ORDER NO. SD83062526C9

Service Manual

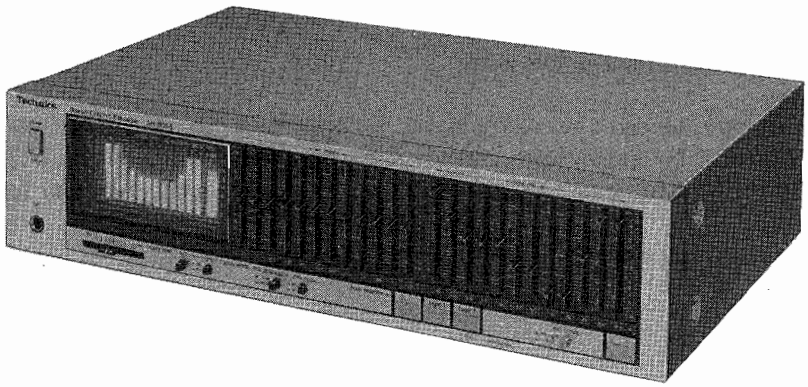
Stereo Graphic Equalizer

SH-8055

[E], [EK], [EF], [EB], [EH], [EGA], [XA], [XL], [PA], [PE], [Ei]

SH-8055 (K)

[E], [EK], [EF], [EB], [EH], [EGA], [XA], [XL]



Areas

* [E] is available in Scandinavia and Switzerland.
* [EK] is available in United Kingdom.
* [EF] is available in France.
* [EB] is available in Belgium.
* [EH] is available in Holland.
* [EGA] is available in F.R. Germany.
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
* [XL] is available in Australia.
* [PA] is available in Far East PX.
* [PE] is available in European Military.
* [Ei] is available in Italy.

* The colors of this model include silver and black.
* The black type model is provided with (K) in the Service Manual.

Specifications

(Specifications are subject to change without notice for further improvement.)

(DIN 45 500)

Frequency response (center position)	: 5 Hz~100 kHz, −1 dB
Maximum output voltage	: 8 V (1 kHz, THD 0.01%)
Rated output vc	V
Rated total harr distortion	003% (20 Hz~20 kHz) 002% (1 kHz)
Input sensitivit	V
Signal-to-noise	)2 dB (110 dB, IHF' A)
Maximum input voltage	V (1 kHz)
Input impedanc	' kΩ
Gain	±1 dB
Channel balanc 250 Hz~6300	0.5 dB
Channel separa 1 kHz	: 70 dB
Band level controls	: +12 dB~−12 dB (12 elements continuously variable per channel)
Center frequency	: 25 Hz, 40 Hz, 63 Hz, 100 Hz, 160 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
Pink noise output voltage	: 50 mV
Compatible microphone sensitivity	: above −74 dBV/μbar (1 kHz)
Microphone attenuator	: −20 dB

GENERAL

Power supply	: AC 110 V/120 V/220 V/240 V, 50 Hz/60 Hz.
Power consumption	: 17 W
Dimensions	: 108×430×270 mm (4-1/4"×16-15/16"×10-5/8")
	: 4.1 kg (9.0 lb)

CONTENTS

	Page
SAFETY PRECAUTION	2
BLOCK DIAGRAM OF FUNCTION	2
LOCATION OF CONTROLS	3
REAL TIME SPECTRUM ANALYZER	3
PINK NOISE	4
HOW TO USE THE REAL TIME SPECTRAM ANALYZER	4
INSTRUCTIONS	6
IENCY RESPONSE	8
:UIT BOARDS	9
T PARTS LIST	15
EW	17
IAGRAM	20
AM	28
IALYZER AND TIMING CHART	30

Technics

Panas
Matsushita Electric
1-2, 1-chome, Shiba-koer

Ltd.
105 Japan

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

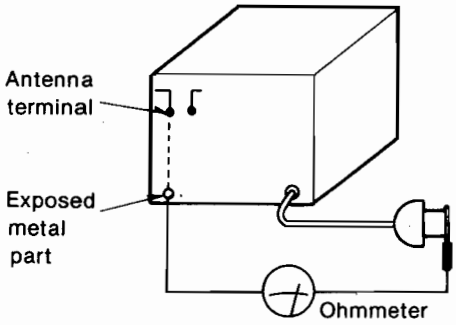
■ SAFETY PRECAUTIONS

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

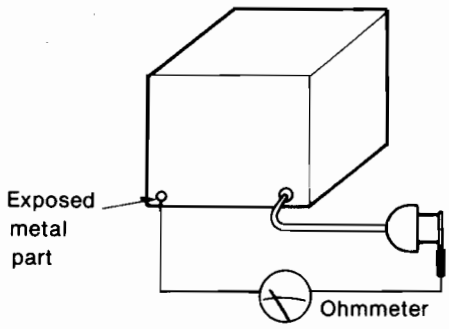
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ

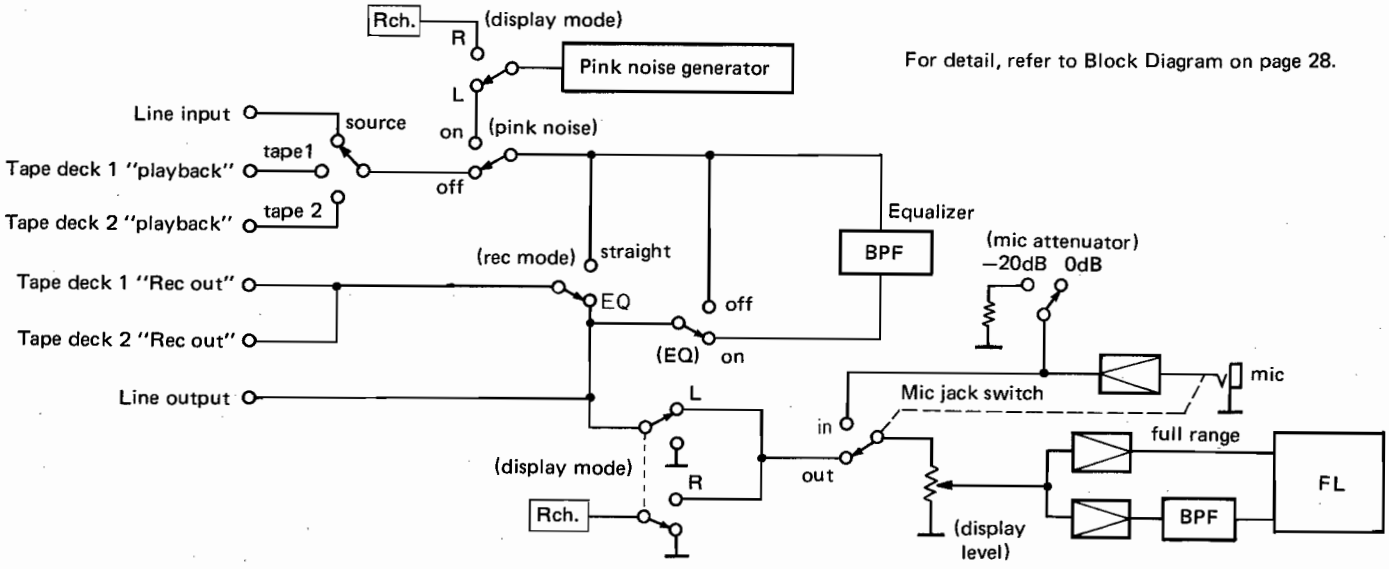


(Fig. B)

Resistance = Approx ∞

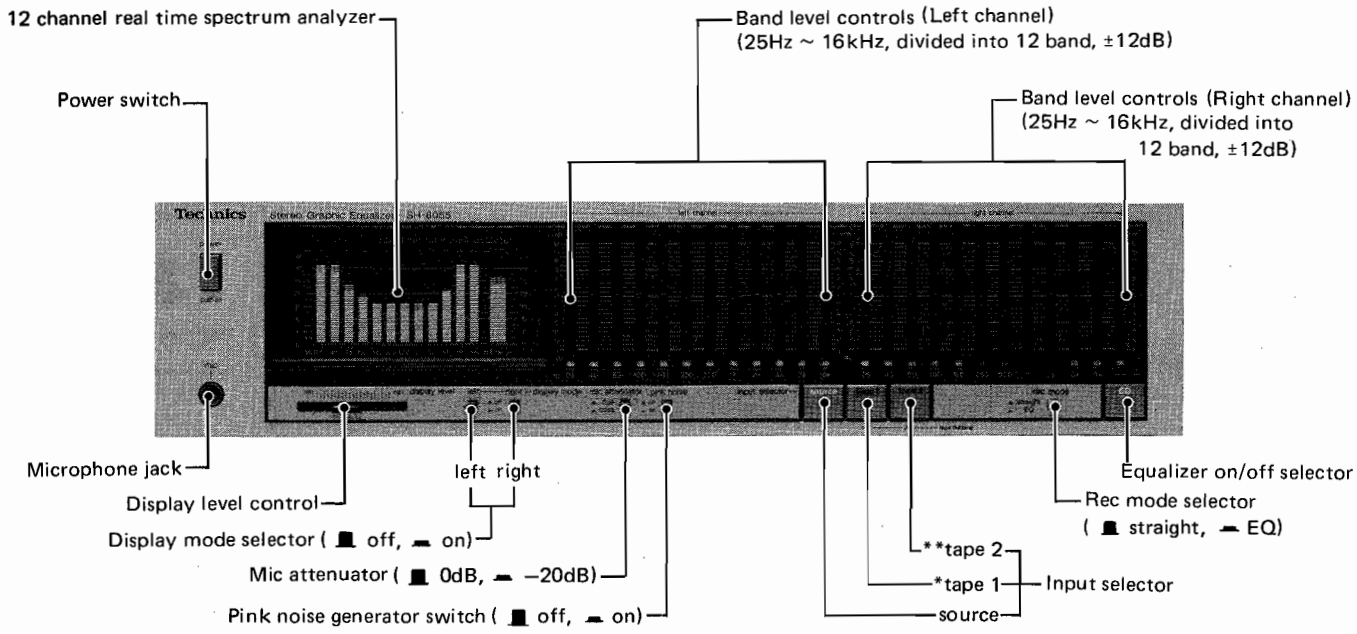
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

■ BLOCK DIAGRAM OF FUNCTION



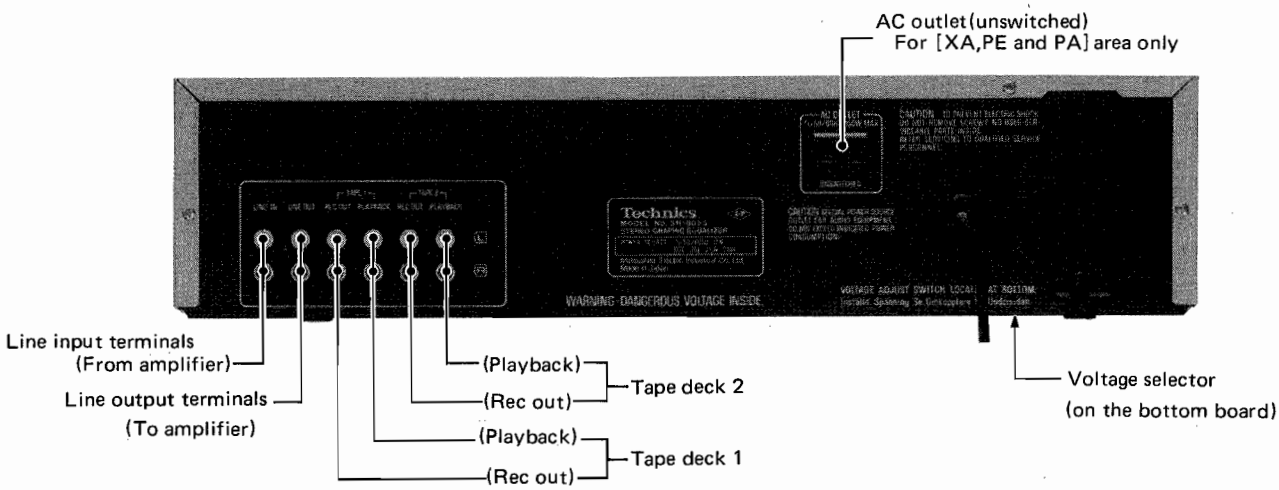
For detail, refer to Block Diagram on page 28.

■ LOCATION OF CONTROLS



*Mic Jack of this unit is not for mixing.

* Dubbing from tape deck 1 to 2 is possible with tape 1 switch.
** Dubbing from tape deck 2 to 1 is possible with tape 2 switch.



- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and the replacement parts list.

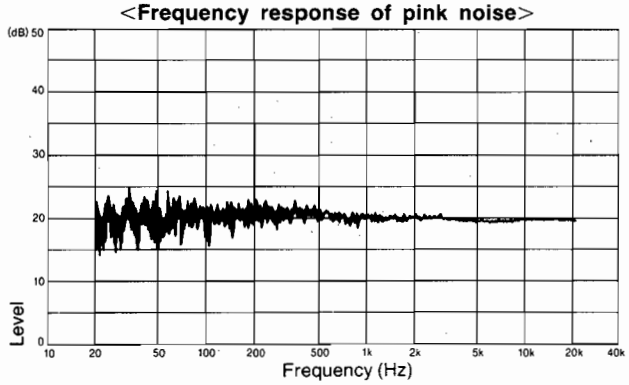
■ REAL TIME SPECTRUM ANALYZER

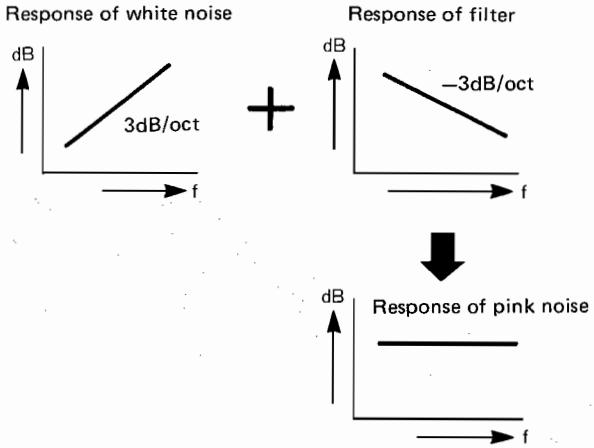
- This can be used to measure and correct the sound field frequency response of a listening room and to measure the frequency components of a sound source.
- The same 12-band frequency divider as for the band level controls allows the levels of the frequency components of voices, music, etc., to be visually displayed.
- The "full range" area on the right side displays the combined level of all of the frequency bands.
- The display is in 12 points for each frequency band and a level width of 30 dB can be displayed.
- The real time spectrum analyzer is connected to the output terminals of this unit. When the equalizer switch is "on", the level of the corrected source is displayed; when pink noise switch is "on", the level of the corrected pink noise is displayed; when the microphone is connected, the microphone input level is displayed.
- The attack time and recovery time of the display is fast for source and slow for pink noise; thus the responsiveness to the source is good and the display is easy to see during sound field correction.

■ PINK NOISE

- Pink noise is used for measurement and correction of the sound field frequency response because it is mostly within the audible range, its energy distribution is uniform, and it has a wide frequency band.
- Because pink noise has large instantaneous level fluctuations, the display may fluctuate.

