SIP-301 SERVICE NOTES

•SPECIFICATIONS

BASS PRE-AMP SIP-301

Input level

HI: min*	−38dBm
max	+14dBm
LO: min*	−28dBm
max	+24dBm

(*Nominal level: +4dBm; EFFECT: ON; other controls max)
(0dBm=0.775VRMS)

Input impedance

HI:	250kΩ
LO:	100kΩ

Output level

Balanced: nom	+4dBm
max	+20dBm
Unbalanced: nom	+0.5dBm
max	+16dBm

(0dB=0.775VRMS)

Output impedance:

Balanced:	greater than 600Ω
Unbalanced:	greater than 47kΩ

Frequency range: 20Hz—30kHz

S/N: greater than 74dB

Distortion: 0.1% (20Hz—10kHz, +10dBm Unbalanced)

Compressor: Ratio 1:1 to 1:6.6

Controls & Switch

Compressor: Threshold (−50dB to −30dB)
Dynamic Range (25dB)
Level
Threshold lamp

Tone Creator:

Bass	(−15dB to +15dB/45Hz)
Middle	(−9dB to +14dB/500Hz)
Treble	(−17dB to +21dB/6kHz)

Selectable: Bass (35Hz/45Hz)
Middle (250Hz/500Hz)
Treble (4kHz/6kHz)

Filter: LO Cut (60Hz, 12dB/oct)
HI Cut (6kHz, 12dB/oct)

Final Amp: Volume
Master Volume

Crossover Network: Crossover Frequency (50Hz—400Hz)

Power Switch (with indicator)

Connectors

Input: HI GAIN
LO GAIN

Output: Balanced (XLR)
Unbalanced (Standard 1/4'' jack)

HI Freq Out (greater than 600Ω)
LO Freq Out (greater than 600Ω)

Ext. Effect Loop:

Send	: 20kΩ	: 800Ω
Return	: 50Ω	: 50kΩ

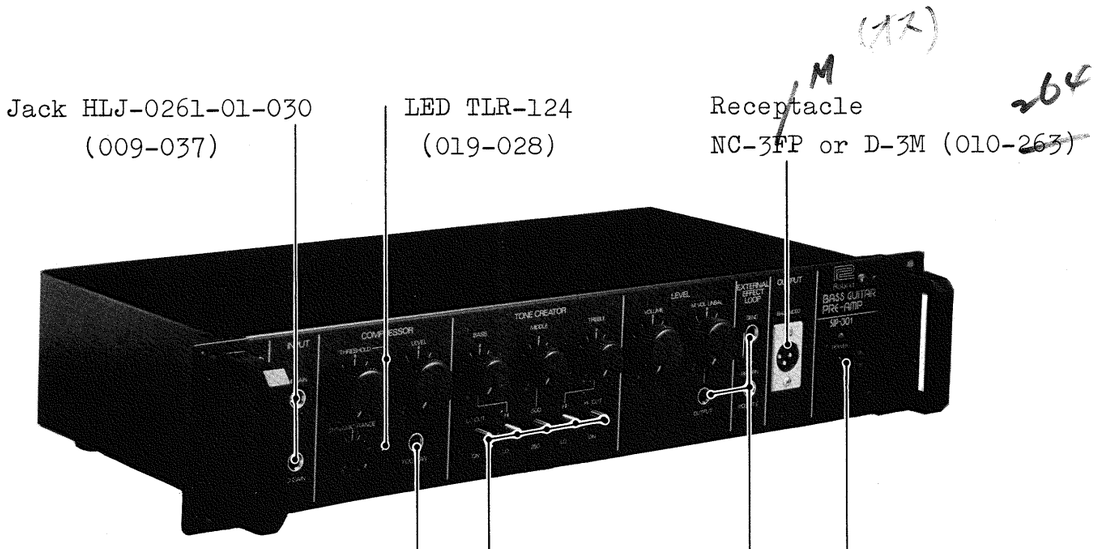
Foot SW: Compressor Bypass (FS-1) (LED)

