

SERVICE MANUAL

INTEGRATED AMPLIFIER

SANSUI AU-D101



•SPECIFICATIONS

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz with no more than 0.008% total harmonic distortion.

30 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

Frequency response (at 1 watt)

Overall (from AUX/DA) 20 to 250,000 Hz,
+0 dB, -3.0 dB

RIAA curve deviation (PHONO, 20 Hz to 100 kHz)

..... +0.2 dB, -0.5 dB (REC OUT)

Damping factor (1 kHz, both channels driven)

..... 50 into 8 ohms

Input sensitivity and impedance (at 1 kHz)

PHONO 2.5 mV/47 kilohms

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

AUX/DA, TUNER 200 mV/47 kilohms

TAPE PLAY-1,2 200 mV/47 kilohms

Channel separation (1 kHz, at rated power output)

PHONO 60 dB

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

PHONO 83 dB

AUX/DA, TUNER 100 dB

TAPE PLAY-1,2 100 dB

Controls

BASS +8 dB, -8 dB at 50 Hz

TREBLE +8 dB, -6 dB at 10 kHz

LOUDNESS +9 dB at 50 Hz

+4 dB at 10 kHz

(VOLUME: -30 dB position)

Filter

HIGH -3 dB at 10 kHz (6 dB/oct)

Others

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

Power consumption 150 watts Rated

240 watts Maximum

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

76 mm (2-15/16") H

276 mm (10-7/8") D

Weight 4.8 kg (10.6 lbs.) net

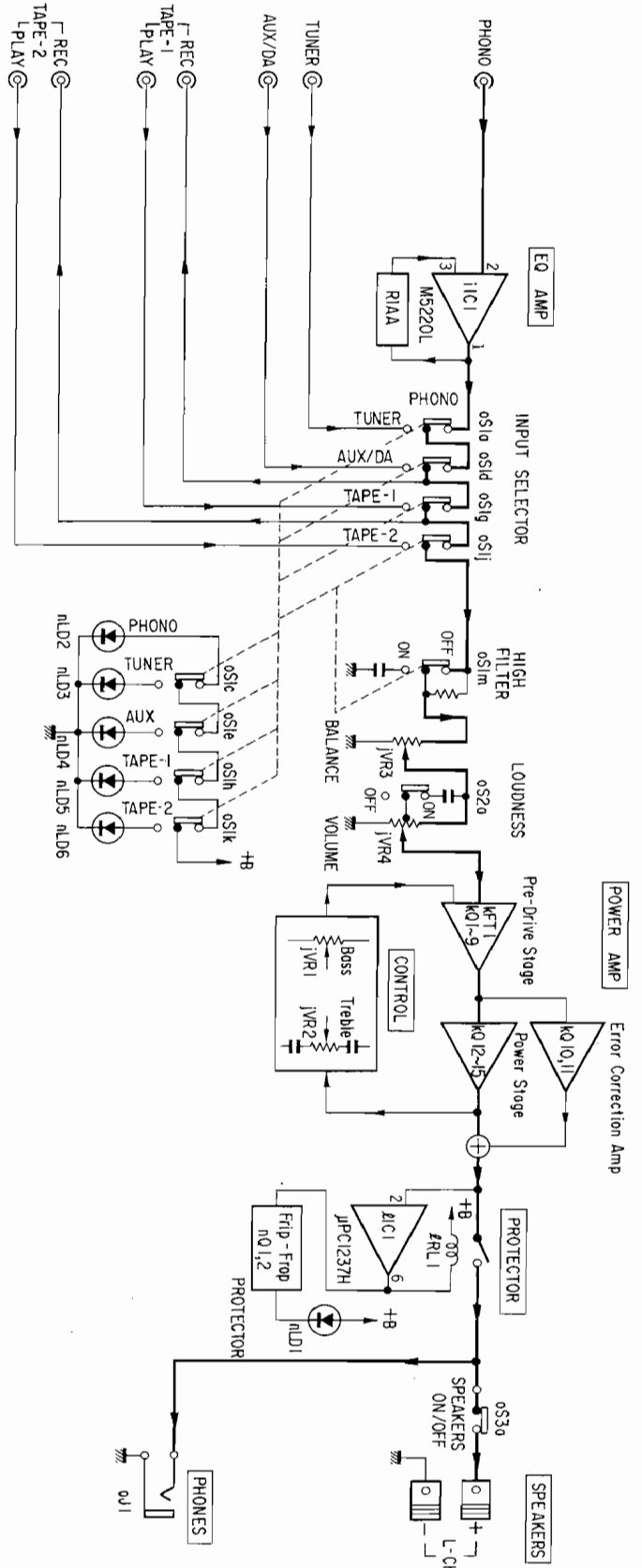
5.6 kg (12.3 lbs.) packed

* Design and specifications subject to change without notice for improvements.

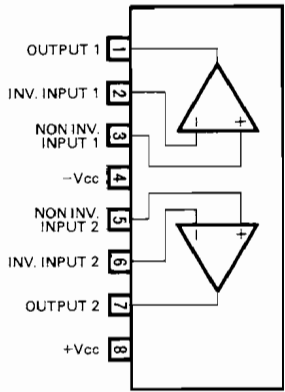
Sansui

SANSUI ELECTRIC CO., LTD.