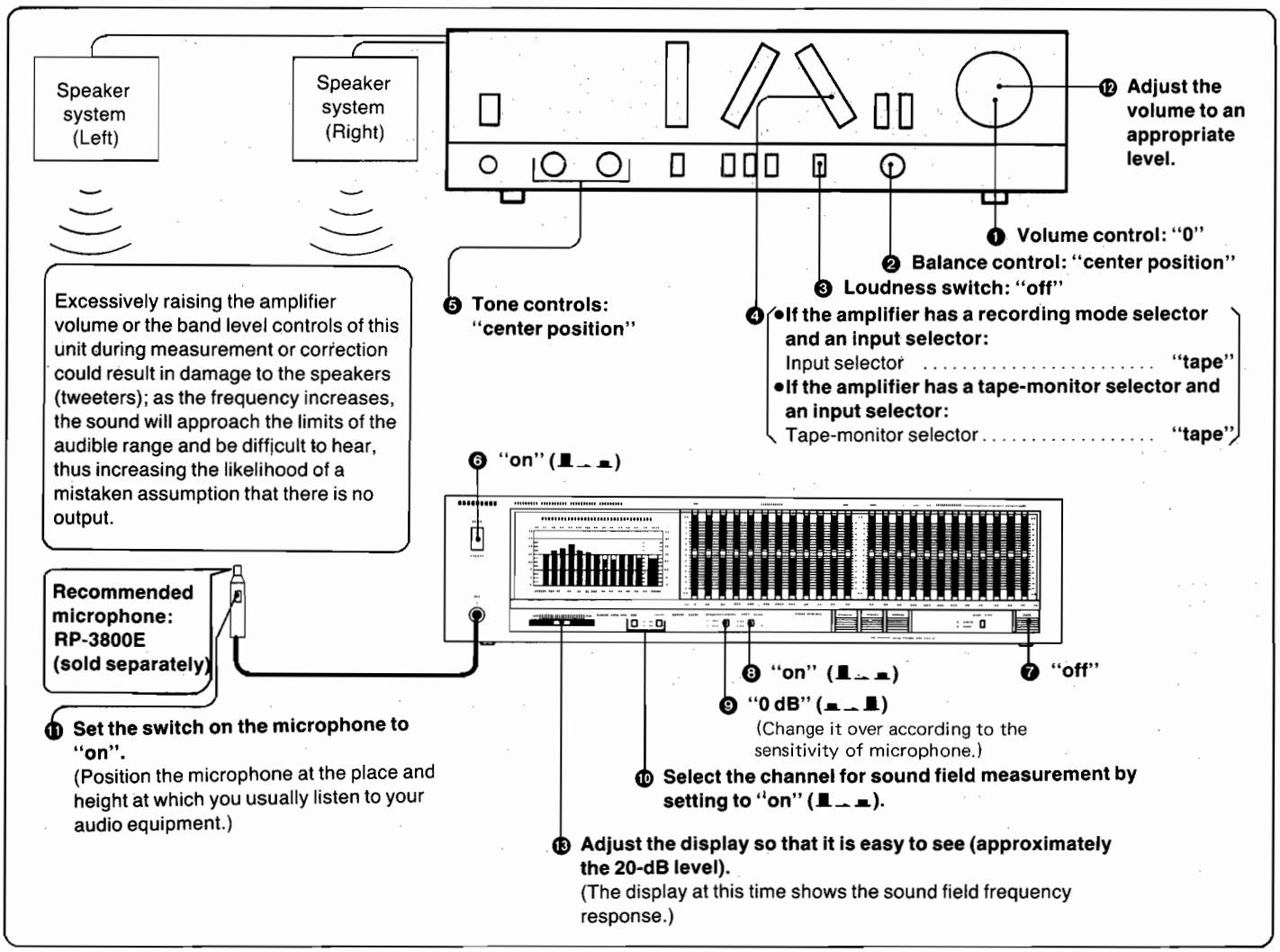
<Frequency response of pink noise>



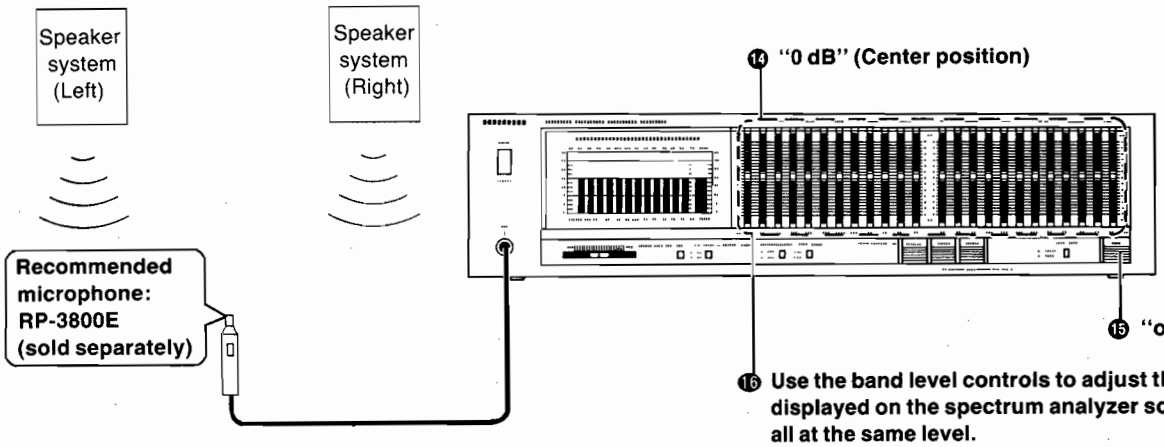


■ HOW TO USE THE REAL-TIME SPECTRUM ANALYZER

- With the sound volume of amplifier set at minimum, the frequency characteristics of sound sources such as human voice, live music and noise can be measured (displayed on spectrum analyzer) through operations in numerical order as shown below.
- As the sound volume of amplifier is increased through operations as shown below, the sound volume of pink noise increases, and then the sound field frequency characteristics can be measured (displayed on spectrum analyzer).



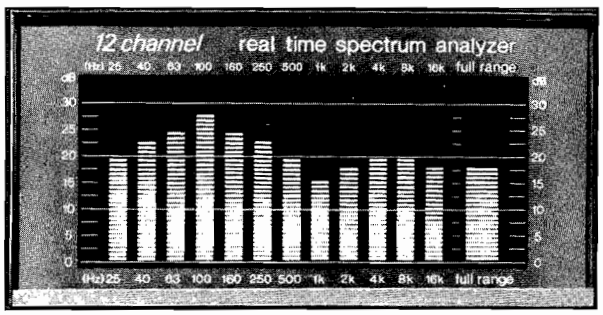
- Correct the sound field in order as shown below according to the data obtained through measurement on page 4.
- Correct is on each of the channels.



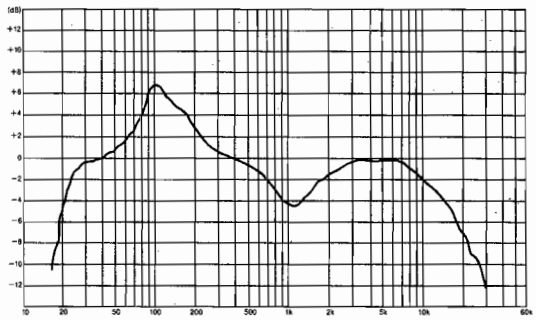
(Position the microphone at the same place and height as it was for the measurement.)

⓰ Use the band level controls to adjust the frequencies displayed on the spectrum analyzer so that they are all at the same level.
Make the adjustment so that the band level controls are centered around the "0 dB" position and are not set too far in either the "+ dB" or "– dB" direction.
(After adjustment, the positions of the band level controls are the ideal listening point.)

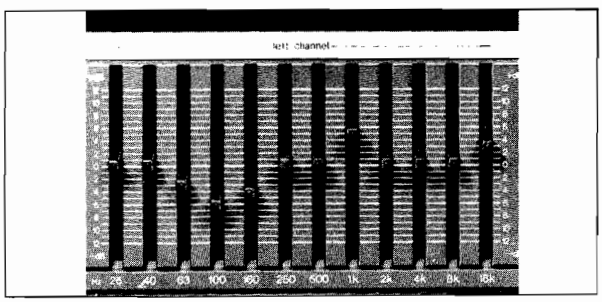
(Example of sound field frequency response obtained through measurement)



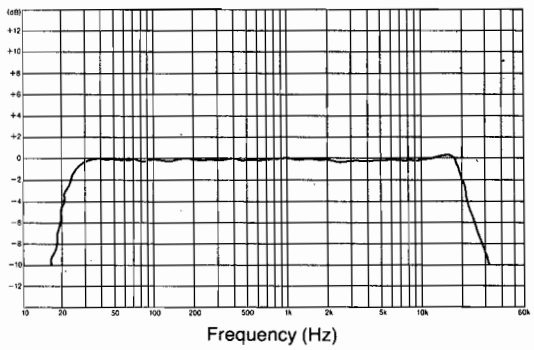
Frequency response prior to correction adjustment



(Position of the band level controls after correction adjustment)



Frequency response after correction adjustment



- Depending on the listening room, it is not always possible to obtain a perfectly flat response for equalization correction.
- When making the correction adjustment, the spectrum analyzer display may not always visually agree with the positions of the band level controls.

<Microphone to be used with this unit>

The microphone that should be used with this unit is the RP-3800E (sold separately). If any other microphone is used, the frequency response displayed on the spectrum analyzer may differ from the actual sound field frequency response.

■ DISASSEMBLY INSTRUCTIONS

1. How to remove the cabinet

1. Remove the screws (**Fig. 1:** ❶ ~ ❼) of the cabinet.
2. Remove the cabinet.

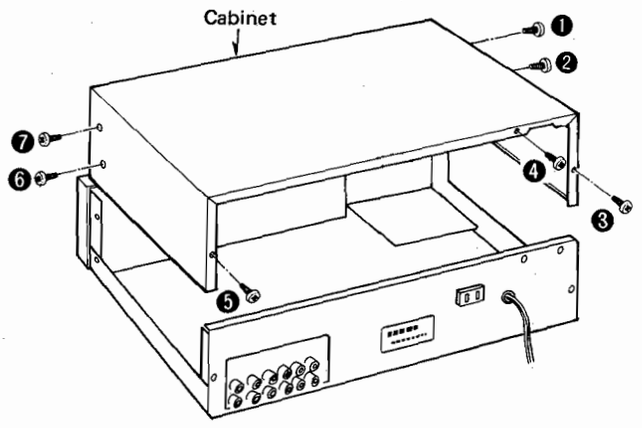


Fig. 1

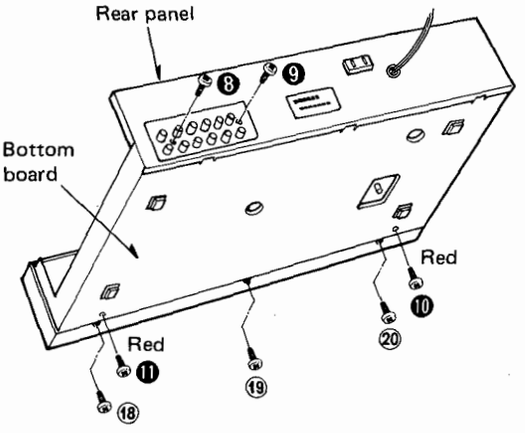
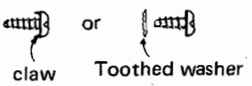


Fig. 2

2. How to remove the printed circuit board

1. Romove the cabinet. (Refer to **"How to remove the cabinet"**)
2. Remove the screws (**Fig. 2:** ❽ ~ ⓫) of the rear panel and the bottom board.
3. Remove the screws (**Fig. 3:** ⓬ ~ ⓮) of the main printed circuit board.
4. Remove the stopper **A** (P.C.B. holder) of the FL printed circuit board. (Refer to **Fig. 4**)

(Note) Claw screws or ordinary screws (3 x 8 mm) and toothed washers should be used for screws ⓬ and ⓮ .



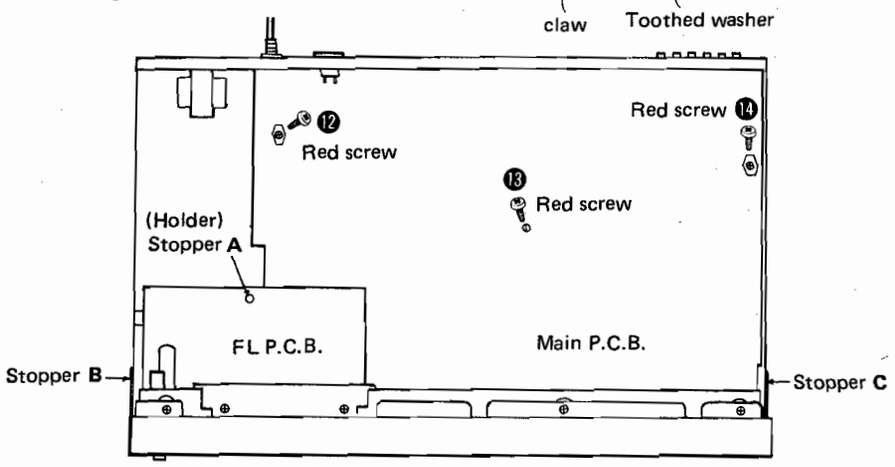


Fig. 3

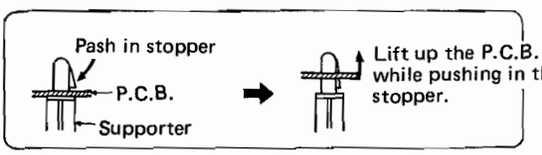


Fig. 4

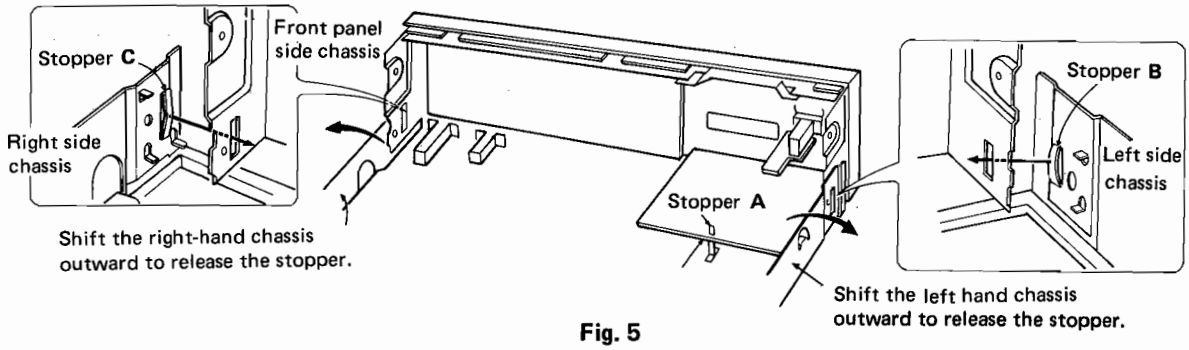


Fig. 5

5. Shift the right and left chassises outward as shown in **Fig. 5** to release the stoppers **B** and **C** out of the chassis holes on the front panel side.
6. Slightly draw out the front panel toward you along with the P.C.B., then raise the chassis as in **Fig. 6** and check.

* When checking the voltage, removing screws ⑫ and ⑭ of **Fig. 3,** touch the ground side of circuit tester rod to the ground line of P.C.B. (power supply circuit terminal (3), etc.) because the chassis is not grounded.

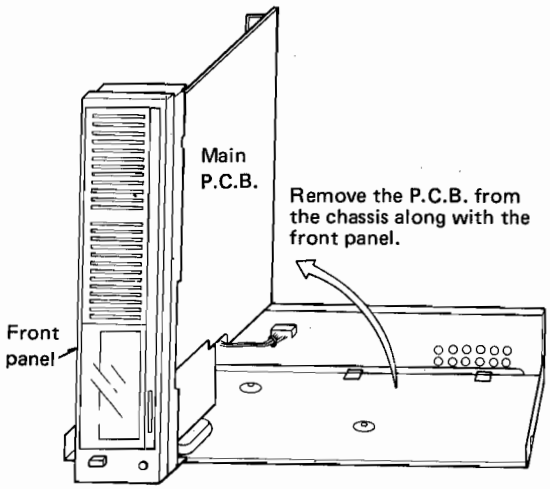


Fig. 6

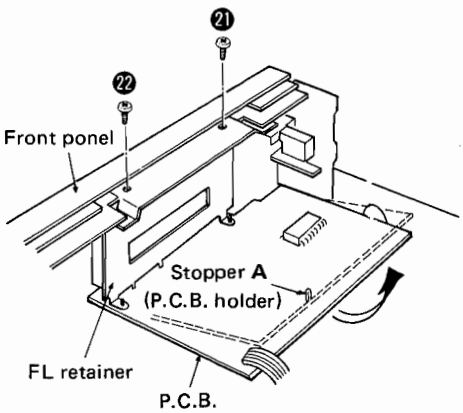


Fig. 7

3. How to remove the FL P.C.B.

1. Remove the cabinet. (See **Fig. 1.**)
2. Remove screws ㉑ and ㉒ as in **Fig. 7.**
3. Remove stopper **A**. (See **Fig. 4.**)
4. Remove P.C.B. together with FL from the chassis in the direction of the arrow in **Fig. 7.**

4. How to remove front panel

1. Remove the cabinet. (See **Fig. 1.**)
2. Remove screws ⑮ ~ ⑳ as in **Fig. 8.** (For screws ⑱ ~ ⑳, See **Fig. 2.**)
3. Remove the front panel from the chassis.
4. Input switch LED P.C.B. and EQ switch LED P.C.B. are fitted to the front panel. Release the claws as in **Fig. 9** to remove the P.C.B. from the front panel.

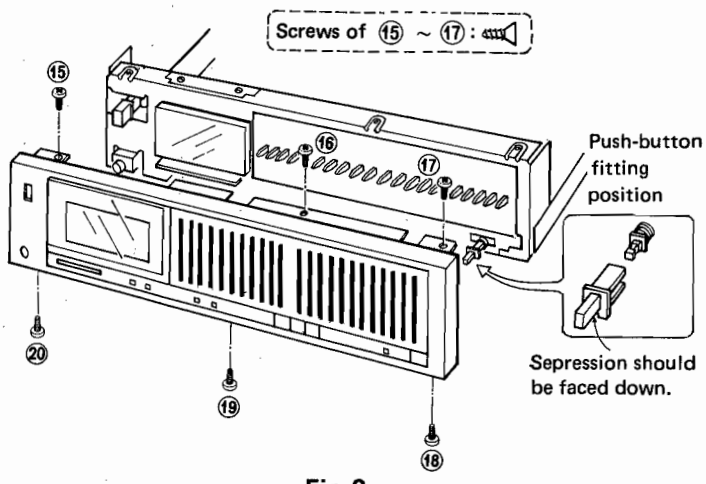


Fig. 8

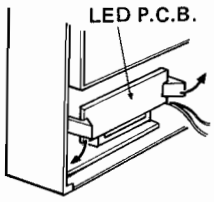


Fig. 9

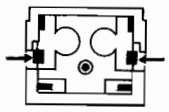


Fig. 10

5. How to remove input select/EQ switch

1. Remove the front panel. (See **Fig. 8.**)
2. Push the claw of the button from the back of front panel in the direction of the arrow as in **Fig. 10** to shift it out toward the front panel.

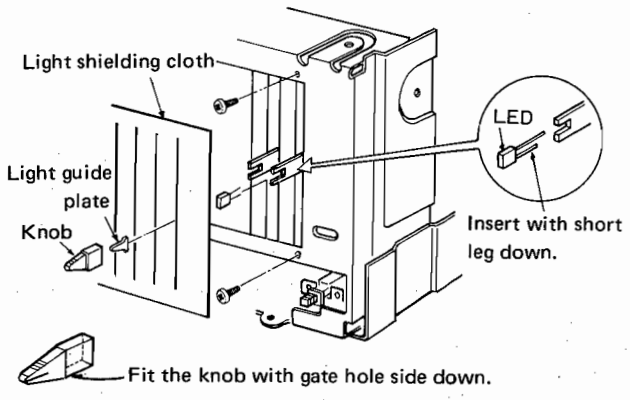


Fig. 11

6. How to remove band level control P.C.B.

1. Remove the front panel. (See **Fig. 8.**)
2. Remove th light shielding cloth as in **Fig. 11.**
3. Remove the 12 screws shown in **Fig. 12** to remove the P.C.B. (It can be removed together with the knobs.)