GND

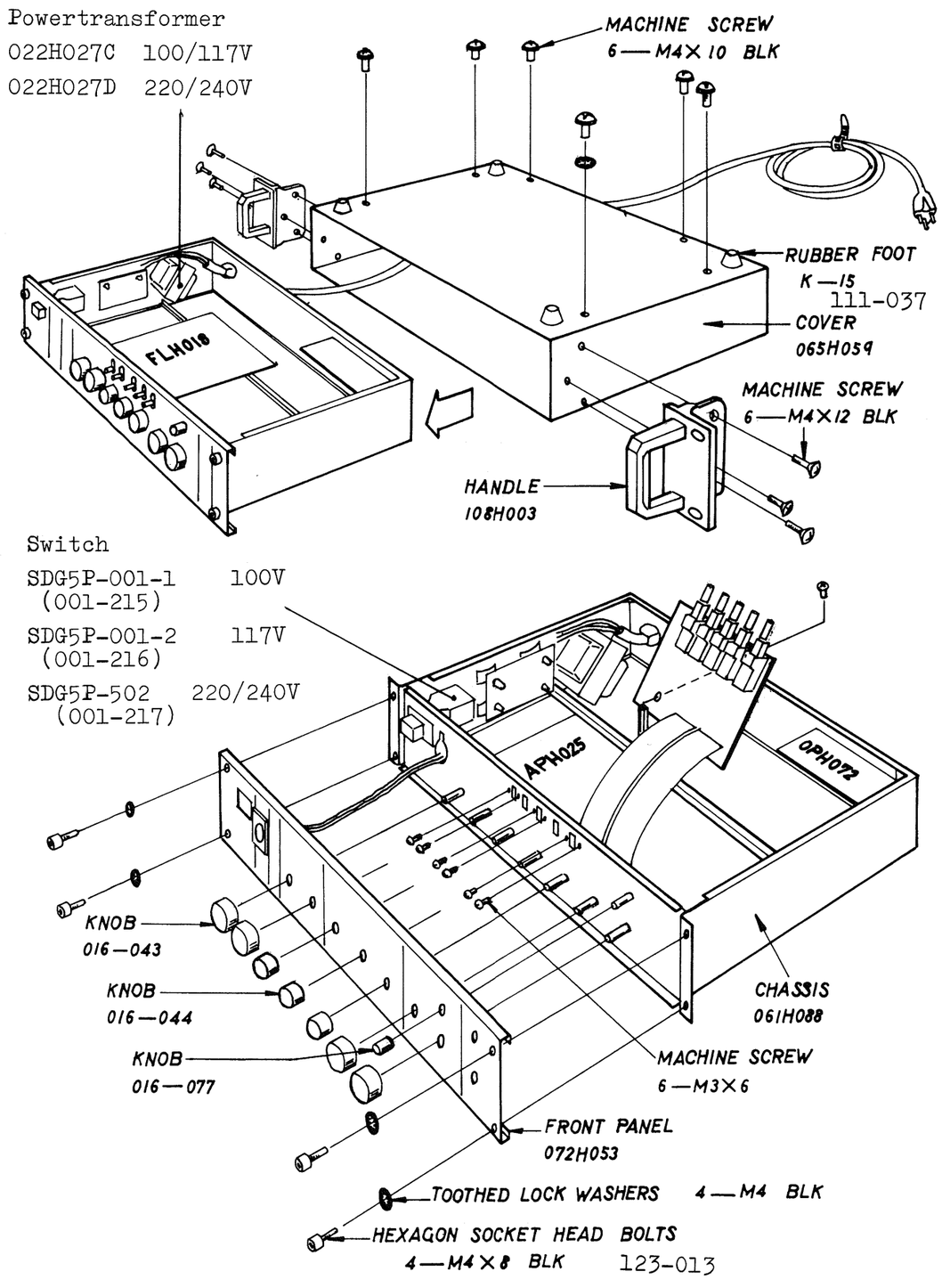
Power Consumption: 6W

Dimensions: 482(W) x 92(H) x 247(D) mm
Type EIA-2U rack mount

Weight: 4.1kg

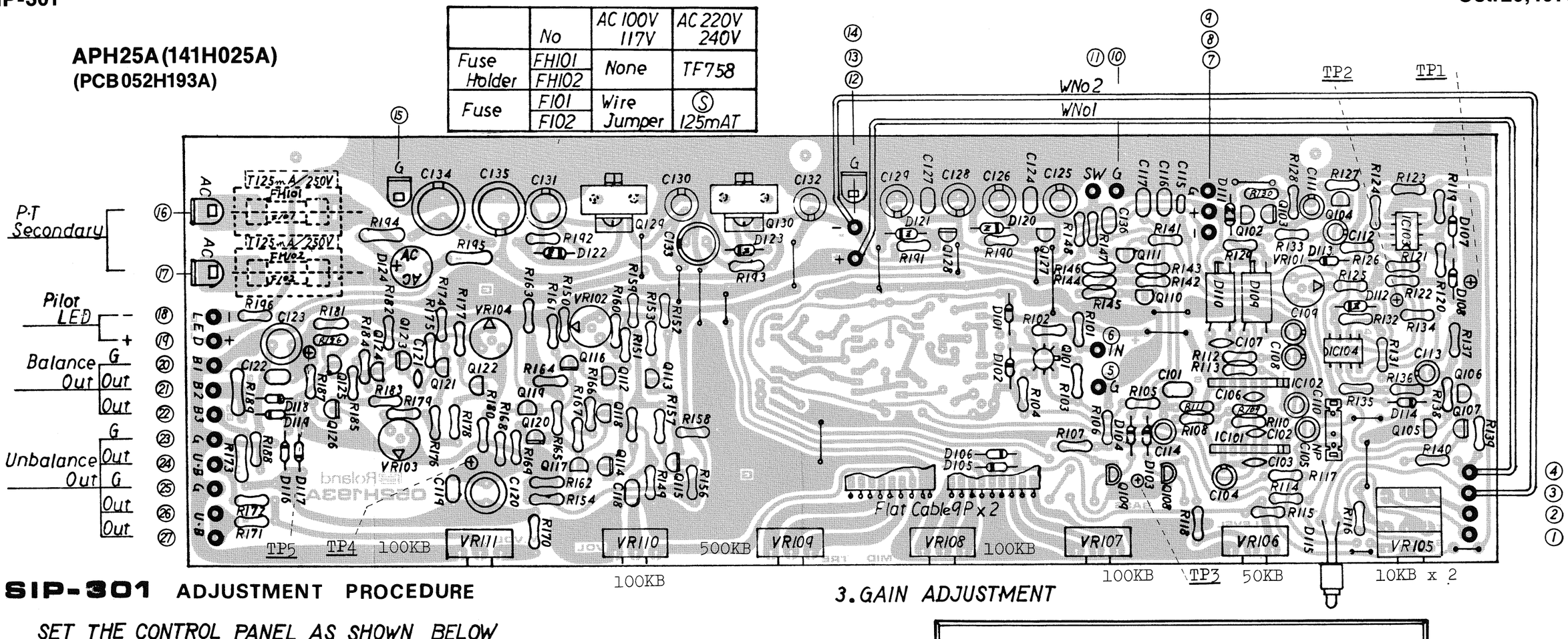


SIP-301 DISASSEMBLY



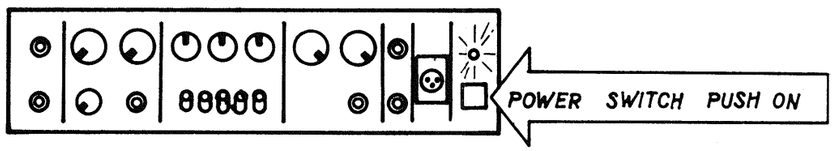
APH25A (141H025A)
(PCB 052H193A)

	No	AC 100V 117V	AC 220V 240V
Fuse Holder	FH101	None	TF758
	FH102		
Fuse	F101	Wire Jumper	Ⓢ 125mAT
	F102		



SIP-301 ADJUSTMENT PROCEDURE

SET THE CONTROL PANEL AS SHOWN BELOW



1. VOLTAGE CHECK

+21.5V (±1.3V)	+15V (±0.8V)
−21.5V (±1.3V)	−15V (±0.8V)

