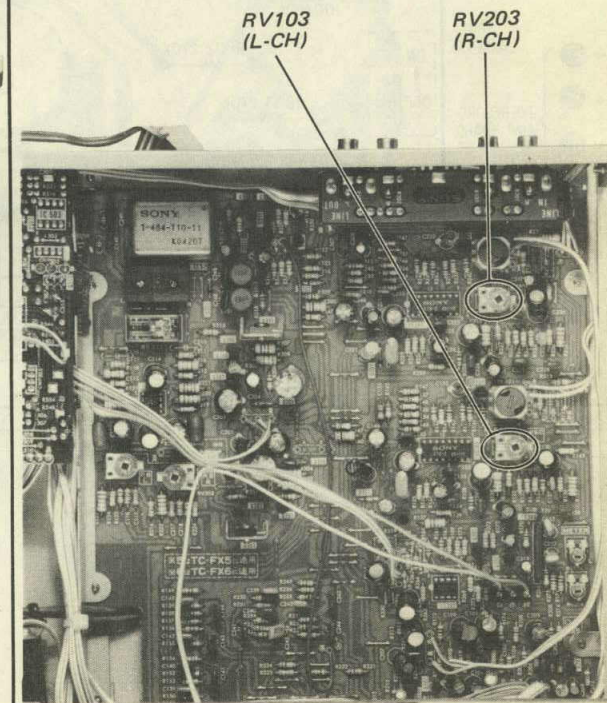


Specification:

LINE OUT level : 0.41 ~ 0.46 V
(-5.5 ~ -4.5 dB)

Adjustment Location:

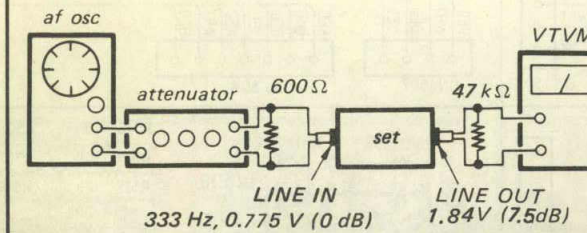
— record/playback board —



Level Meter Calibration

Procedure:

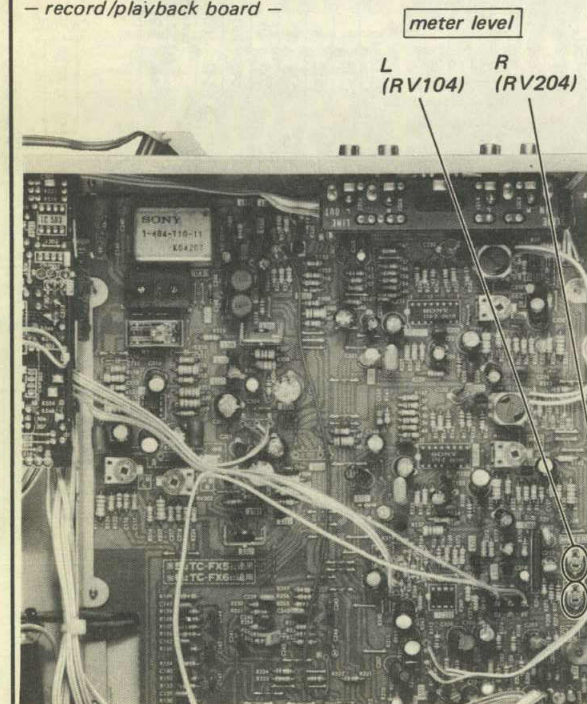
1. Mode: record



- Set the REC LEVEL control so that the LINE OUT level is +7.5 dB.
- Adjust RV104 (L-CH) and RV204 (R-CH) so that the LEDs including 8 dB (right-most element) light up.
- Set the REC LEVEL control so that the LINE OUT level is 5 dB. Make sure that LED meter indicates -4 dB (0 VU) in this time.
Note: Turn the REC LEVEL control clockwise slowly.
(Be careful to peakhold indication)

