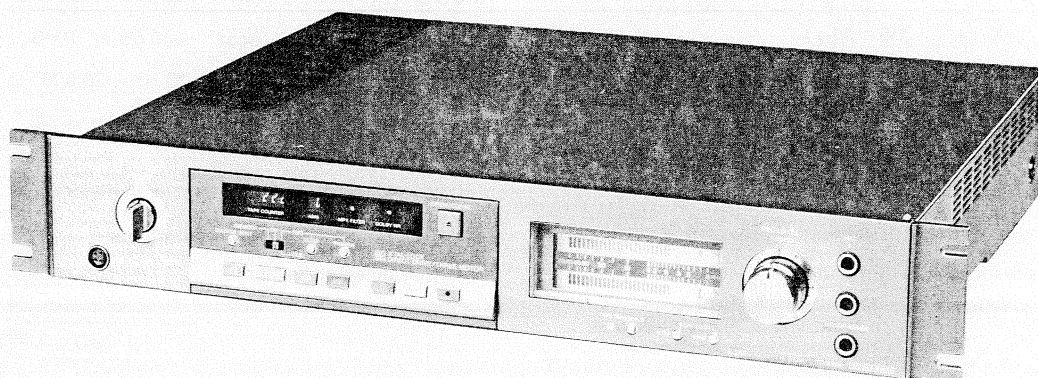


TC-K88B

AEP Model
UK Model
US Model



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

STEREO CASSETTE DECK

SPECIFICATIONS

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 3 1/4(h) x 15 1/4(d) inches without rack-mounting handles
	Approx. 480(w) x 80(h) x 385(d) mm 19(w) x 3 1/4(h) x 15 1/4(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 EH F)
20–19,000 Hz
30–17,000 Hz (± 3 dB)
 - With TYPE I cassette (Sony HF $\times$)
20–17,000 Hz
30–15,000 Hz (± 3 dB)

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

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

SONY

SERVICE MANUAL

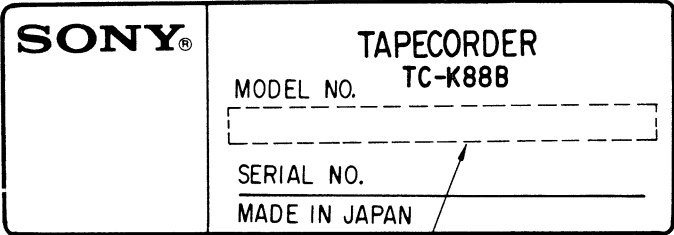
1107

TC-K88B

Wow and Flutter:	0.03 % WRMS (NAB) ±0.085 % (DIN) 0.04 % WRMS (US model)	(AEP, UK model)	Outputs:	LINE OUT (phono 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
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		LIQUID CRYSTAL PEAK PROGRAM METERS	
Total Harmonic Distortion:	0.9 % (with Sony Fe-Cr cassette)		Response Range:	−40 dB to +8 dB
Bias Frequency:	105 kHz		Frequency Response:	20 Hz − 20,000 Hz ± 1.5 dB
Inputs:	MIC (phone jacks) 2 sensitivity 0.25 mV (−70 dB) for a low-impedance microphone LINE (phono jacks) 2 sensitivity 77.5 mV (−20 dB) input impedance 50 kΩ		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

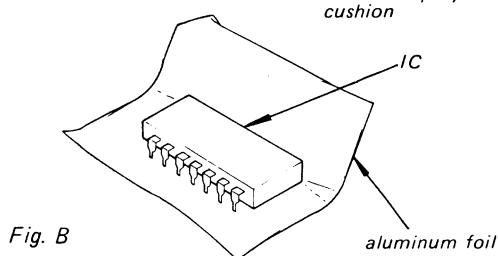
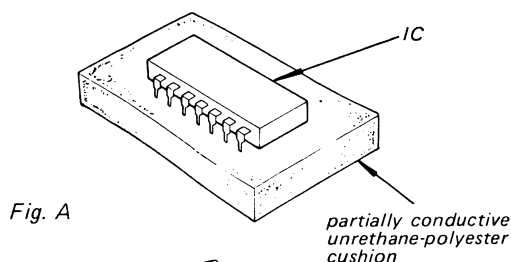
Generally, the insulation resistance of the oxide layer in MOS IC structures is very high, and the oxide layer is very thin. Because of this, it is possible that the static voltages usually present on clothes and the human body will be enough to generate a potential difference across the insulator, high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

The following precautions should be taken while handling these ICs.

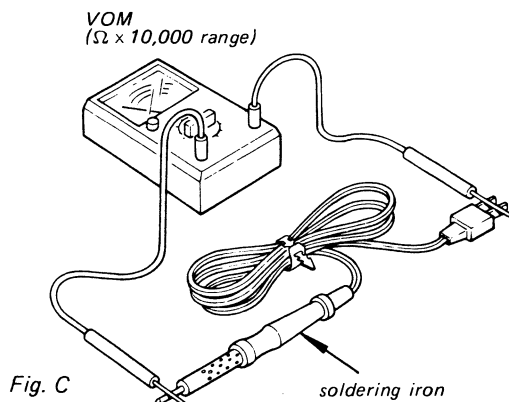
(Particular care should be taken under conditions of low humidity.)

Precautions in Replacing MOS ICs

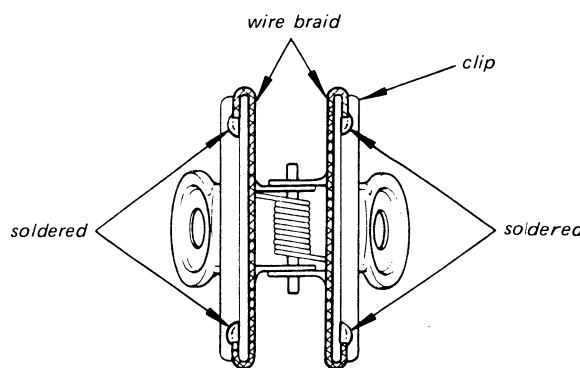
1. Store new ICs by inserting them into a urethane-polyester cushion (which is somewhat conductive), or wrapping it in aluminum foil, so that all the pins are at the same potential. (The ICs should be stored in that manner until mounted on the circuit board.)



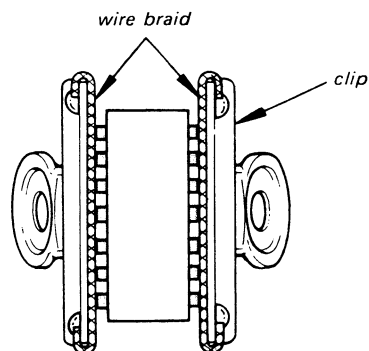
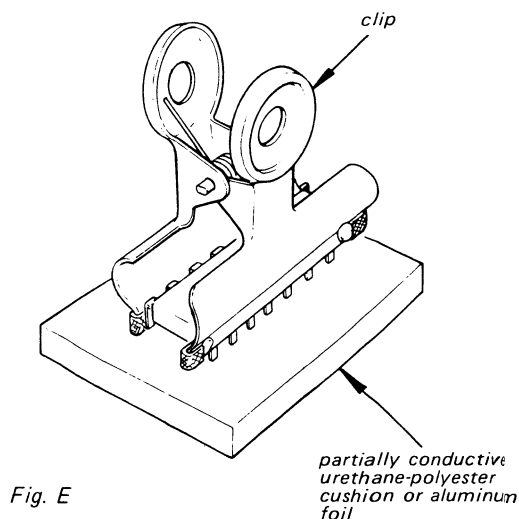
2. Check the soldering iron for possible power-line leakage current. Make sure that there is no leakage path by connecting an ohmmeter to the tip of the soldering iron and the plug as shown in Fig. C. If there is a leakage path, use some other soldering iron.



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



Make sure that there is no solder on the inside.



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

- 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.

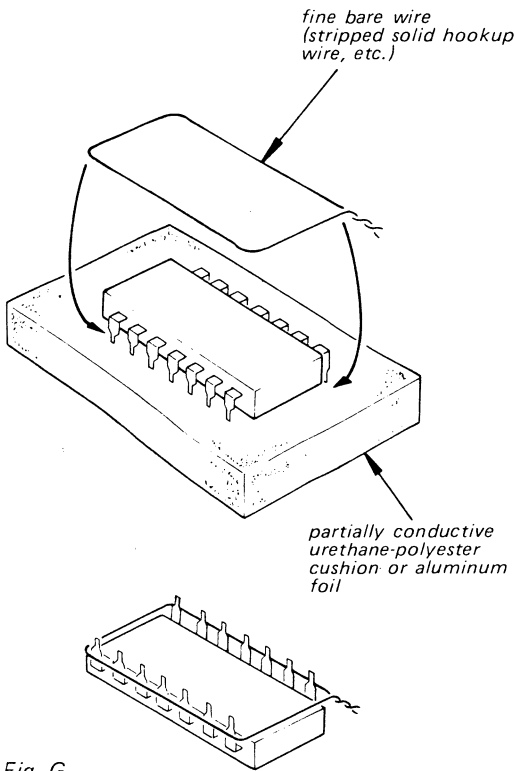


Fig. G

- 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.

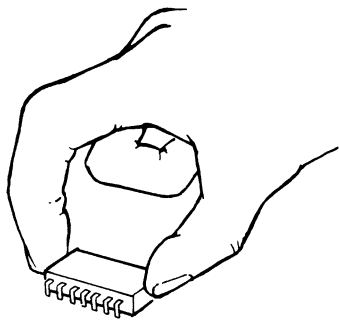


Fig. H

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:

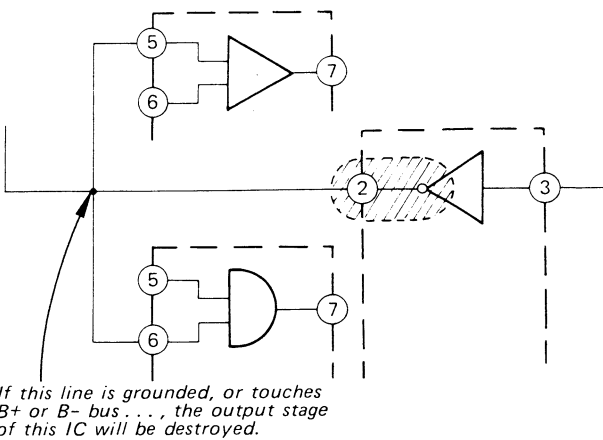
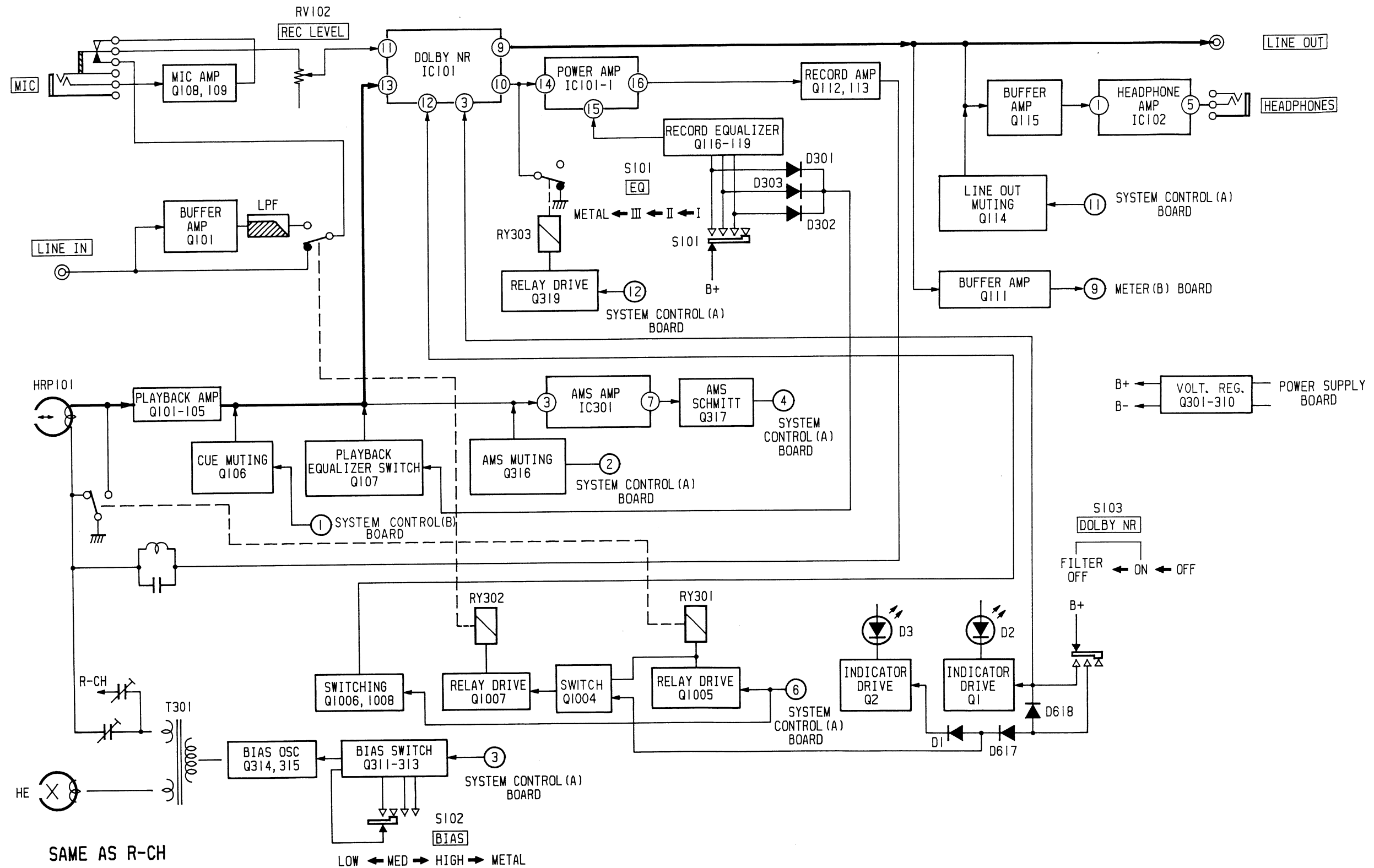


