

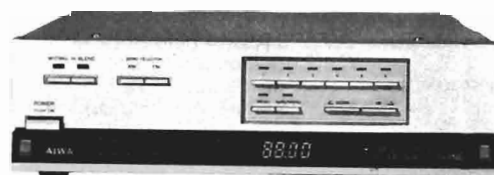
AIWA®

SERVICE MANUAL

DATE OF ISSUE 10/1981

FM/AM STEREO TUNER
MODEL NO. ST-R80H, G

Code No. 15-800-000-12



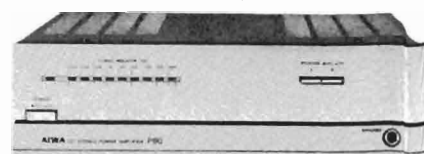
STEREO PRE AMPLIFIER
MODEL NO. SA-C80H, G

Code No. 16-800-000-12



DC STEREO POWER AMPLIFIER
MODEL NO. SA-P80H, G

Code No. 17-800-000-12



SPECIFICATIONS = ST-R80

◀ GENERAL ▶

| | |
|---|---|
| Semiconductors: | 15 ICs, 1 FET, 39 transistors, 55 diodes, 17 LEDs |
| Power source: | AC120/220/240V Switchable (H model) AC 240V (G model) 50/60 Hz |
| Power consumption: | 8W |
| Dimensions: | 250(W) x 71(H) x 281(D) mm |
| Weight: | 2.2 kg |
| ◀ FM TURNER SECTION ▶ | |
| Frequency ranges: | 87.5 ~ 108.0 MHz |
| Intermediate frequency: | 10.7 MHz |
| IHF sensitivity: | 7 ± 2 dB (at 88.0, 98.0, 108.0 MHz) (THD 3%) |
| 50 dB quieting sensitivity: | 35 ± 3 dB (at 98.0 MHz) |
| Image frequency interference ratio: | More than 65 dB (at 98.0 MHz) |
| Intermediate frequency interference ratio: | More than 85 dB (at 98.0 MHz) |
| SN ratio: | E model: 73 ± 5 dB (at 88 MHz) 75 ± 5 dB (at 98, 108 MHz) |
| (Weighted) | K model: 75 ± 4 dB (at 88 MHz) 77 ± 4 dB (at 98, 108 MHz) |
| Total harmonic distortion: | Less than 0.15% (at 98.0 MHz) (input level 60 dB) |
| AM suppression ratio: | More than 50 dB (at 98.0 dB) |
| Muting response: | 25 ± 10 dB (at 98.0 dB) |
| Effective selectivity: | More than 65 dB (at 98.0 MHz) |

| | |
|-----------------------------|--|
| Capture ratio: | More than 2.5 dB (at 98.0 MHz) |
| Frequency response: | 30 Hz ~ 15 kHz (0 ^{+0.5} -2.0 dB) |
| Separation: | More than 40 dB (at 1 kHz) |
| Auto scanning level: | Less than 30 ⁺¹⁰ -5 dB (at 98.0 MHz) |

◀ AM TURNER SECTION ▶

| | |
|---|---|
| Frequency ranges: | 522 ~ 1,611 kHz |
| Intermediate frequency: | 450 kHz |
| Noise limit sensitivity: | Less than 57 dB (at 603 kHz) (S/N 20 dB, bar antenna) Less than 55 dB (at 999, 1403 kHz) |
| Image frequency interference ratio: | More than 50 dB (at 999 kHz) |
| Intermediate frequency interference ratio: | More than 32 dB (at 999 kHz) More than 40 dB (at 999 kHz) |
| Selectivity: | (±9 kHz) |
| Total harmonic distortion: | Less than 1.0% (at 999 kHz) |
| AGC characteristic: | More than 45 dB |
| SN ratio: | More than 40 dB (74 dB input) |
| Auto scanning level: | 55 ± 8 dB |

