

# SERVICE MANUAL

INTEGRATED AMPLIFIER

## SANSUI A-500

(Silver & Black Model)



### CAUTION

1. Parts identified by the  $\Delta$  symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

### •SPECIFICATIONS

#### Power output

Min. RMS, both channels driven, from 40 to 20,000 Hz, with no more than 0.07% total harmonic distortion  
30 watts per channel into 8 ohms

Load impedance..... 8 ohms

#### Total harmonic distortion

..... less than 0.07% at or below rated min. RMS power output

#### Frequency response (at 1 watt)

..... 10 to 50,000 Hz  
+1 dB, -2 dB

#### RIAA curve deviation (PHONO, 30 Hz to 15 kHz)

..... +0.5 dB, -0.5 dB

#### Input sensitivity and impedance

(1 kHz, for rated power output)

PHONO..... 2.5 mV/47 kilohms

(Max. input capability; 120mV at 1 kHz, less than 0.1% total harmonic distortion)

TUNER, TAPE PLAY.... 150 mV/47 kilohms

#### Output level (1 kHz)

TAPE REC..... 130 mV into 47 kilohms

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

PHONO..... 72 dB

TUNER, TAPE PLAY.... 90 dB

#### Power requirements

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

For U.S.A. & Canada

..... 120V (60 Hz)

Power consumption.... 120 watts 150 VA Rated

170 watts Maximum

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

112 mm (4-7/16") H

230 mm (9-1/16") D

Weight..... 4.1 kg (9.0 lbs.) net

4.7 kg (10.4 lbs.) packed

\* Design and specifications subject to changes without notice for improvements.

\* Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

**Sansui**

SANSUI ELECTRIC CO., LTD.

## CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS, XX <EXPORT> and XX-V <EXPORT(V)> on the parts list and the schematic diagram mean followings respectively.

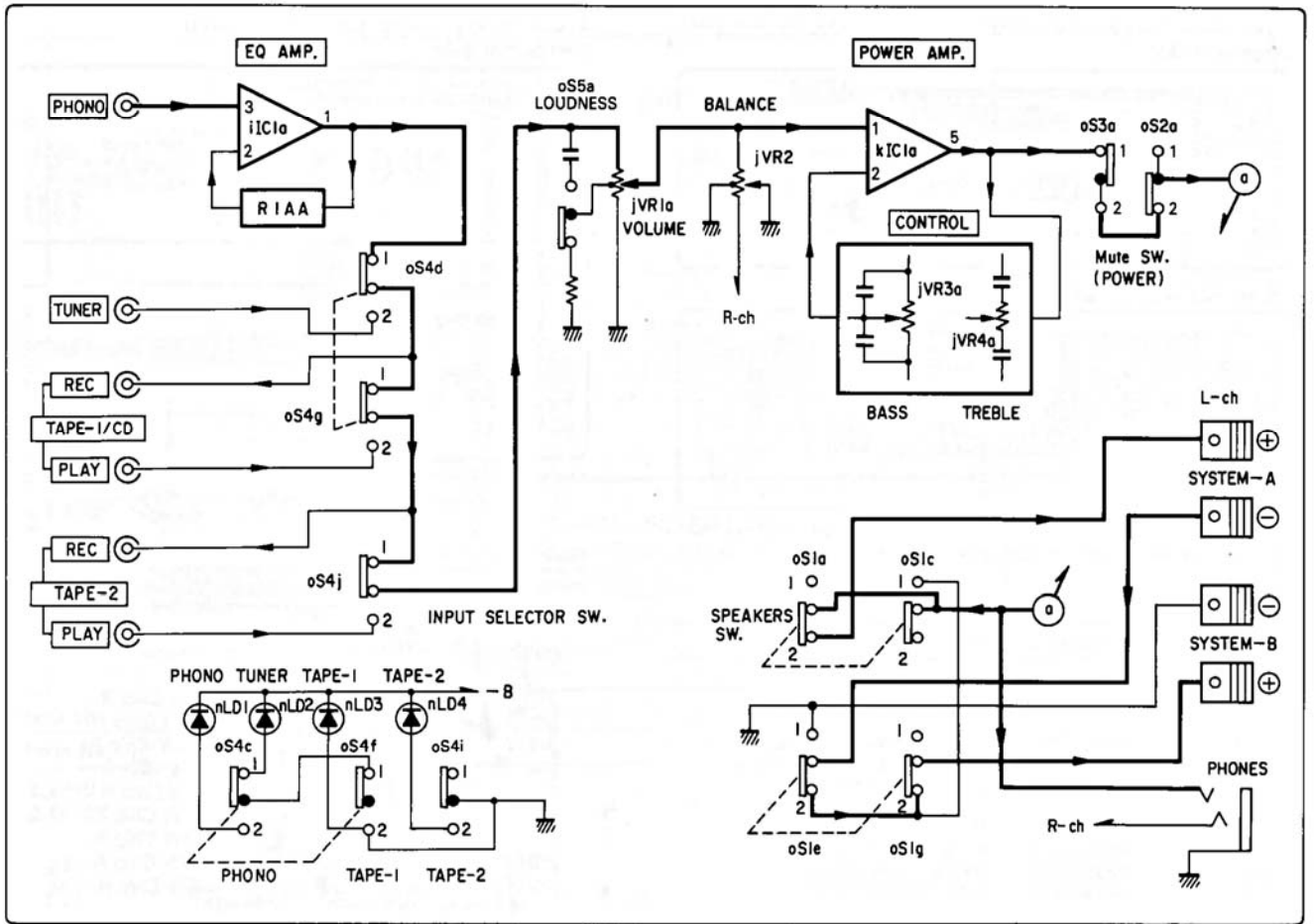
UL..... Manufactured for U.S.A market.  
(Underwriters Laboratories approved model.)  
CSA ..... Manufactured for Canadian market.  
SA..... Manufactured for South African market.  
BS, UK..... Manufactured for United Kingdom market.  
EU ..... Manufactured for European market.  
AS..... Manufactured for Australian market.  
XX <EXPORT> ..... Standard Version with Inner Voltage Selector.  
XX-V <EXPORT(V)> .... Standard Version with Outer Voltage Selector.  
NON MARK ..... Common Parts.