2. BIAS ADJUSTMENT

① TP1: Ground terminal for the test equipments

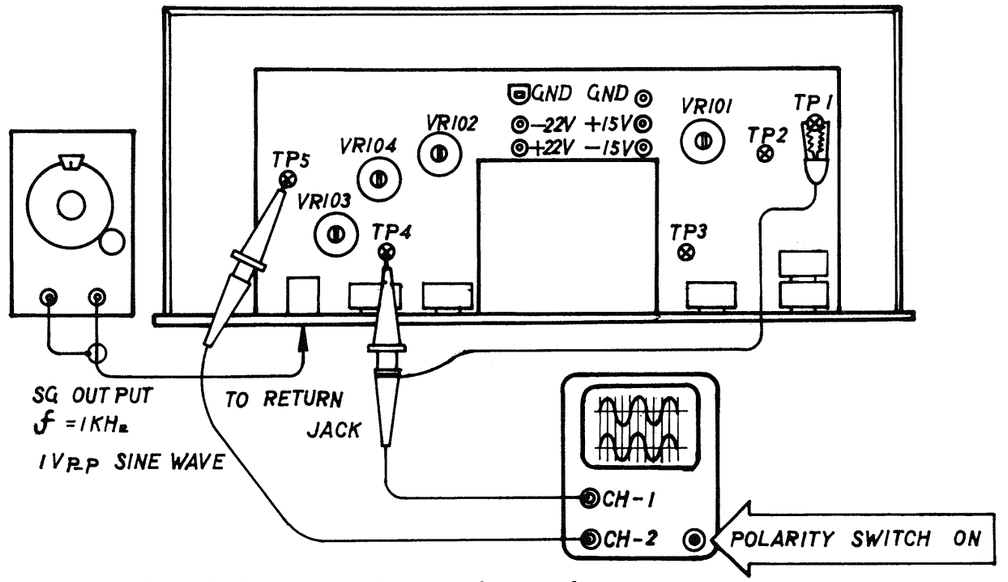
② TP2: To be adjusted to 0V DC at no input signal with VR101

③ TP3: For checking Normal/Effect signals

④ TP4: To be adjusted to 0V DC at no input signal with VR102

⑤ TP5: To be adjusted to 0V DC at no input signal with VR103

3. GAIN ADJUSTMENT



Connect and set instruments as shown above.

1. Adjust VR104 so that CH-2 output equals CH-1's in amplitude.(11V pp)
2. Make sure that there is a 180° phase shift between them when POLARITY is off.

