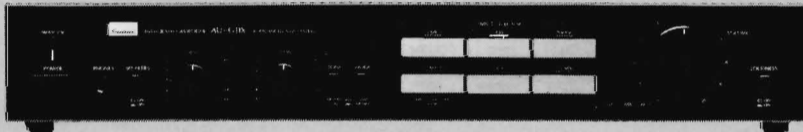


# SERVICE MANUAL

INTEGRATED AMPLIFIER

## SANSUI AU-G11X



### CAUTION

1. Parts identified by the  $\triangle$  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 20 to 20,000 Hz, with no more than 0.008% total harmonic distortion.

25 watts per channel into 8 ohms.

**Load impedance**..... 8 ohms

#### Total harmonic distortion

..... less than 0.008% at or below rated min. RMS power output

#### Intermodulation distortion

(60 Hz: 7 kHz=4:1 SMPTE method)

..... less than 0.008% at rated power output

#### Frequency response (at 1 watt)

Overall (from AUX, CD, TUNER, TAPE PLAY-1, 2)

..... 10 Hz to 180,000 Hz, +0 dB  
-3.0 dB

#### RIAA curve deviation (PHONO, 20 Hz to 20 kHz)

..... +0.2 dB, -0.5 dB

#### Input sensitivity and impedance (at 1 kHz)

PHONO..... 2.5 mV/47 kohms

(Max. input capability; 150 mV at 1 kHz, less than 0.005% total harmonic distortion)

CD, AUX, TUNER..... 150 mV/47 kohms

TAPE PLAY-1, 2..... 150 mV/47 kohms

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

PHONO..... 83 dB

CD, AUX, TUNER..... 100 dB

TAPE PLAY-1, 2..... 100 dB

#### Controls and Filter

BASS..... +8 dB, -8 dB at 50 Hz

TREBLE..... +8 dB, -8 dB at 10 kHz

LOUDNESS..... +9 dB at 50 Hz

+5 dB at 10 kHz

(VOLUME: -30 dB position)

#### Power requirements

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

For U.S.A. & Canada

..... 120V (60 Hz)

Power consumption.... 100 watts Rated

140 watts Maximum

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

76 mm (3") H

277 mm (10-15/16") D

**Weight**..... 5.2 kg (11.7 lbs) net

6.0 kg (13.2 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.

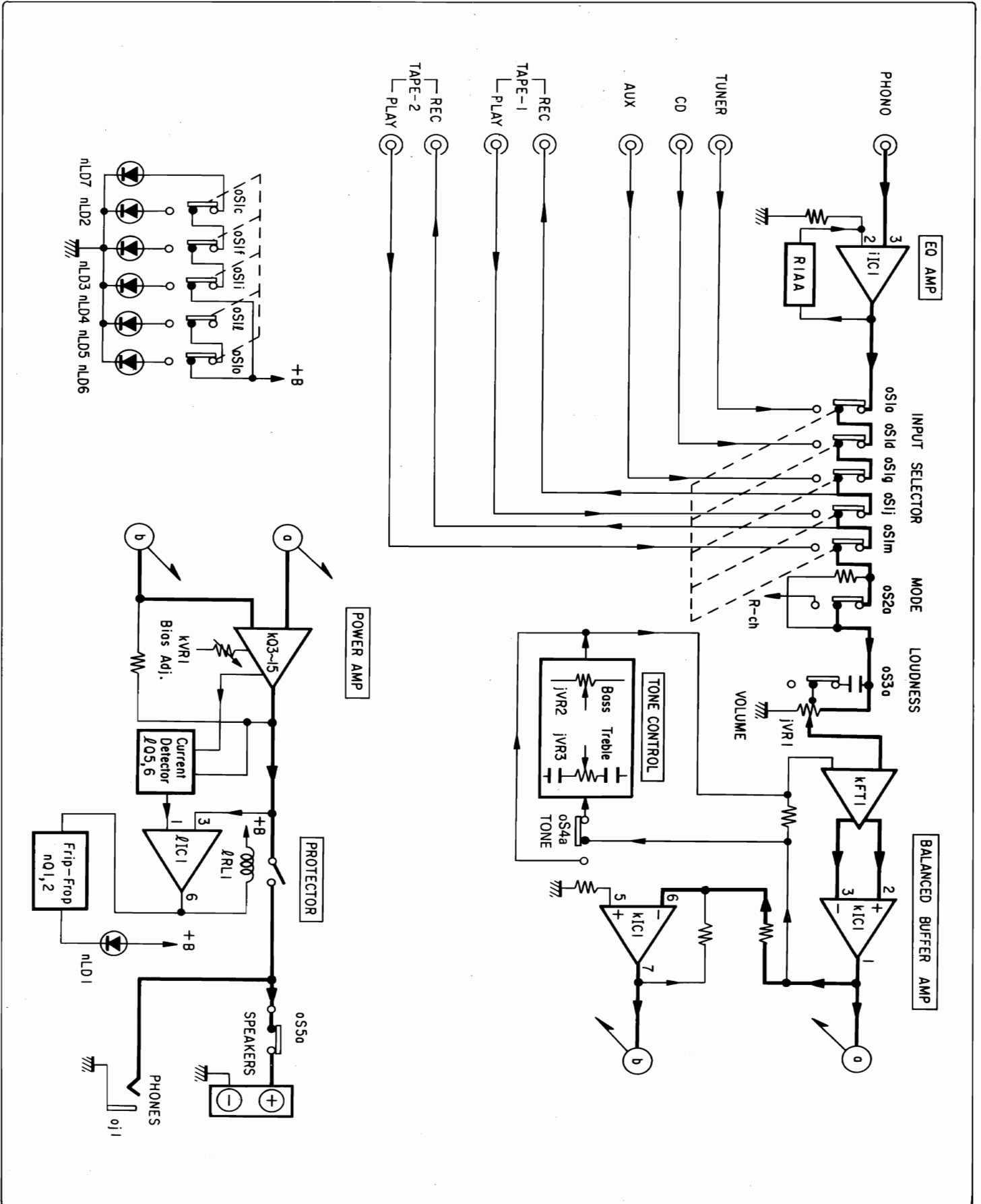
## CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS and XX (EXPORT) 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.
  - 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**