2. Some printed circuit boards are not supplied as the assembled. To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.
4. Abbreviations in this service manual are as follows.

### •Abbreviations List

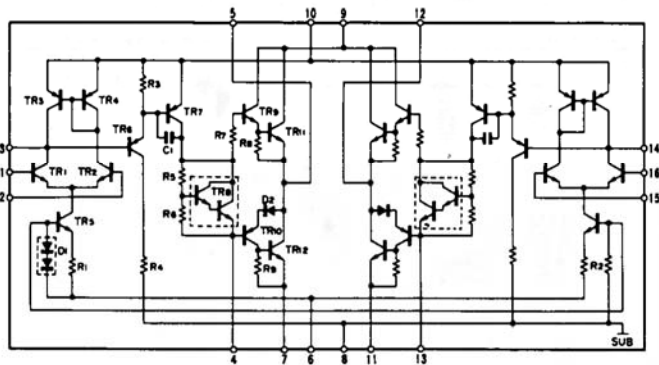
C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar Electrolytic Capacitor
S.R. : Solid Resistor	Ta.C. : Tantalum Capacitor
Ce.R. : Cement Resistor	F.C. : Film Capacitor
M.R. : Metal Film Resistor	M.P. : Metalized Paper Capacitor
F.R. : Fusing Resistor	P.C. : Polystyrene Capacitor
N.I.R. : Non-Inflammable Resistor	G.C. : Gimmic Capacitor
A.R. : Array Resistor	A.C. : Array Capacitor
C.C. : Ceramic Capacitor	V.R. : Variable Resistor
C.T. : Ceramic Capacitor, Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic Capacitor	Chip R. : Chip Resistor
E.B. : Bi-Polar Electrolytic Capacitor	Chip C. : Chip Capacitor

# 1. BLOCK DIAGRAM

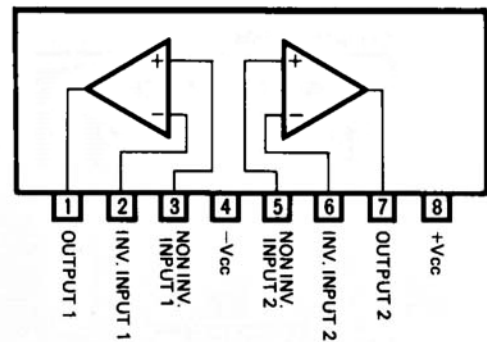


# 2. INTERIOR BLOCK DIAGRAM OF IC

•STK4843 (AF Power Amp. IC)

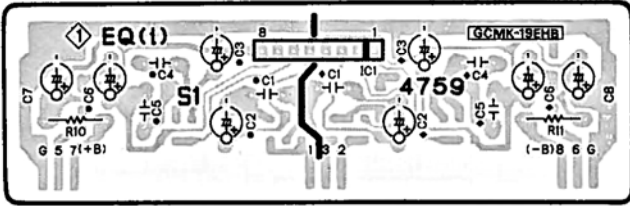


•M5218L (Audio Pre Amp. IC)

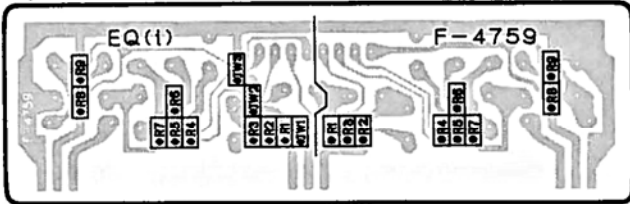


### 3. PARTS LOCATION & PARTS LIST

**3-1. F-4759 Equalizer Amp Board** (Stock No. 00852601)  
Component Side



Pattern Side <Chip Parts>



•Note: On this circuit board, the left channel is specified by "●" mark on top of the parts No.