* The light shielding cloth and control P.C.B. can be removed together with the knobs. When removing the knobs, refer to **Fig. 11.**

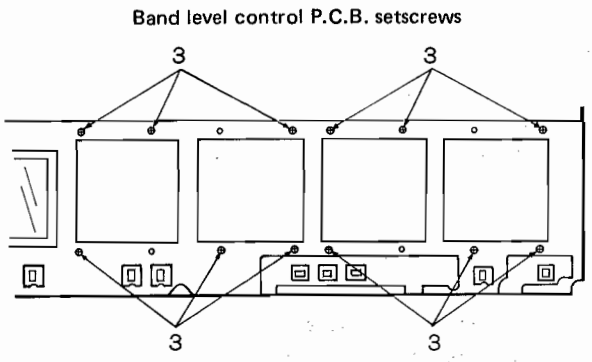
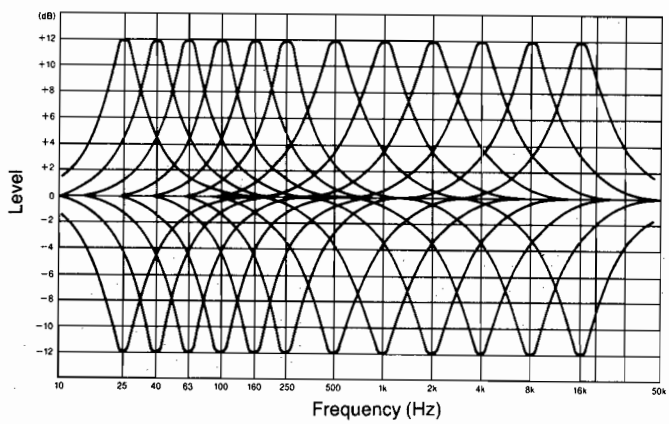


Fig. 12

■ TOTAL FREQUENCY RESPONSE

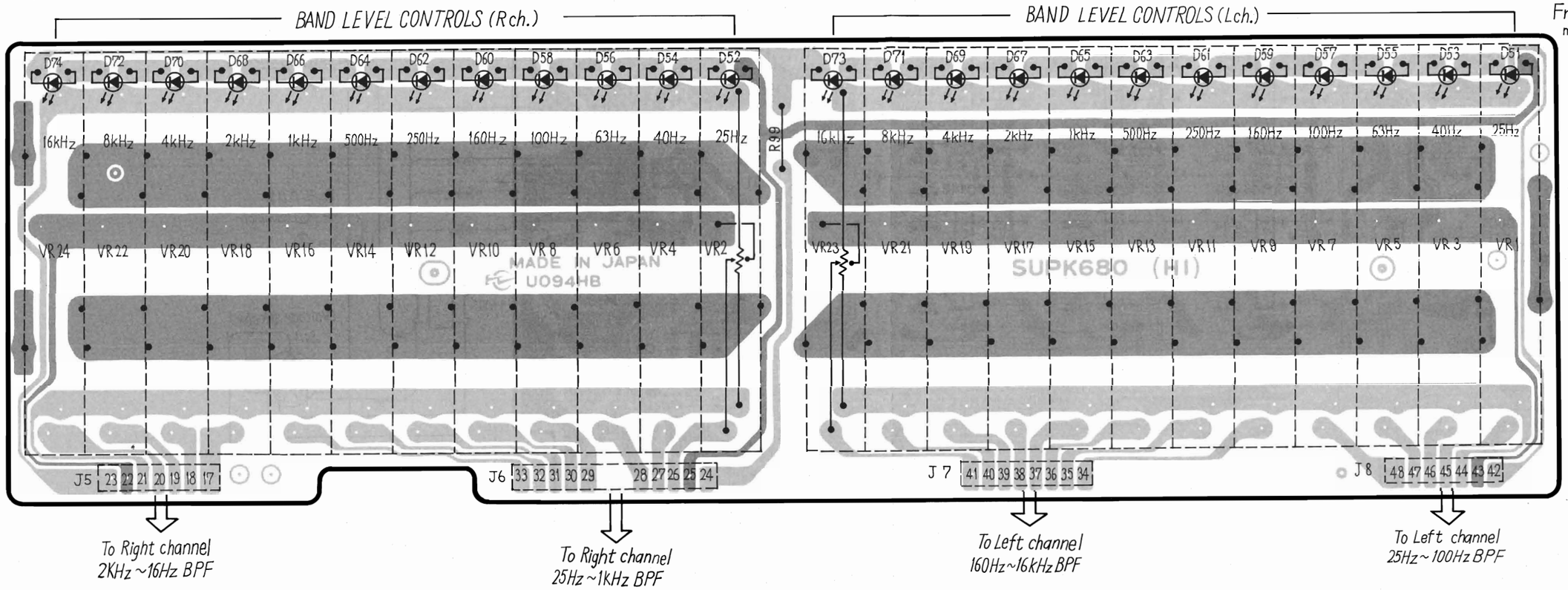
Frequency response (±12 dB position)



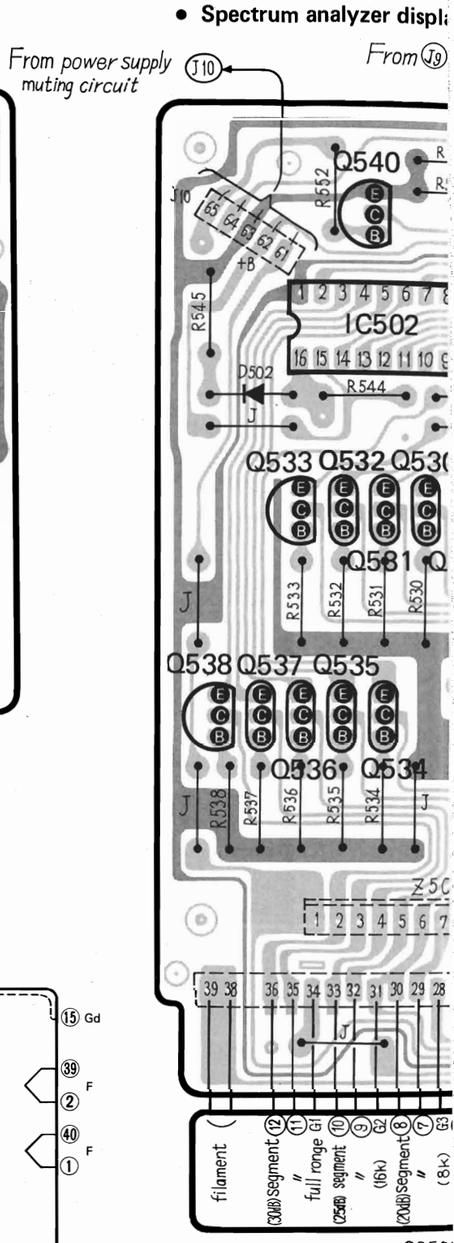
■ PRINTED CIRCUIT BOARDS

- **Band level control P.C.B. of left and right channel**

Ground (Earth) lines



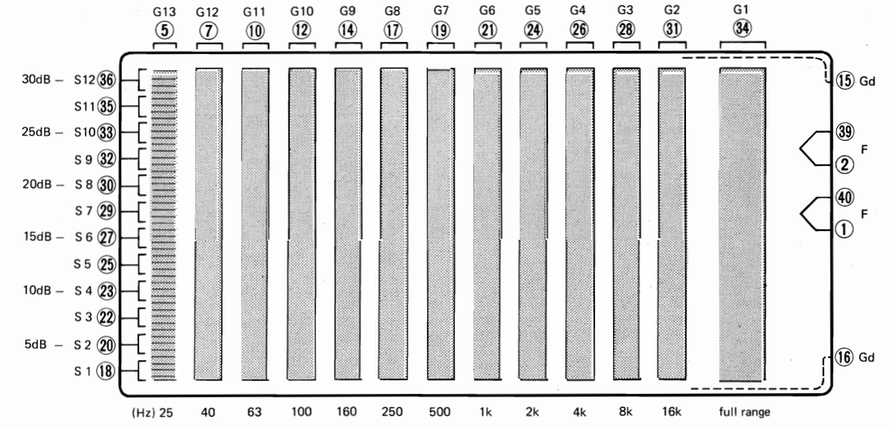
- **Spectrum analyzer displa**



- **Terminal guide of transistors, diodes and IC's**

SVIHA12010 16 pins SVIM54834P 22 pins	2SA564, 2SA921, 2SA1246,2SC1815, 2SC2878	2SB941, 2SD1265	SVINJM2043SE SVITA75559S
AN78N12	SVD1SR35200F	SVD1B4B42	OA90 SVD1S2076
1.Input 2.Ground 3.Output			
MA27–W	LN251RCPP	MA1160	LN41YCPH, LN81RCPH

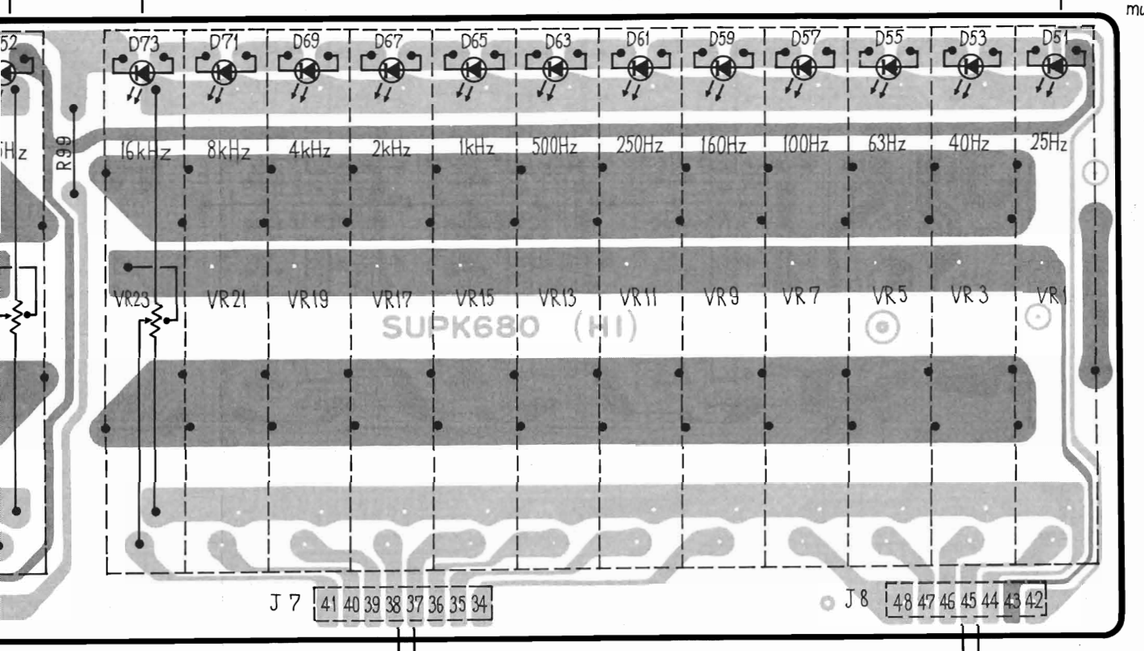
- **Terminal number of FL (Spectrum analyzer)**



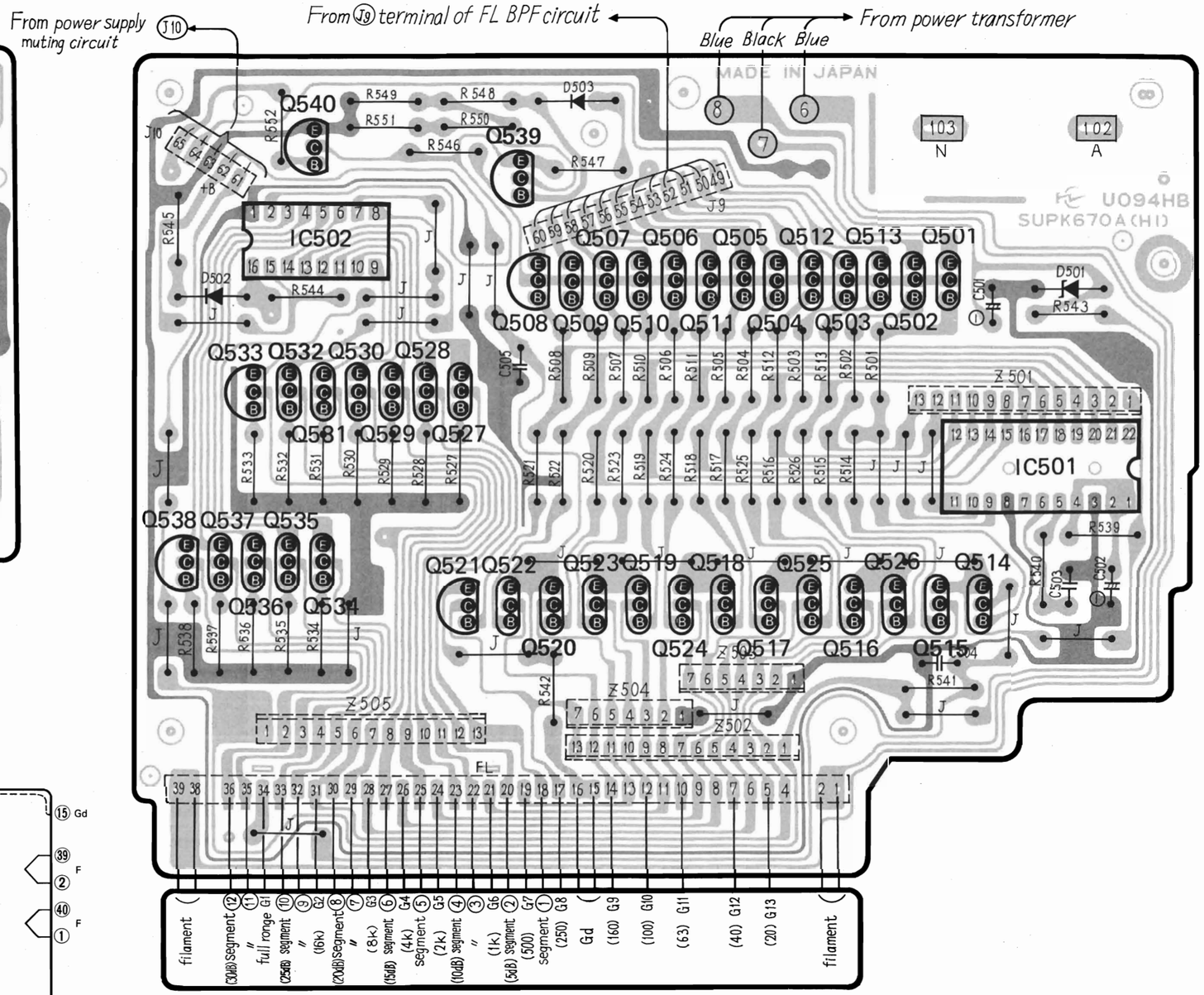
PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
PIN CONNECTION	F	F	Np	Nc	G 13	Nc	G 12	Nc	Nc	G 11	Nc	G 10	Nc	G 9	Gd	Gd	G 8	S 1	G 7	S 2	G 6	S 3	G 5	S 4	G 4	S 5	G 3	S 6	G 2	S 7	G 1	S 8	S 9	S 10	S 11	S 12	Np	F	F

Ground (Earth) lines

BAND LEVEL CONTROLS (Lch.)