SPECIFICATIONS = SA-C80

| | |
|----------------------------|---|
| Semiconductors: | 3 ICs, 14 transistors, 19 diodes, 6 LEDs |
| Power source: | AC120/220/240V Switchable (H model) AC 240V (G model) 50/60 Hz |
| Power consumption: | 8W |
| Dimensions: | 250(W) x 71(H) x 246(D)mm |
| Weight: | 2.2 kg |
| S/N ratio: | PHONO (MM) More than 88 dB PHONO (MC) More than 71 dB TUNER, AUX, TAPE More than 95 dB |
| Distortion: | Less than 0.008% (20 Hz ~ 20 kHz) |
| Frequency response: | 10 ~ 100,000 Hz (-3 dB) |
| Tone controls: | BASS 50 Hz +10 ± 1 dB -10 ± 1 dB TREBLE 20 kHz +8 ± 1 dB -8 ± 1 dB |

| | |
|---|--|
| Loudness: | 100 Hz +6.5 ± 1 dB 10 kHz +3.5 ± 1 dB 30 Hz -3 ± 1 dB |
| Low filter: | 30 Hz |
| DSL: | I: +10 ± 1.5 dB II: +20 ± 1.5 dB (400 Hz, -40 dB) |
| Channel separation: | More than 55 dB |
| RIAA deviation: | ±0.2 dB (20 Hz ~ 20 kHz) |
| Input sensitivity and impedance: | PHONO (MM) 2.5 mV/47 kΩ (200 mV max input) PHONO (MC) 0.25 mV/100 Ω TUNER AUX, TAPE 150 mV/47 kΩ PLAY 150 mV/47 kΩ RECORD 150 mV/47 kΩ |
| Tape monitor: | 1V ± 1 dB (PHONO 2.5 mV in) 1V ± 1.5 dB (TUNER, AUX, TAPE 150 mV in) |
| Output level: | |

SPECIFICATIONS = SA-P80

| | |
|---------------------------|---|
| Semiconductors: | 4 ICs, 2 FETs, 14 transistors, 27 diodes, 10 LEDs |
| Power source: | AC120/220/240V Switchable (H model) AC 240V (G model) 50/60 Hz |
| Power consumption: | 85 W (H model) 280 W (G model) |

| | |
|----------------------------|---|
| S/N ratio: | More than 113 dB (1 kHz, IHF A curve) |
| Damping factor: | More than 50 (8Ω, 1 kHz) |
| Input sensitivity: | 0.5 ± 1.0 dB (1 kHz, 50W) |
| Frequency response: | 10 ~ 100,000 Hz (⁺⁰ -3 dB) |
| Power bandwidth: | 10 ~ 50,000 Hz (Distortion: 0.03%) |
| Residual noise: | Less than 0.4 mV |
| Output voltage: | PHONES More than 0.89 mW ± 1 dB |

• Specifications and external appearance are subject to change without notice due to product improvement.

PARTS LIST

MECHANICAL PARTS

■ * mark in this part list shows exclusive part.

