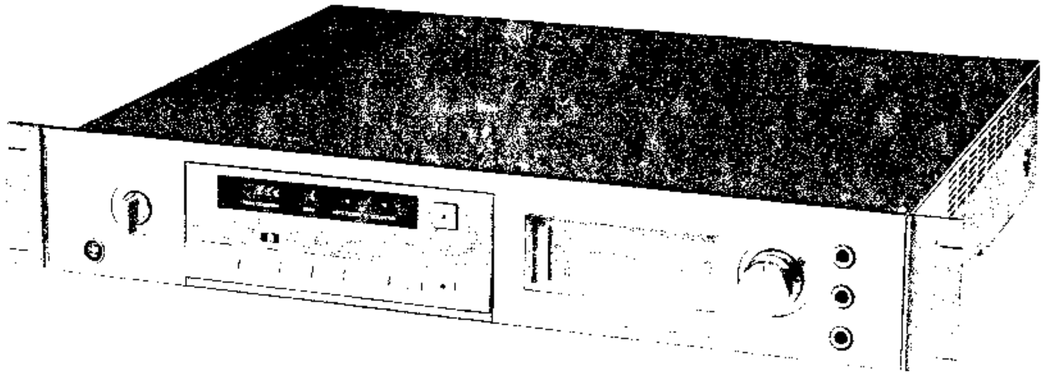


SPECIFICATIONS

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)
US model
120 V ac, 60 Hz

Power Consumption: 45 W (AEP, UK model)
35 W (US model)

Dimensions: Approx. 430(w) x 80(h) x 385(d) mm
17(w) x 3¼(h) x 15¼(d) inches
without rack-mounting handles
Approx. 480(w) x 80(h) x 385(d) mm
19(w) x 3¼(h) x 15¼(d) inches
with rack-mounting handles
including projecting parts and controls

Weight: Approx. 10 kg, 22 lb 1 oz
with rack-mounting handles

TAPE RECORDER SECTION

Recording System: 4-track 2-channel stereo

Fast-forward and Rewind Time: Approx. 60 sec. (with C-60)

Frequency Response: DOLBY NR OFF

AEP, UK model
- With TYPE IV cassette (Sony METALLIC)
  20–19,000 Hz
  30–17,000 Hz (±3 dB)
  30–13,000 Hz (±3 dB, 0 VU recording)
  30–17,000 Hz (DIN)
- With TYPE III cassette (Sony Fe-Cr)
  20–19,000 Hz
  30–17,000 Hz (±3 dB)
  30–17,000 Hz (DIN)
- With TYPE II cassette (Sony CD-α)
  20–18,000 Hz
  30–16,000 Hz (±3 dB)
  30–16,000 Hz (DIN)
- With TYPE I cassette (Sony BHF)
  20–17,000 Hz
  30–15,000 Hz (DIN)

US model
- With TYPE IV cassette (Sony METALLIC)
  20–20,000 Hz
  30–18,000 Hz (±3 dB)
  30–13,000 Hz (±3 dB, 0 VU recording)
- With TYPE III cassette (Sony Fe-Cr)
  20–20,000 Hz
  30–18,000 Hz (±3 dB)
- With TYPE II cassette (Sony EHF)
  20–19,000 Hz
  30–17,000 Hz (±3 dB)
- With TYPE I cassette (Sony HFX)
  20–17,000 Hz
  30–15,000 Hz (±3 dB)

— Continued on page 2 —

SERVICE MANUAL

110

Wow and Flutter: 0.03 % WRMS (NAB) } (AEP, UK model)
±0.085 % (DIN) }
0.04 % WRMS (US model)

S/N Ratio: DOLBY NR OFF
- With TYPE III cassette (Sony Fe-Cr)
  60 dB at peak level (NAB)
  58 dB (DIN, 1975, rev.)
- With TYPE II cassette (Sony CD-α)
  58 dB at peak level (NAB)

US model
- With TYPE III cassette (Sony Fe-Cr)
  60 dB at peak level
- With TYPE II cassette (Sony EHF)
  58 dB at peak level

DOLBY NR ON
Improved by 5 dB at 1 kHz, 10 dB above 5 kHz

Total Harmonic Distortion: 0.9 % (with Sony Fe-Cr cassette)

Bias Frequency: 105 kHz

Inputs: MIC (phone jacks) 2
sensitivity 0.25 mV (−70 dB)
for a low-impedance microphone
LINE (phone jacks) 2
sensitivity 77.5 mV (−20 dB)
input impedance 50 kΩ

Outputs: LINE OUT (phone jacks) 2
output level 0.435 V (−5 dB)
at load impedance 50 kΩ
Suitable load impedance
more than 10 kΩ
HEADPHONES 1
output level 39 mV (−26 dB)
at load impedance 8 Ω

LIQUID CRYSTAL PEAK PROGRAM METERS

Response Range: −40 dB to +8 dB

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

Response Time: 1 millisecond

Decay Time (from 0 dB to −20 dB): 750 milliseconds

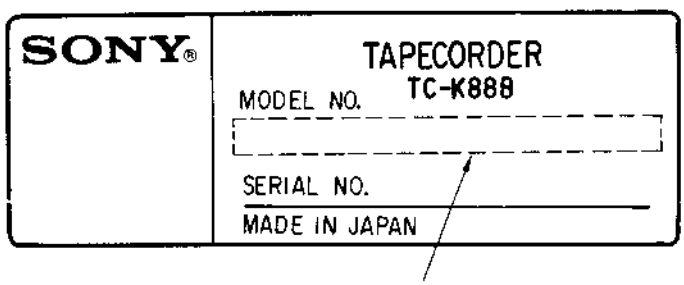
Overshoot: None

Indicator Elements: 33 elements for each channel

0 dB = 0.775 V

MODEL IDENTIFICATION

– Specification Label –



AC 120 V 60 Hz 35 W . . . . . US model
AC 110, 120, 220, 240 V ~ 50/60 Hz 45 W . . AEP, UK model

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.)

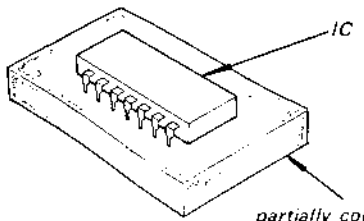


Fig. A

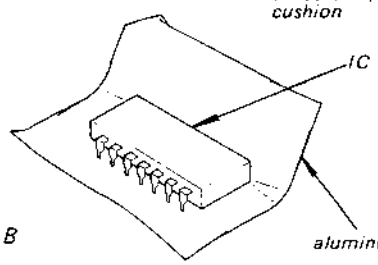


Fig. B

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.

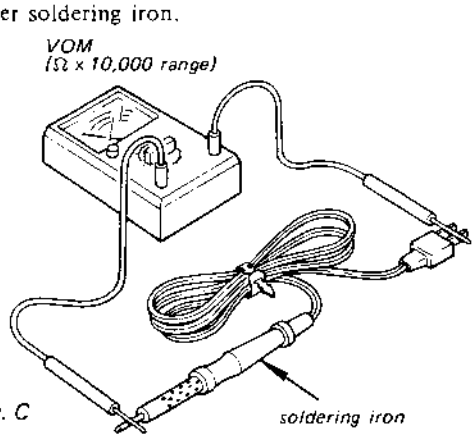


Fig. C

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.

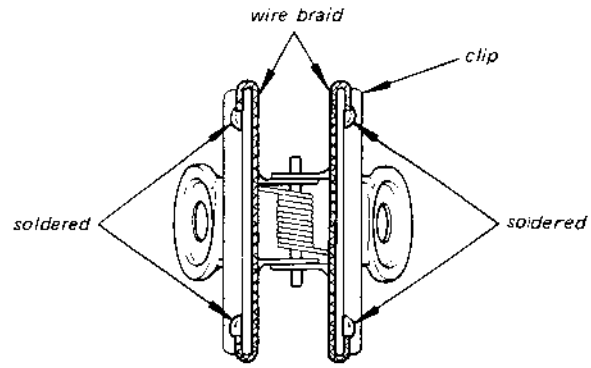


Fig. D

Make sure that there is no solder on the inside.

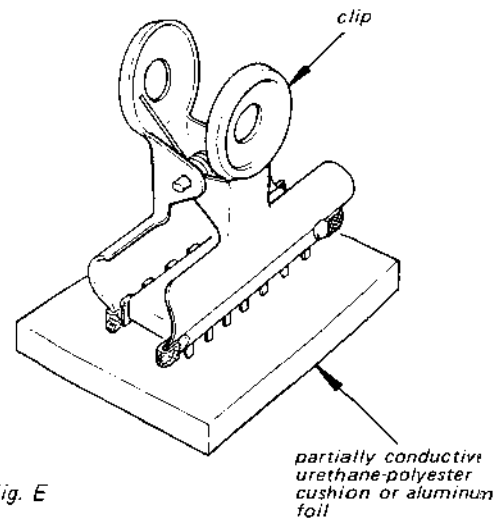
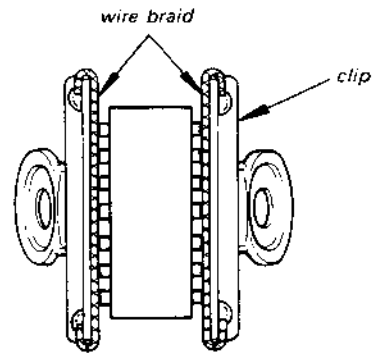


Fig. E



Make sure that all the pins are in contact with the wire braid (all the pins will then be at the same potential.).

Fig. F

- 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.

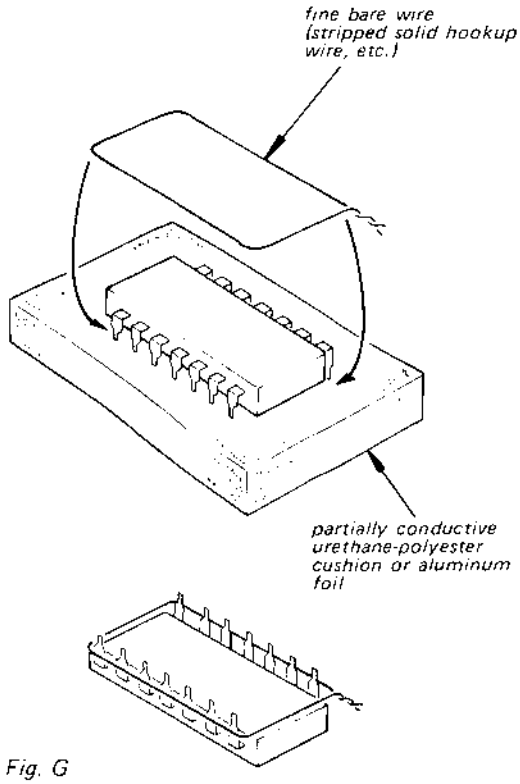


Fig. G

- 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.

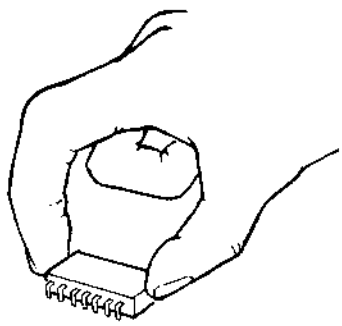


Fig. H

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:

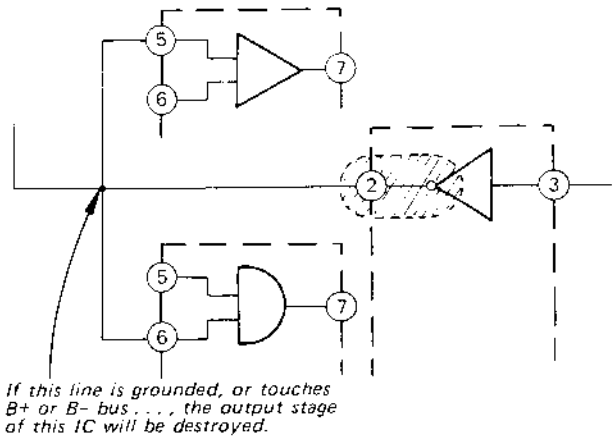
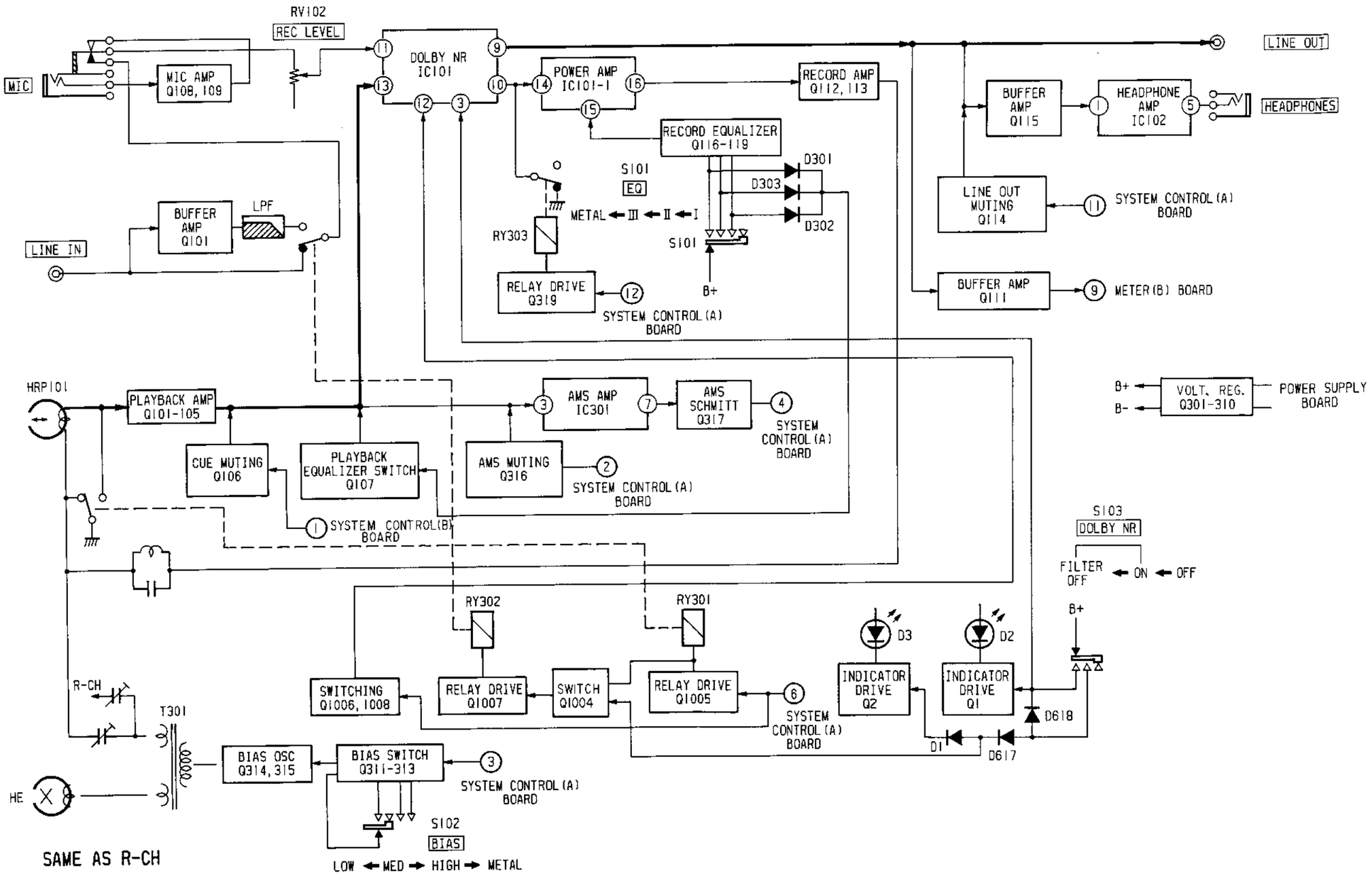


Fig. I

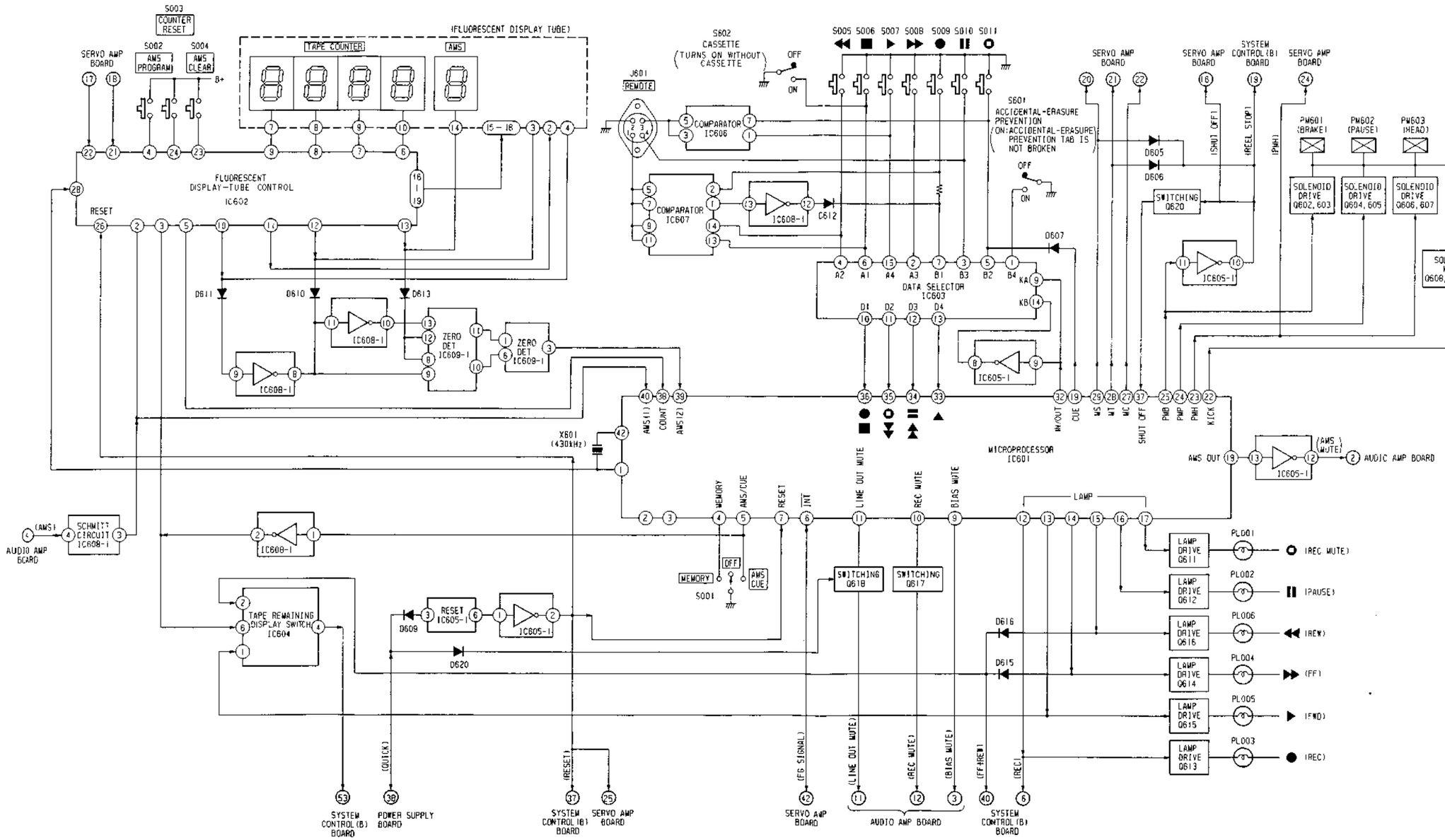
SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