Transisitors
- : FET 2SK30GR – Q108, 109 (2PCS)
- : 2SC2240GR – Q112, 113, 117, 118, 121, 122, 124 (7PCS)
- : 2SD667C – Q119, 125, 127 (3PCS)
- : 2SC1815GR – Q102, 104, 105, 106, 110, 111 (6PCS)
- : 2SA970GR – Q114, 115, 116, 123 (4PCS)
- : 2SB647C – Q120, 126, 128 (3PCS)
- : 2SA1015GR – Q103, 107 (2PCS)
- : Dual FET E-412 (ITS30546) – Q101 (1PC)

Diodes
- : M8555 {DI01~DI08, DI13, 114 / DI16~DI19, DI25 (15PCS)
- : RD22EB – DI22, DI23 (2PCS)
- : RD5.1EB – DI11, DI12 (2PCS)
- : 05Z16AL – DI20, DI21 (2PCS)

ICs
- HA1457 – IC101, IC102 (2PCS)
- μPC4558 – IC103, IC104 (2PCS)
- Photo Coupler

P873A-G35-380

HI GAIN INPUT
LO GAIN INPUT
DYNAMIC RANGE
COMPRESSOR LEVEL
THRESHOLD
RECTIFIER ADJ 0 V
THRESHOLD LAMP
EFFECT LAMP
BYPASS SWITCH
REAR SEND
REAR RETURN
FRONT SEND
FRONT RETURN
HI CUT
LO CUT
TREBLE VR109 500KB
MIDDLE VR108 100KB
BASS VR107 100KB

FLH-018 TONE CREATOR BOARD

PRE AMP BOARD APH-025

OPH-072 CROSSOVER NETWORK

HI FREQUENCY OUTPUT (REAR)
LO FREQUENCY OUTPUT (REAR)
LEVEL VOL
MASTER VOL
14V P-P
BIAS ADJ 0 V
INVERTER GAIN ADJ 1 : -1
BALANCED OUTPUT (FRONT)
VOL MAX 200 MΩ
UNBALANCED OUTPUT (FRONT)
UNBALANCED OUTPUT (REAR)
RL: 600Ω
PILOT LAMP
POWER SWITCH
AC

AC VOLT	F101, F102
100V, 117V	SHORT
220V, 240V	Ⓢ 125mA

POWER TRANS	AC VOLT	F001
022H027C	100V, 117V	0.2A
022H027D	220V, 240V	Ⓢ 50mA

TRANSISTORS : 2SA970 QR Q114, 115, 116, 123, Q202, 205 / 2SA1015 QR Q103, 107 / 2SB596 Y Q130 / 2SB647 C Q120, 128, 126 / 2SC1815 QR Q102, 104, 105, 106, 110, 111 / 2SC2240 QR Q112, 113, 117, 118, 121, 122, 124, Q206~209 / 2SD526 Y Q129 / 2SD667 Q Q119, 125, 127 / FET : 2SK30A QR Q108, 109 / DUAL FET : ITS30546 Q101

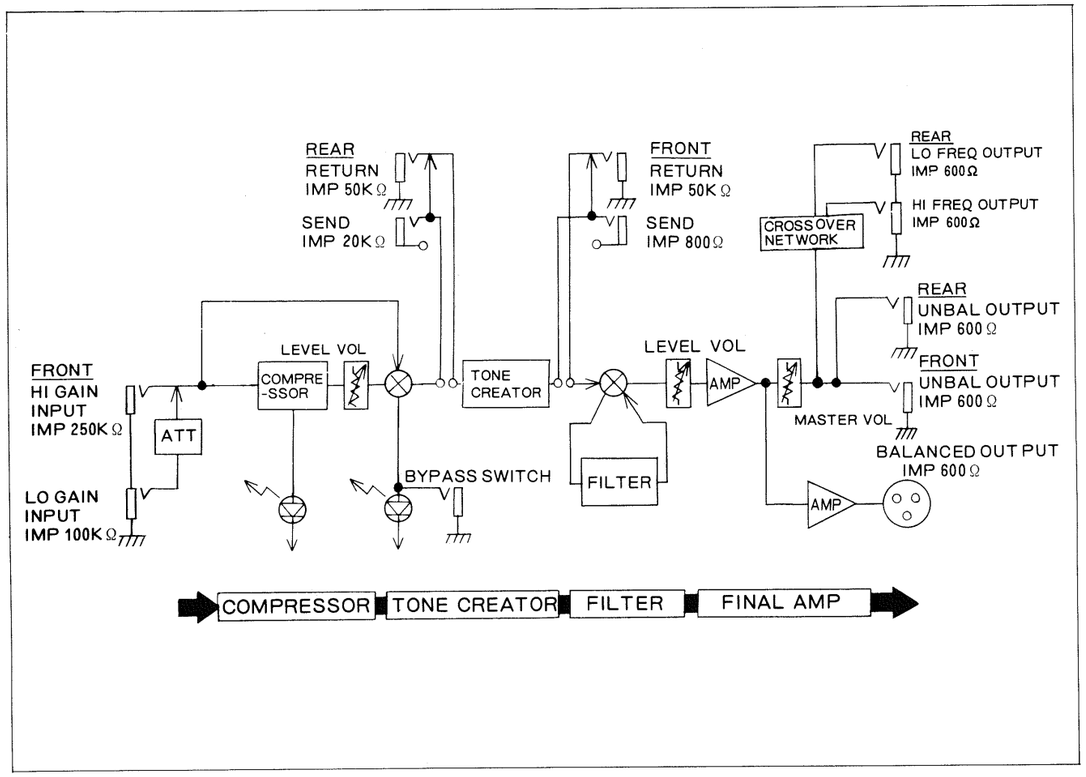
IC : HA1457 IC101, 102, / μPC4558 IC103, 104 / LF353 IC301, 304 / BA662 IC302, 303

