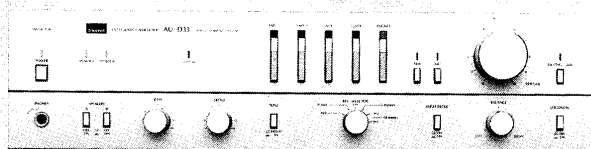


SERVICE MANUAL

INTEGRATED AMPLIFIER

SANSUI AU-D33/D22



Sansui

SANSUI ELECTRIC CO., LTD.

• SPECIFICATIONS

<AU-D33>

Power output

MIN. RMS, both channels driven, from 20 to 20,000 Hz with no more than 0.004 % total harmonic distortion
50 watts per channel into 8 ohms

Load impedance 8 ohms

Total harmonic distortion

. less than 0.004 % at or below rated min. RMS power output

Intermodulation distortion (60 Hz : 7 kHz = 4:1 SMPTE method) less than 0.006 % at rated

Frequency response (at 1 watt)

Overall (from AUX) . DC to 300,000 Hz +0 dB, -3.0 dB

RIAA curve deviation (PHONO-MM, 20 Hz to 100 kHz) +0.2 dB, -0.5 dB (REC OUT)

Damping factor (1 kHz, both channels driven)

. 40 into 8 ohms

Input sensitivity and impedance (at 1 kHz)

PHONO-MC 250 μ V/100 ohms

(Max. input capability: 12 mV at 1 kHz, less than 0.1 % total harmonic distortion)

PHONO-MM 2.5 mV/47 kilohms

(Max. input capability: 170 mV at 1 kHz, less than 0.01 % total harmonic distortion)

AUX, TUNER, TAPE PLAY-1, 2

. 200 mV/47 kilohms

Output level (1,000 Hz)

TAPE REC-1, 2 200 mV into 47 kilohms

Channel separation (1 kHz, at rated power output)

PHONO-MM 72 dB

AUX, TUNER, TAPE PLAY-1, 2

. 90 dB

Signal to noise ratio (short-circuit, A-network)

PHONO-MC 65 dB

PHONO-MM 84 dB

AUX, TUNER, TAPE PLAY-1, 2

. 105 dB

Controls

BASS \pm 10 dB at 50 Hz

TREBLE \pm 10 dB at 10 kHz

LOUDNESS +8 dB at 100 Hz

. +5 dB at 10 kHz

Others

Power voltage 100/120/220/240 V (50/60 Hz)

For U.S.A. and Canada

. 120 V (60 Hz)