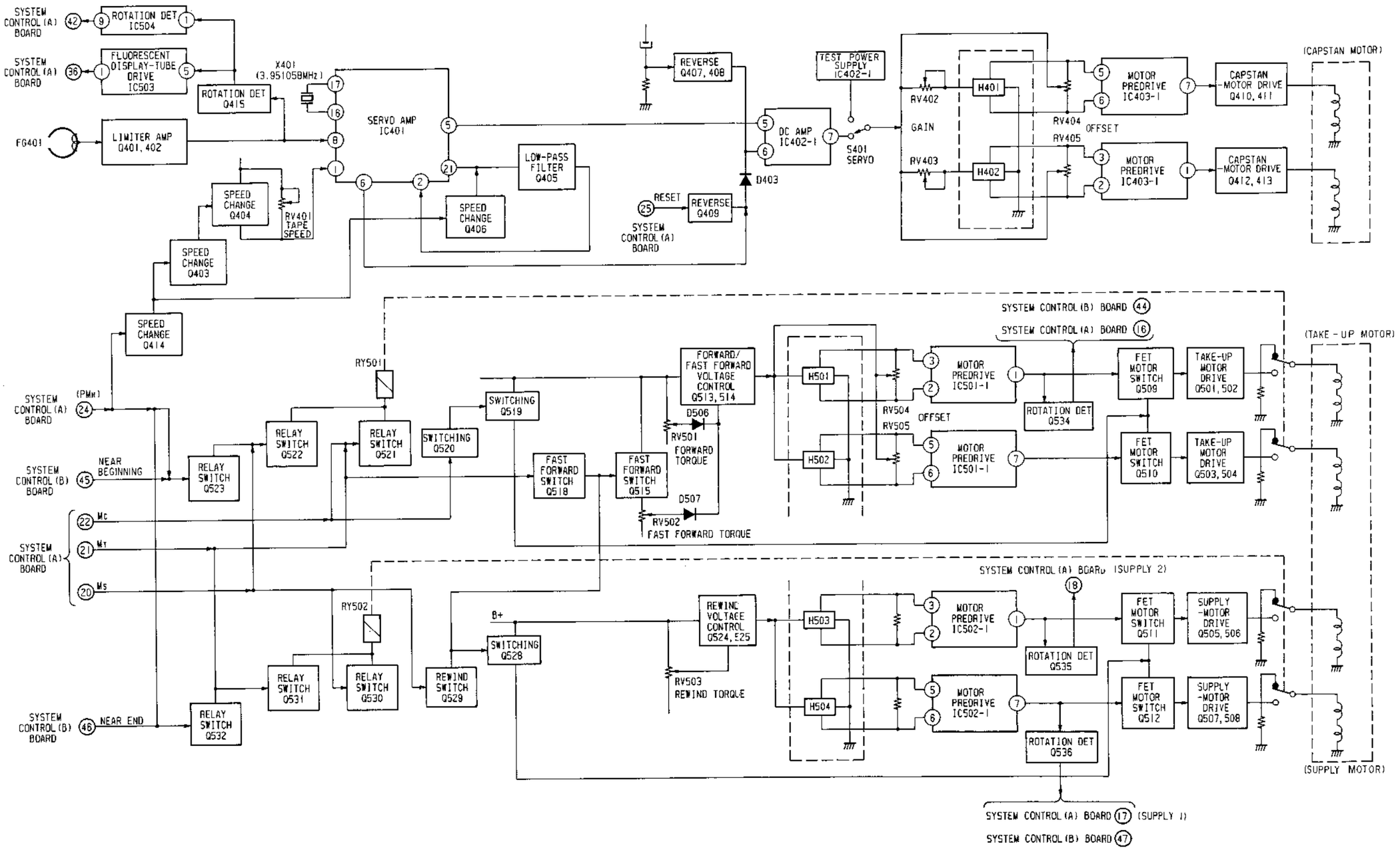
a) Audio Amp Section



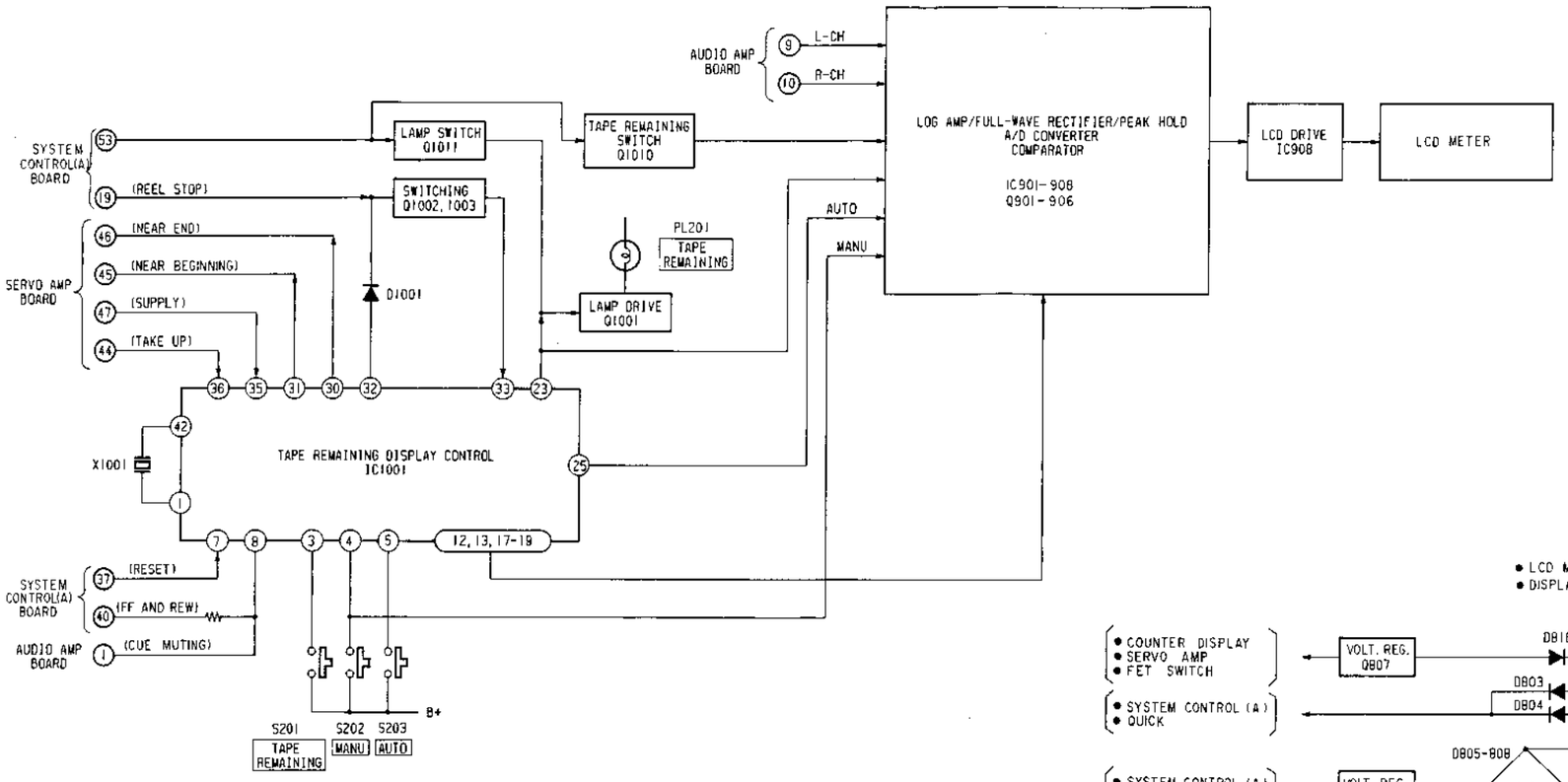
b) System Control (A) Section

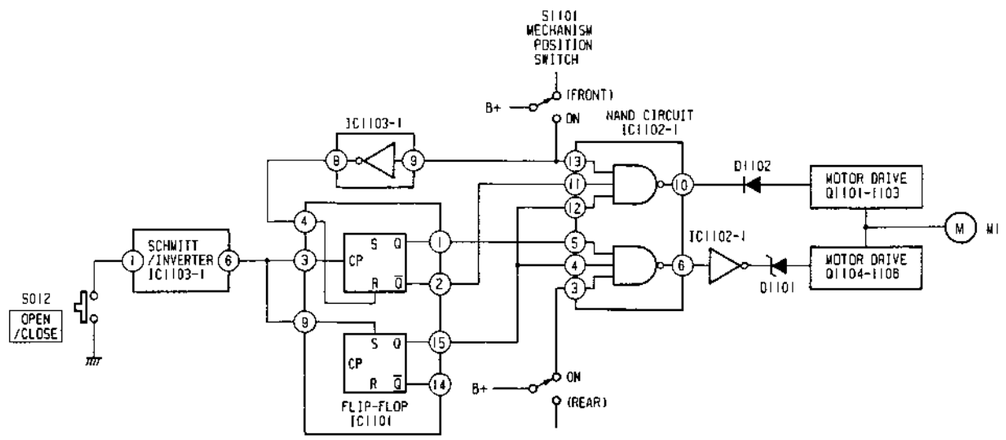


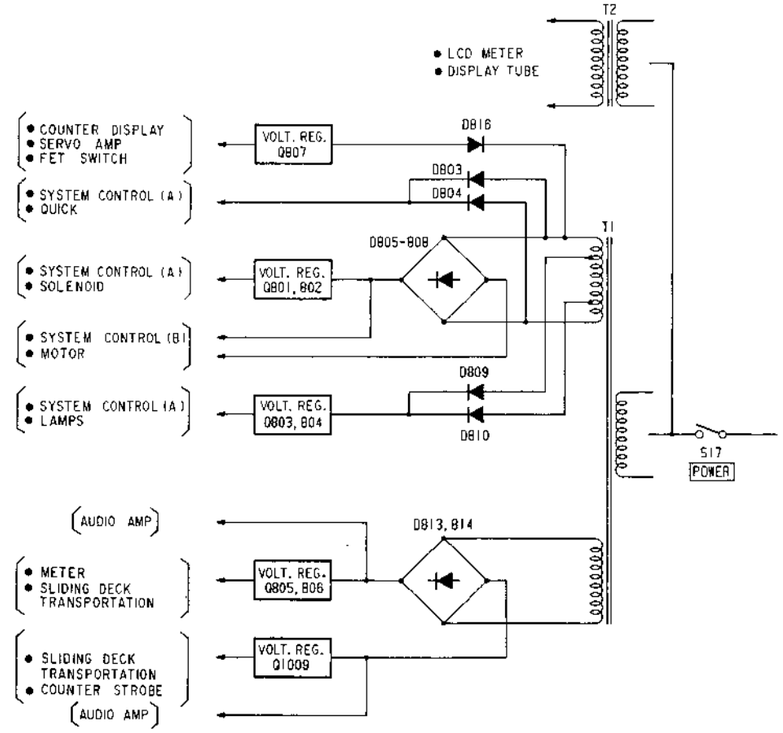
c) Motor Section



d) System Control (B)
and Power-Supply Sections



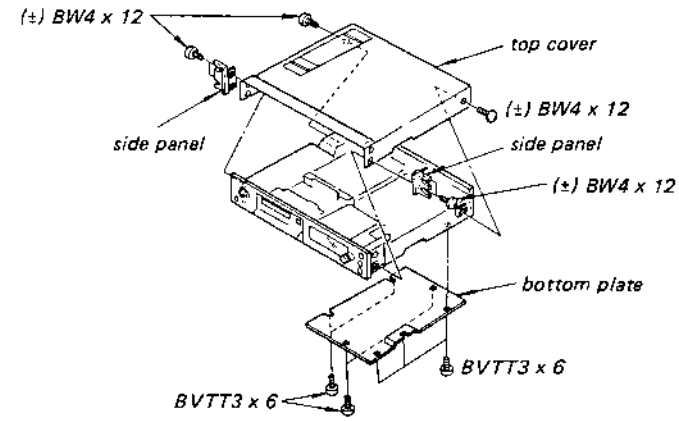




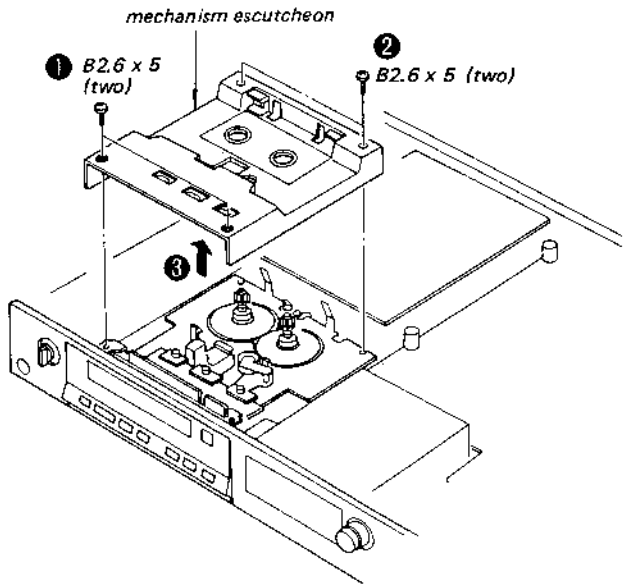
SECTION 2
DISASSEMBLY

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

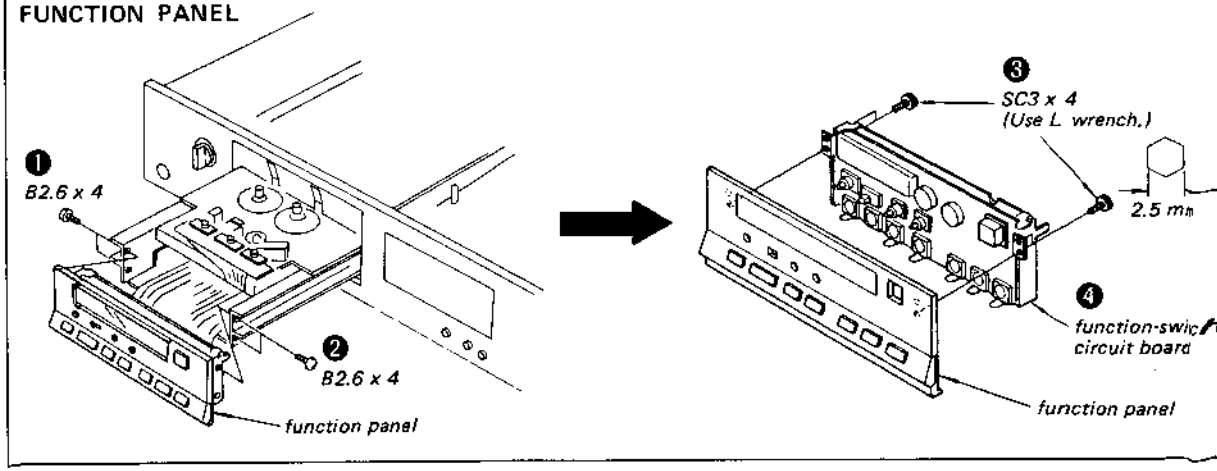
TOP COVER AND BOTTOM PLATE



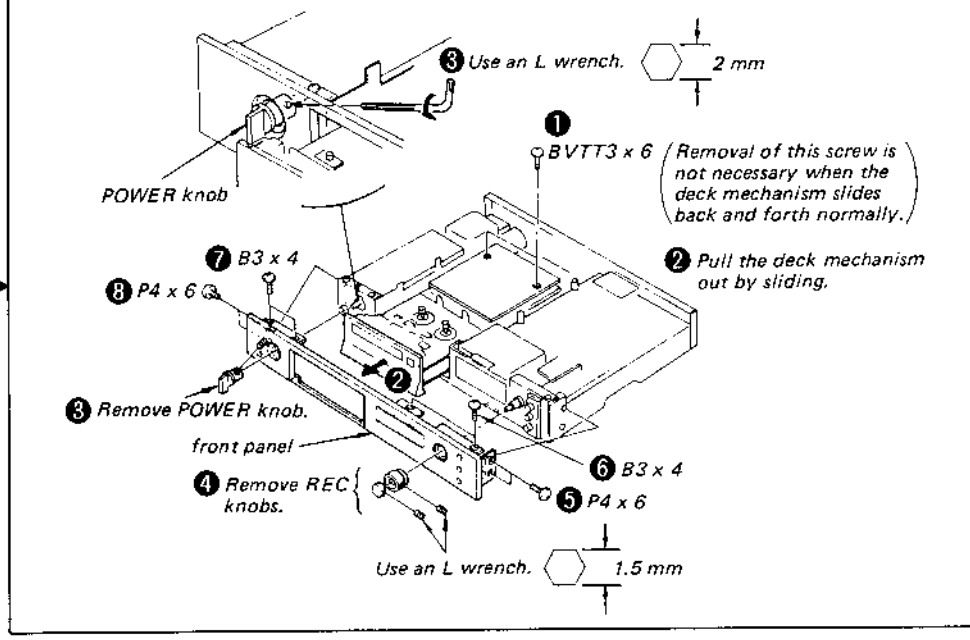
MECHANISM ESCUTCHEON



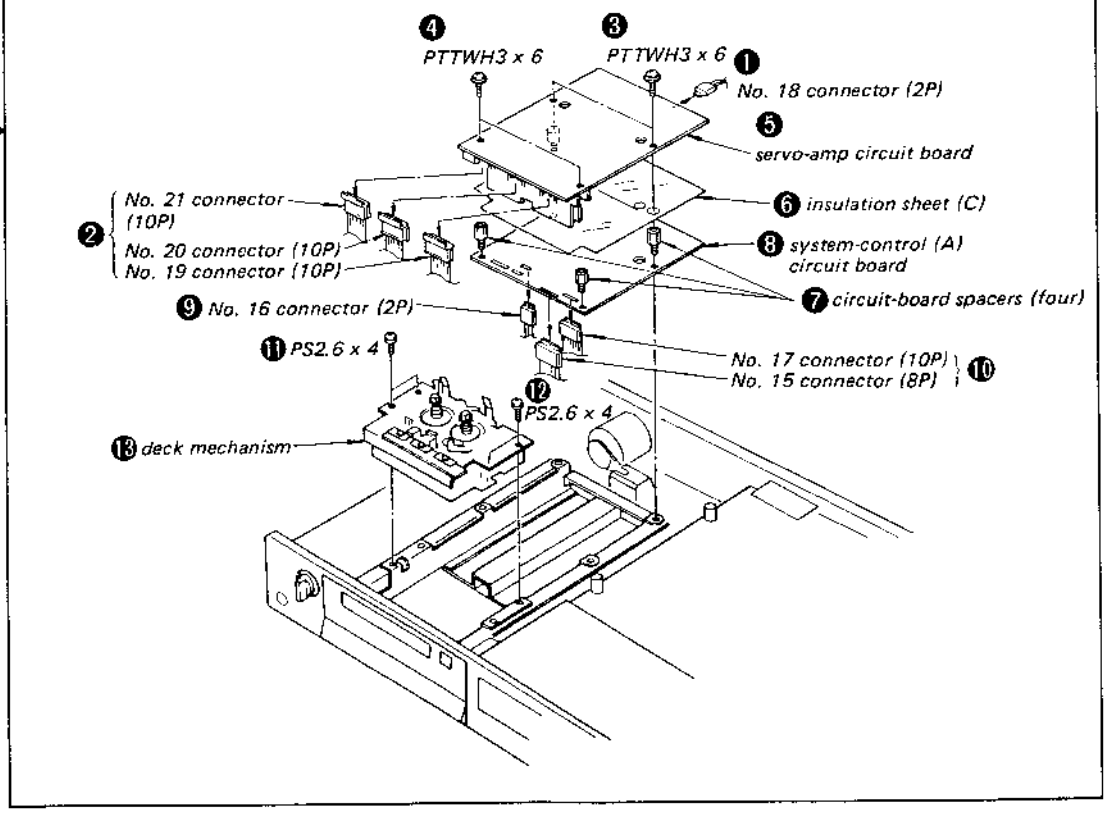
FUNCTION PANEL



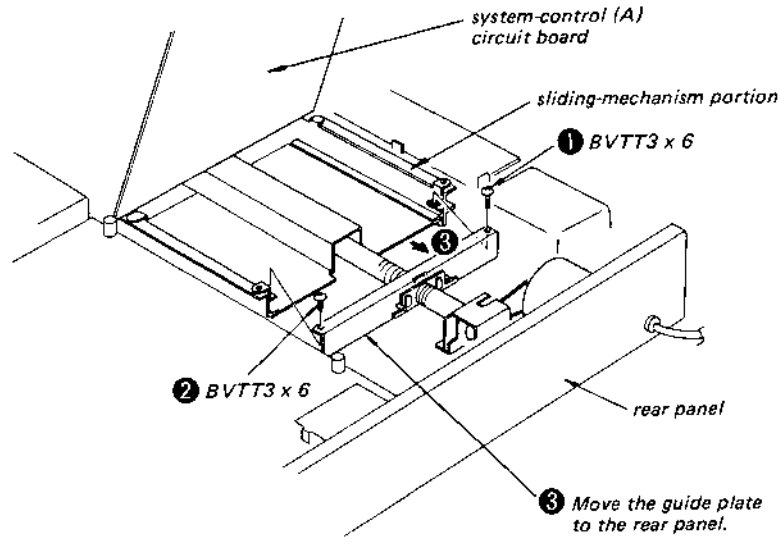
FRONT PANEL



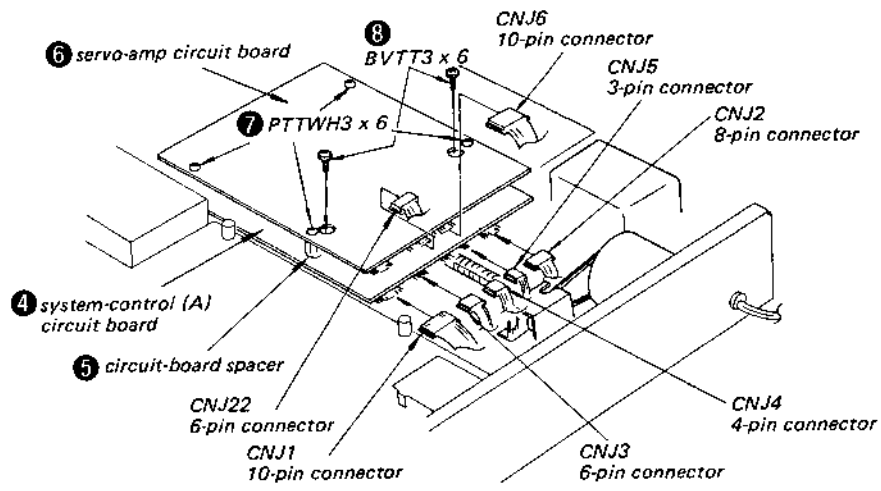
DECK MECHANISM



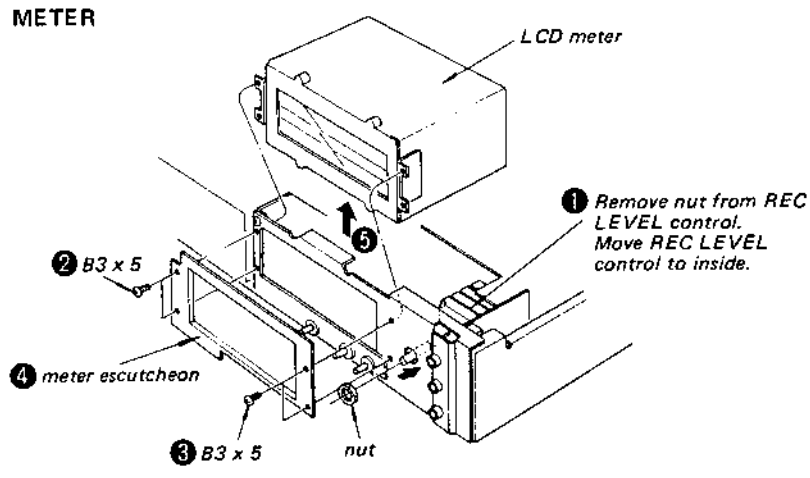
SLIDE-MECHANISM'S SCREW FASTENING



CONNECTOR CONNECTIONS



LCD METER



SECTION 3
ADJUSTMENTS

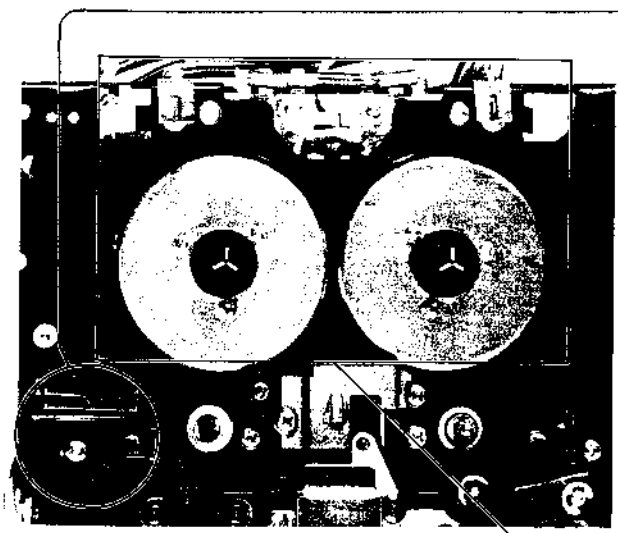
PRECAUTION

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

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

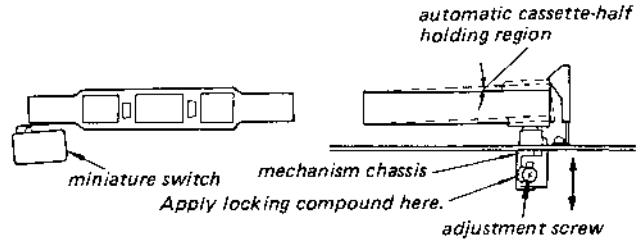
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.

3-1. MECHANICAL ADJUSTMENTS



Cassette-half Detection Switch (S602)'s Position Adjustment

– Stop Mode –



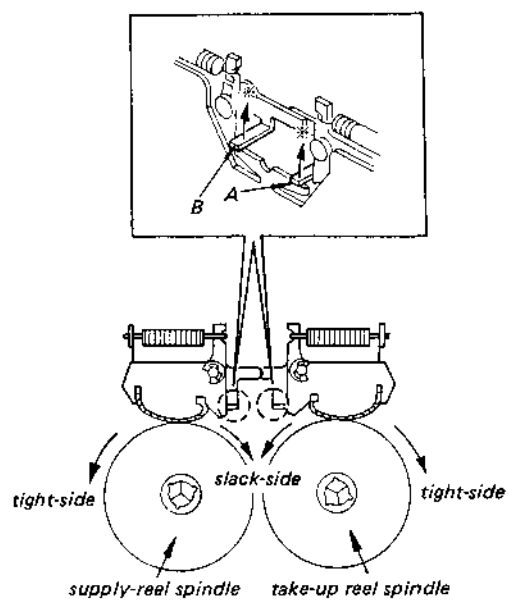
1. Loosen the adjustment screw.
2. Slowly install a tape cassette in the cassette compartment and adjust the position of the miniature switch in the region so that the miniature switch turns on and the cassette-half is automatically held when it is released from the hand.
3. After the adjustment, lock the adjustment screw including the mechanism chassis with suitable locking compound.

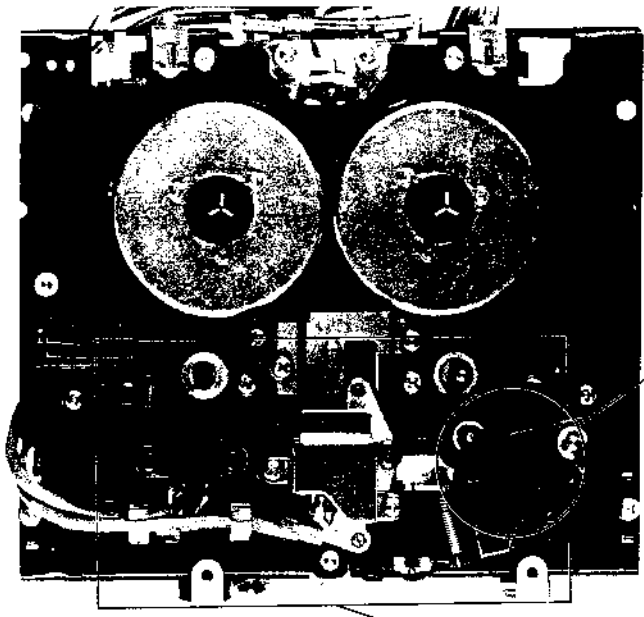
Brake Torque Adjustment

– Stop Mode –

1. Take-up Side Brake Torque: Adjust the torque by bending the adjustment tab A so that the tight-side and slack-side torques are 50 – 100 g·m (0.69 – 1.39 oz·inch) and 20 – 50 g·m (0.28 – 0.69 oz·inch) respectively.
2. Supply reel Side Brake Torque: Adjust the torque by bending the adjustment tab B so that both the tight-side and slack-side torques are in the specified values as shown in the take-up side torque adjustment.

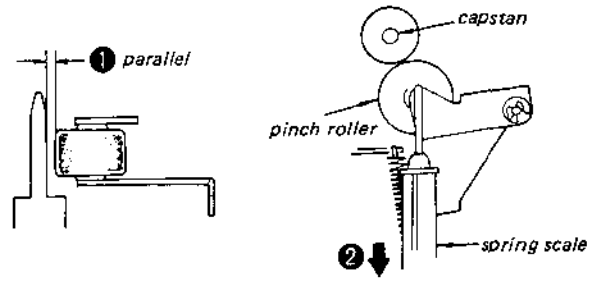
Note: A "Tonichi" torque meter is recommended for the adjustment.





Pinch-Roller Pressure Measurement

– Playback Mode –

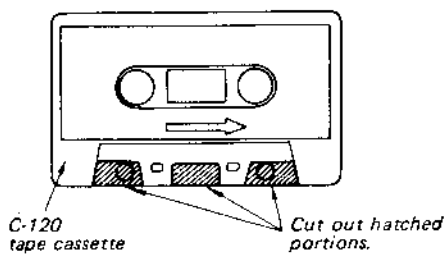


In playback mode, pull the spring scale. Read the scale just when the pinch roller stops turning.
Specification: 400 – 480 g (14.5 – 16.5 oz)

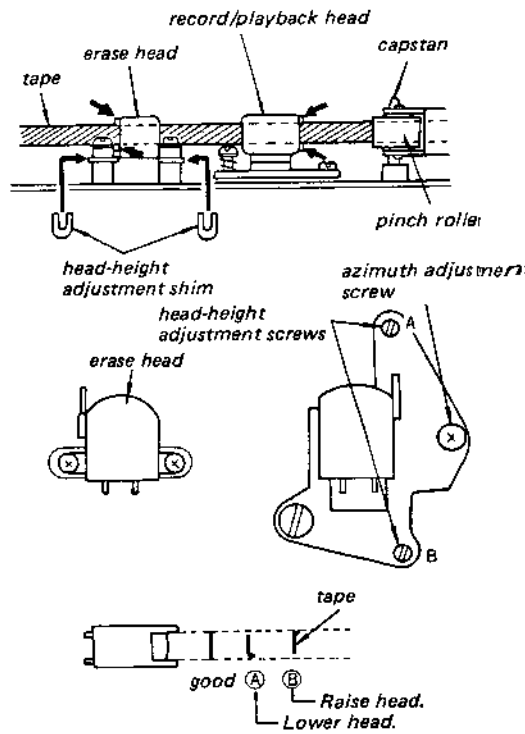
Head Height Adjustment

– Playback Mode –

1. Make an adjustment cassette as shown below, or use a mirror cassette.

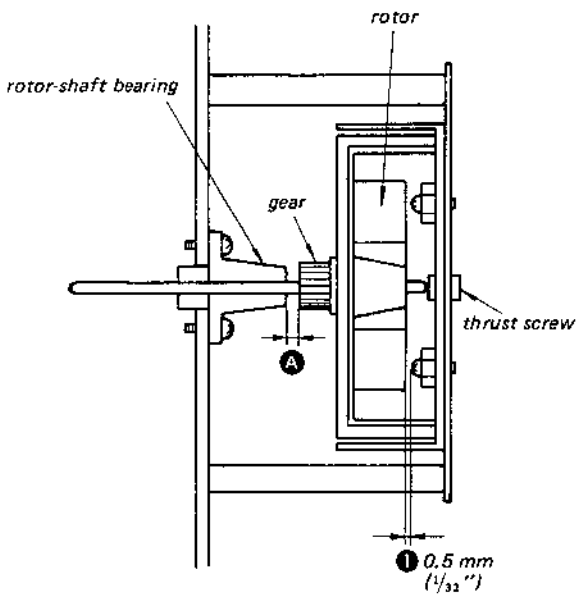


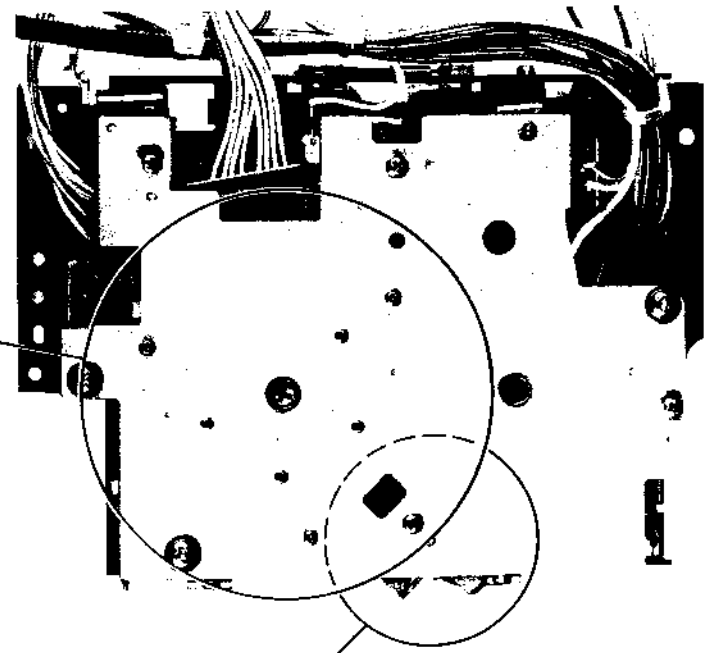
2. The tape should not twist at the capstan.
3. Install the mirror cassette in the set. In playback mode, the tape should not curl at the portions shown by arrows (tape guides).
   a. When the tape curls at the erase head:
      a-1. Install the head-height adjustment shims as shown when the tape curls at the upper sides of the tape guides.
      a-2. Remove the head-height adjustment shims from the tape guides when the tape curls at the lower sides of the tape guides.
      3-513-237-01 (t = 0.1 mm)
      3-513-237-11 (t = 0.2 mm)
      Shim, head-height adjustment
   b. When the tape curls at the record/playback head:
      b-1. Eliminate the tape curls by turning the head-height adjustment screws in the same direction and same amount of angle.
      b-2. Turn the azimuth adjustment screw in the same direction and same angle as the head-height adjustment screws in b-1.
4. After the adjustment, lock the adjustment screws with suitable locking compound.