Adjustment Location:

— record/playback board —

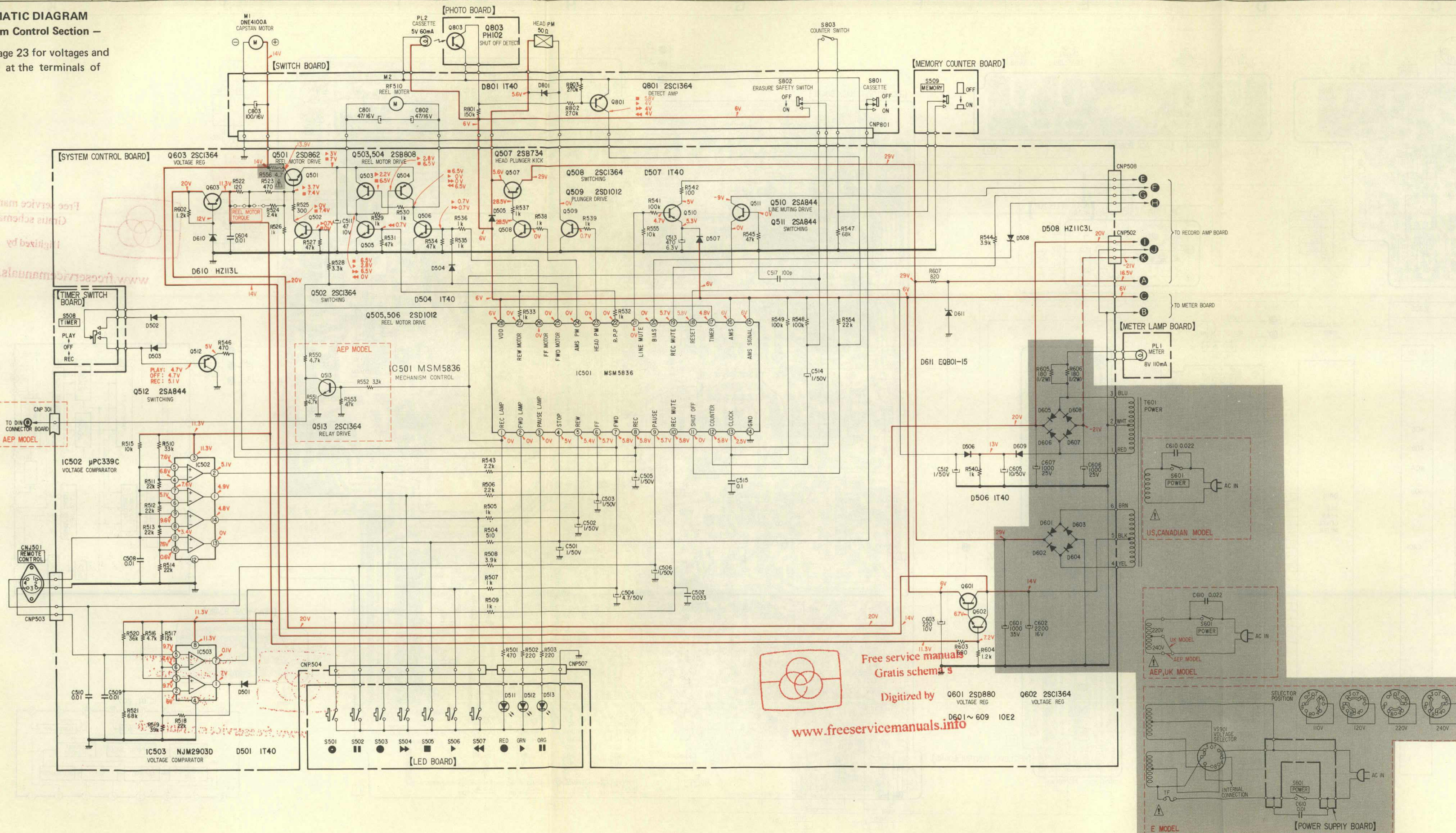


Voltages and Waveforms at the Terminals of IC501

Terminal No.	Waveform or Voltage	Terminal No.	Waveform or Voltage	Terminal No.	Waveform or Voltage
①	Record Mode 5.6V 0V	⑩	6V 0.7V 0V Record Muting button is pushed	⑲	Forward Mode or Record Mode (Voltage becomes 6V even when REC button only is pushed — REC MONITOR) 6V 0V
②	Forward Mode 5.6V 0V	⑪	6V 0V Tape End 0.2 sec Tape stops at the end of the tape from Forward Mode. (Voltage may fall to 0V by rotating angle of take-up reel spindle after shut-off mechanism operates.) 2 sec Auto Shut-off	⑳	5.6V 0V 31.25 msec PAUSE button is pushed in Record Mode
③	Pause Mode 5.6V 0V	⑫	6V dc	㉑	Forward Mode 5.6V 0V
④	6V 0V Stop button is pushed	⑬	1.8Vp-p 8 msec 0.25 sec	㉒	5.6V 0V 0.25 sec Forward button is pushed
⑤	6V 0V Rewind button is pushed	⑭	0Vdc	㉓	Forward Mode 5.6V 0V
⑥	6V 0V Fast Forward button is pushed	⑮	6Vdc	㉔	Fast Forward Mode 5.6V 0V
⑦	6V 1V 0V Forward button is pushed	⑯	6Vdc	㉕	Fast Forward Mode 5.6V 0V