Power consumption 210 watts 240 VA Rated

300 watts Maximum

Dimensions 430 mm (16-15/16") W

112 mm (4-7/16") H

334 mm (13-3/16") D

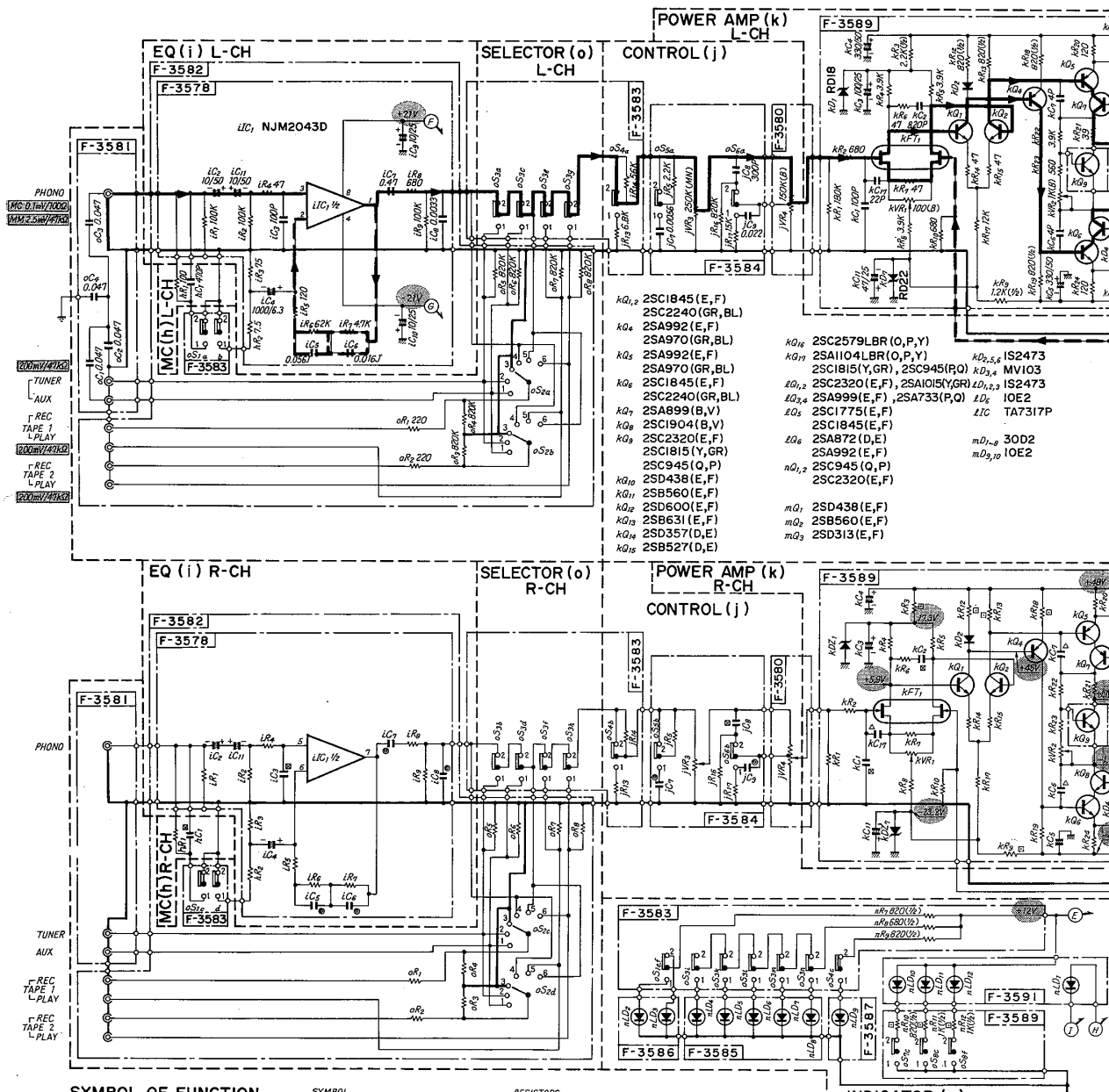
Weight 7.3 kg (16.1 lbs.) net

8.3 kg (18.3 lbs.) packed

to be continued ▶

A B C D

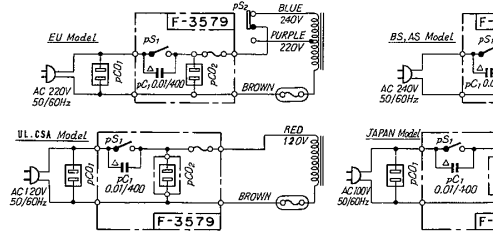
6. SCHEMATIC DIAGRAM 6-1. AU-D33



- SYMBOL OF FUNCTION**
- (h) MC
 - (i) EQ
 - (j) CONTROL
 - (k) POWER AMP
 - (l) PROTECTOR
 - (m) POWER SUPPLY
 - (n) INDICATOR
 - (o) SELECTOR
 - (p) FIXD PARTS
- * JAPAN Only

- SYMBOL**
- Ceramic
 - Mylar
 - Styrol
 - Tantalum Electrolytic
 - Aluminum Electrolytic
 - Low-Leak Electrolytic
 - (L.P) Bi-Polar Electrolytic
 - (L.P.P) Polypropylene Film
 - Polycarbonate Film
 - (L.B) Low-Leak Bi-Polar Electrolytic
 - Non-Inflammable Resistor
 - Metal Film Resistor
 - Cement Resistor
 - Non-Inductive Cement Resistor

- RESISTORS**
Are in ohms, 1/4 Watts, ±5% Tolerance Unless Otherwise Noted
K: KΩ, M: MΩ
- CAPACITORS**
Are in μF, Unless Otherwise Noted, P: pF
TOLERANCE
J: ±5%, G: ±2%, F: ±1%
Each D.C. Voltage shows the nominal value in volts at no input signal
Electrolytic Capacitor: Capacitance (μF)/Volt (V)