| Ref. No. | Part No. | Part No. Changed to | Description | Common Model | Q'ty |
|----------|---------------|------------------------|--------------------------------------|-----------------|------|
| 1-1 | 82-779-002-01 | | Panel, Front E | * | 1 |
| 1-2 | 82-779-026-01 | | Control plate A | * | 1 |
| 1-3 | 82-779-215-01 | | Filter A | * | 1 |
| 1-4 | 82-779-221-01 | | Filter B | * | 1 |
| 1-5 | 82-780-217-01 | | Cushion | SA-C80 | 1 |
| 1-6 | 82-779-012-01 | | Window | * | 1 |
| 1-7 | 82-779-027-01 | | Plate | * | 1 |
| 1-8 | 82-769-010-01 | | Nylon rivet ass'y | ST-R35 | 2 |
| 1-9 | 82-779-025-01 | | Cabinet, Front | * | 1 |
| 1-10 | 82-779-008-01 | | Guide A, Panel | * | 1 |
| 1-11 | 87-084-072-01 | | Nylon rivet 3.5—7 | | 1 |
| 1-12 | 82-780-217-01 | | Cushion | SA-C80 | 1 |
| 1-13 | 82-779-211-01 | | Plate spring A | * | 2 |
| 1-14 | 82-779-006-01 | | Push-key | * | 8 |
| 1-15 | 82-779-011-01 | | Push-key (UP DOWN) | * | 2 |
| 1-16 | 82-779-007-01 | | Push-key | * | 4 |
| 1-17 | 82-779-212-01 | | Plate spring B | * | 1 |
| 1-18 | 82-748-208-01 | | Cushion | SA-C50 | 2 |
| 1-19 | 82-779-209-01 | | Spacer | * | 1 |
| 1-20 | 82-779-626-01 | | Shield plate ass'y | * | 1 |
| 1-21 | 82-779-209-01 | | Spacer | * | 2 |
| 1-22 | 82-780-212-01 | | Holder, Lamp | SA-C80 | 1 |
| 1-23 | 82-780-214-01 | | Reflector paper | SA-C80 | 1 |
| 1-24a | 82-779-208-01 | | Amp. chassis H ass'y (H model only) | * | 1 |
| 1-24b | 82-779-206-01 | | Amp. chassis K ass'y (G model only) | * | 1 |
| 1-25 | 82-745-019-01 | | Foot | | 4 |
| 1-26 | 82-780-008-01 | | Push-button C | SA-C80 | 1 |
| 1-27 | 82-779-210-01 | | Holder, POWER | * | 1 |
| 1-28 | 82-157-226-01 | | G cushion | SD-L50 | 1 |
| 1-29 | 82-757-009-01 | | Antenna holder ass'y | ST-R10 | 1 |
| 1-30 | 82-779-611-01 | | Bar antenna E | * | 1 |
| 1-31 | 87-085-182-01 | | Cord bushing B | | 1 |
| 1-32 | 82-473-013-01 | | Holder, Antenna C | | 1 |
| 1-33 | 87-085-166-01 | | Holder, AC power cord (G model only) | | 1 |
| 1-34a | 82-779-018-01 | | Jack plate (H model only) | * | 1 |
| 1-34b | 82-779-016-01 | | Jack plate (G model only) | * | 1 |
| 1-35 | 87-085-102-01 | | Nylon rivet 3.5—5.5 | | 2 |
| 1-36a | 87-034-957-01 | | AC power cord (H model only) | | 1 |
| 1-36b | 87-034-892-01 | | AC power cord (G model only) | | 1 |
| 1-37 | 87-085-090-01 | | Nylon rivet 3—6.5 (H model only) | | 2 |
| 1-38 | 82-779-005-01 | | Cabinet, Steel | * | 1 |
| 1-39 | 82-168-237-01 | | Insulation sheet (G model only) | AD-F600 | 1 |
| 1-40a | 82-779-031-01 | | Name plate, Spec. (H model only) | * | 1 |
| 1-40b | 82-779-028-01 | | Name plate, Spec. (G model only) | * | 1 |
| 1-41 | 87-085-181-01 | | Cord bushing A (H model only) | | 1 |
| 1-42 | 82-779-218-01 | | Mylar sheet 1.5—5 | * | 2 |