Fig. I

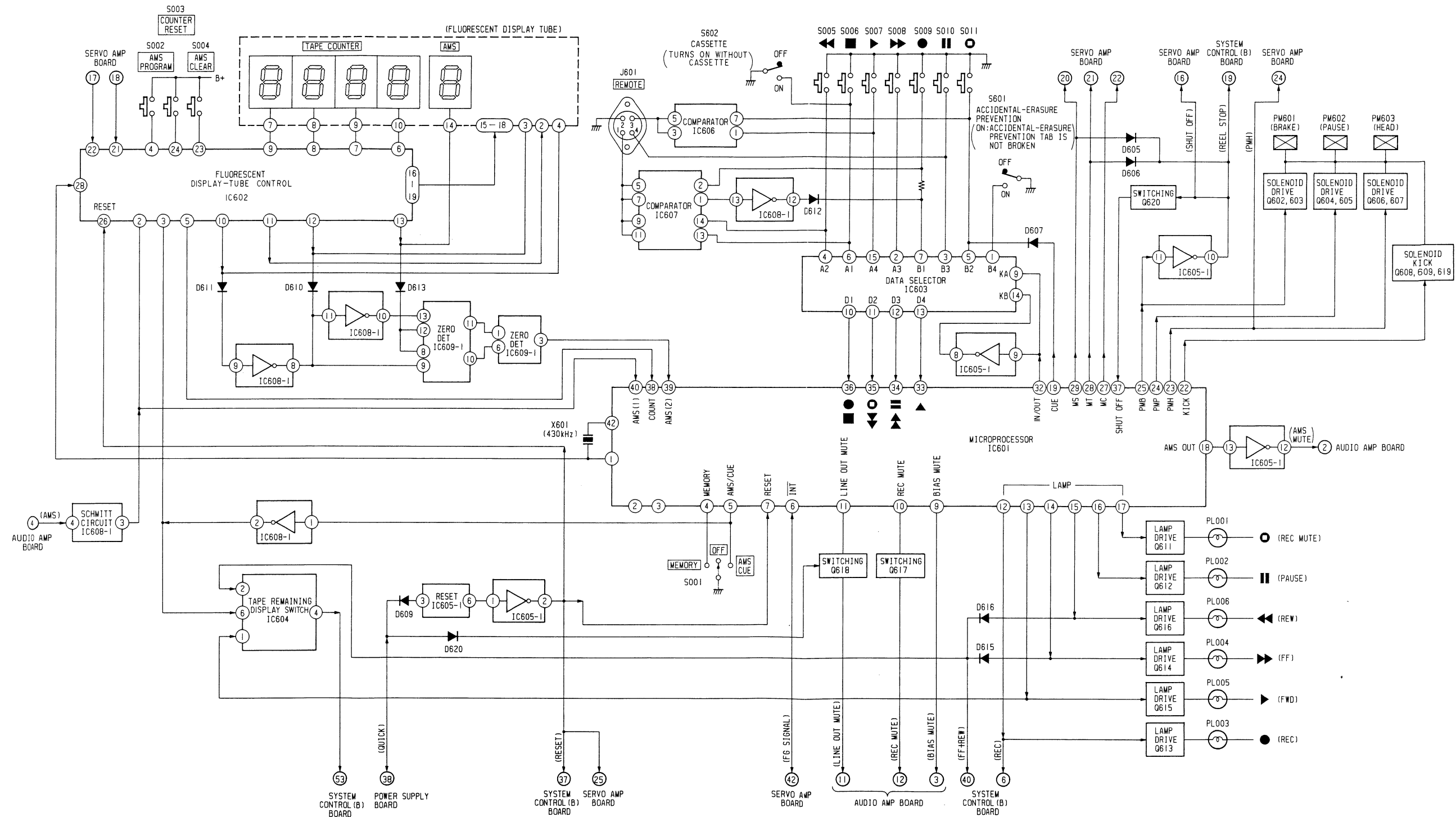
SECTION 1 OUTLINE

1-1. BLOCK DIAGRAM

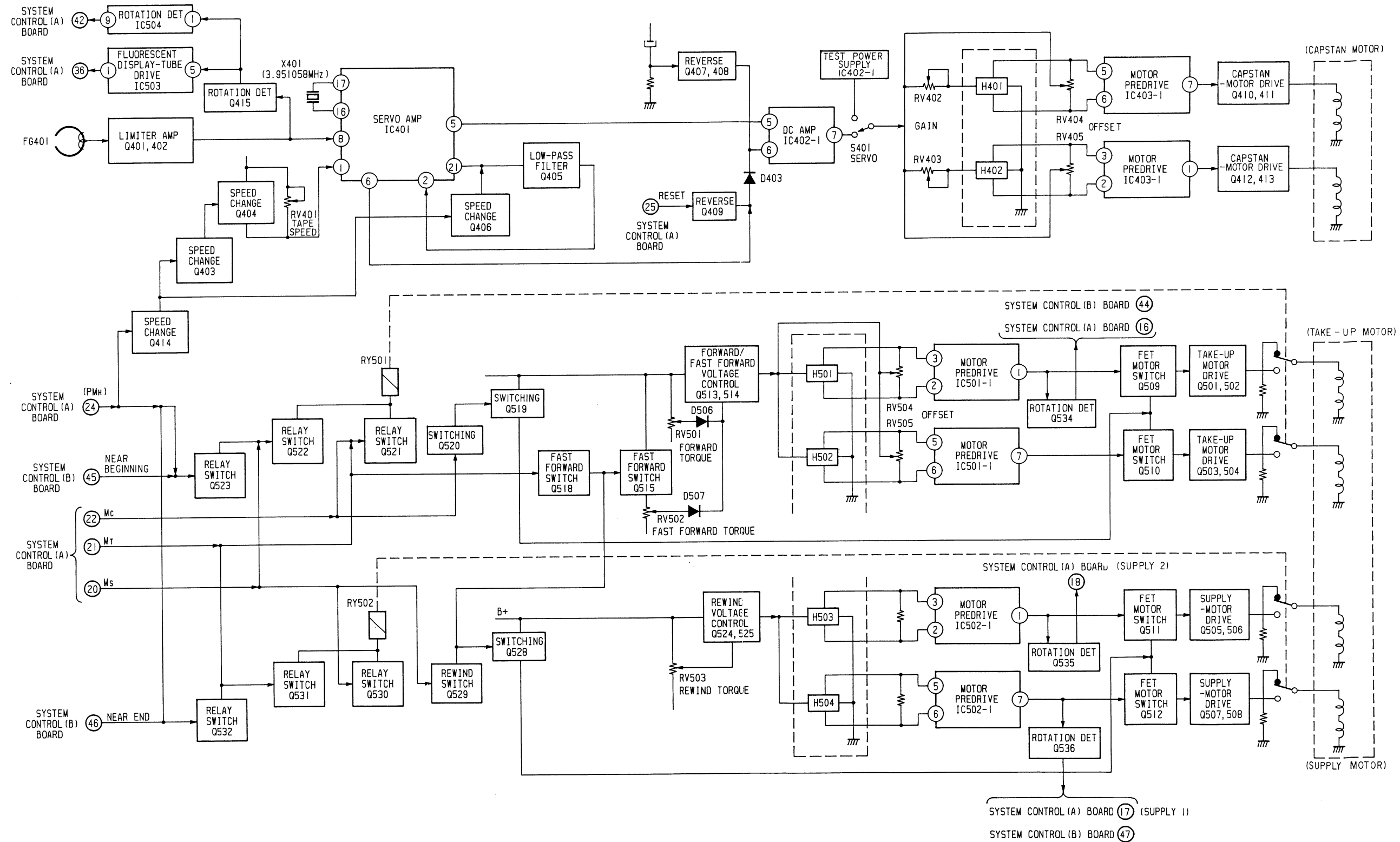
a) Audio Amp Section



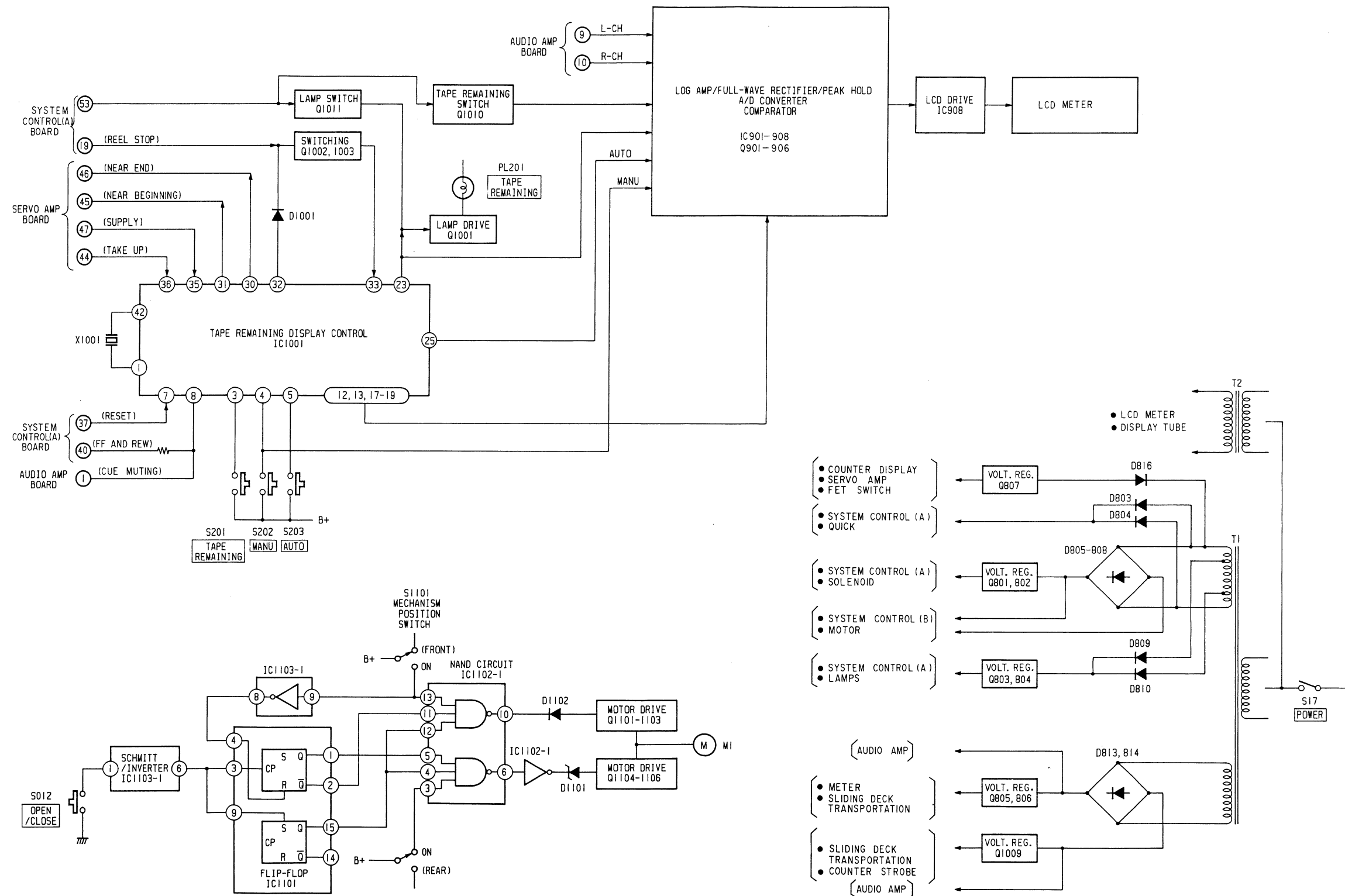
b) System Control (A) Section



c) Motor Section

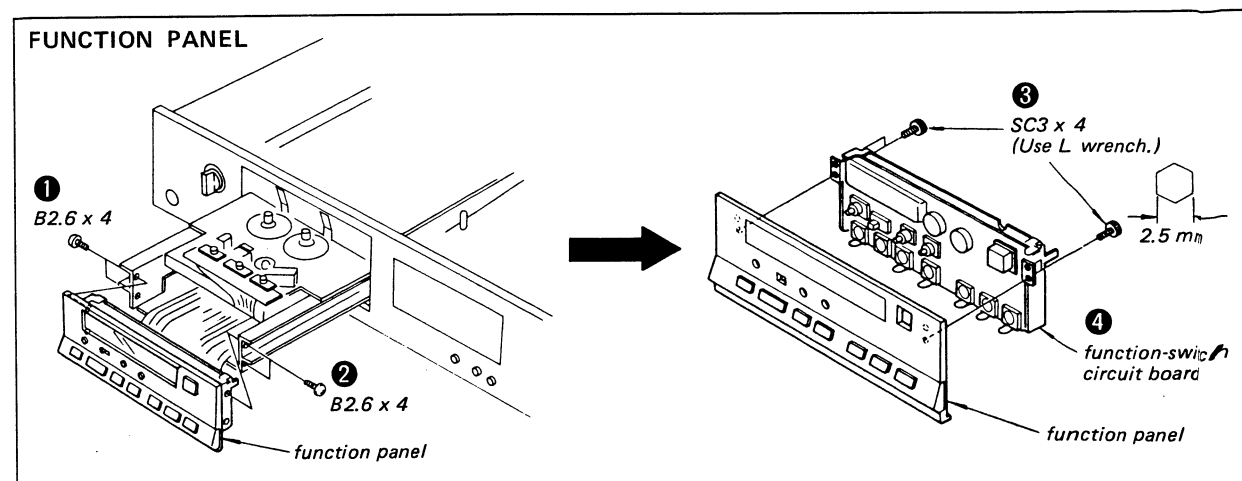
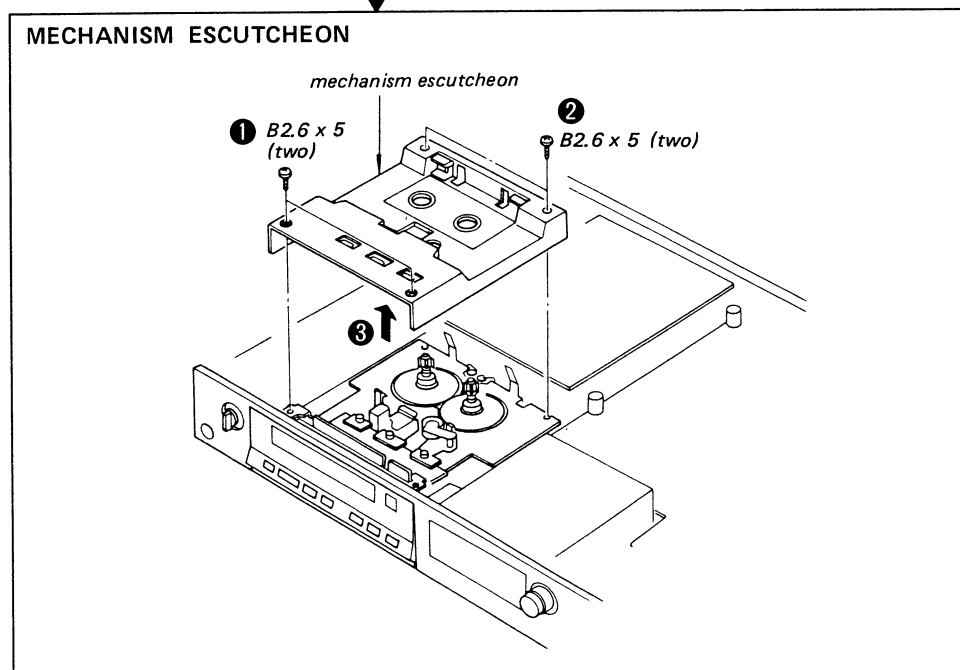
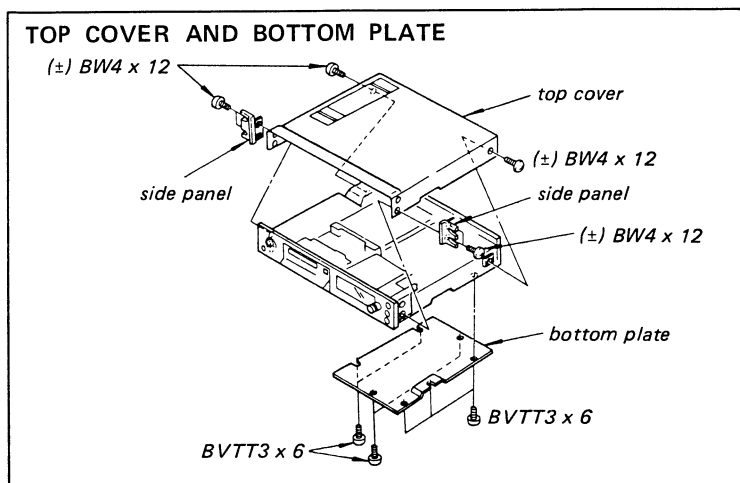


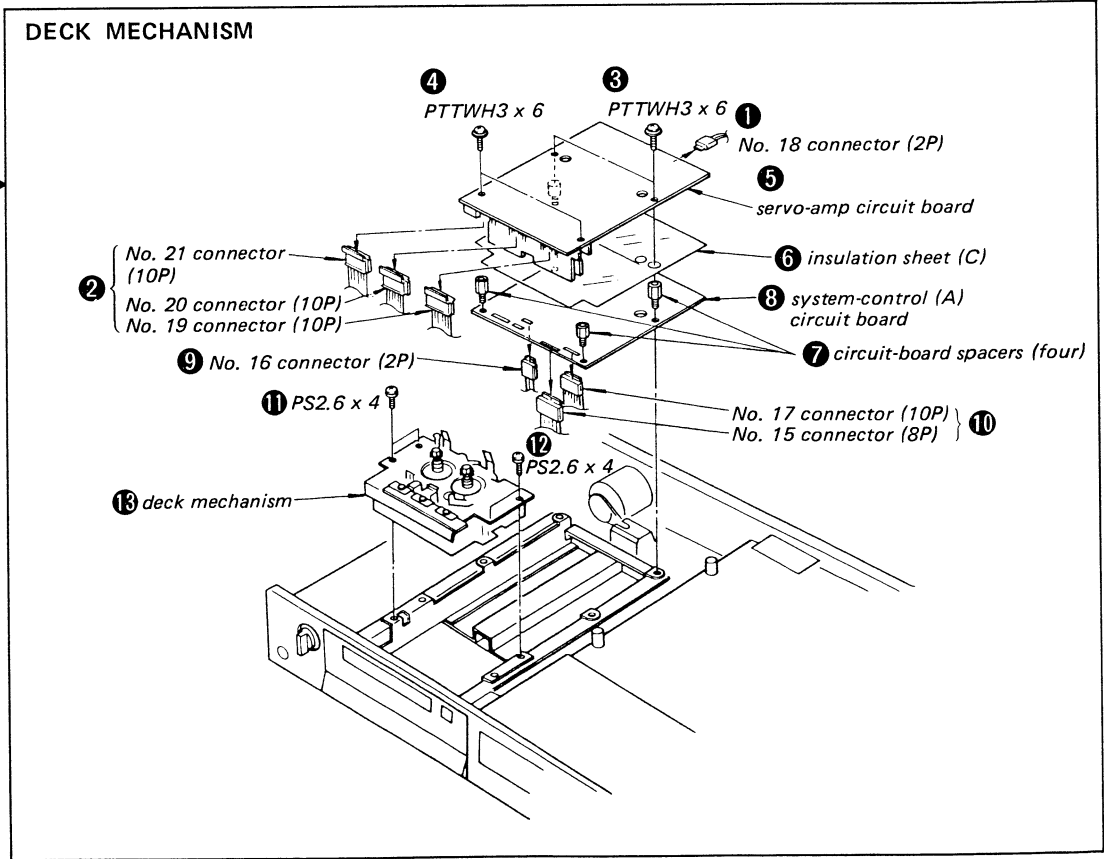
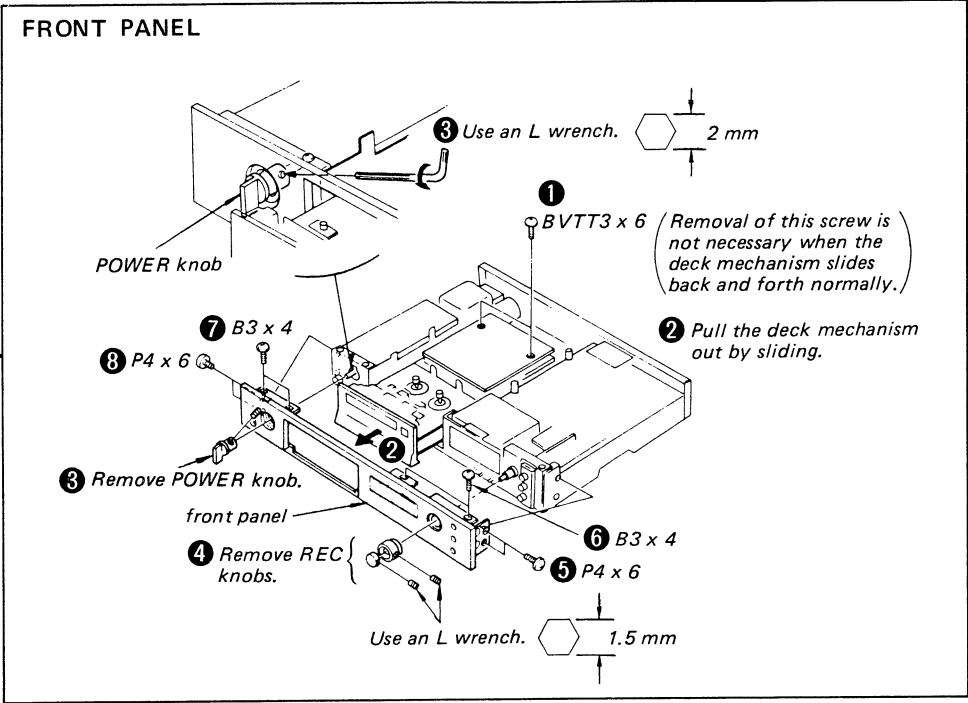
d) System Control (B)
and Power-Supply Sections



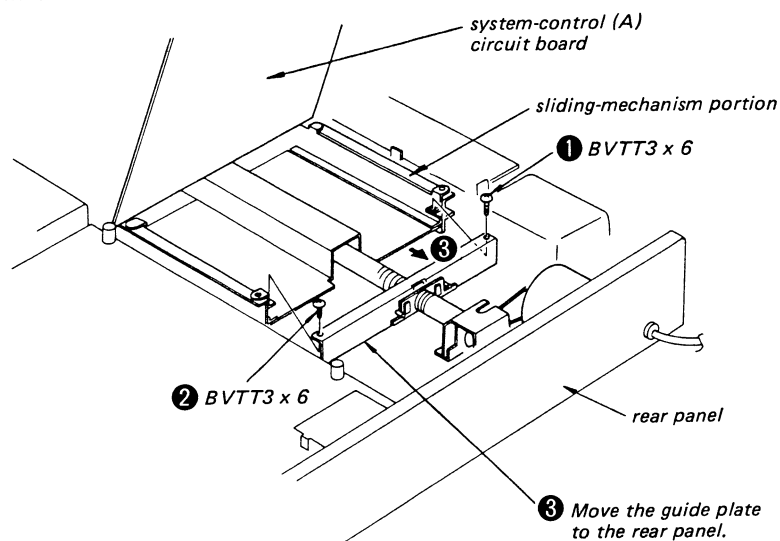
SECTION 2 DISASSEMBLY

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

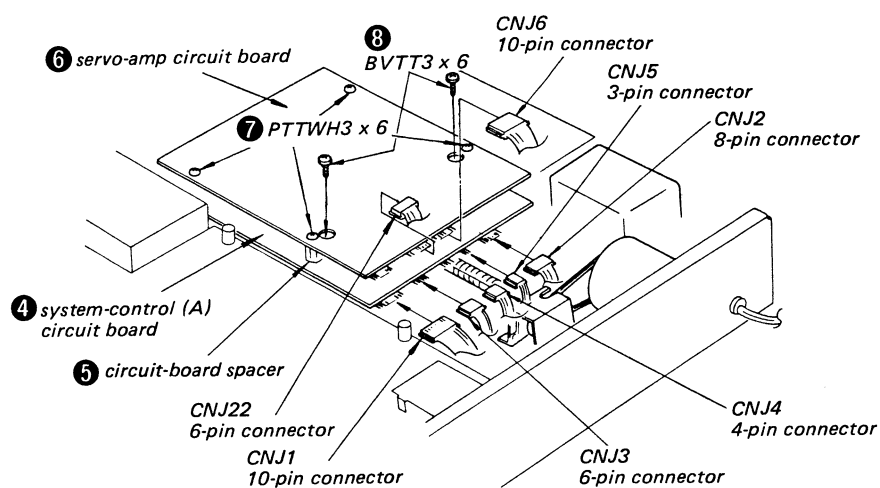




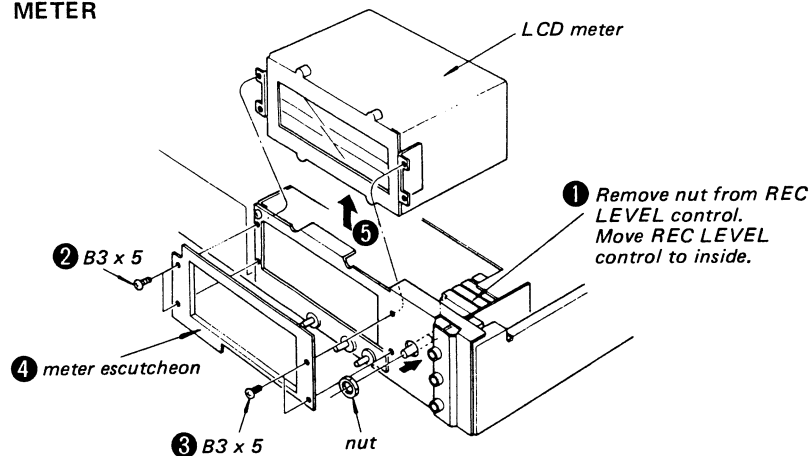
SLIDE-MECHANISM'S SCREW FASTENING



CONNECTOR CONNECTIONS



LCD METER



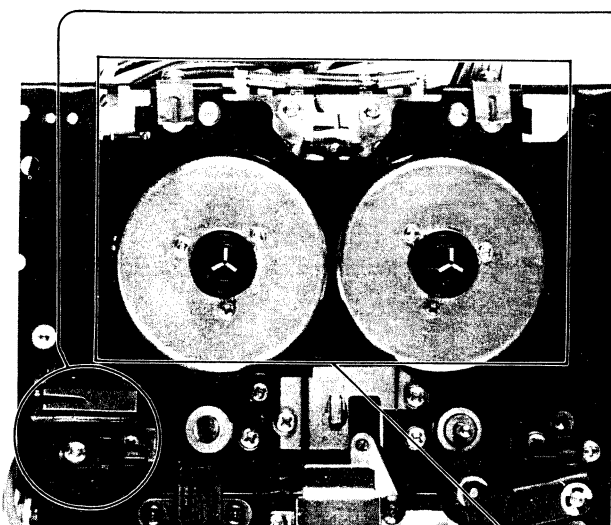
SECTION 3 ADJUSTMENTS

PRECAUTION

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

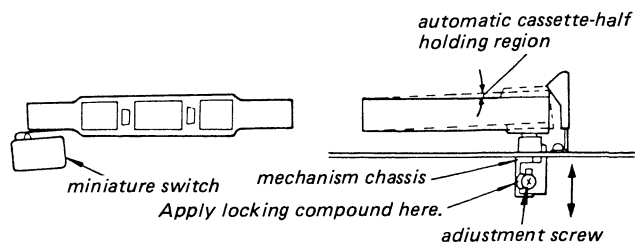
record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.

3-1. MECHANICAL ADJUSTMENTS



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

— Stop Mode —



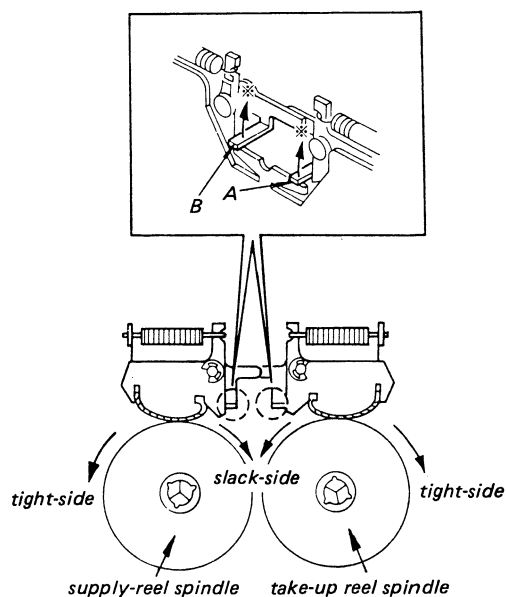
- Loosen the adjustment screw.
- Slowly install a tape cassette in the cassette compartment and adjust the position of the miniature switch in the region so that the miniature switch turns on and the cassette-half is automatically held when it is released from the hand.
- After the adjustment, lock the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

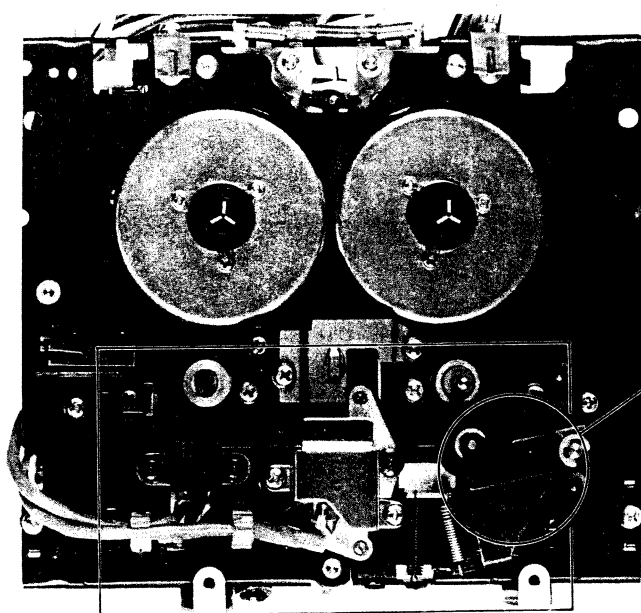
Brake Torque Adjustment

— Stop Mode —

- 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.
- 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.

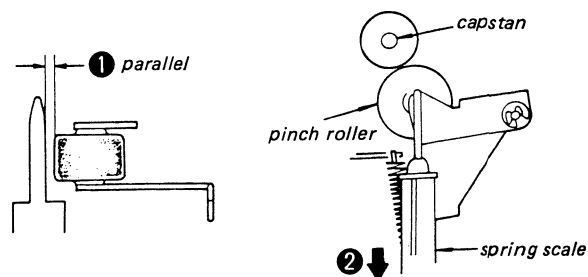
Note: A "Tonichi" torque meter is recommended for the adjustment.





Pinch-Roller Pressure Measurement

— Playback Mode —

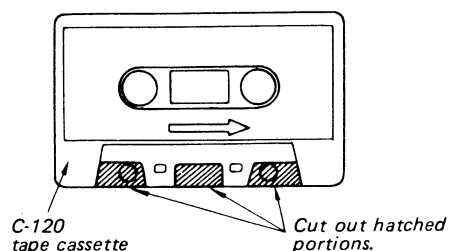


*In playback mode, pull the spring scale. Read the scale just when the pinch roller stops turning.
Specification: 400 – 480 g
(14.5 – 16.5 oz)*

Head Height Adjustment

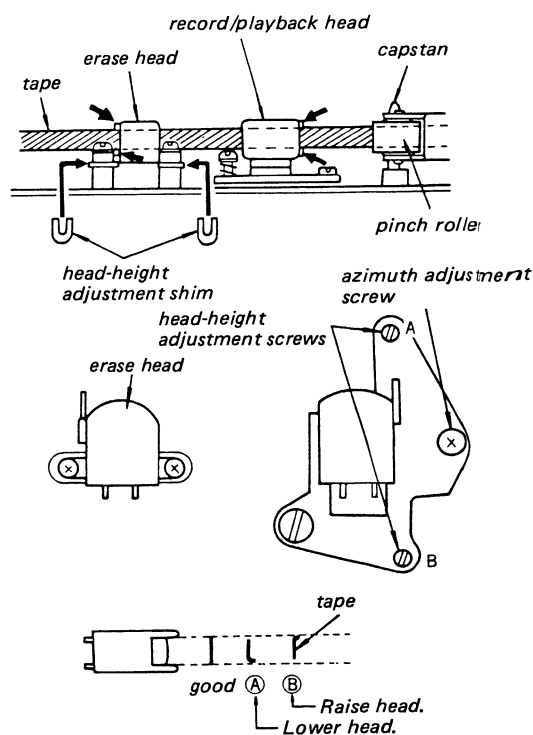
— Playback Mode —

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.

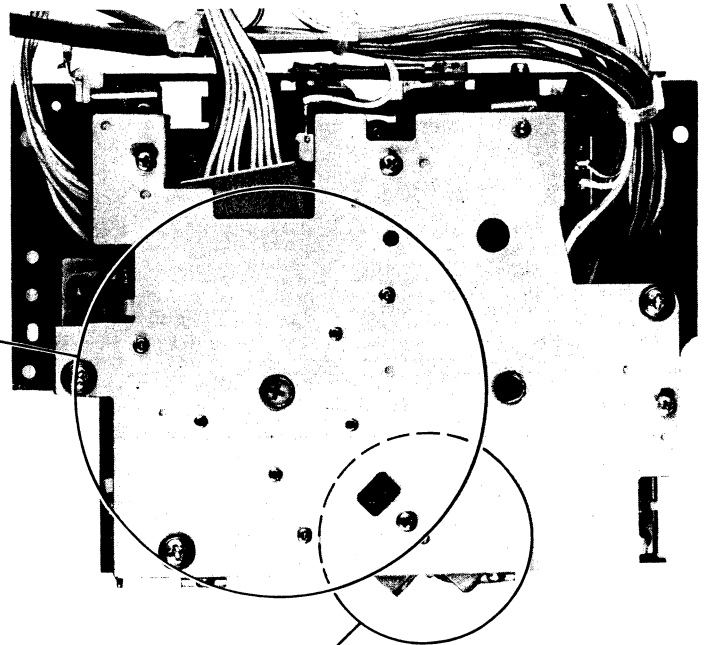
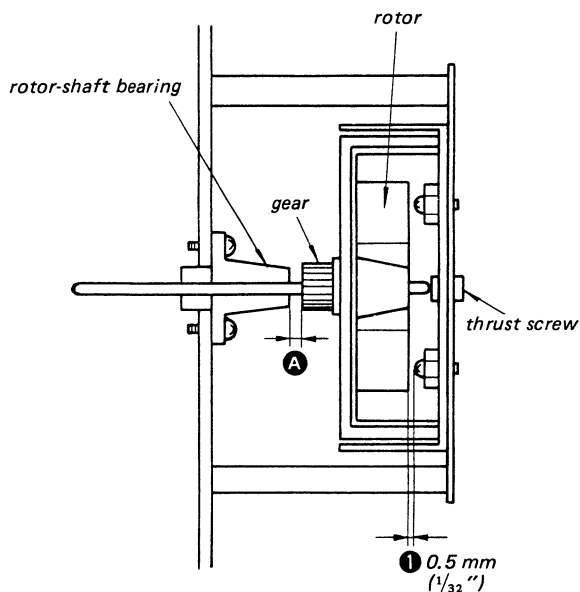
- b-2. Turn the azimuth adjustment screw in the same direction and same angle as the head-height adjustment screws in b-1.
4. After the adjustment, lock the adjustment screws with suitable locking compound.