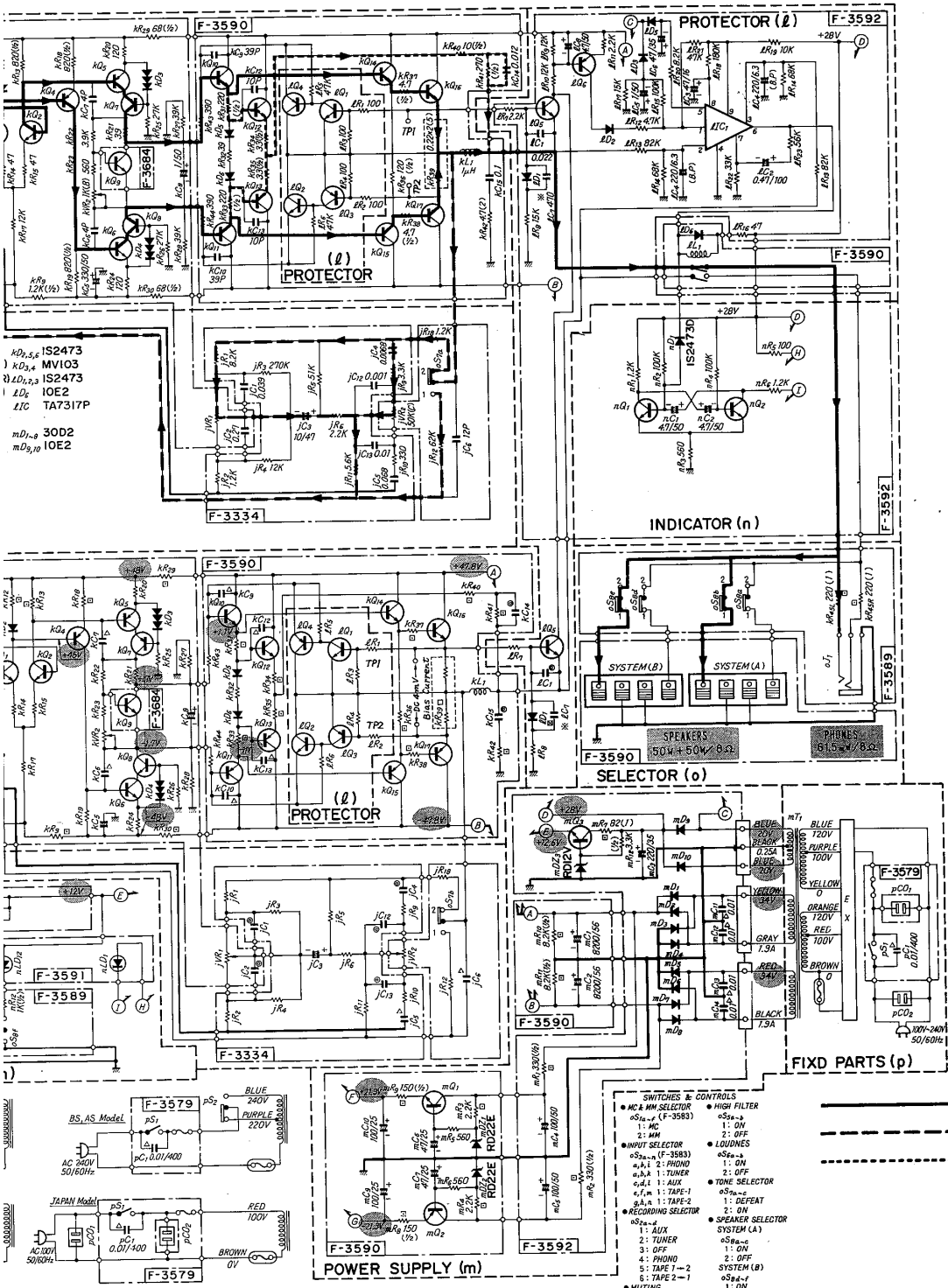
E

F

G

H

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 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



- 2SA733
- 2SA872
- 2SA970
- 2SA992
- 2SA999
- 2SA1015
- 2SB560MP
- 2SC345
- 2SC1775
- 2SC1815
- 2SC1845
- 2SC2246
- 2SC2320
- 2SCD438
- 2SA899
- 2SB631
- 2SC1904
- 2SD600
- 2SD357
- 2SB527
- 2SD313
- 2SA1104LBR
- 2SC2579LBR
- TA7317P
- NJM2043
- RD12E
- RD18E
- RD22E
- μPA68H
- IOE2
- IS2473
- MV-103