PHOTO COUPLER : P873G35-380 PH1, PH2

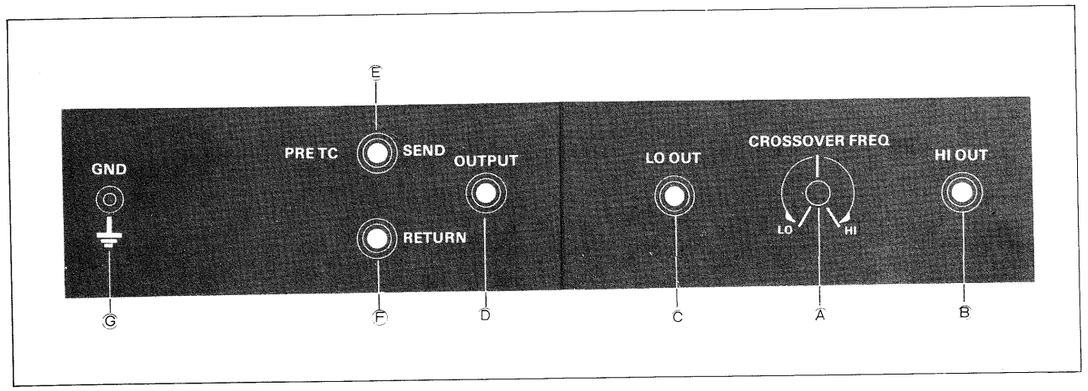
ALL DIODES ARE M8555

SIP-301 CIRCUIT DIAGRAM

BLOCK DIAGRAM



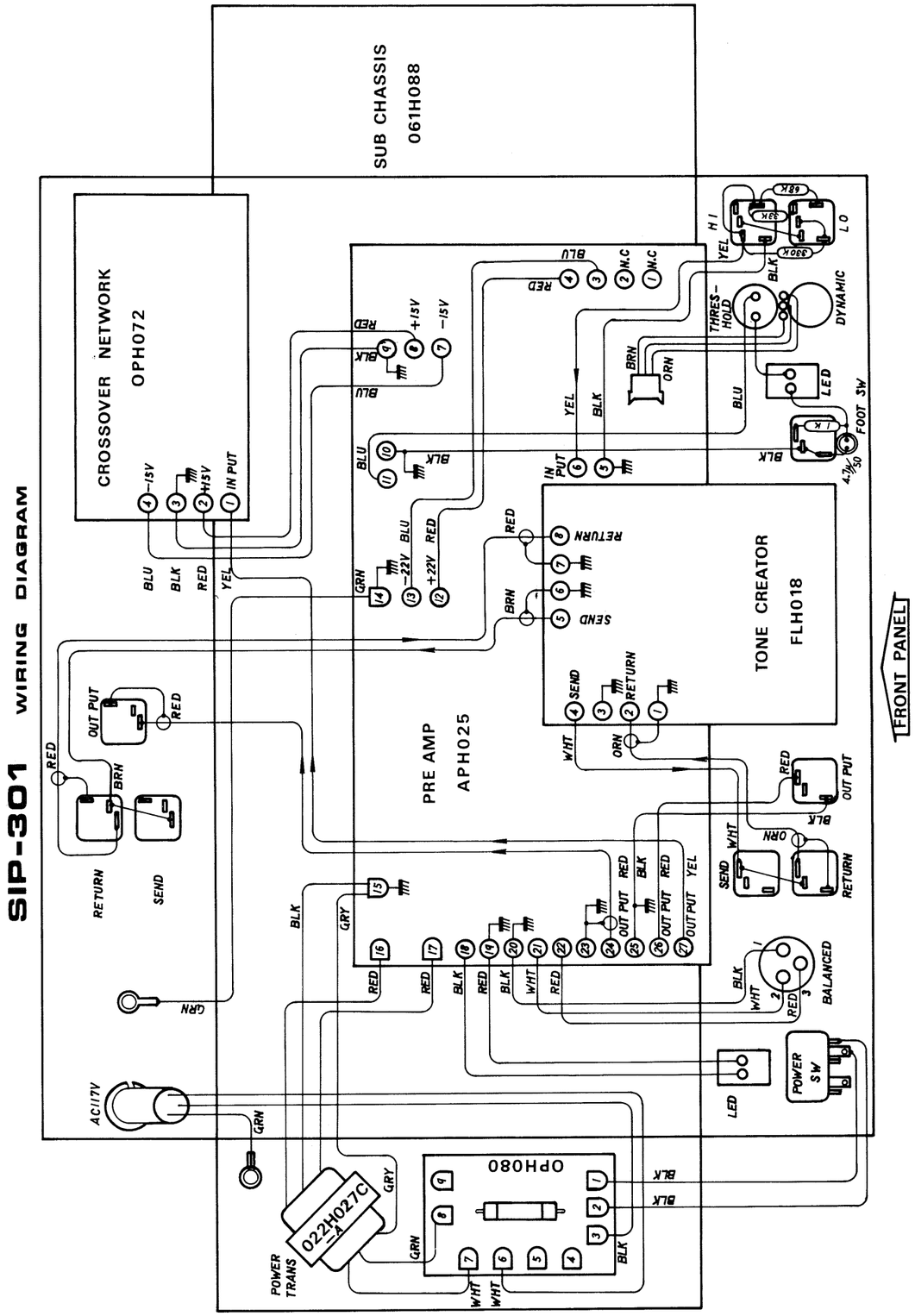
REAR PANEL



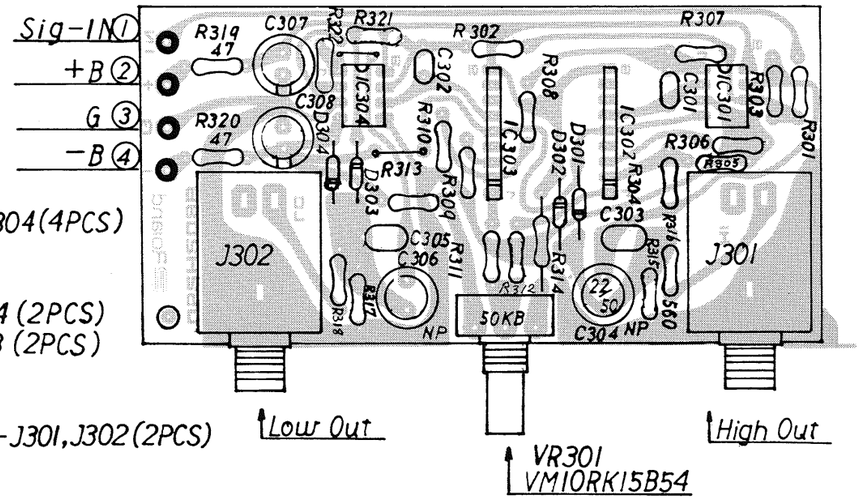
B, C, D, E, F : Jack HLJ0264-01-030 (009-030)

G : Earth teminal no.41 (042-041)

WIRING DIAGRAM SIP-301