Rotor Thrust Adjustment

— Playback Mode —

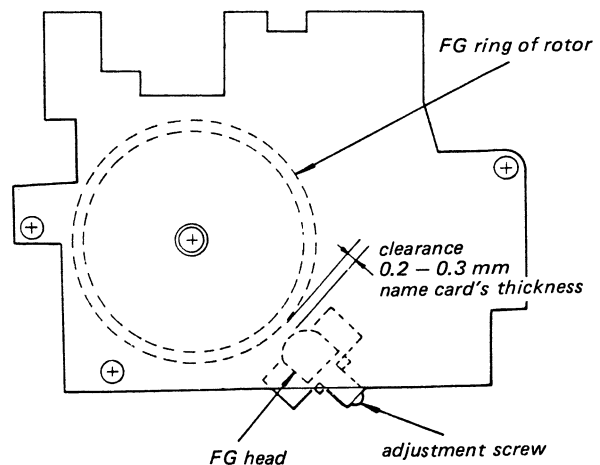
1. Loosen and then tighten the thrust screw until the rotor just starts rotating.
2. Further tighten the screw by $\frac{3}{4}$ turns so that the clearance ❶ becomes 0.5 mm ($\frac{1}{32}$ ").
3. Verify a clearance ❷ should exist between the gear and rotor-shaft bearing.



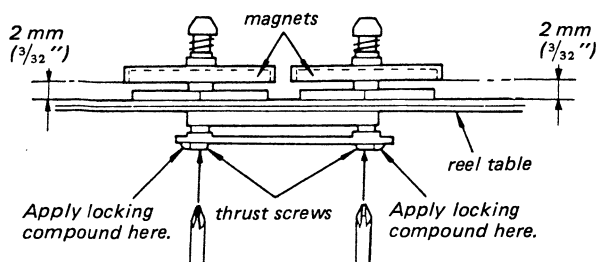
FG Head Position Adjustment

— Stop and Playback Modes —

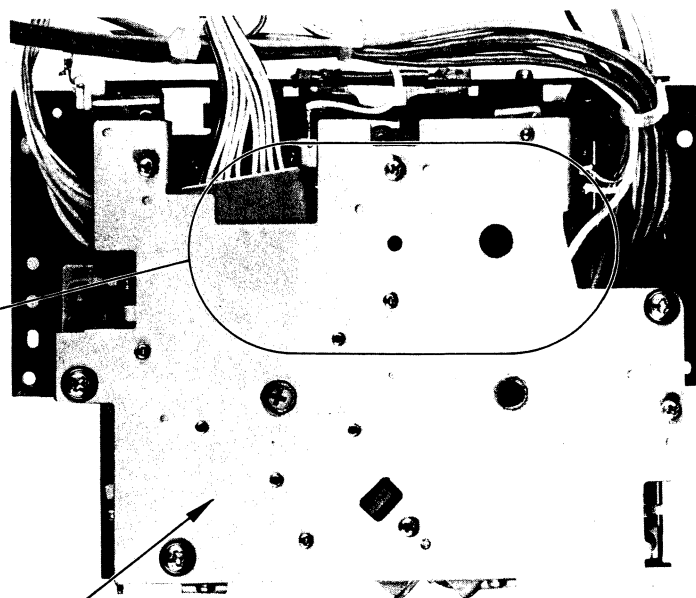
1. In stop mode, loosen the adjustment screw and insert a name card between the rotor's FG ring and FG head so that the clearance becomes the specified value.
2. Tighten the screw, and remove the name card.
3. In playback mode, confirm that the FG output of 150 – 250 mVp-p (70.7 ± 17.7 mVrms) presents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



Reel-motor Thrust Adjustment

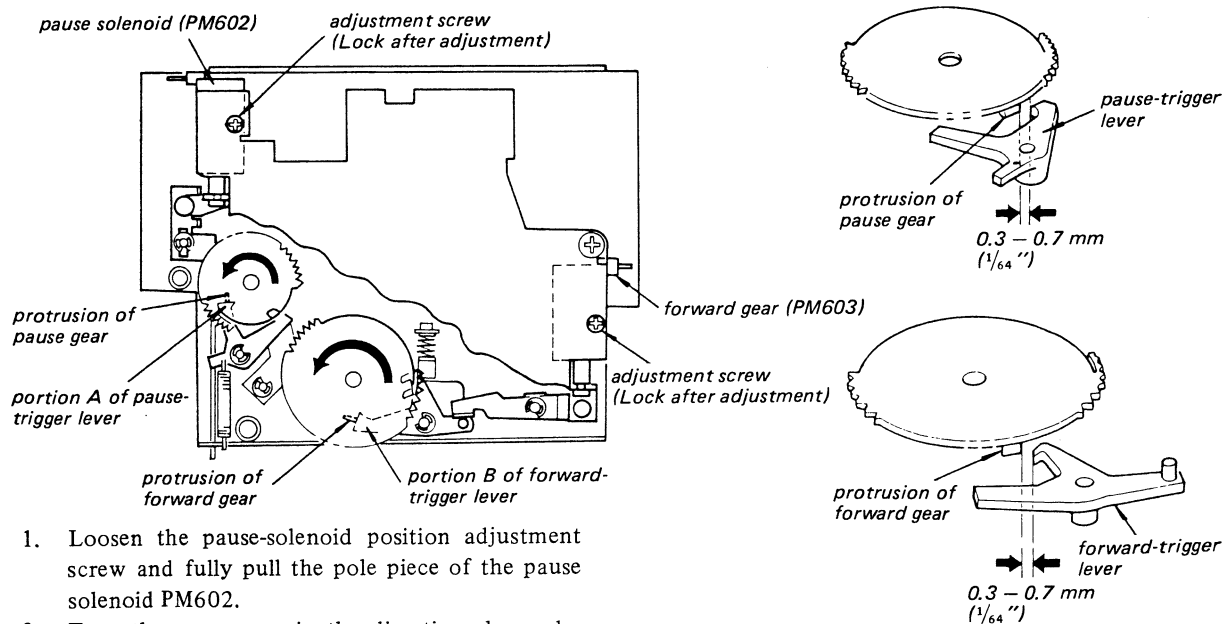


1. Turn the thrust screws so that the clearance between the magnets and the reel table becomes 2 mm ($\frac{3}{32}$ ") as shown above.
2. After the adjustment, lock the adjustment screws with suitable locking compound.

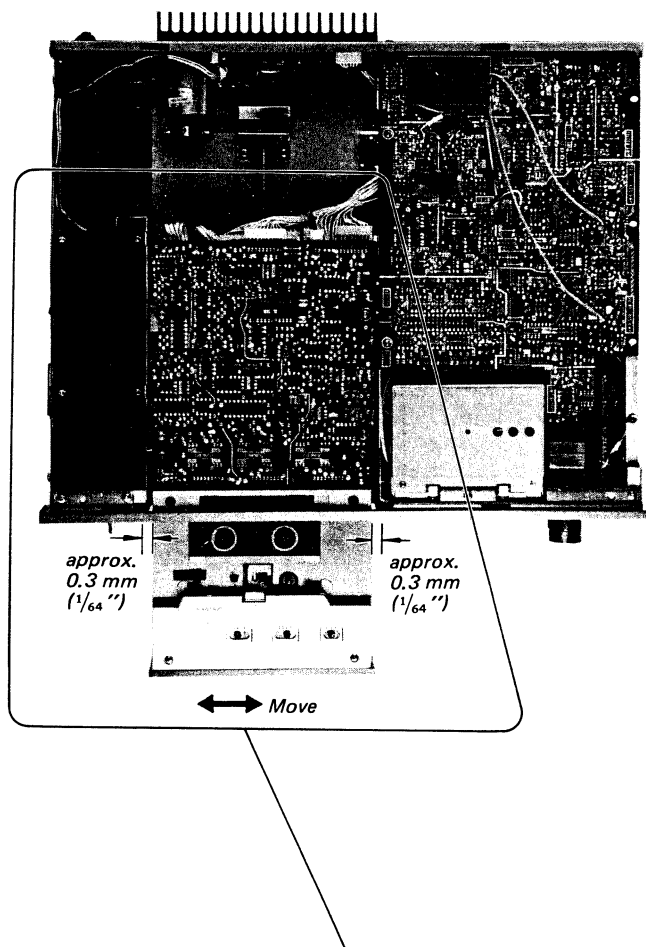


Solenoid Position Adjustment

— Stop Mode —



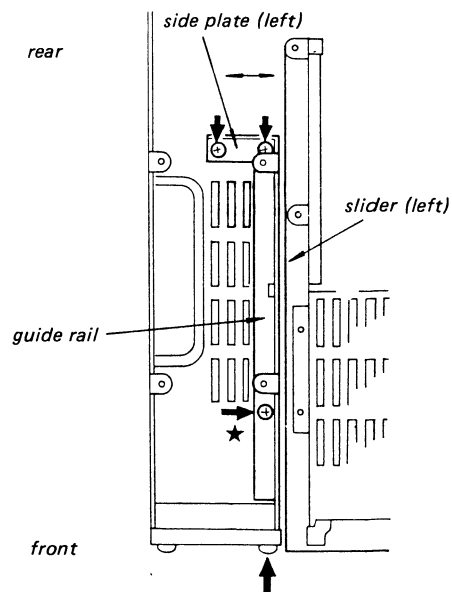
1. Loosen the pause-solenoid position adjustment screw and fully pull the pole piece of the pause solenoid PM602.
2. Turn the pause gear in the direction shown by the arrow.
3. Adjust the position of the pause solenoid so that the protrusion of the pause gear touches to approximately the center of the 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.



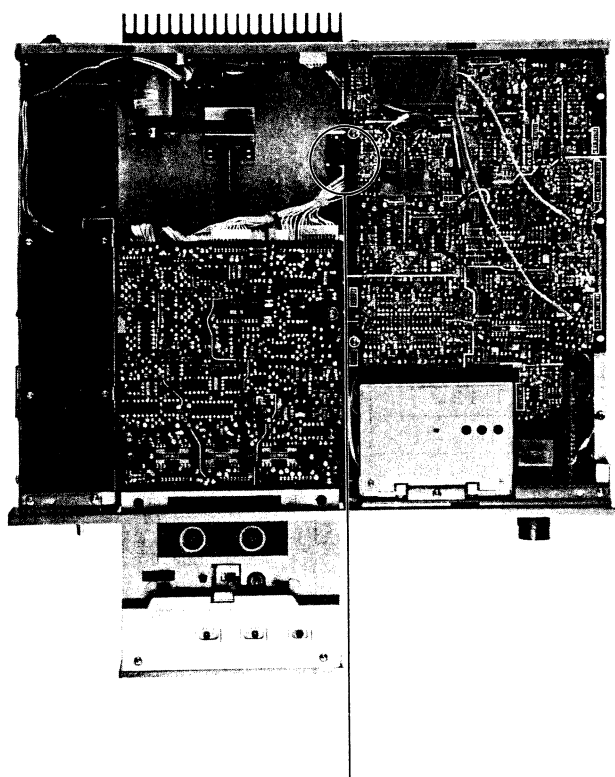
Sliding Mechanism Clearance Adjustment

— 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.



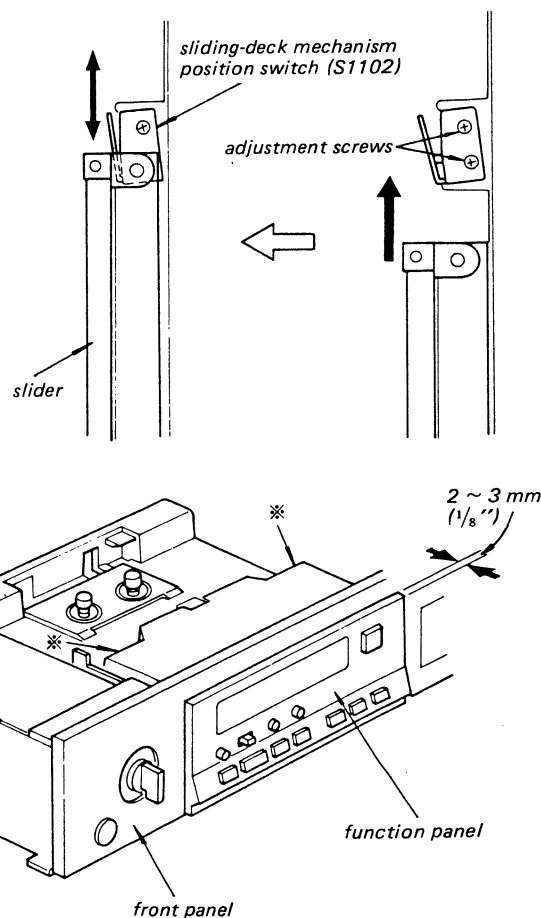
Note: ➡ adjustment screws



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 ($\frac{1}{8}$ ") 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)

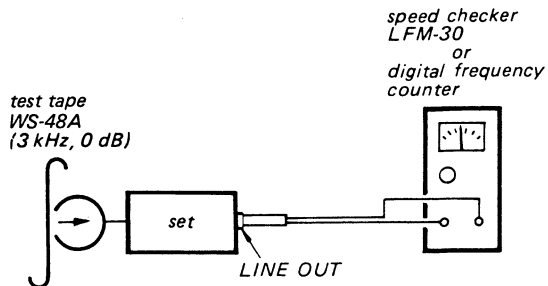
Standard Output Level

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

Tape Speed Adjustment

Procedure:

Mode: playback

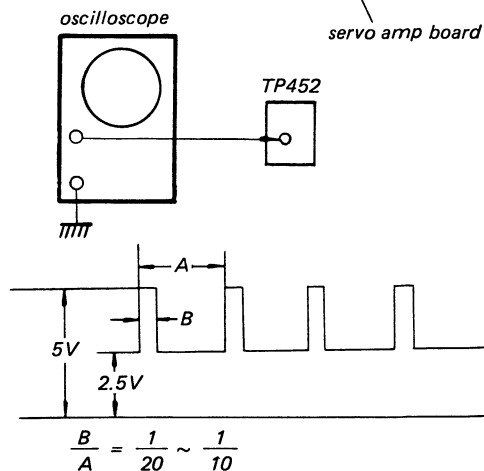
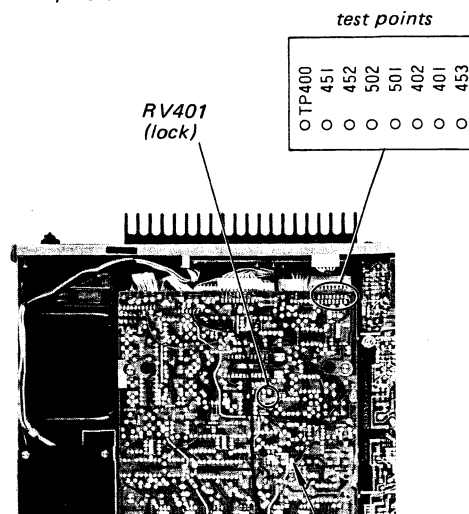


Specification:

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

Adjustment Location:

— servo amp board —

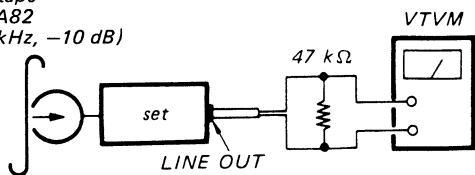


Record/playback Head Azimuth Adjustment

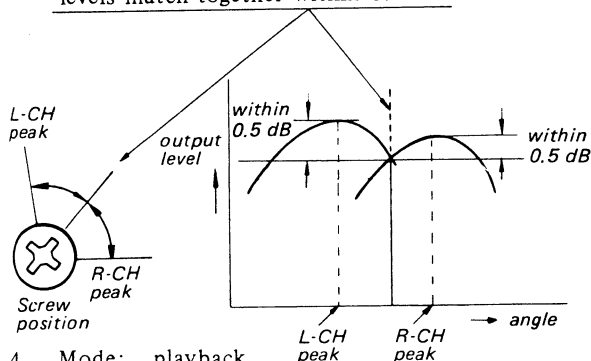
Procedure:

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

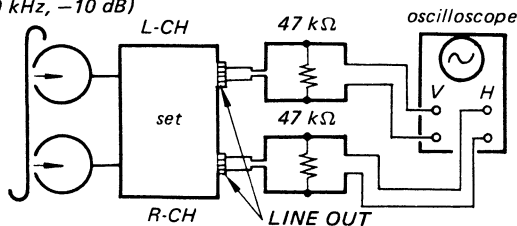
test tape
P-4-A82
(10 kHz, -10 dB)



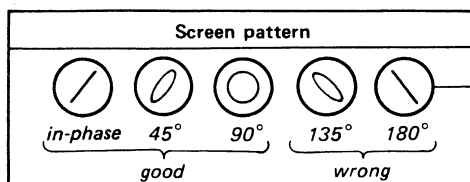
3. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.



4. Mode: playback
test tape P-4-A82
(10 kHz, -10 dB)

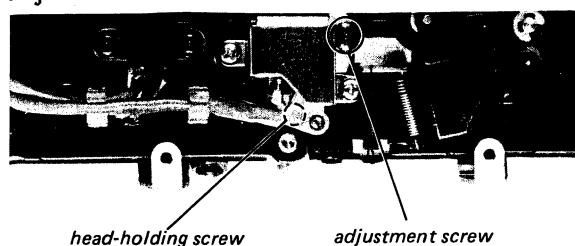


Adjust the adjustment screw for a good pattern.



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 —



head-holding screw

adjustment screw

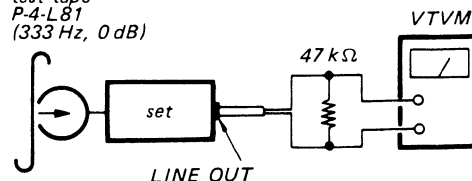
Playback Level Adjustment

Setting:

TAPE SELECT switch: TYPE I

Procedure:

test tape
P-4-L81
(333 Hz, 0 dB)



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

Specification:

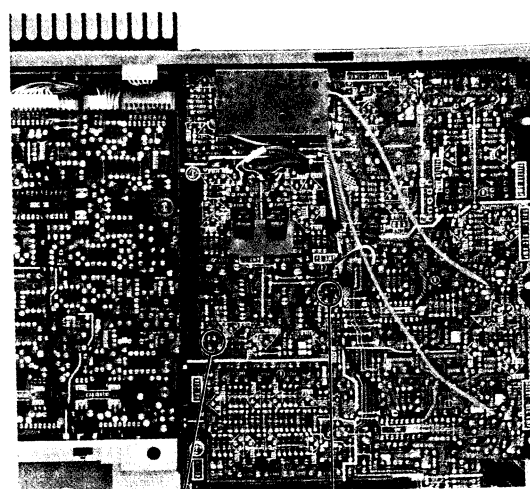
LINE OUT level: 0.52 — 0.58V
(-3.5 to -2.5dB)

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 —



RV101
(L-CH)

RV201
(R-CH)

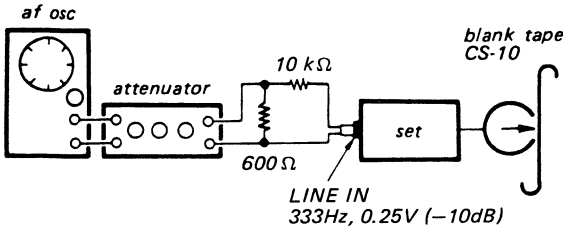
Record Level Adjustment

Setting:

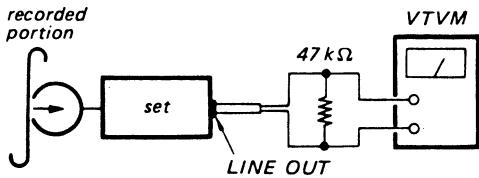
TAPE SELECT switches: TYPE I
DOLBY NR switch: OFF
REC LEVEL control: standard record
(See page 22.)

Procedure:

1. Mode: record



2. Mode: playback

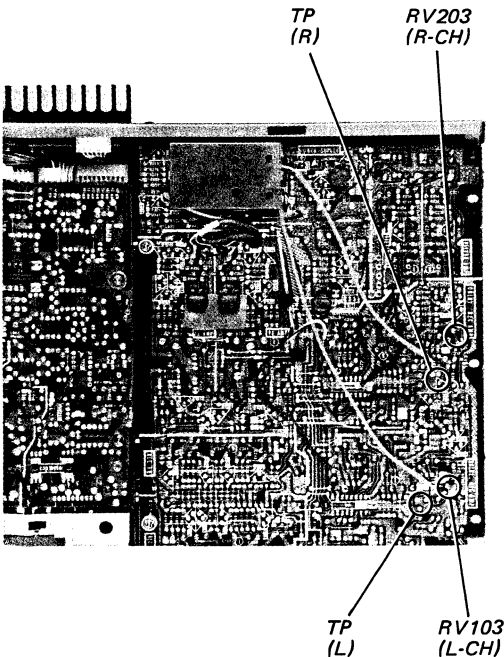


Adjust RV103 (L-CH) and RV203 (R-CH) to obtain 0.44V (-5dB) LINE OUT level.

Specification:

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

Adjustment Location: – audio amp board –



Record Bias and Record-Bias Trap Adjustments

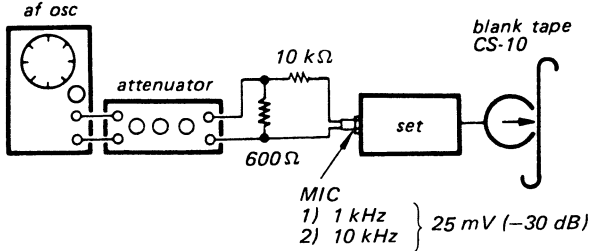
Setting:

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

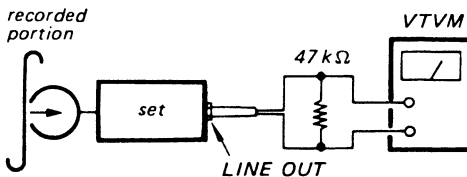
Procedure:

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

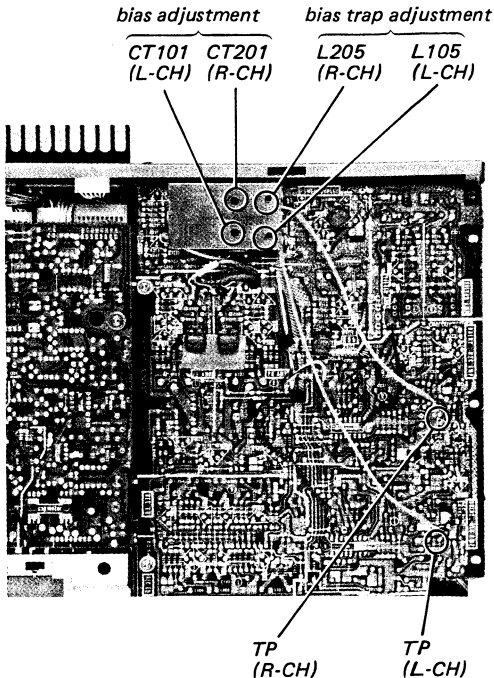


5. Mode: playback



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.