Rotor Thrust Adjustment
– Playback Mode –

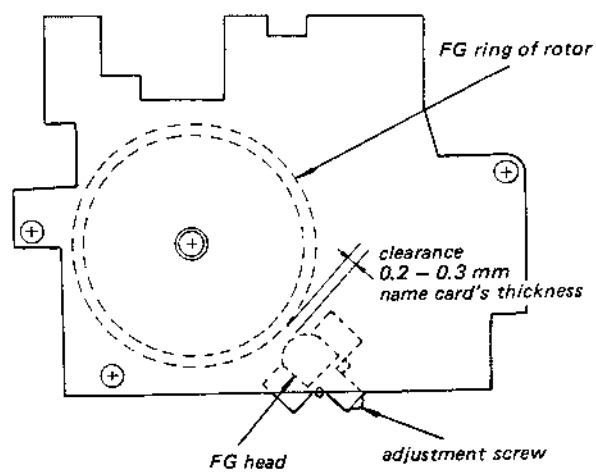
1. Loosen and then tighten the thrust screw until the rotor just starts rotating.
2. Further tighten the screw by ¾ turns so that the clearance ❶ becomes 0.5 mm (1/32").
3. Verify a clearance Ⓐ should exist between the gear and rotor-shaft bearing.



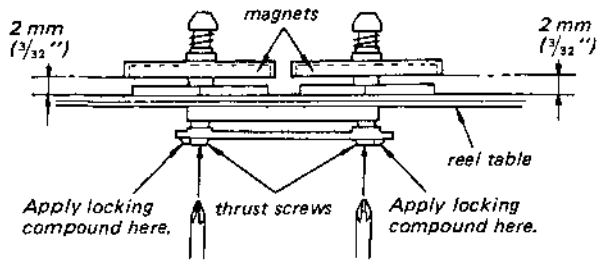


FG Head Position Adjustment
– Stop and Playback Modes –

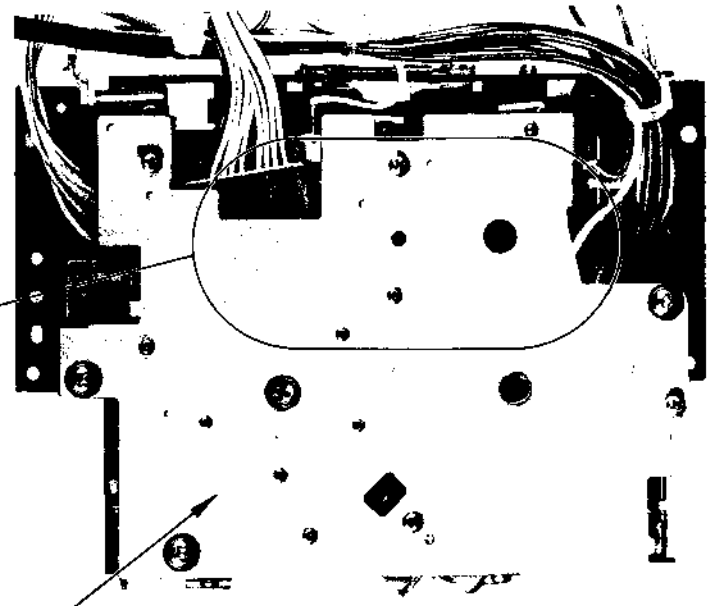
1. In stop mode, loosen the adjustment screw and insert a name card between the rotor's FG ring and FG head so that the clearance becomes the specified value.
2. Tighten the screw, and remove the name card.
3. In playback mode, confirm that the FG output of 150 – 250 mVp-p (70.7±17.7 mVrms) presents at TP451 on the servo-amp circuit board. Use an oscilloscope or a VTVM for waveform checking.



Reel-motor Thrust Adjustment

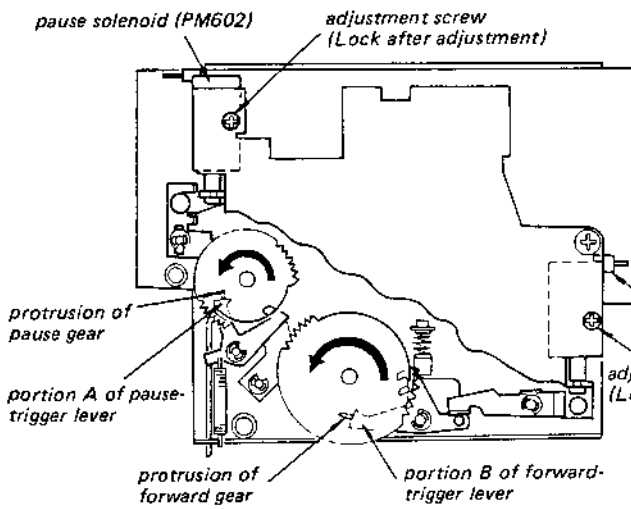


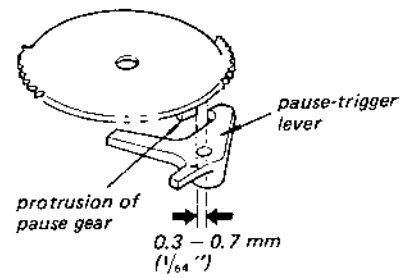
1. Turn the thrust screws so that the clearance between the magnets and the reel table becomes 2 mm (3/32") as shown above.
2. After the adjustment, lock the adjustment screws with suitable locking compound.

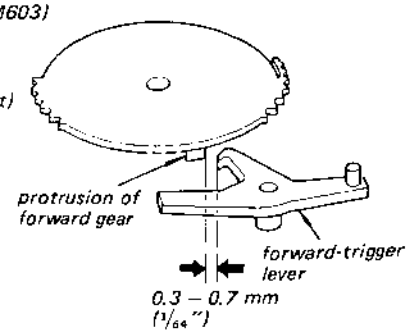


Solenoid Position Adjustment

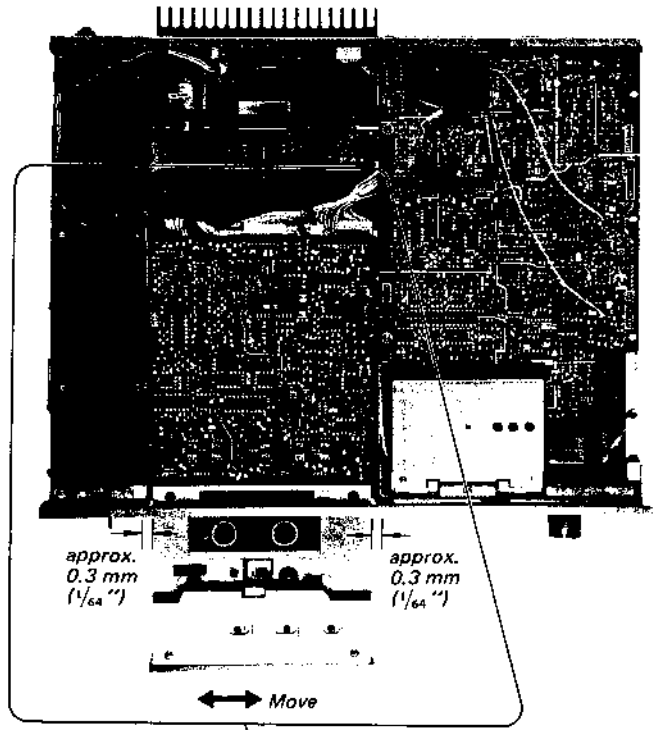
– Stop Mode –







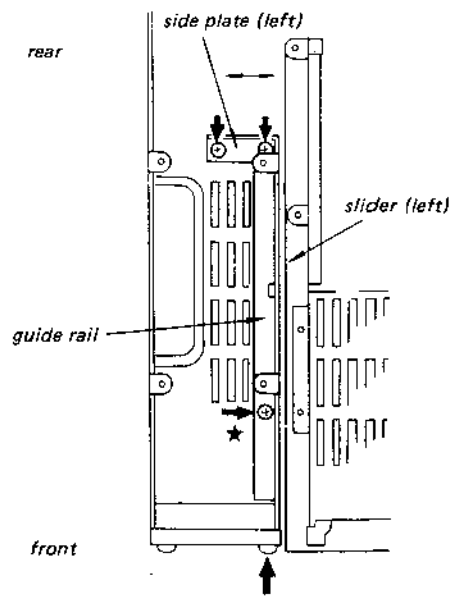
1. Loosen the pause-solenoid position adjustment screw and fully pull the pole piece of the pause solenoid PM602.
2. Turn the pause gear in the direction shown by the arrow.
3. Adjust the position of the pause solenoid so that the protrusion of the pause gear touches to approximately the center of the portion A of the pause-trigger lever, and tighten the adjustment screw.
4. By holding the pause gear, pull the pole piece and confirm that there is a specified clearance between the pause gear and pause-trigger lever as shown.
5. If necessary, perform adjustments 1 through 4.
6. Loosen the forward-solenoid position adjustment screw and fully pull the pole piece of the forward solenoid PM603.
7. Turn the forward gear in the direction shown by the arrow.
8. Adjust the position of the forward solenoid so that the protrusion of the forward gear touches approximately to the center of the portion B of the forward-trigger lever, and tighten the adjustment screw.
9. By holding the forward gear, pull the pole piece of the forward solenoid and confirm that there is a specified clearance between the forward gear and forward trigger lever as shown.
10. If necessary, perform adjustments 6 through 9.
11. After the adjustments, lock the adjustment screws with suitable locking compound.



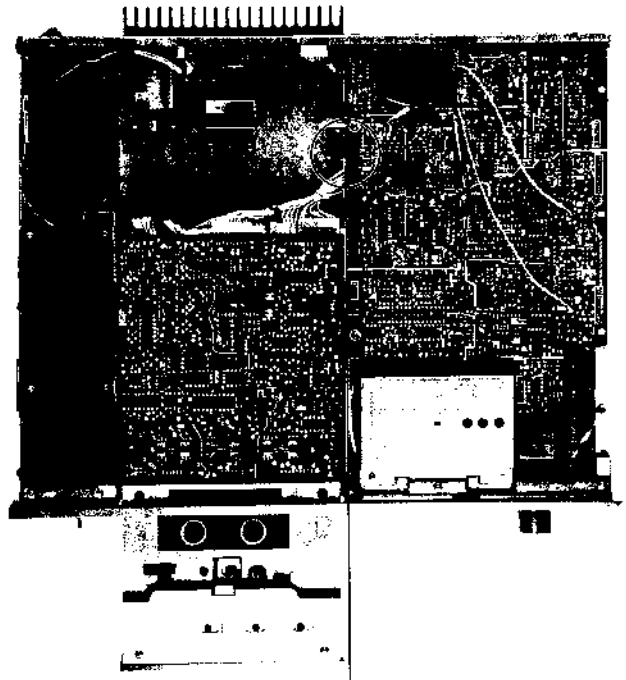
Sliding Mechanism Clearance Adjustment

– Stop Mode –

1. Loosen the five screws shown by the arrows.
2. By moving the sliding-mechanism section to the right or left, and adjust the position of the side plate (left) so that there are about 0.3 mm (1/64") clearances between each edge of the guide rail and sliders at both sides of the sliding mechanism.
3. Tighten the screw shown by ★ first, then tighten the other screws.
4. Check that the clearances are held in both the OPEN and CLOSE operations of the sliding mechanism section.



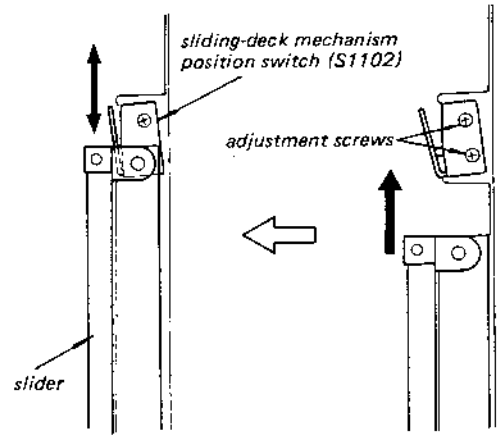
Note: ➡ adjustment screws

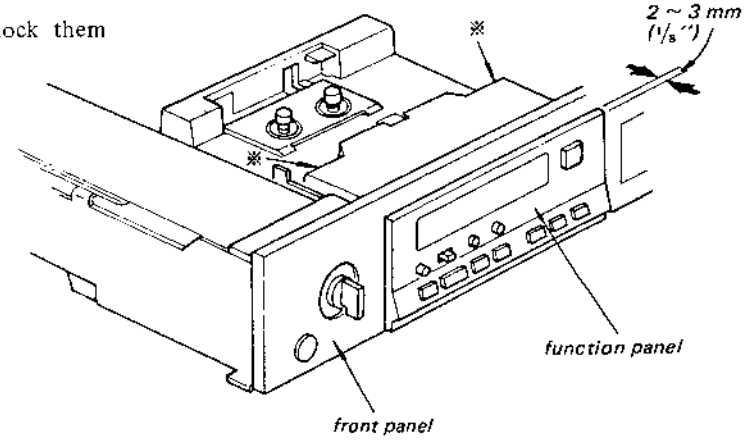


Sliding Deck Mechanism Position Switch (S1102) Adjustment

– Stop Mode –

1. Loosen the adjustment screws of the switch.
2. Open the sliding deck mechanism by pushing the OPEN/CLOSE switch on the front panel.
3. By lightly holding the portions shown by ※ of the mechanism escutcheon, slowly close the sliding deck mechanism by pushing the OPEN/CLOSE switch.
4. Adjust the position of the switch by moving it back and forth so that it turns on and the motor stops turning when the function panel of the sliding deck mechanism has positions 2 – 3 mm (1/8") left before it fully closing in the set, it flushes with the front panel.
5. Tighten the adjustment screws and lock them with suitable locking compound.





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 BIAS and EQ switches according to the tape as follows.

Tape	BIAS switch	EQ switch
CS-10	MED	TYPE I
CS-25	HIGH	TYPE II
CS-30	MED	TYPE III
CS-40	METAL	TYPE IV

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

DOLBY NR switch:	OFF
EQ switch:	TYPE I
BIAS switch:	MED
TIMER switch:	OFF
MEMORY AMS 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	300Ω or 600Ω	10kΩ
input level	0.77mV (−60dB)	0.25V (−10dB)

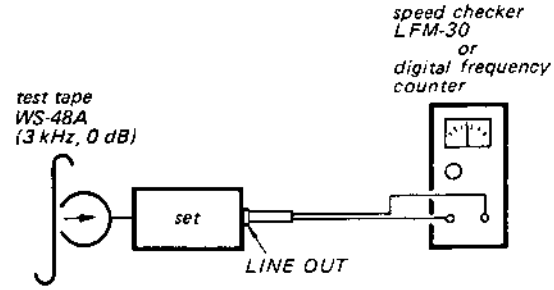
Standard Output Level

	LINE OUT	HEADPHONES
load impedance	47kΩ	8Ω
output level	0.44V (−5dB)	39mV (−26dB)

Tape Speed Adjustment

Procedure:

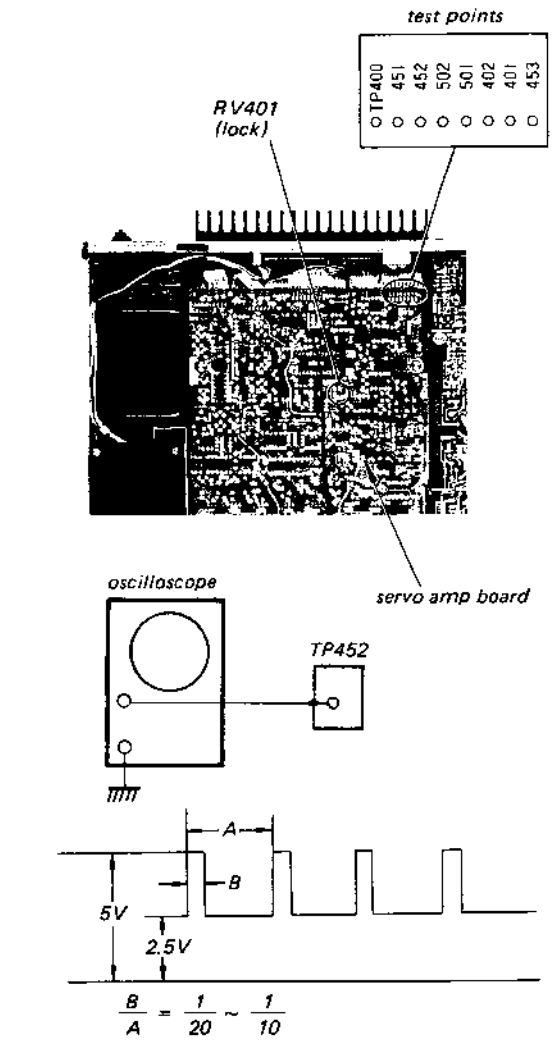
Mode: playback



Specification:

Speed checker	Digital frequency counter
−0.17 – +0.17 %	2,995 – 3,005 kHz

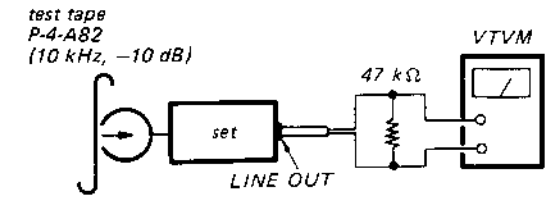
Adjustment Location:



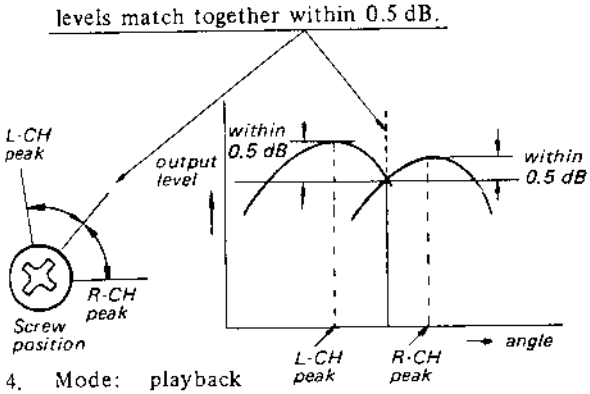
Record/playback Head Azimuth Adjustment

Procedure:

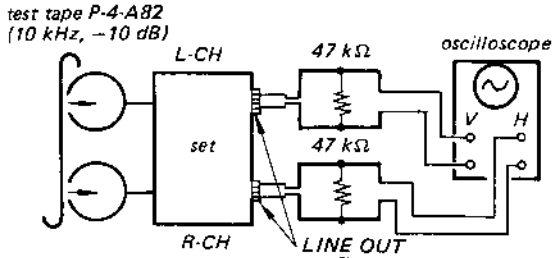
1. Loosen the head-holding screw.
2. Mode: playback



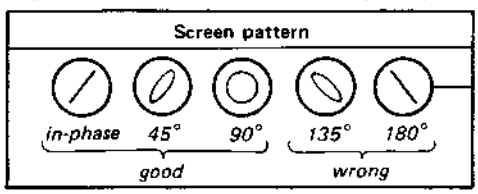
3. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.



4. Mode: playback

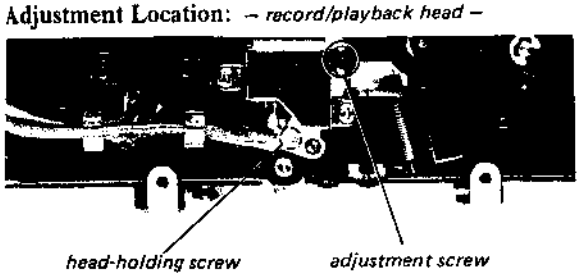


Adjust the adjustment screw for a good pattern.



5. Tighten the head-holding screw for a pattern approximately 30° out of phase.
6. Readjust the adjustment screw for a pattern in phase.

Adjustment Location: *– record/playback head –*

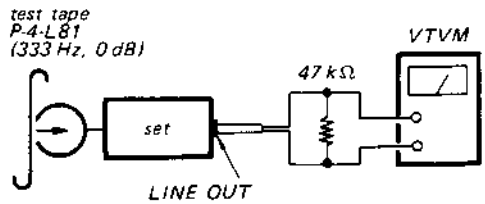


Playback Level Adjustment

Setting:

TAPE SELECT switch: TYPE I

Procedure:



Adjust RV101 (L-CH) and RV201 (R-CH) to obtain the specified LINE OUT level.

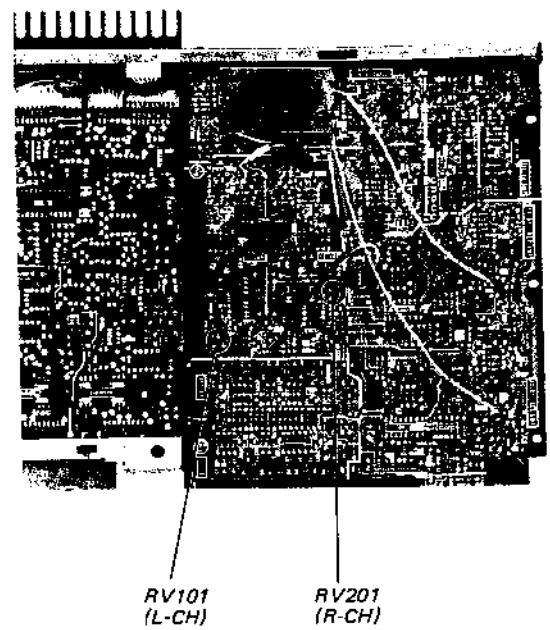
Specification:

LINE OUT level: 0.52 – 0.58V
(−3.5 to −2.5dB)
Level difference between channels:
less than 0.5dB

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

Adjustment Location:

– audio amp board –



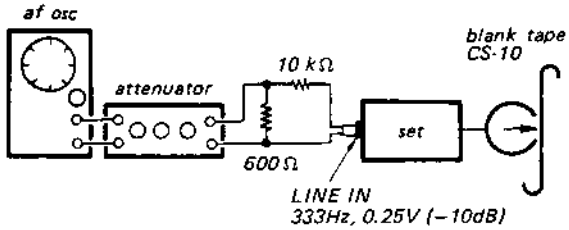
Record Level Adjustment

Setting:

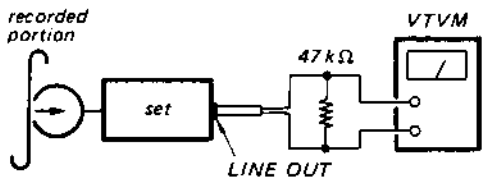
TAPE SELECT switches:	TYPE I
DOLBY NR switch:	OFF
REC LEVEL control:	standard record (See page 22.)

Procedure:

1. Mode: record



2. Mode: playback

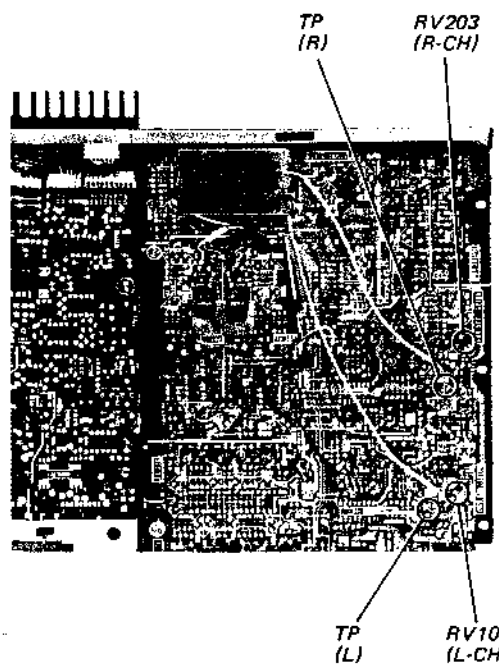


Adjust RV103 (L-CH) and RV203 (R-CH) to obtain 0.44V (−5dB) LINE OUT level.

Specification:

LINE OUT level:	0.39 – 0.49V (−6 to −4dB)

Adjustment Location: *– audio amp board –*



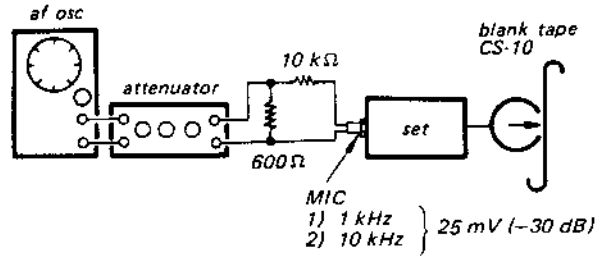
Record Bias and Record-Bias Trap Adjustments

Setting:

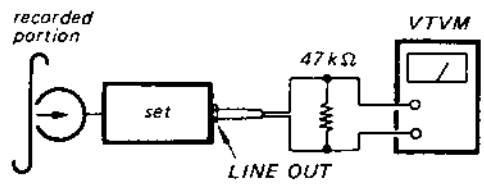
REC LEVEL control:	standard record (See page 22.)

Procedure:

1. Mode: pause record
2. Fully tighten CT101 (L-CH) and CT201 (R-CH) and then loosen them in one turn.
3. Adjust L105 (L-CH) and L205 (R-CH) to obtain minimum output levels at test points (L) and (R).
4. Mode: record

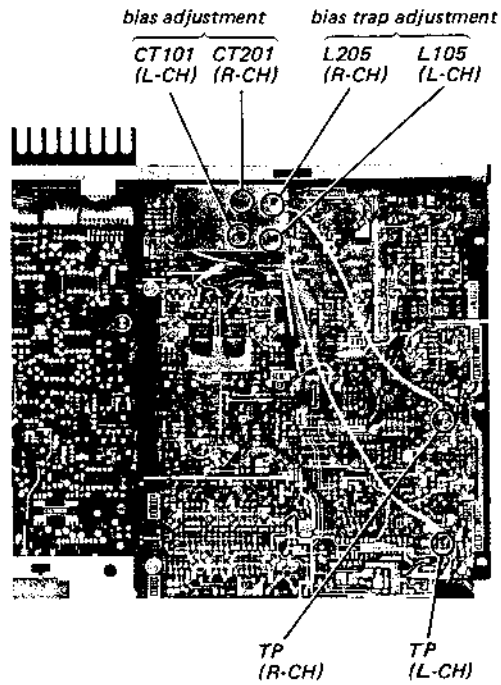


5. Mode: playback



Play back both frequencies, adjust CT101 (L-CH) and CT201 (R-CH) for the same VTVM reading at the test points.

6. Repeat adjustments 4 and 5.



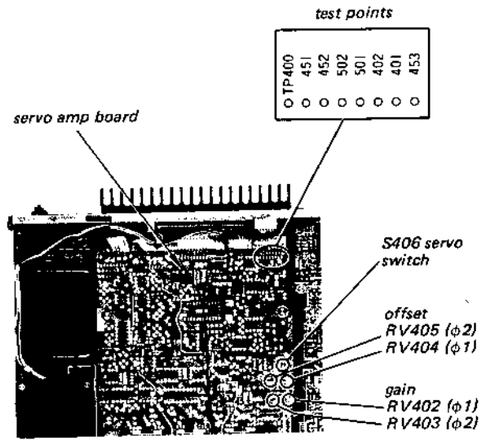
Capstan Motor Adjustment

Setting:

POWER switch: ON
Mode: stop

Procedure:

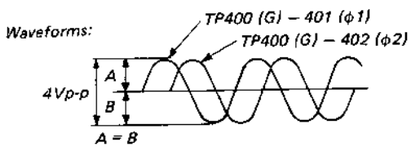
1. Set S406 to TEST side (full-counterclockwise position).
2. Connect an oscilloscope to the test points as follows.