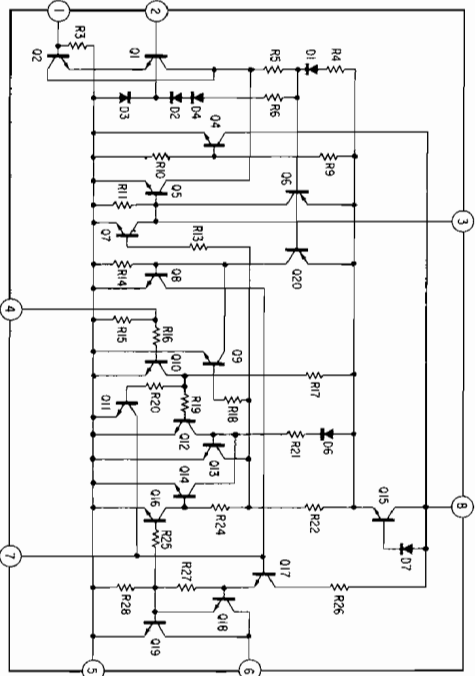
1. BLOCK DIAGRAM



•M5220L (Audio PRE Amp. IC)



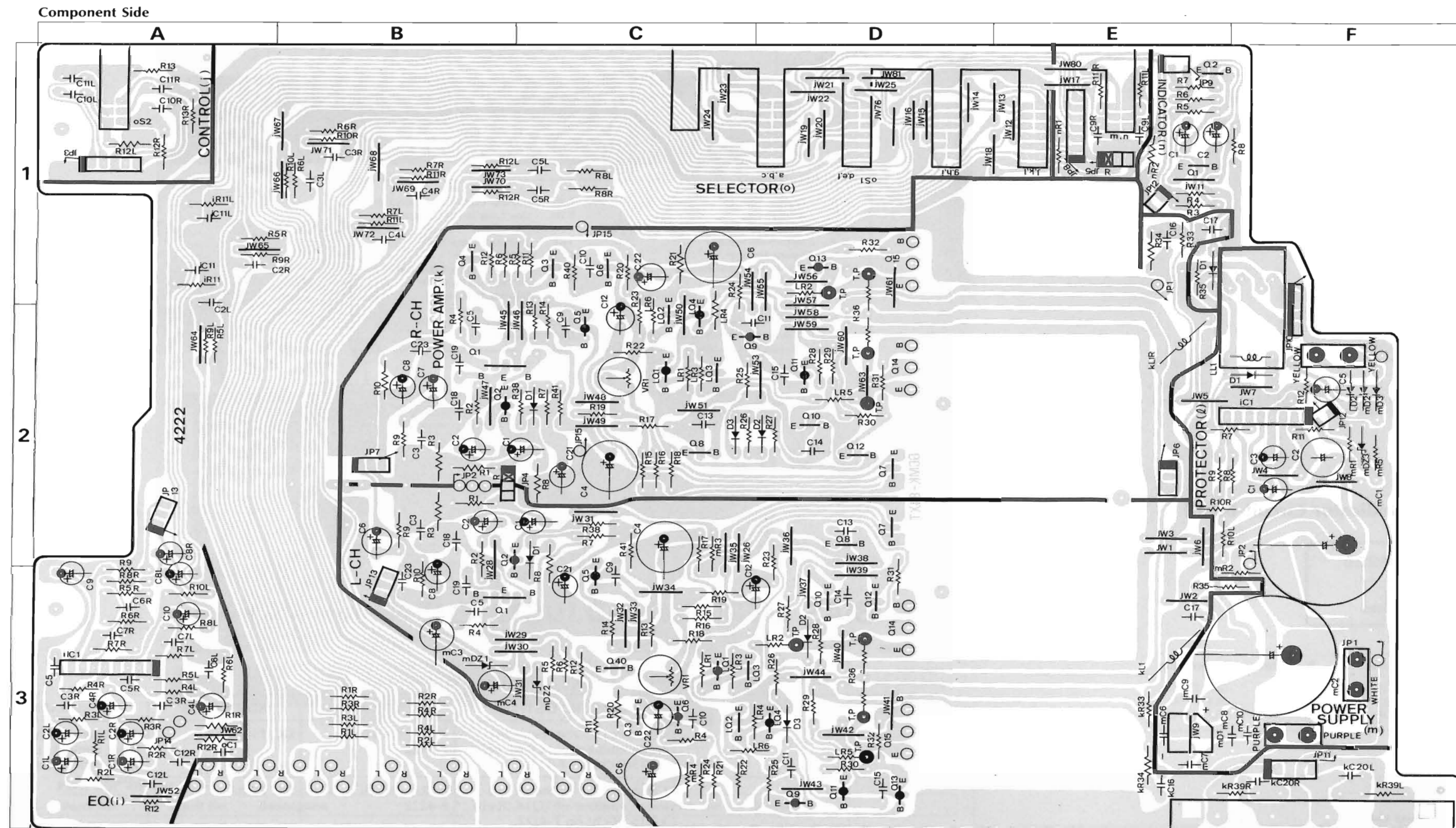
•μPC1237H (Speaker Protector IC)



2. PARTS LOCATION & PARTS LIST

2-1. F-4222 Equalizer Amp. & Power Amp. Circuit Board (Stock No. 00743301)

•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 appended previously to Sansui Manual.