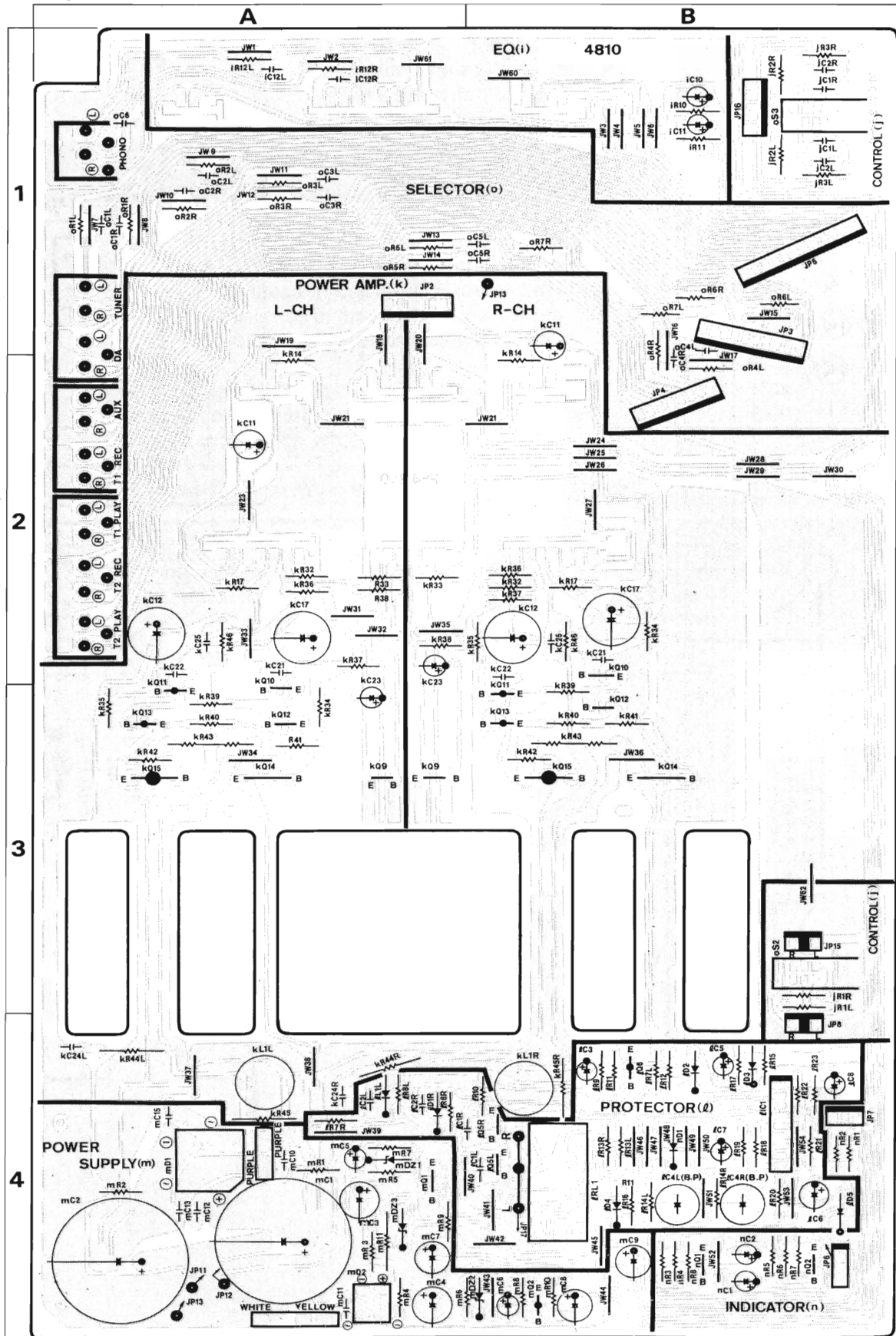
C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R. : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene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