⑧	6V 1.4V 0V Record button is pushed	⑰	6V 0V Power button is pushed in Timer reset Mode	㉖	Fast Forward Mode 5.6V 0V
⑨	6V 1.2V 0V Pause button is pushed	⑱	6V 0V Record Muting button is pushed in Record Mode	㉗	Rewind Mode 5.6V 0V
		⑳	Record button is pushed 6V 0V	㉘	6Vdc

4-2. SCHEMATIC DIAGRAM — System Control Section —

- Refer to page 23 for voltages and waveforms at the terminals of IC501.



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

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

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $\frac{1}{4} W$ unless otherwise noted. k Ω : 1000 Ω ; M Ω : 1000 k Ω
- : nonflammable resistor.
- : fusible resistor.
- : adjustment for repair.
- : B+ bus.
- : B- bus.
- Readings are taken under no-signal conditions with a VOM (20 k Ω/V).
- no mark : STOP
- : STOP
- : FWD
- : REW
- : FF
- : REC
- : PAUSE

Switch

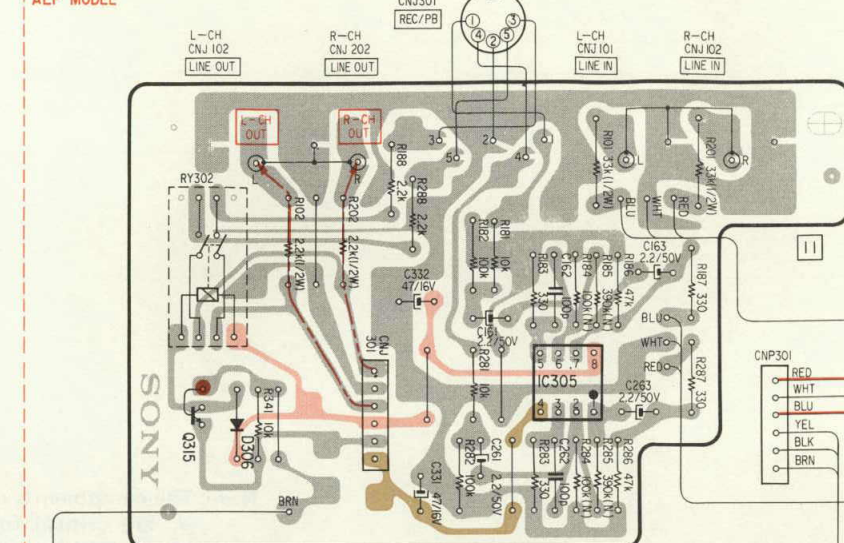
Ref. No.	Switch	Position
S501	REC MUTE	OFF
S502	PAUSE	OFF
S503	REC	OFF
S504	FF	OFF
S505	STOP	OFF
S506	FWD	OFF
S507	REW	OFF
S508	TIMER	OFF
S509	MEMORY	OFF
S601	POWER	OFF
S801	CASSETTE	OFF
S802	ERASURE SAFETY	OFF
S803	COUNTER	OFF