Parts List

| Parts No. | Stock No. | Description |
|-------------|-------------|-------------|
| •IC | | |
| iIC1 | 46288800 | M5220L |
| •Transistor | | |
| kQ1 | 03602901 | 2SA798 |
| kQ2 | 46392001 | 2SA1175 |
| kQ3 | 03062801 | 2SC1735 |
| | or 46127901 | 2SC2910 |
| kQ4 | 03062801 | 2SC1735 |
| | or 46127901 | 2SC2910 |
| kQ5 | 03007901 | 2SA899 |
| kQ6 | 03064001 | 2SC1904 |
| kQ7 | 03068301 | 2SC2320 |
| | or 03059501 | 2SC945 |
| kQ8 | 03062801 | 2SC1735 |

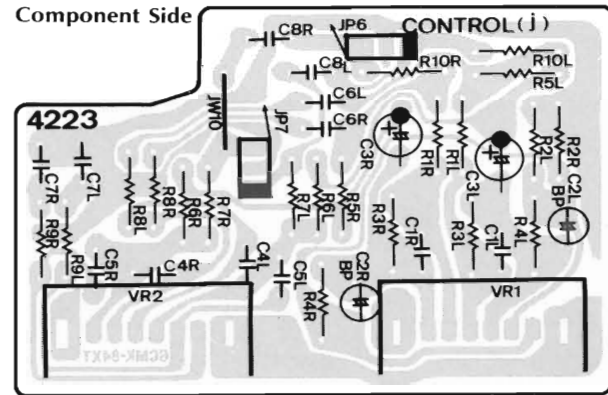
| Parts No. | Stock No. | Description |
|-----------|-----------|--------------------|
| kQ9 | 03007201 | 2SA850 |
| kQ10 | 03085201 | 2SD438 |
| kQ11 | 03033601 | 2SB560 |
| kQ12 | 07206401 | 2SD600K |
| kQ13 | 07206301 | 2SB631K |
| kQ14 | 03068701 | 2SC2577 |
| kQ15 | 03011801 | 2SA1102 |
| •Diode | | |
| kD1 | 03117600 | 1S2473D |
| kD2 | 03117600 | 1S2473D |
| kD3 | 03117600 | 1S2473D |
| kR36 | 46184300 | 0.22Ω x 2 3W Ce.R. |

| Parts No. | Stock No. | Description |
|-------------|-------------------------|--------------------------------|
| kl1 | 46394500 or 46394501 | Inductor Coil Inductor Coil |
| kVR1 | 10350500 | 470Ω(B) S.V.R., Bias adj. |
| •Transistor | | |
| iQ1 | 46367001 | 2SA1115 |
| iQ2 | 46367101 | 2SC2603 |
| iQ3 | 46367101 | 2SC2603 |
| iQ4 | 46367001 | 2SA1115 |
| •IC | | |
| iIC1 | 46578600 | μPC1237H |

| Parts No. | Stock No. | Description |
|--------------|--|---|
| •Diode | | |
| iD1 | 03117700 | 10E-2 |
| iD2 | 03117600 | 1S2473D |
| IC2 | 08460100 | 100μF 6.3V E.B. |
| IL1 | 46254900 | Relay AP24D2 |
| •Diode | | |
| mD1 | 46194700 | RB402 |
| mD2 | 03117700 | 10E-2 |
| mD3 | 03117700 | 10E-2 |
| •Zener Diode | | |
| mDZ1 | 46115600 | O5Z22 |
| mDZ2 | 46115600 | O5Z22 |
| mDZ3 | 03178800 | RD12E-B |
| mC1 | 46606500 | 4700μF 50V E.C. |
| mC2 | 46606500 | 4700μF 50V E.C. |
| mC6 | 08680300 | 4700pF 500V C.C. |
| mC7 | 08680300 | 4700pF 500V C.C. |
| mC8 | 08680300 | 4700pF 500V C.C. |
| mC9 | 08680300 | 4700pF 500V C.C. |
| mC10 | 08680400 | 10000pF 500V C.C. |
| •Transistor | | |
| nQ1 | 46367301 or 46367101 or 46391901 | 2SC2458 2SC2603 2SC2785 |
| nQ2 | 46367301 or 46367101 or 46391901 | 2SC2458 2SC2603 2SC2785 |
| •Diode | | |
| nD1 | 03117600 | 1S2473D |
| oS1 | 46603100 | Push SW., INPUT SELECTOR, HIGH FILTER |
| oS2 | 46603000 | Push SW., LOUDNESS |
| | 46546800 | 6P Input Terminal, PHONO, TUNER,AUX/DA |
| | 46363800 | 4P Input Terminal, TAPE-1 |
| | 46363800 | 4P Input Terminal, TAPE-2 |
| | 46364000 | 4P Speaker Terminal |

•Note: The circuit board, F-4223, F-4224, F-4225, F-4225, F-4226 & F-4227 are not supplied as the assembled. However, the individual parts on the circuit board are provided by orders.