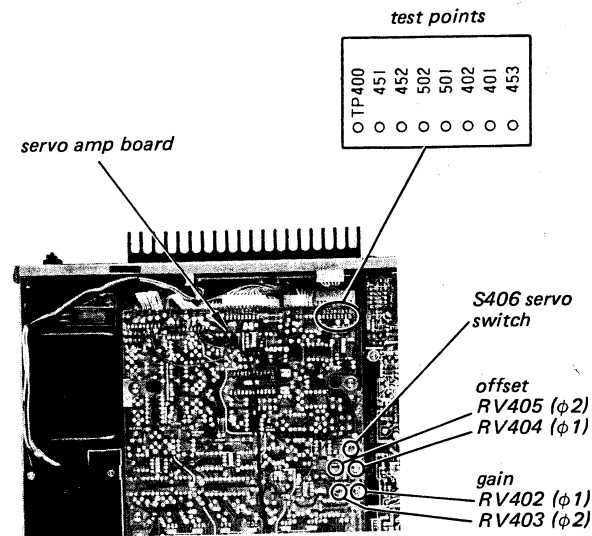
Capstan Motor Adjustment

Setting:

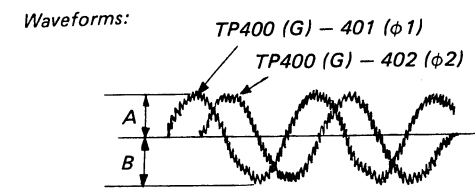
POWER switch: ON
Mode: stop

Procedure:

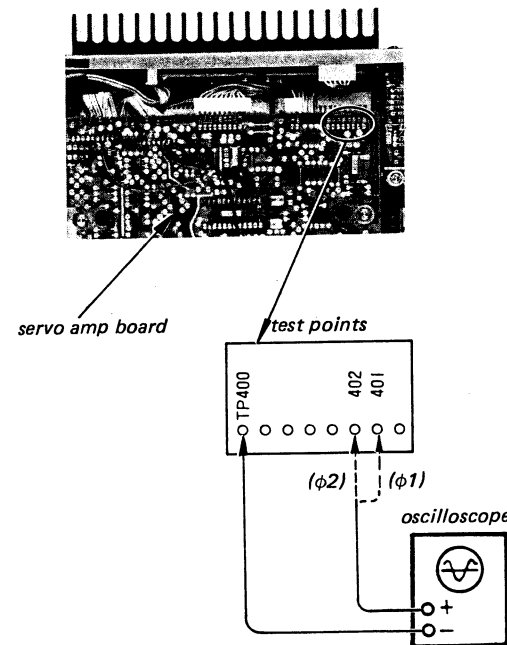
1. Set S406 to TEST side (full-counterclockwise position).
2. Connect an oscilloscope to the test points as follows.



5. Adjust RV404 and RV405 to obtain a symmetrical waveforms as shown.

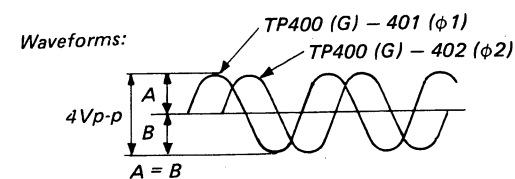


Adjustment Location:
— servo amp board —



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

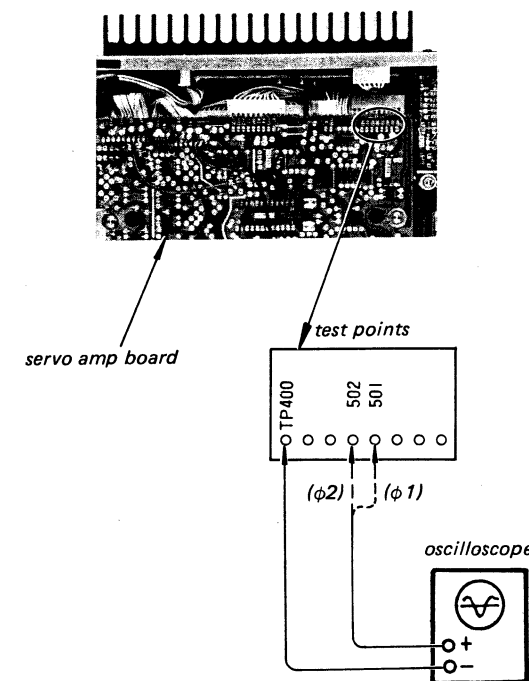


4. Set S406 to SERVO side (full-clockwise position), install a tape cassette and set in playback mode.

Reel Motor Adjustment

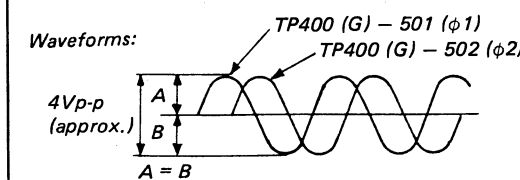
Procedure:

1. Connect an oscilloscope as follows.



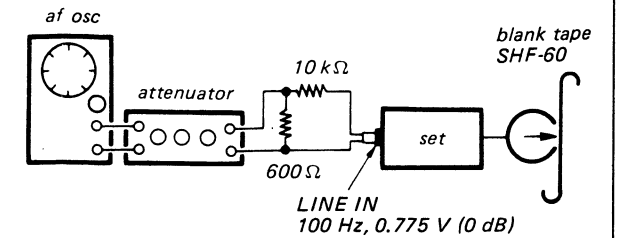
2. Set the tape recorder in playback mode with a tape cassette installed.
3. Adjust RV504 and RV505.

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

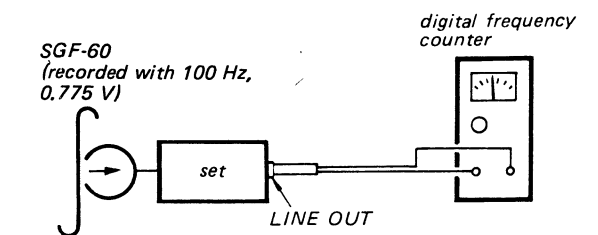


4. Install a torque meter CQ-201B in the set. Adjust RV501 to obtain a 35 g·cm (0.49 oz·inch) of forward torque.

5. Mode: record

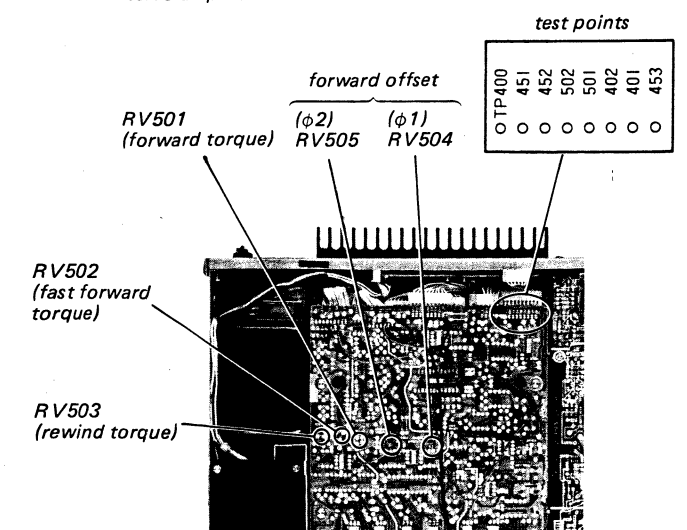


6. Mode: fast forward and rewind (CUE)



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.

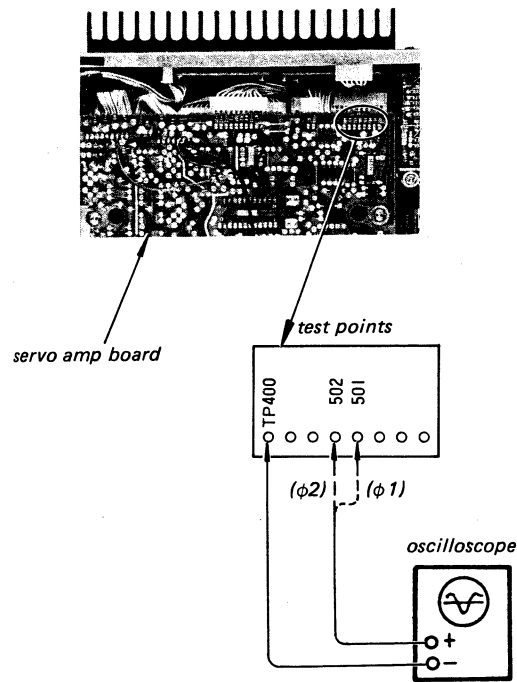
Adjustment Location:
— servo amp board —



Reel Motor Adjustment

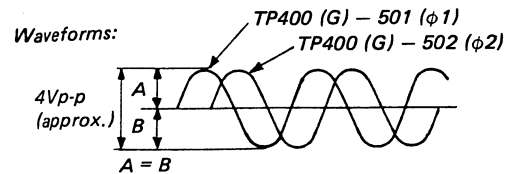
Procedure:

- 1. Connect an oscilloscope as follows.



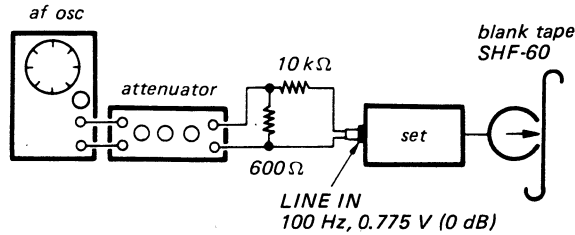
- 2. Set the tape recorder in playback mode with a tape cassette installed.
- 3. Adjust RV504 and RV505.

Oscilloscope connection	Adjust	Obtain
TP400 (G) and TP501 ($\phi 1$)	RV504	Waveform A = B
TP400 (G) and TP502 ($\phi 2$)	RV505	

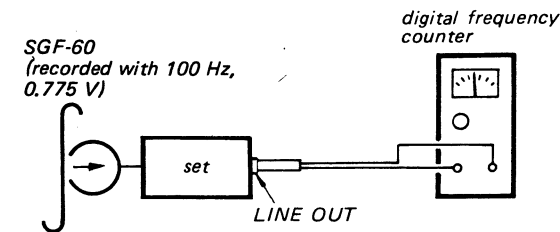


- 4. Install a torque meter CQ-201B in the set. Adjust RV501 to obtain a 35 g·cm (0.49 oz·inch) of forward torque.

- 5. Mode: record

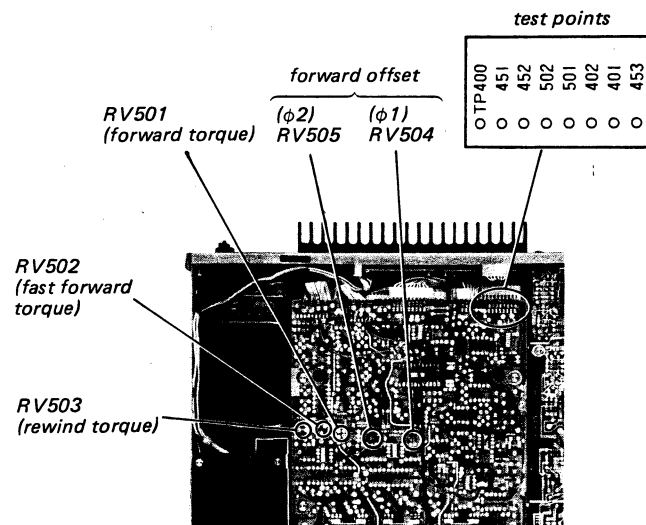


- 6. Mode: fast forward and rewind (CUE)



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 –

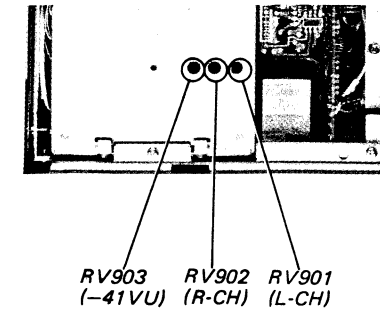


LCD Meter Adjustment

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

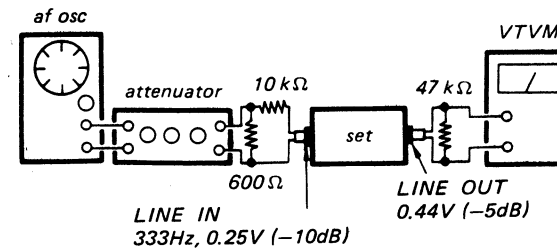
Adjustment Location:
– LCD unit –



Procedure:

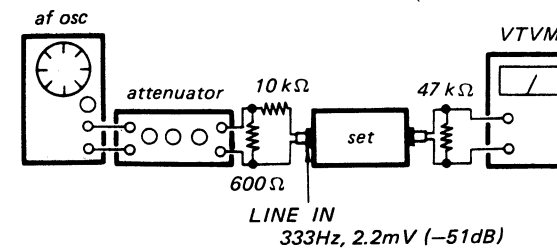
Note: When adjusting the following adjustable resistors, turn them in the direction to decrease the indications and set the resistors just when an indication element disappears.

- 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.

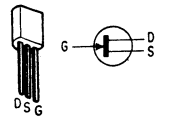
- 3. Repeat steps 1 and 2 several times.

4-1. MOUNTING DIAGRAM (1)

Replacement Semiconductors

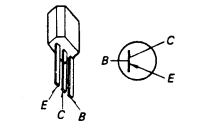
For replacement, use semiconductors except in ().

Q101, 201: 2SK107



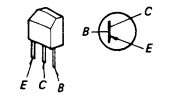
Q112, 212
Q113, 213
Q116, 216
Q312, 317

: 2SA1027R
(2SA1026),
(2SA844) 1

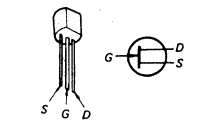


Q102, 202
Q103, 203
Q306, 307
Q310

: 2SA1138

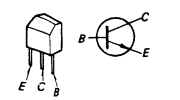


Q301, 302: 2SK30A

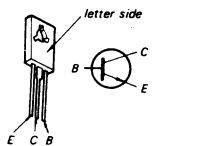


Q104, 204
Q105, 205
Q110, 210
Q304, 305
Q309

: 2SC2676

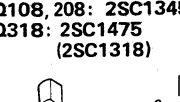


Q303: 2SD414

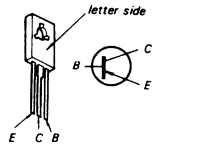


Q106, 206
Q107, 207
Q111, 211
Q114, 214
Q115, 215
Q117, 217
Q118, 218
Q119, 219
Q311
Q313-316
Q319

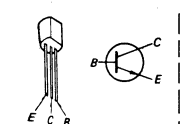
: 2SC1364
(2SC458A)



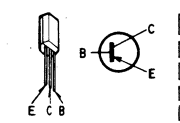
Q308: 2SB548



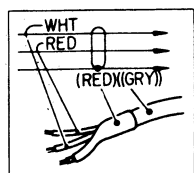
Q108, 208: 2SC1345
Q318: 2SC1475
(2SC1318) (2SC458A)



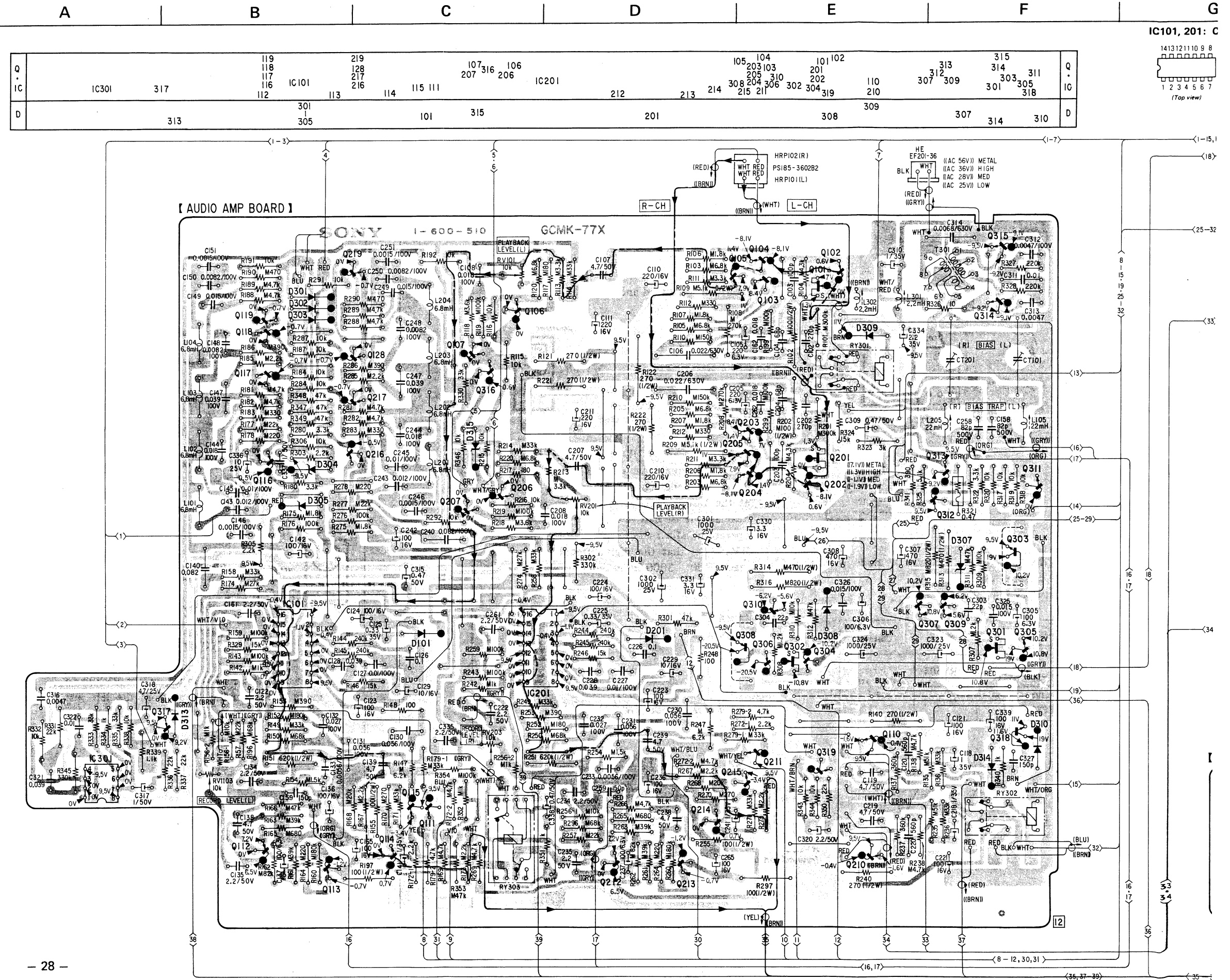
Q109, 209: 2SA872 (2SA836)

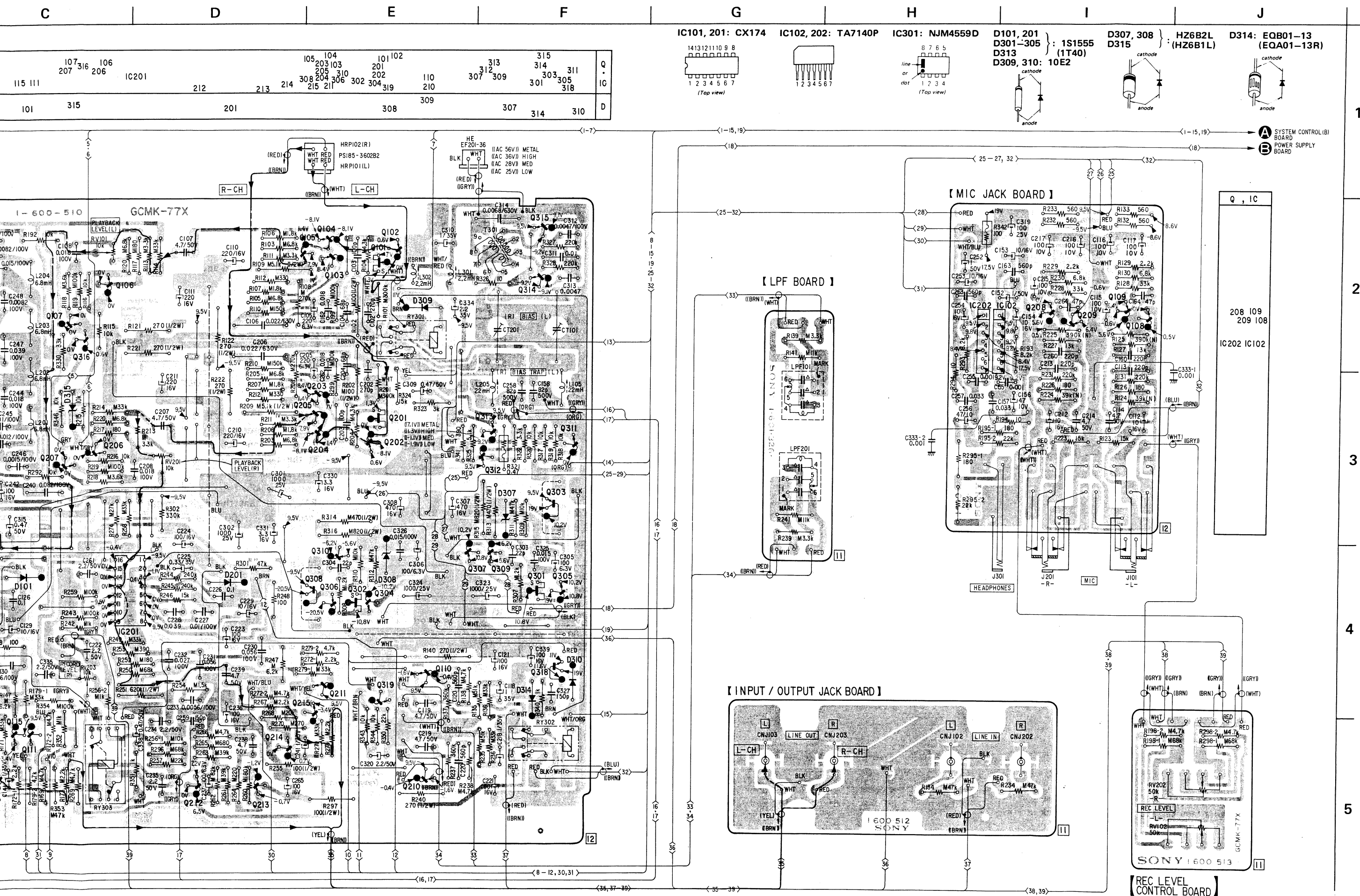


Note:
• Color code of sleeving over the end of the jacket.