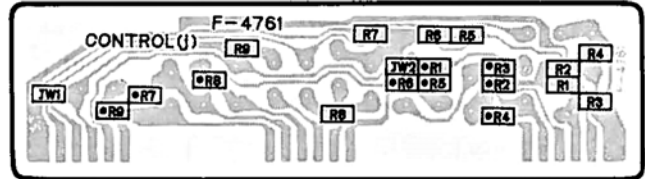
**Parts List**

Parts No.	Stock No.	Description
•IC		
iC1	46078900	M5218L
iJW1	46741100	Cross Conductor (Chip)
iJW2	46741100	Cross Conductor (Chip)
iJW3	46741100	Cross Conductor (Chip)
iR1	46752400	100kΩ 1/8W Chip R.
iR2	46746800	470Ω 1/8W Chip R.
iR3	46752400	100kΩ 1/8W Chip R.
iR4	46746900	510Ω 1/8W Chip R.
iR5	46746900	510Ω 1/8W Chip R.
iR6	46750800	22kΩ 1/8W Chip R.
iR7	46753500	300kΩ 1/8W Chip R.
iR8	46746800	470Ω 1/8W Chip R.
iR9	46752400	100kΩ 1/8W Chip R.
iR10	46229000	100Ω 1/2W N.I.R.
iR11	46229000	100Ω 1/2W N.I.R.
iC4	46282400	3300pF 50V F.C.
iC5	46283000	0.012μF 50V F.C.

**3-2. F-4761 Tone Control Board**  
Component Side



Pattern Side <Chip Parts>



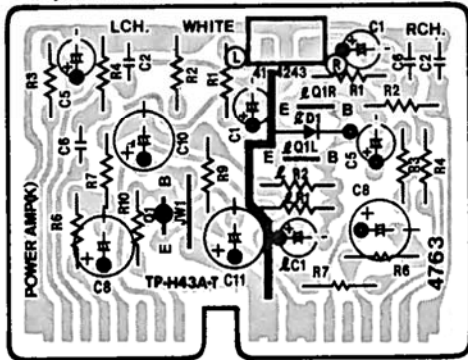
•Note: On this circuit board, the left channel is specified by "●" mark on top of the parts No.

**Parts List**

Parts No.	Stock No.	Description
jJW1	46741100	Cross Conductor (Chip)
jJW2	46741100	Cross Conductor (Chip)
jR1	46750200	12kΩ 1/8W Chip R.
jR2	46748200	1.8kΩ 1/8W Chip R.
jR3	46753400	270kΩ 1/8W Chip R.
jR4	46751000	27kΩ 1/8W Chip R.
jR5	46751700	51kΩ 1/8W Chip R.
jR6	46748400	2.2kΩ 1/8W Chip R.
jR7	46749400	5.6kΩ 1/8W Chip R.
jR8	46749600	6.8kΩ 1/8W Chip R.
jR9	46747200	680Ω 1/8W Chip R.
jC1	46283600	0.039μF 50V F.C.
jC2	46937000	0.22μF 50V E.B.
jC3	48101800	47μF 10V E.B.
jC4	46281800	1000pF 50V F.C.
jC5	46282800	8200pF 50V F.C.
jC6	46282700	6800pF 50V F.C.