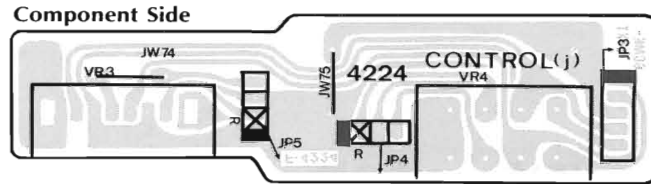
2-2. F-4223 BASS, TREBLE Volume Circuit Board



Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|--------------------------|
| jVR1 | 46578800 | 50kΩ(C) × 2 V.R., BASS |
| jVR2 | 46578800 | 50kΩ(C) × 2 V.R., TREBLE |

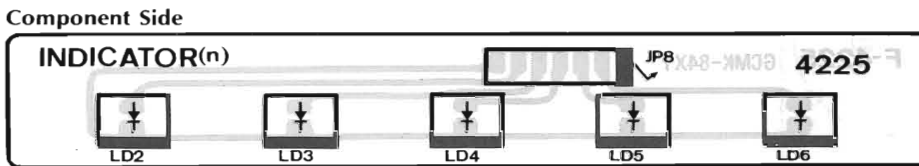
2-3. F-4224 VOLUME, BALANCE Volume Circuit Board



Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|---------------------------|
| jVR3 | 46097500 | 250kΩ(MN) V.R., BALANCE |
| jVR4 | 46159900 | 150kΩ(B) × 2 V.R., VOLUME |

2-4. F-4225 PHONO, TUNER, AUX/DA, TAPE-1, TAPE-2 Indicator Circuit Board



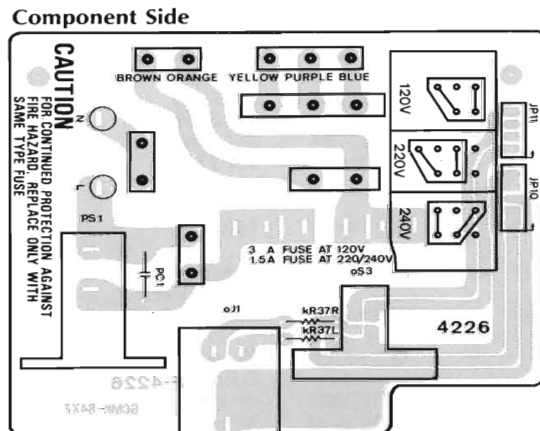
Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------|
| •LED | | |
| nLD2 | 46173900 | SLP-270C |
| nLD3 | 46173900 | SLP-270C |

Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------|
| nLD4 | 46173900 | SLP-270C |
| nLD5 | 46174000 | SLP-470C |
| nLD6 | 46174000 | SLP-470C |

2-5. F-4226 POWER, SPEAKERS Switch Circuit Board



Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|---------------------------|
| oS3 | 46578900 | Push SW., SPEAKERS |
| oJ1 | 46096600 | Jack, PHONES |
| pC1 | 46425800 | 10000pF 400V C.C. |
| pF1 | 07188800 | Fuse 3.0A 250V (120V) |
| | 07188500 | Fuse 1.5A 250V (220/240V) |
| pS1 | 46360300 | Push SW., POWER |

2-6. F-4227 PROTECTOR Indicator Circuit Board



Parts List

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------|
| •LED | | |
| nLD1 | 46169300 | SEL-1210S |

•Abbreviations

| | |
|--|---|
| C.R. : Carbon Resistor | E.B. : Bi-Polar Electrolytic Capacitor |
| S.R. : Solid Resistor | E.B.L. : Low Leak Bi-Polar 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 |
| C.C. : Ceramic Capacitor | G.C. : Gimmic Capacitor |
| C.T. : Ceramic Capacitor, Temperature Compensation | V.R. : Variable Resistor |
| E.C. : Electrolytic Capacitor | S.V.R. : Semi Variable Resistor |
| E.L. : Low Leak Electrolytic Capacitor | SW. : Switch |