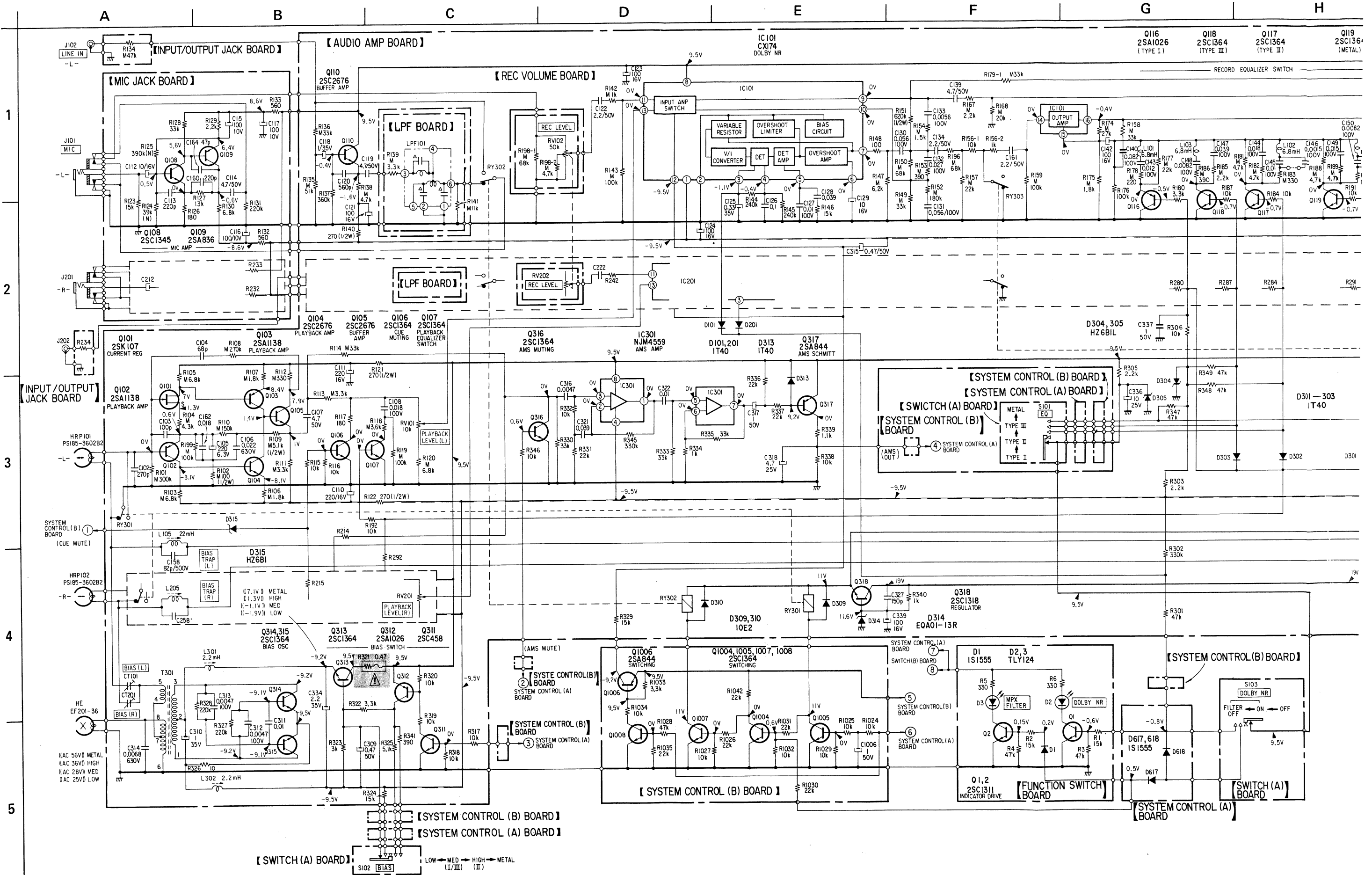


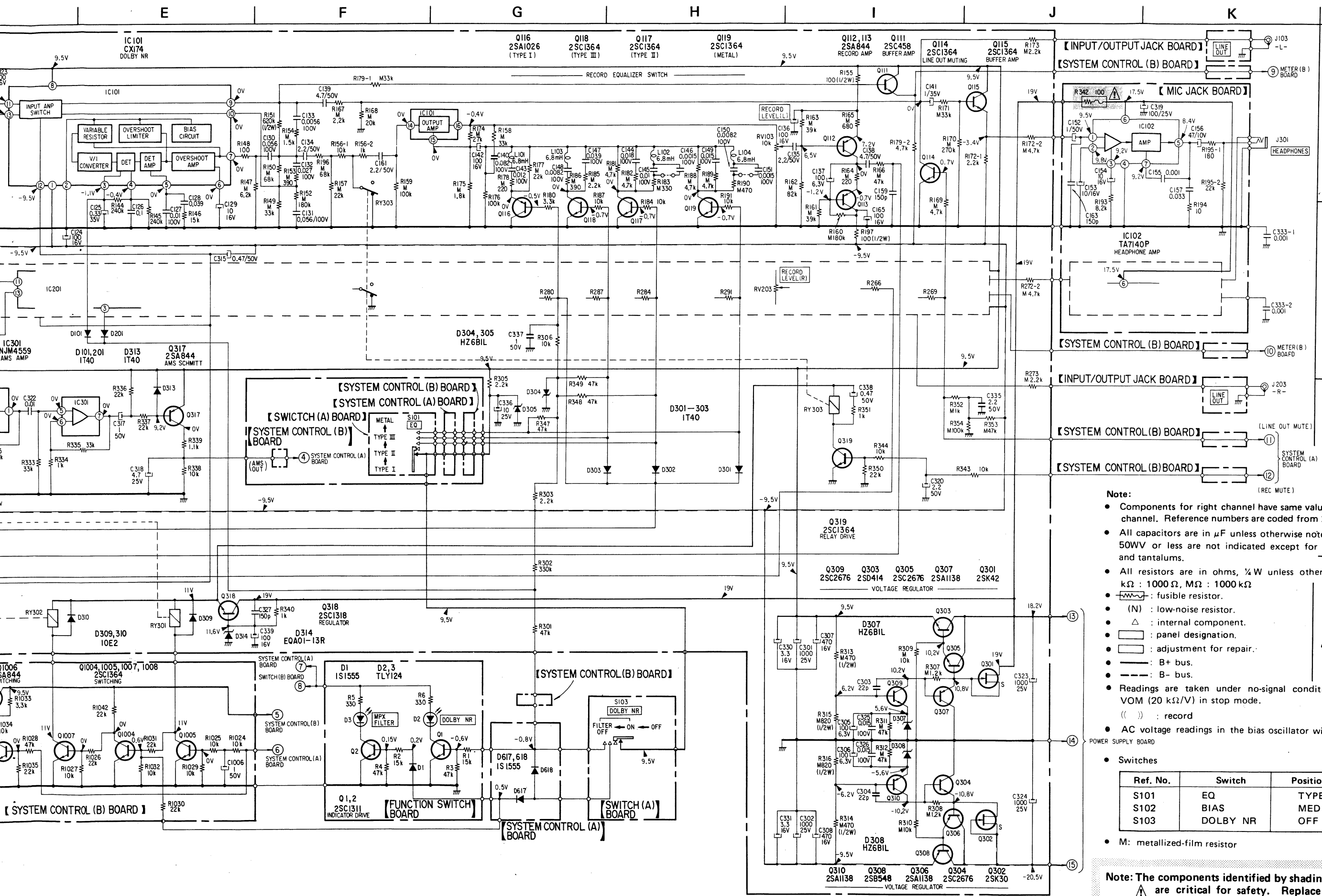
- : parts extracted from the component side. 5
- : parts extracted from the conductor side.
- : part mounted on the conductor side.
- M: metallized-film resistor
- B + pattern
- B - pattern





4-2. SCHEMATIC DIAGRAM (1)





- 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 : μF 50WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted. $\text{k}\Omega$: 1000 Ω , $\text{M}\Omega$: 1000 $\text{k}\Omega$
 - : fusible resistor.
 - (N) : low-noise resistor.
 - Δ : internal component.
 - : panel designation.
 - : adjustment for repair.
 - : B+ bus.
 - : B- bus.
 - Readings are taken under no-signal conditions with a VOM (20 $\text{k}\Omega/\text{V}$) in stop mode.
 - (()) : record
 - AC voltage readings in the bias oscillator with a VTVM

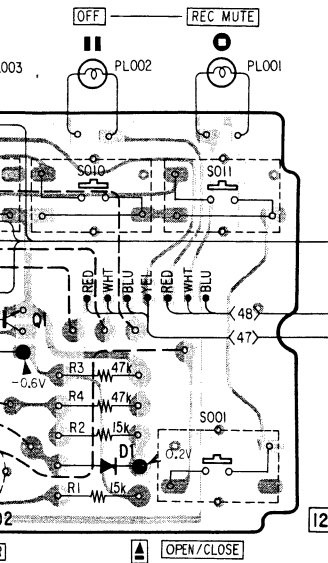
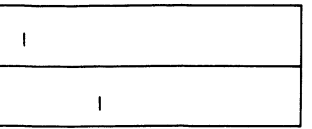
• Switches

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

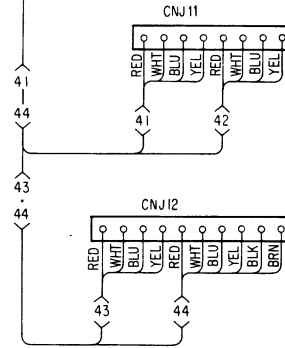
Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

- 35 -

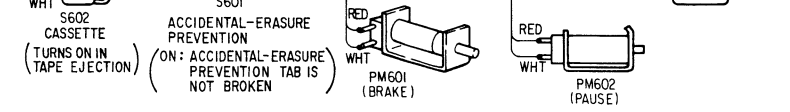
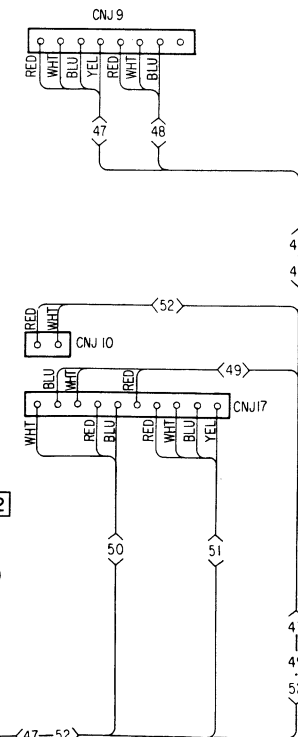
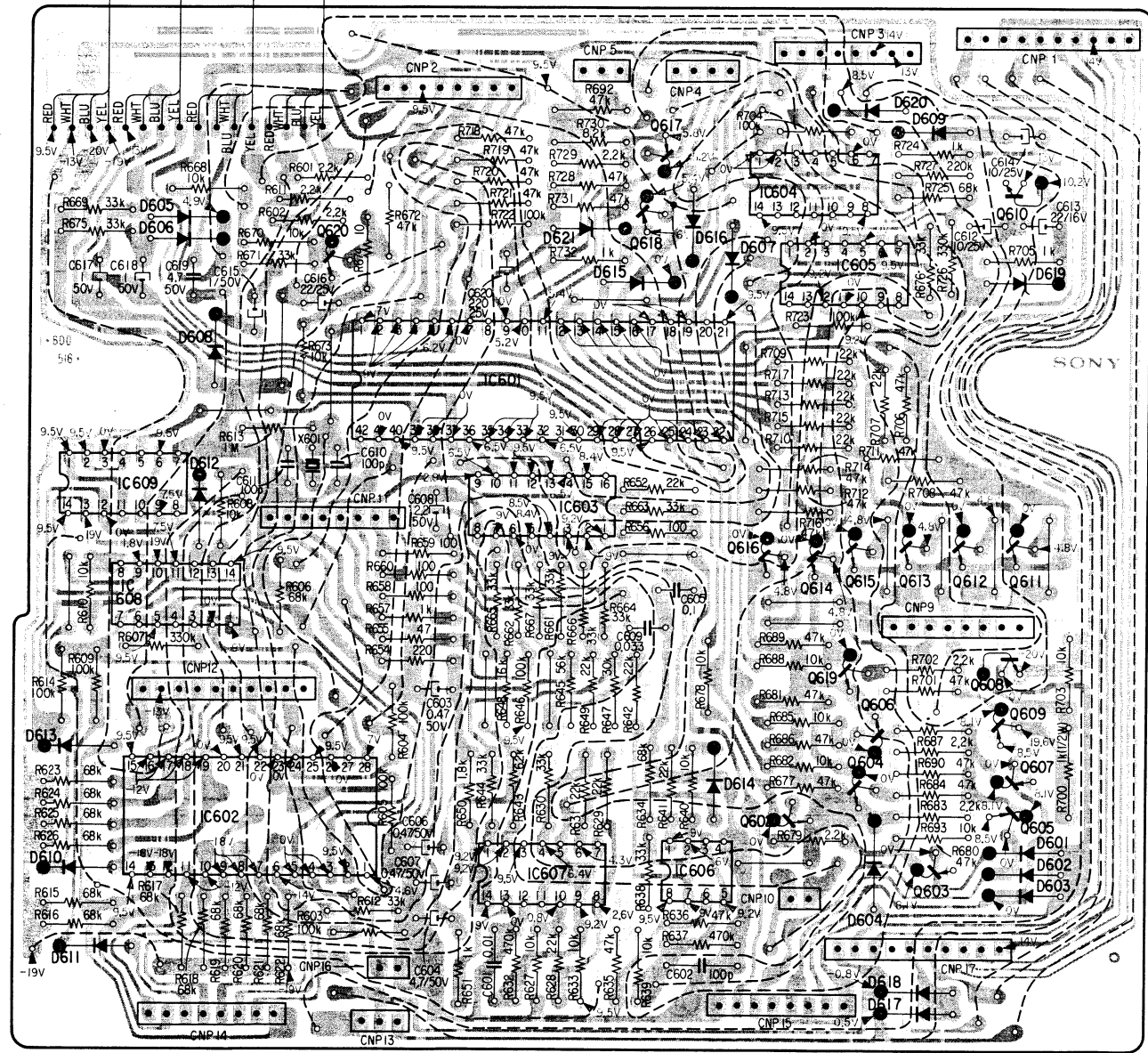
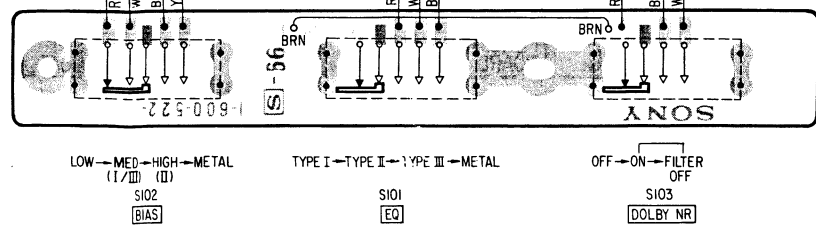
Q IC	IC609	IC608	IC602	620	IC601	IC603	IC607	IC606	IC604	IC605	610
D	613 610 611	605 606 608 612			621	615	616 607 614	602	616 604 617	619 606 603	611 608 609 607 605

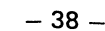


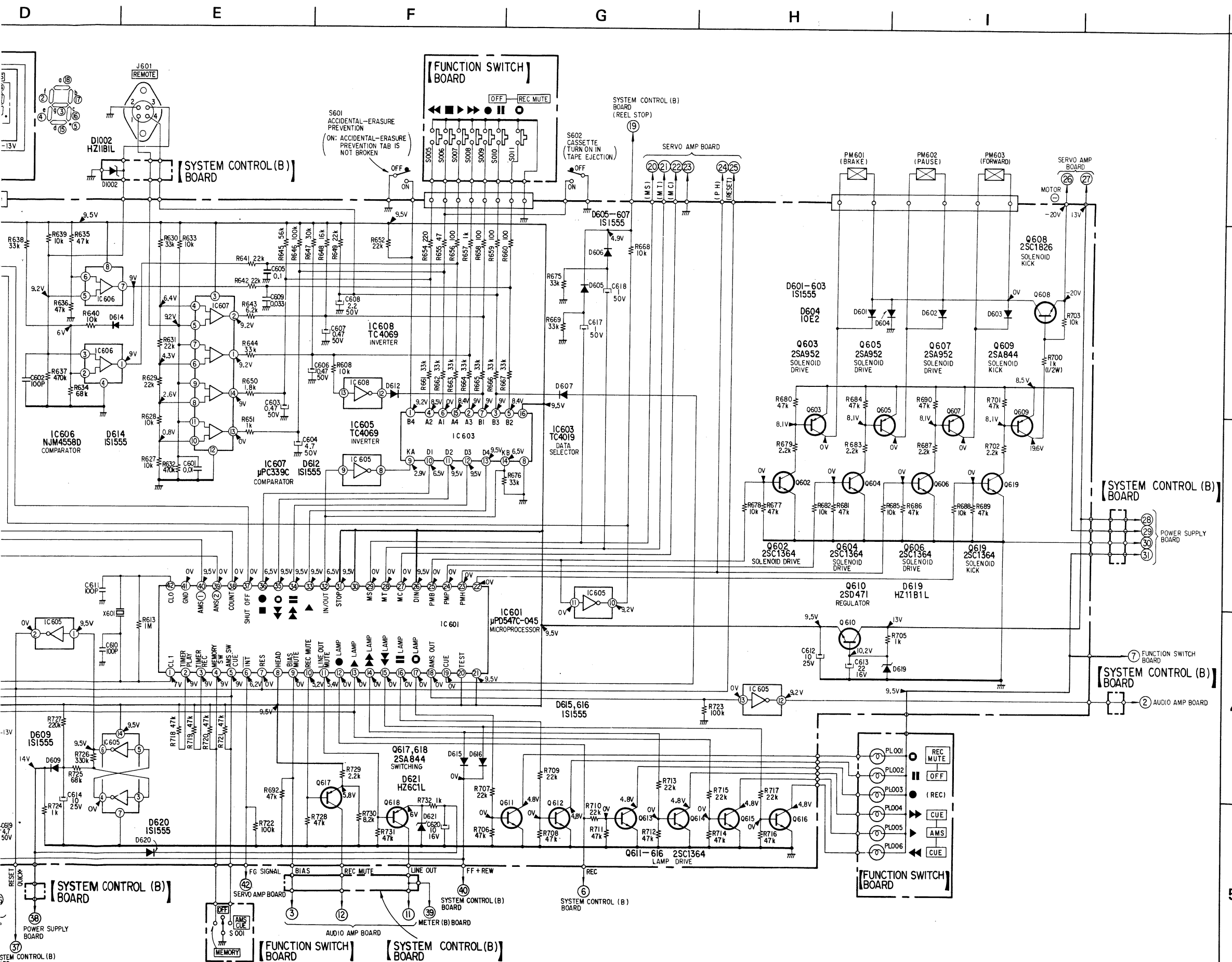
【SYSTEM CONTROL (A) BOARD



【SWITCH (A) BOARD







Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} : \mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted.
- $\text{k}\Omega : 1000\Omega$, $\text{M}\Omega : 1000\text{k}\Omega$
- $\square$: panel designation.
- $\square$: adjustment for repair.
- $\bullet$: B+ bus.
- --- : B- bus.
- Readings are taken under no-signal conditions with a VOM (20 $\text{k}\Omega/\text{V}$) in stop mode.
- Switches

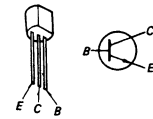
Ref. No.	Switch	Position
S001	AMS/MEMORY	OFF
S002	AMS PROGRAM	OFF
S003	COUNTER RESET	OFF
S004	AMS CLEAR	OFF
S005	◀ (RWD)	OFF
S006	■ (STOP)	ON
S007	▶ (FWD)	OFF
S008	▶▶ (FF/CUE)	OFF
S009	● (REC)	OFF
S010	⏸ (PAUSE)	OFF
S011	⦿ REC-MUTE (ACCIDENTAL ERASURE PREVENTION)	OFF
S601	(ACCIDENTAL ERASURE PREVENTION)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

4.5. MOUNTING DIAGRAM (3)

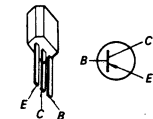
Replacement Semiconductors

For replacement, use semiconductors except in ().

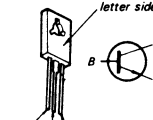
Q401-403
Q405-407
Q409
Q414, 415
Q513, 514
Q518
Q529-536
: 2SC1364



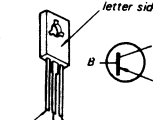
Q404, 408
Q515, 519
Q528
: 2SA1027R
(2SA844)



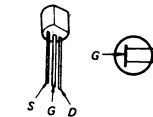
Q410, 412
Q501, 503
Q505, 507
: 2SD414



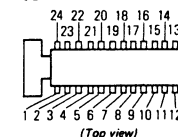
Q411, 413
Q502, 504
Q506, 508
: 2SB548



Q509-512: 2SK30A

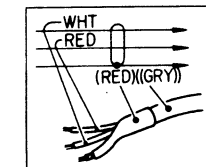


IC401: CX193



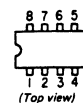
Note:

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

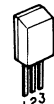


- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : part mounted on the conductor side.
- : component-side pattern.
- M: metallized-film resistor
- : B+ pattern
- : B- pattern

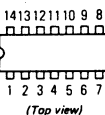
IC402, 403 : μ PC4558C
(NJM4558D)
IC503 : NJM4558DFA



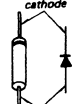
IC404: μ PC78L05A
(μ PC78L05)