3. Adjust adjustable resistors.

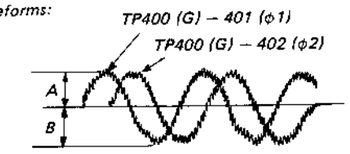
Oscilloscope connection	Adjust	Waveform
TP400 (G) and TP401 (φ1)	RV404	A = B
	RV402	4Vp-p
TP400 (G) and TP402 (φ2)	RV405	A = B
	RV403	4Vp-p

Waveforms:

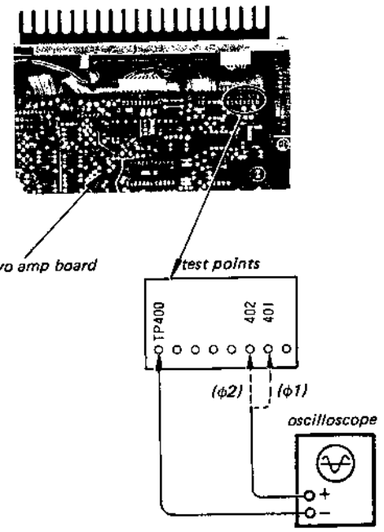


4. Set S406 to SERVO side (full-clockwise position), install a tape cassette and set in playback mode.
5. Adjust RV404 and RV405 to obtain a symmetrical waveforms as shown.

Waveforms:



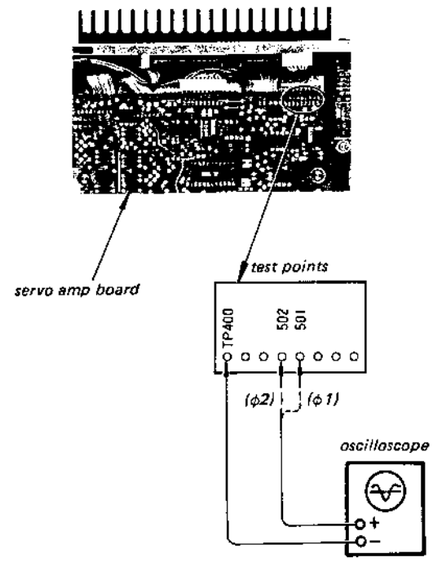
Adjustment Location:
– servo amp board –



Reel Motor Adjustment

Procedure:

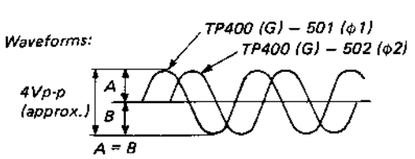
1. Connect an oscilloscope as follows.



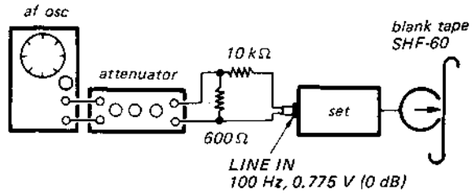
2. Set the tapecorder in playback mode with a tape cassette installed.
3. Adjust RV504 and RV505.

Oscilloscope connection	Adjust	Obtain
TP400 (G) and TP501 (φ1)	RV504	Waveform A = B
TP400 (G) and TP502 (φ2)	RV505	

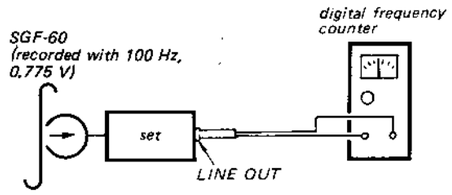
Waveforms:



4. Install a torque meter CQ-201B in the set. Adjust RV501 to obtain a 35 g·cm (0.49 oz·inch) of forward torque.
5. Mode: record

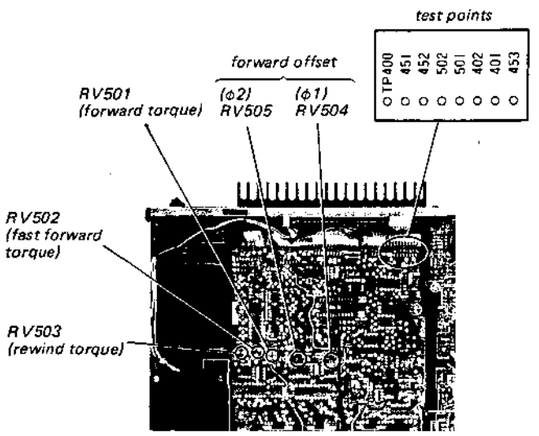


6. Mode: fast forward and rewind (CUE)



In fast-forward CUE operation, adjust fast forward torque adjustment RV502 so that the digital frequency counter reads 2900 – 3000 Hz at the fastest tape speed portion, i.e., at the near abouts of half rewinded. In rewind CUE operation, adjust the rewind-torque adjustment RV503 so that the digital frequency counter reads 2900 – 3000 Hz in the same way.

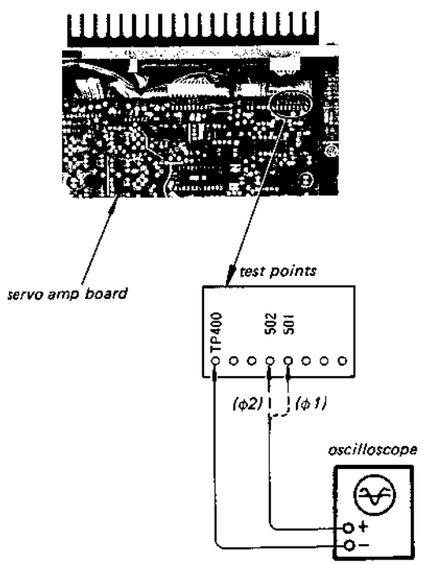
Adjustment Location:
– servo amp board –



Reel Motor Adjustment

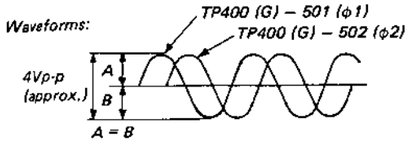
Procedure:

1. Connect an oscilloscope as follows.

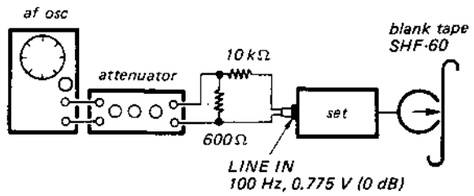


2. Set the tapecorder in playback mode with a tape cassette installed.
3. Adjust RV504 and RV505.

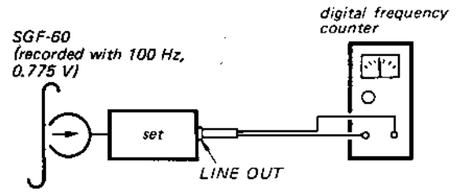
Oscilloscope connection	Adjust	Obtain
TP400 (G) and TP501 (φ1)	RV504	Waveform A = B
TP400 (G) and TP502 (φ2)	RV505	



4. Install a torque meter CQ-201B in the set. Adjust RV501 to obtain a 35 g·cm (0.49 oz·inch) of forward torque.
5. Mode: record



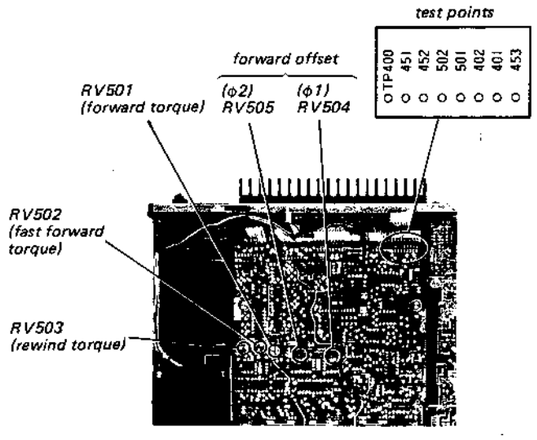
6. Mode: fast forward and rewind (CUE)



In fast-forward CUE operation, adjust fast forward torque adjustment RV502 so that the digital frequency counter reads 2900 – 3000 Hz at the fastest tape speed portion, i.e., at the near abouts of half rewinded. In rewind CUE operation, adjust the rewind-torque adjustment RV503 so that the digital frequency counter reads 2900 – 3000 Hz in the same way.

Adjustment Location:

– servo amp board –



LCD Meter Adjustment

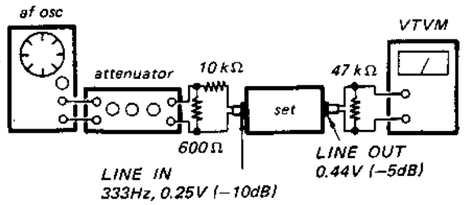
Setting:

PEAK HOLD switch: MANUAL
REC LEVEL control:
to obtain 0.44V (–5dB) output at LINE OUT with 0.25V (–10dB) input at LINE IN

Procedure:

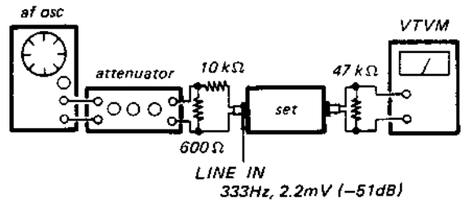
Note: When adjusting the following adjustable resistors, turn them in the direction to decrease the indications and set the resistors just when an indication element disappears.

1. Mode: record



Adjust RV901 (L-CH) and RV902 (R-CH) to make the right-most indication element places on 0VU (–4 dB).

2. Mode: record

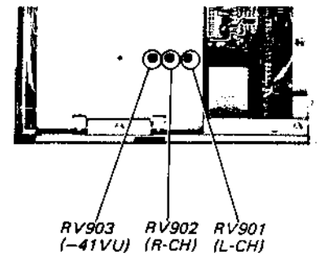


With 2.2 mV (51 dB) input, adjust RV903 to make the second element from the left just disappears.

3. Repeat steps 1 and 2 several times.

Adjustment Location:

– LCD unit –

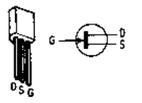


4-1. MOUNTING DIAGRAM (1)

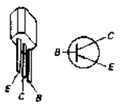
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

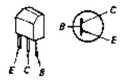
Q101, 201: 2SK107



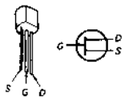
Q112, 212 / Q113, 213 / Q116, 216 / Q312, 317 : 2SA1027R (2SA1026), (2SA844)



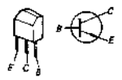
Q102, 202 / Q103, 203 / Q306, 307 / Q310 : 2SA1138



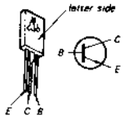
Q301, 302: 2SK30A



Q104, 204 / Q105, 205 / Q110, 210 / Q304, 305 / Q309 : 2SC2676



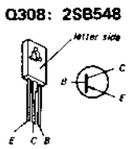
Q303: 2SD414

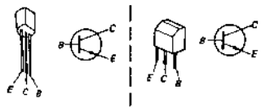


Q106, 206 / Q107, 207 / Q111, 211 / Q114, 214 / Q115, 215 / Q117, 217 / Q118, 218 / Q119, 219 / Q311 / Q313–316 / Q319 : 2SC1364 (2SC458A)

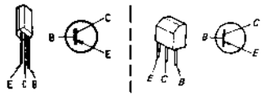
Q108, 208: 2SC1345

Q318: 2SC1475 (2SC1318) (2SC458A)



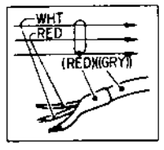


Q109, 209: 2SA872 (2SA836)

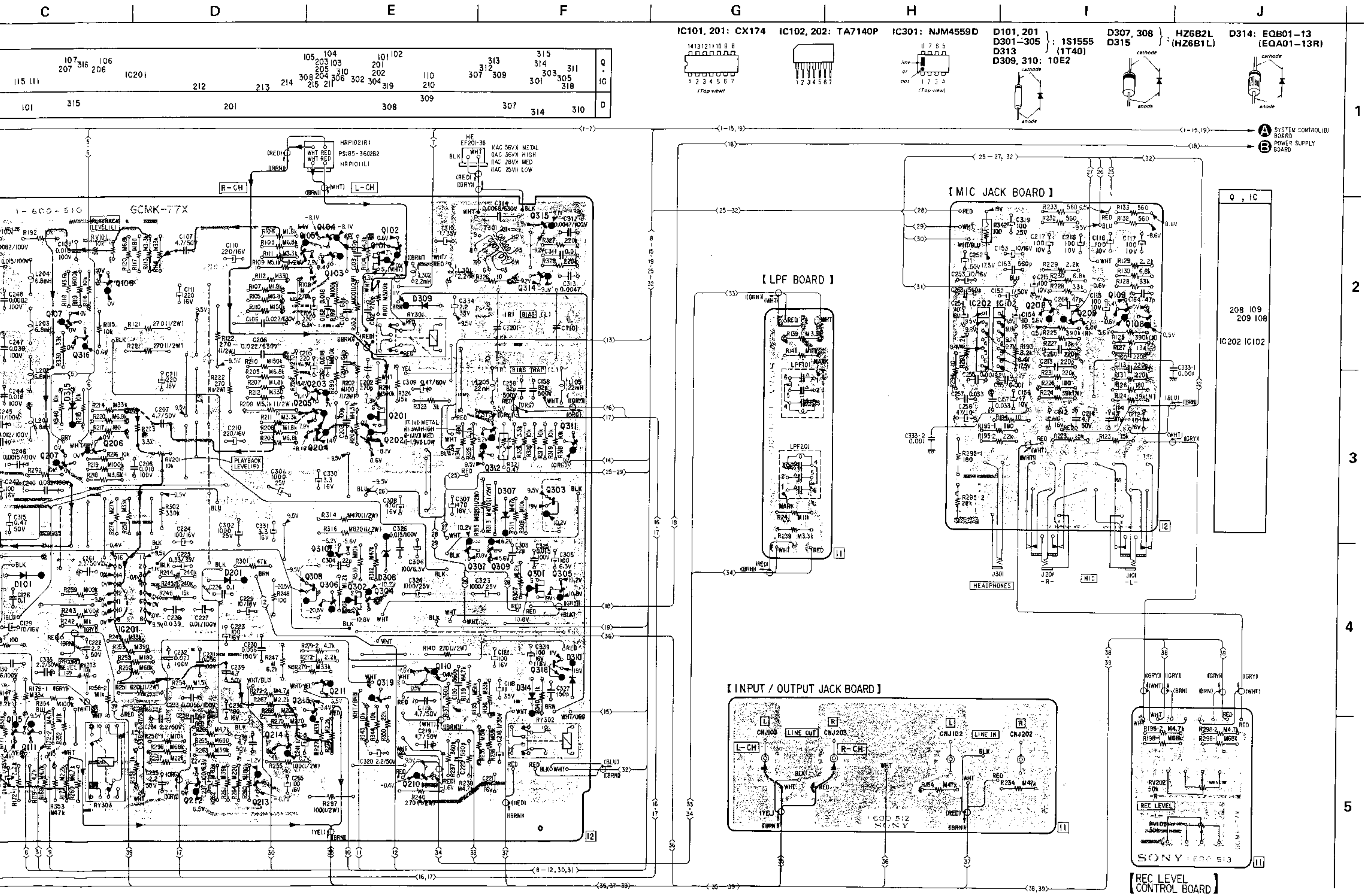


Note:

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

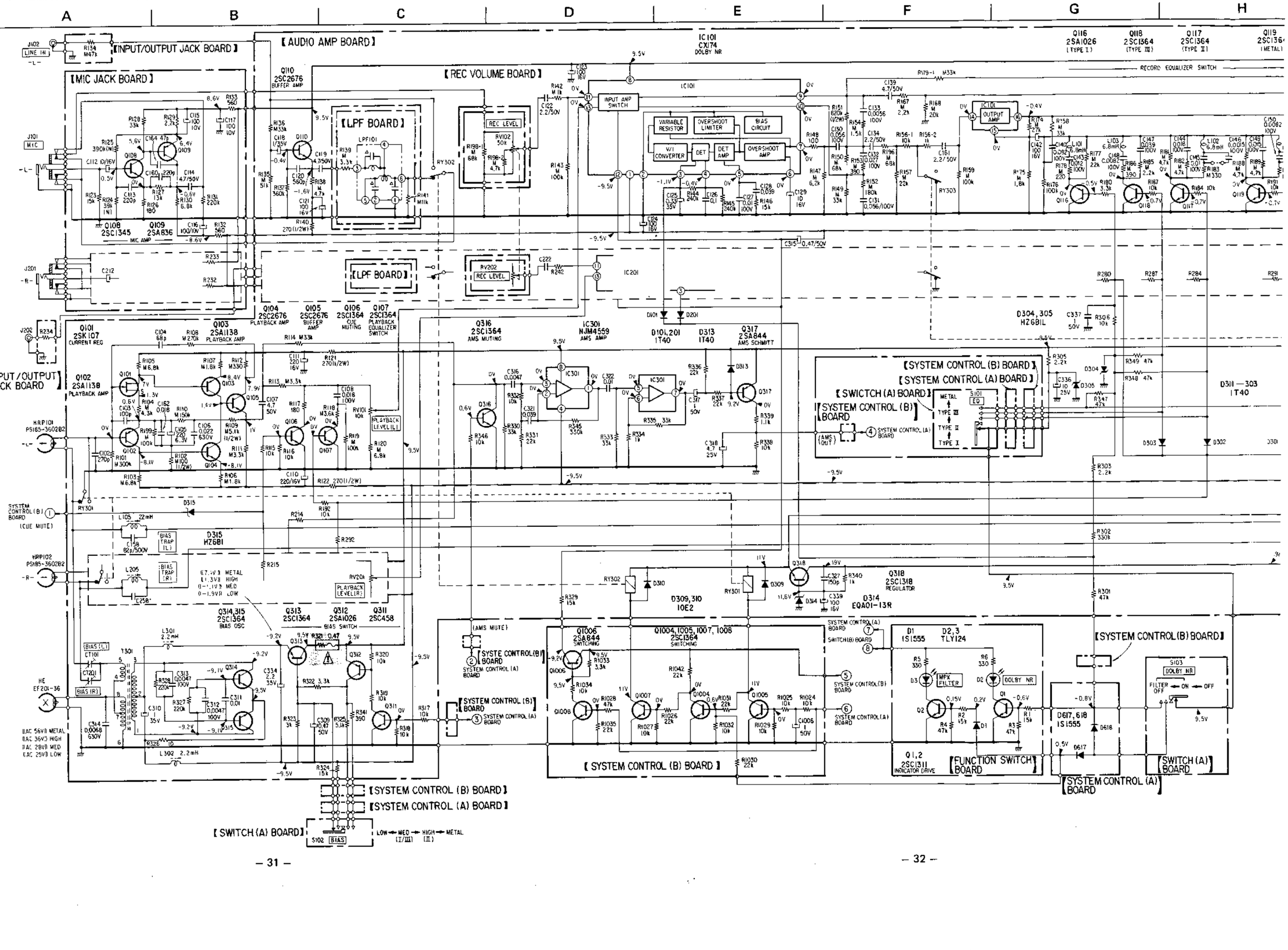


- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- M: metallized-film resistor
- : B + pattern
- : B − pattern

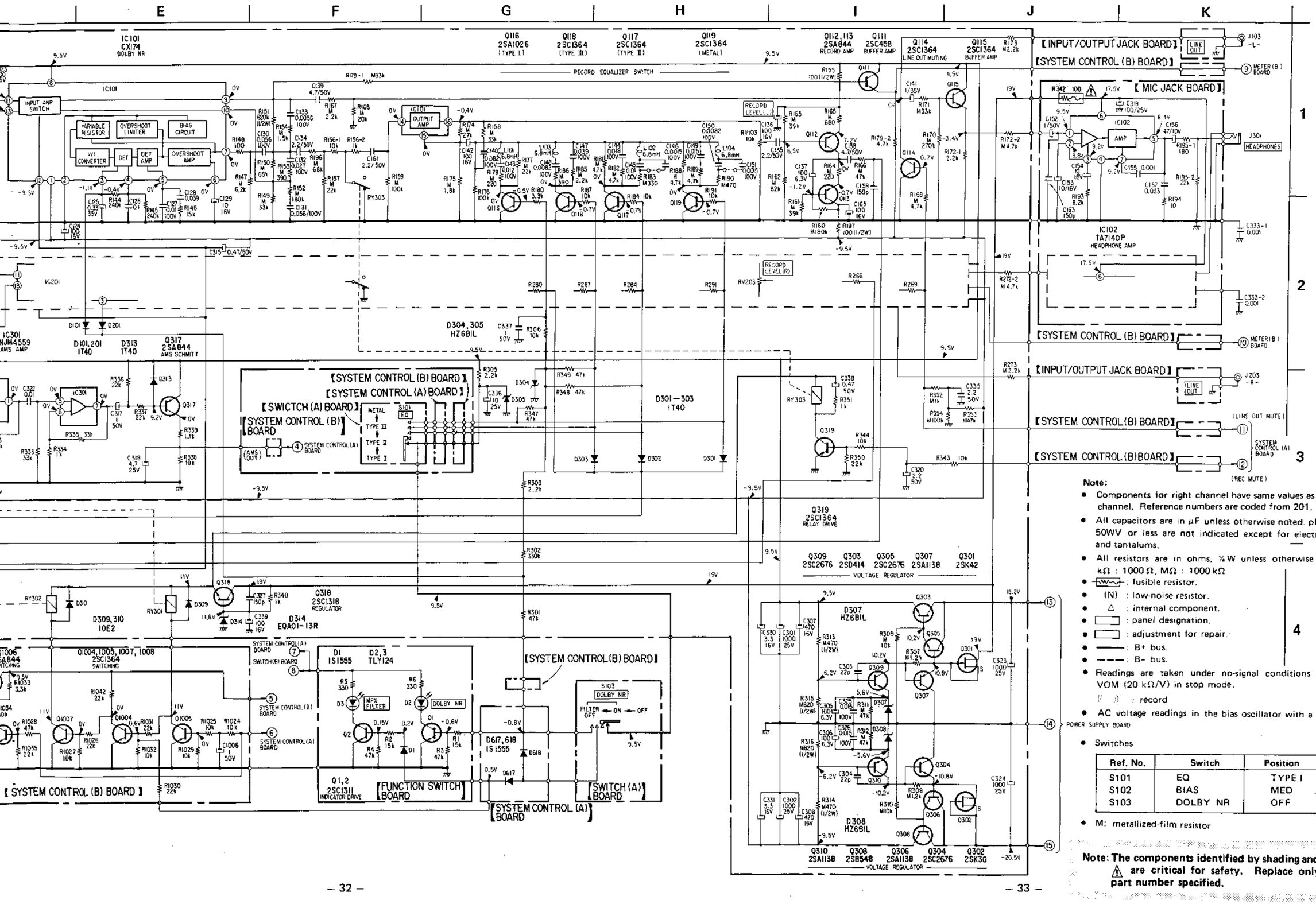


C D E F G H I J
IC101, 201: CX174
IC102, 202: TA7140P
IC301: NJM4559D
D101, 201
D301–305 : 1S1555
D313 (1T40)
D309, 310: 10E2
D307, 308 : HZ6B2L
D315 : (HZ6B1L)
D314: EQB01-13 (EQA01-13R)
(Top view)
GCMK-77X
R-CH
L-CH
PLAYBACK LEVEL(L)
PLAYBACK LEVEL(R)
BIAS
BIAS TRAP
【LPF BOARD】
【MIC JACK BOARD】
HEADPHONES
MIC
【INPUT / OUTPUT JACK BOARD】
LINE OUT
LINE IN
【REC LEVEL CONTROL BOARD】
REC LEVEL
SYSTEM CONTROL (B) BOARD
POWER SUPPLY BOARD
Q , IC
208 109
209 108
IC202 IC102
1 2 3 4 5

4-2. SCHEMATIC DIAGRAM (1)



TC-K88B



Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 201.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : fusible resistor.
- (N) : low-noise resistor.
- △ : internal component.
- : panel designation.
- : adjustment for repair.
- : B+ bus.
- : B- bus.
- Readings are taken under no-signal conditions with a VOM (20 kΩ/V) in stop mode.
  ( ) : record
- AC voltage readings in the bias oscillator with a VTVM

- Switches

Ref. No.	Switch	Position
S101	EQ	TYPE I
S102	BIAS	MED
S103	DOLBY NR	OFF

- M: metallized-film resistor

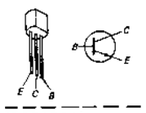
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

4-3. MOUNTING DIAGRAM (2)

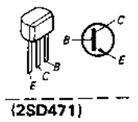
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

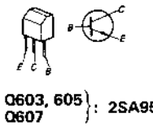
Q1, 2
Q602, 604
Q606
Q611–616
Q619, 620 : 2SC1364
Q610: 2SC1475



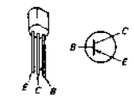
(2SC1311)



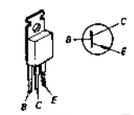
(2SD471)



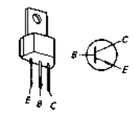
Q603, 605
Q607 : 2SA952



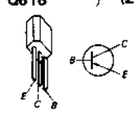
Q608: 2SC1986D



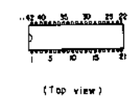
(2SC1826)



Q609, 617
Q618 : 2SA1027R (2SA844)

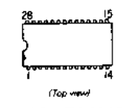


IC601: μPD547C-045



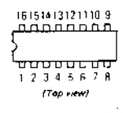
(Top view)

IC602: μPD550C-023



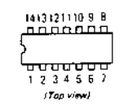
(Top view)

IC603: TC4019BP



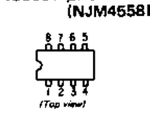
(Top view)

IC604: μPD4081C
IC605, 608: MSM4069 (TC4069)
IC607: μPC339C
IC609: TC4011BP



(Top view)

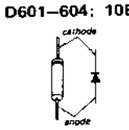
IC606: μPC4558C (NJM4558D)



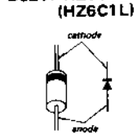
(Top view)