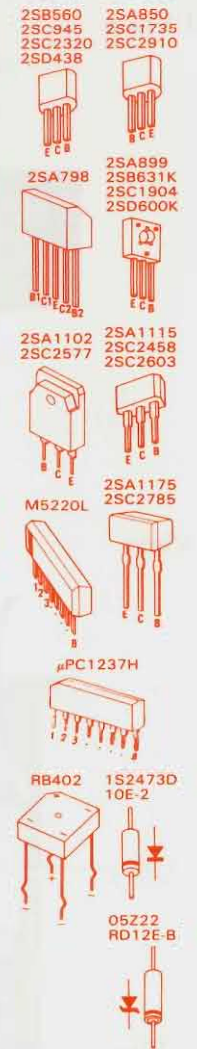
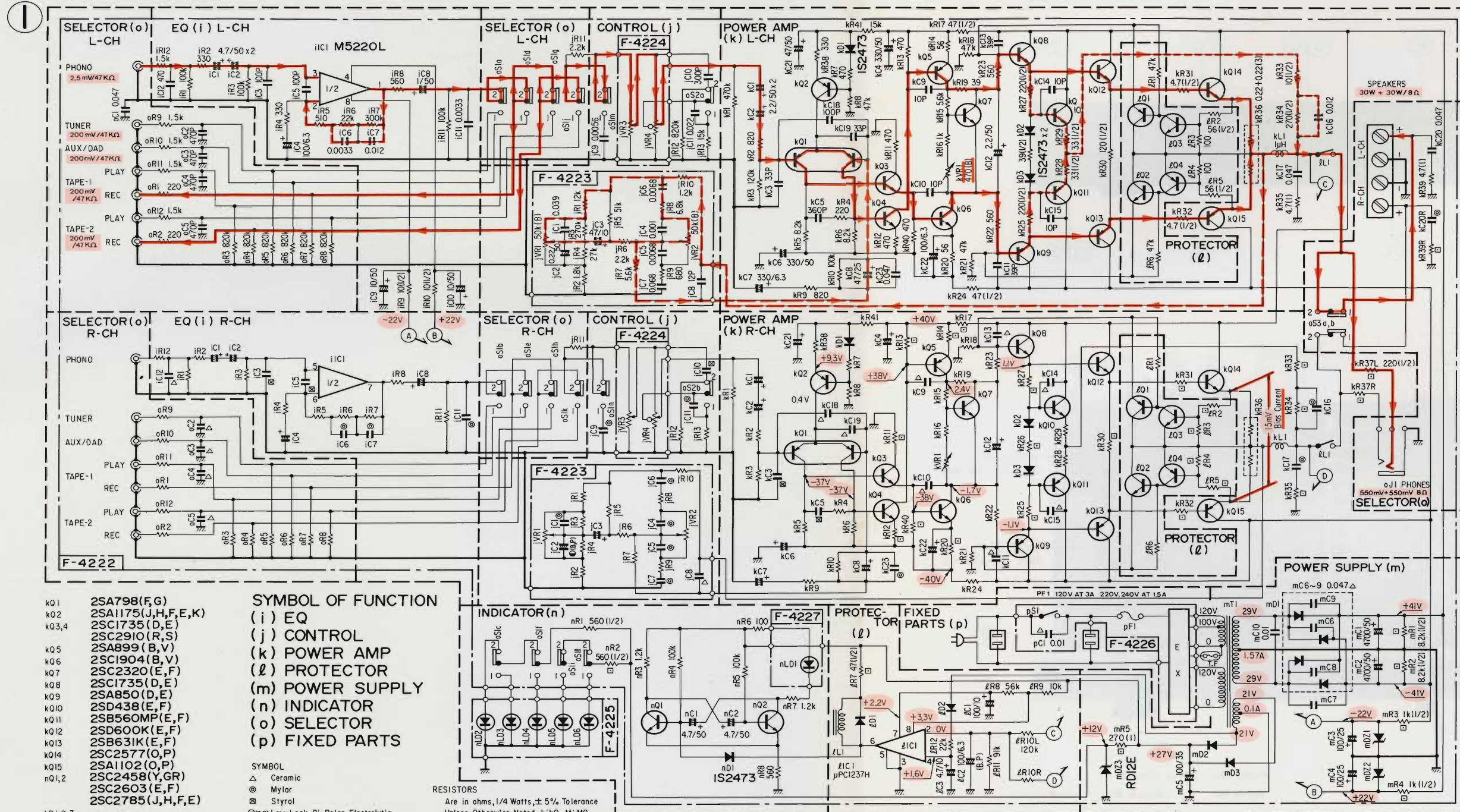
3. BIAS CURRENT ADJUSTMENT (See Top View on Page 5)

- Note: 1) Room Temperature ... 18°C ~ 28°C
 2) For adjustment, run the unit for more than 3 minutes after the power is switched on.
 3) Before turning ON POWER switch, turn kVR1 on F-4222 fully counterclockwise.

| STEP | SUBJECT | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|------|---------|--|---------------------|------------|---|
| 1. | L-CH | Connect DC volt meter between emitters of kQ14(L-ch), kQ15(R-ch) on F-4222 | kVR1, (L-CH) F-4222 | DC 15mV | This bias current adjustment converts current value into voltage by ohms law. |
| 2. | R-CH | Connect DC volt meter between emitters of kQ14 (R-ch), kQ15 (R-ch) on F-4222 | kVR1, (R-CH) F-4222 | DC 15 mV | |

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.



- kQ1 2SA798(F,G)
- kQ2 2SA1175(J,H,F,E,K)
- kQ3,4 2SC1735(D,E)
- kQ5 2SC2910(R,S)
- kQ6 2SA899(B,V)
- kQ7 2SC1904(B,V)
- kQ8 2SC2320(E,F)
- kQ9 2SC1735(D,E)
- kQ10 2SA850(D,E)
- kQ11 2SD438(E,F)
- kQ12 2SB560MP(E,F)
- kQ13 2SD600K(E,F)
- kQ14 2SB631K(E,F)
- kQ15 2SC2577(O,P)
- nQ1,2 2SA1102(O,P)
- nQ1,2 2SC2458(Y,GR)
- nQ1,2 2SC2603(E,F)
- nQ1,2 2SC2785(J,H,F,E)
- kD1,2,3 IS2473
- D2,nD1 RB402 (LF-F)
- mD1 IOE-2
- mD2,3,DI OSZ22-X
- mD2,1,2 RD12E-B
- mD23

SYMBOL OF FUNCTION

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

SYMBOL

- △ Ceramic
- ⊙ Mylar
- ⊠ Styrol
- ⊖ (B.P.) Low-Leak Bi-Polar Electrolytic
- ⊚ Fusing Resistor
- ⊞ Non-Inflammable Resistor
- ⊠ Cement Resistor
- ⊞ Non-Inductive Cement Resistor

RESISTORS
 Are in ohms, 1/4 Watts, ±5% Tolerance
 Unless Otherwise Noted. k:kΩ, M:MΩ