1

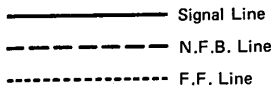
2

3

4

5

- SWITCHES & CONTROLS**
- MC & MM SELECTOR (F-3583)
 - S_{1a}-1: MC
 - S_{1a}-2: MM
 - INPUT SELECTOR (S_{2a}-1) (F-3583)
 - S_{2a}-1: 1: PHONO
 - S_{2a}-2: 2: AUX
 - S_{2a}-3: 3: TAPE-1
 - S_{2a}-4: 4: TAPE-2
 - RECORDING SELECTOR (S_{2a}-5)
 - S_{2a}-5-1: 1: AUX
 - S_{2a}-5-2: 2: TUNER
 - S_{2a}-5-3: 3: OFF
 - S_{2a}-5-4: 4: PHONO
 - S_{2a}-5-5: 5: TAPE 1-2
 - S_{2a}-5-6: 6: TAPE 2-1
 - MUTING (S_{2a}-6)
 - S_{2a}-6-1: 1: 20dB
 - S_{2a}-6-2: 2: OFF
 - HIGH FILTER (S_{3a}-1)
 - S_{3a}-1-1: 1: ON
 - S_{3a}-1-2: 2: OFF
 - LOUDBONES (S_{3a}-2)
 - S_{3a}-2-1: 1: ON
 - S_{3a}-2-2: 2: OFF
 - TONE SELECTOR (S_{3a}-3)
 - S_{3a}-3-1: 1: DEFEAT
 - S_{3a}-3-2: 2: ON
 - SPEAKER SELECTOR (S_{3a}-4)
 - S_{3a}-4-1: 1: SYSTEM (A)
 - S_{3a}-4-2: 2: OFF
 - S_{3a}-4-3: 3: SYSTEM (B)
 - S_{3a}-4-4: 4: SYSTEM (A)
 - S_{3a}-4-5: 5: TAPE-1
 - S_{3a}-4-6: 6: TAPE-2
 - S_{3a}-4-7: 7: ON
 - S_{3a}-4-8: 8: OFF