**3-3. F-4763 Power Amp. Sub Board** (Stock No. 00856901)

Component Side

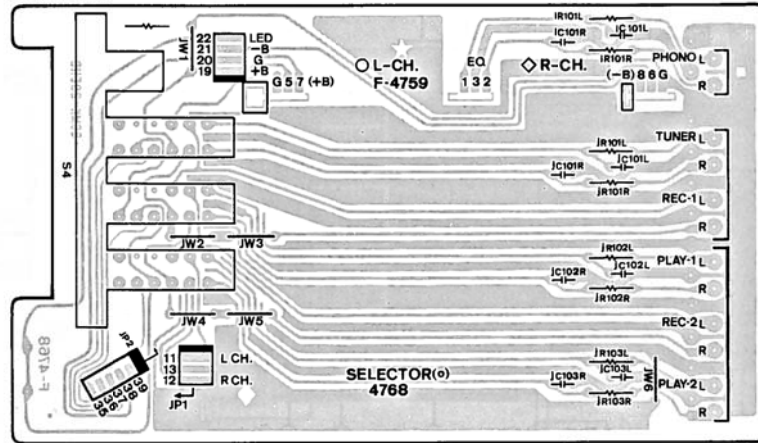


**Parts List**

Parts No.	Stock No.	Description
•Transistor		
kQ1	46188601	2SA1015
	or 46367001	2SA1115
	or 46367201	2SA1048
	or 46947301	2SA1049
ΔkR9	46229000	100Ω 1/2W N.I.R.
IQ1	46188701	2SC1815
	or 46367101	2SC2603
	or 46367301	2SC2458
	or 46392101	2SC2785
	or 48058801	2SC1740S
•Diode		
ID1	03117600	1S2473T77
	or 46086000	1S1588TP-3

3-4. F-4768 Input Terminal Board

Component Side



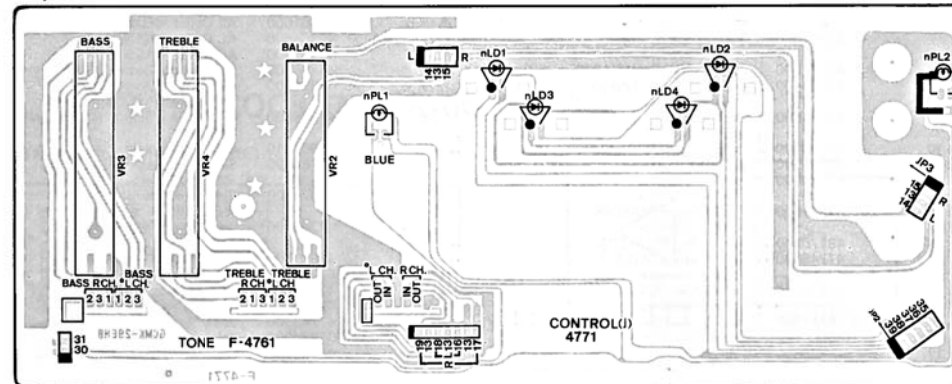
Parts List

Parts No.	Stock No.	Description
oS4	48170800	Push SW., PHONO-TUNER-TAPE-1/CD-TAPE-2
oZ2	46438100	2P Terminal Board, PHONO

Parts No.	Stock No.	Description
oZ3	46371500	4P Terminal Board, TUNER-TAPE-1(REC)
oZ5	46546800	6P Terminal Board, TAPE-1(PLAY)-TAPE-2

3-5. F-4771 Tone Control Volume Board

Component Side



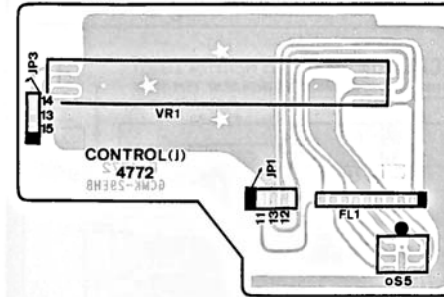
Parts List

Parts No.	Stock No.	Description
jVR2	48171100	250K (W) V.R., BALANCE
jVR3	48171200	50kΩ (C) V.R., BASS
jVR4	48171200	50kΩ (C) V.R., TREBLE
•LED		
nLD1	48172100	BR3447S

Parts No.	Stock No.	Description
nLD2	48172100	BR3447S
nLD3	48172100	BR3447S
nLD4	48172100	BR3447S
nPL1	48191900	12V 0.15A Pilot Lamp
nPL2	46286600	12V 0.15A Pilot Lamp

3-6. F-4772 VOLUME & LOUDNESS SW. Board

Component Side

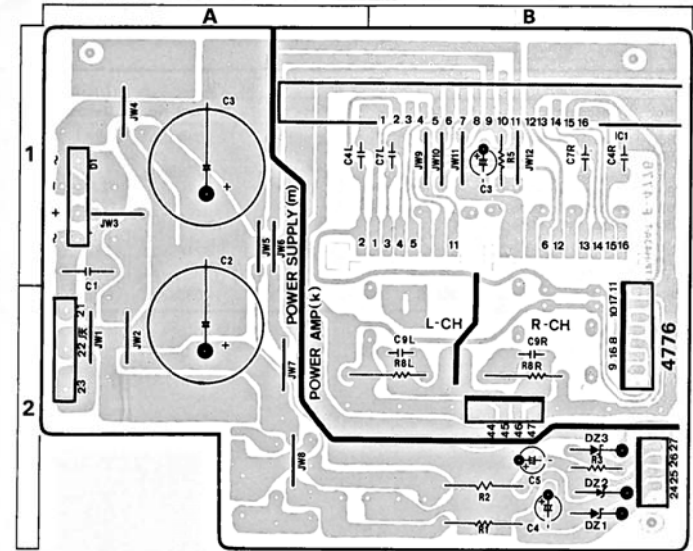


Parts List

Parts No.	Stock No.	Description
jFL1	48172000	CR Module
jVR1	48171000	150kΩ (B) V.R., VOLUME
oS5	48183000	Push SW., LOUDNESS