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

TOLERANCE
 J: ±5%, G: ±2%, F: ±1%

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

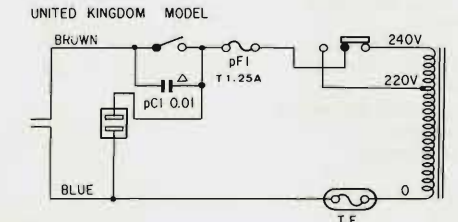
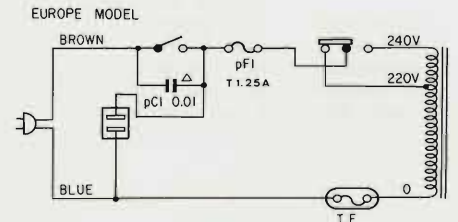
Electrolytic Capacitor: Capacitance |μF| / Volt |V|

FTZ MODEL ONLY

- oR9, 10, 11, 12 mC6, 7, 8, 9
- oC2, 3, 4, 5 iR12
- kC18, 19, 20 iC12
- kR39

SWITCHES

- INPUT SELECTOR & HIGH FILTER
- oSl-a-n (F-4222)
- a, b, c 1: TUNER
- 2: PHONO
- d, e, f 1: AUX/DAD
- g, h, i 1: TAPE-1
- j, k, l 1: TAPE-2
- m, n 1: HIGH FILTER ON
- 2: HIGH FILTER OFF
- SPEAKERS
- oS3-a,b (F-4222)
- 1: ON
- 2: OFF
- VOLUME
- iVR4
- BALANCE
- iVR3
- BASS
- iVR1
- TREBLE
- iVR2
- LOUDNESS
- oS2-a,b (F-4222)
- 1: ON
- 2: OFF



1

2

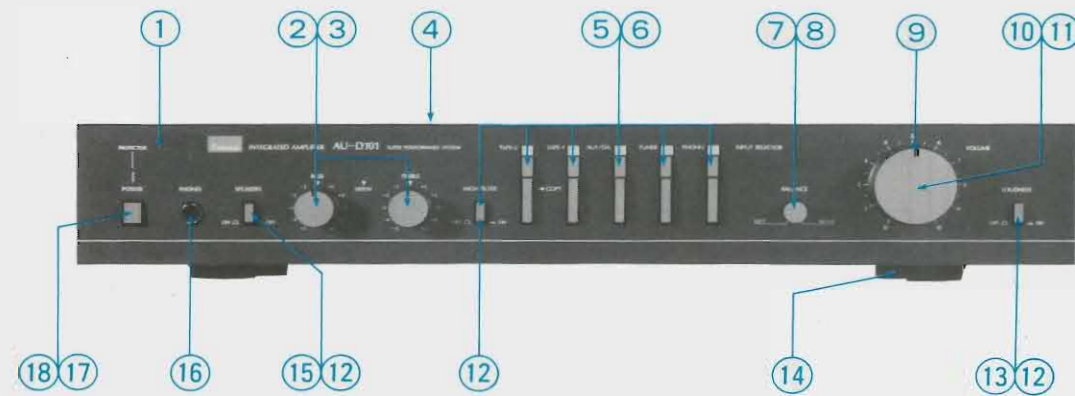
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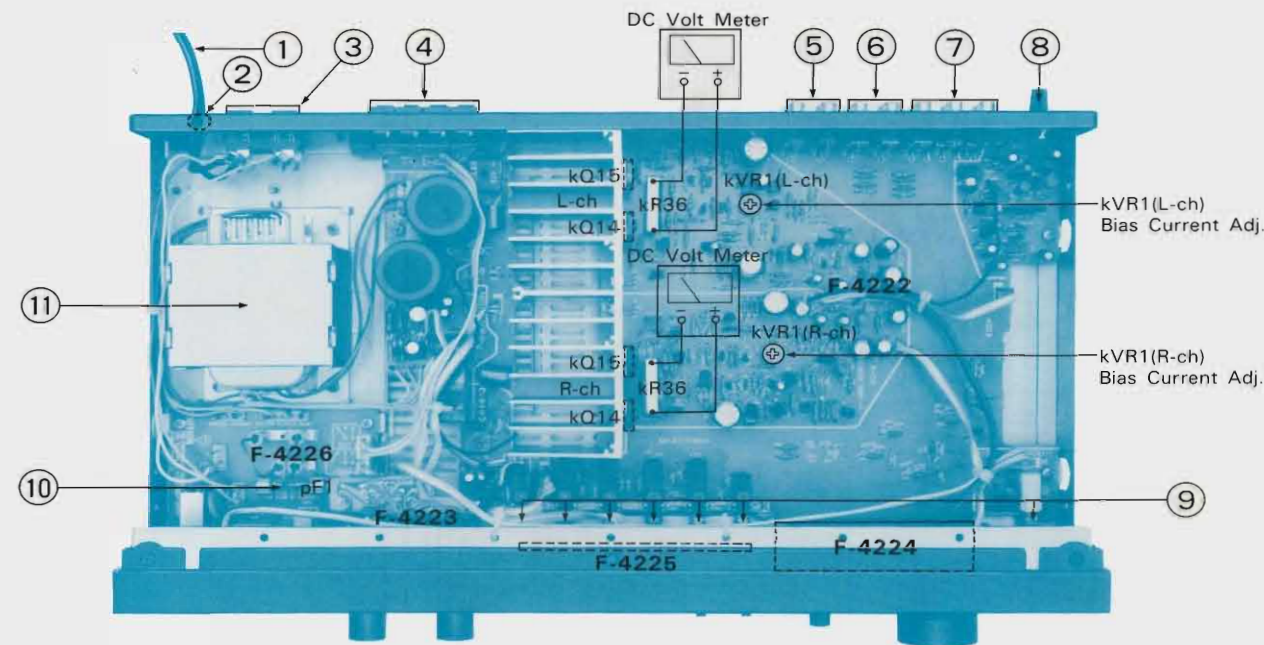
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5. OTHER PARTS