IC504: TC4024BP



D401-404 : 1S1555
D501-507 : 1S1555



H401, 402: F1410

H501-504: F1410-15



1

2

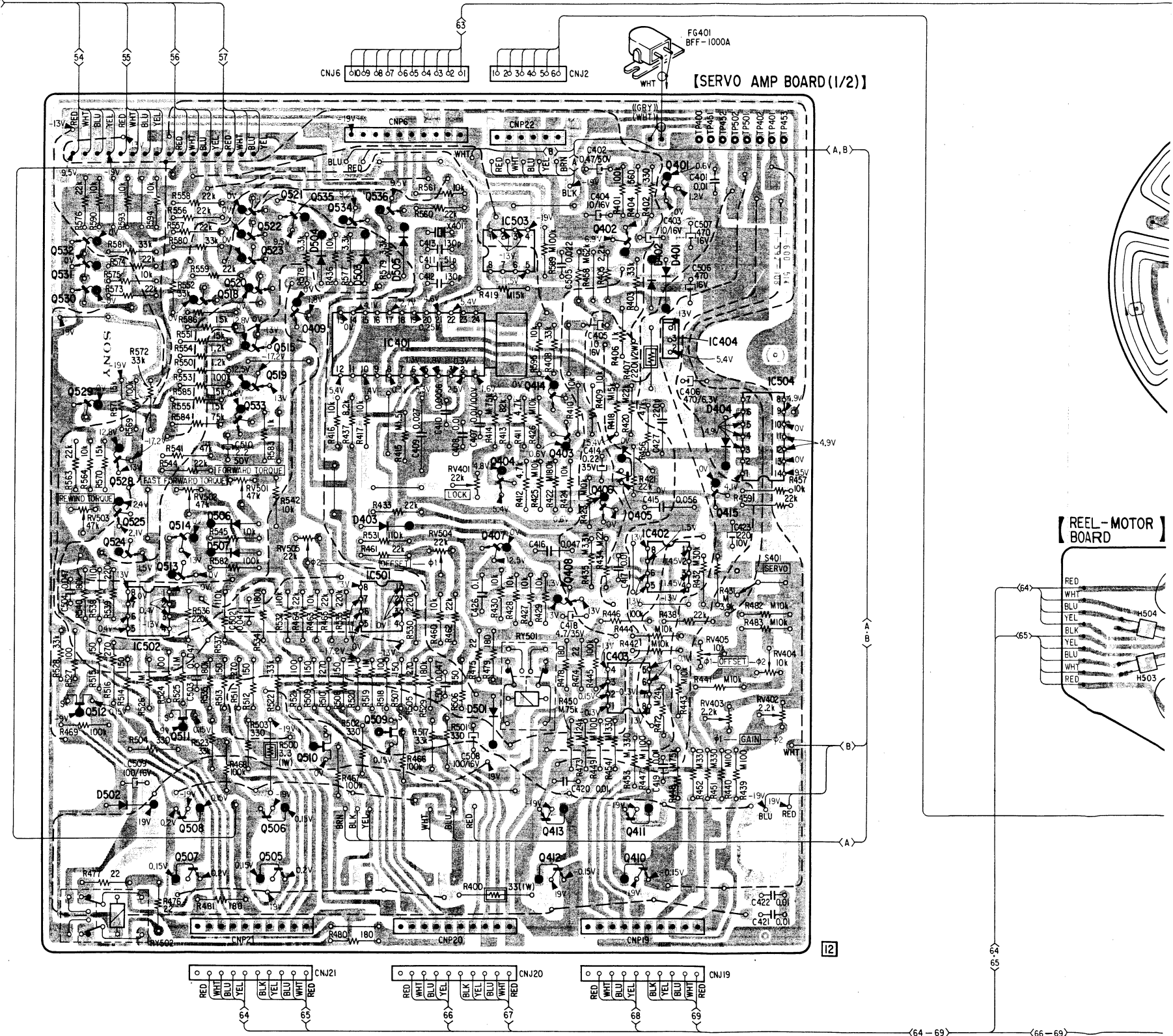
3

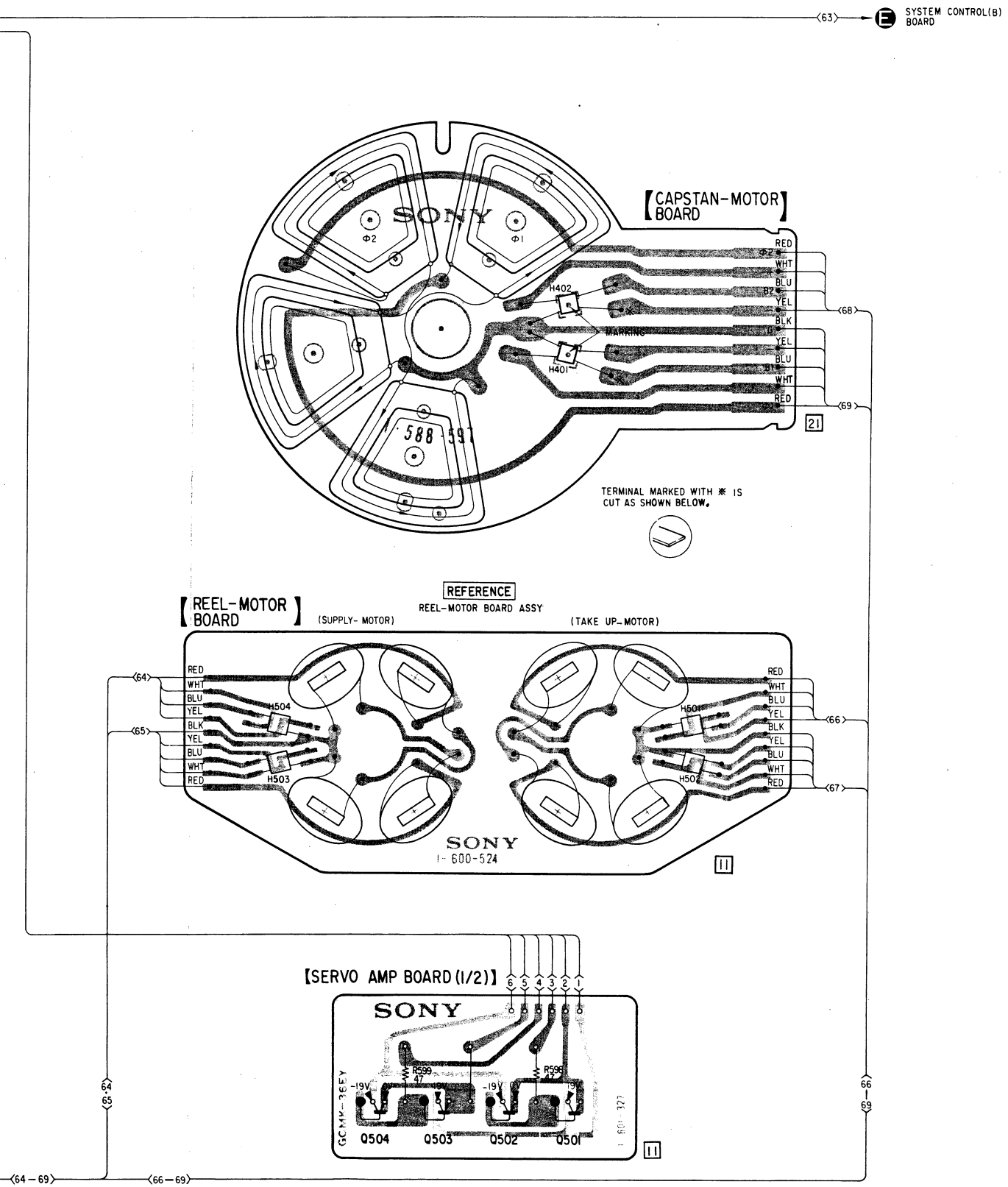
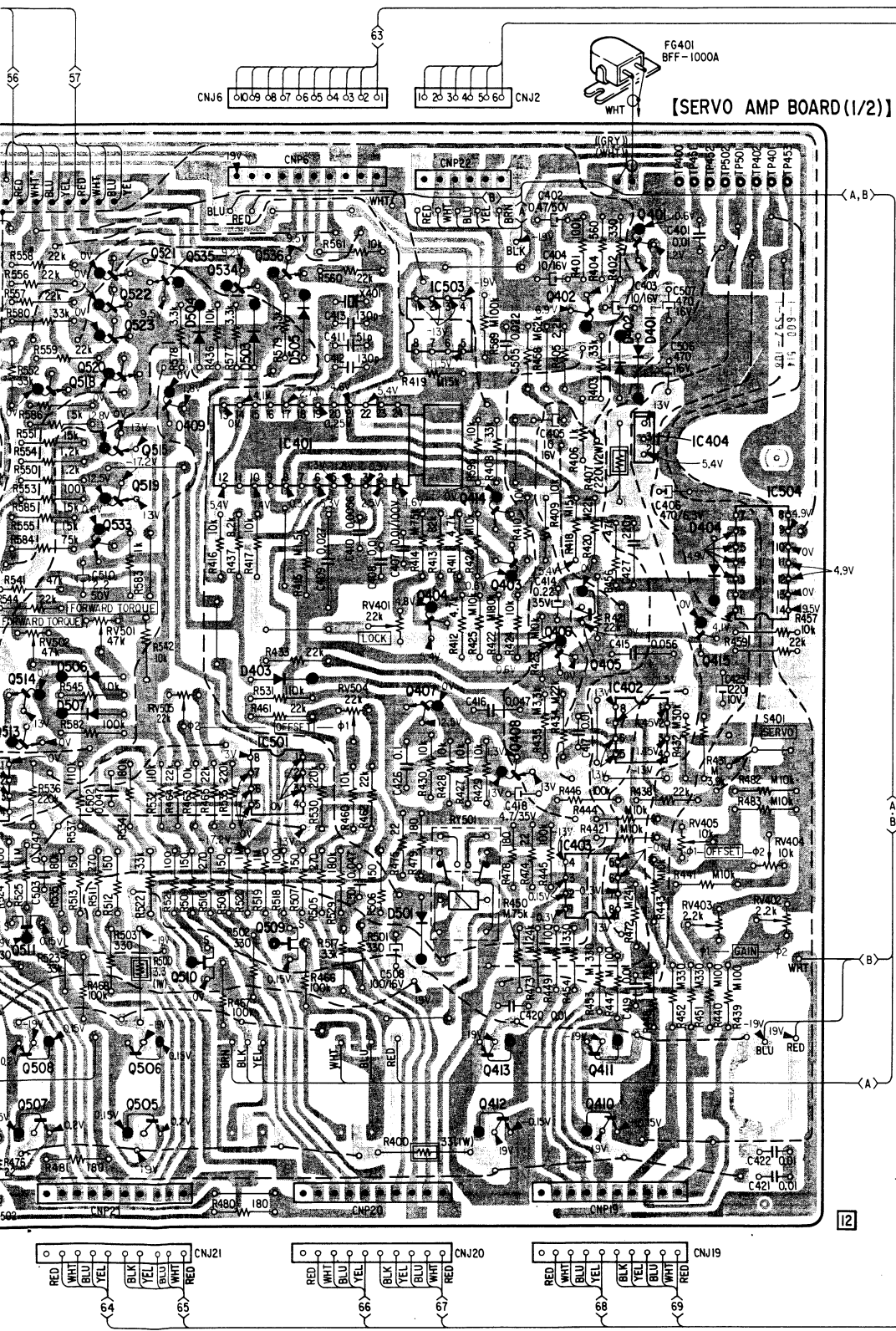
4

5

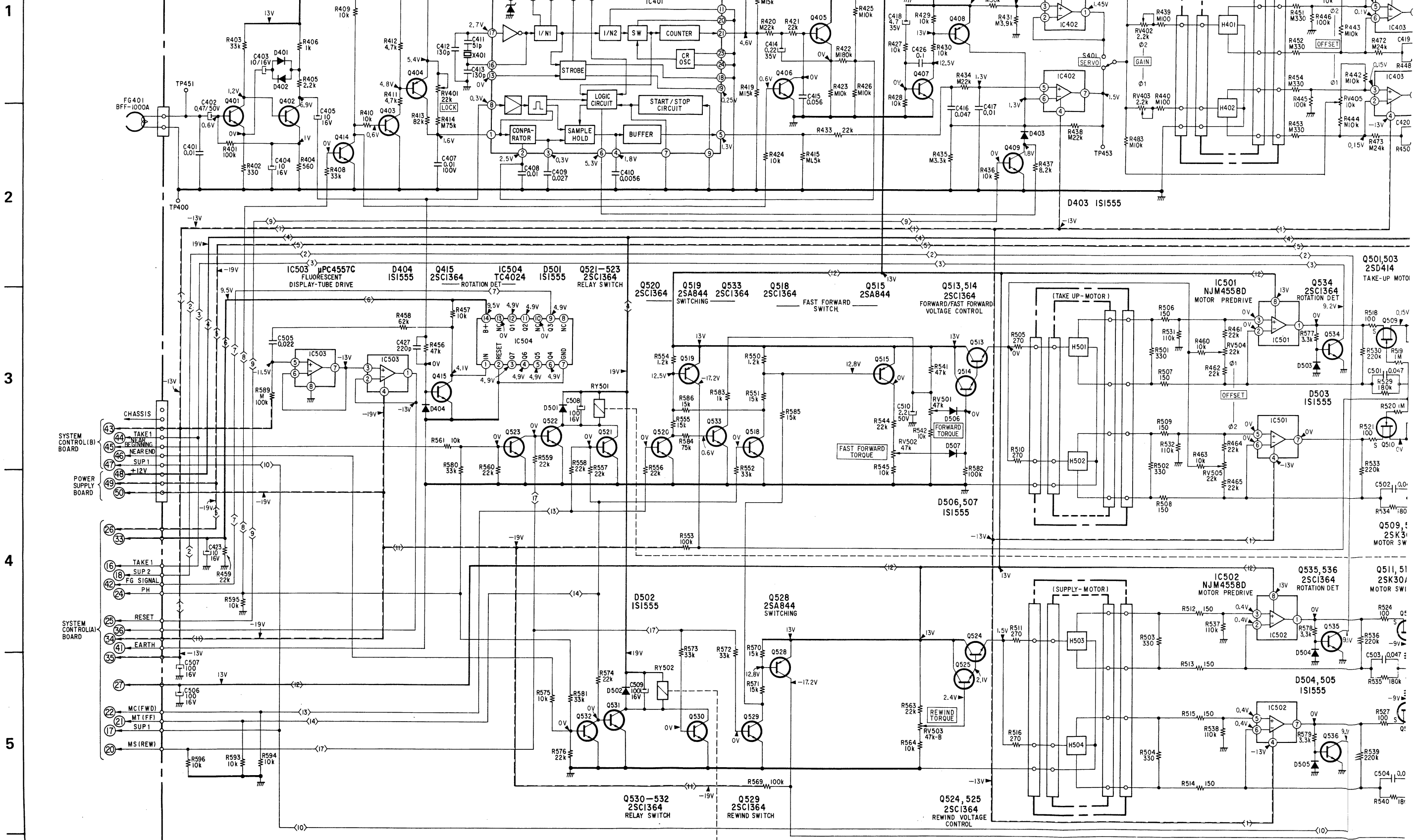
SYSTEM CONTROL (A) BOARD

Q, IC	D
401	
521, 536	
535, 534	
532	402
523	IC503
531	504, 503
520	402, 401
518	H402
409	H401
515	IC404
519	IC401
529	414
533	IC504
528	403
405	404
404	415
525	406
514	506
524	407
513	IC402
IC501	408
IC502	H504
512	IC403
511	509
510	501
508, 506	413, 411
502	502
507, 505	412, 410
501-504	

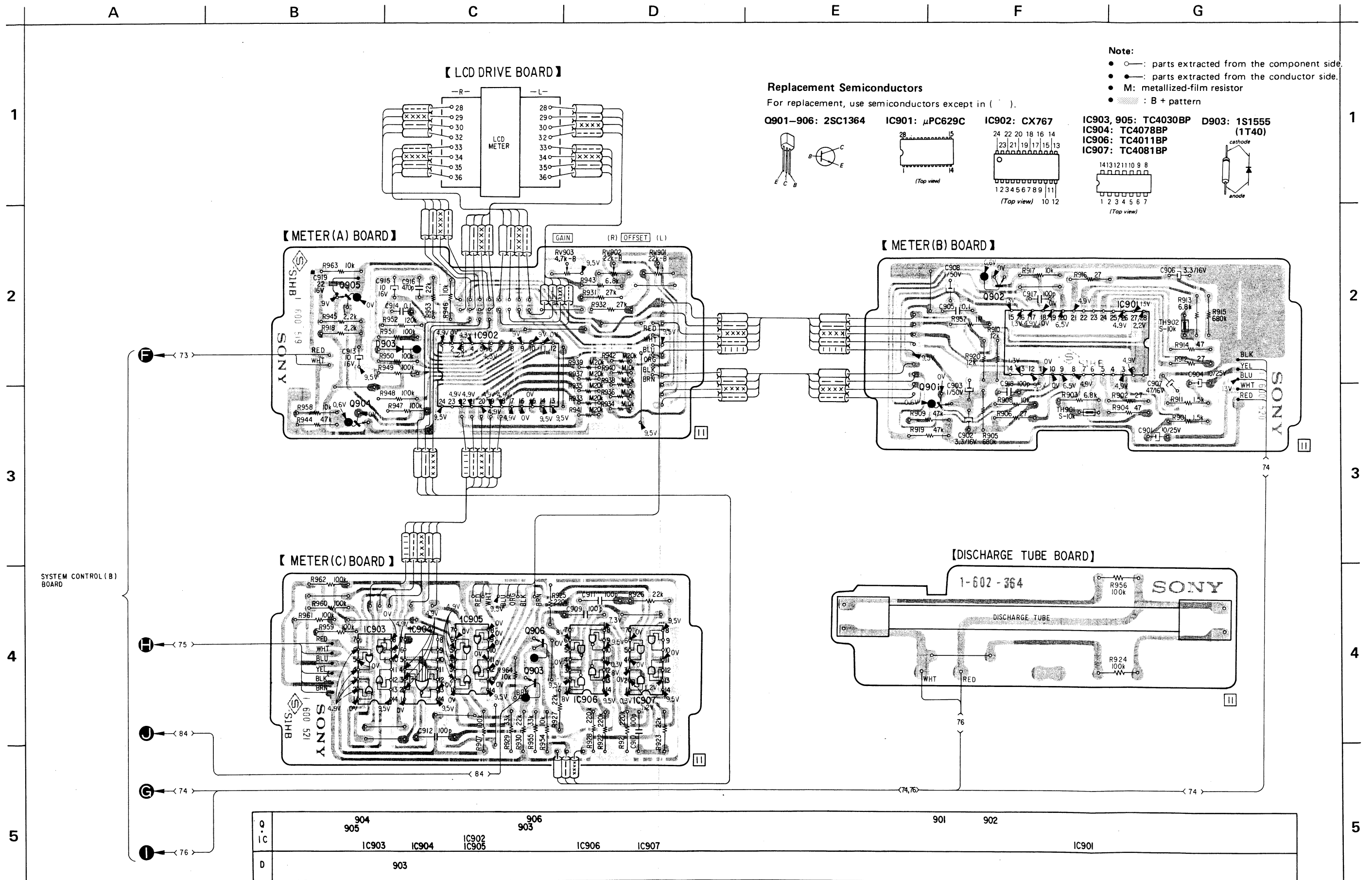


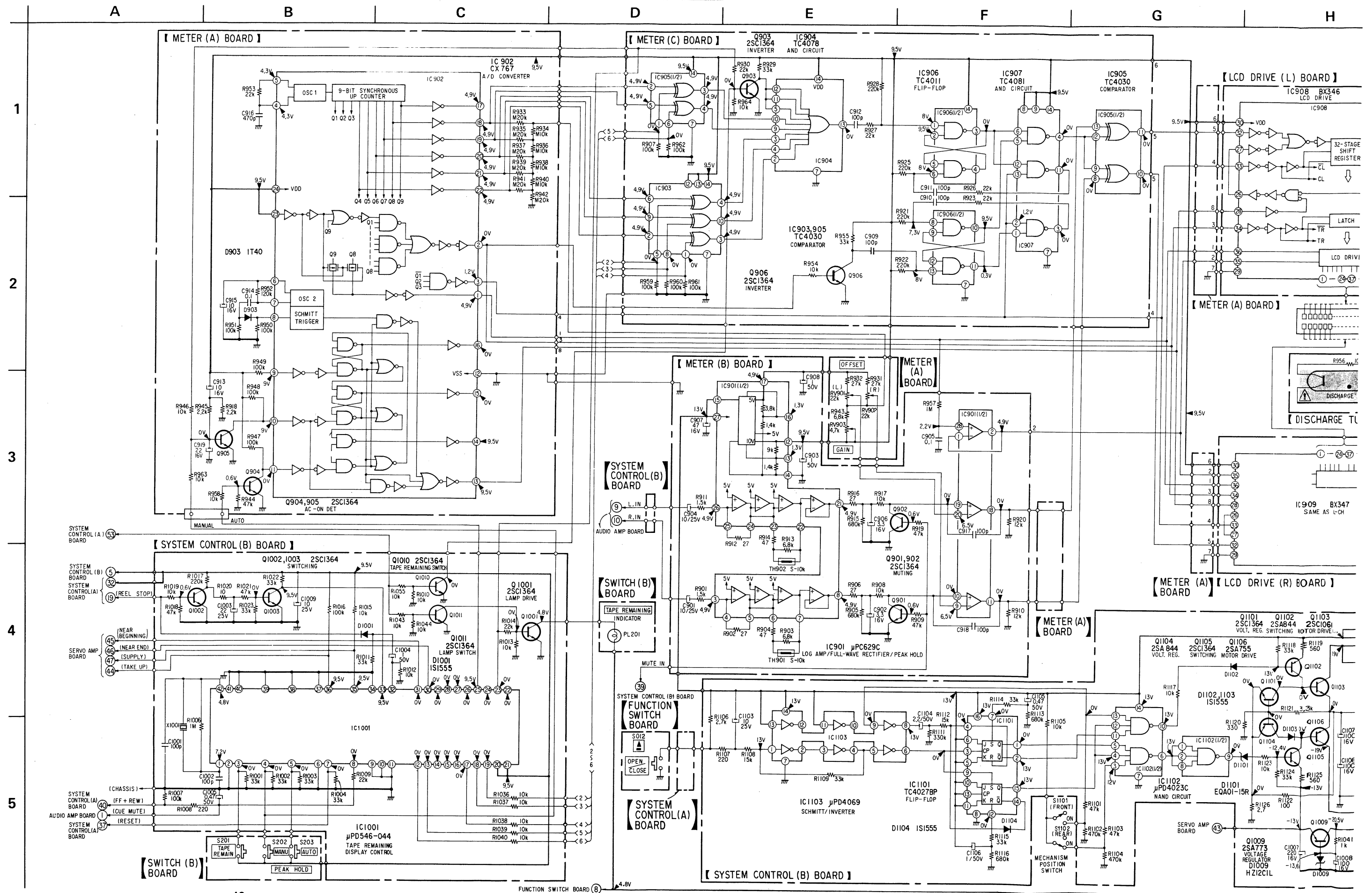


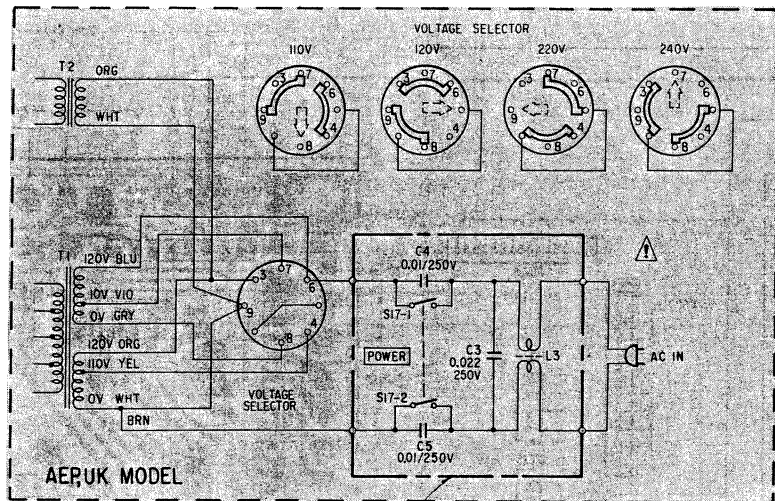
A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---



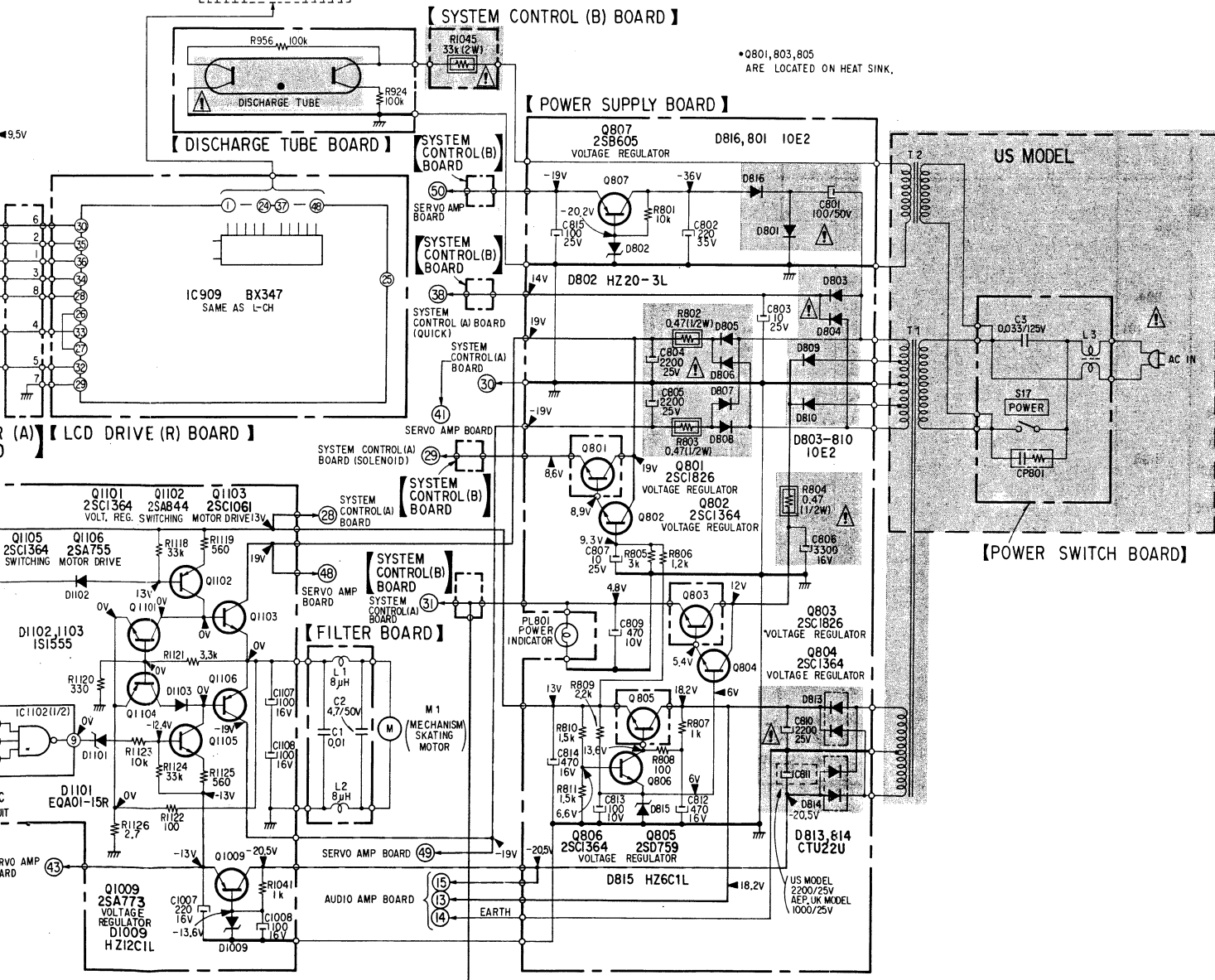
5







【POWER SWITCH BOARD】



- 51 -

1

2

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5

- All capacitors are in μF unless otherwise noted. $\text{pF} : \mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $\frac{1}{4} W$ unless otherwise noted.
 $k\Omega : 1000 \Omega$, $M\Omega : 1000 k\Omega$
-  : nonflammable resistor.
-  : panel designation.
-  : adjustment for repair.
-  : B+ bus.
-  : B- bus.
- Readings are taken under no-signal conditions with a VOM (20 $k\Omega/V$) 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

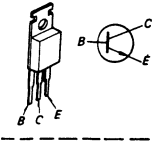
Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

4.9. MOUNTING DIAGRAM (5)

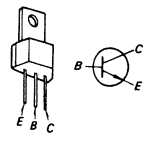
Replacement Semiconductors

For replacement, use semiconductors except in ().