# 1. BLOCK DIAGRAM



# 2. PARTS LOCATION & PARTS LIST

## 2-1. F-4810 Power Amp. & Power Supply Board (Stock No. 00845501) Component Side



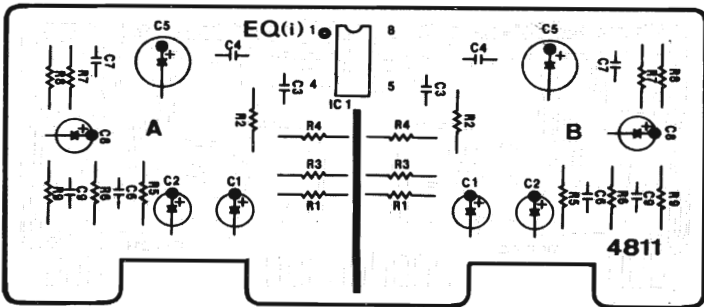
**Parts List <F-4810>**

Parts No.	Stock No.	Description
△iR10	46227800	10Ω 1/2W N.I.R.
△iR11	46227800	10Ω 1/2W N.I.R.
jC1	46696000	0.022μF 50V F.C.
<b>•Transistor</b>		
△kQ9	03067401	2SC1845
kQ10	48061801	2SC3244
kQ11	48064001	2SA1284
kQ12	07206401	2SD600K
kQ13	07206301	2SB631K
△kQ14	03068701	2SC2577
△kQ15	03011801	2SA1102
△kR34	46228600	47Ω 1/2W N.I.R.
△kR35	46228600	47Ω 1/2W N.I.R.
△kR39	46230300	1.2kΩ 1/2W N.I.R.
△kR40	46229100	120Ω 1/2W N.I.R.
△kR41	46227400	4.7Ω 1/2W N.I.R.
△kR42	46227400	4.7Ω 1/2W N.I.R.
△kR43	46644300	0.22Ω × 2 3W Ce.R.
△kR44	46247700	4.7Ω 1W N.I.R.
△kR45	46247300	2.2Ω 1W N.I.R.
kC24	46697600	0.1μF 50V F.C.
kL1	46851900 or 46851901	0.8μH Inductor 0.82μH Inductor
<b>•Transistor</b>		
IQ5	46581701	2SC1845
IQ6	46581601	2SA992
<b>•IC</b>		
iIC1	46207600	TA7317P
<b>•Diode</b>		
ID1	03117600 or 46086000	1S2473T77 1S1588TP-3
ID2	03117600 or 46086000	1S2473T77 1S1588TP-3
ID3	03117600 or 46086000	1S2473T77 1S1588TP-3
ID4	03117700	10E-2
ID5	03111600 or 03111800	1S2473 1S1588
IC1	46283300	0.022μF 50V F.C.
IC4	08460200	220μF 6.3V E.B.
IRL1	46254900	Relay, Protector