5-1. Front View



5-2. Top View



Parts List < Front View >

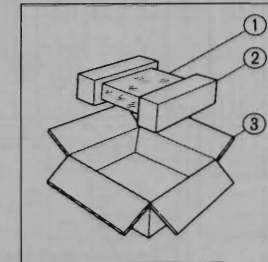
| Parts No. | Stock No. | Description |
|-----------|-----------|--|
| 1 | 47150600 | Front Panel Ass'y |
| 2 | 46578800 | 50kΩ(C) × 2 V.R., BASS, TREBLE |
| 3 | 47150300 | Knob, BASS, TREBLE |
| 4 | 47150900 | Bonnet |
| 5 | 46603100 | Push SW., INPUT SELECTOR, HIGH FILTER |
| 6 | 07809400 | Push Knob, INPUT SELECTOR |
| 7 | 46097500 | 250kΩ(MN) V.R., BALANCE |
| 8 | 47150200 | Knob, BALANCE |
| 9 | 47227600 | Dress Ring, VOLUME Knob |
| 10 | 46159900 | 150kΩ(B) × 2 V.R., VOLUME |
| 11 | 07809000 | Knob, VOLUME |
| 12 | 07809610 | Push Knob, LOUDNESS, HIGH FILTER, SPEAKERS |
| 13 | 46603000 | Push SW., LOUDNESS |
| 14 | 07822700 | Leg |
| 15 | 46578900 | Push SW., SPEAKERS |
| 16 | 46096600 | Jack, PHONES |
| 17 | 07809800 | Push Knob, POWER |
| 18 | 46360300 | Push SW., POWER |

Parts List < Top View >

| Parts No. | Stock No. | Description |
|-----------|-----------|---|
| 1 | 38004700 | Power Supply Cord |
| 2 | 39106000 | Strain Relief |
| 3 | 46399400 | AC Outlet |
| 4 | 46364000 | 4P Speaker Terminal |
| 5 | 46363800 | 4P Input Terminal, TAPE-2 |
| 6 | 46363800 | 4P Input Terminal, TAPE-1 |
| 7 | 46546800 | 6P Input Terminal, PHONO, TUNER, AUX/DA |
| 8 | 22301510 | GND Terminal |
| 9 | 47149200 | Joint Shaft |
| 10 | 07188800 | AC Fuse 3A 250V (120V) |
| 11 | 07188500 | AC Fuse 1.5A 250V (220V/240V) |
| | 15011601 | Power Transformer |

6. PACKING LIST

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------------|
| 1 | 07599500 | Vinyl Cover |
| 2 | 07827200 | Styrofoam Packing |
| 3 | 47150100 | Carton Case |



7. ACCESSORY LIST

| Stock No. | Description |
|-----------|-----------------------|
| 46558900 | Operating Instruction |



SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

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

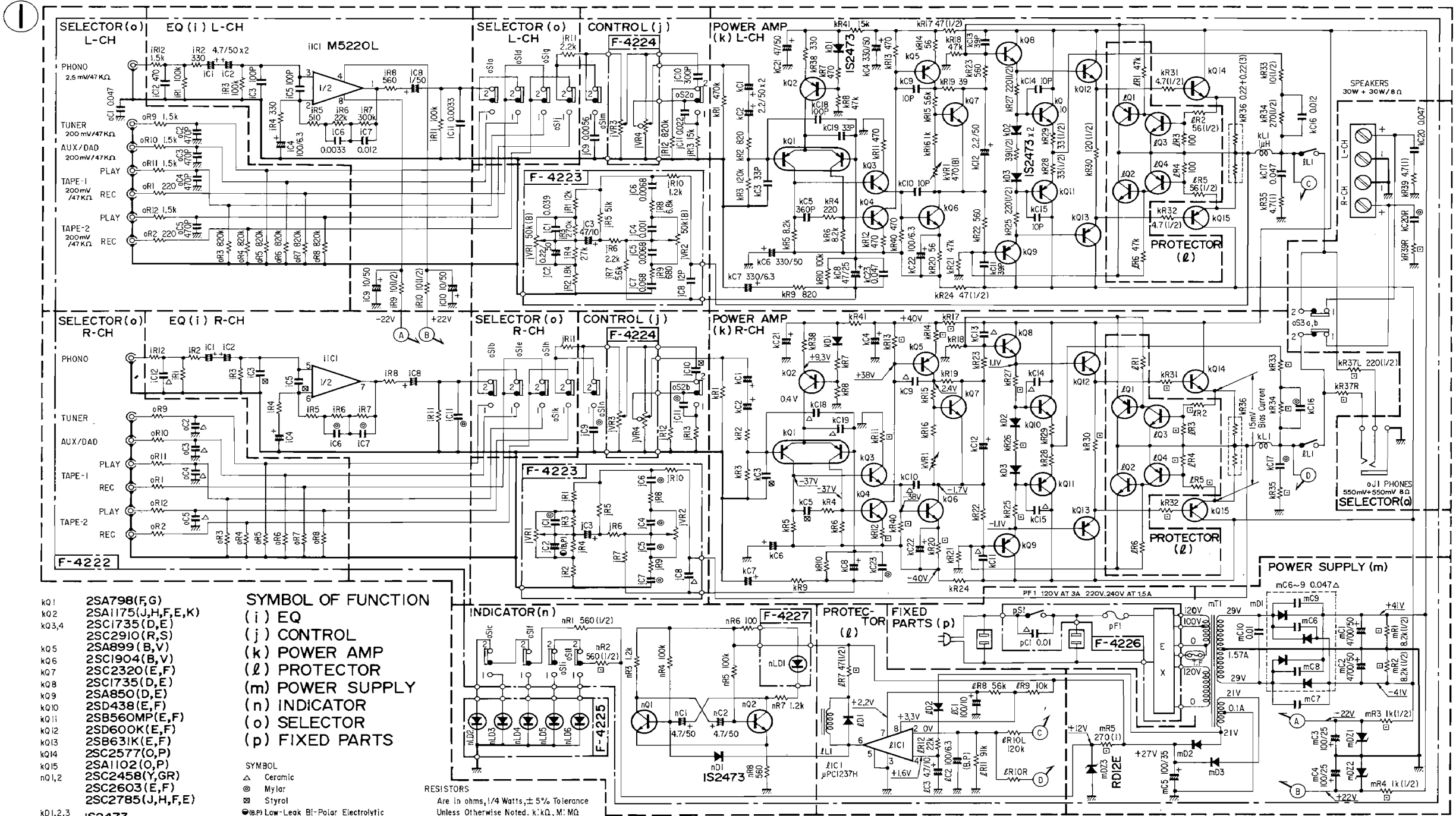
14-1, Izumi 2-chome, Suginami-ku, Tokyo 168 Japan
PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)
1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.
333 West Alondra Blvd. Gardena, California 90247 U.S.A.
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Paul Ehrlich Strasse 8, 6074 Rödermark 2, West Germany