3-7. F-4776 Power Supply & Power Amp Board (Stock No. 00857301)

Component Side

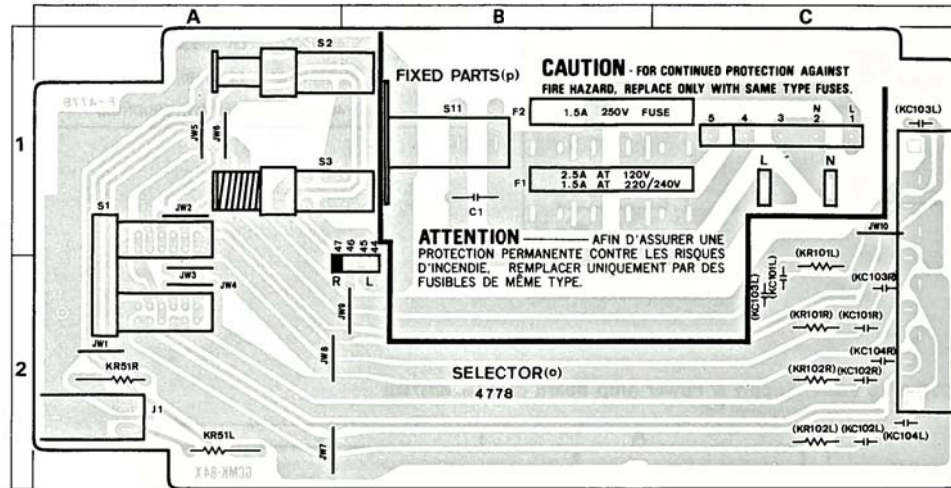


Parts List

Parts No.	Stock No.	Description
•IC		
ΔkIC1	46367600	STK4843
kC9	46283700	0.047μF 50V F.C.
ΔkR5	46229000	100Ω 1/2W N.I.R.
ΔkR8	46227800	10Ω 1/2W N.I.R.
•Diode		
ΔmD1	03117000	RB152-LFF
•Zener Diode		
mDZ1	46115000	05Z18-X
or	46115100	05Z18-Y

Parts No.	Stock No.	Description
mDZ2	46115000	05Z18-X
or	46115100	05Z18-Y
mDZ3	46109000	05Z2.7-X
or	46109100	05Z2.7-Y
ΔmR1	46250400	820Ω 1/2W N.I.R.
ΔmR2	46250200	560Ω 1/2W N.I.R.
ΔmR3	46230200	1kΩ 1/2W N.I.R.
mC1	08680400	0.01μF 500V C.C.
mC2	46363300	3900μF 42V E.C.
mC3	46363300	3900μF 42V E.C.

3-8. F-4778 SPEAKERS Terminal, POWER & SPEAKERS SW. Board  
Component Side



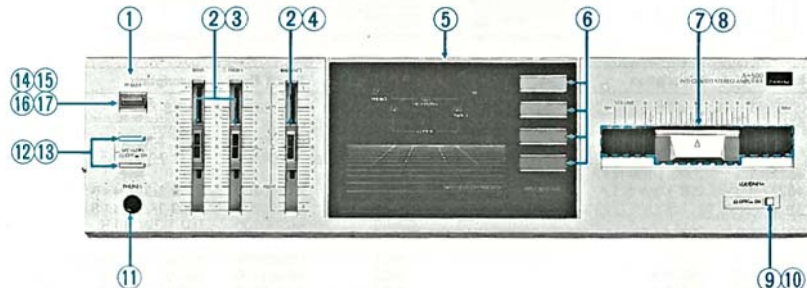
Parts List

Parts No.	Stock No.	Description
Δ KR101	46227800	10Ω 1/2W N.I.R.
Δ KR102	46227800	10Ω 1/2W N.I.R.
oS1	48170900	Push SW., SPEAKERS
oS2	46414000	Push SW., Mute SW.
oS3	46360800	Push SW., Mute SW.
oJ1	46265700	Jack, PHONES
oZ4	46947500	8P Terminal Board, SPEAKERS