4-3. MOUNTING DIAGRAM

— Audio Amp Section —

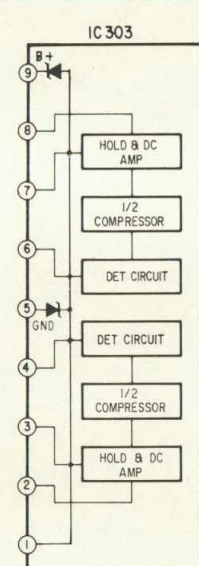
— Conductor Side —

AEP MODEL

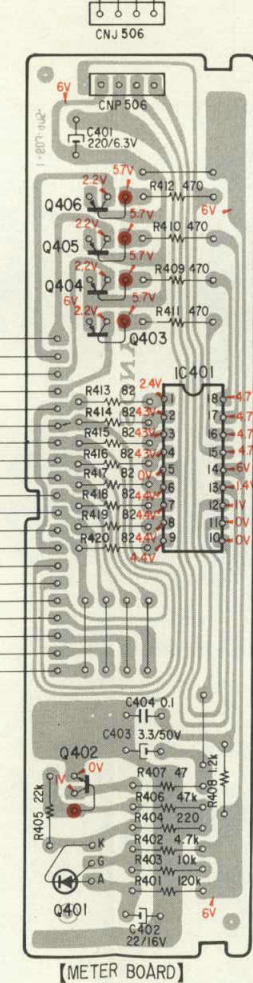


[DIN CONNECTOR BOARD]