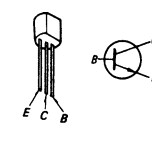
Q801, 803 } : 2SC1986D
Q805



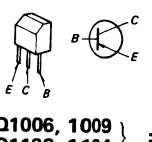
(2SC1826)



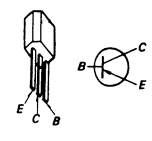
Q802, 804, Q806, Q1001-1005, Q1007, 1008, Q1010, 1011, Q1101, 1105 } : 2SC1364



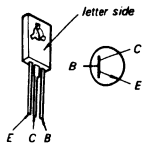
Q807: 2SB605



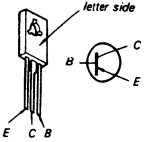
Q1006, 1009 } : 2SA1027R
Q1102, 1104 } : (2SA844, 2SA1015)



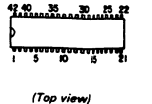
Q1103: 2SD414



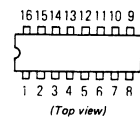
Q1106: 2SB548



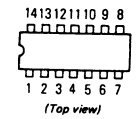
IC1001: μ PD546C-044



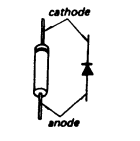
IC1101: TC4027BP



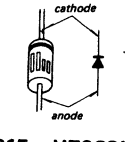
IC1102: TC4023BP (μ PD4023C)
IC1103: MSM4069 (μ PD4069)



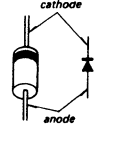
D801, D803-814 } : 10E2
D816
D1001, D1102-1104 } : 1S1555



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

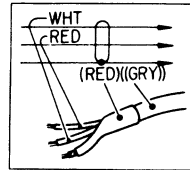


D815: HZ6C2L (HZ6C1L)
D1009: HZ12C2L (HZ12C1L)



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
- : B pattern

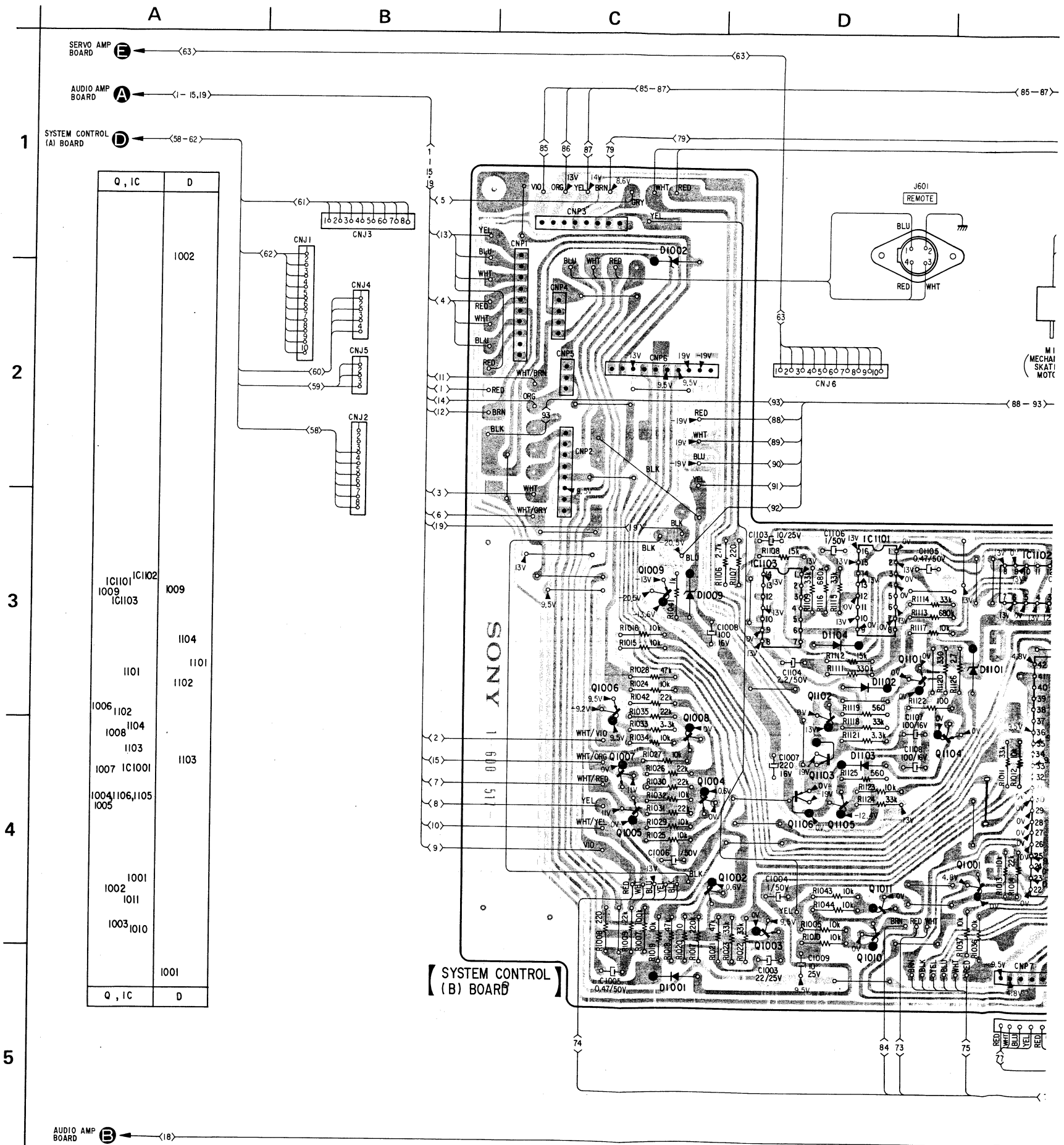
Note: (schematic diagram)

- All capacitors are in μ F unless otherwise noted. pF : μ F 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}$ W unless otherwise noted. k Ω : 1000 Ω ; M Ω : 1000 k Ω
- : nonflammable resistor.
- : panel designation.
- : adjustment for repair.
- : B+ bus.
- : B- bus.
- Readings are taken under no-signal conditions with a VOM (20 k Ω /V) in stop mode.
- Switches

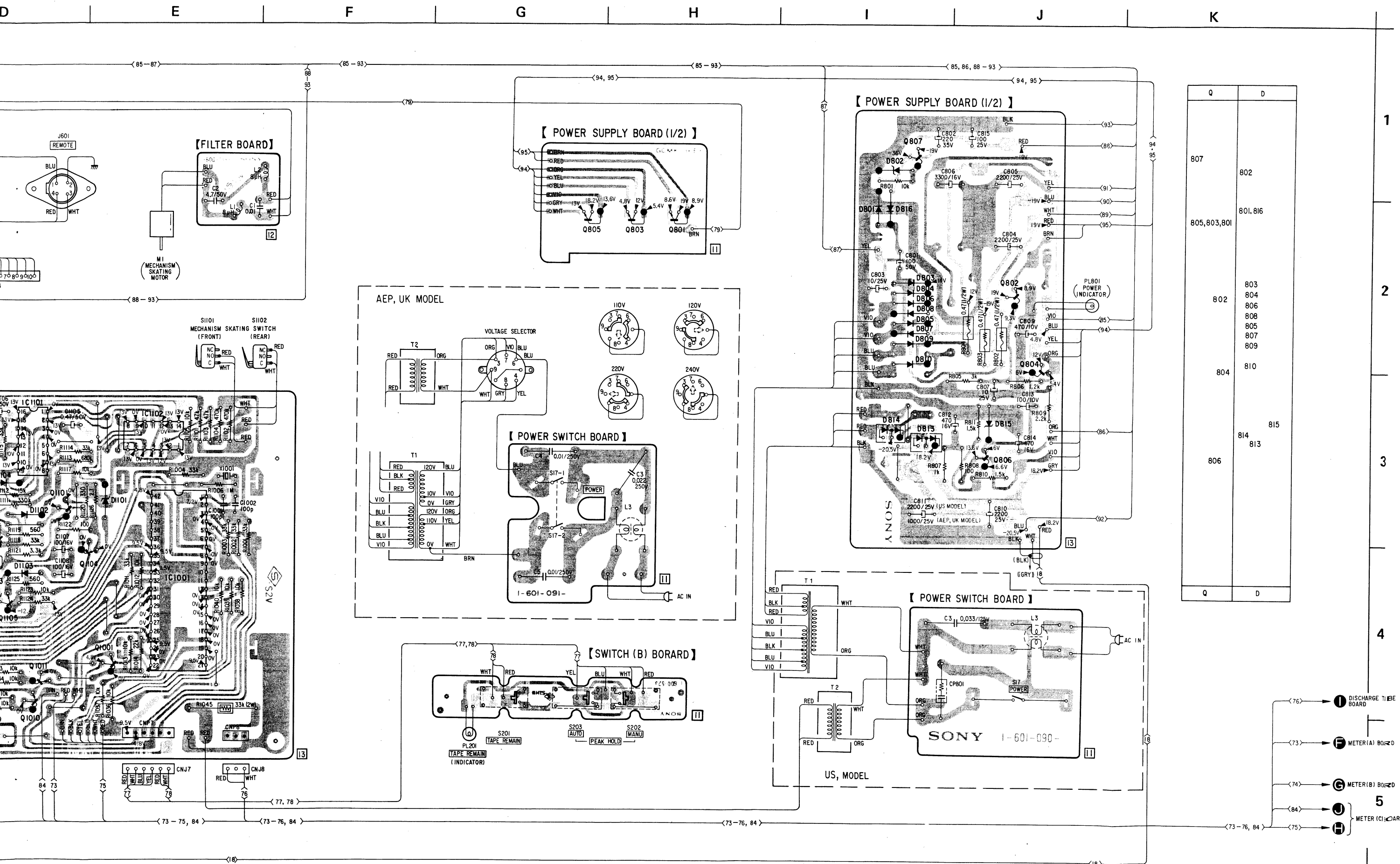
Ref. No.	Switch	Position
S012	OPEN/CLOSE	OFF
S201	TAPE REMAINING	OFF
S202	MANU	OFF
S203	AUTO	ON
S801	POWER	OFF
S1101	DECK MECHANISM (front)	OFF
S1102	DECK MECHANISM (rear)	ON

- M: metallized-film resistor

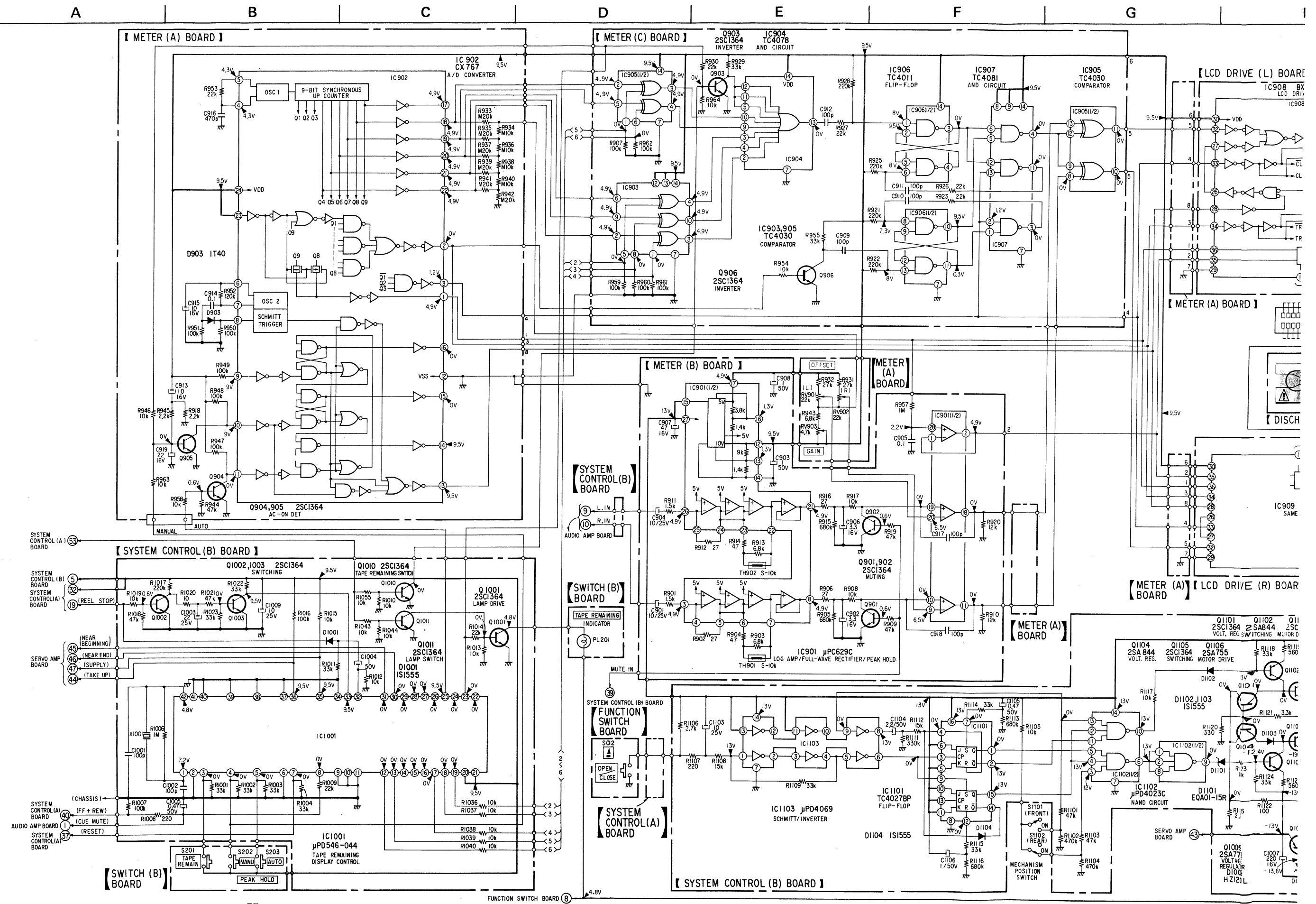
Note: The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

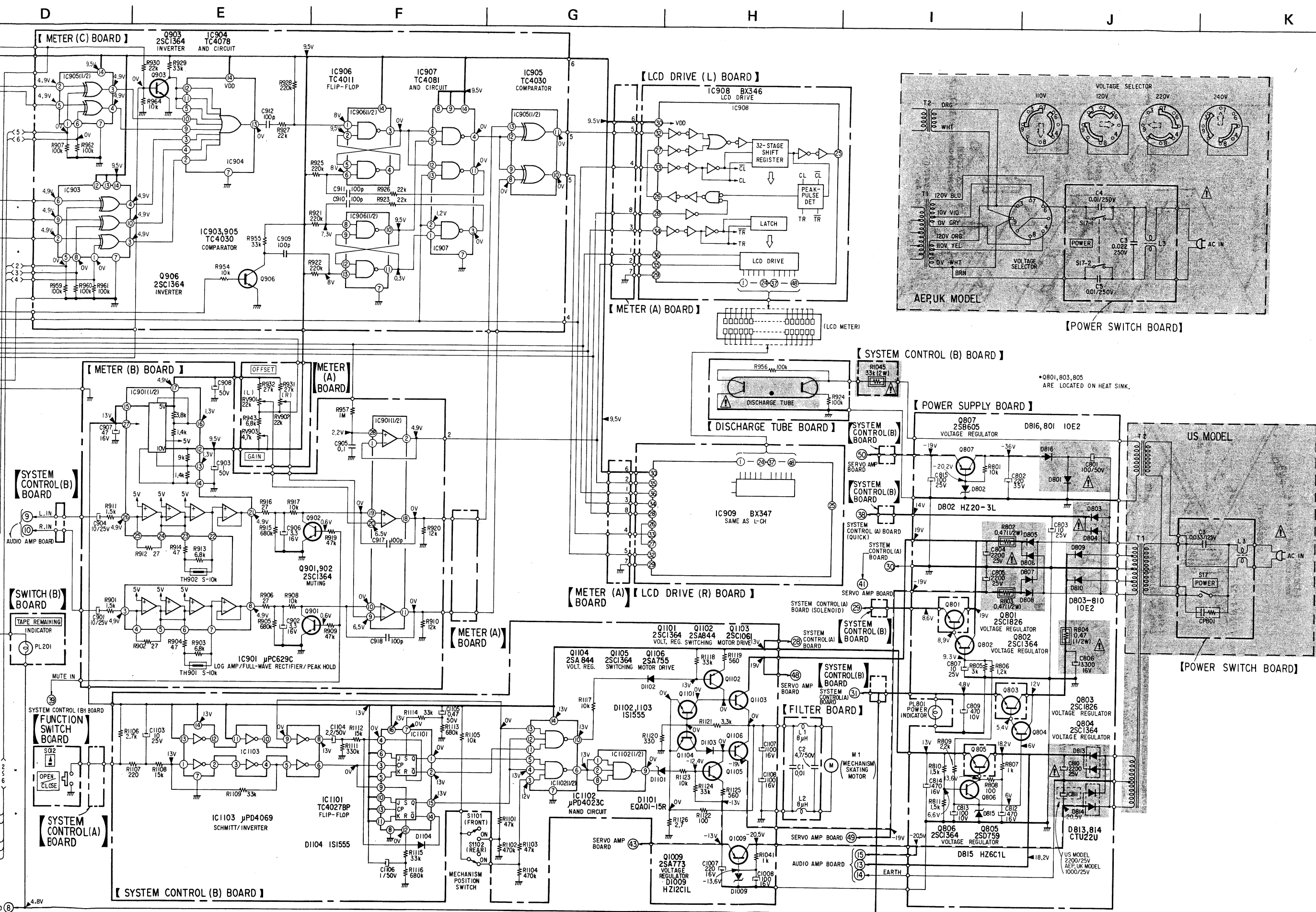


AUDIO AMP BOARD Δ (18)



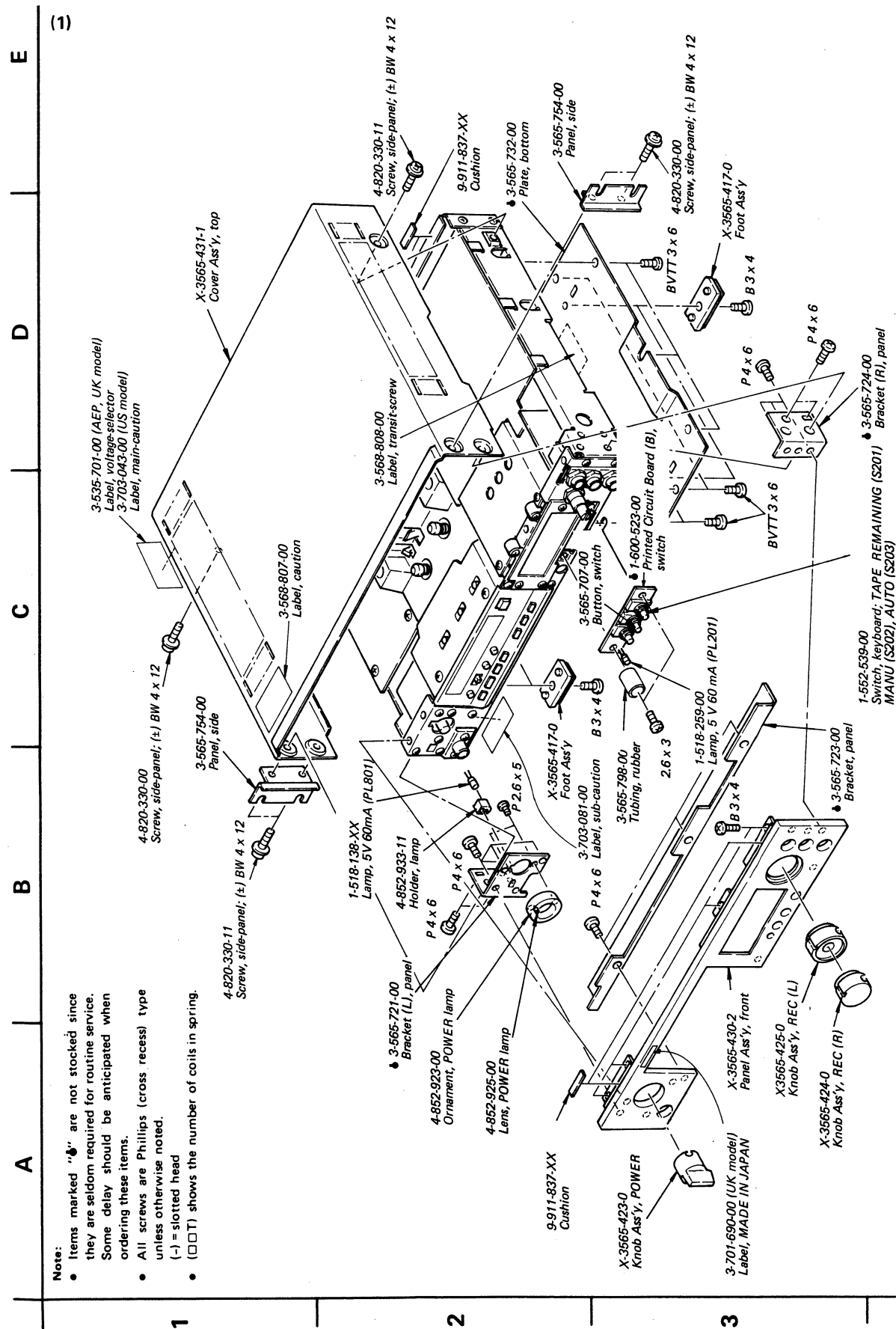
Q	D
807	802
805, 803, 801	801, 816
802	803
	804
	806
	808
	805
	807
	809
804	810
	815
	814
806	813
Q	D





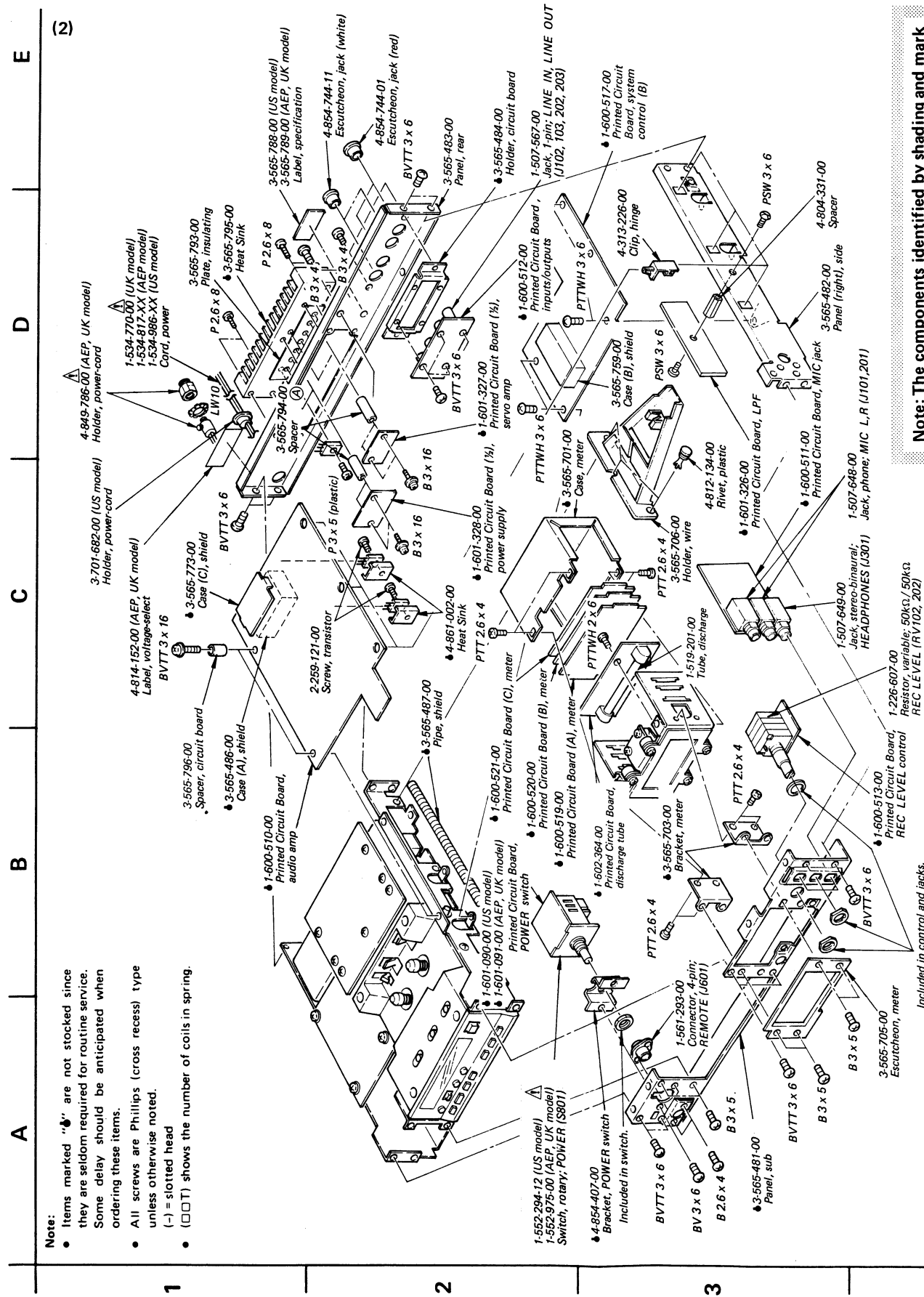
SECTION 5

EXPLODED VIEWS



Note:

- Items marked "A" 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
- (OOT) 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.