Parts No.	Stock No.	Description
<b>•Transistor</b>		
△mQ1	48061801	2SC3244
△mQ2	48064001	2SA1284
<b>•Diode</b>		
△mD1	46194700	RB402-LFF
△mD2	46273600	DBB10-B
<b>•Zener Diode</b>		
mDZ1	46115400 or 46115500	05Z20-Y 05Z20-Z
mDZ2	46115400 or 46115500	05Z20-Y 05Z20-Z
mDZ3	46113700 or 46113800	05Z11-Z 05Z12-X
△mR3	46228600	47Ω 1/2W N.I.R.
△mR4	46228600	47Ω 1/2W N.I.R.
△mR9	46228800	68Ω 1/2W N.I.R.
△mR10	46228800	68Ω 1/2W N.I.R.
△mR11	46624900	330Ω 2W N.I.R.
mC1	46606500	4700μF 50V E.C.
mC2	46606500	4700μF 50V E.C.
mC10	08680400	0.01μF 500V C.C.
mC11	08680400	0.01μF 500V C.C.
<b>•Transistor</b>		
nQ1	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785
nQ2	46367101 or 46367301 or 46391901	2SC2603 2SC2458 2SC2785
<b>•Diode</b>		
nD1	03117600 or 46086000	1S2473T77 1S1588TP-3
oS2	46361000	Push SW., MODE
oS3	46361000	Push SW., LOUDNESS
oZ1	46438100	2P Terminal Board, PHONO
oZ2	46363800	4P Terminal Board, TUNER, DA
oZ3	46363800	4P Terminal Board, AUX, REC-1
oZ4	46363900	6P Terminal Board, PLAY-1, PLAY-2, REC-2

**2-2. F-4811 Equalizer Amp. Board (Stock No. 00845601)**

Component Side

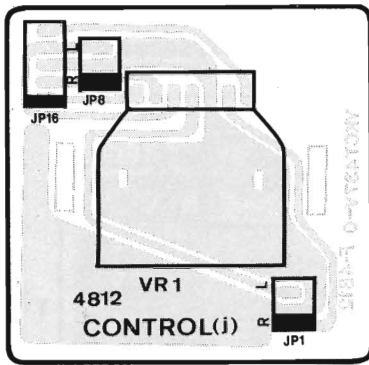


**Parts List**

Parts No.	Stock No.	Description
<b>•IC</b>		
iIC1	46638700	M5220P
iC3	46654000	220pF 100V F.C.
iC4	46653200	100pF 100V F.C.
iC6	46697000	0.056μF 50V F.C.
iC7	46695700	0.016μF 50V F.C.
iC9	46282400	3300pF 50V F.C.
iC13	46703300	0.1μF 50V F.C.

2-3. F-4812 VOLUME Control Board

Component Side

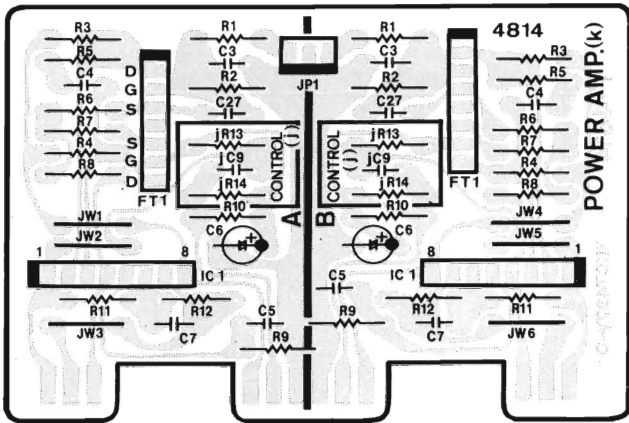


Parts List

Parts No.	Stock No.	Description
jVR1	46555900	150kΩ × 2 V.R., VOLUME

2-4. F-4814 Balanced Buffer Amp. Board (Stock No. 00845901)

Component Side

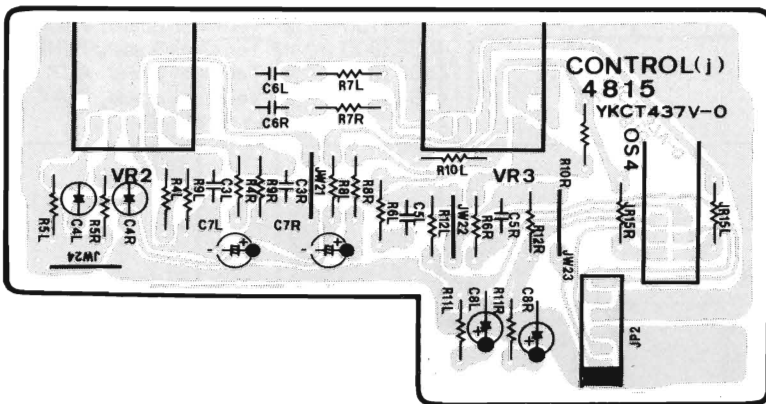


Parts List

Parts No.	Stock No.	Description
•FET		
kFT1	07110000 or 07110001	μPA68H-L μPA68H-M
•IC		
kIC1	46288800	M5220L
kC3	46653200	100pF 100V F.C.
kC4	46655200	680pF 100V F.C.
kC5	46283300	0.022μF 50V F.C.