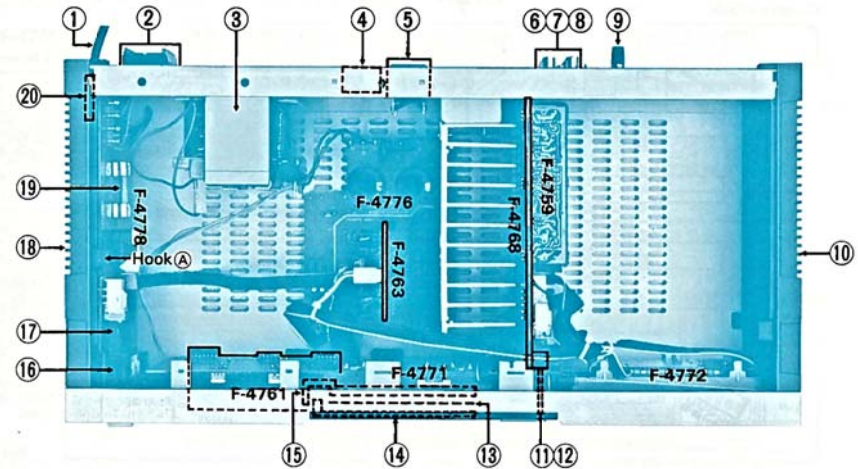
Parts No.	Stock No.	Description
Δ pF1	07184800	1.25A 250V Fuse (220V/240V) <EU-BS-AS>
Δ	07188500	1.5A 250V Fuse (220V/240V) <XX>
Δ	07188700	2.5A 250V Fuse (120V) <XX-UL-CSA>
Δ pF2	07188500	1.5A 250V Fuse (120V/220V/240V) <XX-V>
Δ pS11	46364300	Push SW., POWER

4. OTHER PARTS

4-1. Front View



4-2. Top View



Parts List <Front View>

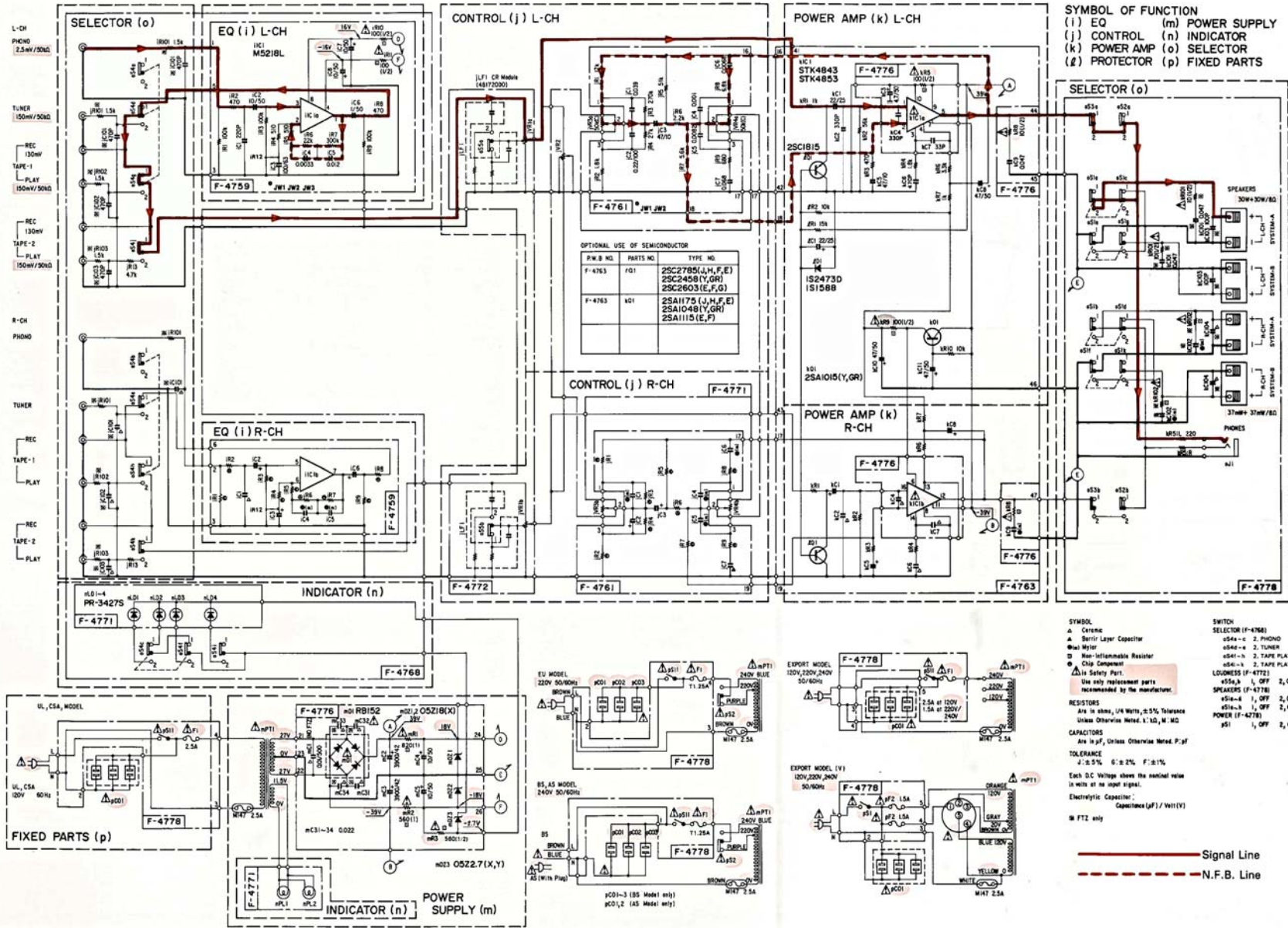
Parts No.	Stock No.	Description
1	47760700	Front Panel Ass'y <Silver Model>
	47760800	Front Panel Ass'y <Black Model>
2	47732900	Slide Knob, BASS-TREBLE-BALANCE
3	48171200	50kΩ Slide V.R., BASS-TREBLE
4	48171100	250kΩ Slide V.R., BALANCE
5	47874500	Bonnet <Silver Model>
	47874600	Bonnet <Black Model>
6	48170800	Push SW., PHONO-TUNER-TAPE-1/CD-TAPE-2
7	47761400	Knob Ass'y VOLUME <Silver Model>
	47761500	Knob Ass'y VOLUME <Black Model>
8	48171000	150kΩ (B) V.R., VOLUME
9	47763400	Push Knob, LOUDNESS <Silver Model>
	47763500	Push Knob, LOUDNESS <Black Model>
10	48183000	Push SW., LOUDNESS
11	46265700	Jack, PHONES
12	47716800	Push Knob, SPEAKERS <Silver Model>
	07911000	Push Knob, SPEAKERS <Black Model>
13	48170900	Push SW., SPEAKERS
14	47746800	Push Knob, POWER <Silver Model>
	47746900	Push Knob, POWER <Black Model>
Δ 15	46364300	Push SW., POWER
16	46414000	Push SW., Mute SW.
17	46360800	Push SW., Mute SW.