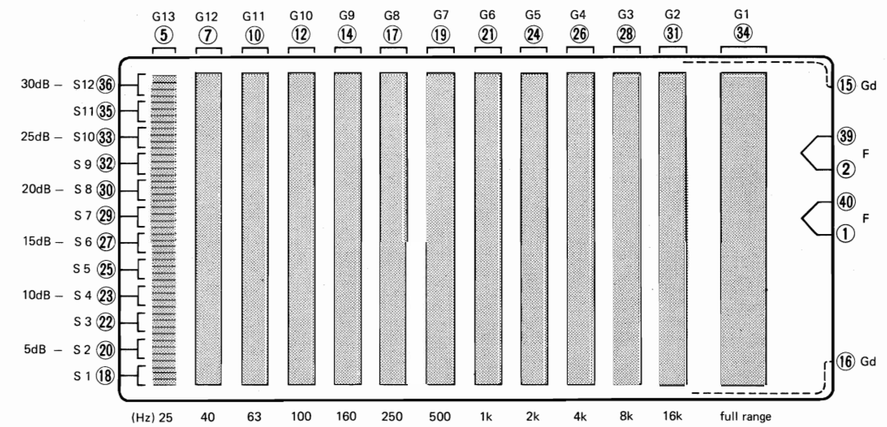


- **Spectrum analyzer display P.C.B.**



SPECTRUM ANALIZER DISPLAY(FL)

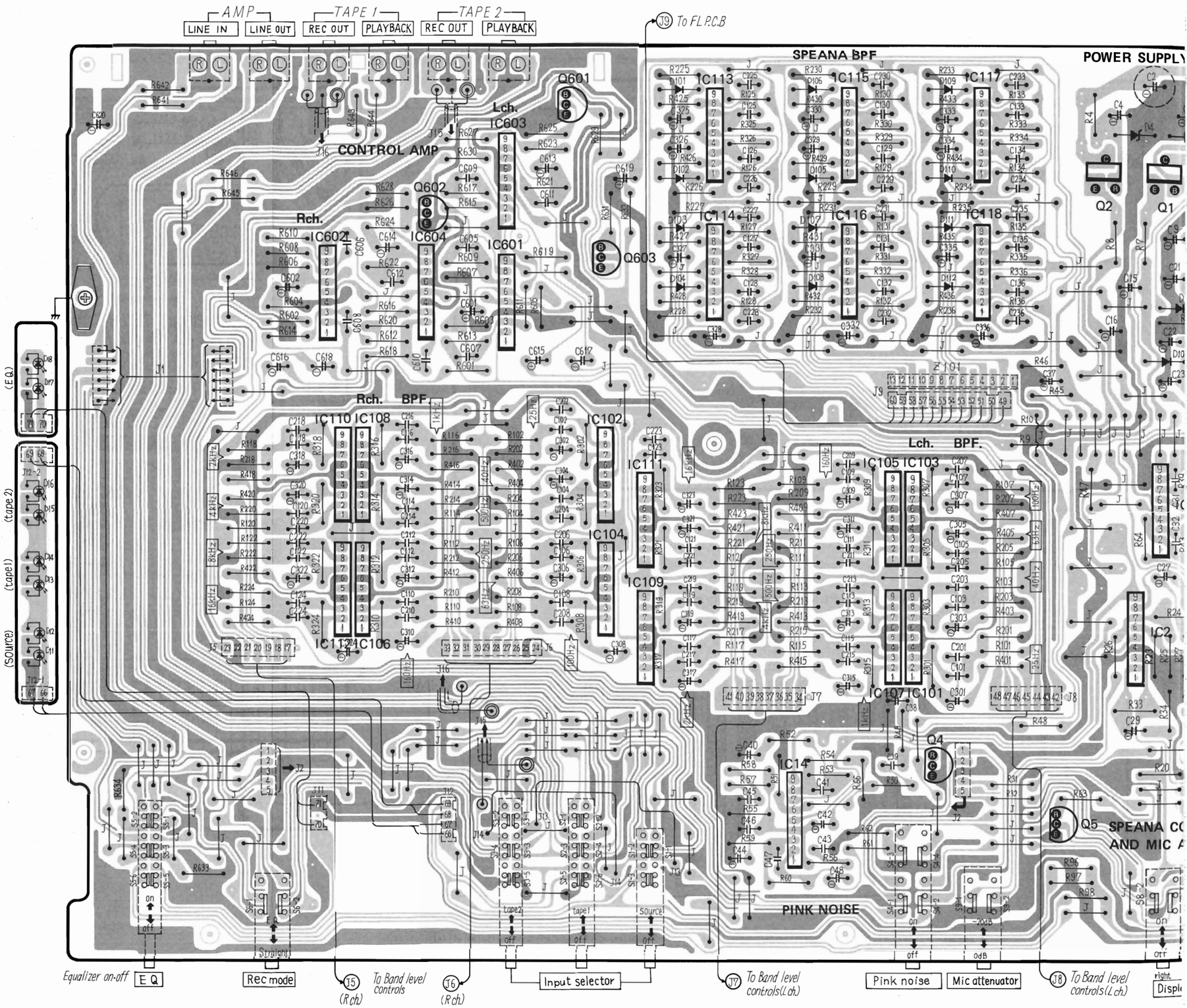
- **Terminal number of FL (Spectrum analyzer)**



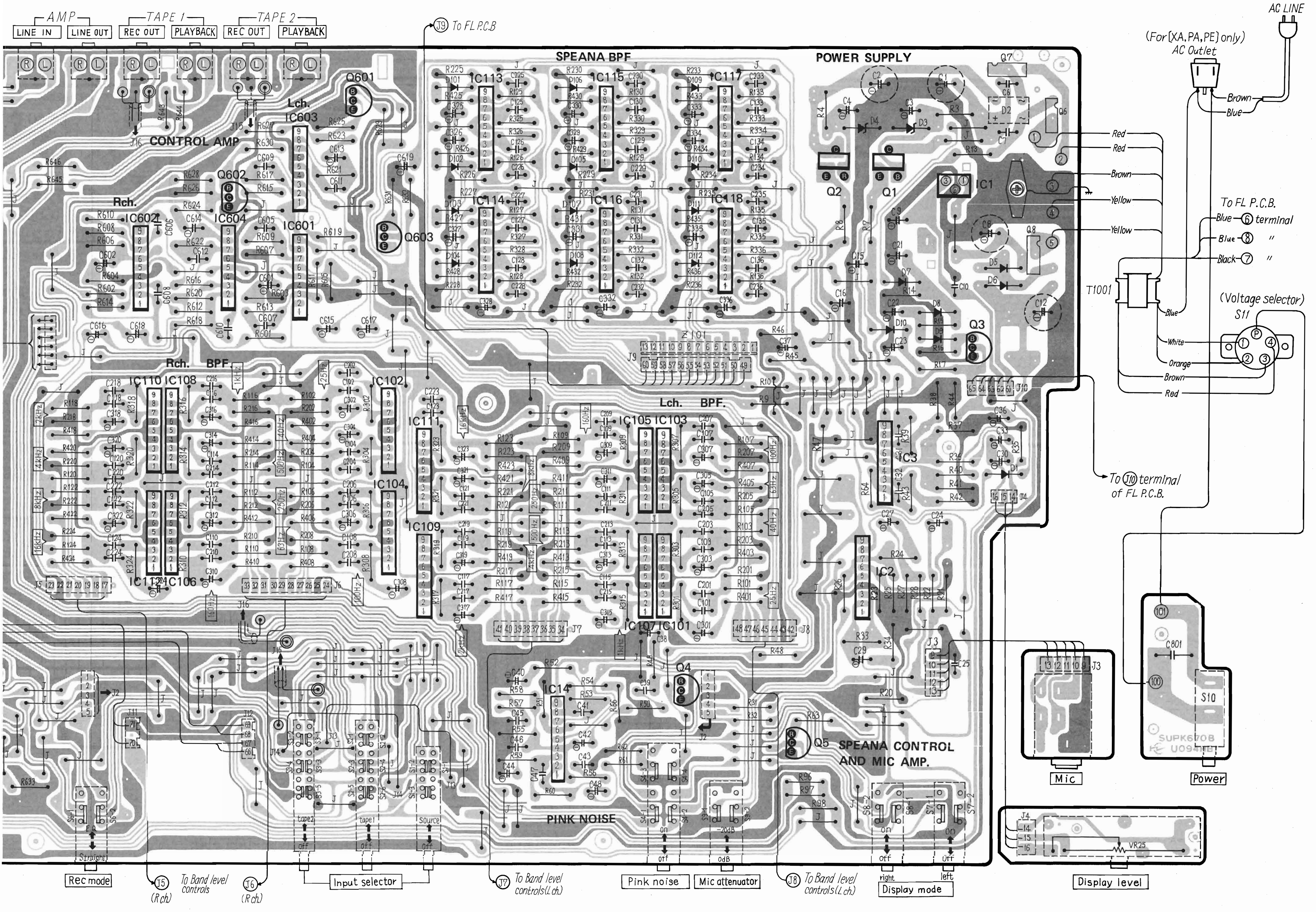
PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
PIN CONNECTION	F	F	Np	Nc	G 13	Nc	G 12	Nc	Nc	G 11	Nc	G 10	Nc	G 9	Gd	Gd	G 8	S 1	G 7	S 2	G 6	S 3	S 4	G 5	S 5	G 4	S 6	G 3	S 7	S 8	G 2	S 9	S 10	G 1	S 11	S 12	Np	F	F

SH-8055

- **Band pass filter, Pink noise generator, Power source and Input/Output control P.C.B.**



AMP
LINE IN
LINE OUT
TAPE 1
REC OUT
PLAYBACK
TAPE 2
REC OUT
PLAYBACK
To FL P.C.B
CONTROL AMP
SPEANA BPF
POWER SUPPLY
Rch. BPF
Lch. BPF.
PINK NOISE
SPEANA CONTROL AND MIC AMP.
AC LINE
(For [XA, PA, PE] only) AC Outlet
Brown
Blue
Red
Red
Brown
Yellow
Yellow
To FL P.C.B.
Blue ⑥ terminal
Blue ⑧ "
Black ⑦ "
T1001
(Voltage selector) S11
Blue
White
Orange
Brown
Red
To ⑩ terminal of FL P.C.B.
Straight
Rec mode
To Band level controls (Rch)
(Rch)
(Rch)
Input selector
To Band level controls (Lch.)
Pink noise
Mic attenuator
To Band level controls (Lch.)
right
left
Display mode
Mic
Power
Display level
13
14


AMP
LINE IN
LINE OUT
TAPE 1
REC OUT
PLAYBACK
TAPE 2
REC OUT
PLAYBACK
J9 To FL P.C.B
SPEANA BPF
POWER SUPPLY
CONTROL AMP
Lch.
Rch.
Rch. BPF
Lch. BPF.
AC LINE
(For [XA, PA, PE] only)
AC Outlet
Brown
Blue
Red
Red
Brown
Yellow
Yellow
To FL P.C.B.
Blue – 6 terminal
Blue – 8 "
Black – 7 "
T1001
(Voltage selector)
S11
White
Orange
Brown
Red
To J10 terminal of FL P.C.B.
SPEANA CONTROL AND MIC AMP.
PINK NOISE
Mic
Power
Rec mode
Straight
J5 (Rch)
To Band level controls
J6 (Rch)
Input selector
tape2
tape1
Source
J7 To Band level controls (L ch)
Pink noise
on
off
Mic attenuator
-20dB
0dB
J8 To Band level controls (L ch)
Display mode
right
left
Display level
VR25
SUPK6708

■ REPLACEMENT PARTS LIST

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Ⓚ —marked parts are used for black only, while ○ —marked parts are for silver type only.
4. Part other than Ⓚ —and ○ —marked are used for both black and silver type.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The " **S** " mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity per set.

Black type model No. : SH-8055(K)

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value
(carbon)	(¼W)		(±5%)	(100Ω)

- The unit of resistance is Ω (ohm), K = 1000Ω, M = 1000kΩ.
- The unit of capacitance is μF (microfarad). P = 10^{-6} μF

Numberring System of Capacitor

Example

ECKD	1H	103	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

Capacitor Type		Voltage				Tolerance
		ECEA type		Others		
ECEA	: Electrolytic	0J	: 6.3V	05	: 50V DC	J : ± 5%
ECCD	: Ceramic	1A	: 10V	1H	: 50V DC	K : ± 10%
ECKD	: Ceramic	1C	: 16V	2H	: 500V DC	Z : +80%, −20%
ECQM	: Ployester	1E	: 25V	KC	: 400V AC	
ECF	: Semi conductor	1V	: 35V			P : +100%, −0%
ECQV	: TF	1H	: 50V			

• Resistors

Ref. No.		Part No.	Value
RESISTORS			
R3,4	⚠ S	ERD25FJ681	680
R7,8	⚠ S	ERD25FJ2R7	2.7
R9,10	⚠ S	ERD25FJ2R7	2.7
R13	S	ERD25FJ332	3.3K
R14	S	ERD25FJ472	4.7K
R15	S	ERD25TJ273	27K
R16	S	ERD25TJ123	12K
R17	S	ERD25TJ123	5.6K
R20	S	ERD25FJ102	1K
R21	S	ERD25FJ472	4.7K
R22	S	ERD25FJ102	1K
R23	S	ERD25TJ153	15K
R24	S	ERD25TJ224	220K
R25	S	ERD25FJ472	4.7K
R26	S	ERD25FJ561	560
R27	S	ERD25TJ104	100K
R28	S	ERD25FJ222	2.2K
R31,32	S	ERD25TJ124	120K
R33	S	ERD25TJ274	270K
R34	S	ERD25TJ104	100K
R35	S	ERD25FJ561	560
R36	S	ERD25FJ102	1K
R37	S	ERD25TJ104	100K
R38	S	ERD25FJ681	680
R39	S	ERD25TJ104	100K
R40,41	S	ERD25FJ102	1K
R42	S	ERD25FJ471	470
R43	S	ERD25TJ124	120K
R44	S	ERD25TJ683	68K
R45	S	ERD25TJ124	120K
R46	S	ERD25FJ822	8.2K
R47	S	ERD25TJ334	330K
R48	S	ERD50FJ181	180
R49	S	ERD25TJ564	560K
R50	S	ERD25TJ334	330K
R51	S	ERD25TJ104	100K
R52	S	ERD25FJ102	1K
R53	S	ERD25TJ104	100K
R54	S	ERD25FJ682	6.8K
R55	S	ERD25TJ104	100K

Ref. No.		Part No.	Value
RESISTORS			
R56	S	ERD25FJ331	330
R57	S	ERD25FJ332	3.3K
R58,59	S	ERD25FJ102	1K
R60	S	ERD25TJ473	47K
R61	S	ERD25FJ102	1K
R62	S	ERD25TJ104	100K
R63	S	ERD25FJ102	1K
R64	S	ERD25FJ182	1.8K
R66	S	ERD25TJ104	100K
R96,97	⚠	ERDS1FJ222	2.2K
R98	⚠	ERDS1FJ182	1.8K
R99	S	ERD25FJ101	100
R101,102	S	ERD25TJ274	270K
R103,104	S	ERD25TJ274	270K
R105,106	S	ERD25TJ274	270K
R107,108	S	ERD25TJ274	270K
R109,110	S	ERD25TJ124	120K
R111,112	S	ERD25TJ124	120K
R113,114	S	ERD25TJ123	12K
R115,116	S	ERD25TJ123	12K
R117,118	S	ERD25FJ103	10K
R119,120	S	ERD25TJ123	12K
R121,122	S	ERD25TJ123	12K
R123,124	S	ERD25FJ103	10K
R125,126	S	ERD25TJ333	33K
R127	S	ERD25TJ333	33K
R128	S	ERD25TJ393	39K
R129	S	ERD25TJ333	33K
R130		ERD25TJ393	39K
R131	S	ERD25TJ333	33K
R132,133	S	ERD25TJ333	33K
R134,135	S	ERD25TJ393	39K
R136	S	ERD25TJ273	27K
R201,202	S	ERD25TJ153	15K
R203,204	S	ERD25TJ153	15K
R205,206	S	ERD25TJ153	15K
R207,208	S	ERD25TJ153	15K
R209,210	S	ERD25FJ682	6.8K
R211,212	S	ERD25FJ682	6.8K
R213,214	S	ERD25FJ222	2.2K

Ref. No.		Part No.	Value
RESISTORS			
R215,216	S	ERD25FJ222	2.2K
R217,218	S	ERD25FJ222	2.2K
R219,220	S	ERD25FJ222	2.2K
R221,222	S	ERD25FJ222	2.2K
R223,224	S	ERD25FJ222	2.2K
R225,226	S	ERD25FJ222	2.2K
R227	S	ERD25FJ222	2.2K
R228	S	ERD25FJ182	1.8K
R229,230	S	ERD25FJ222	2.2K
R231,232	S	ERD25FJ222	2.2K
R233,234	S	ERD25FJ222	2.2K
R235,236	S	ERD25FJ222	2.2K
R301,302	S	ERD25TJ564	560K
R303,304	S	ERD25TJ564	560K
R305,306	S	ERD25TJ564	560K
R307,308	S	ERD25TJ564	560K
R309,310	S	ERD25TJ224	220K
R311,312	S	ERD25TJ224	220K
R313,314	S	ERD25TJ223	22K
R315,316	S	ERD25TJ223	22K
R317,318	S	ERD25TJ223	22K
R319,320	S	ERD25TJ223	22K
R321,322	S	ERD25TJ223	22K
R323,324	S	ERD25TJ223	22K
R325,326	S	ERD25TJ274	270K
R327	S	ERD25TJ224	220K
R328	S	ERD25TJ274	270K
R329	S	ERD25TJ224	220K
R330	S	ERD25TJ274	270K
R331	S	ERD25TJ224	220K
R332	S	ERD25TJ274	270K
R333,334	S	ERD25TJ224	220K
R335,336	S	ERD25TJ224	220K
R401,402	S	ERD25FJ152	1.5K
R403,404	S	ERD25FJ152	1.5K
R405,406	S	ERD25FJ152	1.5K
R407,408	S	ERD25FJ152	1.5K
R409,410	S	ERD25FJ152	1.5K
R411,412	S	ERD25FJ152	1.5K
R413,414	S	ERD25FJ152	1.5K

Ref. No.		Part No.	Value
RESISTORS			
R415,416	S	ERD25FJ152	1.5K
R417,418	S	ERD25FJ152	1.5K
R419,420	S	ERD25FJ152	1.5K
R421,422	S	ERD25FJ152	1.5K
R423,424	S	ERD25FJ152	1.5K
R425,426	S	ERD25FJ182	1.8K
R427	S	ERD25FJ182	1.8K
R428,429	S	ERD25FJ272	2.7K
R430,431	S	ERD25FJ272	2.7K
R432	S	ERD25FJ272	2.7K
R433	S	ERD25FJ152	1.5K
R434	S	ERD25FJ821	820
R435	S	ERD25FJ681	680
R436	S	ERD25FJ821	820
R501,502	S	ERD25FJ472	4.7K
R503,504	S	ERD25FJ472	4.7K
R505,506	S	ERD25FJ472	4.7K
R507,508	S	ERD25FJ472	4.7K
R509,510	S	ERD25FJ472	4.7K
R511,512	S	ERD25FJ472	4.7K
R513,514	S	ERD25FJ472	4.7K
R515,516	S	ERD25FJ472	4.7K
R517,518	S	ERD25FJ472	4.7K
R519,520	S	ERD25FJ472	4.7K
R521,522	S	ERD25FJ472	4.7K
R523,524	S	ERD25FJ472	4.7K
R525,526	S	ERD25FJ472	4.7K
R527,528	S	ERD25FJ103	10K
R529,530	S	ERD25FJ103	10K
R531,532	S	ERD25FJ103	10K
R533,534	S	ERD25FJ103	10K
R535,536	S	ERD25FJ103	10K
R537,538	S	ERD25FJ103	10K
R539	S	ERD25FJ471	470
R540	S	ERD25TJ333	33K
R541	S	ERD25TJ104	100K
R542	S	ERD25FJ103	10K
R543	⚠ S	ERD25FJ471	470
R544	S	ERD25FJ472	4.7K
R545	S	ERD25FJ150	15