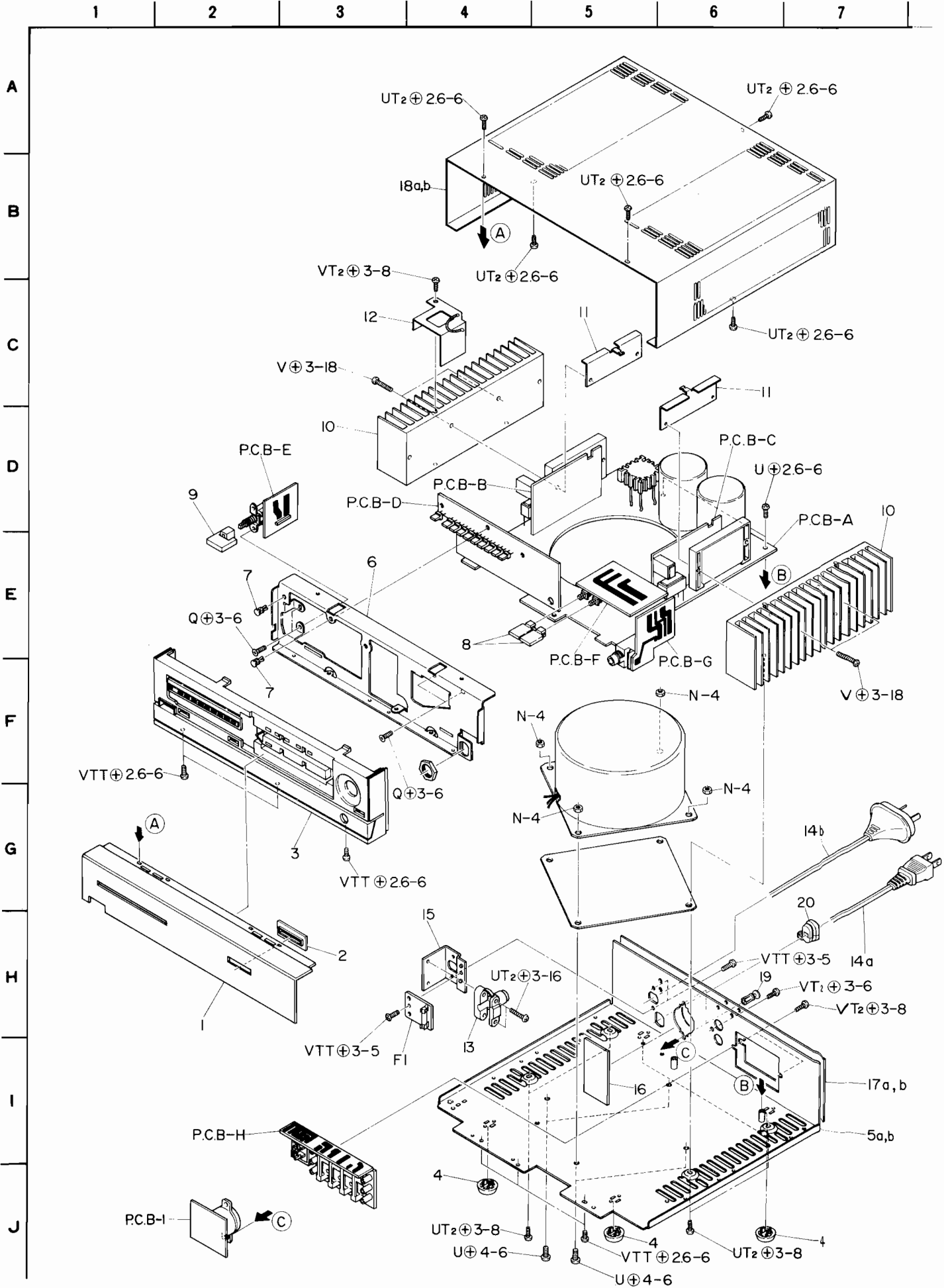
PARTS LIST

MECHANICAL PARTS

■ * mark in this part list shows exclusive part.

| Ref. No. | Part No. | Part No. Changed to | Description | Common Model | Q'ty |
|----------|---------------|------------------------|--------------------------------------|-----------------|------|
| 1-1 | 82-780-024-01 | | Badge, DSL | * | 1 |
| 1-2 | 82-780-001-01 | | Cabinet, Front | * | 1 |
| 1-3 | 82-780-013-01 | | Knob B, Volume | * | 1 |
| 1-4 | 82-780-004-01 | | Knob | * | 3 |
| 1-5 | 82-780-003-01 | | Panel E, Front | * | 1 |
| 1-6 | 82-780-217-01 | | Cushion | * | 1 |
| 1-7 | 82-780-009-01 | | Light guide B, Panel | * | 1 |
| 1-8 | 87-084-072-01 | | Nylon rivet 3.5-7 | | 1 |
| 1-9 | 87-780-010-01 | | Control plate B | * | 1 |
| 1-10 | 82-780-201-01 | | Chassis, Front | * | 1 |
| 1-11 | 87-085-090-01 | | Nylon rivet 3-6.5 (H model only) | | 2 |
| 1-12 | 82-780-212-01 | | Holder, Lamp | * | 1 |
| 1-13 | 82-780-214-01 | | Reflector paper | * | 1 |
| 1-14 | 82-780-007-01 | | Push-button | * | 12 |
| 1-15 | 82-780-008-01 | | Push-button | * | 1 |
| 1-16 | 82-780-210-01 | | Rod, POWER | * | 1 |
| 1-17 | 82-780-211-01 | | Rod B | * | 6 |
| 1-18a | 82-780-216-01 | | Amp. chassis H (H model only) | * | 1 |
| 1-18b | 82-780-207-01 | | Amp. chassis K (G model only) | * | 1 |
| 1-19 | 82-745-019-01 | | Foot | | 4 |
| 1-20 | 87-085-181-01 | | Cord bushing (H model only) | | 1 |
| 1-21 | 87-085-166-01 | | Holder, AC power cord (G model only) | | 1 |
| 1-22a | 87-034-956-01 | | AC power cord (H model only) | | 1 |
| 1-22b | 87-034-892-01 | | AC power cord (G model only) | | 1 |
| 1-23 | 82-780-025-01 | | Name plate, Spec. (H model only) | * | 1 |
| 1-24 | 87-085-102-01 | | Nylon rivet 3.5 - 5.5 | | 3 |
| 1-25a | 82-780-018-01 | | Jack plate (H model only) | * | 1 |
| 1-25b | 82-780-026-01 | | Jack plate (G model only) | * | 1 |
| 1-26 | 82-780-012-01 | | Cabinet, Steel | * | 1 |
| 1-27 | 82-748-633-01 | | Shield plate | SA-C50 | 1 |
| 1-28 | 82-180-259-01 | | Filter, REC | | 1 |
| 1-29 | 82-780-221-01 | | Filter B | * | 1 |
| 1-30 | 82-780-222-01 | | Filter C | * | 1 |

