TA-F6B

US Model
Canadian Model
AEP Model
UK Model
E Model

INTEGRATED STEREO AMPLIFIER

SPECIFICATIONS

GENERAL

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

Power Consumption: 190 W (US model)
490 VA (Canadian model)
450 W (AEP, E model)
550 W (UK model)

Dimensions: Approx. 430 (w) x 170 (h) x 390 (d) mm
16 7/8 (w) x 6 3/4 (h) x 15 3/8 (d) inches
including projecting parts and controls

Weight: Approx. 12.5 kg, 27 lb 9 oz (net)
Approx. 14.2 kg, 31 lb 5 oz (in shipping carton)

SAFETY-RELATED COMPONENT WARNING!!

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ !

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

POWER AMPLIFIER SECTION

Power Output and Total Harmonic Distortion: With 8 Ω loads, both channels driven, from 20–20,000 Hz; rated 100 W per channel minimum RMS power, with no more than 0.03 % total harmonic distortion from 250 mW to rated output.
(US, Canadian model)

Continuous RMS Power Output: (Less than 0,03 % THD, both channels driven simultaneously)
At 20 Hz–20 kHz
100 W + 100 W (8 Ω)
According to DIN 45500
100 W + 100 W (8 Ω)
(AEP, UK, E model)

Power Bandwidth (IHF): 5 Hz – 35 kHz (50 W output, 0.03 % THD, 8 Ω)
(AEP, UK, E model)

Harmonic Distortion: Less than 0.03 % at rated output
Less than 0.015 % at 1 W/10 W output

Intermodulation (IM) Distortion: (60 Hz : 7 kHz = 4 : 1)
Less than 0.03 % at rated output
Less than 0.008 % at 1 W/10 W output

Frequency Response: DC – 100 kHz $^{+0}_{-1}$ dB

– Continued on page 2 –

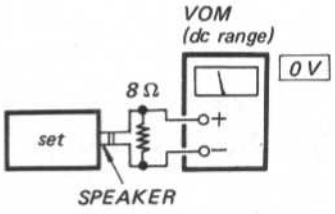
SONY®
SERVICE MANUAL

SECTION 3
ADJUSTMENTS

Note: 1. DC BIAS and DC BALANCE adjustments should be performed about several minutes later after the POWER switch (S10) is turned on.
2. Repeat DC BIAS and DC BALANCE adjustments two or three times.
3. After replacing the power transistors, DC BIAS and DC BALANCE adjustments should be performed.

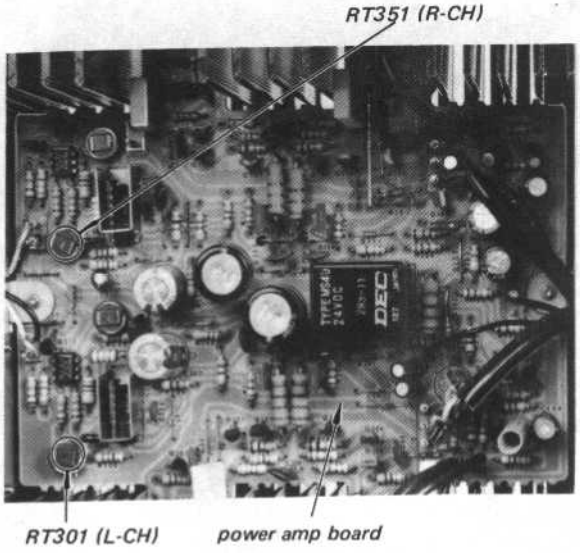
DC Balance Adjustment

Procedure:



Adjust RT301 (L-CH) and RT351 (R-CH) for 0 V reading on the VOM.

Adjustment Location:

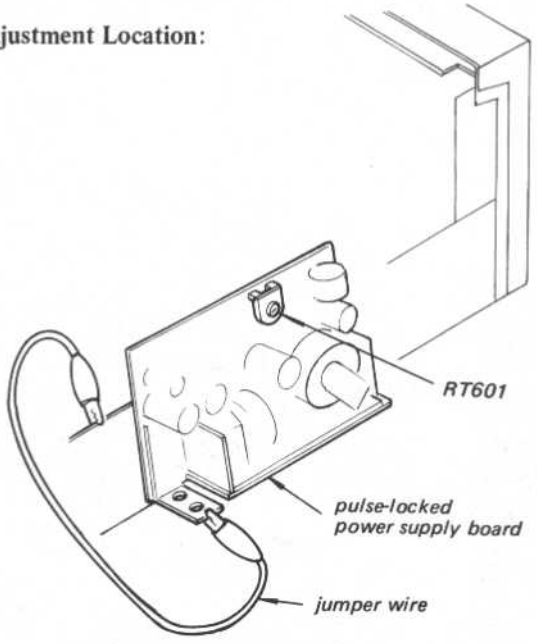


DC Voltage Adjustment

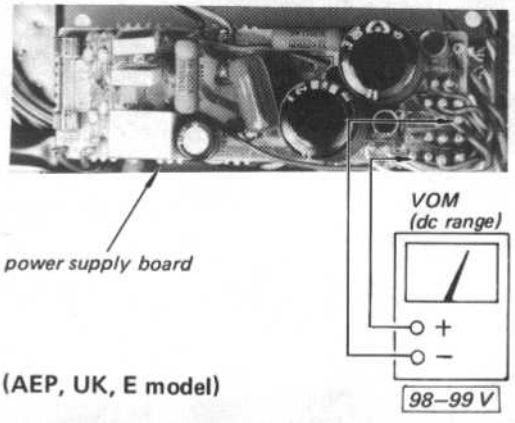
Procedure:

1. Connect a jumper wire.
2. Adjust RT601 for 98–99 V reading on the VOM.

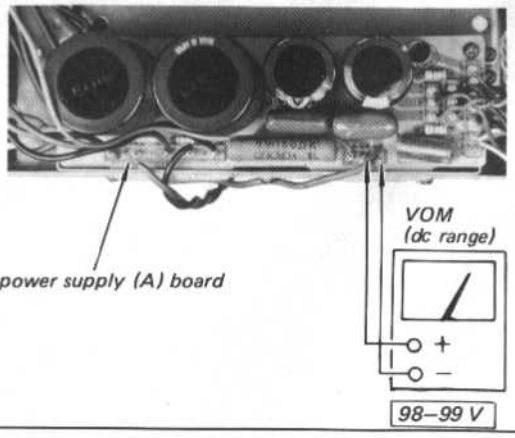
Adjustment Location:



(US, Canadian model)



(AEP, UK, E model)

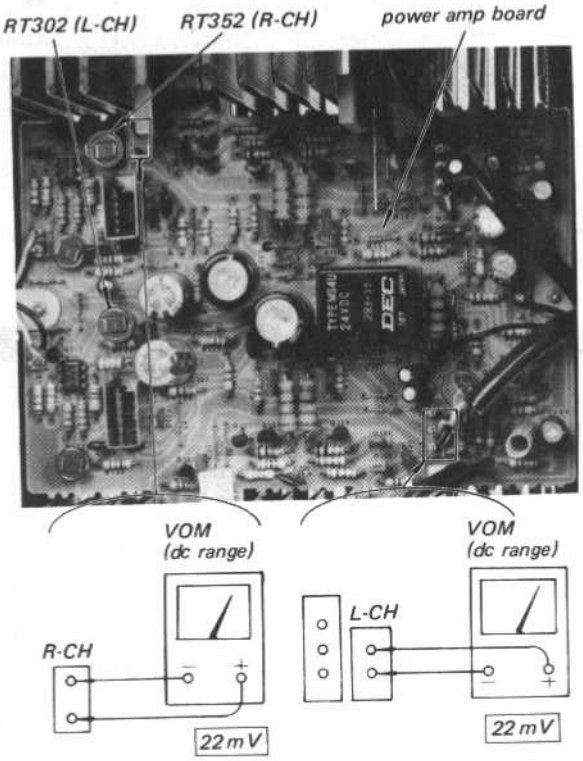


DC Bias Adjustment

Procedure:

Adjust RT302 (L-CH) and RT352 (R-CH) for 22 mV reading with no signal input.

Adjustment Location:

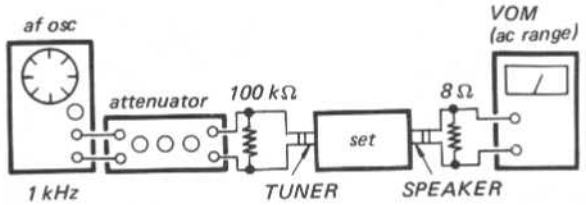


Meter Level Adjustment

Setting:

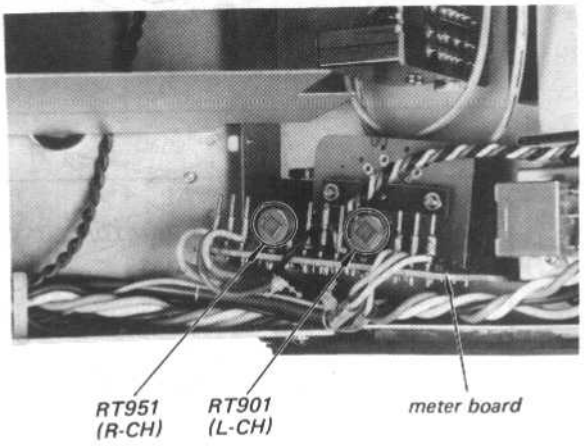
FUNCTION switch: TUNER

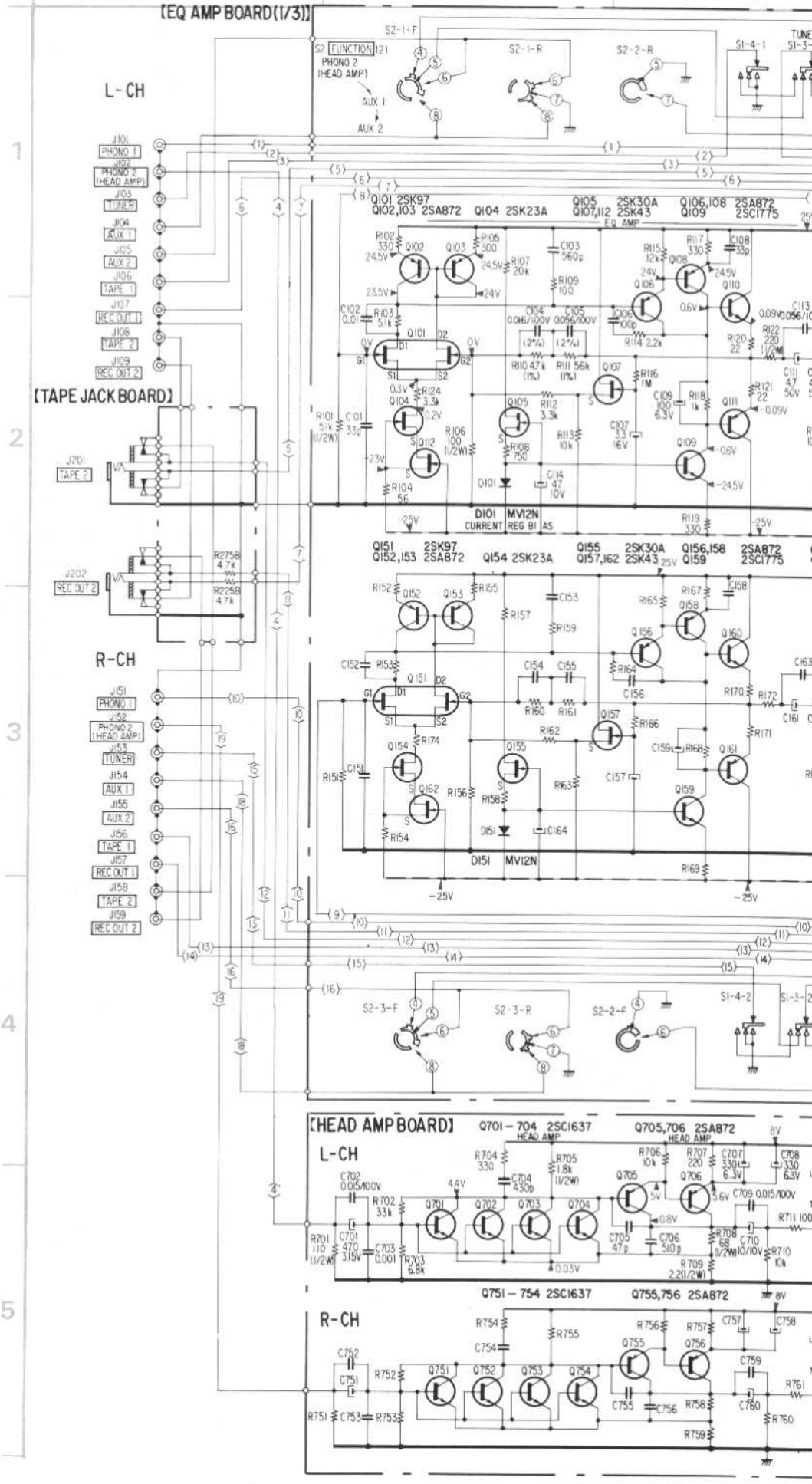
Procedure:

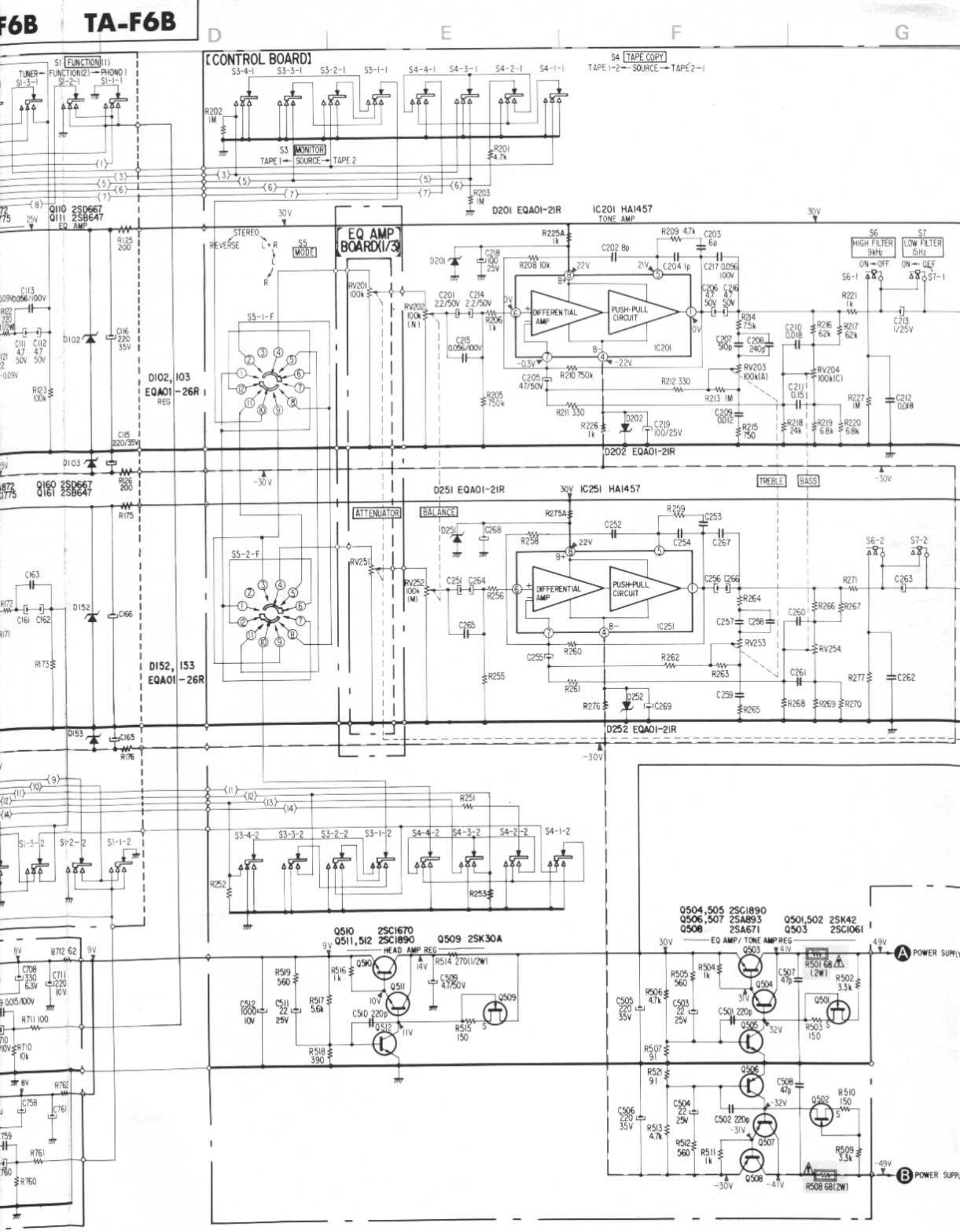


1. Turn the VOLUME control fully clockwise.
2. Adjust the TUNER input level for 2.83 V (1 W) reading on the VOM.
3. Adjust RT901 (L-CH) and RT951 (R-CH) so that the power meters indicate 1 W.

Adjustment Location:

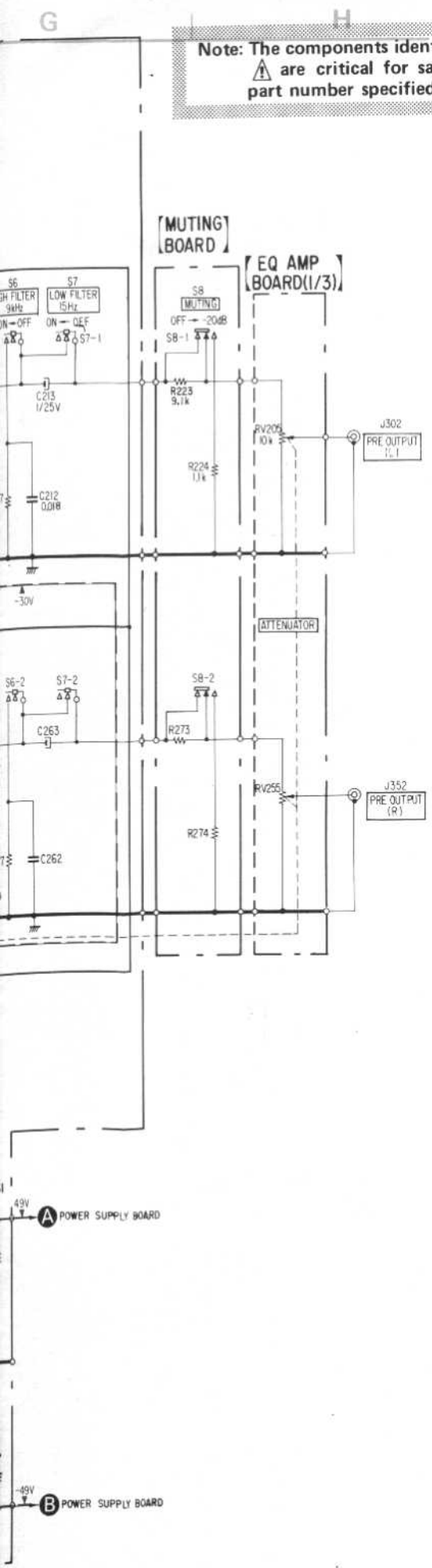



[EQ AMP BOARD(1/3)]
L-CH
R-CH
[TAPE JACK BOARD]
[HEAD AMP BOARD]
Q101 2SK97
Q102,103 2SA872
Q104 2SK23A
Q105 2SK30A
Q107,112 2SK43
Q106,108 2SA872
Q109 2SC1775
EQ AMP
D101 MV12N
CURRENT REG BI AS
Q151 2SK97
Q152,153 2SA872
Q154 2SK23A
Q155 2SK30A
Q157,162 2SK43
Q156,158 2SA872
Q159 2SC1775
D151 MV12N
Q701 – 704 2SC1637
Q705,706 2SA872
HEAD AMP
Q751 – 754 2SC1637
Q755,756 2SA872
PHONO 1
PHONO 2 (HEAD AMP)
TUNER
AUX 1
AUX 2
TAPE 1
REC OUT 1
TAPE 2
REC OUT 2
FUNCTION
PHONO 2 (HEAD AMP)
AUX 1
AUX 2


[CONTROL BOARD]
S1 FUNCTION (1)
FUNCTION(2) → PHONO 1
TUNER
S3 MONITOR
TAPE 1 → SOURCE → TAPE 2
S4 TAPE COPY
TAPE 1→ SOURCE → TAPE 2→
EQ AMP BOARD(1/3)
STEREO
REVERSE
S5 MODE
D201 EQA01-21R
IC201 HA1457
TONE AMP
DIFFERENTIAL AMP
PUSH-PULL CIRCUIT
S6 HIGH FILTER 9kHz
S7 LOW FILTER 15Hz
D102, 103 EQA01-26R
D202 EQA01-21R
D251 EQA01-21R
IC251 HA1457
ATTENUATOR
BALANCE
TREBLE
BASS
D152, 153 EQA01-26R
D252 EQA01-21R
Q110 2SD667
Q111 2SB647
Q160 2SD667
Q161 2SB647
EQ AMP
Q510 2SC1670
Q511, 512 2SC1890
Q509 2SK30A
HEAD AMP REG
Q504, 505 2SC1890
Q506, 507 2SA893
Q508 2SA671
Q501, 502 2SK42
Q503 2SC1061
EQ AMP/ TONE AMP REG
POWER SUPPLY