• Resistors

Ref. No.		Part No.	Value
RESISTORS			
R546	S	ERD25TJ123	12K
R547	S	ERD25TJ273	27K
R548	S	ERD25TJ823	82K
R549	S	ERD25TJ223	22K
R550	S	ERD25TJ473	47K
R551	S	ERD25FJ103	10K
R552	S	ERD25FJ472	4.7K

Ref. No.		Part No.	Value
RESISTORS			
R601,602	S	ERD25FJ102	1K
R603,604	S	ERD25TJ683	68K
R605,606	S	ERD25TJ104	100K
R607,608	S	ERD25TJ104	100K
R609,610	S	ERD25FJ682	6.8K
R611,612	S	ERD25FJ103	10K
R613,614	S	ERD25FJ103	10K

Ref. No.		Part No.	Value
RESISTORS			
R615,616	S	ERD25FJ472	4.7K
R617,618	S	ERD25FJ472	4.7K
R619,620	S	ERD25FJ472	4.7K
R621,622	S	ERD25FJ472	4.7K
R623,624	S	ERD25FJ222	2.2K
R625,626	S	ERD25TJ104	100K
R627,628	S	ERD25FJ181	180

Ref. No.		Part No.	Value
RESISTORS			
R629,630	S	ERD25FJ102	1K
R631	S	ERD25FJ103	10K
R632	S	ERD25TJ224	220K
R633,634	S	ERD25TJ104	100K
R641～646	S	ERD25FJ152	1.5K

• Capacitors

Ref. No.		Part No.	Value
CAPACITORS			
C1,2		ECEA1EU471	470
C3,4		ECEA1EU101	100
C5,6	S	ECKD1H223ZF	0.022
C8		ECEA1VU221	220
C9		ECEA1CU470	47
C10	S	ECKD1H223ZF	0.022
C12		ECEA1VU221	220
C15,16		ECEA1EU470	47
C21		ECEA1HU010	1
C22		ECEA0JU101	100
C23		ECEA1EU101	100
C24		ECEA1EU3R3	3.3
C25		ECFTD332KXL	0.0033
C27		ECEA1EU3R3	3.3
C29,30		ECEA1EU4R7	4.7
C31	S	ECCD1H220K	22P
C32	S	ECCD1H330K	33P
C33		ECEA1EU4R7	4.7
C36		ECEA1CU100	10
C37		ECEA0JU101	100
C38		ECEA1CU470	47
C39		ECFTD683KXL	0.068
C40		ECEA1AU470	47
C41	S	ECCD1H100KC	10P
C42		ECEA1CU470	47
C43		ECFTD823KXL	0.082
C44		ECEA1HU010	1
C45		ECQV05184JZ	0.18
C46		ECFTD333KXL	0.033

Ref. No.		Part No.	Value
CAPACITORS			
C47	S	ECCD1H100KC	10P
C48		ECEA1EU4R7	4.7
C101,102		ECFTD683KXL	0.068
C103,104		ECFTD473KXL	0.047
C105,106		ECFTD333KXL	0.033
C107,108		ECFTD183KXL	0.018
C109,110		ECFTD273KXL	0.027
C111,112		ECFTD183KXL	0.018
C113,114		ECFTD563KXL	0.056
C115,116		ECFTD273KXL	0.027
C117,118		ECFTD123KXL	0.012
C119,120		ECFTD682KXL	0.0068
C121,122		ECFTD332KXL	0.0033
C123,124		ECFTD152KXL	0.0015
C125		ECQM1H274JZ	0.27
C126		ECQM1H184JZ	0.18
C127		ECQV05124JZ	0.12
C128		ECFTD823KXL	0.082
C129		ECFTD473KXL	0.047
C130		ECFTD273KXL	0.027
C131		ECFTD153KXL	0.015
C132		ECFTD682KXL	0.0068
C133		ECFTD392KXL	0.0039
C134		ECFTD222KXL	0.0022
C135		ECFTD102KXL	0.001
C136	S	ECKD1H471KB	470P
C201,202		ECFTD683KXL	0.068
C203,204		ECFTD473KXL	0.047
C205,206		ECFTD273KXL	0.027

Ref. No.		Part No.	Value
CAPACITORS			
C207,208		ECFTD183KXL	0.018
C209,210		ECFTD273KXL	0.027
C211,212		ECFTD153KXL	0.015
C213,214		ECFTD473KXL	0.047
C215,216		ECFTD223KXL	0.022
C217,218		ECFTD153KXL	0.015
C219,220		ECFTD562KXL	0.0056
C221,222		ECFTD272KXL	0.0027
C223,224		ECFTD182KXL	0.0018
C225		ECQM1H274JZ	0.27
C226		ECQM1H184JZ	0.18
C227		ECQV05124JZ	0.12
C228		ECFTD683KXL	0.068
C229		ECFTD473KXL	0.047
C230		ECFTD273KXL	0.027
C231		ECFTD153KXL	0.015
C232		ECFTD682KXL	0.0068
C233		ECFTD392KXL	0.0039
C234		ECFTD182KXL	0.0018
C235	S	ECKD1H821KB	820P
C236	S	ECKD1H471KB	470P
C301,302		ECEA1EU470	47
C303,304		ECEA1EU470	47
C305,306		ECEA1EU470	47
C307,308		ECEA1EU470	47
C309,310		ECEA1EU470	47
C311,312		ECEA1EU100	10
C313,314		ECEA1EU100	10
C315,316		ECEA1EU100	10

Ref. No.		Part No.	Value
CAPACITORS			
C317,318		ECEA1HU010	1
C319,320		ECEA1HU010	1
C321,322		ECEA1HU010	1
C323,324		ECEA1HU010	1
C325		ECEA1AU470	47
C326,327		ECEA1AU330	33
C328,329		ECEA1CU220	22
C330		ECEA1CU220	22
C331,332		ECEA1CU100	10
C333,334		ECEA1CU100	10
C335,336		ECEA1CU100	10
C501		ECEA1EU470	47
C502		ECEA1AU101	100
C503	S	ECKD1H561KB	560P
C504	S	ECKD1H221KB	220P
C505	S	ECKD1H223ZF	0.022
C601,602		ECEA1EU4R7	4.7
C605,606	S	ECCD1H220K	22P
C607,608	S	ECCD1H220K	22P
C609,610	S	ECCD1H470K	47P
C611,612	S	ECCD1H330K	33P
C613,614		ECEA1EU100	10
C615,616		ECEA1EU221	220
C617,618		ECEA1EU221	220
C619		ECEA1CU100	10
C620		ECEA0JU101	100
C801	⚠	ECKDKC103PF2	0.01

• Electronic parts

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC1	AN78N12	12V Regulator
IC2～4,101～118	SVITA75559S	Ope Amp, BPF
IC501	SVIM54834	14CH, Selector
IC502	SVIHA12010	FL Driver
IC601,602	SVITA75559S	Buffer
IC603,604	SVINJM2043SE	Inverter
TRANSISTORS		
Q1	2SD1265−P	Regulator
Q2	2SB941−P	Regulator
Q3	2SC1815L−G	Muting
Q4	2SA921−T	White Noise
Q5,601,602	2SC2878A−T	Muting
Q501～513	2SA1246T−A	Sampling Gate
Q514～526	2SA1015−Y	Inverter
Q527～539,603 S	2SA722−S	Inverter, Buffer
Q540	2SC2878A−T	Muting
IC PROTECTORS		
Q6～8	SVIICPF10	1A, 0.2Ω

Ref. No.	Part No.	Description
DIODES		
D1,7,8,10, 101～112	SVD1S2076A	Switching
D2 ⚠	SVD1B4B42	Rectifire
D3,4	SVDRD16EB	16V Zener
D5,6 ⚠	SVD1SR35200F	Rectifire
D9	MA27W−A	Bias
D11～16	LN41YCPH	LED, Input Selector
D17,18	LN81RCPH	LED, EQ
D51～74	LN251RCPP	LED, Level Controll
D501	MA1200	20V Zener
D502	SVD1S2076A	Bias
D503 S	2OA90	Bias
COMPONENT COMBINATIONS		
Z101,502	RGSD12X104K	100kΩ×12
Z501	RGSD12X472K	4.7kΩ×12
Z503,504	PJB6XC221K	220pF×6
Z505	RGHD12X562K	5.6kΩ×12

Ref. No.	Part No.	Description
POWER TRANSFORMER		
T1001 ⚠	SLTK5V3−W	Power Source
VARIABLE RESISTORS		
VR1～24	EVAJN2J15G25	Band Level Controll
VR25	EWANH0C15B24	Display Level
FLUORESCENT DISPLAY TUBE		
FL	SADBG188Z	Spectrum analyzer
SWITCHES		
S1～3	SSHK37	Input Selector
S4,9	SSHK38	Pink Noise, Mic ATT
S5	SSHK35	Equalizer, on-off
S6	SSHK36	Rec Mode
S7,8	SSHK39	Display Mode
S10 ⚠	SSH1057	Power Source
S11 ⚠	ESE3787	Voltage Selector

• Cabinet an

Ref. No.		
CABINET and Cl		
1	○	SG
1	Ⓚ	SG
2	○	SD
2	Ⓚ	SD
3	○	SG
3	Ⓚ	SG
4	○	SG
4	Ⓚ	SG
5	○	SG
5	Ⓚ	SG
6	○	SG
6	Ⓚ	SG
7		SJ
8	○	SB
8	Ⓚ	SB
9		SU
10	○	SB
10	Ⓚ	SB
11		SB
12		SB
13		SB
14		SG
15		SH
16		SK
16−1		SH
17		SJ
18(E)		SG
18(XA, PA, PE)		SG
18(other)		SG
19(EK)	⚠	QF
19(PA, PE)	⚠	RJ
19(XL)	⚠	QF
19(other)	⚠	SJ
20(XA, PA, PE) only	⚠	SJ
21		SU
22		SB
23		SB
24		SB
25		SB
26	○	SK
26	Ⓚ	SK
27		SB
28		SU
29		SM
30(EK)		SH
30(other)		SH
31		SH

o.	Value
2	1K
3	10K
4	220K
4	100K
52	1.5K

o.	Value
10	1
10	1
10	1
10	1
70	47
30	33
20	22
20	22
00	10
00	10
00	10
70	47
01	100
1KB	560P
1KB	220P
3ZF	0.022
R7	4.7
0K	22P
0K	22P
0K	47P
0K	33P
00	10
21	220
21	220
00	10
01	100
3PF2	0.01

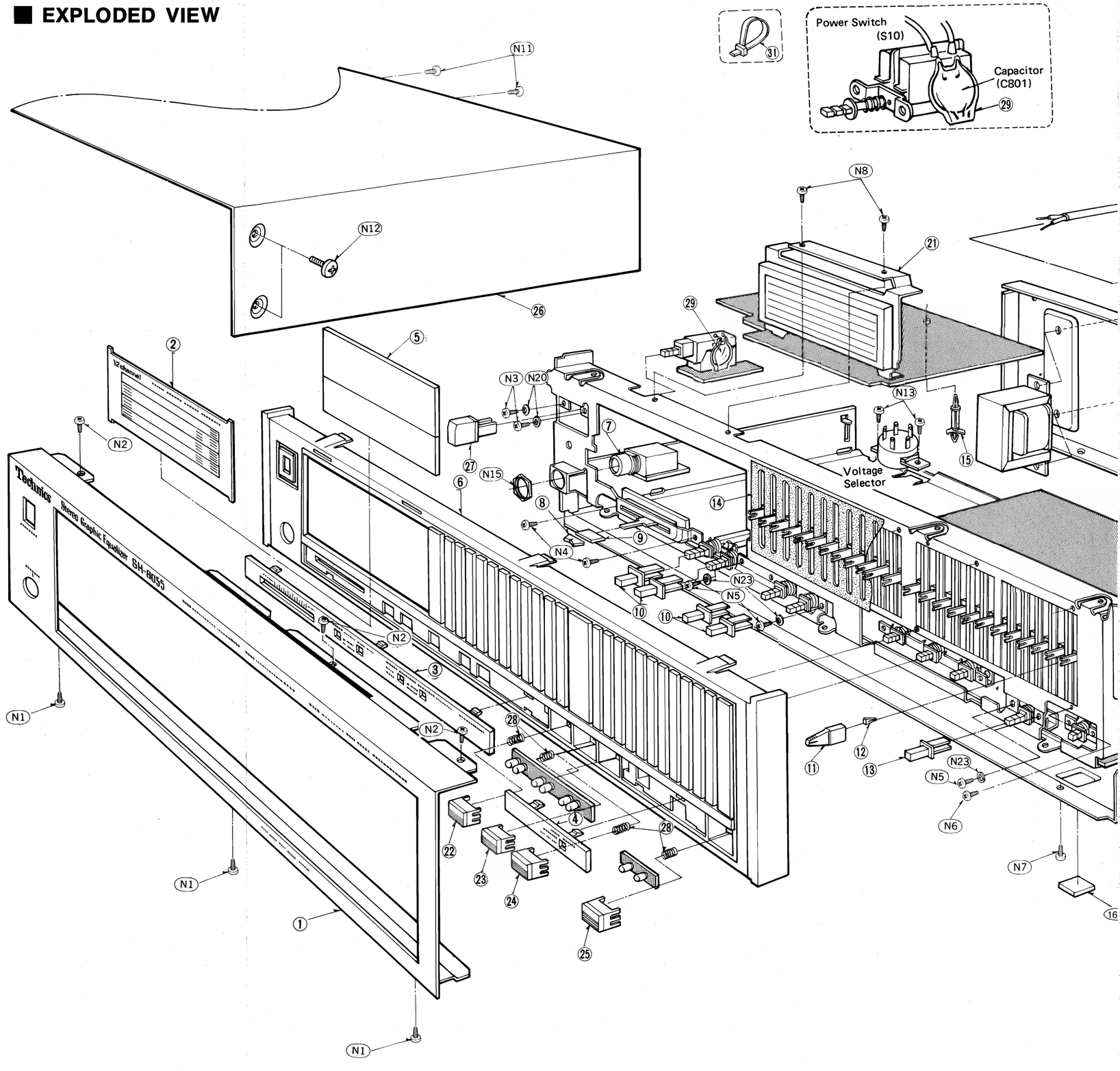
escription
r Source
Level
oll
ay Level
rum analyzer
Selector
Noise, Mic
izer, on-off
Mode
ay Mode
r Source
ge Selector

• Cabinet and Chassis parts

Ref. No.		Part No.	Description
CABINET and CHASSIS PARTS			
1	○	SGWK210PA	Front Panel (Silver) (1)
1	Ⓚ	SGWK210BA	Front Panel (Black) (1)
2	○	SDUK8	Dial Plate(Silver) (1)
2	Ⓚ	SDUK8−1	Dial Plate(Black) (1)
3	○	SGXK75	Ornament Cover (Silver) (1)
3	Ⓚ	SGXK75−1	Ornament Cover (Black) (1)
4	○	SGXK76	Ornament Cover (Silver) (1)
4	Ⓚ	SGXK76−1	Ornament Cover (Black) (1)
5	○	SGUK10	Transparent Plate (Silver) (1)
5	Ⓚ	SGUK10−1	Transparent Plate (Black) (1)
6	○	SGXK74	Sub Front Panel (Silver) (1)
6	Ⓚ	SGXK74−1	Sub Front Panel (Black) (1)
7		SJJK22	Jack, Headphone(1)
8	○	SBD69−3K	Button, Display Level(Silver) (1)
8	Ⓚ	SBD69−1	Button, Display Level(Black) (1)
9		SUBK9	Connection Rod (1)
10	○	SBC475−1	Button(Silver) (4)
10	Ⓚ	SBC475	Button(Black) (4)
11		SBDK9	Button (24)
12		SBZK29	Connection Rod (24)
13		SBC475−2	Button, Rec Mode (1)
14		SGXK77	Spacer (1)
15		SHRK918	Holder (1)
16		SKUH8055N	Bottom Board(W/ Feet) (1)
16−1		SHS2481	Foot (4)
17		SJF3059−2N	Terminal Board, In/Output (1)
18(E)		SGPK210−2A	Rear Panel (1)
18(XA, PA, PE)		SGPK210−3A	Rear Panel (1)
18(other)		SGPH8055−SH	Rear Panel Ass'y (1)
19(EK)	⚠	QFC1205M	Cord, Power Source (1)
19(PA, PE)	⚠	RJA52YA	Cord, Power Source (1)
19(XL)	⚠	QFC1208M	Cord, Power Source (1)
19(other)	⚠	SJA138−3	Cord, Power Source (1)
20(XA, PA, PE) only	⚠	SJS9221−1	Socket, AC Outlet (1)
21		SUWK390	Holder (1)
22		SBCKH8055N	Button, Source (1)
23		SBCKH8055N1	Button, Tape 1 (1)
24		SBCKH8055N2	Button, Tape 2 (1)
25		SBCKH8055N3	Button, EQ (1)
26	○	SKCK110S	Cabinet(Silver) (1)
26	Ⓚ	SKCK110B	Cabinet(Black) (1)
27		SBC337−1	Button, Power (1)
28		SUSK30−1	Spring (4)
29		SMXK26	Cover (1)
30(EK)		SHR129	Bushing (1)
30(other)		SHR127	Bushing (1)
31		SHR301	Clamper, Lead Wire (2)