EXPLODED VIEW



PARTS LIST

MECHANICAL PARTS

■ * mark in this part list shows exclusive part.

| Ref. No. | Part No. | Part No. Changed to | Description | Common Model | Q'ty |
|----------|---------------|------------------------|--|-----------------|------|
| 1-1 | 82-781-002-01 | | Panel E, Front | * | 1 |
| 1-2 | 82-781-005-01 | | Guide, Button | * | 1 |
| 1-3 | 82-781-010-01 | | Cabinet, Front | * | 1 |
| 1-4 | 82-745-019-01 | | Foot | | 4 |
| 1-5a | 82-781-205-01 | | Chassis H, Amp. (H model only) | * | 1 |
| 1-5b | 82-781-203-01 | | Chassis D, Amp. (G model only) | * | 1 |
| 1-6 | 82-781-201-01 | | Chassis, Front | * | 1 |
| 1-7 | 87-084-077-01 | | Nylon rivet 3.5-4.5 | | 2 |
| 1-8 | 82-781-004-01 | | Push-button | * | 2 |
| 1-9 | 82-780-008-01 | | Push-button C | | 1 |
| 1-10 | 82-781-621-01 | | Heat sink E | * | 2 |
| 1-11 | 82-781-206-01 | | Leaf nut | * | 2 |
| 1-12 | 82-781-607-01 | | Shield plate | * | 1 |
| 1-13 | 87-085-166-01 | | Holder, AC power cord (G model only) | | 1 |
| 1-14a | 87-034-957-01 | | AC power cord (H model only) | | 1 |
| 1-14b | 87-034-948-01 | | AC power cord (G model only) | | 1 |
| 1-15 | 82-499-208-01 | | Holder A, AC power cord (G model only) | | 1 |
| 1-16 | 82-499-210-01 | | Insulation sheet (G model only) | | 1 |
| 1-17a | 82-781-011-01 | | Jack plate (H model only) | * | 1 |
| 1-17b | 82-781-015-01 | | Jack plate (G model only) | * | 1 |
| 1-18a | 82-781-013-01 | | Cabinet, Steel (H model only) | * | 1 |
| 1-18b | 82-781-003-01 | | Cabinet, Steel (G model only) | * | 1 |
| 1-19 | 87-085-090-01 | | Nylon rivet 3-6.5 (H model only) | | 2 |
| 1-20 | 87-085-181-01 | | Cord bushing (H model only) | | 2 |