2-5. F-4815 Tone Control Board

Component Side



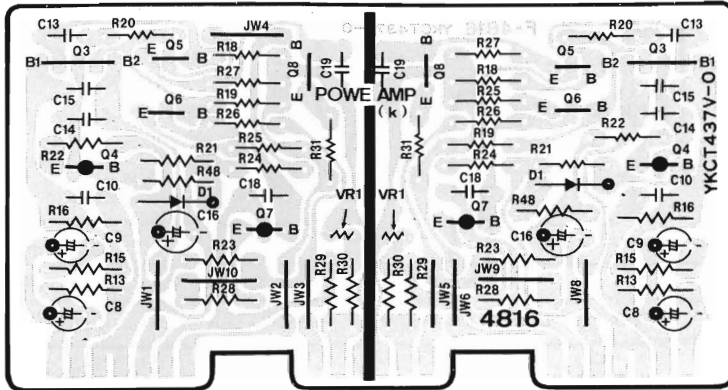
Parts List

Parts No.	Stock No.	Description
jC3	46697300	0.075μF 50V F.C.
jC4	46936900	0.15μF 50V F.C.
jC5	46695500	0.013μF 50V F.C.
jC6	46283500	0.033μF 50V F.C.
jC7	08452000	4.7μF 50V E.B.

Parts No.	Stock No.	Description
jVR2	48149400	50kΩ(C) × 2 V.R., BASS
jVR3	48149400	50kΩ(C) × 2 V.R., TREBLE
oS4	46365500	Push SW., TONE

2-6. F-4816 Driver Amp. Board (Stock No. 00846101)

Component Side



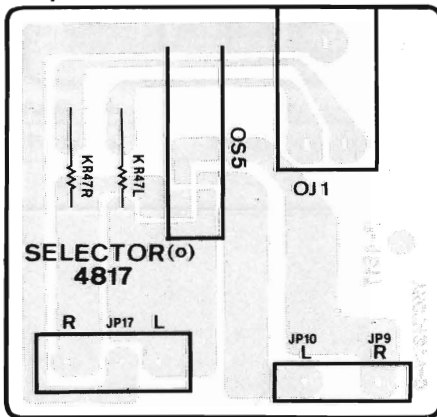
Parts List

Parts No.	Stock No.	Description
• Transistor		
kQ3	03602901	2SA798
kQ4	46392001	2SA1175
kQ5	07208701	2SC2705
kQ6	07208701	2SC2705
kQ7	46728201	2SA1145
	or 48112901	2SA949
kQ8	46728301	2SC2705
	or 48113001	2SC2229

Parts No.	Stock No.	Description
• Diode		
kD1	03117600 or 46086000	1S2473T77 1S1588TP-3
△kR25	46229800	470Ω 1/2W N.I.R.
△kR26	46229800	470Ω 1/2W N.I.R.
△kR27	46229800	470Ω 1/2W N.I.R.
△kR28	46228700	56Ω 1/2W N.I.R.
△kR31	46228700	56Ω 1/2W N.I.R.
kVR1	46840500	470Ω(B) S.V.R., Bias Adj.

2-7. F-4817 SPEAKERS SW. & PHONES Jack Board

Component Side

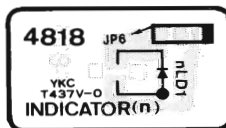


Parts List

Parts No.	Stock No.	Description
△kR47	46229400	220Ω 1/2W N.I.R.
oS5	48156600	Push SW., SPEAKERS
oJ1	46579600	Jack, PHONES