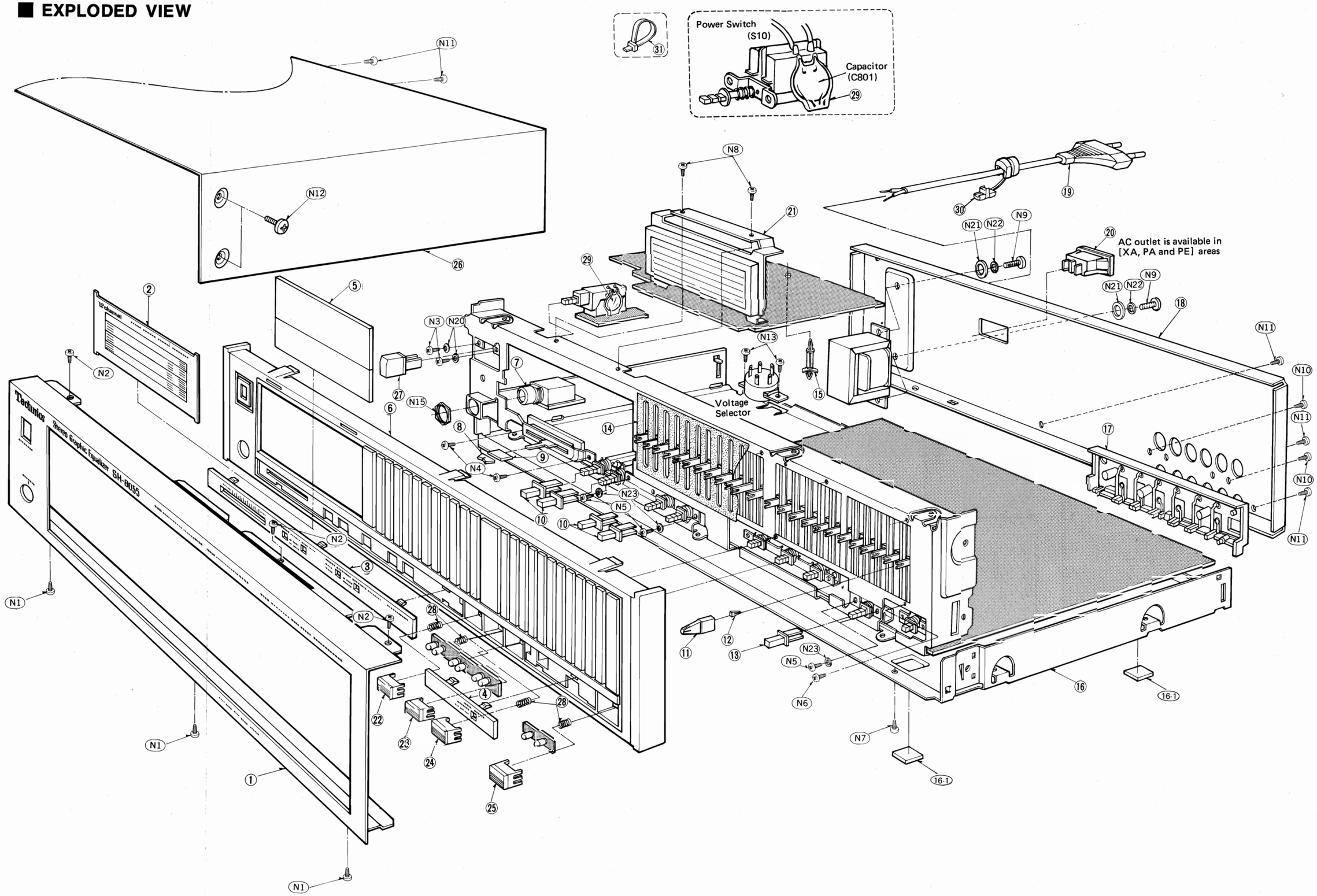
Ref. No.		Part No.	Description
SCREWS			
N1	S	XTB3+8B	Tapping, ⊕3×8 (3)
N2	S	XTB3+8B	Tapping, ⊕3×8 (3)
N3	S	XSN3+6S	⊕3×6 (2)
N4	S	XSN2+2AFZ	⊕2×2 (2)
N5	S	XSN3+6S	⊕3×6 (2)
N6	S	XSN2+4FZ	⊕2×4 (12)
N7	S	XTB3+8B	Tapping, ⊕3×8 (3)
N8	S	XTB3+8B	Tapping, ⊕3×8 (2)
N9	S	XSN4+8FZ	⊕4×8 (2)
N10	S	XTB3+10BFZ	Tapping, ⊕3×10(2)
N11	S	XTB3+8BFZ	Tapping, ⊕3×8 (5)
N12	○	SNE2095−2	Cabinet (Silver) (4)
N12	Ⓚ	SNE2095−3	Cabinet (Black) (4)
N13	S	XTB3+8B	Tapping, ⊕3×8 (2)
NUTS			
N15	S	XNS12	Headphones, ϕ12 (1)
WASHERS			
N20	S	XWA3B	Spring, ϕ3 (2)
N21	S	XWG4	Power Transformer, ϕ4(2)
N22	S	XWA4B	Power Transformer, ϕ4(2)
N23	S	XWA3B	Spring, ϕ3 (1)
ACCESSORIES			
A1(EK)		SQFK10054	Instruction Book(1)
A1(EGA)		SQFK10047	Instruction Book(1)
A1(XA)		SQFK10045	Instruction Book(1)
A1(PA, PE)		SQFK10049	Instruction Book(1)
A1(Ei)		SQFK10048	Instruction Book(1)
A1(other)		SQFK10046	Instruction Book(1)
A2(XA)only	⚠	SJP5213−1	Plug Adaptor (1)
A3(PA, PE)only	⚠	SJP9215	Plug Adaptor (1)
A4		SJP2129−5	Cord, Pin-pin (2)
PACKING PARTS			
P1(EF)		SPGK115	Carton Box (1)
P1(other)		SPGK116	Carton Box (1)
P2		SPSK59	Pad, Left (1)
P3		SPSK60	Pad, Right (1)
P4		SPP699	Polythylene Bag (1)

■ EXPLODED VIEW



■ EXPLODED VIEW

No.	Description	
B	Tapping, ⊕3×8	(3)
B	Tapping, ⊕3×8	(3)
S	⊕3×6	(2)
AFZ	⊕2×2	(2)
S	⊕3×6	(2)
FZ	⊕2×4	(12)
B	Tapping, ⊕3×8	(3)
B	Tapping, ⊕3×8	(2)
FZ	⊕4×8	(2)
)BFZ	Tapping, ⊕3×10	(2)
BFZ	Tapping, ⊕3×8	(5)
−2	Cabinet (Silver)	(4)
−3	Cabinet (Black)	(4)
3	Tapping, ⊕3×8	(2)
	Headphones, φ12	(1)
	Spring, φ3	(2)
	Power Transformer, φ4	(2)
	Power Transformer, φ4	(2)
	Spring, φ3	(1)
4	Instruction Book	(1)
7	Instruction Book	(1)
5	Instruction Book	(1)
9	Instruction Book	(1)
8	Instruction Book	(1)
6	Instruction Book	(1)
1	Plug Adaptor	(1)
	Plug Adaptor	(1)
5	Cord, Pin-pin	(2)
	Carton Box	(1)
	Carton Box	(1)
	Pad, Left	(1)
	Pad, Right	(1)
	Polythylene Bag	(1)



■ SCHEMATIC DIAGRAM Ⓐ

(This schematic diagram may be modified at any time with the development of new technology.)

- Input/Output control
- Microphone amplifier
- Pink noise generator
- Band level control
- Band pass filter
- Power source

SUBTRACTOR ADDER

IC603 SVINJM2043SE SUBTRACTOR / ADDER

INVERTER BUFFER

IC602 SVITA75559S INVERTER/BUFFER

SUBTRACTOR ADDER

IC604 SVINJM2043SE SUBTRACTOR/ADDER

Q601 2SC2878 POWER ON/OFF MUTING

Q602 2SC2878

Q603 2SA564 POWER ON/OFF MUTING

FULL RANGE BAND LEVEL AMP.

D1 Signal detector SVD1S2076

IC3 SVITA75559S SPE ANA BAND LEVEL AMP

D101 ~ D112 SVD1S2076

Z101 100K x 12

pink noise off ↔ on S4-4

POWER ON/OFF

Q1 2SD1265 REGULATOR

Q2 2SB941 REGULATOR

Q3 2SC1815 MUTING

D3,4 MA1160 16V Zenner Diodes

IC1 AN78N12 12V REGULATOR

POWER SUPPLY

BAND PASS FILTERS(L ch.)

IC101 SVITA75559S B P F Lch. 40Hz

IC107 SVITA75559S B P F Lch. 1KHz / 500Hz

IC103 B P F Lch. 100Hz

IC109 SVITA75559S B P F Lch. 2KHz / 4KHz

IC105 B P F Lch. 160Hz

IC111 SVITA75559S B P F Lch. 8KHz / 16KHz

BAND PASS FILTERS (R ch.)

IC102 SVITA75559S B P F Rch. 40Hz / 25Hz

IC106 SVITA75559S B P F Rch. 500Hz / 1KHz

IC104 SVITA75559S B P F Rch. 100Hz / 63Hz

IC110 SVITA75559S B P F Rch. 4KHz / 2kHz

IC106 SVITA75559S B P F Rch. 160Hz / 250Hz

IC112 SVITA75559S B P F Rch. 16kHz / 8kHz

J8 J7 J6 J5

VR1 VR3 VR5 VR7 VR9 VR11 VR13 VR15 VR17 VR19 VR21 VR23

VR2 VR4 VR6 VR8 VR10 VR12 VR14 VR16 VR18 VR20 VR22 VR24

R99 100

D51 D53 D55 D57 D59 D61 D63 D65 D67 D69 D71 D73

D52 D54 D56 D58 D60 D62 D64 D66 D68 D70 D72 D74

BAND LEVEL CONTROLS (L ch.)

BAND LEVEL CONTROLS (R ch.)

IC113 SVITA75559S SPE ANA B P F 40Hz / 25Hz

IC116 SVITA75559S SPE ANA B P F 1KHz / 500Hz

IC114 SVITA75559S SPE ANA B P F 100Hz / 63Hz

IC117 SVITA75559S SPE ANA B P F 4kHz / 2kHz

IC115 SVITA75559S SPE ANA B P F 160Hz / 250Hz

IC118 SVITA75559S SPE ANA B P F 16kHz / 8kHz

BAND PASS FILTERS OF SPECTRUM ANALYZER

IC1(AN78N12) → Output volta
Max. power

FULL RANGE BAND LEVEL AMP.

D1 Signal detector SVD1S2076

D101 ∿ D112 SVD1S2076

IC3 SVITA75559S SPE ANA BAND LEVEL AMP

Z 101 100K x 12

pink noise off ⟷ on S4-4

POWER ON/OFF MUTING

Q3 2SC1815 MUTING

D9 MA27W-A

D7. 8. 10 SVD1S2076

Power ON Power OFF

Q3 base 0.7V 0V

Q3 collector 2V 0V

~2S Muting on

POWER SUPPLY

Q1 2SD1265 REGULATOR

Q2 2SB941 REGULATOR

D2 SVD1B4B42 RECT

D3. 4 MA1160 16V Zenner Diodes

IC1 AN78N12 12V REGULATOR

D5 SVD1SR35200F

Q6 ~ 8 SV1ICPF10 PROTECTOR

D6 SVD1SR35200F

Circuit protector (1A)

T1001

AC 23V AC 18V AC 18V AC 2V AC 2V

BLU BLK BLU RED BRN RED YEL YEL

RED 240V BRN 220V ORN 120V WHT 110V BLU

C801 P0.01 S10 S11

AC LINE 110/120/220/240V (50/60Hz)

BAND PASS FILTERS OF SPECTRUM ANALYZER

IC113 SVITA75559S SPE ANA B.P.F 40HZ 25Hz

IC116 SVITA75559S SPE ANA B.P.F 1kHZ 500HZ

IC114 SVITA75559S SPE ANA B.P.F 100HZ 63Hz

IC117 SVITA75559S SPE ANA B.P.F 4kHZ 2kHz

IC115 SVITA75559S SPE ANA B.P.F 160HZ 250Hz

IC118 SVITA75559S SPE ANA B.P.F 16kHZ 8kHz

250Hz 160Hz 500Hz 100Hz 1KHz 63Hz 2KHz 4KHz 40Hz 8KHz 25Hz 16KHz

B.P.F Rch. IC106 1KHz

B.P.F Rch. IC110 2kHz

B.P.F Rch. IC112 8kHz

2KHz 4KHz 8KHz 16KHz

VR18 VR20 VR22 VR24

D68 D70 D72 D74

IC1(AN78N12) ⟶ Output voltage: 12V, peak output current: 500mA, Max. power source input voltage: 35V

(Note) Voltage from A ~ F shown in circuit diagram zone 15-A is supplied to each IC of BPF circuit.

SPECTRUM ANALYZER DISPLAY (FL)

S1~S12 (Segment)
G1~G13 (Grid)

Filament AC 3.6 f

G2 G13 G3 G12 G4 G5 G11 G6 G10 G7 G9 Gd Gd G8 S1 G7 S2 G6 S3 S4 G5 S5 G4 S6 G3 S7 S8 G2 S9 S10 G1 S11 S12

25Hz 40Hz 63Hz 100Hz 160Hz 250Hz 500Hz 1KHz 2KHz 4KHz 8KHz 16KHz full renge

Filament f AC 3.6

R543 1/4W 470
C501 25V47
D501 MA1200 -20V Zenner

R542 10K
100KΩ x 12
Z 502
R541 100K

C504 K220P
220P x 6
Z504
Z503
C505 Z0.022
Q514 ~ Q526 2SA1015 INVERT

Q526 Q525 Q524 Q523 Q522 Q521 Q520 Q519 Q518 Q517 Q516 Q515 Q514
R526 4.7K R525 4.7K R524 4.7K R523 4.7K R522 4.7K R521 4.7K R520 4.7K R519 4.7K R518 4.7K R517 4.7K R516 4.7K R515 4.7K R514 4.7K

Q527 ~ Q538 2SA564 BUFF

(S12 30dB) (S11) (S10 25dB) (S9) (S8 20dB) (S7) (S6 15dB) (S5) (S4 10dB) (S3) (S2 5dB) (S1)

Q533 Q534 Q535 Q536 Q537 Q538 **BUFFER**
R535 10K R534 10K R535 10K R536 10K R537 10K R538 10K

Q527 Q528 Q529 Q530 Q531 Q532
R527 10K R528 10K R529 10K R530 10K R531 10K R532 10K

Z505 1/4W 5.6K x 12

R544 4.7K
Q502 SVD1S2076A
R545 15

IC502 SVI HA 12010 DISPLAY TUBE DRIVER

Segment DC off→0V DC on→11V

S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12

FL DRIVER

Z501 4.7KΩ x 12

SAMPLING GATE

250Hz 160Hz 500Hz 100Hz 1KHz 63Hz 2KHz 4KHz 40Hz 8KHz 25Hz 16KHz

Q508 Q509 Q507 Q510 Q506 Q511 Q505 Q504 Q512 Q503 Q513 Q502 Q501

R508 4.7K R509 4.7K R507 4.7K R510 4.7K R506 4.7K R511 4.7K R505 4.7K R504 4.7K R512 4.7K R503 4.7K R513 4.7K R502 4.7K R501 4.7K

Q501 ~ Q513 2SA1246 SAMPLING GATE

INVERTER

14ch. SELECTOR

IC 501 SVIM 54834P 14ch SELECTOR

G8 G9 G10 G11 G12 G13 G7 G6 G5 G4

Vcc UP IN DOWN IN OD R C1 C2 GND G1 G2 G3

C502 10V100
R539 470
C503 560P
R540 33K

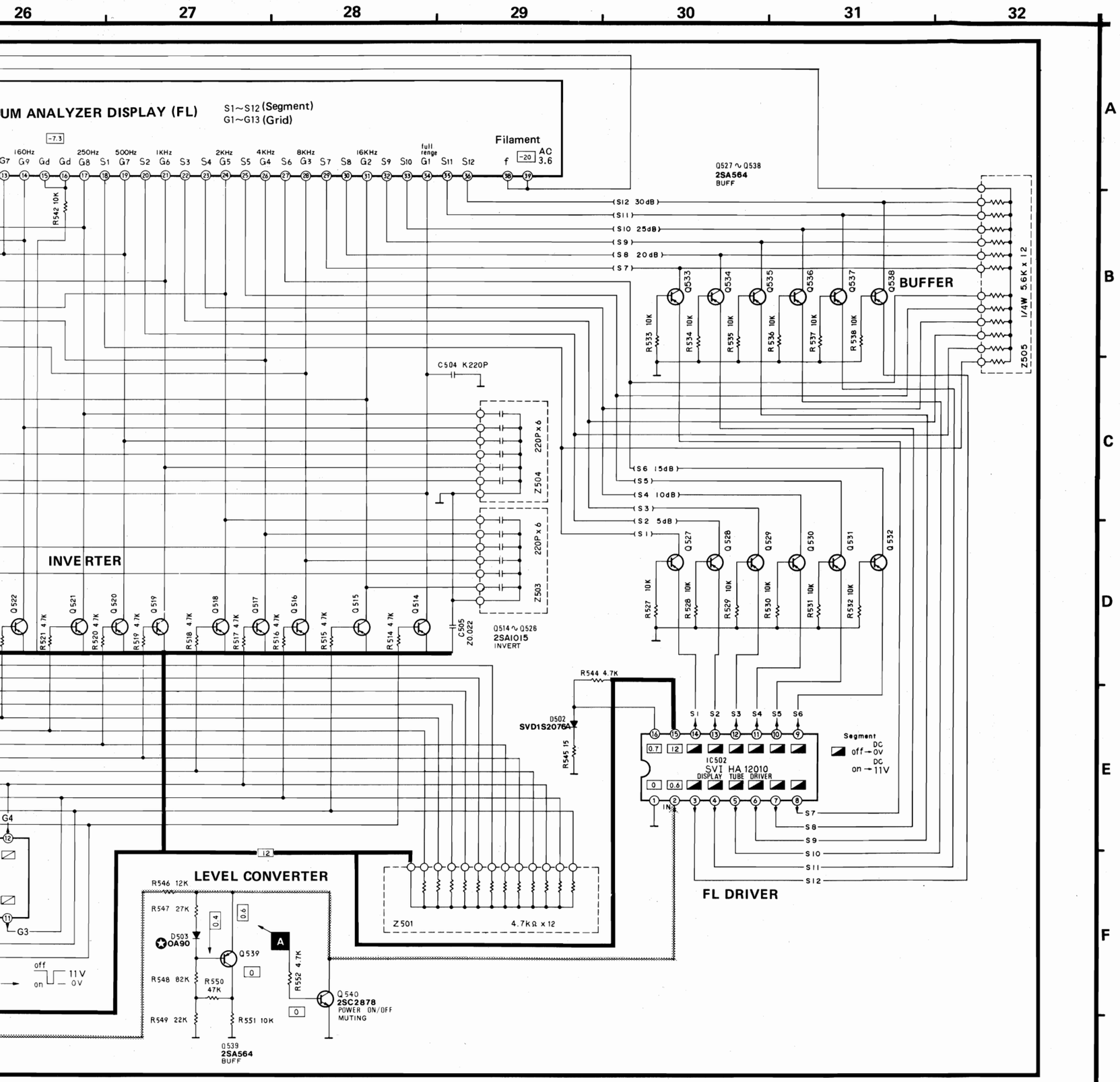
off on 11V 0V

LEVEL CONVERTER

R546 12K
R547 27K
D503 OA90
Q539
R548 82K
R550 47K
R549 22K
R551 10K
R552 4.7K
Q540 2SC2878 POWER ON/OFF MUTING

Q539 2SA564 BUFF

J10 J9



■ SCHEMATIC DIAGRAM Ⓑ

(This schematic diapram may be modified at any time with the development of new technology.)