ACCESSORIES/PACKAGE = ST-R80H,G

| Ref. No. | Part No. | Part No. Changed to | Description | Common Model | Q'ty |
|----------|---------------|------------------------|---|-----------------|------|
| 1 | 82-779-857-01 | | Printed indiv., Packing | * | 1 |
| 2 | 82-779-852-01 | | Cushion L, Printed indiv. | * | 1 |
| 3 | 82-779-853-01 | | Cushion R, Printed indiv. | * | 1 |
| 4 | 87-056-604-01 | | Poly-vinyl sack (for case) | | 1 |
| 5a | 82-779-904-01 | | Instructions booklet (H model only) | * | 1 |
| 5b | 82-779-905-01 | | Instructions booklet (G model only) | * | 1 |
| 6a | 87-051-131-11 | | Poly-vinyl sack (for AC power cord) (H model only) | | 1 |
| 6b | 87-051-135-11 | | Poly-vinyl sack (for AC power cord) (G model only) | | 1 |
| 7 | 87-051-171-11 | | Poly-vinyl sack (for instruction) | | 1 |
| 8 | 87-056-009-51 | | Distributors list | | 1 |
| 9 | 86-944-016-01 | | Connection cord, CW-129DSK | | 1 |
| 10 | 87-043-051-01 | | FM feeder antenna | | 1 |
| 11 | 87-056-059-01 | | Guarantee card (G model only) | | 1 |
| 12 | 87-032-845-01 | | Siemens plug (H model only) | | 1 |

ACCESSORIES/PACKAGE = SA-C80H,G

| Ref. No. | Part No. | Part No. Changed to | Description | Common Model | Q'ty |
|----------|---------------|------------------------|---|-----------------|------|
| 1 | 82-780-853-01 | | Printed indiv., Packing | * | 1 |
| 2 | 82-779-852-01 | | Cushion L, Printed indiv. | ST-R80 | 1 |
| 3 | 82-779-853-01 | | Cushion R, Printed indiv. | ST-R80 | 1 |
| 4a | 87-051-131-11 | | Poly-vinyl sack (for AC power cord) (H model only) | | 1 |
| 4b | 87-051-137-11 | | Poly-vinyl sack (for AC power cord) (G model only) | | 1 |
| 5 | 87-056-604-01 | | Poly-vinyl sack (for case) | | 1 |
| 6a | 82-780-904-01 | | Instructions booklet (H model only) | * | 1 |
| 6b | 82-780-905-01 | | Instructions booklet (G model only) | * | 1 |
| 7 | 87-056-059-01 | | Guarantee card (G model only) | | 1 |
| 8 | 87-051-171-11 | | Poly-vinyl sack (for instruction) | | 1 |
| 9 | 87-056-009-51 | | Distributors list | | 1 |
| 10 | 87-032-845-01 | | Siemens plug (H model only) | | 1 |

ACCESSORIES/PACKAGE = SA-P80H,G

| Ref. No. | Part No. | Part No. Changed to | Description | Common Model | Q'ty |
|----------|---------------|------------------------|---|-----------------|------|
| 1 | 82-781-855-01 | | Printed indiv., Packing | * | 1 |
| 2 | 82-781-852-01 | | Cushion L, Printed indiv. | * | 1 |
| 3 | 82-781-853-01 | | Cushion R, Printed indiv. | * | 1 |
| 4a | 87-051-131-11 | | Poly-vinyl sack (for AC power cord) (H model only) | | 1 |
| 4b | 87-051-137-11 | | Poly-vinyl sack (for AC power cord) (G model only) | | 1 |
| 5 | 87-056-604-01 | | Poly-vinyl sack (for case) | | 1 |
| 6a | 82-781-904-01 | | Instructions booklet (H model only) | * | 1 |
| 6b | 82-781-905-01 | | Instructions booklet (G model only) | * | 1 |
| 7 | 87-051-171-01 | | Poly-vinyl sack (for instruction) | | 1 |
| 8 | 87-056-059-01 | | Guarantee card (G model only) | | 1 |
| 9 | 87-056-009-51 | | Distributors list | | 1 |
| 10 | 86-944-016-01 | | Connection cord CW-129DSK | | 1 |
| 11 | 87-032-845-01 | | Siemens plug (H model only) | | 1 |