2-8. F-4818 POWER/PROTECTOR Indicator Board

Component Side

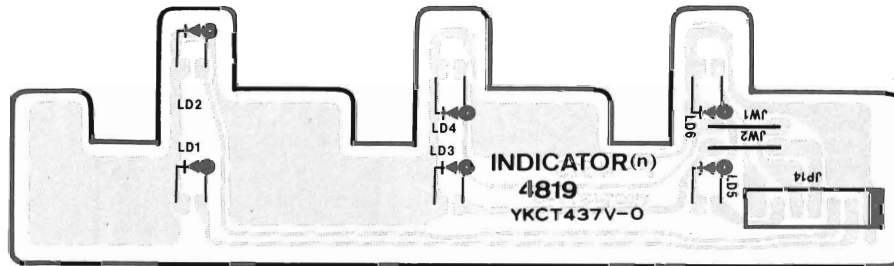


Parts List

Parts No.	Stock No.	Description
nLD1	46169300	LED SEL1210S, Protector

## 2-9. F-4819 Input Indicator Board

Component Side

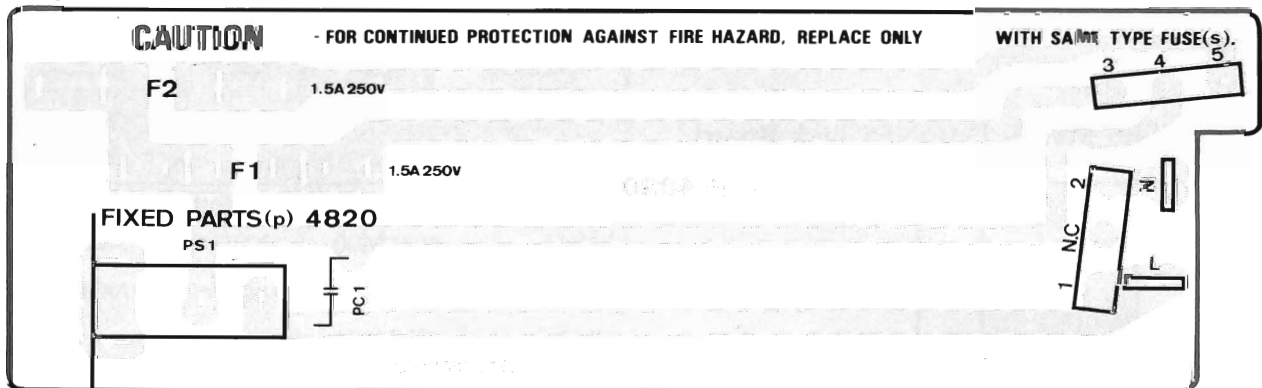


### Parts List

Parts No.	Stock No.	Description
•LED		
nLD2	48076100	SEL2413E, TUNER
nLD3	48076100	SEL2413E, CD
nLD4	48076100	SEL2413E, AUX
nLD5	48076100	SEL2413E, TAPE-1
nLD6	48076100	SEL2413E, TAPE-2
nLD7	48076100	SEL2413E, PHONO

## 2-10. F-4820 POWER SW. Board

Component Side



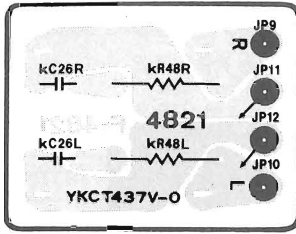
### Parts List

Parts No.	Stock No.	Description
△pC1	46425800	0.01μF 400V C.C.
△pF1	07188500	1.5A 250V Fuse (XX)
△	07188800	3A 250V Fuse (UL,CSA)
△	07184800	1.25A 250V Fuse (EU,BS)
△pF2	07188500	1.5A 250V Fuse (XX 120V)
△pS1	46360300	Push SW., POWER (XX,UL,EU,BS)
△	48064900	Push SW., POWER (CSA)
△pZ1	38005700	Power Supply Cord (XX,UL)
△	48188000	Power Supply Cord (CSA)
△	38004500	Power Supply Cord (EU)
△	38004300	Power Supply Cord (BS)