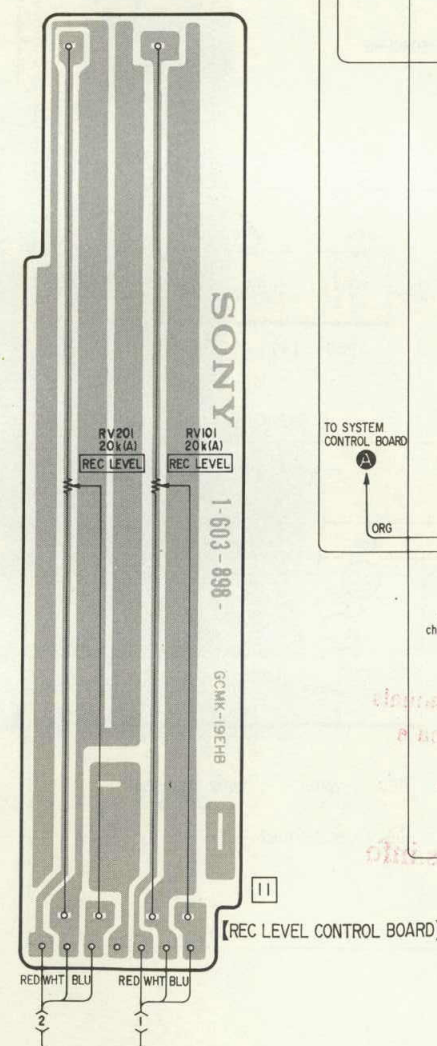
Q	IC
315	IC305
306	



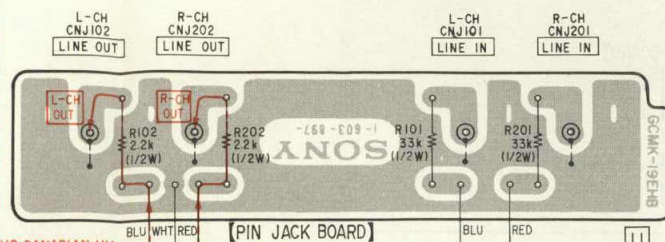
Q	IC
406	
405	
404	
403	
402	
401	



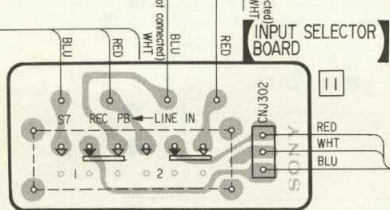
[METER BOARD]



[REC LEVEL CONTROL BOARD]