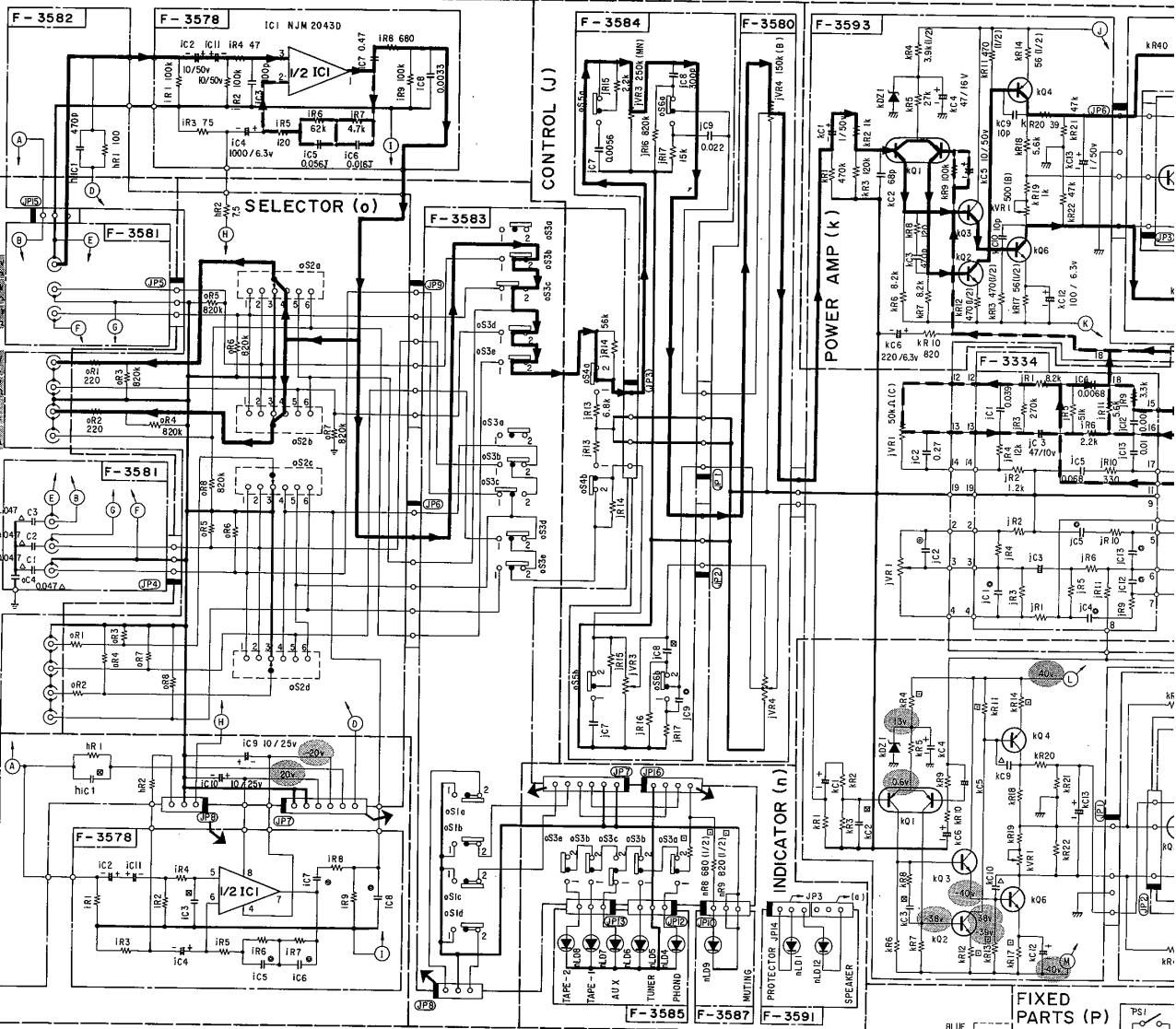
A

B

C

D

U-D22



PARTS NO.	TRANSISTOR	OPTIONAL USE FOR TRANSISTOR
Q1, 2	2SC2320	E, F 2SC1815 2SC945
Q3	2SC315	
Q5	2SC1845	F, E
Q6	2SA992	F, E
Q1	2SA798	F, G
Q2, 3	2SC1735	GR BL 2SC2910
Q4	2SA899	B, V
Q6	2SC1904	B, V
Q7	2SC2320	E, F 2SC945 2SC1815
Q5	2SC1735	D, E
Q8	2SA850	D, E
Q9	2SD600	E, F
Q10	2SB651	E, F
Q11	2SD357	D, E
Q12	2SB527	D, E
Q13	2SC2577	LBR
Q14	2SA1102	LBR
Q1	2SD438	E, F
Q2	2SB560	E, F
Q1, 2	2SC2320	E, F 2SC945, 2SC1815
Q3, 4	2SA999	E, F 2SA733, 2SA1015

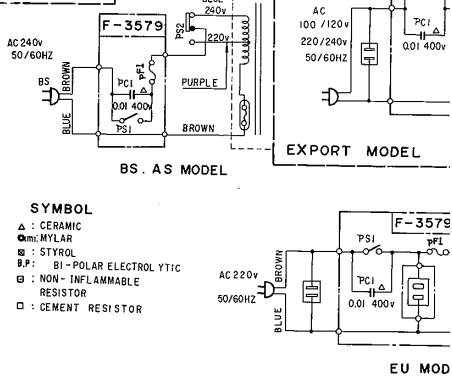
P.W.B. NO	PARTS NO	DIODE & Zener Diode
F-3592	RD1, 2, 3, 5	1S 2473 D
	RD1	1S 2473 D
	RD1-10	10E-2
F-3593	RD2E-B	RD13E-B
F-3594	KD1, 2	1S 2473 D
	RDZ1, 2	RD22E-B

P.W.B. NO	PARTS NO	L.E.D.
F-3585	hLD 4, 5, 6	SLP-250C
F-3587	hLD 7, 8	SLP-460C
F-3587	hLD 9	SLP-460C
F-3591	hLD 1, 12	SEL-1210S