- **Spectrum analyzer**

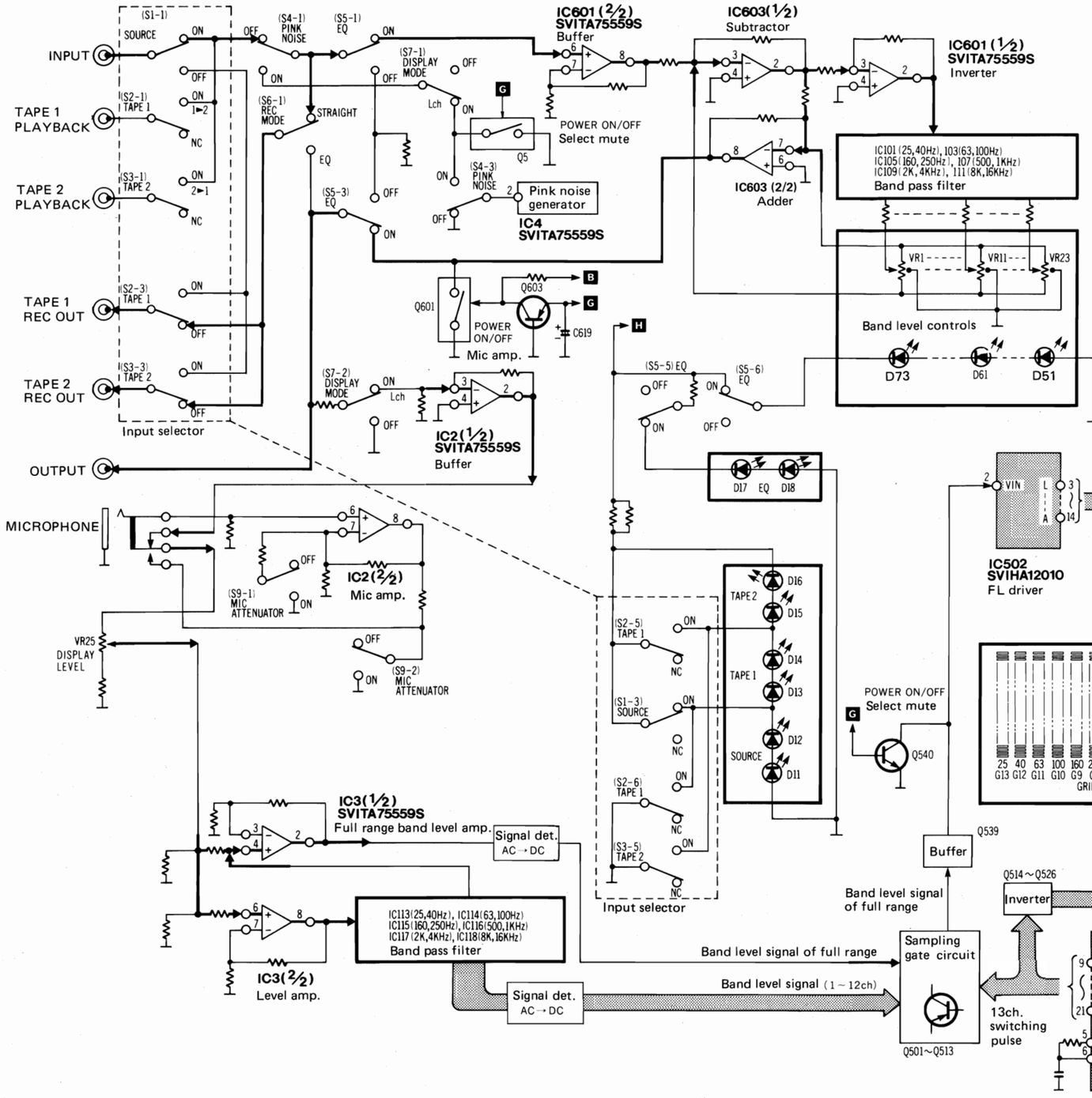
- The part No. of transistros, IC and diodes mentioned in the schematic diagram stand for production part No. Regarding the part No. whith ✪ mark, the production part No. are different from the replacement part No. Therefore, when placing an order for replacement parts, pleases use the part No. in the replacemnt parts list.

Notes:

1. This is basic circuit diagram (For continental Europe) of this unit.
2. Regarding the circuits to be changed in the basic circuit diagram (For continental Europe) and related areas ([PA], [PE] and [XA]) refer to the booklet contains (Order No. SD83062526C9–A).
3. **S1 ~ S3** : Input selector in **"source"** position. (S1–1 ~ S1–3 : source, S2 - 1 ~ S2 - 6 : Tape 1, S3 - 1 ~ S3 - 5 : Tape 2)
4. **S4–1 ~ S4–2** : Pink noise generator switch in **"off"** position.
5. **S5–1 ~ S5–6** : Equalizer on/off selector in **"on"** position.
6. **S6–1 ~ S6–2** : Recording mode selector in **"EQ"** position. (straight ⟷ EQ)
7. **S7–1 ~ S7–2** : Display mode (left channel) switch in **"on"** position.
8. **S8–1 ~ S8–2** : Display mode (right channel) siwtch in **"on"** position.
9. **S9–1** : Microphone attenuator switch in **"0dB"** position. (0dB ⟷ –20dB) * S9–2 is muting switch incase attenuator selection.
10. **S10** : Power source switch in **"on"** position.
11. **S11** : Voltage selector in **"220V"** position. (110V ⟷ 120V ⟷ 220V ⟷ 240V)
12. The circuit is same for both L and R channels.
13. ▭ Indicated voltage values are the standard values for the DC electronic circuit tester (high impedance) with the ground point taken as standard. Therefore, there may exist some errors in the voltage volues, depending on the internal impedance of the DC circuit tester.
14. Signal lines of left channel.
15. Signal lines of band pass filter.
16. Signal lines of mic.
17. Positive (+B) voltage lines.
18. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

SH-8055 SH-8055

■ BLOCK DIAGRAM

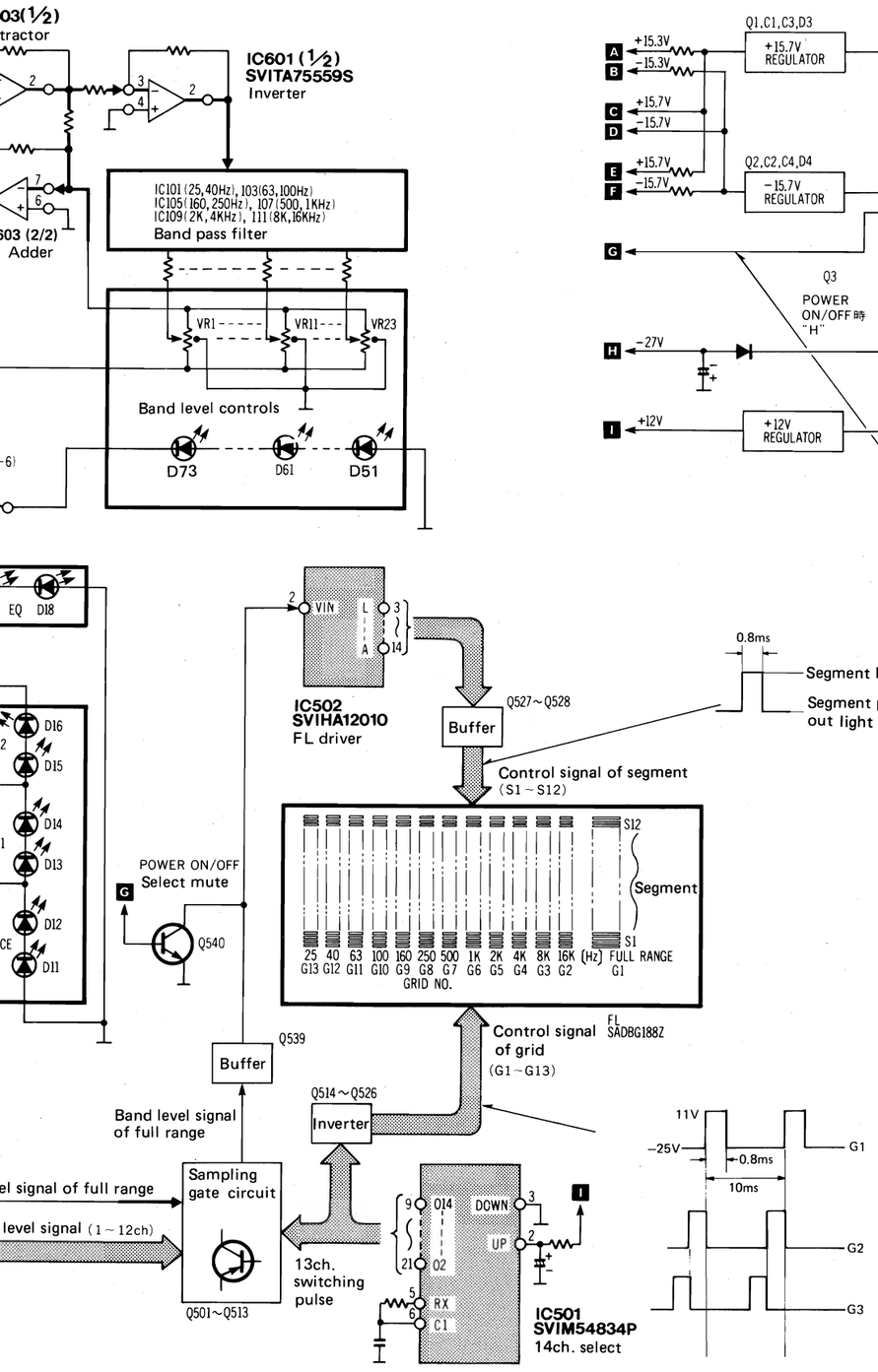


■ SPECTRUI

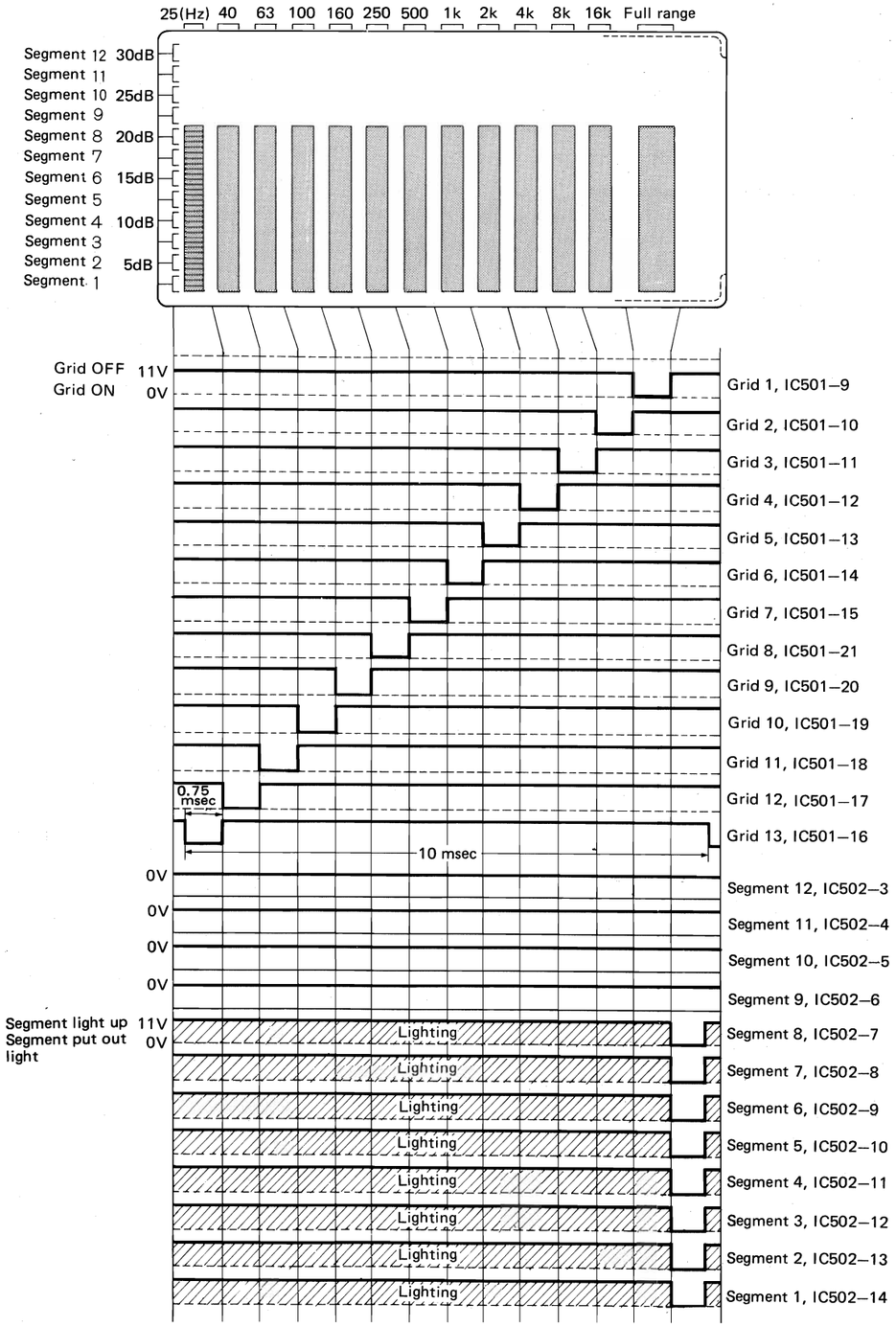
Segmen
Segmen
Segmen
Segmen
Segmen
Segmen
Segmen
Segmen
Segmen
Segmen
Segmen
Segmen

Gri
Gri

Segment l
Segment p
light



■ SPECTRUM ANALYZER(FL) AND TIMING CHART



Printed in Japan
8306 11000 Ⓚ KK/IM Ⓙ

ORDER NO. HAD8507173A4

Service Manual

Stereo Graphic Equalizer
(With Spectrum Analyzer)

Equalizer

SH-8055

Color

(K) . . . . Black Type

Color	Area
(K)	[PA] . . . Far East PX
(K)	[PE] . . . European Military

Please use this manual together with the service manual for Model No. SH-8055, Order No. SD83062526C9.

CHANGE

■ REPLACEMENT PARTS LIST

Notes:

(1) Mentioned in this parts list are only those changed in Model No. SH–8055 for destination [PA, PE] area (silver type).