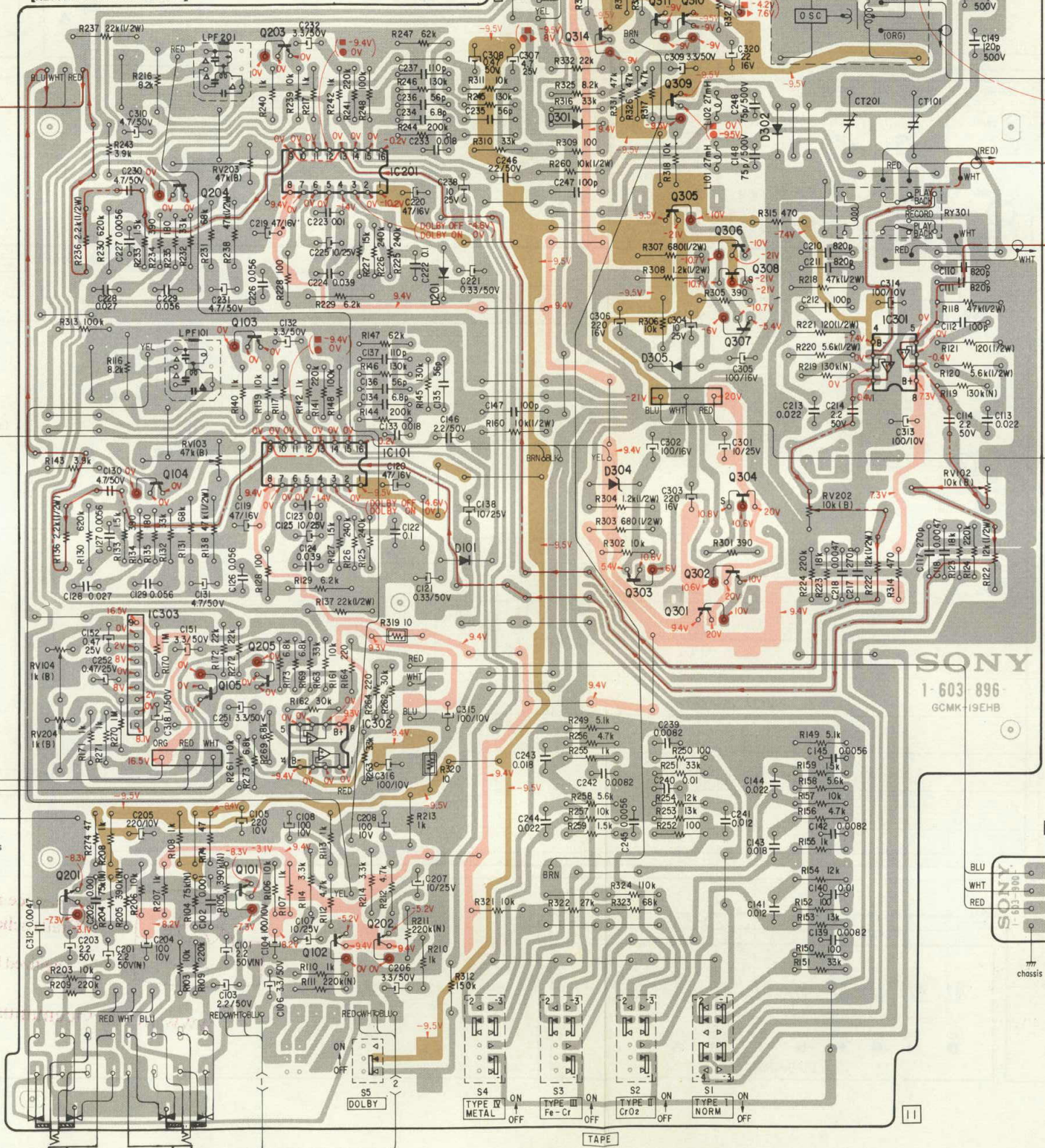


[PIN JACK BOARD]



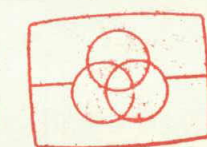
[INPUT SELECTOR BOARD]

[RECORD/PLAYBACK BOARD]

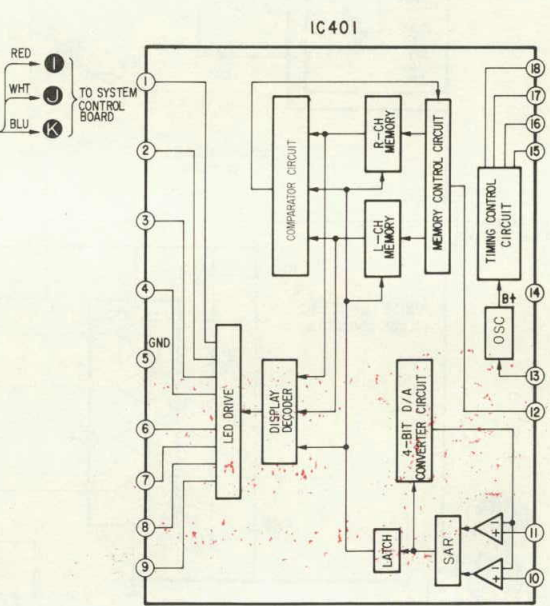


TYPE I (85V AC)
TYPE II (107V AC)
TYPE III (88V AC)
TYPE IV (160V AC)

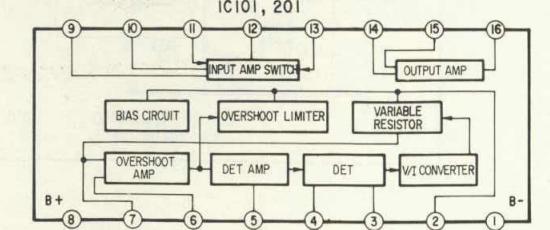
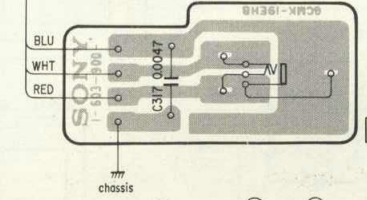
TYPE I (85V AC)
TYPE II (107V AC)
TYPE III (88V AC)
TYPE IV (160V AC)



Free service manuals
Gratis schema's
Digitized by
www.freesevice manuals.info

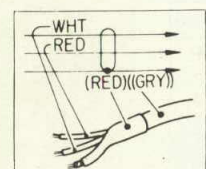


[HEADPHONE BOARD]