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

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

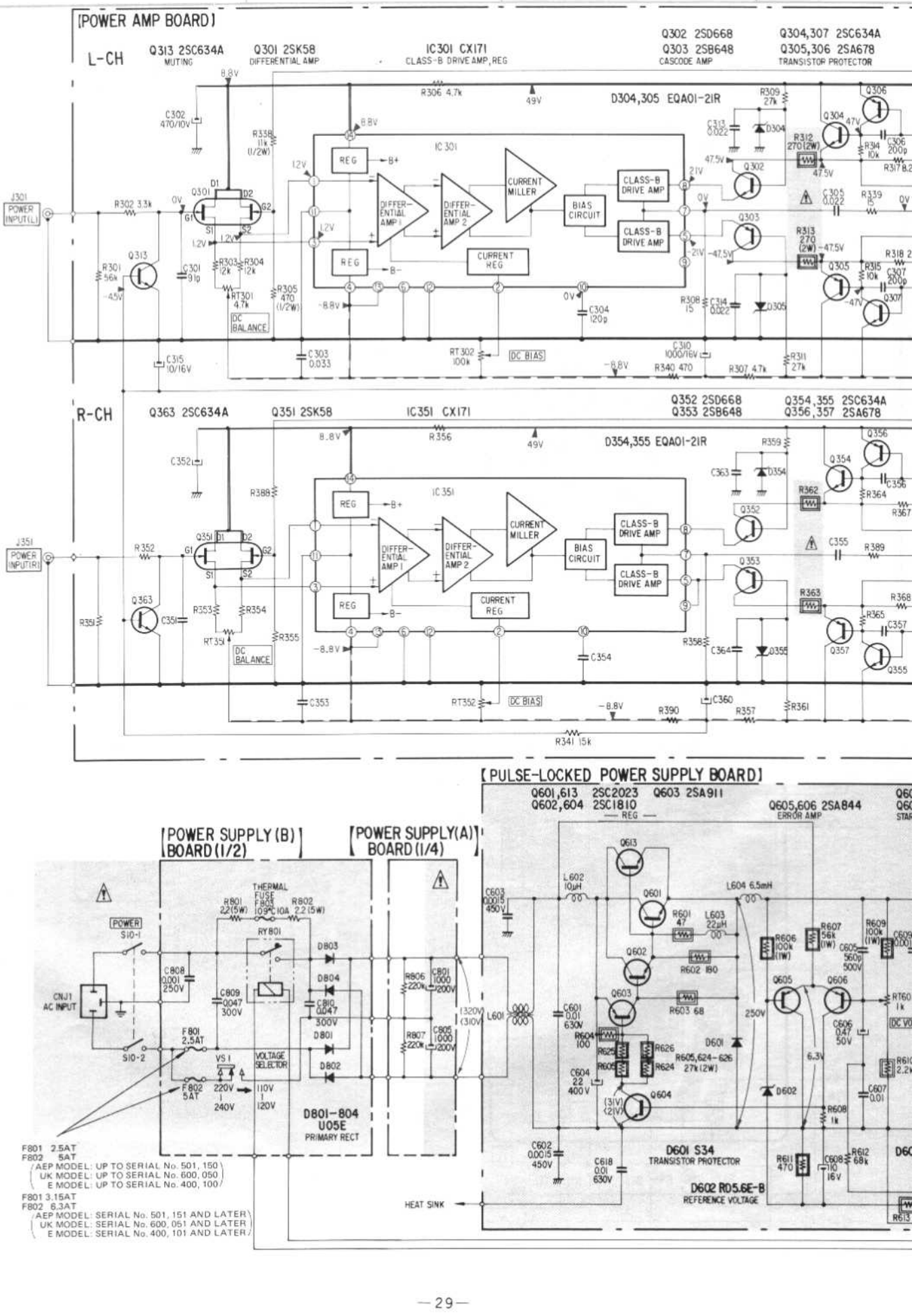


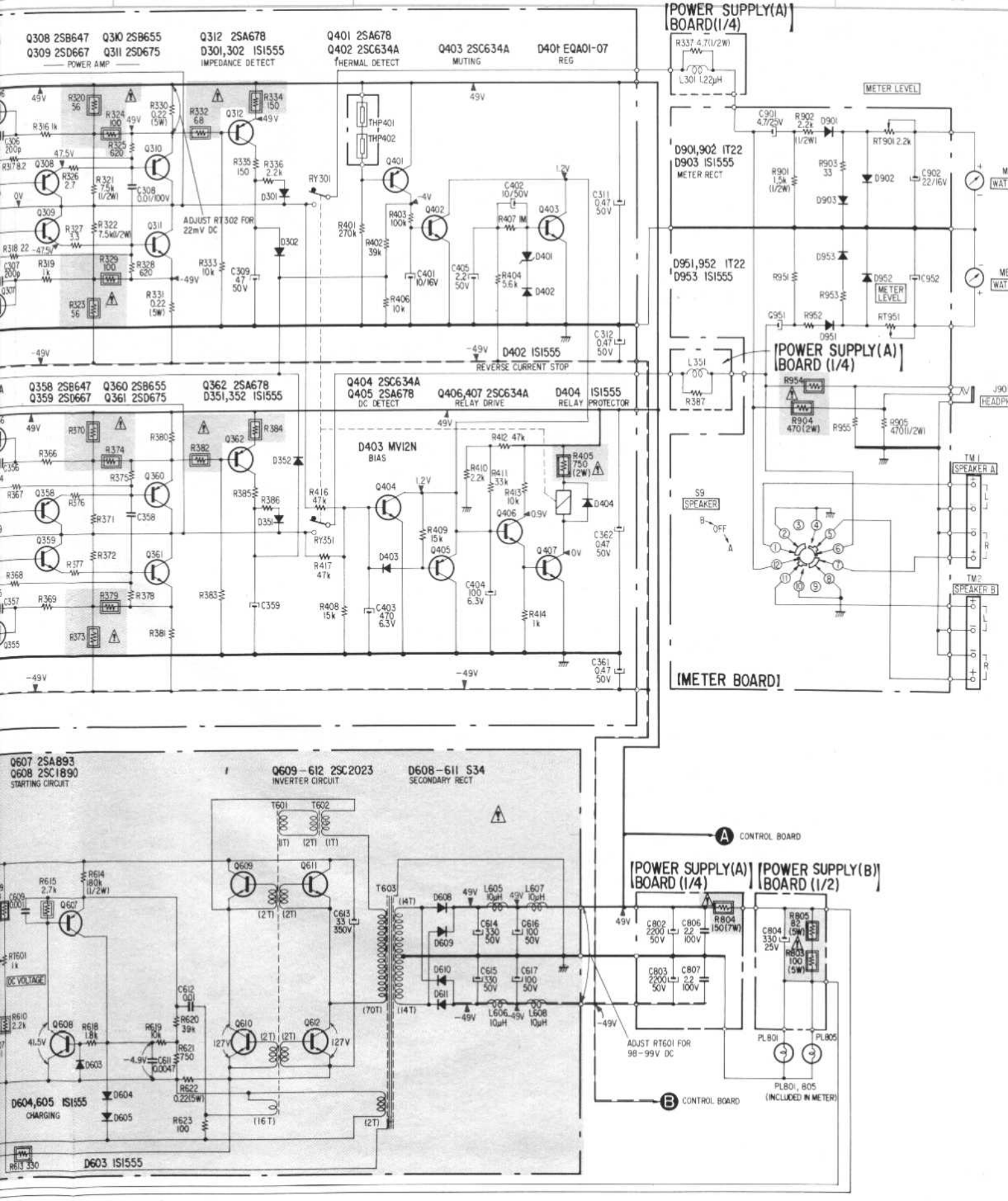
Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 151, 251 or 751.
- 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
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor
- 1% or 2% indicates component tolerance.
- : panel designation
- : B+ bus.
- : B− bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no signal conditions with a VOM (20 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S1-1-1, 2 S1-2-1, 2 S1-3-1, 2 S1-4-1, 2	FUNCTION (1)	FUNCTION (2)
S2-1-F, R S2-2-F, R S2-3-F, R	FUNCTION (2)	PHONO 2 (HEAD AMP)
S3-1-1, 2 S3-2-1, 2 S3-3-1, 2 S3-4-1, 2	MONITOR	SOURCE
S4-1-1, 2 S4-2-1, 2 S4-3-1, 2 S4-4-1, 2	TAPE COPY	SOURCE
S5-1-F, 2-F	MODE	STEREO
S6-1, 2	HIGH FILTER 9 kHz	OFF
S7-1, 2	LOW FILTER 15 Hz	OFF
S8-1, 2	MUTING	OFF

4-7. POWER AMP SECTION SCHEMATIC DIAGRAM (AEP, UK, E model)