Note:

(2)

E

D

C

B

A

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300

301

302

303

304

305

306

307

308

309

A

B

C

(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.

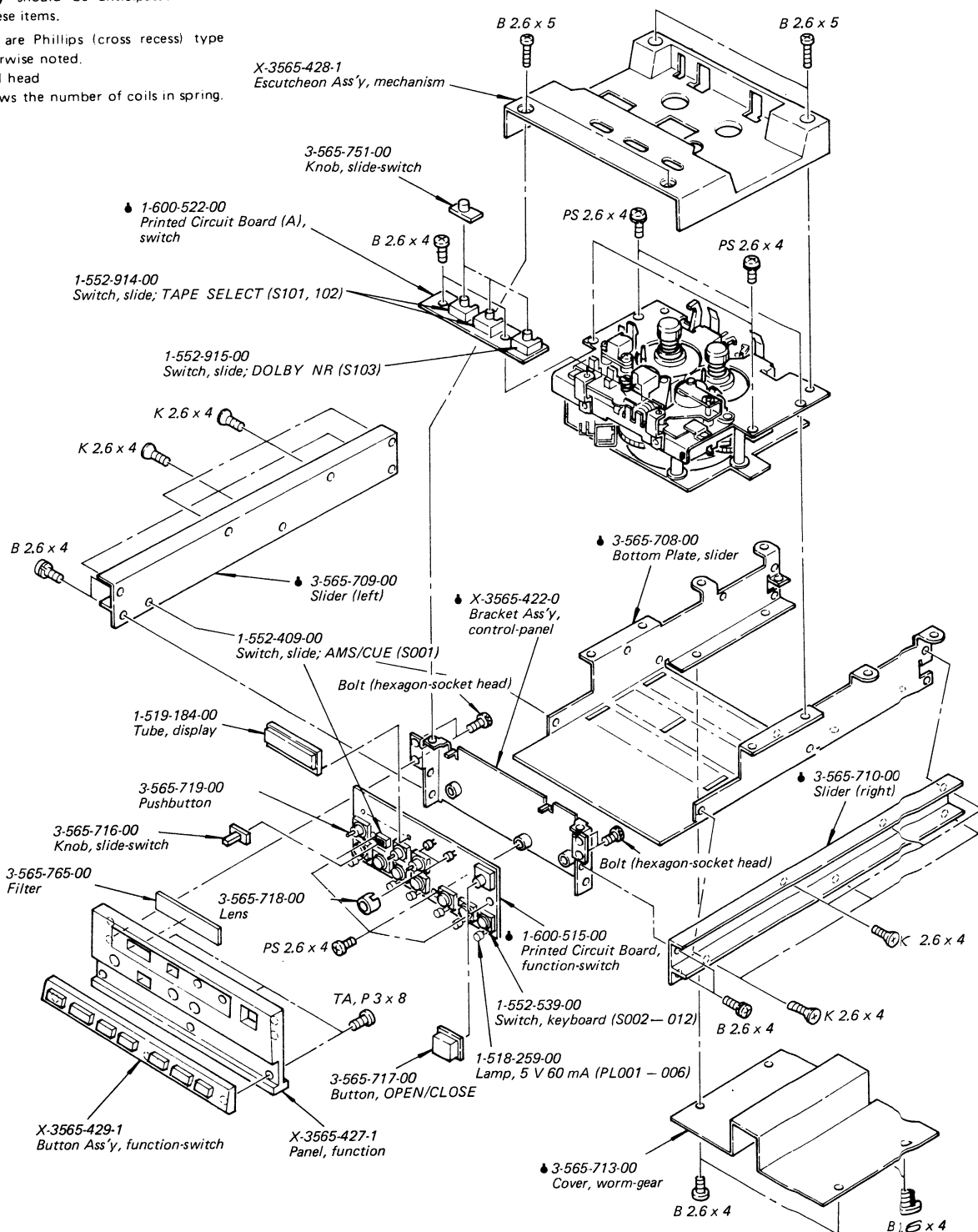
1

2

3

4

5



A

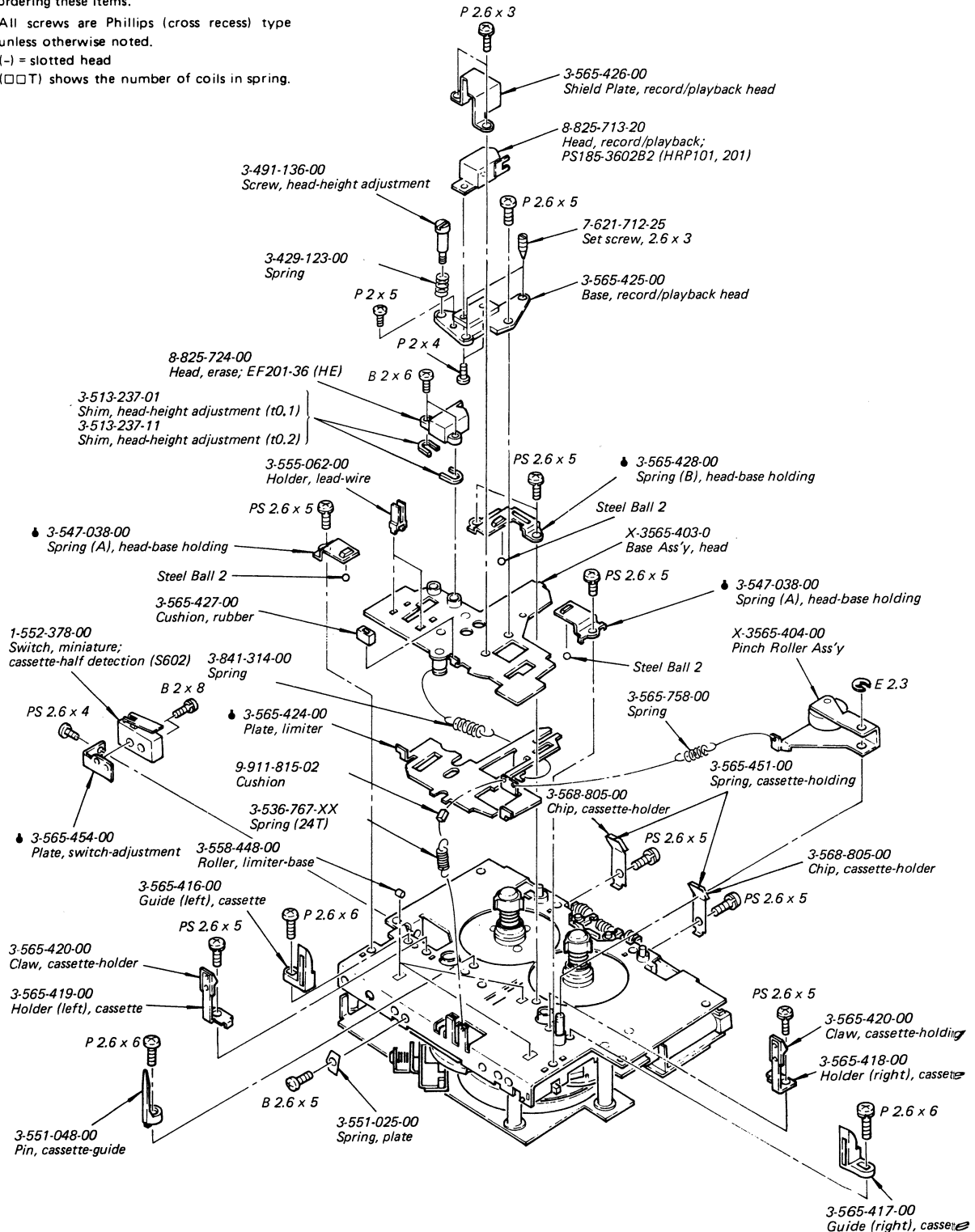
B

C

(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.



A

B

C

(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.

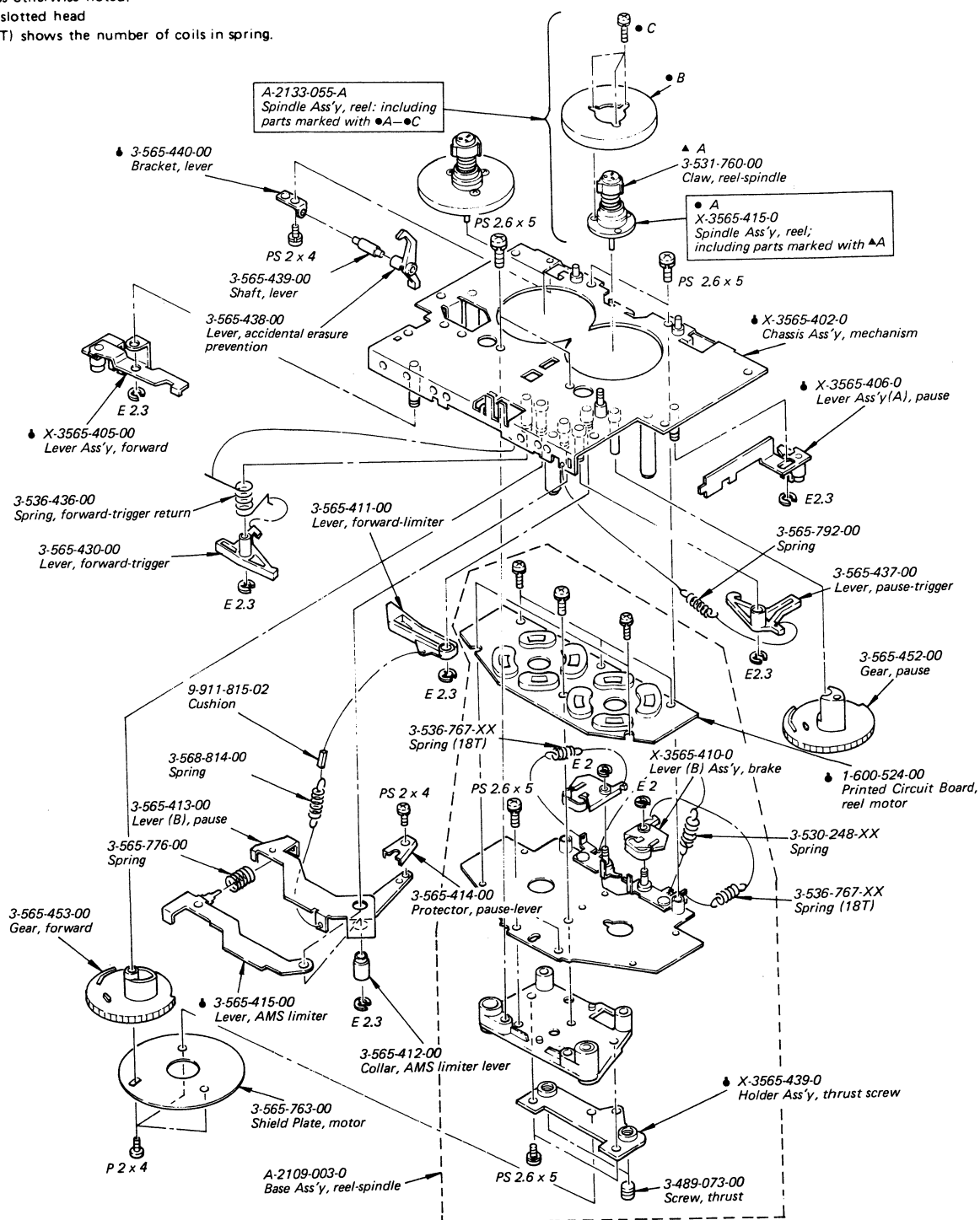
1

2

3

4

5



A

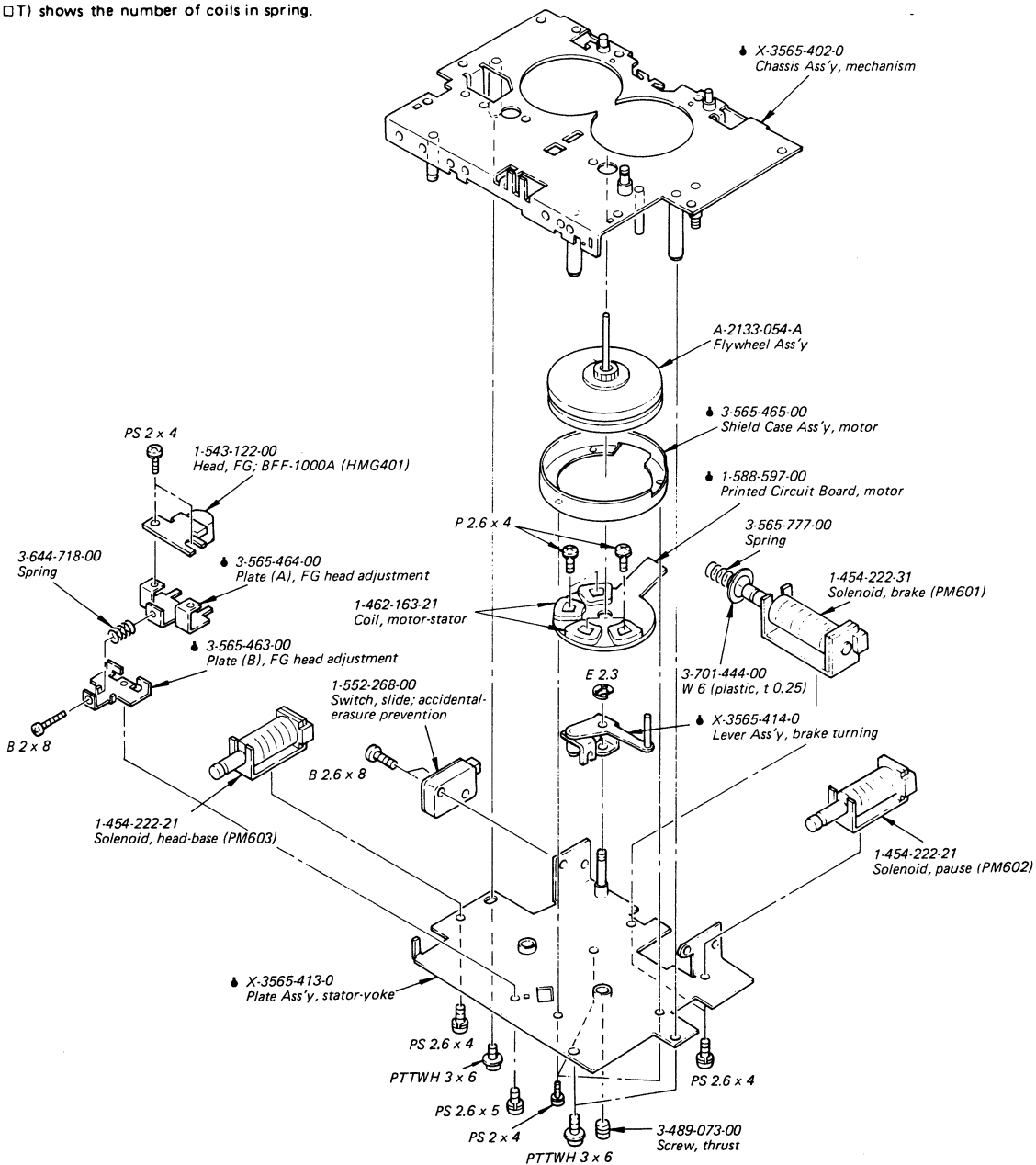
B

C

(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.



ELECTRICAL PARTS LIST

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
SEMICONDUCTORS											
Transistors											
Q1, 2	8-729-663-47	2SC1364	Q406, 407	8-729-663-47	2SC1364	Q804	8-729-663-47	2SC1364	IC902	8-759-907-67	CX767
Q101, 201	8-769-010-30	2SK107	Q408	8-729-612-77	2SA1027R	Q805	8-729-376-02	2SD760	IC903	8-759-240-30	TC4030BP
Q102, 202)	8-729-113-81	2SA1138	Q409	8-729-663-47	2SC1364	Q806	8-729-663-47	2SC1364	IC904	8-759-240-78	TC4078BP
Q103, 203)			Q410	8-729-141-43	2SD414	Q807	8-729-160-51	2SB605	IC905	8-759-240-30	TC4030BP
Q104, 204)	8-729-167-62	2SC2676				Q901-906	8-729-663-47	2SC1364	IC906	8-759-240-11	TC4011BP
Q105, 205)			Q411	8-729-154-83	2SB548						
			Q412	8-729-141-43	2SD414	Q1001-)	8-729-663-47	2SC1364	IC907	8-759-240-81	TC4081BP
Q106, 206)	8-729-663-47	2SC1364	Q413	8-729-154-83	2SB548	Q1005)			IC908	8-743-460-00	BX346
Q107, 207)			Q414, 415	8-729-663-47	2SC1364	Q1006	8-729-612-77	2SA1027R	IC909	8-743-470-00	BX347
Q108, 208	8-729-334-58	2SC1345	Q501	8-729-141-43	2SD414	Q1007)	8-729-663-47	2SC1364			
Q109, 209	8-729-387-28	2SA872-E	Q502	8-729-154-83	2SB548	Q1008)			IC1001	8-759-146-44	μPD546C-044
Q110, 210	8-729-167-62	2SC2676	Q503	8-729-141-43	2SD414	Q1009	8-729-468-43	2SA684	IC1101	8-759-240-27	TC4027BP
Q111, 211	8-729-663-47	2SC1364	Q504	8-729-154-83	2SB548	Q1010)	8-729-663-47	2SC1364	IC1102	8-759-240-23	TC4023BP
			Q505	8-729-141-43	2SD414	Q1011)			IC1103	8-759-904-69	MSM4069
Q112, 212)	8-729-612-77	2SA1027R	Q506	8-729-154-83	2SB548	Q1101	8-729-663-47	2SC1364	Diodes		
Q113, 213)			Q507	8-729-141-43	2SD414	Q1102	8-729-612-77	2SA1027R	D1	8-719-815-55	1S1555
Q114, 214)	8-729-663-47	2SC1364	Q508	8-729-154-83	2SB548	Q1103	8-729-316-12	2SC1061	D2, 3	8-719-812-42	TLY124
Q115, 215)			Q509-152	8-729-203-04	2SK30A	Q1104	8-729-612-77	2SA1027R	D101, 201	8-719-815-55	1S1555
Q116, 216	8-729-612-77	2SA1027R	Q513, 514	8-729-663-47	2SC1364	Q1105	8-729-663-47	2SC1364	D301-303	8-719-815-55	1S1555
						Q1106	8-729-317-12	2SA671	D304, 305)	8-719-910-65	HZ6B2L
Q117, 217 }	8-729-663-47	2SC1364	Q515	8-729-612-77	2SA1027R	ICs			D307, 308)		
Q118, 218 }			Q518	8-729-663-47	2SC1364	IC101, 201	8-759-101-74	CX174	D309, 310	8-719-200-02	10E2
Q119, 219 }			Q519	8-729-612-77	2SA1027R	IC102, 202	8-759-271-40	TA7140P	D313	8-719-815-55	1S1555
Q301, 302	8-727-312-00	2SK42-2	Q520-525	8-729-663-47	2SC1364	IC301	8-759-745-59	NJM4559D	D314	8-719-931-13	EQB01-13
Q303	8-729-141-43	2SD414	Q528	8-729-612-77	2SA1027R	IC401	8-751-930-00	CX193	D315	8-719-910-65	HZ6B2L
			Q529-536	8-729-663-47	2SC1364	IC402, 403	8-759-145-58	μPC4558C	D401-404	8-719-815-55	1S1555
Q304, 305	8-729-167-62	2SC2676	Q602	8-729-663-47	2SC1364	IC404	8-759-178-05	μPC78L05	D501-507	8-719-815-55	1S1555
Q306, 307	8-729-113-82	2SA1138	Q603	8-729-195-23	2SA952	IC501, 502	8-759-700-58	NJM4558DFA	D601-603	8-719-815-55	1S1555
Q308	8-729-154-83	2SB548	Q604	8-729-663-47	2SC1364	IC503	8-759-145-57	μPC4557C	D604	8-719-200-02	10E2
Q309	8-729-167-72	2SC2676	Q605	8-729-195-23	2SA952	IC504	8-759-240-24	TC4024BP	D605-618	8-719-815-55	1S1555
Q310	8-729-113-82	2SA1138	Q606	8-729-663-47	2SC1364				D619	8-719-910-15	HZ11B2L
			Q607	8-729-195-23	2SA952	IC601	8-759-147-45	μPD547C-045			
Q311	8-729-663-47	2SC1364	Q608	8-729-308-72	2SC1986D	IC602	8-759-150-23	μPD550C-023	D620	8-719-815-55	1S1555
Q312	8-729-612-77	2SA1027R	Q609	8-729-612-77	2SA1027R	IC603	8-759-240-19	TC4019BP	D621	8-719-910-65	HZ6B2L
Q313-316	8-729-663-47	2SC1364	Q610	8-760-413-10	2SC1475	IC604	8-759-240-81	μPD4081C	D801	Δ8-719-200-02	10E2
Q317	8-729-612-77	2SA1027R	Q611-616	8-729-663-47	2SC1364	IC605	8-759-904-69	MSM4069	D802	8-719-910-03	HZ20-3L
Q318	8-760-413-10	2SC1475							D803-812Δ	8-719-200-02	10E2
Q319	8-729-663-47	2SC1364	Q617, 618	8-729-612-77	2SA1027R	IC606	8-759-145-58	μPC4558C			
			Q619, 620	8-729-663-47	2SC1364	IC607	8-759-133-90	μPC339C	D813, 814	8-719-300-22	CTU22U
Q401-403	8-729-663-47	2SC1364	Q801	8-729-308-72	2SC1986D	IC608	8-759-904-69	MSM4069	D815	8-719-910-68	HZ6C2L
Q404	8-729-612-77	2SA1027R	Q802	8-729-663-47	2SC1364	IC609	8-759-240-11	TC4011BP	D816	Δ8-719-200-02	10E2
Q405	8-729-167-72	2SC2676	Q803	8-729-308-72	2SC1986D	IC901	8-759-162-90	μPC629C	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	Δ 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	Δ 1-446-575-00	Power (US model)
T1	Δ 1-446-578-00	Power (AEP, UK model)
T2	Δ 1-446-576-00	Power (US model)
T2	Δ 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

Ref. No.	Part No.	Description
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	Δ 1-123-360-00	100 50 V elect
C803	Δ 1-123-329-00	10 25 V elect
C804, 805	Δ 1-123-338-00	2200 25 V elect
C806	Δ 1-123-326-00	3300 16 V elect
C810	Δ 1-123-338-00	2200 25 V elect
C811	Δ 1-123-338-00	2200 25 V elect (US model)
C811	Δ 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 ¼ W (1 %) metal-oxide
R103, 203	1-214-749-00	6.8 k ¼ W (1 %) metal-oxide

Ref. No.	Part No.	Description
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 ¼ 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

Ref. No.	Part No.	Description
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	Δ 1-214-371-00	0.47 ¼ W fusible
R342	Δ 1-214-399-00	100 ¼ W fusible
R352	1-214-737-00	2.2 k ¼ W (1 %) metal-oxide
R400	Δ 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	Δ 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	Δ 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

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

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<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	
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	

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
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

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<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	
	⚡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	

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	
	⚡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	
<i>Part No.</i>	<i>Description</i>
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

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TC-K88B TC-K88B

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)
	PART No.		PART No.		PART No.	
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047
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				

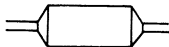
MYLAR CAPACITORS

RATING												
CAP. (μF)	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

RATING → : Use the high voltage rated one.							
CAP. (μF)	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

RATING						
CAP. (μF)	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.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00

HARDWARE NOMENCLATURE

Screw:

P 3 x 10

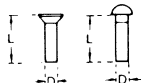
L: Length in mm

D: Diameter in mm

Type of head

Indicated slotted-head only.

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



Nut, Washer, Retaining ring:

N 3

Diameter of usable screw or shaft

Reference designation

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

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