ELECTRICAL MAIN PARTS LIST = ST-R80H,G

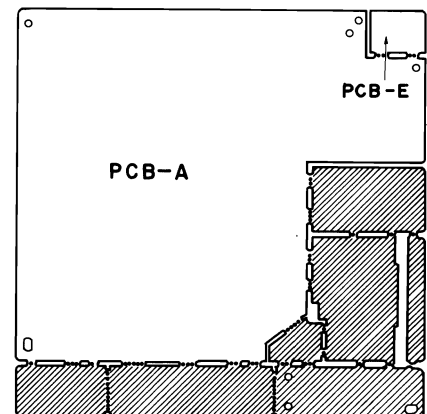
| Symbol No. | Part No. | Description |
|--|---------------|--------------------------------|
| ◀ TUNER CIRCUIT BOARD SECTION ▶ | | |
| PCB-A | * | Tuner circuit board |
| CP1 | 82-769-605-11 | FM front end U. M |
| IC1 | 82-494-791-01 | IC, HA11211 |
| IC2 | 87-027-576-01 | IC, HA12016 |
| IC3 | 87-027-752-01 | IC, μPD553AC |
| IC4 | 87-027-656-01 | IC, TC4066BP |
| Q101 | 89-319-233-01 | Transistor, 2SC1923(O) |
| Q102,103 | 89-318-154-01 | Transistor, 2SC1815(Y) |
| 106,112 | | |
| 114,115 | | |
| 116,117, | | |
| 119,120, | | |
| 121,122, | | |
| 124,126, | | |
| 127,131 | | |
| Q104,105 | 89-320-014-01 | Transistor, 2SC2001(K,S) |
| Q107 | 89-318-155-01 | Transistor, 2SC1815(GR) |
| Q108,118 | 89-110-154-01 | Transistor, 2SA1015(Y) |
| Q110 | 89-303-803-01 | Transistor, 2SC380(O) |
| Q111 | 89-303-804-01 | Transistor, 2SC380(Y) |
| Q113 | 89-500-304-01 | FET, 2SK30A(Y) |
| Q123,125 | 89-403-135-01 | Transistor, 2SD313(E) |
| D1,2,3,4, | 87-027-097-01 | Diode, 1S1555 |
| 5,6,7,8, | | |
| 11,12,15, | | |
| 16,17,18, | | |
| 19,20,26, | | |
| 27,28 | | |
| D9,10 | | Diode, KV-1236Z-2 |
| D13,14 | 88-052-188-11 | Diode, 1S188(FM) |
| D21 | 87-027-332-01 | Zener diode, HZ6B1L |
| D22,23,24 | 87-027-365-01 | Diode, S5277B |
| 25 | | |
| L1 | 87-003-050-01 | Choke coil, 47μH |
| L3 | 82-775-607-01 | MW OSC coil |
| CF1,2,3 | 87-008-244-01 | Ceramic filter, Kit K |
| CF4 | 87-008-225-01 | Ceramic filter, SFP4501 |
| TC1 | 87-011-109-01 | Trimmer, 15P |
| IFT1 | 82-742-641-01 | FM quad coil |
| IFT2 | 87-008-241-01 | AM IFT, 450S |
| IFT3 | 87-008-160-01 | AM IFT (DET) |
| LPF1,2 | 82-773-621-01 | Low-pass filter |
| J1,2 | 82-769-601-01 | Jack plate ass'y (OUTPUT, ANT) |
| SFR1 | 87-021-689-01 | Semi-fixed resistor, 47kΩ-B |
| SFR2 | 87-021-571-01 | Semi-fixed resistor, 200kΩ-B |
| SFR3 | 87-021-566-01 | Semi-fixed resistor, 5kΩ-B |
| PIN3 | 87-049-050-01 | Pin, 6P |
| CON-2 | 87-032-967-01 | Pin, 7P |
| CON-1 | 87-032-968-01 | Pin, 8P |
| < Capacitors > | | |
| C251 | 87-014-049-01 | 470pF PP |
| C224,225,226 | 87-014-057-01 | 1,000pF PP |
| ◀ FRONT CIRCUIT BOARD SECTION ▶ | | |
| PCB-B | * | Front circuit board |
| IC1 | 87-027-824-01 | IC, μPD1703C-521 |
| IC2 | 87-027-426-01 | IC, IR-2403 |
| IC3,4,5 | 87-027-768-01 | IC, HD74LS74P |
| IC6 | 87-027-802-01 | IC, HD74LS175P |
| IC7 | 87-027-791-01 | IC, HD74LS138P |
| IC8 | 87-027-261-01 | IC, LB-1405 |
| Q1,4,6,7 | 89-318-154-01 | Transistor, 2SC1815(Y) |
| 9,11,12 | | |
| Q2,3,5,8,10 | 89-319-594-01 | Transistor, 2SC1959(Y) |
| Q13 | 89-406-363-01 | Transistor, 2SD636(Q) |