D1
D605–618 : 1S1555
D620

D601–604: 10E2

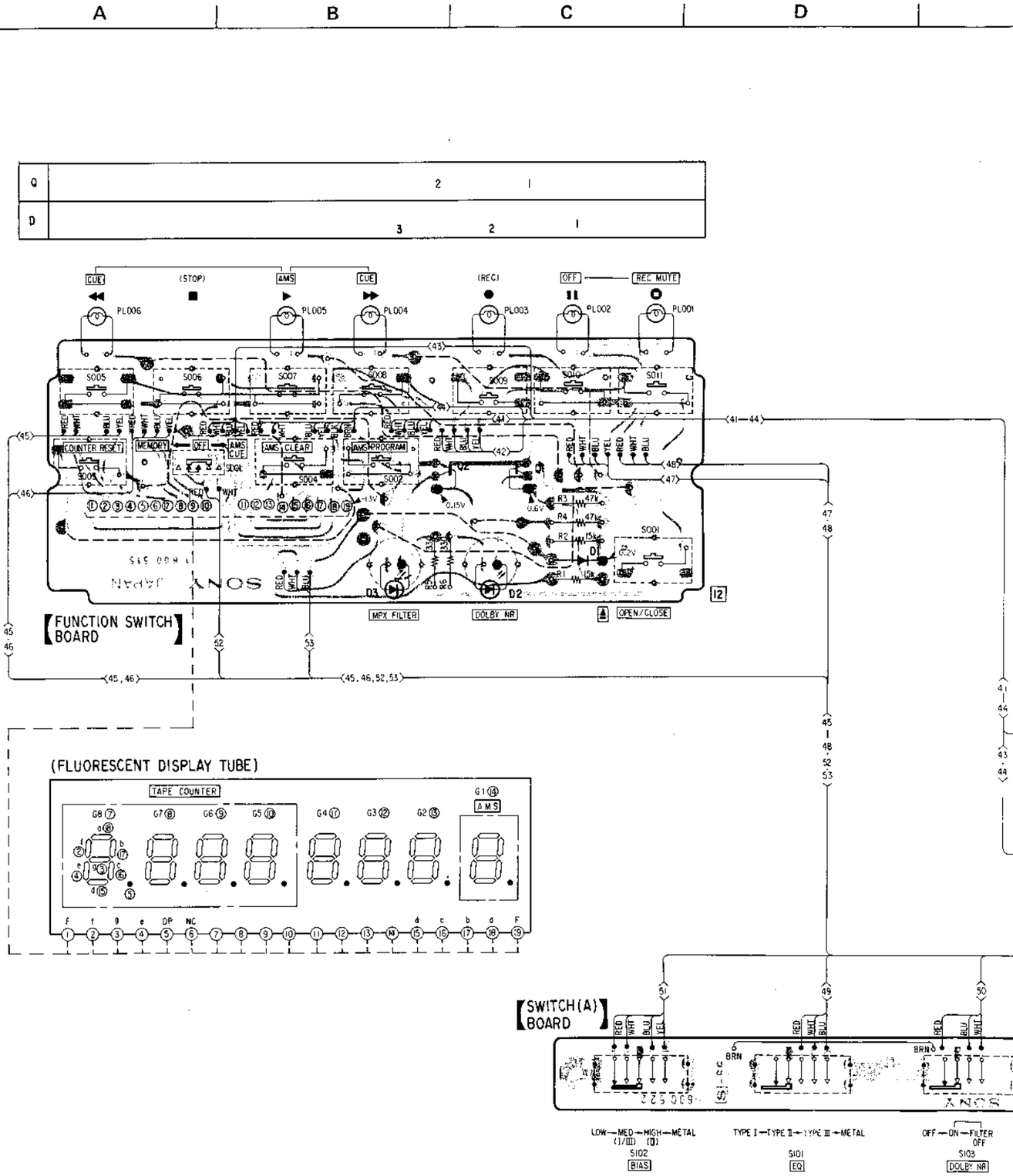


D619: HZ1.1B2L (HZ11B1L)
D621: HZ6C2L (HZ6C1L)



Note:

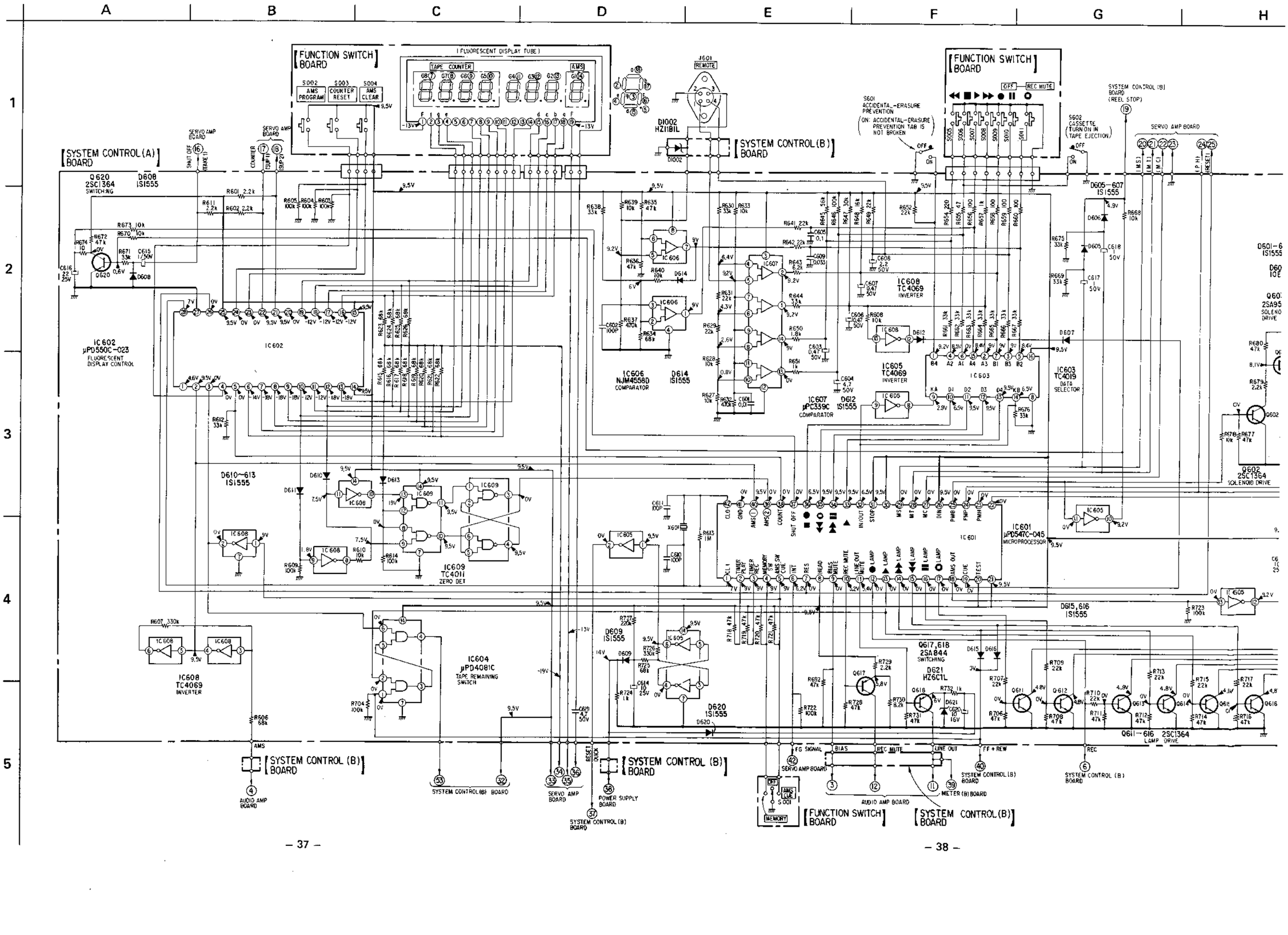
- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ○---○: component-side pattern.
- : B+ pattern
- : B- pattern

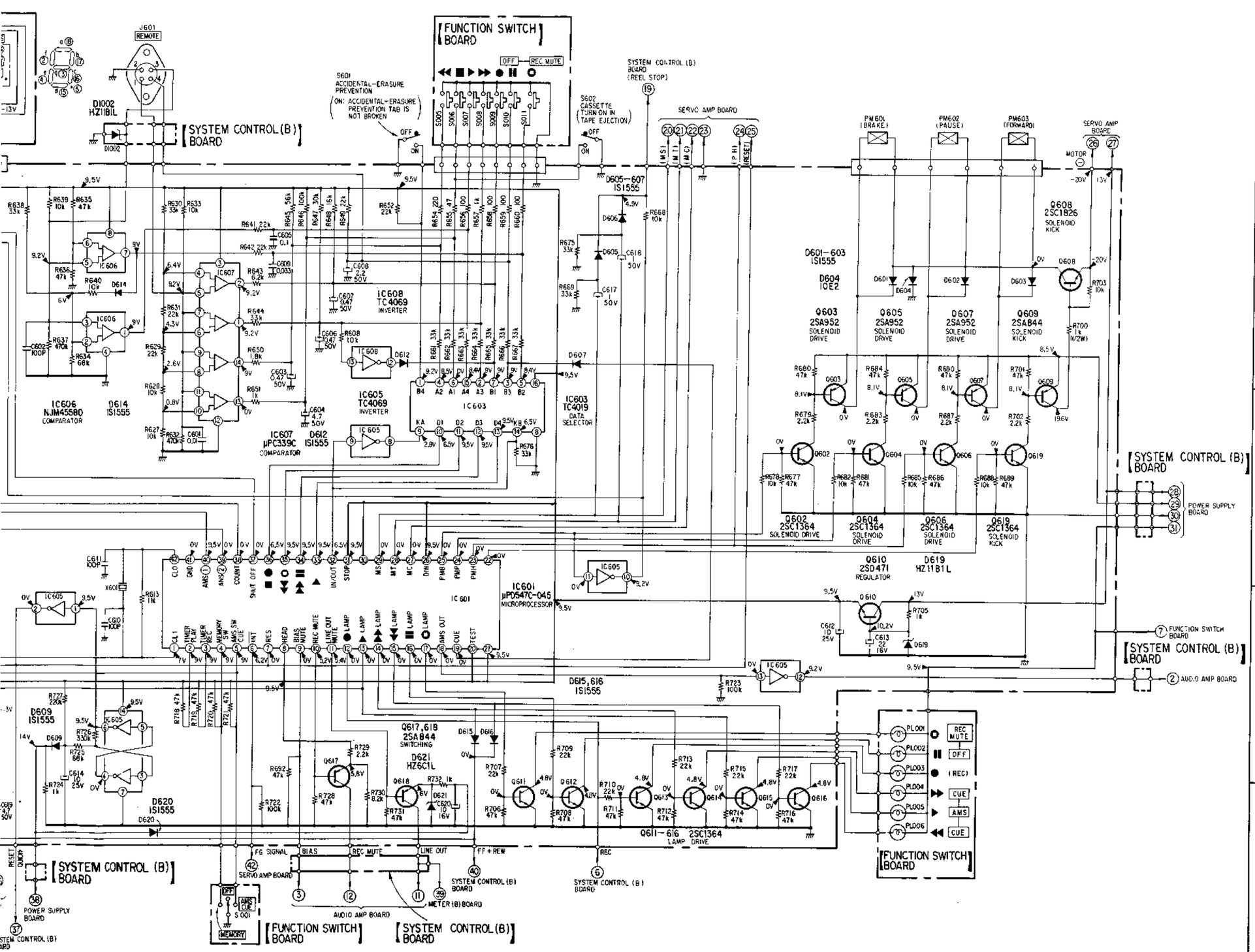


C D E F G H I J

Q·IC	IC609 IC608 IC602	620 IC601 IC603 IC607	617 618 IC606 IC604 IC605 616 614 615 619 606 602 604	613 603 612 610 611 608 609 607 605
D	613 610 611 605 606 608 612	621	615 616 607 614 620 604	609 618 617 619 601 602 603

4-4. SCHEMATIC DIAGRAM (2)





Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- – – –: B– bus.
- Readings are taken under no-signal conditions with a VOM (20 kΩ/V) in stop mode.
- Switches

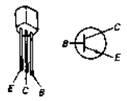
Ref. No.	Switch	Position
S001	AMS/MEMORY	OFF
S002	AMS PROGRAM	OFF
S003	COUNTER RESET	OFF
S004	AMS CLEAR	OFF
S005	◀◀ (RWD)	OFF
S006	■ (STOP)	ON
S007	▶ (FWD)	OFF
S008	▶▶ (FF/CUE)	OFF
S009	● (REC)	OFF
S010	▮▮ (PAUSE)	OFF
S011	○ REC-MUTE	OFF
S601	(ACCIDENTAL ERASURE PREVENTION)	OFF
S602	(CASSETTE-HALF DETECTION)	OFF

4-5. MOUNTING DIAGRAM (3)

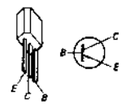
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

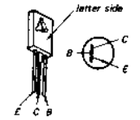
Q401–403, Q405–407, Q409, Q414, 415, Q513, 514, Q518, Q520–525, Q529–536 : 2SC1364



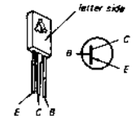
Q404, 408, Q515, 519, Q528 : 2SA1027R (2SA844)



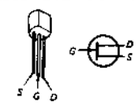
Q410, 412, Q501, 503, Q505, 507 : 2SD414



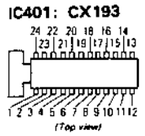
Q411, 413, Q502, 504, Q506, 508 : 2SB548



Q509–512: 2SK30A



IC401: CX193

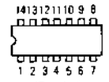


IC402, 403, IC503 : μPC4558C (NJM4558D)

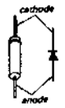
IC501, 502: NJM4558DFA

IC404: μPC78L05A (μPC78L05)

IC504: TC4024BP



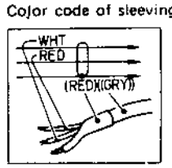
D401–404, D501–507 : 1S1555



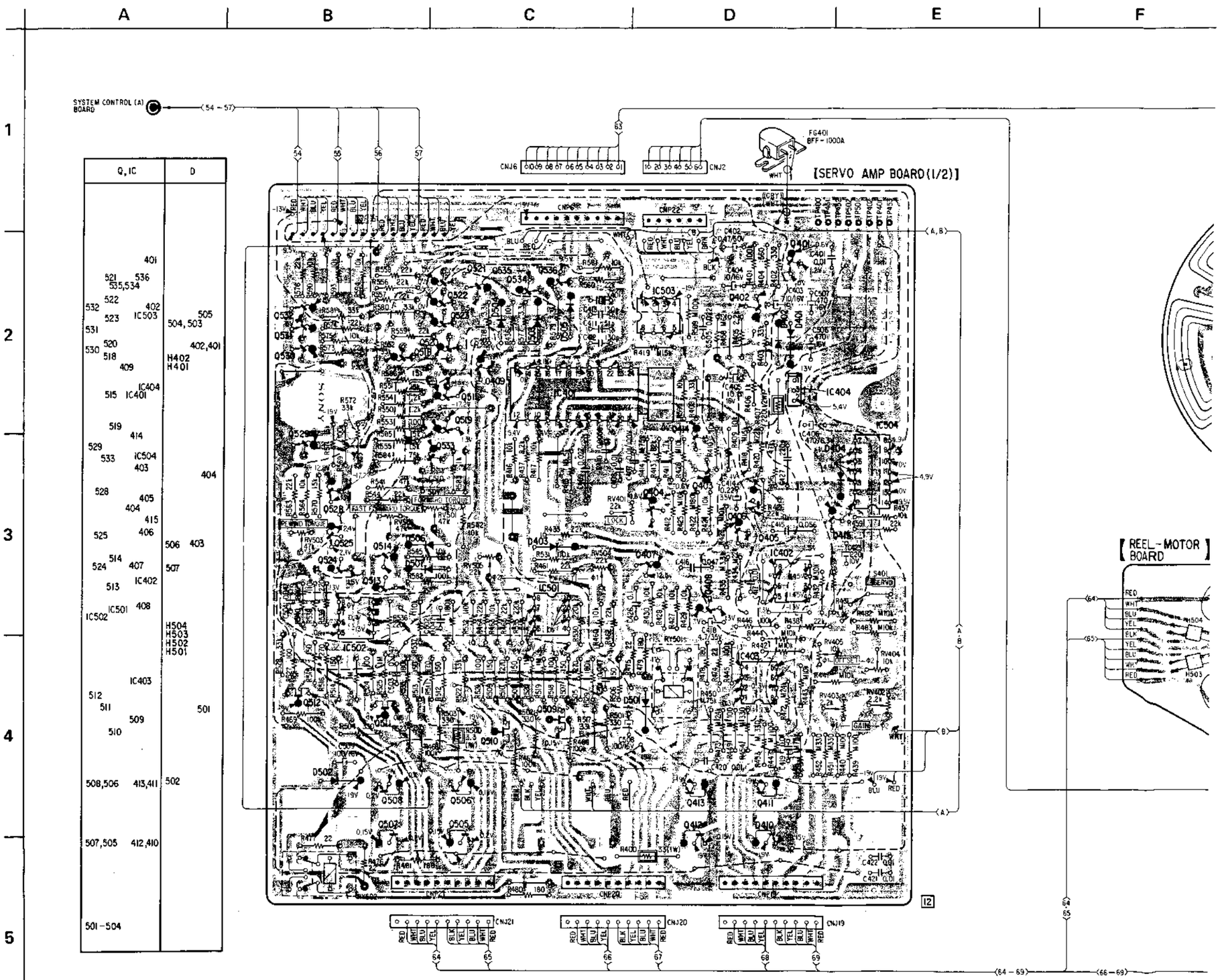
H401, 402: F1410
H501–504: F1410–15

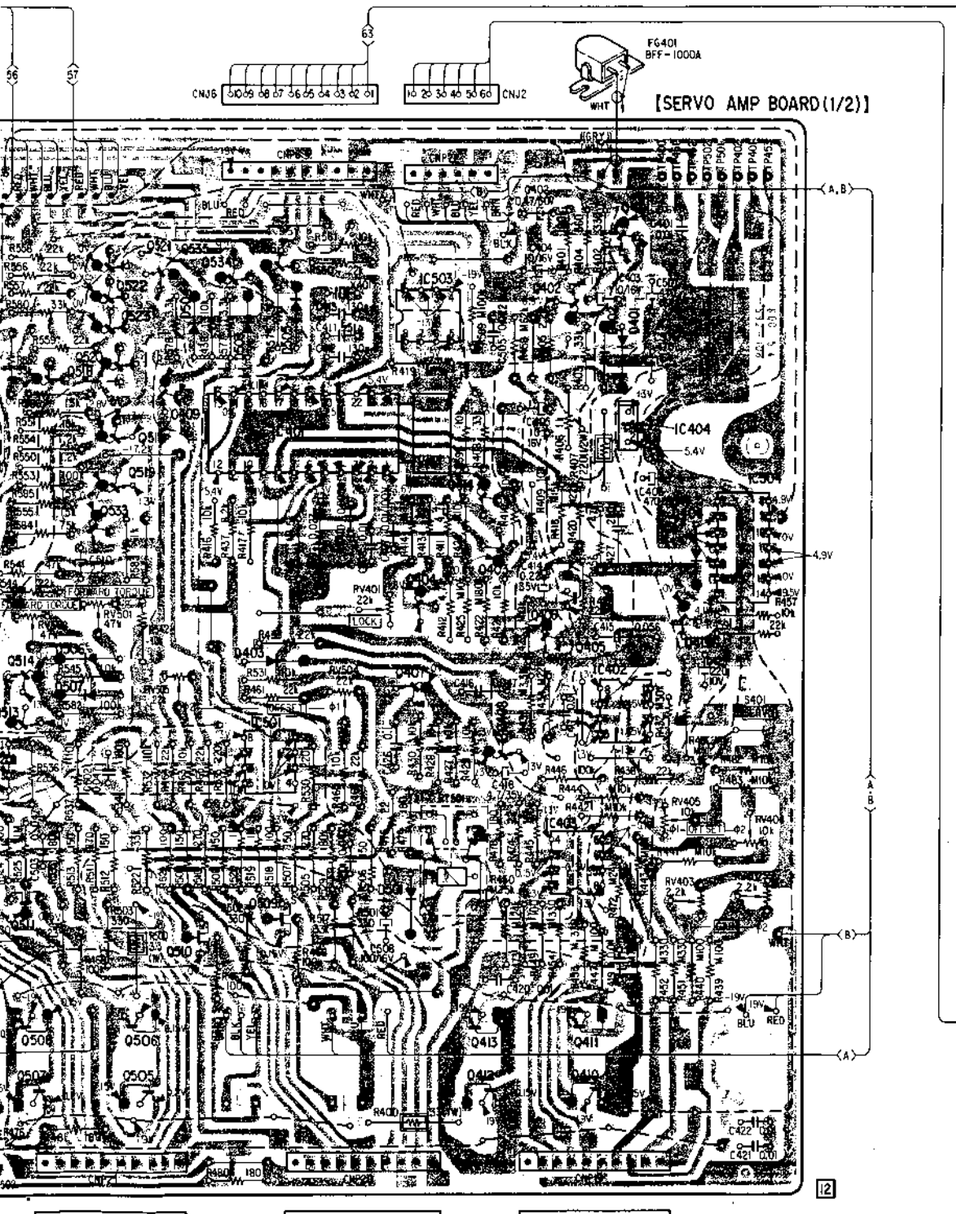
Note:

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



- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ○--○: component-side pattern.
- M: metallized-film resistor
- : B+ pattern

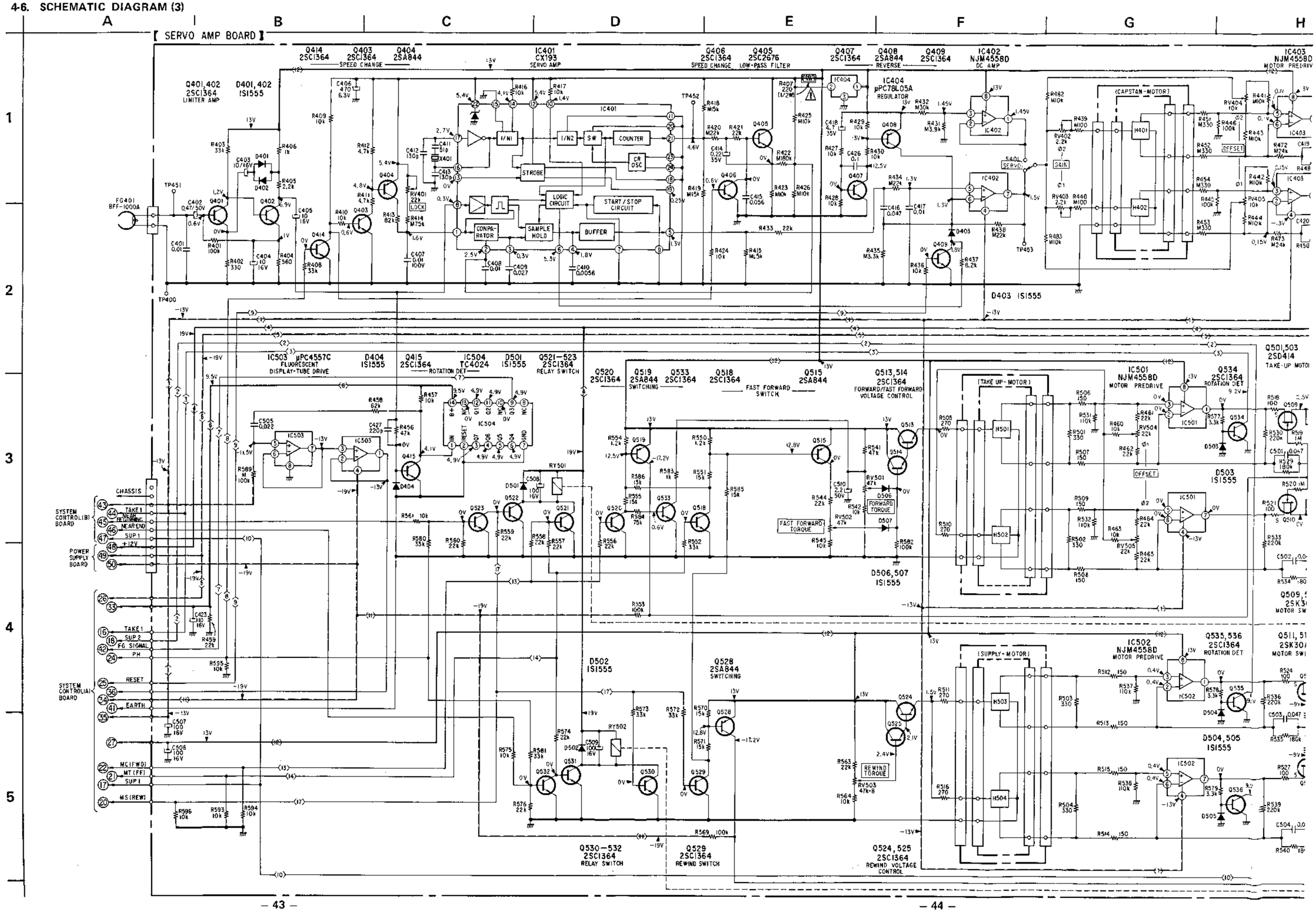


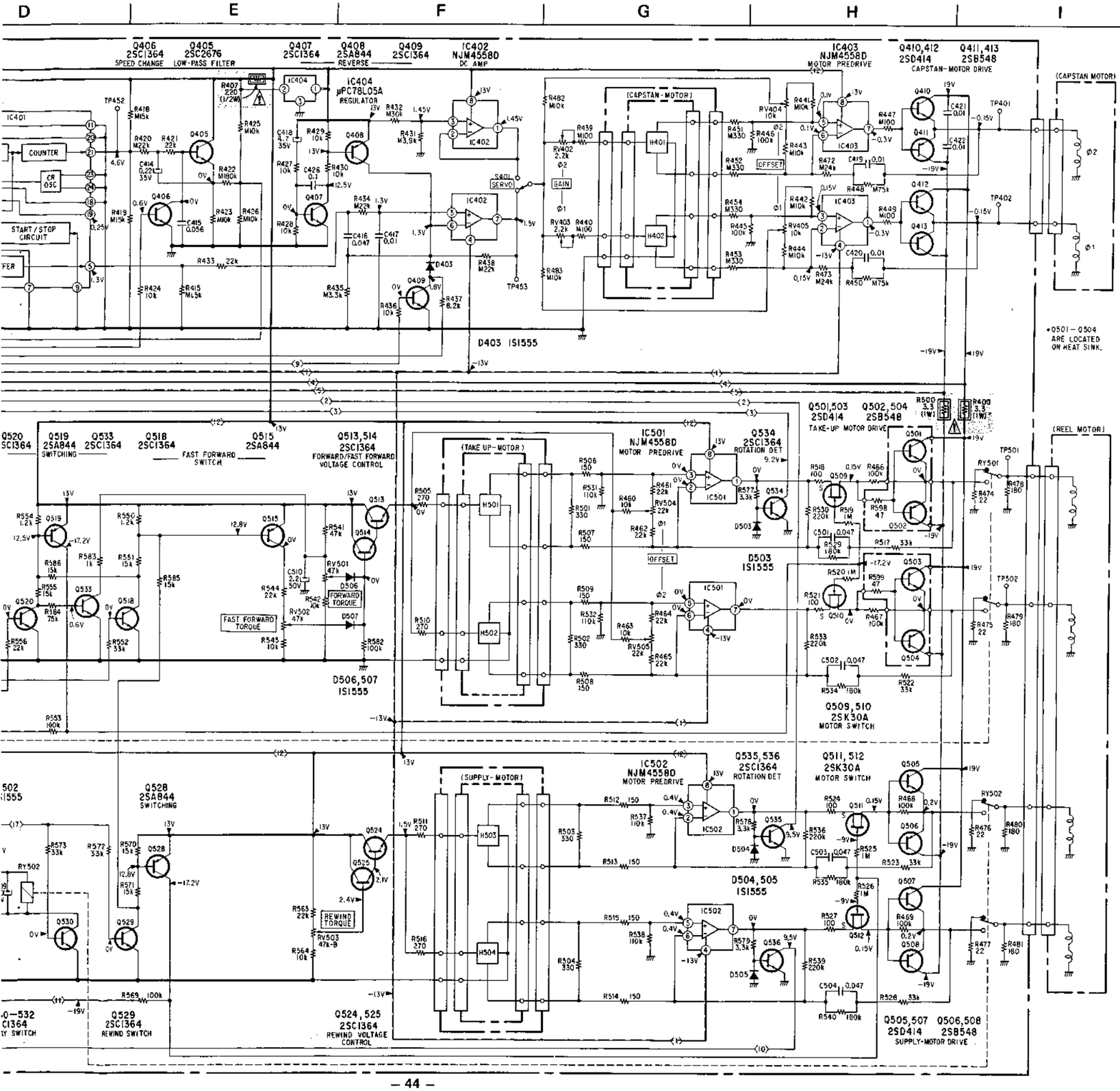


C
D
E
F
G
H
I
1
2
3
4
5
SYSTEM CONTROL(B) BOARD
(63)
FG401
BFF-1000A
[SERVO AMP BOARD(1/2)]
CNJ16
CNJ2
IC503
IC404
IC402
RV401
RV403
RV404
RV405
Q506
Q505
Q411
Q413
CNJ21
CNJ20
CNJ19
(64—69)
(66—69)
12
[CAPSTAN-MOTOR BOARD]
SONY
H402
H401
588 597
21
(68)
(69)
TERMINAL MARKED WITH ✱ IS CUT AS SHOWN BELOW.
[REEL-MOTOR BOARD]
REFERENCE
REEL-MOTOR BOARD ASSY
(SUPPLY-MOTOR)
(TAKE UP-MOTOR)
H504
H503
SONY
600-524
11
(64)
(65)
(66)
(67)
RED
WHT
BLU
YEL
BLK
[SERVO AMP BOARD(1/2)]
SONY
Q504
Q503
Q502
Q501
-19V
11

4-6. SCHEMATIC DIAGRAM (3)

【 SERVO AMP BOARD 】



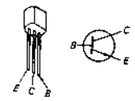


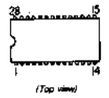
Note:

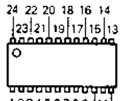
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ▭: nonflammable resistor.
- M: metallized-film resistor
- ——: B+ bus.
- – – –: B– bus.
- Readings are taken under no-signal conditions with a VOM (20 kΩ/V) in stop mode.
- Switch

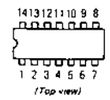
Ref. No.	Switch	Position
S401	SERVO	SERVO

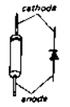
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.