### 2-11. F-4821 SPEAKERS Terminal Board

Component Side

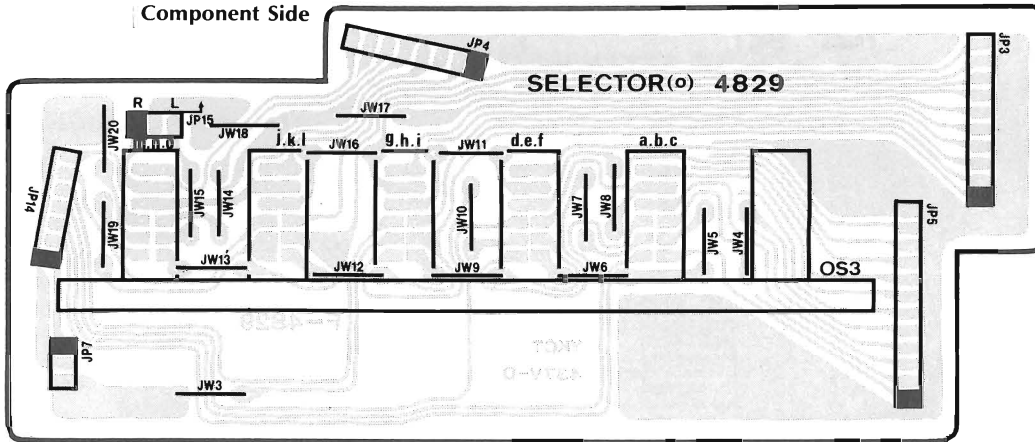


**Parts List**

Parts No.	Stock No.	Description
oZ6	48148900	4P Terminal Board, SPEAKERS

### 2-12. F-4829 INPUT SELECTOR SW. Board

Component Side



**Parts List**

Parts No.	Stock No.	Description
oS1	48149300	Push SW., INPUT SELECTOR







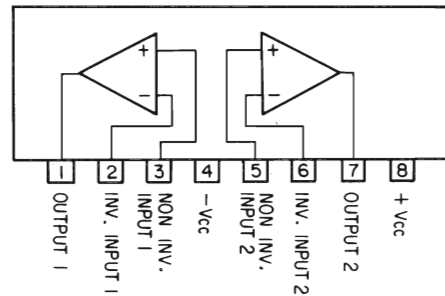
## 5. ADJUSTMENT (See Top View on page 9)

- Note:** 1) Master Volume .... Minimum  
 2) Room Temperature .... 18°C ~ 28°C (65°F ~ 83°F)  
 3) For this adjustment, run the unit for more than 5 minutes after the power is switched ON.  
 4) Before turning ON power switch, set kVR1 on F-4810 to center position.

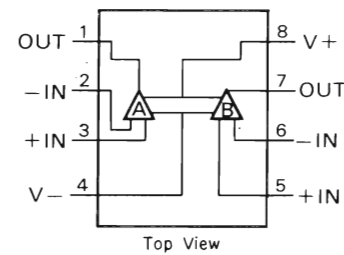
STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	Bias Current Adj. L-CH	Between emitters of power transistors (kQ14 & kQ15) (Across kR43L)	kVR1, L-ch (F-4816)	DC 15mV ± 3mV	
2.	Bias Current Adj. R-CH	Between emitters of power transistors (kQ14 & kQ15) (Across kR43R)	kVR1, R-ch (F-4816)	DC 15mV ± 3mV	

## 6. INTERIOR BLOCK DIAGRAM OF IC

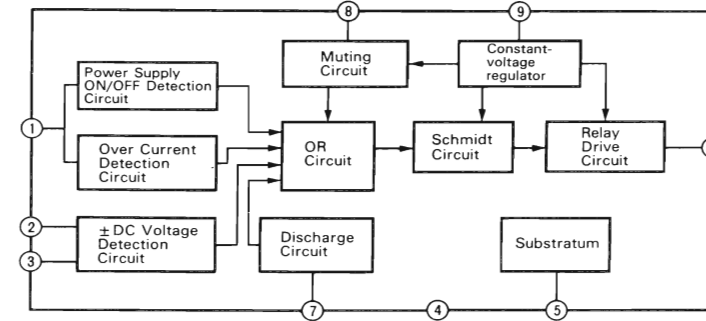
### •M5220L (OP Amp. IC)



### •M5220P (OP Amp. IC)

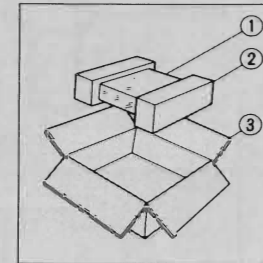


### •TA7317P (Speaker Protector IC)



## 7. PACKING LIST

Parts No.	Stock No.	Description
1	07599500	Vinyl Cover
2	07827220	Styrofoam Packing
3	47708800	Carton Case



## 8. ACCESSORY LIST

Stock No.	Description
46960900	Operating Instruction

**Sansui**

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, 6074 Rödermark 2, West Germany