(SM1-89)

Printed in Japan (430020M) < Stock No. 36477900 >

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



- KQ1 2SA1798(F,G)
- KQ2 2SA1175(J,H,F,E,K)
- KQ3,4 2SC1735(D,E)
- KQ5 2SC2910(R,S)
- KQ6 2SA899(B,V)
- KQ7 2SC1904(B,V)
- KQ8 2SC2320(E,F)
- KQ9 2SC1735(D,E)
- KQ10 2SA850(D,E)
- KQ11 2SD438(E,F)
- KQ12 2SB560MP(E,F)
- KQ13 2SD600K(E,F)
- KQ14 2SB631K(E,F)
- KQ15 2SC2577(O,P)
- nQ1,2 2SA1102(O,P)
- nQ1,2 2SC2458(Y,GR)
- nQ1,2 2SC2603(E,F)
- nQ1,2 2SC2785(J,H,F,E)
- KD1,2,3 IS2473
- D2,nD1 RB402(LF-F)
- mD1 IOE-2
- mD2,3, D1 O5Z22-X
- mDZ1,2 RD12E-B
- mDZ3

SYMBOL OF FUNCTION

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

SYMBOL

- ⊖ Ceramic
- ⊕ Mylar
- ⊗ Styrol
- ⊖⊕ Low-Leak Bi-Polar Electrolytic
- ⊖ Fusing Resistor
- ⊖ Non-Inflammable Resistor
- ⊖ Cement Resistor
- ⊖ Non-Inductive Cement Resistor

RESISTORS
Are in ohms, 1/4 Watts, ±5% Tolerance Unless Otherwise Noted. K:kΩ, M:MΩ

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

TOLERANCE
J: ±5%, G: ±2%, F: ±1%

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

Electrolytic Capacitor:
Capacitance μF/Volts

FTZ MODEL ONLY

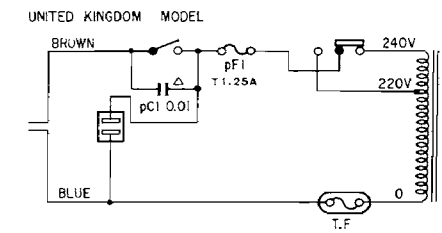
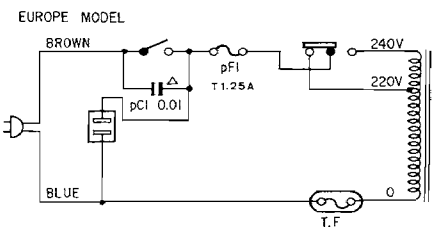
- oR9, 10, 11, 12 mC6, 7, 8, 9
- oC2, 3, 4, 5 IR12
- kC18, 19, 20 IC12
- KR39

SWITCHES

- INPUT SELECTOR & HIGH FILTER
- oSl-a ~ n (F-4222)
- o, b, c 1: TUNER j, x, z 1: TAPE-2
- 2: PHONO m, n 1: HIGH FILTER ON
- d, e, f 1: AUX/DAD 2: HIGH FILTER OFF
- g, h, i 1: TAPE-1

- SPEAKERS
- oS3a,b (F-4222) 1: ON
- 2: OFF
- POWER
- PS1 (F-4226)
- VOLUME
- vR4 1: ON
- BALANCE
- jR3 oS2a,b (F-4222) 1: ON
- 2: OFF
- TREBLE
- jR2 1: ON
- 2: OFF
- LOUDNESS
- oS2a,b (F-4222) 1: ON
- 2: OFF

Signal Line
N.F.B Line
F.F Line



1
2
3
4
5