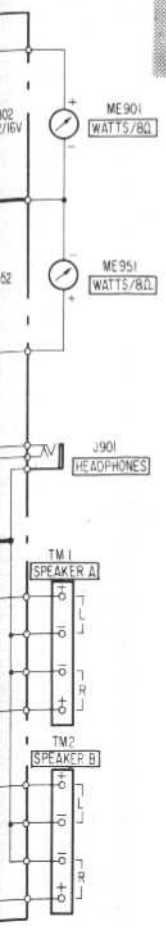



Q308 2SB647 Q310 2SB655
Q309 2SD667 Q311 2SD675
POWER AMP
Q312 2SA678
D301,302 IS1555
IMPEDANCE DETECT
Q401 2SA678
Q402 2SC634A
THERMAL DETECT
Q403 2SC634A
MUTING
D401 EQA01-07
REG
ADJUST RT302 FOR 22mV DC
D402 IS1555
REVERSE CURRENT STOP
Q358 2SB647 Q360 2SB655
Q359 2SD667 Q361 2SD675
Q362 2SA678
D351,352 IS1555
Q404 2SC634A
Q405 2SA678
DC DETECT
Q406,407 2SC634A
RELAY DRIVE
D404 IS1555
RELAY PROTECTOR
D403 MV12N
BIAS
Q607 2SA893
Q608 2SC1890
STARTING CIRCUIT
Q609-612 2SC2023
INVERTER CIRCUIT
D608-611 S34
SECONDARY RECT
D604,605 IS1555
CHARGING
D603 IS1555
DC VOLTAGE
[POWER SUPPLY(A) BOARD(1/4)
[POWER SUPPLY(A) BOARD (1/4)
[POWER SUPPLY(B) BOARD (1/2)
METER LEVEL
D901,902 IT22
D903 IS1555
METER RECT
D951,952 IT22
D953 IS1555
[METER BOARD]
S9 SPEAKER
TM1 SPEAKER A
TM2 SPEAKER B
A CONTROL BOARD
B CONTROL BOARD
ADJUST RT601 FOR 98-99V DC
PL801, 805 (INCLUDED IN METER)

H

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

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

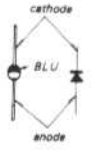


Note:

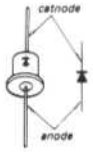
- Compinents for right channel have same values as for left channel. Reference numbers are coded from 351 or 951.
- All capacitors are in μF unless otherwise noted. pF = μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ = 1000 Ω, MΩ = 1000 kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⏚ : direct connection to points marked ⏚ on the chassis.
- : nonflammable resistor.
- : panel designation
- : B+ bus.
- : adjustment for repair.
- : B− bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no signal conditions with a VOM (20 kΩ/V).
  ( ) : 120 V AC input
  < > : 240 V AC input
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S9	SPEAKER	B
S10-1, 2	POWER	OFF
VS1	VOLTAGE SELECTOR	220–240 V

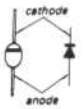
D403: MV12N



D601, 608–611: S34



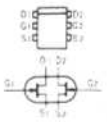
D801–804: U05G (U05E)



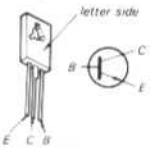
- **Replacement Semiconductors**

For replacement, use semiconductors except in ( ).

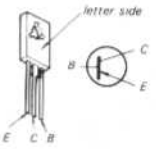
Q301, 351: 2SK58



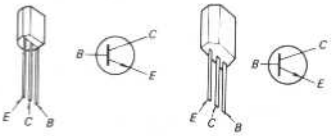
Q302, 352: 2SD668



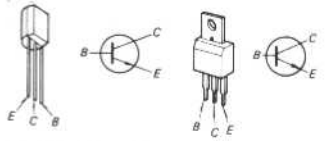
Q303, 353: 2SB648



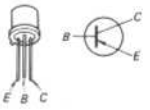
Q304, 307
Q313, 354
Q355, 363
Q402–404
Q406, 407
: 2SC1364 (2SC634A)



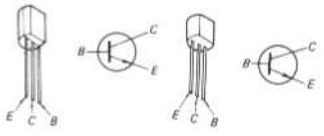
Q602, 604: 2SC1775F (2SC1810)



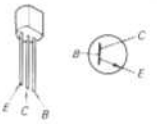
Q603: 2SA911



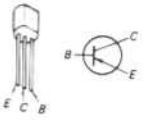
Q608: 2SC1775F (2SC1890)



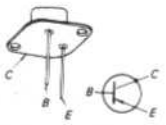
Q309, 359: 2SD667



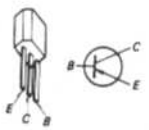
Q308, 358: 2SB647
Q607: 2SA639S (2SA893)



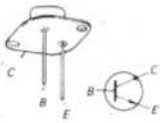
Q310, 360: 2SB655



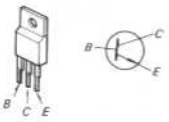
Q305, 306, 312
Q356, 357, 362
Q401, 405
: 2SA678



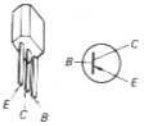
Q311, 361: 2SD675



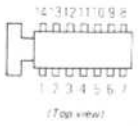
Q601, 613: 2SC2023-R
Q609–612: 2SC2023-R
2SC2023-O
(2SC2023)



Q605, 606: 2SA678 (2SA844)



IC301, 351: CX171



D301, 302, 351, 352
D402, 404, 603–605
D903, 953
: 1S1555

D602: RD5.6E (RD5.6E-B)
D901, 902
D951, 952
: 1T22AM (1T22)

D304, 305
D354, 355
: EQB01-21 (EQA01-21R)

D401: EQB01-07 (EQA01-07)