OPH72B (149H072B)
(PCB 052H208B)

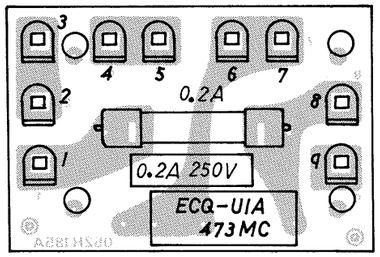


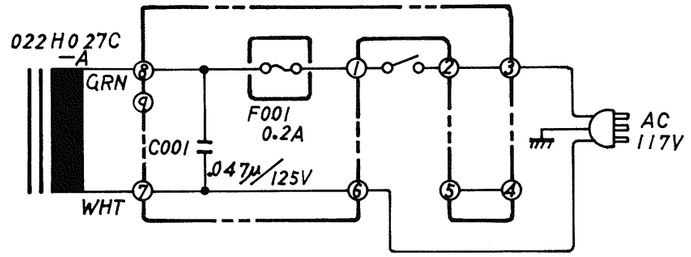
Diodes
−▷−: M8555 −D301 ~ D304 (4PCS)

ICs
LF353 − IC301, IC304 (2PCS)
BA662 − IC302 IC303 (2PCS)

JACKs
HLJ0259-01-020 — J301, J302 (2PCS)

117V

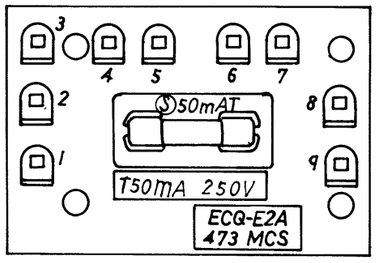




OPH 080A 149H080A (PCB 052H185A)