SWITCHES & CONTROLS

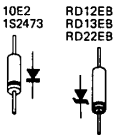
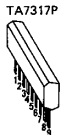
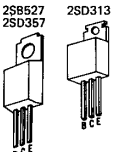
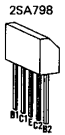
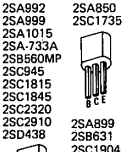
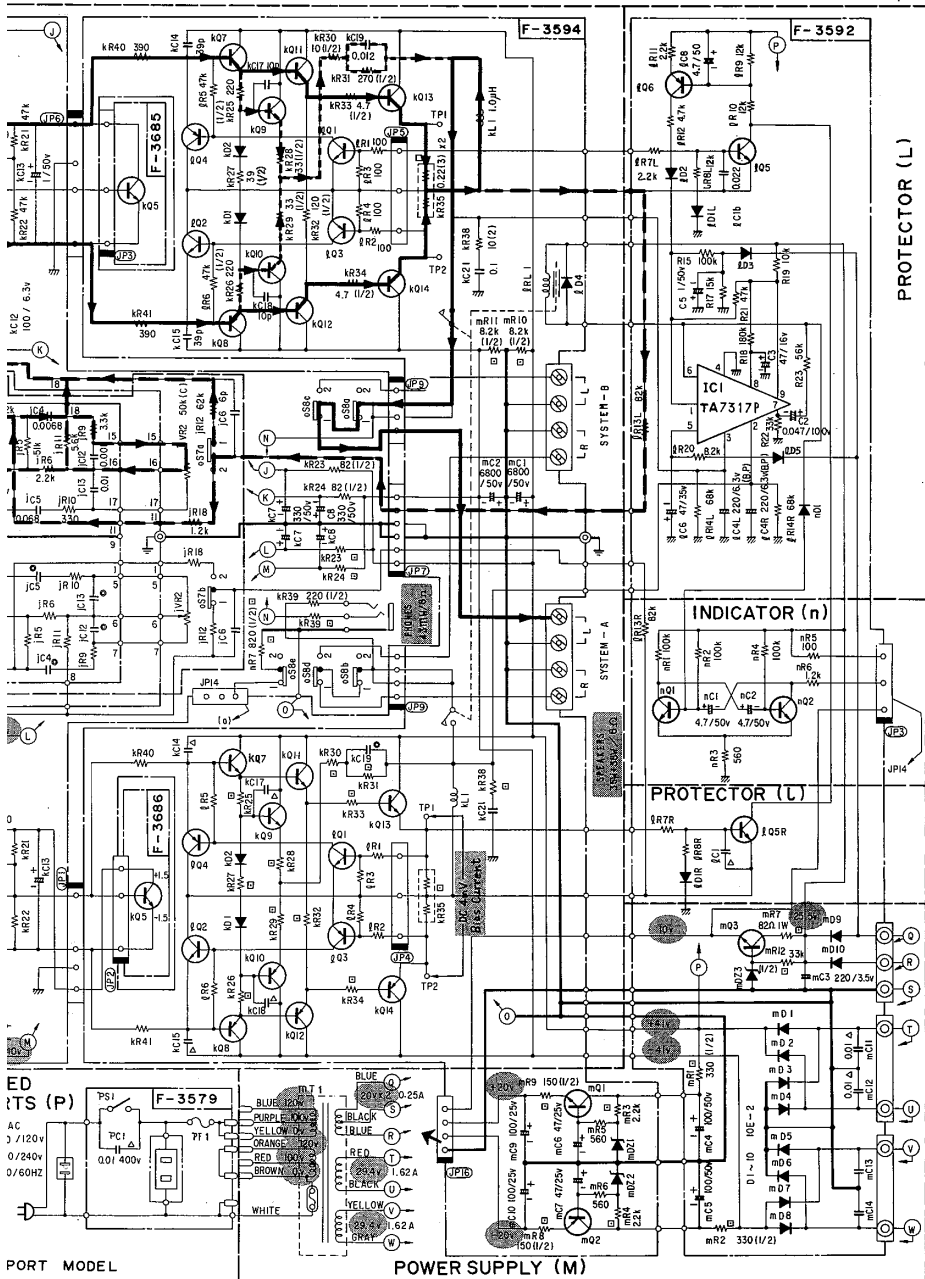
- MC & MM SELECTOR
 - o51a-d (F-3583)
 - 1: MC
 - 2: MM
- INPUT SELECTOR
 - o53a b (F-3583)
 - 0: PHONO
 - 1: TUNER
 - 4: AUX
 - 5: TAPE-1
 - 6: TAPE-2
- RECORDING SELECTOR
 - o52a-d
 - 1: AUX
 - 2: TUNER
 - 3: OFF
 - 4: PHONO
 - 5: TAPE1 - TAPE2
 - 6: TAPE2 - TAPE1
- MUTING
 - o54a-b
 - 1: -20dB
 - 2: OFF
- LOUDNES
 - o55a-b
 - 1: ON
 - 2: OFF
- HIGH FILTER
 - o56a-b
 - 1: ON
 - 2: OFF
- TONE SELECTOR
 - o57a-b
 - 1: DEFEAT
 - 2: ON
- SPEAKER SELECTOR
 - o58a, b
 - 1: ON
 - 2: OFF
- ASYSTEM
 - o58c-d
 - 1: ASYSTEM
 - 2: BSYSTEM