(2) Important safety notice:
Conponents identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Change of Parts No.		Part Name & Description	Per Set (Pcs.)	Remarks
	SH-8055 [PA,PE] Silver Type →	**SH-8055 [PA,PE] Black Type**			
RESISTORS					
R45	ERD25TJ124	ERD25TJ154	Carbon, 150kΩ, 1/4W, ±5%	1	
R539	ERD25FJ471	ERD25FJ561	Carbon, 560Ω, 1/4W, ±5%	1	Fig. 1
R556	————	ERD25FJ472	Carbon, 4.7kΩ, 1/4W, ±5%	1	Fig. 1
R643~646	ERD25FJ152	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%	4	
CABINET and CHASSIS PARTS					
1	SGWK210PA	SGWK210BA	Front Panel	1	
2	SDUK8	SDUK8–1	Dial Plate	1	
3	SGXK75	SGXK75–1	Ornament Cover	1	
4	SGXK76	SGXK76–1	Ornament Cover	1	
5	SGUK10	SGUK10–1	Transparent Plate	1	
6	SGXK74	SGXK74–1	Sub Front Panel	1	
8	SBD69–3K	SBD69–1	Button, Display Level	1	
10	SBC475–1	SBC475	Button	4	
26	SKCK110S	SKCK110B	Cabinet	1	
SCREWS					
N1	XTB3+8B	XTB3+8BFZ	Screw, Panel M'tg.	3	
N12	SNE2095–2	SNE2095–5	Screw, Cabinet M'tg.	4	
PACKING PARTS					
P1	SPGK116	SPGK208	Carton Box	1	
P4	SPP699	SPPK47	Polyethylene Bag	1	

Technics

Panasonic Tokyo Office
Matsushita Electric Trading Co., Ltd.
1-2, 1-chome, Shiba-koen, Minato-ku, Tokyo 105 Japan

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

■ ADDITION OF RESISTOR

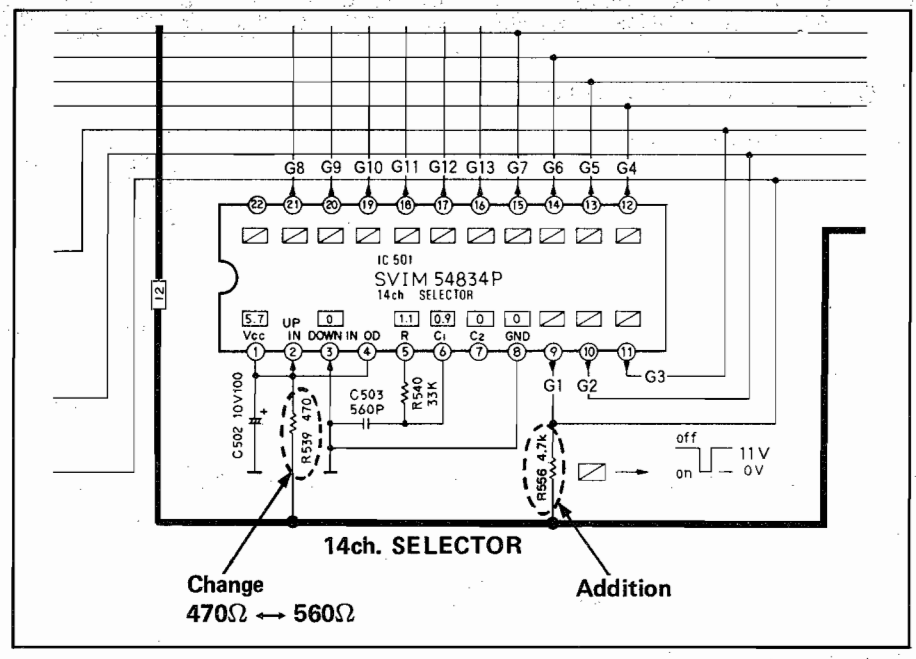


Fig. 1

■ POWER SOURCE CIRCUIT

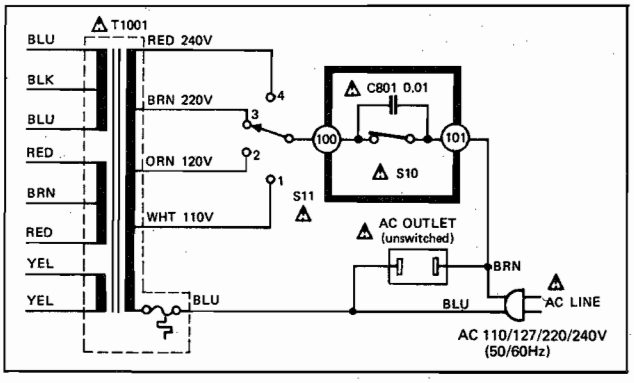


Fig. 2

Printed in Japan
850700830 Ⓚ KK

ORDER NO. HAD8510275P0

Parts Change Notice

Model No. SH–8055 [M, MC]
SH–8055 S/K [E, EK, EF, EB, EH, EGA, XA, XL]

Service Manual
Order No. SD83062579C1
Order No. SD83062569C9

Please revise the original parts list in the Service Manual to conform to the change (s) shown herein. If new part numbers are shown, be sure to use them when orderring parts.

Reason for Change *The circled item indicates the reason. If no marking, see the Notes in the bottom column.

1. Improve performance	
2. Change of material or dimension	
3. To meet approved specification	
4. Standardization	
5. Addition	
6. Deletion	
7. Correction	
8. Other	

Interchangeability Code **The circled item Indicates the interchangeability. If no marking, see the Notes in the bottom column.

	Parts		Set Production	
A	Original	→	Early	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
	New	→	Late	
B	Original	→	Early	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
	New	→	Late	
C	Original	→	Early	New parts only may be used in early or late production sets. Stock new parts.
	New	→	Late	
D	Original	→	Early	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
	New	→	Late	
E	Other			

Part Number

Model No.	Ref. No.	Original Part No.	New Part No.	Notes(*'**)	Part Name & Descriptions	
CABINET and CHASSIS PARTS						
SH–8055	3	SGX75	SGX76	7, E	Ornament	1
	4	SGX76	SGX75	7, E	Ornament	1
SH–8055(S/K)	3	SGXK75	SGX76	7, E	Ornament	1
	3	SGX75–1	SGX76–1	7, E	Ornament	1
	4	SGX76	SGX75	7, E	Ornament	1
	4	SGX76–1	SGX75–1	7, E	Ornament	1

File this Parts Change Notice with your copy of the Service Manual.

Technics

Matsushita Service Company
50 Meadowland Parkway,
Secaucus.
New Jersey 07094

Panasonic Hawaii, Inc.
91-238 Kauhi St., Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria, Industrial Park
Carolina, Puerto Rico 00630

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississaugs,
Ontario, L4W 2T3

Printed in Japan
851000400 ® IM

ORDER NO. HAD8507173A4

Service Manual

Stereo Graphic Equalizer
(With Spectrum Analyzer)

Equalizer
SH-8055

Color

(K) . . . . Black Type

Color	Area
(K)	[PA] . . . Far East PX
(K)	[PE] . . . European Military

Please use this manual together with the service manual for Model No. SH-8055, Order No. SD83062526C9.

CHANGE

■ REPLACEMENT PARTS LIST

Notes:

(1) Mentioned in this parts list are only those changed in Model No. SH–8055 for destination [PA, PE] area (silver type).

(2) Important safety notice:
Conponents identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Change of Parts No.		Part Name & Description	Per Set (Pcs.)	Remarks
	SH-8055 [PA,PE] Silver Type	→ SH-8055 [PA,PE] Black Type			
RESISTORS					
R45	ERD25TJ124	ERD25TJ154	Carbon, 150kΩ, 1/4W, ±5%	1	
R539	ERD25FJ471	ERD25FJ561	Carbon, 560Ω, 1/4W, ±5%	1	Fig. 1
R556	————	ERD25FJ472	Carbon, 4.7kΩ, 1/4W, ±5%	1	Fig. 1
R643~646	ERD25FJ152	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%	4	
CABINET and CHASSIS PARTS					
1	SGWK210PA	SGWK210BA	Front Panel	1	
2	SDUK8	SDUK8–1	Dial Plate	1	
3	SGXK75	SGXK75–1	Ornament Cover	1	
4	SGXK76	SGXK76–1	Ornament Cover	1	
5	SGUK10	SGUK10–1	Transparent Plate	1	
6	SGXK74	SGXK74–1	Sub Front Panel	1	
8	SBD69–3K	SBD69–1	Button, Display Level	1	
10	SBC475–1	SBC475	Button	4	
26	SKCK110S	SKCK110B	Cabinet	1	
SCREWS					
N1	XTB3+8B	XTB3+8BFZ	Screw, Panel M'tg.	3	
N12	SNE2095–2	SNE2095–5	Screw, Cabinet M'tg.	4	
PACKING PARTS					
P1	SPGK116	SPGK208	Carton Box	1	
P4	SPP699	SPPK47	Polyethylene Bag	1	

Technics

Panasonic Tokyo Office
Matsushita Electric Trading Co., Ltd.
1-2, 1-chome, Shiba-koen, Minato-ku, Tokyo 105 Japan

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

■ ADDITION OF RESISTOR

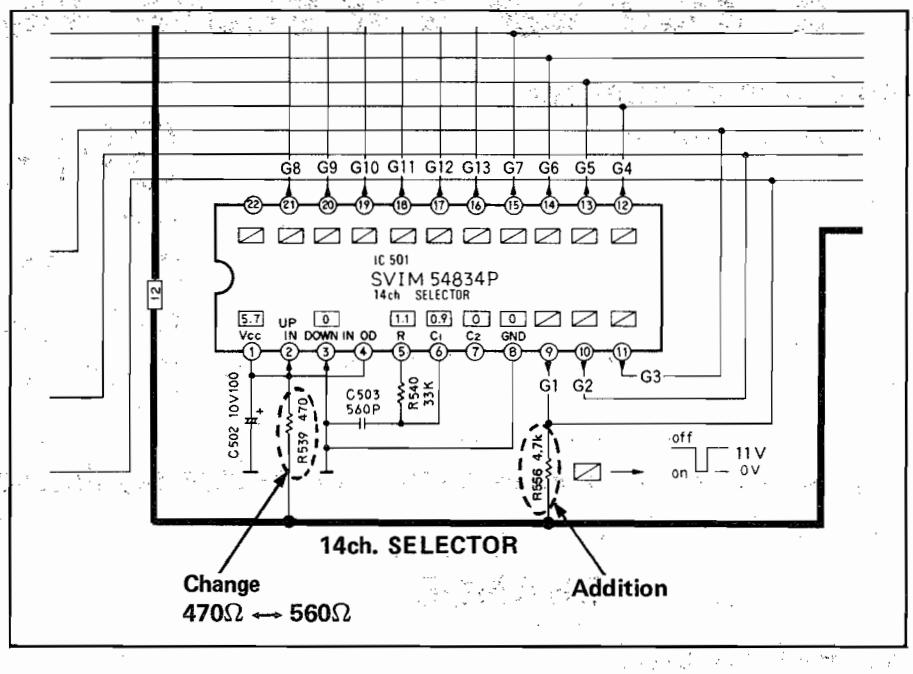


Fig. 1

■ POWER SOURCE CIRCUIT

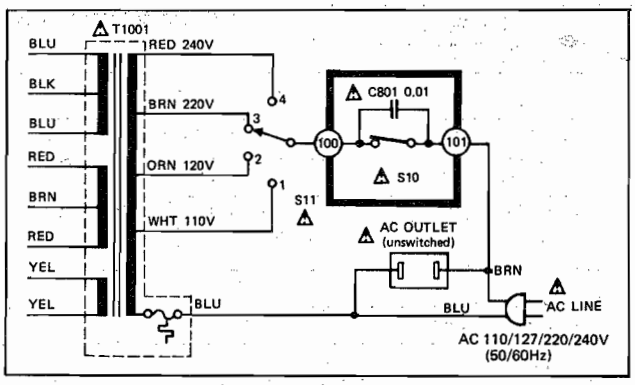


Fig. 2

Printed in Japan
850700830 Ⓚ KK

ORDER NO. SD83062526C9–A

DEUTSCH

Stereo Graphic Equalizer SH-8055/SH-8055(K)

- This booklet contains the specifications for SH-8055, written in Germany, French and Spanish, and the circuits to be changed according to areas.
- File this manual together with the SH-8055 service manual (Order No. SD83062526C9).

- Das vorliegende Büchlein enthält die Spezifikationen für SH-8055 in deutscher, französischer und spanischer Sprache.
- Bewahren Sie das Büchlein zusammen mit der Bedienungsanleitung für SH-8055 (Bestell-Nr. SD83062526C9).

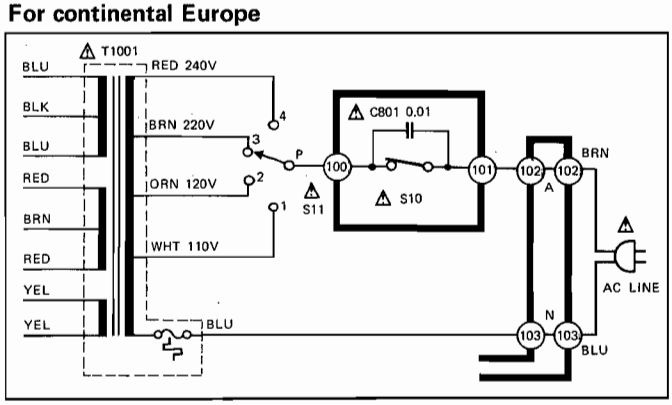
- Cette brochure contient les spécifications pour le SH-8055, écrites en allemand, en français et en espagnol.
- Classer ce manuel en même temps qu'avec le manuel de service du SH-8055 (N° d'ordre : (SD83062526C9).

- Este librito contiene la especificaciones para SH-8055, escritos en alemán, francés y español.
- Guardar este manual juntamente con el manual de servicio de SH-8055 (Pedido N°. SD83062526C9).

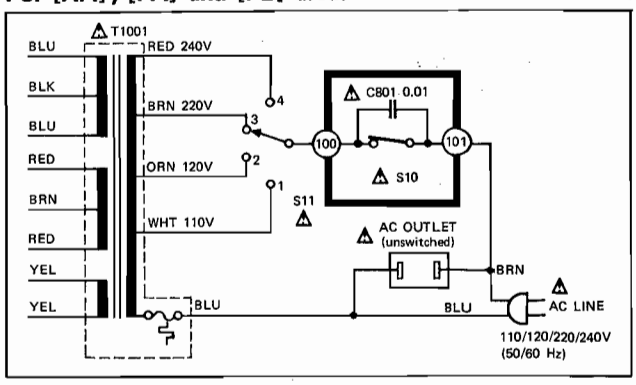
■ CHANGE OF SCHEMATIC DIAGRAM

- **Power source**

For continental Europe



For [XA], [PA] and [PE] areas



DEUTSCH

■ TECHNISCHE DATEN (Spezifikationen Konnen infolge von Verbesserungen ohne Ankundigung geandert werden.)

(DIN 45 500)

Frequenzgang (mittelstellung drehen)	: 5 Hz~100 kHz, −1 dB
Maximalausgangs-spannung	: 8 V (1 kHz, THD 0,01%)
Nennausgangsspan-nung	: 1 V
Nennklirrfaktor	: 0,003% (20 Hz~20 kHz) 0,002% (1 kHz)
Eingangsspannung	: 1 V
Geräuschabstand	: 102 dB (110 dB, IHF, A)
Maximaleingangs-spannung	: 8 V (1 kHz)
Eingangsimpedanz	: 47 kΩ
Verstärkung	: 0±1 dB
Kanalsy mmetrie 250 Hz~6300 Hz	: ±0,5 dB
Kanaltrennung 1 kHz	: 70 dB
Frequenzgangregler	: +12 dB~−12 dB (12 Regler, stufenlos verstellbar)
Mittenfrequenzen	: 25 Hz, 40 Hz, 63 Hz, 100 Hz, 160 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
Ausgangsspannung für rosa Rauschen	: 50 mV
Mikrofonempfindlichkeit	: über −74 dBV/μ bar (1 kHz)
Mikrofondämpfung	: −20 dB

ALLGEMEINE DATEN

Stromversorgung	: Wechselstrom, 110 V/120 V/220 V/ 240 V, 50 Hz/60 Hz
Leistungsaufnahme	: 17 W
Abmessungen (H×B×T)	:108×430×270 mm (4-1/4"×16-15/16"×10-5/8")
Gewicht	: 4,1 kg (9,0 lb)

FRANÇAIS

■ CARACTERISTIQUES (Sujet a changement sans prearis.)

(DIN 45 500)

Réponse de fréquence (position centrale)	: 5 Hz~100 kHz, −1 dB
Tension de sortie maximale	: 8 V (1 kHz, THD 0,01%)
Tension de sortie nominale	: 1 V
Distortion harmonique total	: 0,003% (20 Hz~20 kHz) 0,002% (1 kHz)
Sensibilité d'entrée	: 1 V
Signal/Bruit	: 102 dB (110 dB, IHF' A)
Tension d'entrée maximale	: 8 V (1 kHz)
Impédance d'entrée	: 47 kΩ
Gain	: 0±1 dB
Equilibrage de canal 250 Hz~6300 Hz	: ±0,5 dB
Séparation de canal 1 kHz	: 70 dB
Commandes de niveau de gamme	: +12 dB~−12 dB (12 éléments, continuellement variables)
Fréquences charnières	: 25 Hz, 40 Hz, 63 Hz, 100 Hz, 160 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
Tension de sortie des bruits roses	: 50 mV
Sensibilité de microphone compatible	: plus de −74 dBV/µbar (1 kHz)
Attenuateur de microphone	: −20 dB

GENERALITES

Alimentation	: CA. 110 V/120 V/220 V/240 V, 50 Hz/60 Hz
Consommation	: 17 W
Dimensions (h×l×pr)	: 108×430×270 mm (4-1/4"×16-15/16"×10-5/8")
Poids	: 4,1 kg (9,0 lb)

ESPANOL

ESPAÑOL

■ ESPECIFICACIONES (Estas especificaciones estan sujetas a cualquier cambio sin previo eviso.)

(DIN 45 500)

Respouesta de frecuencia (posición central)	: 5 Hz~100 kHz, −1 dB
Tensión de salida máxima	: 8 V (1 kHz, THD 0.01%)
Tensión de salida de régimen	: 1 V
Distorsión armónica total nominal	: 0.003% (20 Hz~20 kHz) 0.002% (1 kHz)
Sensibilidad de entrada	: 1 V
Relación d señal ruido	: 102 dB (110 dB, IHF' A)
Tensión de entrada máxima	: 8 V (1 kHz)
Impedancia de entrada	: 47 kΩ
Ganancia	: 0±1 dB
Equilibrio de canales 250 Hz~6300 Hz	: ±0,5 dB
Separación de canales 1 kHz	: 70 dB
Controles de nivel de banda	: +12 dB~−12 dB (12 elementos, continuamente variables)
Frecuencia central	: 25 Hz, 40 Hz, 63 Hz, 100 Hz, 160 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz
Voltaje de salida del ruido rosado	: 50 mV
Sensibilidad del micrófono compatible	: por sobre −74 dBV/µbar (1 kHz)
Atenuador de micrófono	: −20 dB

EN GENERAL

Alimentación de corriente	: C.A. de 110 V/120 V/220 V/240 V, 50 Hz/60 Hz
Consumo de corriente	: 17 W
Dimensiones (alto×ancho×prof.)	: 108×430×270 mm (4-1/4"×16-15/16"×10-5/8")
Peso	: 4,1 kg (9,0 lb)

Printed in Japan
830609600 ®KK/IM Ⓙ