Parts No.	Stock No.	Description
Δ 2	07204200	Power Supply Cord <AS>
	46947500	8P Terminal Board, SPEAKERS
Δ 3	15007911	Power Transformer <XX>
	15007912	Power Transformer <UL-CSA>
Δ 4	15007915	Power Transformer <EU-BS-AS>
	15019409	Power Transformer <XX-V>
Δ 5	48175200	Voltage Selector <XX-V>
	07204700	Slide SW., Voltage Selector <EU-BS-AS>
Δ 6	46360100	AC Outlet <XX-XX-V-UL>
	48184800	AC Outlet <CSA>
	46161000	AC Outlet <EU>
	46364800	AC Outlet <BS>
	46580600	AC Outlet <AS>
Δ 7	46438100	2P Terminal Board, PHONO
	46371500	4P Terminal Board, TUNER-TAPE-1(REC)
8	46546800	6P Terminal Board, TAPE-1(PLAY)-TAPE-2
9	22301510	GND Terminal
10	47768700	Side Panel Ass'y (Right) <Silver Model>
	47874800	Side Panel Ass'y (Right) <Black Model>
11	47763800	Joint Shaft, PHONO-TUNER-TAPE-1/CD
12	47873500	Joint Shaft, TAPE-2
13	47764100	Illumination Plate
14	47733300	Display Plate
15	47822400	Illumination Plate Holder
16	47763900	Joint Shaft (1), POWER
17	07934000	Joint Shaft (2), POWER
18	47768800	Side Panel Ass'y (Left) <Silver Model>
	47874900	Side Panel Ass'y (Left) <Black Model>
Δ 19	07188700	Fuse 2.5A 250V (120V) <XX-UL-CSA>
Δ	07188500	Fuse 1.5A 250V (220V/240V) <XX>
Δ	07184800	Fuse 1.25A 250V (220V/240V) <XX-V>
20	47770900	Power Supply Cord Cover

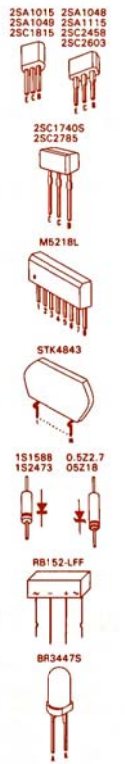
Parts List <Top View>

Parts No.	Stock No.	Description
Δ 1	38004700	Power Supply Cord <XX-XX-V-UL>
Δ	48187500	Power Supply Cord <CSA>
Δ	38004500	Power Supply Cord <EU>
Δ	38004300	Power Supply Cord <BS>

# 5. SCHEMATIC DIAGRAM



\* Design and specifications subject to change without notice for improvement.  
 \* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.  
 \* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



**SYMBOL**  
 A Ceramc  
 A Barrier Layer Capacitor  
 M Mylar  
 R Non-Inductance Resistor  
 C Chip Component  
 S Safety Res.