4-7. MOUNTING DIAGRAM (4)

Note:

- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- M: metallized-film resistor
- ▨ : B + pattern

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

Q901–906: 2SC1364

IC901: μPC629C

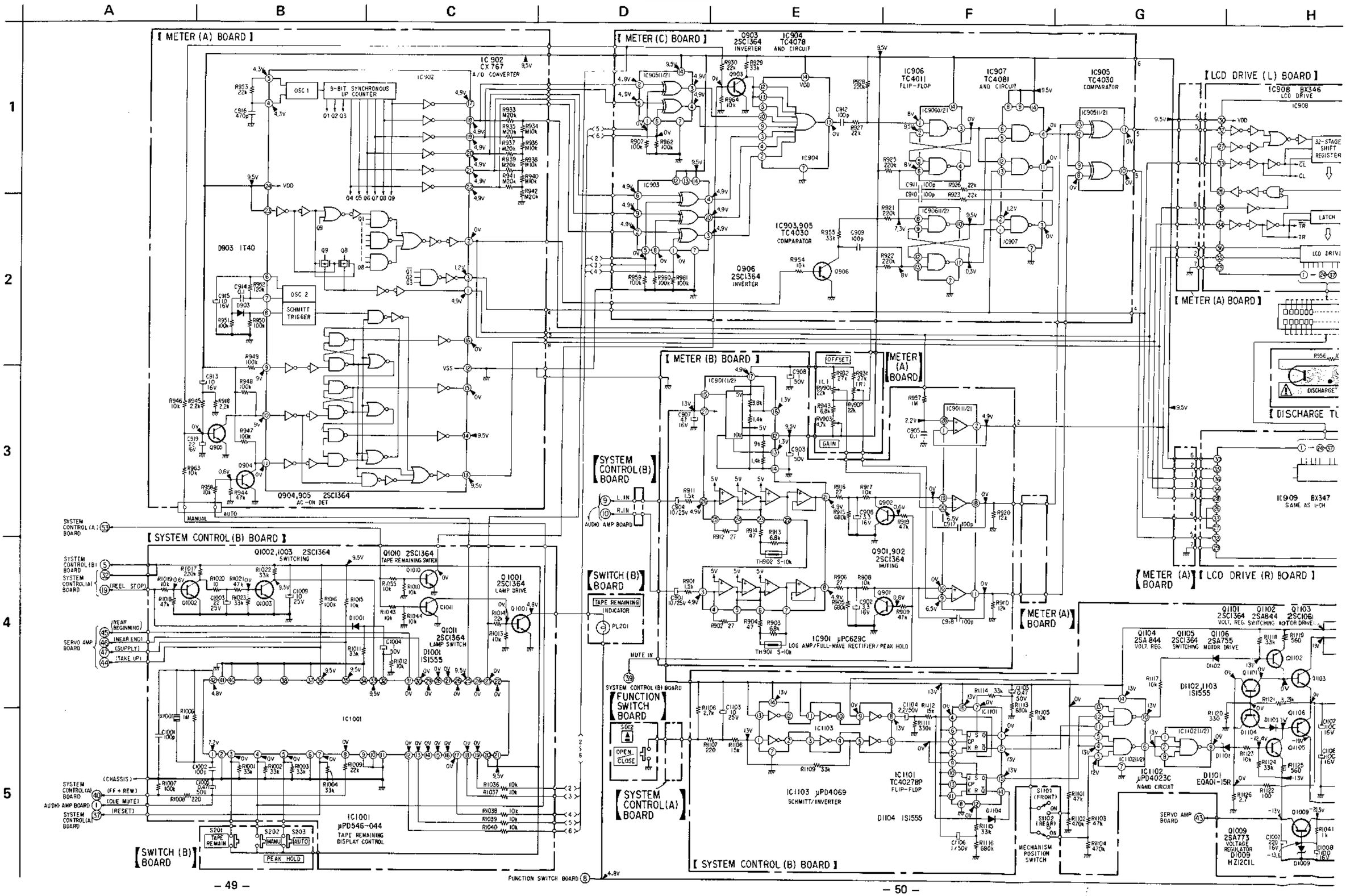
IC902: CX767

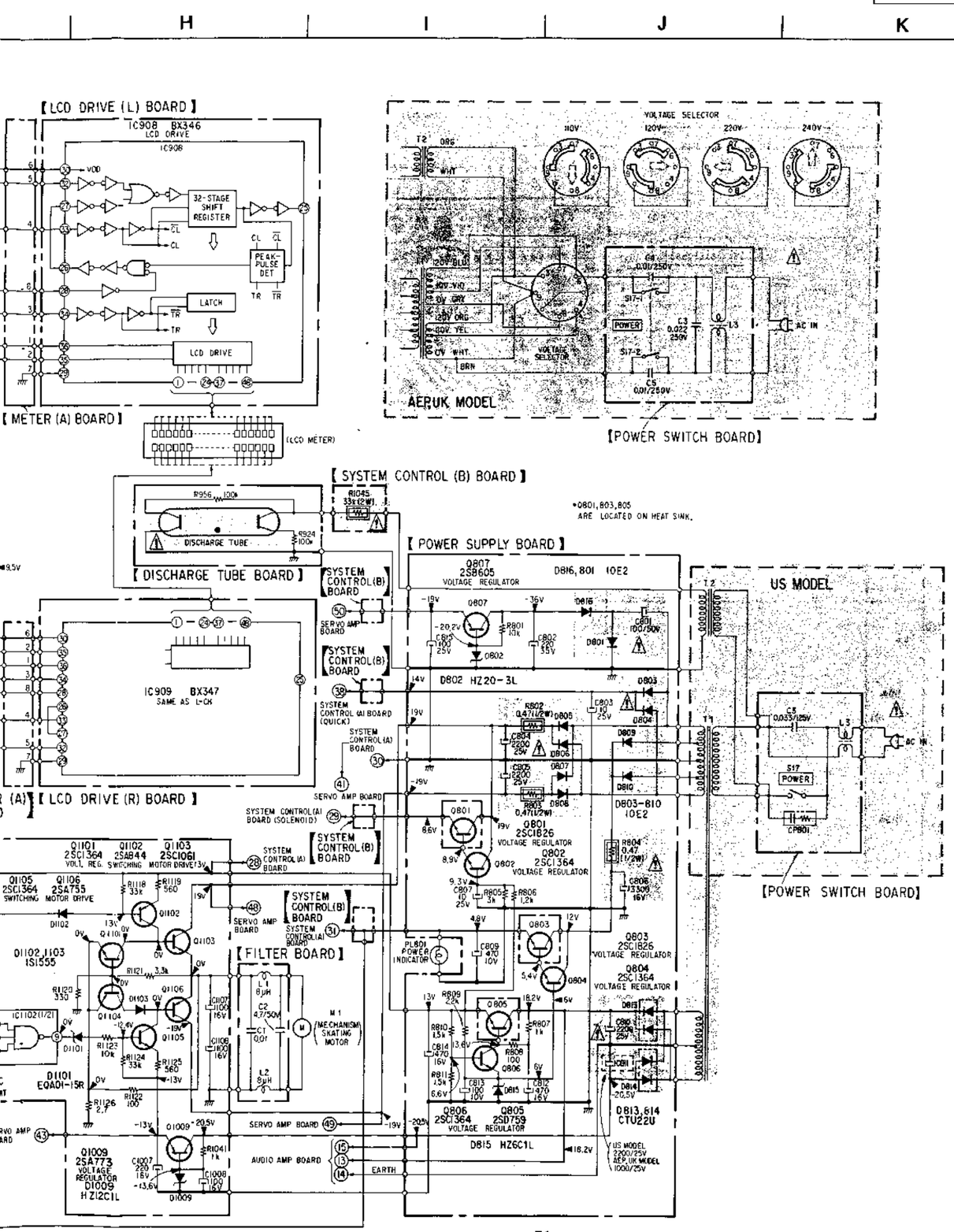
IC903, 905: TC4030BP
IC904: TC4078BP
IC906: TC4011BP
IC907: TC4081BP

D903: 1S1555
(1T40)

Q · IC		904 905 IC903	IC904 IC902 IC905 906 903	IC906 IC907		901 902 IC901	
D			903				

46leer


A
B
C
D
E
F
G
H
1
2
3
4
5
【METER (A) BOARD】
【METER (C) BOARD】
【METER (B) BOARD】
【SYSTEM CONTROL (B) BOARD】
【SWITCH (B) BOARD】
【FUNCTION SWITCH BOARD】
【SYSTEM CONTROL(A) BOARD】
【LCD DRIVE (L) BOARD】
【LCD DRIVE (R) BOARD】
IC902 CX767 A/D CONVERTER
IC903,905 TC4030 COMPARATOR
IC904 TC4078 AND CIRCUIT
IC906 TC4011 FLIP-FLOP
IC907 TC4081 AND CIRCUIT
IC908 BX346 LCD DRIVE
IC909 BX347 SAME AS L-CH
IC1001 µPD546-044 TAPE REMAINING DISPLAY CONTROL
IC1101 TC4027BP FLIP-FLOP
IC1102 µPD4023C NAND CIRCUIT
IC1103 µPD4069 SCHMITT/INVERTER
IC901 µPC629C LOG AMP/FULL-WAVE RECTIFIER/PEAK HOLD
Q903 2SC1364 INVERTER
Q906 2SC1364 INVERTER
Q1001 2SC1364 LAMP DRIVE
Q1011 2SC1364 LAMP SWITCH
Q1002,1003 2SC1364 SWITCHING
Q1010 2SC1364 TAPE REMAINING SWITCH
Q1101 2SA844 VOLT. REG.
Q1102 2SC1364 SWITCHING
Q1103 2SC1061 MOTOR DRIVE
Q1104 2SA844 VOLT. REG.
Q1105 2SC1364 SWITCHING
Q1106 2SA755 MOTOR DRIVE
Q1009 2SA773 VOLTAGE REGULATOR
Q904,905 2SC1364 AC-ON DET
Q901,902 2SC1364 MUTING
D903 1T40
D1001 1S1555
D1002,1003 1S1555
D1101 EQA01-15R
D1009 HZ12C1L
OSC 1
OSC 2
9-BIT SYNCHRONOUS UP COUNTER
SCHMITT TRIGGER
OFFSET
GAIN
MANUAL
AUTO
TAPE REMAIN
MANU
PEAK HOLD
TAPE REMAINING INDICATOR
PL201
OPEN
CLOSE
MECHANISM POSITION SWITCH
32-STAGE SHIFT REGISTER
LATCH
LCD DRIVE
DISCHARGE
SYSTEM CONTROL (A) BOARD
SYSTEM CONTROL (B) BOARD
SERVO AMP BOARD
AUDIO AMP BOARD
FUNCTION SWITCH BOARD
(NEAR BEGINNING)
(NEAR END)
(SUPPLY)
(TAKE UP)
(REEL STOP)
(CHASSIS)
(FF + REW)
(CUE MUTE)
(RESET)
L IN
R IN
MUTE IN
VDD
VSS



Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- : nonflammable resistor.
- : panel designation.
- : adjustment for repair.
- ——: B+ bus.
- – – –: B- bus.
- Readings are taken under no-signal conditions with a VOM (20 kΩ/V) in stop mode.
- Switches

Ref. No.	Switch	Position
S012	OPEN/CLOSE	OFF
S201	TAPE REMAINING	OFF
S202	MANU	OFF
S203	AUTO	ON
S801	POWER	OFF
S1101	DECK MECHANISM (front)	OFF
S1102	DECK MECHANISM (rear)	ON

- M: metallized-film resistor

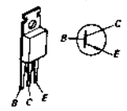
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

4-9. MOUNTING DIAGRAM (5)

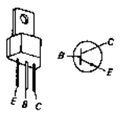
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

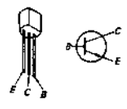
Q801, 803, Q805 : 2SC1986D



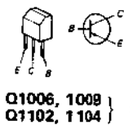
(2SC1826)



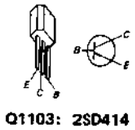
Q802, 804, Q806, Q1001–1005, Q1007, 1008, Q1010, 1011, Q1101, 1105 : 2SC1364



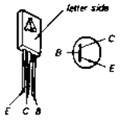
Q807: 2SB605



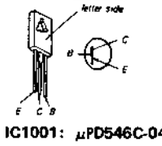
Q1006, 1009, Q1102, 1104 : 2SA1027R (2SA844, 2SA1015)



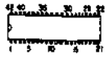
Q1103: 2SD414



Q1106: 2SB548

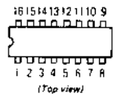


IC1001: μPD546C-044



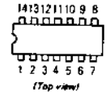
(Top view)

IC1101: TC4027BP



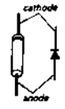
(Top view)

IC1102: TC4023BP (μPD4023C)
IC1103: MSM4069 (μPD4069)

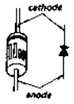


(Top view)

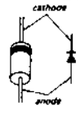
D801, D803–814 : 10E2
D816
D1001, D1102–1104 : 1S1555



D802: EQB01-20 (EQA01-20R)
D1101: EQB01-15 (EQA01-15R)

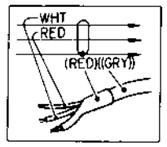


D815: HZ6C2L (HZ6C1L)
D1009: HZ12C2L (HZ12C1L)



Note: (mounting diagram)

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



- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ····· : B+ pattern

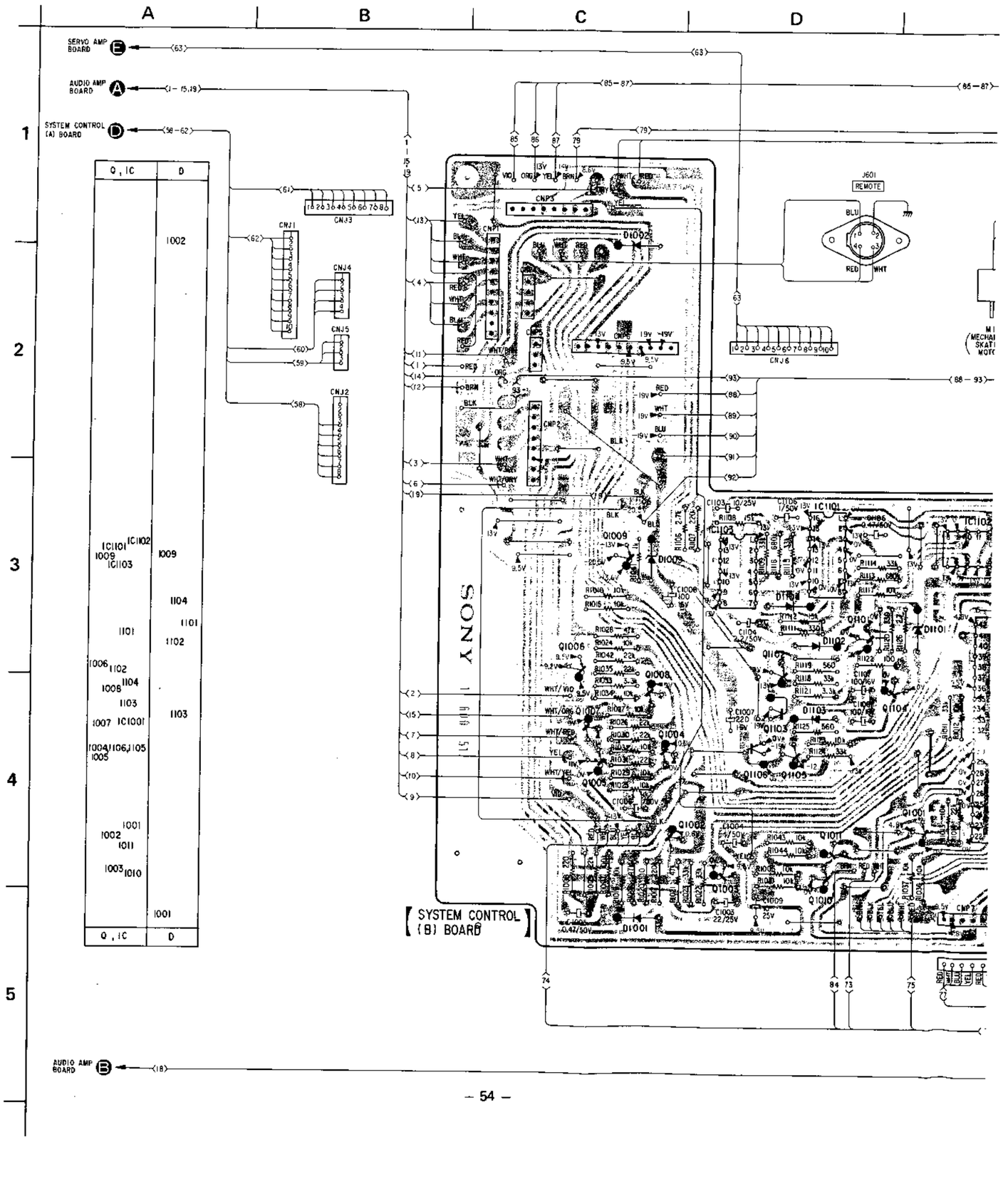
Note: (schematic diagram)

- All capacitors are in μF unless otherwise noted. pF : μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω; MΩ : 1000 kΩ
- : nonflammable resistor.
- : panel designation.
- : adjustment for repair.
- ——: B+ bus.
- – – –: B– bus.
- Readings are taken under no-signal conditions with a VOM (20 kΩ/V) in stop mode.
- Switches

Ref. No.	Switch	Position
S012	OPEN/CLOSE	OFF
S201	TAPE REMAINING	OFF
S202	MANU	OFF
S203	AUTO	ON
S801	POWER	OFF
S1101	DECK MECHANISM (front)	OFF
S1102	DECK MECHANISM (rear)	ON

- M: metallized-film resistor

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



D E F G H I J K

1 2 3 4 5

【FILTER BOARD】

J601 REMOTE

M1 MECHANISM SKATING MOTOR

S1101 MECHANISM SKATING (FRONT)

S1102 SKATING SWITCH (REAR)

【 POWER SUPPLY BOARD (1/2) 】

Q805 Q803 Q801

AEP, UK MODEL

VOLTAGE SELECTOR

110V 120V 220V 240V

【 POWER SWITCH BOARD 】

S17 POWER

AC IN

【 POWER SUPPLY BOARD (1/2) 】

Q807 Q802 Q804 Q806

PL801 POWER (INDICATOR)

【 POWER SWITCH BOARD 】

CP801

SONY

US, MODEL

【SWITCH (B) BORARD】

PL201 TAPE REMAIN (INDICATOR)

S201 TAPE REMAIN

S203 AUTO

S202 MANU

PEAK HOLD

CNJ7 CNJ8

Q	D
807	802
805,803,801	801,816
802	803 804 806 808 805 807 809
804	810
806	815 814 813

(76) I DISCHARGE TUBE BOARD

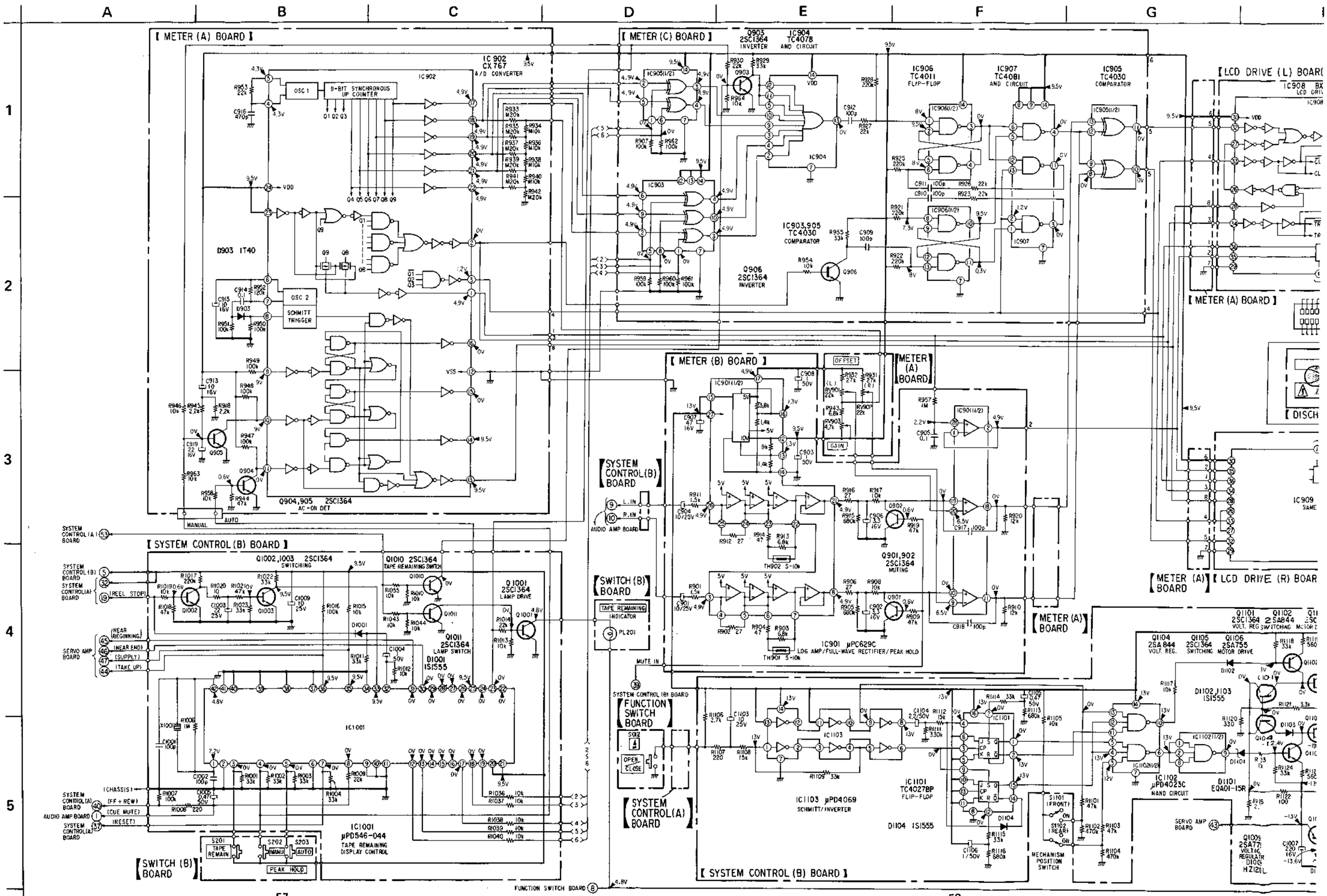
(73) F METER(A) BOARD

(74) G METER(B) BOARD

(84) J

(75) H METER(C) BOARD

TC-K88B TC-K88B



D E F G H I J K

1 2 3 4 5

【METER (C) BOARD】

Q903 2SC1364 INVERTER

IC904 TC4078 AND CIRCUIT

IC906 TC4011 FLIP-FLOP

IC907 TC4081 AND CIRCUIT

IC905 TC4030 COMPARATOR

IC903,905 TC4030 COMPARATOR

Q906 2SC1364 INVERTER

【METER (B) BOARD】

【METER (A) BOARD】

【SYSTEM CONTROL(B) BOARD】

【SWITCH (B) BOARD】

【SYSTEM CONTROL(A) BOARD】

【FUNCTION SWITCH BOARD】

【SYSTEM CONTROL (B) BOARD】

IC901 μPC629C LOG AMP/FULL-WAVE RECTIFIER/PEAK HOLD

Q901,902 2SC1364 MUTING

IC1103 μPD4069 SCHMITT/INVERTER

IC1101 TC4027BP FLIP-FLOP

D1104 1S1555

IC1102 μPD4023C NAND CIRCUIT

D1101 EQA01-15R

D1102,1103 1S1555

Q1101 2SC1364 VOLT. REG.

Q1102 2SA844 SWITCHING

Q1103 2SC1061 MOTOR DRIVE

Q1104 2SA844 VOLT. REG.

Q1105 2SC1364 SWITCHING

Q1106 2SA755 MOTOR DRIVE

Q1009 2SA773 VOLTAGE REGULATOR D1009 HZ12C1L

【LCD DRIVE (L) BOARD】

IC908 BX346 LCD DRIVE

IC909 BX347 SAME AS L-CH

【METER (A) BOARD】 【LCD DRIVE (R) BOARD】

【DISCHARGE TUBE BOARD】

【SYSTEM CONTROL (B) BOARD】

【FILTER BOARD】

【POWER SWITCH BOARD】

AEP,UK MODEL

VOLTAGE SELECTOR 110V 120V 220V 240V

【POWER SWITCH BOARD】

*Q801,803,805 ARE LOCATED ON HEAT SINK.