SYMBOL
 A : CERAMIC
 B : MYLAR
 S : STYROL
 B.P. : BI-POLAR ELECTROLYTIC
 ⊖ : NON-INFLAMMABLE
 □ : CEMENT RESISTOR



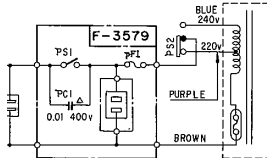
EU MOD

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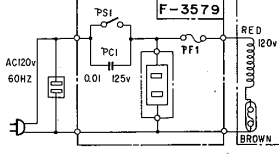


PORT MODEL

POWER SUPPLY (M)

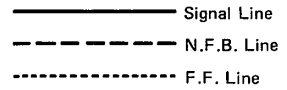


EU MODEL



UL .CSA MODEL

RESISTORS
 ARE IN OHMS, 1/4 WATT ±5% TOLERANCE
 UNLESS OTHERWISE NOTED. K: KO-W, MA
 CAPACITORS
 ARE IN µF UNLESS OTHERWISE NOTED. P: PF
 TOLERANCE
 ±5%: ±2% F: ±1%
 EACH D.C. VOLTAGE SHOWS THE NOMINAL VALUE
 IN VOLTS AT NO INPUT SIGNAL
 ELECTROLYTIC CAPACITOR: CAPACITANCE (µF) / VOLT (V)



4. ADJUSTMENTS

4-1. Driver Circuit Adjustment (See Top View on page 10)

Note: 1) Master Volume Minimum
 2) Room Temperature . 18°C ~ 28°C (65°F ~ 83°F)

A) AU-D33

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	DC 0V Adj. L-CH	Speaker Terminal (L-ch)	kVR1, L-ch (F-3589)	DC 0V ± 20 mV	Before turning ON power switch, set kVR1 (F-3589) to center position.
2.	DC 0V Adj. R-CH	Speaker Terminal (R-ch)	kVR1, R-ch (F-3589)	DC 0V ± 20 mV	
3.	Bias Current Adj. L-CH	Between emitters of power transistors (kQ16 & kQ17) (Between TP1 & 2)	kVR2, L-ch (F-3589) at 1 minute after turning the power ON.	DC 4 mV	<ul style="list-style-type: none"> Before adjustment, the temperature of the transistors and the radiator must be same as room temperature. Before turning ON power switch, set kVR2 (F-3589) fully counterclockwise.
4.	Bias Current Adj. R-CH	Between emitters of power transistors (kQ16 & kQ17) (Between TP1 & 2)	kVR2, R-ch (F-3589) at 1 minute after turning the power ON.	DC 4 mV	

B) AU-D22

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	Bias Current Adj. L-CH	Between emitters of power transistors (kQ13 & kQ14) (Between TP1 & 2)	kVR1, L-ch (F-3593)	DC 4 mV	<ul style="list-style-type: none"> Before adjustment, the temperature of the transistors and the radiator must be same as room temperature. Before turning ON power switch, set kVR1 (F-3593) fully counterclockwise.
2.	Bias Current Adj. R-CH	Between emitters of power transistors (kQ13 & kQ14) (Between TP1 & 2)	kVR1, R-ch (F-3593)	DC 4 mV	

5. INTERIOR BLOCK DIAGRAM OF IC, TA7317P