**SWITCH**  
 SELECTOR (F-4776)  
 #54a = 2, PHONO  
 #54a = 2, TUNER  
 #54-h = 2, TAPE PLAY-1  
 #54-h = 2, TAPE PLAY-2  
 LOGGERS (F-4772)  
 #55a, 1, OFF, 2, ON  
 SPEAKERS (F-4778)  
 #55a-4, 1, OFF, 2, ON (SYSTEM-A)  
 #55a-3, 1, OFF, 2, ON (SYSTEM-B)  
 POWER (F-4778)  
 #51, 1, OFF, 2, ON

**RESISTORS**  
 Are in ohms, 1/4 W, 5% tolerance  
 Unless Otherwise Noted: K, M, G

**CAPACITORS**  
 Are in pF, Unless Otherwise Noted: P, μF

**TOLERANCE**  
 J: ±5% G: ±2% F: ±1%

Each D.C. Voltage shows the nominal value in volts at no load signal.

Electricity Capacitance (μF) / Volt (V)

M FTZ only

— Signal Line  
 - - - N.F.B. Line

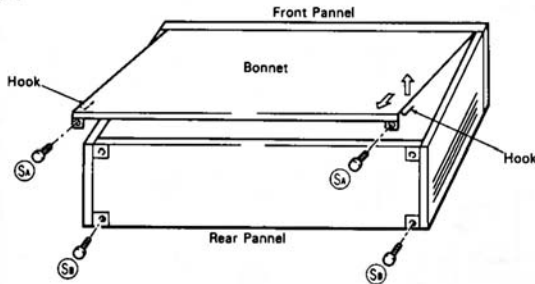
1  
 2  
 3  
 4  
 5  
 6

## 5 6. MAIN PARTS REPLACEMENT

### A. Bonnet (See Fig. 6-1)

- 1) Remove two screws (S<sub>a</sub>).
- 2) Pull the rear side of the bonnet to remove the hooks and then remove bonnet.

Fig. 6-1



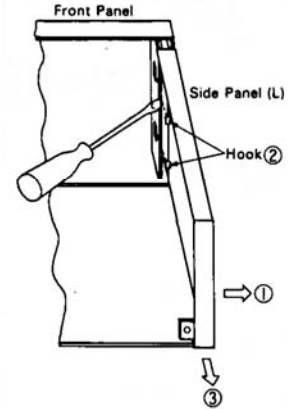
### B. Bottom Plate

- 1) Remove two screws (S<sub>b</sub>) (Fig. 6-1).
- 2) Pull the rear side of the bonnet to remove the hooks and then remove bottom plate.

### C. Side Panel L (R) (See 4-2. Top View & Fig. 6-2)

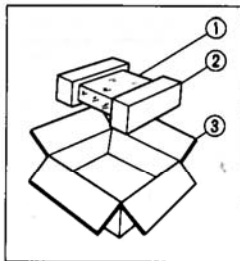
- 1) Remove bonnet and bottom plate.
- 2) Push up hook (A) of side panel ass'y and separate F-4778 board from side panel ass'y. <Side Panel L>
- 3) Shift the position of the side panel L (R) 1.5cm in the arrow direction (1).
- 4) Remove the hooks (2) of the side panel from front panel and then pull it the arrow direction (3) to remove the side panel L (R).

Fig. 6-2



## 7. PACKING LIST

Parts No.	Stock No.	Description
1	47859900	Vinyl Cover
2	47764600	Styrofoam Packing
3	47764200	Carton Case <Silver Model> (XX·UL·CSA·EU·BS·AS)
	47764300	Carton Case <Black Model> (XX·UL·CSA·EU·BS·AS)
	47764400	Carton Case <Silver Model> (XX-V)
	47764500	Carton Case <Black Model> (XX-V)



## 8. ACCESSORY LIST

Stock No.	Description
46966300	Operating Instruction

•Note: XX-V<EXPORT (V)> Standard Version with Inner Voltage Selector.  
(“V” mark is indicated on the carton case.)





SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:  
SANSUI ELECTRONICS G.M.B.H.:

14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan  
PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)  
1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.  
17150 South Margay Ave. Carson, California 90746 U.S.A.  
3036 Koapaka Street, Honolulu, Hawaii 96819 U.S.A.  
Unit 10A, Lyon Industrial Estate, Rockware Avenue, Geenford, Middx UB6, OAA, England  
Pau Ehrich Strasse 8, 8074 Rödermark 2, West Germany

(SM1-215)

Printed in Japan (D40420M) <Stock No. 36513100>