【POWER SUPPLY BOARD】

Q807 2SB605 VOLTAGE REGULATOR

D816, 801 10E2

D802 HZ20-3L

Q801 2SC1826 VOLTAGE REGULATOR

Q802 2SC1364 VOLTAGE REGULATOR

D803-810 10E2

Q803 2SC1826 VOLTAGE REGULATOR

Q804 2SC1364 VOLTAGE REGULATOR

Q806 2SC1364 VOLTAGE REGULATOR

Q805 2SD759 VOLTAGE REGULATOR

D815 HZ6C1L

D813,814 CTU22U

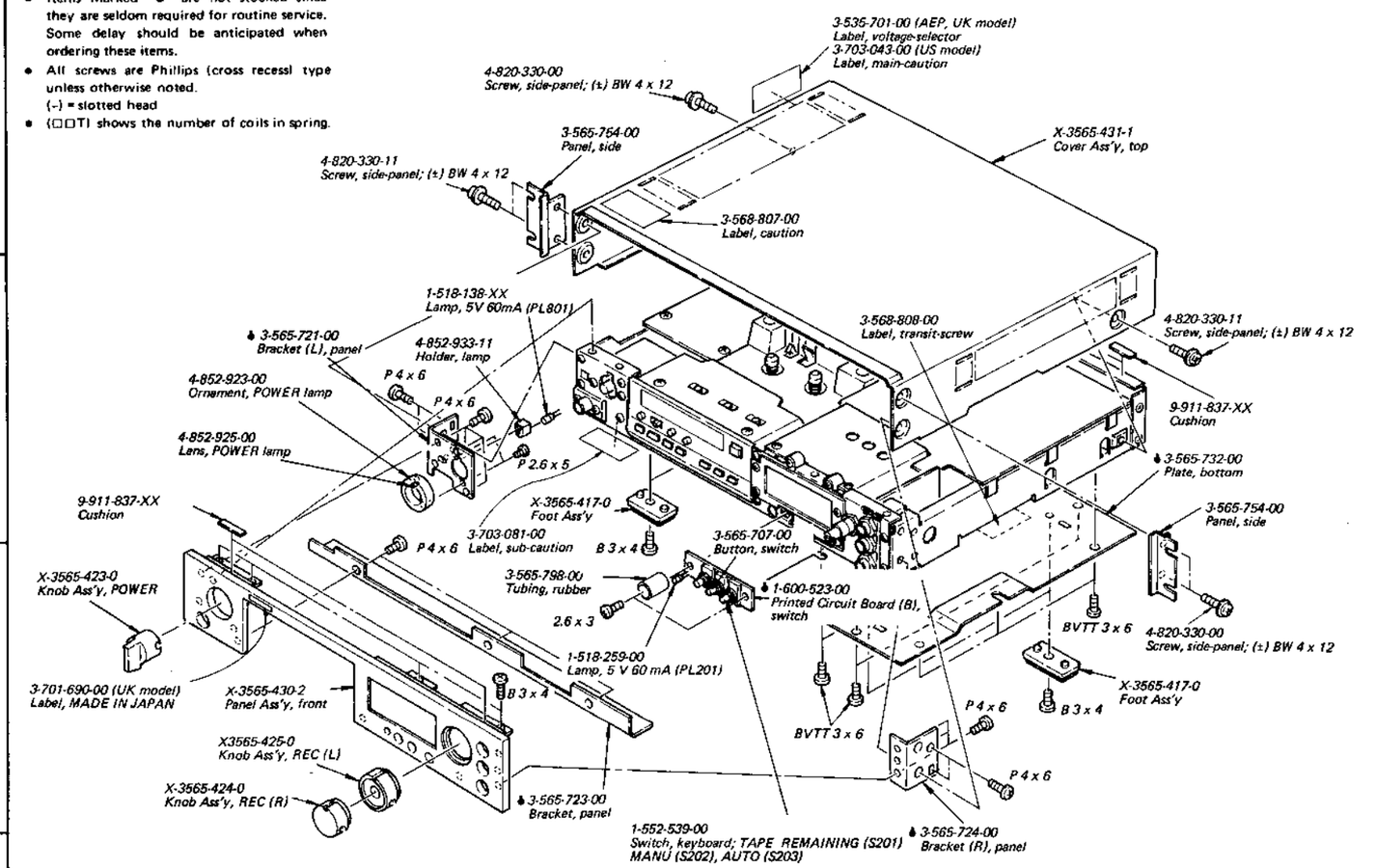
US MODEL

US MODEL 220Ω/25W AEP,UK MODEL 100Ω/25W

【POWER SWITCH BOARD】

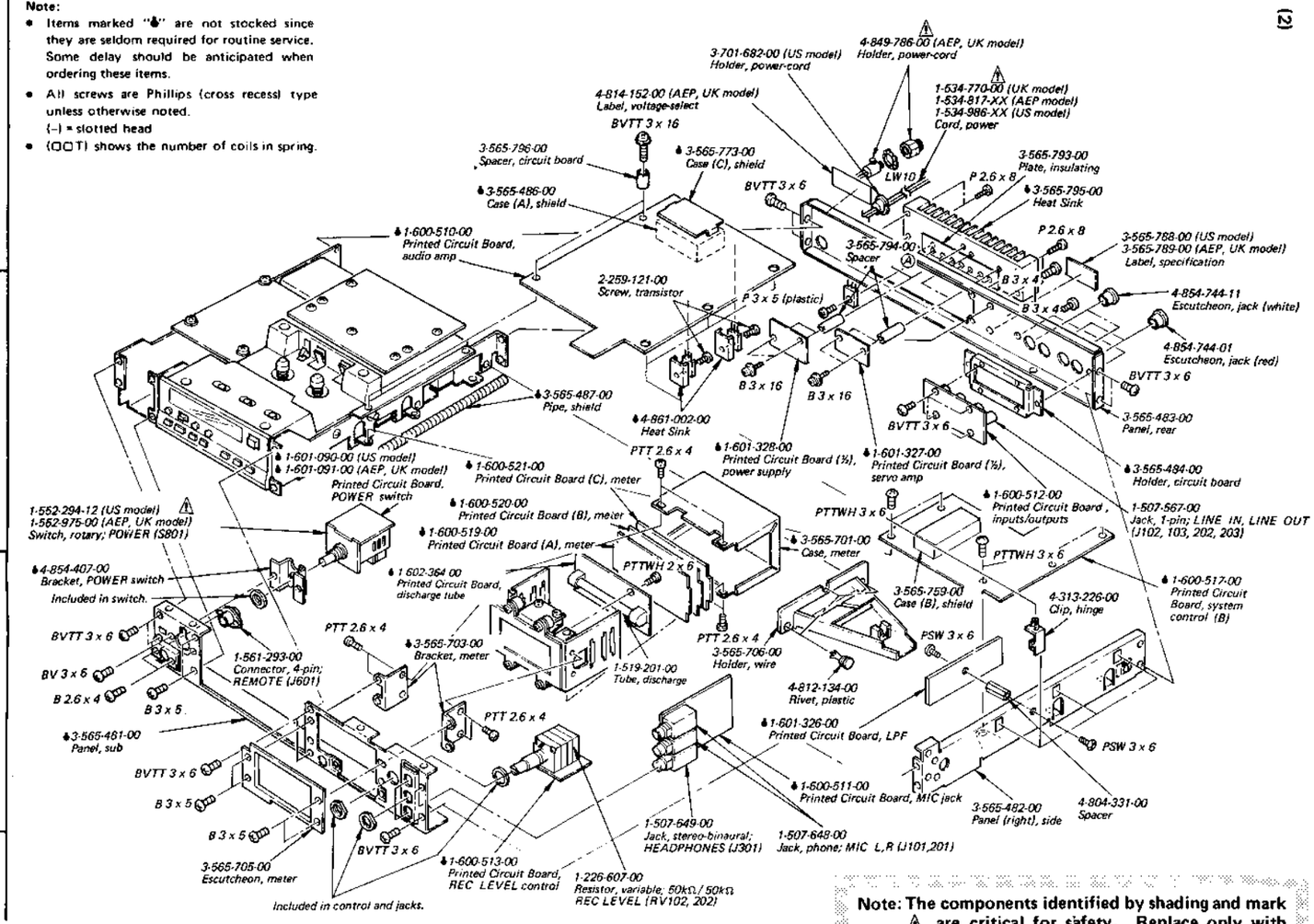
(1)

Note:
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.



(2)

Note:
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.



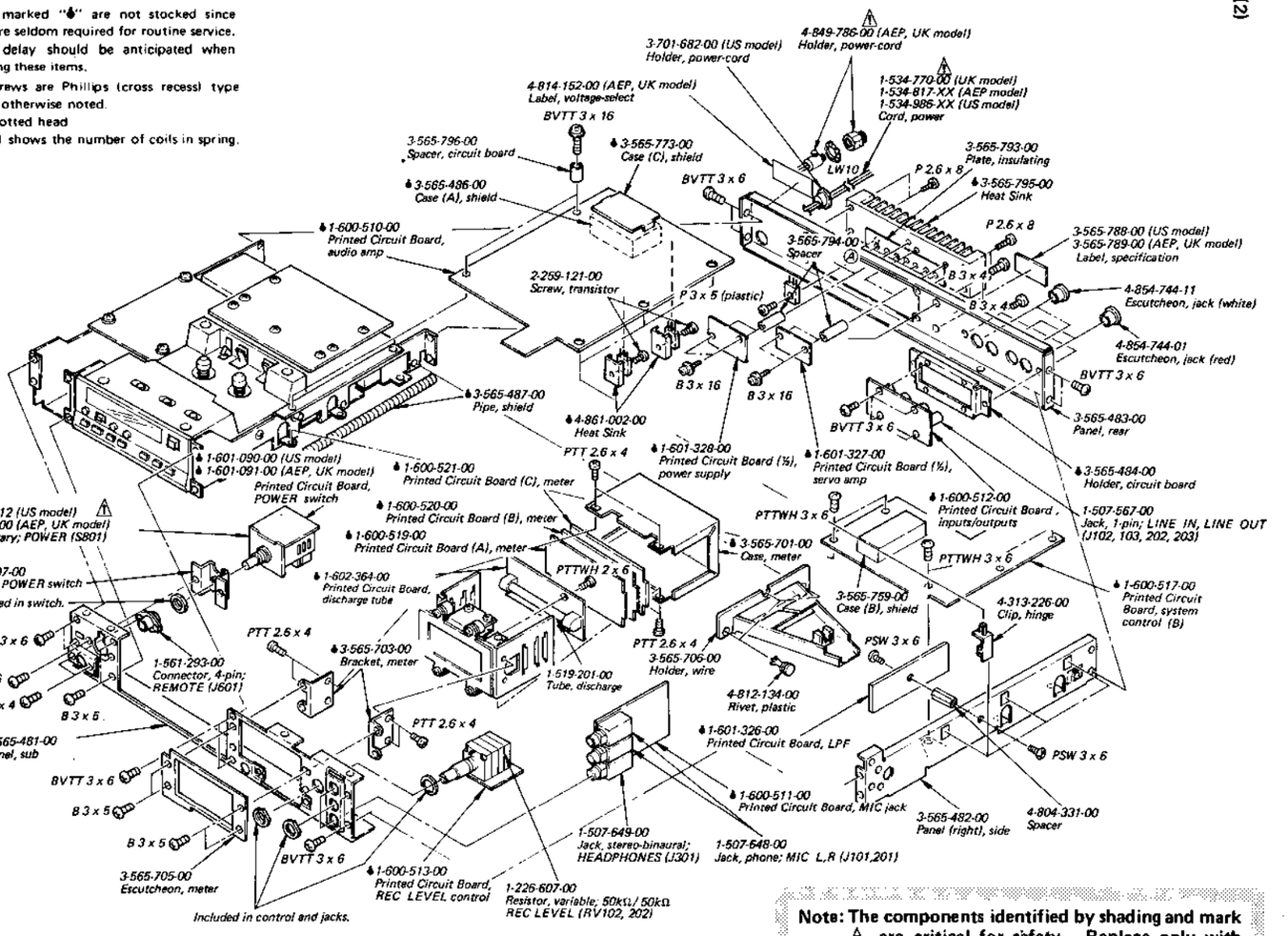
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(3)

Note:

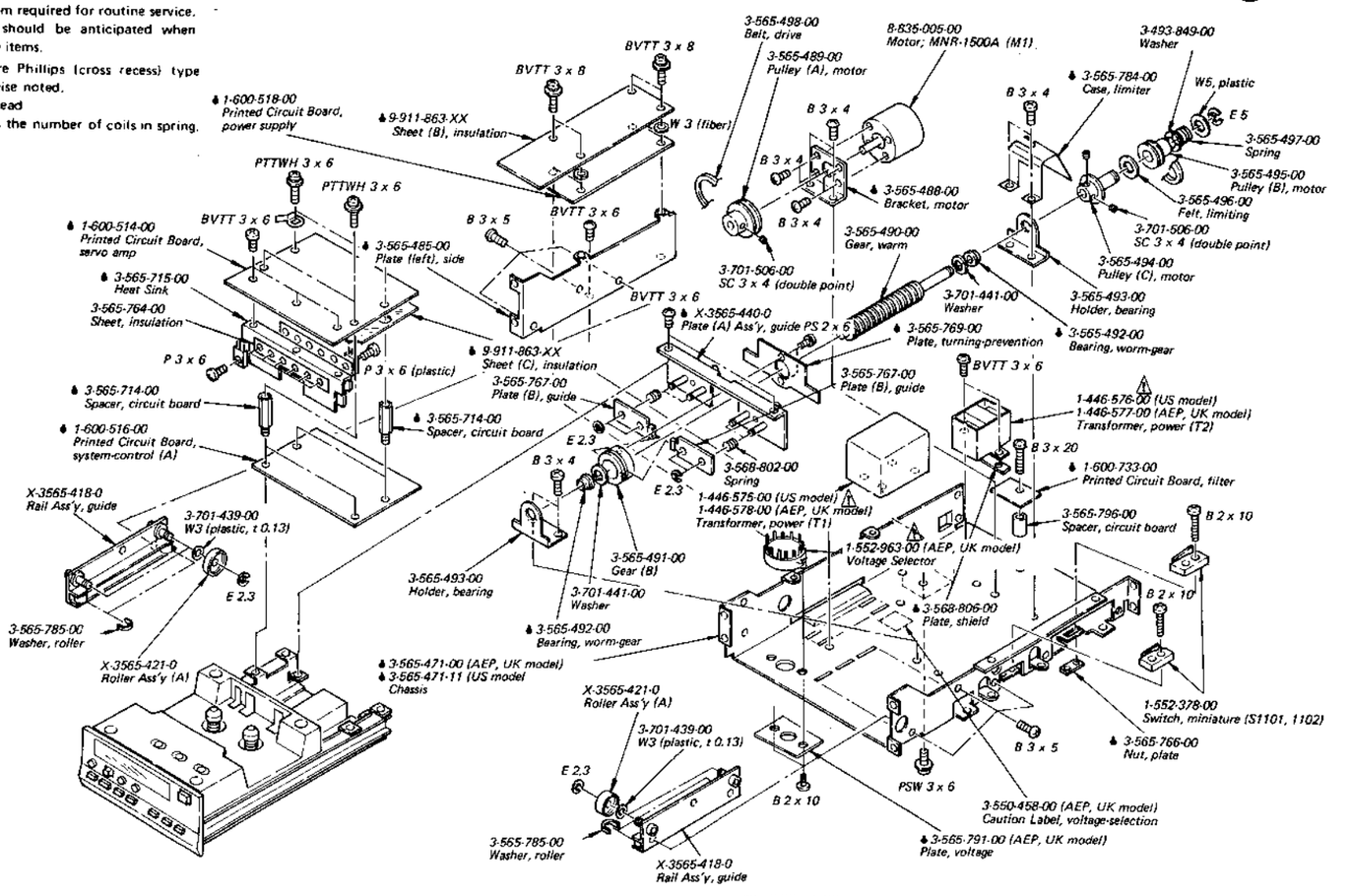
Note:
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

(2)



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

(3)

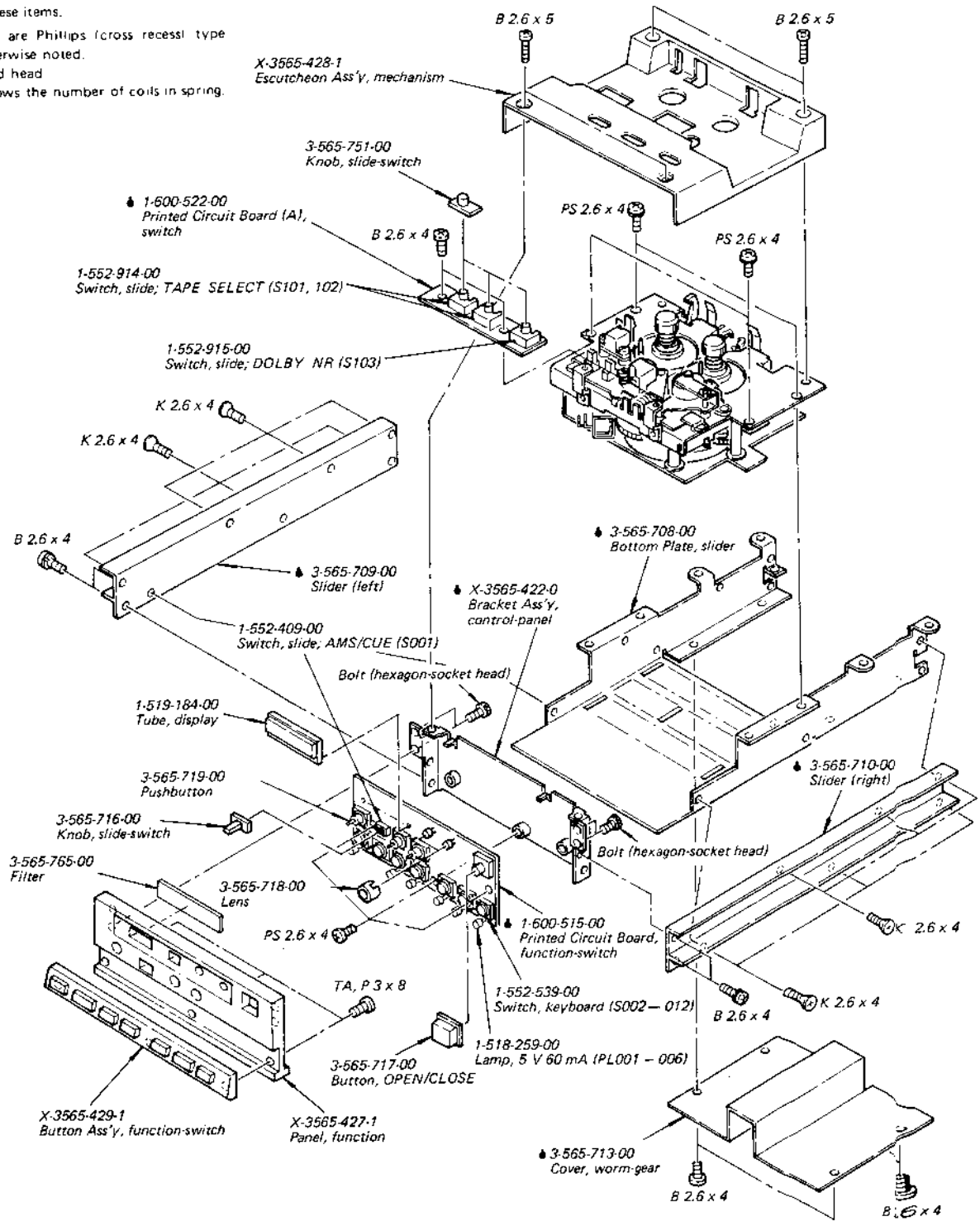


Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(4)

Note:

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.



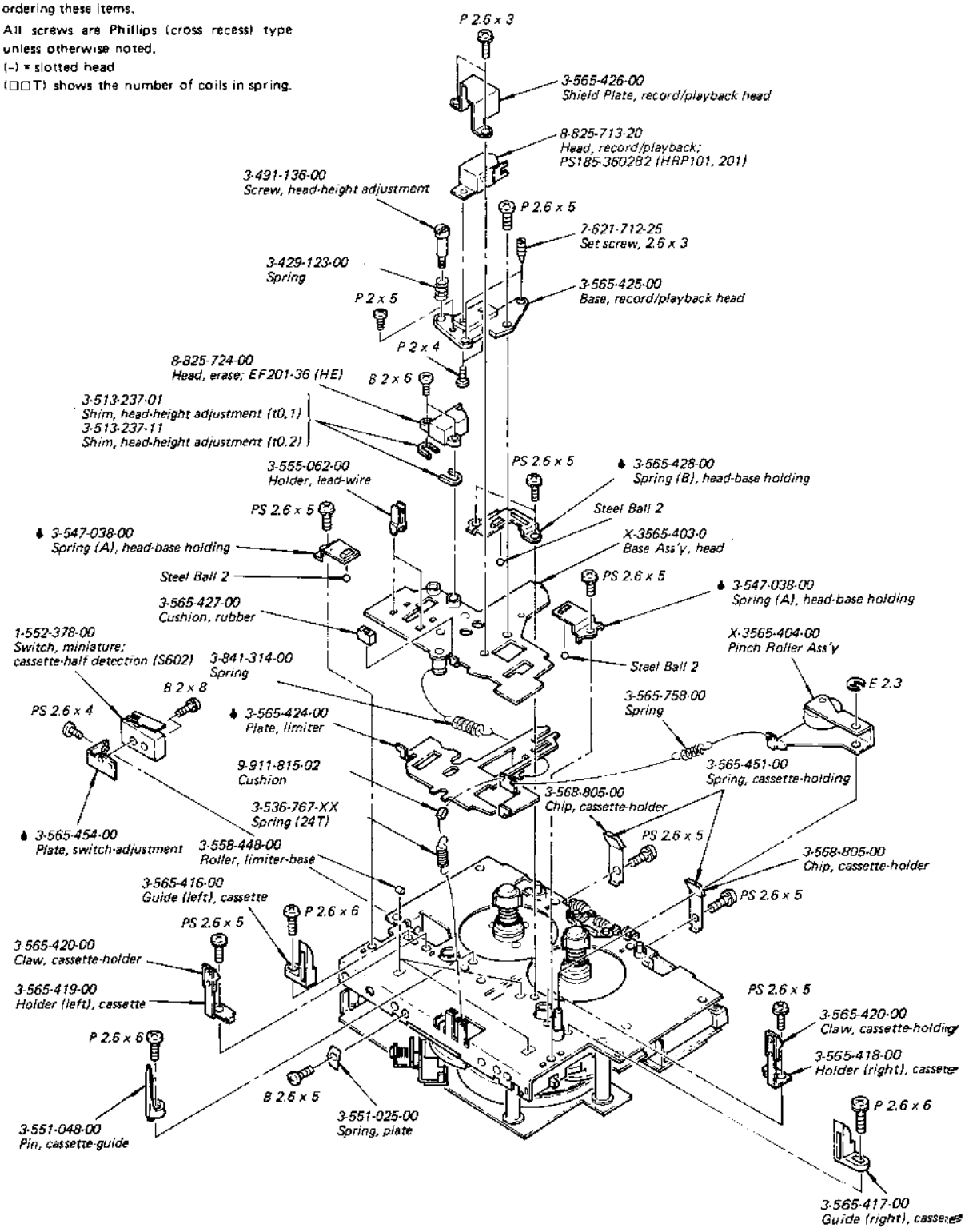
A B C

1 2 3 4 5

(5)

Note:

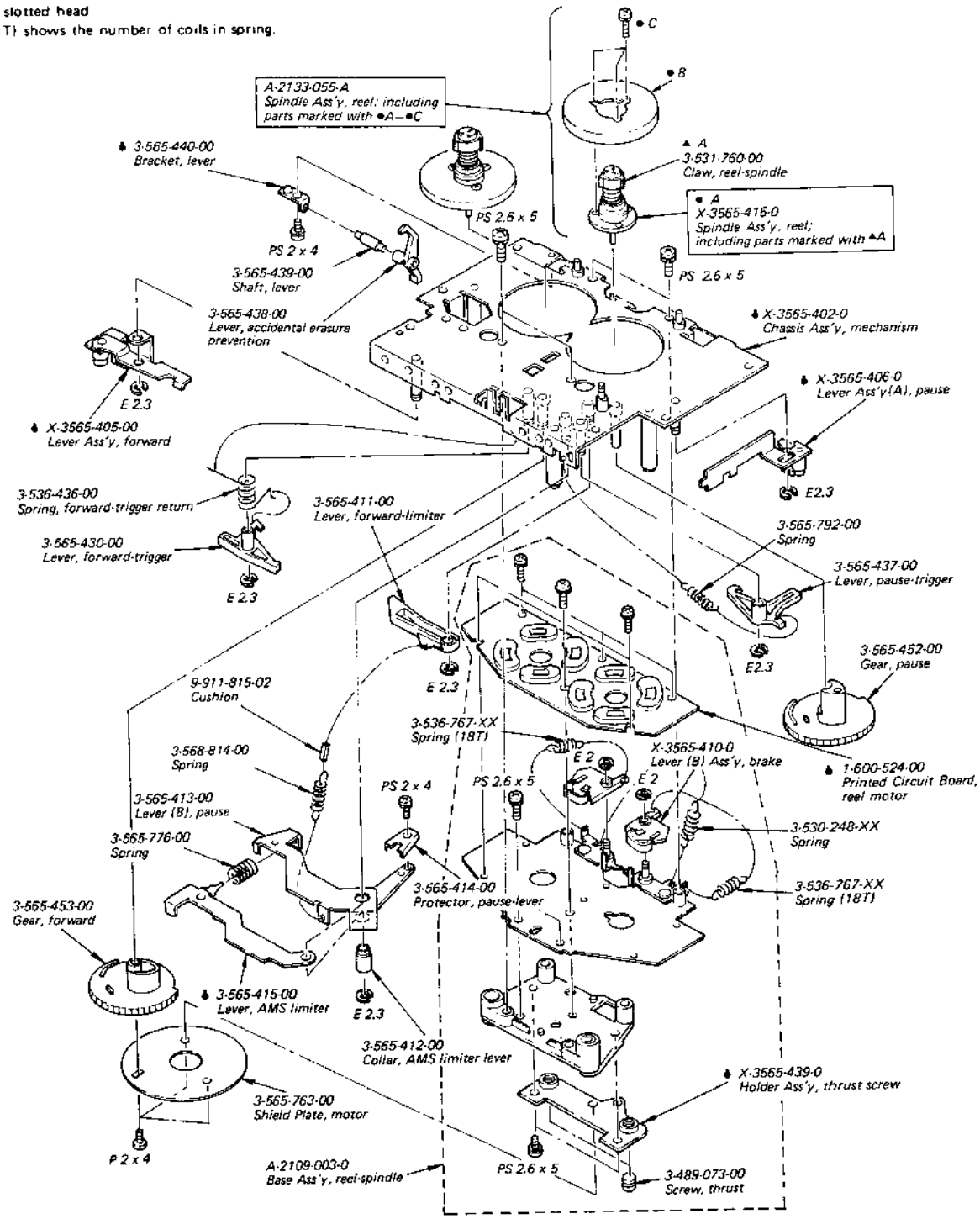
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.