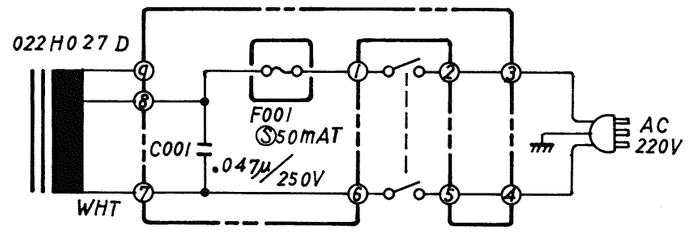
SDG-5P-001-2

220,240V

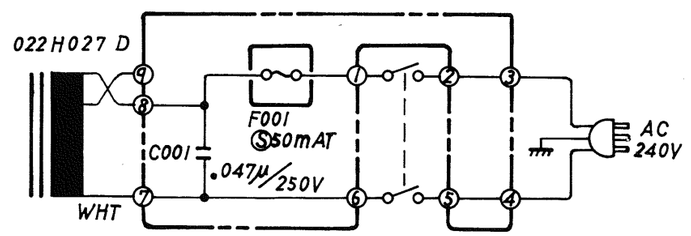


OPH 081A

149H081A (PCB 052H185A)

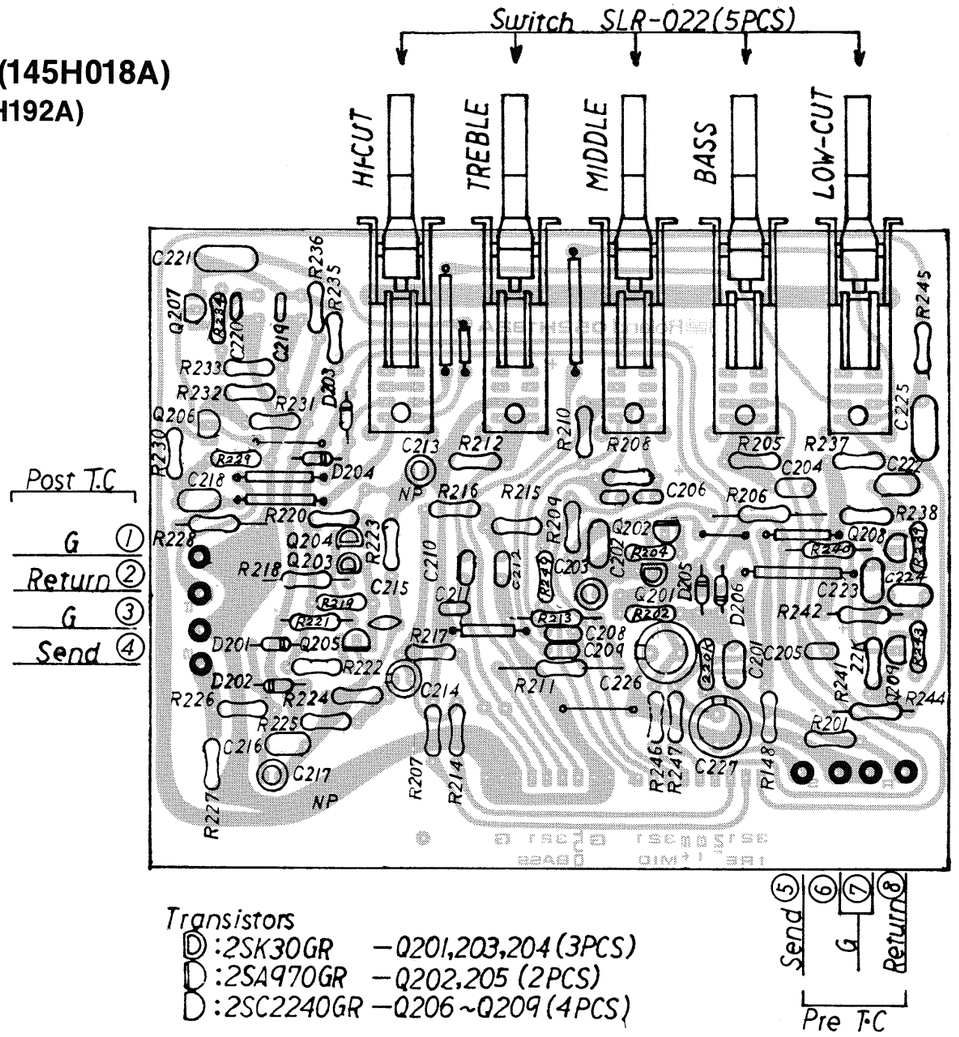


SDG-5P-502



SDG-5P-502

FLH18A (145H018A)
(PCB 052H192A)