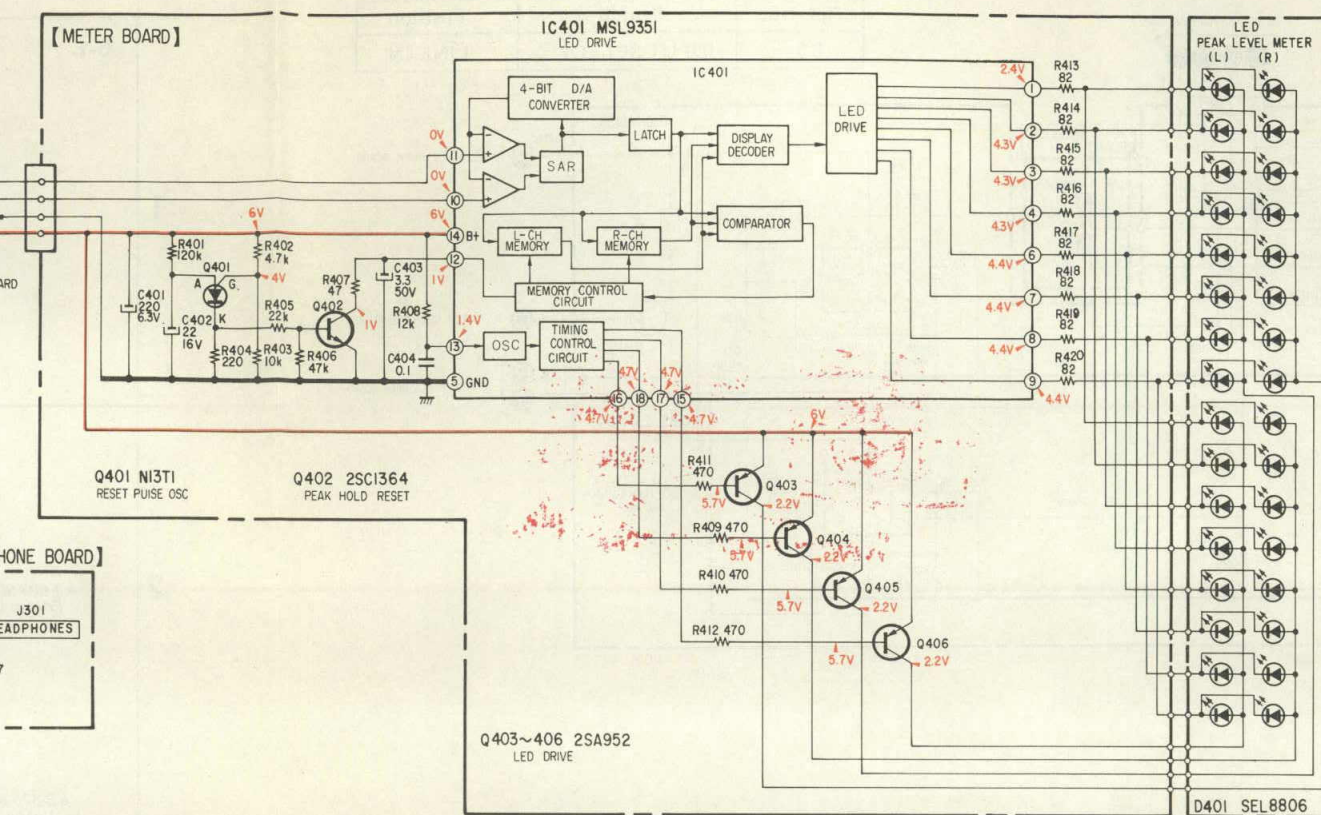


Q	IC	D
313	312	303
314	311	310
203		
309		301
302		
204	IC201	
305		
306		
308	201	
103	307	
IC301		305
IC101	403	304
104		
101		
303	302	
301		
IC303	205	
105		
IC302		
201	101	
102	202	

- Color code of sleeving over the end of the jacket.