(6)

Note:

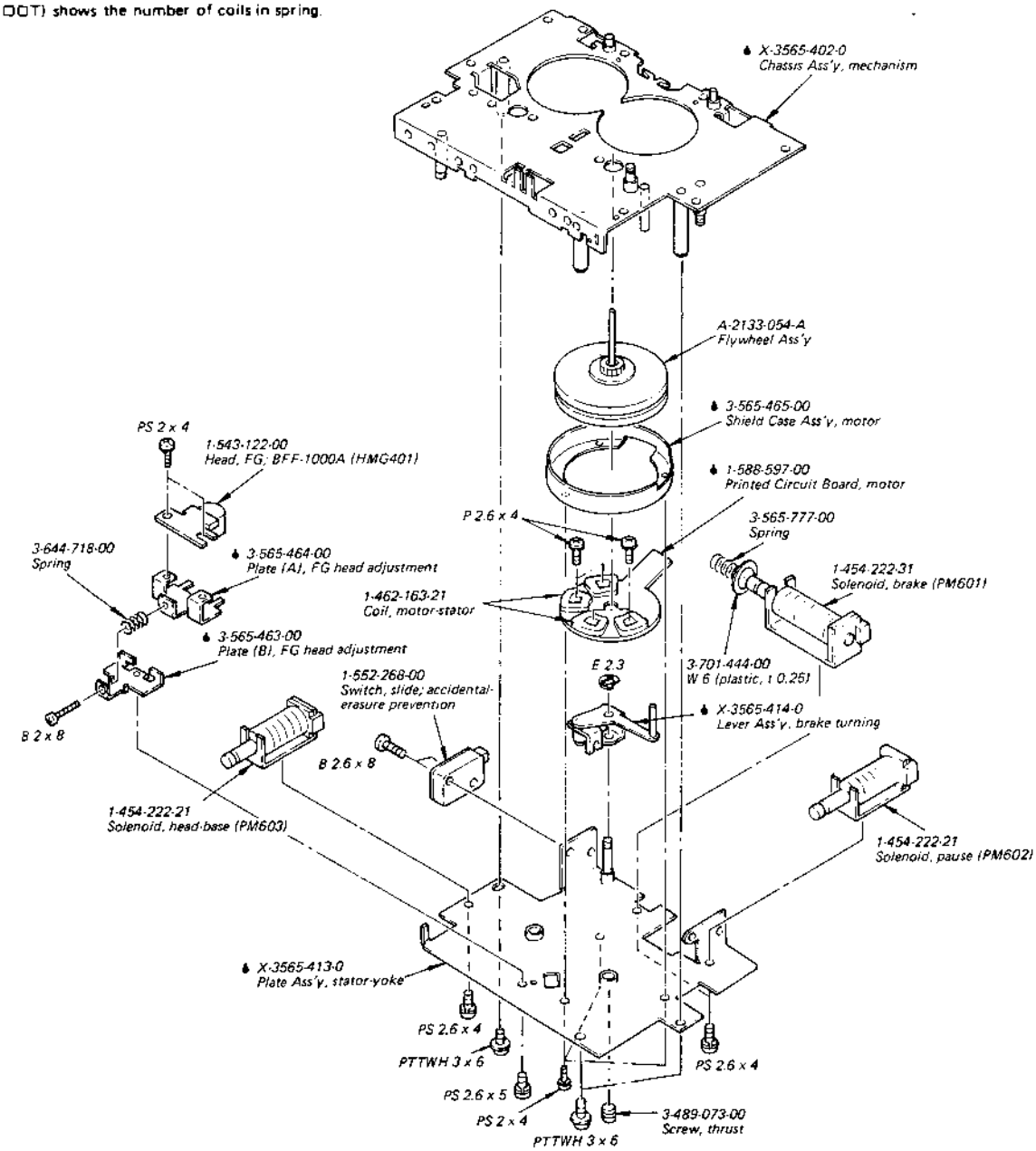
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- (□□T) shows the number of coils in spring.



(7)

Note:

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.



SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
	SEMICONDUCTORS	
	Transistors	
Q1, 2	8-729-663-47	2SC1364
Q101, 201	8-769-010-30	2SK107
Q102, 202 Q103, 203	8-729-113-81	2SA1138
Q104, 204 Q105, 205	8-729-167-62	2SC2676
Q106, 206 Q107, 207	8-729-663-47	2SC1364
Q108, 208	8-729-334-58	2SC1345
Q109, 209	8-729-387-28	2SA872-E
Q110, 210	8-729-167-62	2SC2676
Q111, 211	8-729-663-47	2SC1364
Q112, 212 Q113, 213	8-729-612-77	2SA1027R
Q114, 214 Q115, 215	8-729-663-47	2SC1364
Q116, 216	8-729-612-77	2SA1027R
Q117, 217 Q118, 218 Q119, 219	8-729-663-47	2SC1364
Q301, 302	8-727-312-00	2SK42-2
Q303	8-729-141-43	2SD414
Q304, 305	8-729-167-62	2SC2676
Q306, 307	8-729-113-82	2SA1138
Q308	8-729-154-83	2SB548
Q309	8-729-167-72	2SC2676
Q310	8-729-113-82	2SA1138
Q311	8-729-663-47	2SC1364
Q312	8-729-612-77	2SA1027R
Q313–316	8-729-663-47	2SC1364
Q317	8-729-612-77	2SA1027R
Q318	8-760-413-10	2SC1475
Q319	8-729-663-47	2SC1364
Q401–403	8-729-663-47	2SC1364
Q404	8-729-612-77	2SA1027R
Q405	8-729-167-72	2SC2676
Q406, 407	8-729-663-47	2SC1364
Q408	8-729-612-77	2SA1027R
Q409	8-729-663-47	2SC1364
Q410	8-729-141-43	2SD414
Q411	8-729-154-83	2SB548
Q412	8-729-141-43	2SD414
Q413	8-729-154-83	2SB548
Q414, 415	8-729-663-47	2SC1364
Q501	8-729-141-43	2SD414
Q502	8-729-154-83	2SB548
Q503	8-729-141-43	2SD414
Q504	8-729-154-83	2SB548
Q505	8-729-141-43	2SD414
Q506	8-729-154-83	2SB548
Q507	8-729-141-43	2SD414
Q508	8-729-154-83	2SB548
Q509–152	8-729-203-04	2SK30A
Q513, 514	8-729-663-47	2SC1364
Q515	8-729-612-77	2SA1027R
Q518	8-729-663-47	2SC1364
Q519	8-729-612-77	2SA1027R
Q520–525	8-729-663-47	2SC1364
Q528	8-729-612-77	2SA1027R
Q529–536	8-729-663-47	2SC1364
Q602	8-729-663-47	2SC1364
Q603	8-729-195-23	2SA952
Q604	8-729-663-47	2SC1364
Q605	8-729-195-23	2SA952
Q606	8-729-663-47	2SC1364
Q607	8-729-195-23	2SA952
Q608	8-729-308-72	2SC1986D
Q609	8-729-612-77	2SA1027R
Q610	8-760-413-10	2SC1475
Q611–616	8-729-663-47	2SC1364
Q617, 618	8-729-612-77	2SA1027R
Q619, 620	8-729-663-47	2SC1364
Q801	8-729-308-72	2SC1986D
Q802	8-729-663-47	2SC1364
Q803	8-729-308-72	2SC1986D
Q804	8-729-663-47	2SC1364
Q805	8-729-376-02	2SD760
Q806	8-729-663-47	2SC1364
Q807	8-729-160-51	2SB605
Q901–906	8-729-663-47	2SC1364
Q1001–Q1005	8-729-663-47	2SC1364
Q1006	8-729-612-77	2SA1027R
Q1007 Q1008	8-729-663-47	2SC1364
Q1009	8-729-468-43	2SA684
Q1010 Q1011	8-729-663-47	2SC1364
Q1101	8-729-663-47	2SC1364
Q1102	8-729-612-77	2SA1027R
Q1103	8-729-316-12	2SC1061
Q1104	8-729-612-77	2SA1027R
Q1105	8-729-663-47	2SC1364
Q1106	8-729-317-12	2SA671
	ICs	
IC101, 201	8-759-101-74	CX174
IC102, 202	8-759-271-40	TA7140P
IC301	8-759-745-59	NJM4559D
IC401	8-751-930-00	CX193
IC402, 403	8-759-145-58	μPC4558C
IC404	8-759-178-05	μPC78L05
IC501, 502	8-759-700-58	NJM4558DFA
IC503	8-759-145-57	μPC4557C
IC504	8-759-240-24	TC4024BP
IC601	8-759-147-45	μPD547C-045
IC602	8-759-150-23	μPD550C-023
IC603	8-759-240-19	TC4019BP
IC604	8-759-240-81	μPD4081C
IC605	8-759-904-69	MSM4069
IC606	8-759-145-58	μPC4558C
IC607	8-759-133-90	μPC339C
IC608	8-759-904-69	MSM4069
IC609	8-759-240-11	TC4011BP
IC901	8-759-162-90	μPC629C
IC902	8-759-907-67	CX767
IC903	8-759-240-30	TC4030BP
IC904	8-759-240-78	TC4078BP
IC905	8-759-240-30	TC4030BP
IC906	8-759-240-11	TC4011BP
IC907	8-759-240-81	TC4081BP
IC908	8-743-460-00	BX346
IC909	8-743-470-00	BX347
IC1001	8-759-146-44	μPD546C-044
IC1101	8-759-240-27	TC4027BP
IC1102	8-759-240-23	TC4023BP
IC1103	8-759-904-69	MSM4069
	Diodes	
D1	8-719-815-55	1S1555
D2, 3	8-719-812-42	TLY124
D101, 201	8-719-815-55	1S1555
D301–303	8-719-815-55	1S1555
D304, 305 D307, 308	8-719-910-65	HZ6B2L
D309, 310	8-719-200-02	10E2
D313	8-719-815-55	1S1555
D314	8-719-931-13	EQB01-13
D315	8-719-910-65	HZ6B2L
D401–404	8-719-815-55	1S1555
D501–507	8-719-815-55	1S1555
D601–603	8-719-815-55	1S1555
D604	8-719-200-02	10E2
D605–618	8-719-815-55	1S1555
D619	8-719-910-15	HZ11B2L
D620	8-719-815-55	1S1555
D621	8-719-910-65	HZ6B2L
D801	⚠8-719-200-02	10E2
D802	8-719-910-03	HZ20-3L
D803–812	⚠8-719-200-02	10E2
D813, 814	8-719-300-22	CTU22U
D815	8-719-910-68	HZ6C2L
D816	⚠8-719-200-02	10E2
D903	8-719-815-55	1S1555

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

Ref. No.	Part No.	Description
D1001	8-719-815-55	1S1555
D1002	8-719-910-15	HZ11B2L
D1009	8-719-910-28	HZ12C2L
D1101	8-719-931-15	EQB01-15
D1102–D1104	8-719-815-55	1S1555
H401, 402	8-719-841-01	F1410
H501–504	8-719-841-15	F1410-15

COILS

L1, 2	1-407-519-00	Microinductor
L3	⚠1-421-302-XX	Line Filter
L101, 201	1-408-240-00	6.8 mH, microinductor
L102, 202	1-408-238-00	3.9 mH, microinductor
L103, 203	1-408-236-00	2.7 mH, microinductor
L104, 204	1-408-240-00	6.8 mH, microinductor
L105, 205	1-407-240-00	Inductor, variable
L301, 302	1-408-249-00	2.2 mH, microinductor
	1-462-163-21	Motor Stator

TRANSFORMERS

T1	⚠1-446-575-00	Power (US model)
T1	⚠1-446-578-00	Power (AEP, UK model)
T2	⚠1-446-576-00	Power (US model)
T2	⚠1-446-577-00	Power (AEP, UK model)
T301	1-433-212-00	OSC

CAPACITORS

All capacitors are in μF. Common capacitors are omitted.
elect: electrolytic

C3	1-130-156-00	0.033	125 V	polyethylene (US model)
C3	1-130-456-00	0.022	250 V	polyethylene (AEP, UK model)
C4, 5	1-130-455-00	0.01	250 V	polyethylene (AEP, UK model)
C105, 205	1-131-427-00	220	6.3 V	tantalum
C106, 206	1-130-335-00	0.022	630 V	polyethylene
C107, 207	1-123-453-00	4.7	35 V	elect
C113, 213	1-161-315-00	220 p		ceramic
C114, 214	1-123-232-00	4.7	50 V	elect
C119, 219	1-123-453-00	4.7	35 V	elect
C132, 232	1-130-307-00	0.027	100 V	polyethylene
C137, 237	1-137-295-61	100	6.3 V	tantalum
C138, 238, C139, 239	1-123-453-00	4.7	35 V	elect
C143, 243	1-130-299-00	0.012	100 V	polyethylene
C147, 247	1-130-311-00	0.039	100 V	polyethylene
C148, 248	1-130-295-00	0.0082	100 V	polyethylene
C150, 250	1-130-295-00	0.0082	100 V	polyethylene
C160, 260	1-161-315-00	220 p		ceramic
C305, 306	1-131-295-61	100	6.3 V	tantalum
C325, 326	1-130-301-00	0.015	100 V	polyethylene
C330, 331	1-131-449-00	3.3	16 V	tantalum
C335	1-123-453-00	4.7	35 V	elect
C337	1-123-228-00	1	50 V	elect
C410	1-130-291-00	0.0056	100 V	polyethylene
C411	1-102-491-00	51 p		ceramic
C415	1-130-315-00	0.056	100 V	polyethylene
C416	1-130-313-00	0.047	100 V	polyethylene
C417	1-130-297-00	0.01	100 V	polyethylene
C419, 420	1-130-297-00	0.01	100 V	polyethylene
C427	1-161-315-00	220 p		ceramic
C610, 611	1-102-529-00	100 p		ceramic
C619	1-123-232-00	4.7	50 V	elect
C801	⚠1-123-360-00	100	50 V	elect
C803	⚠1-123-329-00	10	25 V	elect
C804, 805	⚠1-123-338-00	2200	25 V	elect
C806	⚠1-123-326-00	3300	16 V	elect
C810	⚠1-123-338-00	2200	25 V	elect
C811	⚠1-123-338-00	2200	25 V	elect (US model)
C811	⚠1-121-657-00	1000	25 V	elect (AEP, UK model)
CT101, 201	1-141-010-XX	Trimmer, 120 p		

RESISTORS

All resistors are in ohms. Common ¼ W carbon resistors are omitted.

R101, 201	1-214-788-00	300 k	¼ W (1 %) metal-oxide
R102, 202	1-214-705-00	100	½ W (1 %) metal-oxide
R103, 203	1-214-749-00	6.8 k	¼ W (1 %) metal-oxide
R104, 204	1-214-744-00	4.3 k	¼ W (1 %) metal-oxide
R105, 205	1-214-749-00	6.8 k	¼ W (1 %) metal-oxide
R106, 206, R107, 207	1-214-735-00	1.8 k	¼ W (1 %) metal-oxide
R108, 208	1-214-787-00	270 k	¼ W (1 %) metal-oxide
R109, 209	1-214-645-00	5.1 k	½ W (1 %) metal-oxide
R110, 210	1-214-781-00	150 k	¼ W (1 %) metal-oxide
R111, 211	1-214-741-00	3.3 k	¼ W (1 %) metal-oxide
R112, 212	1-214-717-00	330	¼ W (1 %) metal-oxide
R113, 213	1-214-741-00	3.3 k	¼ W (1 %) metal-oxide
R114, 214	1-214-765-00	33 k	¼ W (1 %) metal-oxide
R118, 218	1-214-742-00	3.6 k	¼ W (1 %) metal-oxide
R120, 220	1-214-749-00	6.8 k	¼ W (1 %) metal-oxide
R134, 234	1-214-769-00	47 k	¼ W (1 %) metal-oxide
R135, 235	1-214-770-00	51 k	¼ W (1 %) metal-oxide
R136, 236	1-214-765-00	33 k	¼ W (1 %) metal-oxide
R139, 239	1-214-741-00	3.3 k	¼ W (1 %) metal-oxide
R141, 241	1-214-754-00	11 k	¼ W (1 %) metal-oxide
R142, 242	1-214-729-00	1 k	¼ W (1 %) metal-oxide
R147, 247	1-214-748-00	6.2 k	¼ W (1 %) metal-oxide
R149, 249	1-214-765-00	33 k	¼ W (1 %) metal-oxide
R150, 250	1-214-773-00	68 k	¼ W (1 %) metal-oxide
R152, 252	1-214-711-00	180	¼ W (1 %) metal-oxide
R154, 254	1-214-733-00	1.5 k	¼ W (1 %) metal-oxide
R156-1, R256-1	1-214-753-00	10 k	¼ W (1 %) metal-oxide
R156-2, R256-2	1-214-729-00	1 k	¼ W (1 %) metal-oxide
R162, 262	1-214-775-00	82 k	¼ W (1 %) metal-oxide
R164, 264	1-214-713-00	220	¼ W (1 %) metal-oxide
R165, 265	1-214-725-00	680	¼ W (1 %) metal-oxide
R167, 267	1-214-737-00	2.2 k	¼ W (1 %) metal-oxide
R168, 268	1-214-760-00	20 k	¼ W (1 %) metal-oxide
R173, 273	1-214-737-00	2.2 k	¼ W (1 %) metal-oxide
R175, 275	1-214-735-00	1.8 k	¼ W (1 %) metal-oxide
R178, 278	1-214-713-00	220	¼ W (1 %) metal-oxide
R183, 283	1-214-717-00	330	¼ W (1 %) metal-oxide
R185, 285	1-214-737-00	2.2 k	¼ W (1 %) metal-oxide
R186, 286	1-214-719-00	390	¼ W (1 %) metal-oxide
R190, 290	1-214-721-00	470	¼ W (1 %) metal-oxide
R196, 296	1-214-773-00	68 k	¼ W (1 %) metal-oxide
R198-1, R298-1	1-214-773-00	68 k	¼ W (1 %) metal-oxide
R307, 308	1-214-731-00	1.2 k	¼ W (1 %) metal-oxide
R309, 310	1-214-753-00	10 k	¼ W (1 %) metal-oxide
R313, 314	1-214-856-00	470	½ W (1 %) metal-oxide
R315, 316	1-214-862-00	820	½ W (1 %) metal-oxide
R321	⚠1-214-371-00	0.47	¼ W fusible
R342	⚠1-214-399-00	100	¼ W fusible
R352	1-214-737-00	2.2 k	¼ W (1 %) metal-oxide
R400	⚠1-212-366-00	3.3	1 W metal-oxide (nonflammable)
R414	1-214-774-00	75 k	¼ W (1 %) metal-oxide
R415	1-214-733-00	1.5 k	¼ W (1 %) metal-oxide
R418, 419	1-214-757-00	15 k	¼ W (1 %) metal-oxide
R420, 421	1-214-761-00	22 k	¼ W (1 %) metal-oxide
R422	1-214-783-00	180 k	¼ W (1 %) metal-oxide
R423, 425, R426	1-214-753-00	10 k	¼ W (1 %) metal-oxide
R431	1-214-743-00	3.9 k	¼ W (1 %) metal-oxide
R432	1-214-764-00	30 k	¼ W (1 %) metal-oxide
R433, 434	1-214-761-00	22 k	¼ W (1 %) metal-oxide
R435	1-214-741-00	3.3 k	¼ W (1 %) metal-oxide
R438	1-214-761-00	22 k	¼ W (1 %) metal-oxide
R439, 440	1-214-705-00	100	¼ W (1 %) metal-oxide
R441–444	1-214-753-00	10 k	¼ W (1 %) metal-oxide
R447	1-214-705-00	100	¼ W (1 %) metal-oxide
R448	1-214-774-00	75 k	¼ W (1 %) metal-oxide
R449	1-214-705-00	100	¼ W (1 %) metal-oxide
R450	1-214-774-00	75 k	¼ W (1 %) metal-oxide
R451–454	1-214-717-00	330	¼ W (1 %) metal-oxide
R458	1-214-772-00	62 k	¼ W (1 %) metal-oxide
R472, 473	1-214-762-00	24 k	¼ W (1 %) metal-oxide
R482, 483	1-214-753-00	10 k	¼ W (1 %) metal-oxide
R500	⚠1-212-366-00	3.3	1 W metal-oxide (nonflammable)
R589	1-212-777-00	100 k	¼ W (1 %) metal-oxide
R802–804	⚠1-217-418-00	0.47	½ W fusible
R933	1-214-163-00	20 k	¼ W (1 %) metal-oxide
R934	1-214-156-00	10 k	¼ W (1 %) metal-oxide

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Ref. No.	Part No.	Description
R935	1-214-163-00	20 k ¼ W (1 %) metal-oxide
R936	1-214-156-00	10 k ¼ W (1 %) metal-oxide
R937	1-214-163-00	20 k ¼ W (1 %) metal-oxide
R938	1-214-156-00	10 k ¼ W (1 %) metal-oxide
R939	1-214-163-00	20 k ¼ W (1 %) metal-oxide
R940	1-214-156-00	10 k ¼ W (1 %) metal-oxide
R941, 942	1-214-163-00	20 k ¼ W (1 %) metal-oxide
R1045	⚠1-206-700-00	33 k 2 W fusible
RV101, 201	1-224-252-XX	10 k-B, adjustable; playback level
RV102, 202	1-226-607-00	50 k-B, variable; REC LEVEL
RV103, 203	1-224-252-XX	10 k-B, adjustable; record level
RV401	1-224-253-XX	22 k-B, adjustable; lock
RV402, 403	1-224-250-XX	2.2 k-B, adjustable; capstan motor gain
RV404, 405	1-224-252-XX	10 k-B, adjustable; capstan motor offset
RV501–503	1-224-254-XX	47 k-B, adjustable; torque
RV504, 505	1-224-253-XX	22 k-B, adjustable; take-up motor offset
RV901, 902	1-224-646-XX	22 k-B, adjustable; meter offset
RV903	1-224-644-XX	4.7 k-B, adjustable; meter gain

SWITCHES

S001	1-552-409-00	Slide, AMS/CUE
S002–012	1-552-539-00	Key-board, function
S101, 102	1-552-914-00	Slide, BIAS
S103	1-552-915-00	Slide, DOLBY NR
S201–203	1-552-539-00	Key-board, PEAK HOLD
S401	1-553-325-00	Adjustable, servo-test
S601	1-552-268-00	Slide, accidental erasure prevention
S602	1-552-378-00	Micro, cassette-half detection
S801	⚠1-552-294-12	Rotary, ON/OFF (US model)
S801	⚠1-552-975-00	Rotary, ON/OFF (AEP, UK mode)
S1101, S1102	1-552-378-00	Micro, deck mechanism

JACKS

J101, 201	1-507-648-00	MIC
J102, 202, J103, 203	1-507-567-00	1-P, phone: LINE IN, LINE OUT
J301	1-507-649-00	HEADPHONES
J601	1-561-293-00	4-P, socket/ REMOTE

MISCELLANEOUS

CP801	⚠1-231-326-11	Encapsulated Component (US model)
HE	8-825-724-00	Head, erase; EF201-36
FG401	1-543-122-00	Head, rotation-detecting; BFF-1000A
HRP101, HRP201	8-825-713-20	Head, record/playback; PS185-3602B2
LPF101, LPF201	1-231-388-00	Filter, low-pass
PL001–PL006	1-518-259-00	Lamp, 5 V 60 mA
PL201	1-518-259-00	Lamp, 5 V 60 mA; TAPE REMAINING
PL801	1-518-138-XX	Lamp, 5 V 60 mA; POWER indicator
PM601	1-454-222-31	Solenoid, brake
PM602, PM603	1-454-222-21	Solenoid, pause
RY301, RY302	1-515-323-00	Relay, record/playback select
RY303	1-515-297-00	Relay, record mute
RY501, RY502	1-515-343-00	Relay, cue
TH901, TH902	1-800-202-XX	Thermistor, S-10K
X401	1-527-401-21	Crystal
X601	1-527-522-00	Element, ceramic
X1001	1-527-522-00	Element, ceramic
	♦ 1-508-800-13	Base Post, 3-P (AEP, UK model)
	♦ 1-508-809-00	Base Post, 2-P
	♦ 1-508-811-00	Base Post, 4-P
	♦ 1-508-813-00	Base Post, 6-P
	♦ 1-508-814-00	Base Post, 7-P
	♦ 1-508-817-00	Base Post, 10-P

• Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

Ref. No.	Part No.	Description
	♦ 1-508-878-00	Base Post, 3-P
	♦ 1-508-879-00	Base Post, 4-P
	♦ 1-508-880-00	Base Post, 6-P
	♦ 1-508-881-00	Base Post, 8-P
	♦ 1-508-882-00	Base Post, 10-P
	1-519-201-00	Tube, discharge
	1-519-184-00	Tube, display
	⚠1-534-777-00	Cord, power (UK model)
	⚠1-534-817-XX	Cord, power (AEP model)
	⚠1-534-986-XX	Cord, power (US model)
	♦ 1-535-115-00	Terminal with Base, 2-P
	♦ 1-535-116-00	Terminal with Base, 4-P
	♦ 1-535-118-00	Terminal with Base, 5-P
	♦ 1-535-232-00	Pin, through-hole
	⚠1-552-963-00	Voltage Selector (AEP, UK model)
	♦ 1-560-070-00	Base Post, 5-P
	♦ 1-560-200-00	Base Post, 2-P
	♦ 1-561-293-00	Socket, 4-P
	8-739-902-01	Display, LCD
	8-835-005-00	Motor, MNR-1500A

COMPLETE CIRCUIT BOARDS

♦ A-2010-152-A	Audio
♦ A-2012-063-A	Power (US model)
♦ A-2012-068-A	Power (AEP, UK model)
♦ A-2019-091-A	System Control (B)
♦ A-2019-101-A	System Control (A)
♦ A-2020-059-A	Servo Amp

PRINTED CIRCUIT BOARDS

♦ 1-602-364-00	Discharge Tube
♦ 1-588-597-21	Motor
♦ 1-600-510-00	Audio
♦ 1-600-511-00	Mic Jack
♦ 1-600-512-00	Input/output Jack
♦ 1-600-513-00	Record Level Control
♦ 1-600-514-00	Servo Amp
♦ 1-600-515-00	Control
♦ 1-600-516-00	System Control (A)
♦ 1-600-517-00	System Control (B)
♦ 1-600-518-00	Power Supply

Ref. No.	Part No.	Description
	♦ 1-600-519-00	Meter (A)
	♦ 1-600-520-00	Meter (B)
	♦ 1-600-521-00	Meter (C)
	♦ 1-600-522-00	Switch (A)
	♦ 1-600-523-00	Switch (B)
	♦ 1-600-524-00	Reel Motor
	♦ 1-600-733-00	Filter
	♦ 1-601-090-00	Power Switch (US model)
	♦ 1-601-091-00	Power Switch (AEP, UK model)
	♦ 1-601-326-00	LPF
	♦ 1-601-327-00	Servo Amp (½)
	♦ 1-601-328-00	Power Supply (½)

ACCESSORIES AND PACKING MATERIALS

Part No.	Description
X-3701-105-0	Tip Ass'y, cleaning
1-551-315-00	Cord, connection; RK-112
3-565-772-00	Screw, transit
3-568-809-00	Tag, caution
3-568-810-00	Carton
3-568-811-00	Cushion
3-701-630-00	Bag, plastic
3-770-827-11	Manual, instruction (AEP, UK model)
3-770-827-21	Manual, instruction (US model)
3-793-828-00	Card, caution
3-794-233-00	Slip (US model)
4-809-251-00	Bag, plastic

• Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

ELECTROLYTIC CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one.					
	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	-	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	-
3300	1-121-661-00	1-123-075-00	1-123-071-00	-	-	-

CAP. (μF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	-	-	-	-
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	-	1-123-028-00
3.3	1-121-995-00	-	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	-	-
47	1-123-251-00	1-121-919-00	-	-
100	1-123-084-00	-	-	-

CERAMIC CAPACITORS

CAP. (pF)	RATING 50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (μF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

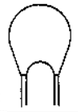
0.001μF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one. 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	1-161-010-00	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			

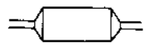
MYLAR CAPACITORS

CAP. (μF)	RATING 50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	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

CAP. (μF)	RATING → : Use the high voltage rated one. 3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	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

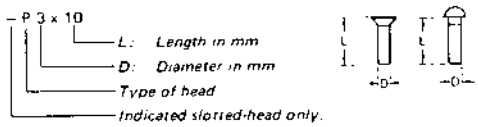
CAP. (μF)	RATING 3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			-	-	1-131-262-00	1-131-278-00
0.33			-	-	1-131-263-00	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

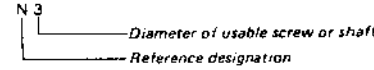
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
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	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-588-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
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	4.7M	1-244-761-00
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	5.1M	1-244-762-00
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:



Nut, Washer, Retaining ring:



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

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