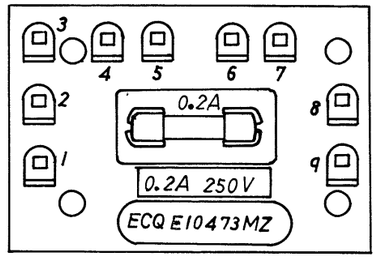


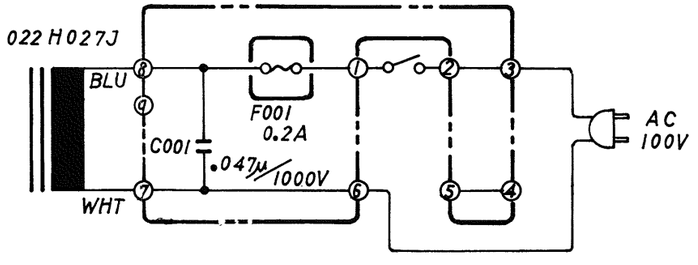
Transistors
D: 2SK30GR − Q201, 203, 204 (3PCS)
D: 2SA970GR − Q202, 205 (2PCS)
D: 2SC2240GR − Q206 ~ Q209 (4PCS)

Diodes
−▷−: M8555 −D201 ~ D206 (6PCS)

: Jumper Wire with Tube

100V





OPH 079A 149H079A (PCB 052H185A)

POWER SW. SDG-5P-001-1

PARTS LIST

072H053	Panel H53 front
061H088	Chassis H88
065H059	Cover H59
108H003	Handle H3
064-265	Holder no.265
120-015	Long nut no.15(spacer)3x12mm
120-017	Long nut no.17 3 x 54mm
065-261	Cover no.261 SLR-022
111-037	Rubber foot K-15
016-043	Knob no.43 rotary large
016-044	Knob no.44 rotary middle
016-077	Knob no.77 rotary small
016-009	Button no.9 Blk power switch
009-030	Jack HLJ-0264-01-030
009-037	Jack HLJ-0261-01-030 w/switch
010-265 → 264	XLR connector (female) NC-3FP or D-3M

PCB

141H025A	APH25A Preamp (PCB 052H193A)
145H018A	FLH18A Tone Creator(052H192A)
149H072B	OPH72B Cross Over (052H208B)
149H079A	OPH79A Terminal (052H185A)
149H080A	OPH80A (052H185A) 117V
149H081A	OPH81A (052H185A) 220-240V
052H195	LED mounting less parts

SWITCH

001-215	SDG5P-001-1 power 100V
001-216	SDG5P-002-2 power 117V
001-217	SDG5P-502 power 220/240V
001-266	SLR-022-L lever
022H027C	Power transformer 100/117V
022H027D	Power transformer 220/240V

SEMICONDUCTOR

IC

020-160	BA662A or
020-096	BA662B
020-208	LF353 → μPC4558H 変更
020-064	μPC4558
020-1457	HA1457

Transistor

017-036	E-412 (ITS30546) Dual FET
017-016	2SK30A-GR FET
017-119	2SA970-GR
017-155	2SA1015-GR
017-128	2SB596-Y
017-127	2SB647-C
017-106	2SC1815-GR
017-123	2SC2240-GR
017-090	2SD526-Y
017-126	2SD667-C

Diode

018-087	M8555
018-082	W02 rectifier bridge
018-075	RD5.1EB zener
018-090	05Z16L zener
018-050	RD22EB zener
019-028	TLR-124 LED
019-011	P873-G35-380 P.coupler

POTENTIOMETER

026-242	VM10A(EVHCCA)K20B14 D.RANGE
028-508	VM10R(EVHCCA)K15B54 C.OVER
026-274	VM10R(EVHCCA)K20B54 50KB
1321296 026-277	VM10R(EVHCCA)K20B55 500KB
1321213 026-~~272~~ 275	VM10R(EVHCCA)K20B15 100KB
026-322	EWJ-ENBK20B14 10KBx2 w/sw.
030-465	SR19R 10KB trimmer
030-469	SR19R 50KB trimmer

ローランド車着れは ナショナルで注文の事

FUSE. FUSE HOLDER

008-057	Fuse SEMKO T125mA sec. 220/240V
008-053	Fuse SEMKO T50mA prim. 220/240V
008-012	Fuse MGP 0.2A prim. 117V
012-003	Clip TF-758

CAPACITOR

Polyester Film

035-047	ECQ-E10473MV 0.047mfd/1000V 100V
Q35-108	ECQ-U1A473MC 0.047mfd/125AC 117V
035-310	ECQ-E2A473MCS 0.047/1000V 220/240V

Bi-polar

032-190	ECEA50N1 1mfd/50V
032-278	ECEA50N22 22mfd/50V

RESISTOR

044-587	ERG-1ANJ-100 10-ohm 1w
044-586	ERG-1ANJ-101 100-ohm 1w

MISCELLANEOUS

047-040	Line cord strain relief SR-4N-4 100V
047-031	SR-6N3-4 117V
047-003	BU-4801 220/240V
047-023	EA1702B clamp 220/240V
064H074	Holder H74 100V
064H075	Holder H75 220/240V
053H049	Flat cable H49 9-lead 120mm
048-018	Heat sink no.18 (SB-7)
073-037	Poly Carbonate pipe 18mm
123-013	Hexagon socket head bolt 4 x 8mm
042-041	Earth terminal no.41