- parts extracted from the component side.
- parts extracted from the conductor side.
- indicates side identified with part number.
- B+ pattern
- B- pattern
- signal path
- L-CH signal path
- R-CH signal path



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

- : STOP
 - ▶ : FWD
 - ◀◀ : REW
 - ▶▶ : FF
 - : REC
 - ■ : PAUSE
- AC voltage readings in the bias oscillator with a VTVM.
- Switch

Ref. No.	Switch	Position
S1	TYPE I	ON
S2	TYPE II	OFF
S3	TYPE III	OFF
S4	TYPE IV	OFF
S5	DOLBY	OFF

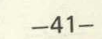
5-2.

1

- Due to standardization, parts with part numbers ($\Delta\text{-}\Delta\Delta\Delta\text{-}\Delta\Delta\Delta\text{-XX}$ or $\Delta\text{-}\Delta\Delta\Delta\text{-}\Delta\Delta\Delta\text{-X}$) may be different from those used in the set.

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





RATING → : Use the high voltage rated one					
CAP. (μF)	25 VOLT.	50 VOLT.	CAP. (μF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015	→	1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018	→	1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022	→	1-161-043-00	0.039	1-161-020-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

Digitized in Heiloo, Holland.

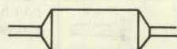
MYLAR CAPACITORS

RATING											
CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.	CAP. (μF)	50 VOLT. PART No.	100 VOLT. PART No.	200 VOLT. PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	—	—
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	—	—
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	—	—
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	—	—
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				



TANTALUM CAPACITORS

RATING →: Use the high voltage rated one.							
CAP. (μF)	3.15 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	25 VOLT. PART No.	35 VOLT. PART No.
0.01					→	→	1-131-396-00
0.015					→	→	1-131-397-00
0.022					→	→	1-131-398-00
0.033					→	→	1-131-399-00
0.047					→	→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	—	—	—	—	1-131-412-00	→	1-131-406-00
0.68	—	—	—	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	—	—	1-131-418-00	—	1-131-413-00	→	1-131-408-00
1.5	—	1-131-421-00	—	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	—	1-131-419-00	—	1-131-414-00	1-131-355-00	1-131-349-00
3.3	—	1-131-422-00	—	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	—	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	—	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	—
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	—			
68	1-131-394-00	1-131-388-00	—	—			
100	1-131-395-00	—	—	—			



TANTALUM CAPACITORS

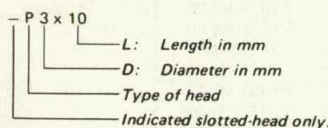
RATING						
CAP. (μF)	3 VOLT. PART No.	6.3 VOLT. PART No.	10 VOLT. PART No.	16 VOLT. PART No.	20 VOLT. PART No.	35 VOLT. PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			—	—	1-131-262-00	1-131-278-00
0.33			—	—	1-131-263-00	1-131-279-00
0.47			1-131-169-00	—	1-131-264-00	1-131-280-00
0.68			—	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	—	1-131-266-00	1-131-282-00
1.5		1-131-250-00	—	—	1-131-267-00	1-131-283-00
2.2		—	—	1-131-259-00	1-131-268-00	1-131-284-00
3.3		—	1-131-255-00	—	1-131-269-00	—
4.7		1-131-251-00	1-131-171-00	—	1-131-270-00	—
6.8		—	—	1-131-260-00	1-131-271-00	—
10	—	—	1-131-256-00	—	1-131-272-00	—
15	—	1-131-252-00	—	1-131-261-00		
22	—	—	1-131-257-00	—		
33	1-131-176-00	1-131-253-00	1-131-173-00	—		
47	1-131-288-00	1-131-174-00	—	—		
100	1-131-177-00					

1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00

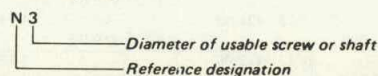
HARDWARE NOMENCLATURE

Screw:



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

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		brazer-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	

Free service manuals

Gratis schema's

Digitized by

Sony Corporation

© 1980