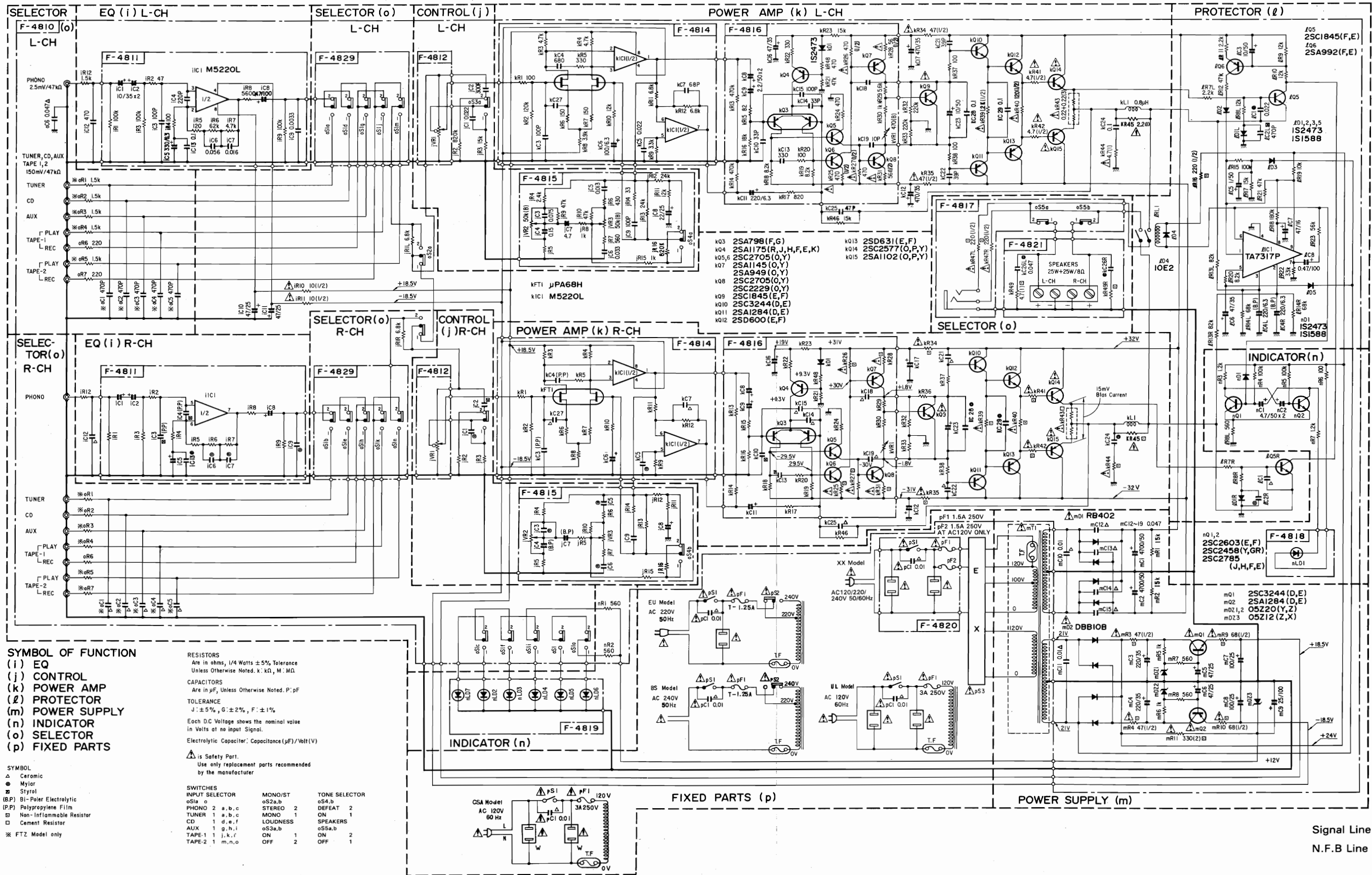
(SM1-209)

Printed in Japan (N40120M) <Stock No. 36499300>



# 4. 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 OF FUNCTION

- (i) EQ
- (j) CONTROL
- (k) POWER AMP
- (l) PROTECTOR
- (m) POWER SUPPLY
- (n) INDICATOR
- (o) SELECTOR
- (p) FIXED PARTS

**RESISTORS**  
 Are in ohms, 1/4 Watts ± 5% Tolerance Unless Otherwise Noted. x: 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)

▲ is Safety Part.  
 Use only replacement parts recommended by the manufacturer

**SWITCHES**

INPUT SELECTOR	MONO/ST	TONE SELECTOR
o51a, o	o52a, b	o54, b
PHONO 2 a, b, c	STEREO 2	DEFEAT 2
TUNER 1 a, b, c	MONO 1	ON 1
CD 1 d, e, f	LOUDNESS	SPEAKERS
AUX 1 g, h, i	o53a, b	o55a, b
TAPE-1 1 j, k, l	ON 1	ON 2
TAPE-2 1 m, n, o	OFF 2	OFF 1

**SYMBOL**

- ▲ Ceramic
- Mylar
- Styral
- (B.P) Bi-Polar Electrolytic
- (P.P) Polypropylene Film
- Non-Flammable Resistor
- Cement Resistor
- \* FTZ Model only

Signal Line  
 N.F.B Line

1  
 2  
 3  
 4  
 5