| Symbol No. | Part No. | Description |
|---|---------------|---|
| D1,2,3 | 87-027-393-01 | Zener diode, HZ 4C2 |
| D4,5,6,7,8, | 87-027-097-01 | Diode, 1S1555 |
| 9,10,11,12, | | |
| 13,14,15, 18, | | |
| 19 | | |
| D21 | 87-027-823-01 | LED, 2063K-01K |
| D22,23,37, | 87-027-542-01 | LED, LN317RP |
| D24,25,26 | | |
| 27, 28,29 | | |
| 30, 31 | | |
| D32,33,34, | 87-027-544-01 | LED, LN05202P |
| 35,36 | | |
| L1 | 87-005-121-01 | Choke coil, 2,2μH |
| L2 | 87-003-051-01 | Choke coil, 470μH |
| X1 | 82-769-613-01 | Crystal, 4.5MHz |
| S1,2,3,4,5, | 87-031-665-01 | Light tact switch (MUTING, HI-BLEND, LW, MW, FM, MEMO, AUTO/MANU DOWN, UP, PRE-SET CHANNEL 1,2,3,4,5,6) |
| 6,7,8,9,10, | | |
| 11,12,13,14, | | |
| 15 | | |
| < Resistors > | | |
| R28-1,28-2 | 82-769-640-01 | Resistor block 56kΩx4 |
| 28-3,28-4 | | |
| < Capacitors > | | |
| C3,16 | 87-015-695-01 | 1μF 50V Electrolytic |
| C12,26,33 | 87-015-696-01 | 2.2μF 50V Electrolytic |
| C18,19 | 87-015-698-01 | 4.7μF 50V Electrolytic |
| C5,11 | 87-015-896-01 | 220μF 6.3V Electrolytic |
| ◀ SUB CIRCUIT BOARD SECTION ▶ | | |
| PCB-C | * | Sub circuit board |
| IC1,2,3 | 87-027-429-01 | IC, TC4016BP |
| D1,2,3,4,5 | 87-027-097-01 | Diode, 1S1555 |
| 6,7,8,9,10 | | |
| PIN5 | 87-032-642-01 | Pin, 12P |
| ◀ JACK CIRCUIT BOARD SECTION ▶ | | |
| PCB-D | * | Jack circuit board |
| J3 | 87-049-064-01 | Connector ass'y 16P (REMOTE) |
| PIN4 | 87-049-068-01 | Pin, 3P |
| ◀ SWITCH CIRCUIT BOARD SECTION ▶ | | |
| PCB-E | * | Switch circuit board |
| ⚠ S16 | 87-031-689-01 | Push-switch (POWER) |
| ◀ MISCELLANEOUS ▶ | | |
| ⚠ T1 | 82-779-609-01 | Power transformer (H model only) |
| ⚠ T1 | 82-779-617-01 | Power transformer (G model only) |
| ⚠ S3 | 87-031-685-01 | Rotary swith (VOLTAGE SELECTOR) (H model only) |
| ⚠ J4 | 87-032-937-01 | AC outlet (H model only) |
| ⚠ J4 | 87-032-996-01 | AC outlet (G model only) |
| ⚠ PL1 | 82-779-616-01 | Pilot lamp 12V 150 mA |
| ⚠ | 87-034-957-01 | AC power cord (H model only) |
| ⚠ | 87-034-892-01 | AC power cord (G model only) |
| L2 | 82-769-616-01 | Bar antenna coil |
| | 82-779-614-01 | Flat cable, 7P |
| | 82-779-613-01 | Flat cable, 8P |
| | 82-779-612-01 | Flat cable 12P |
| | 87-085-181-01 | Cord bushing (H model only) |
| | 87-085-166-01 | Holder, AC power cord (G model only) |
| | 87-085-182-01 | Cord bushing B |
| CON 3 | 82-779-620-01 | TL connector ass'y 3P |
| CON 4 | 82-779-615-01 | TL connector ass'y 6P |

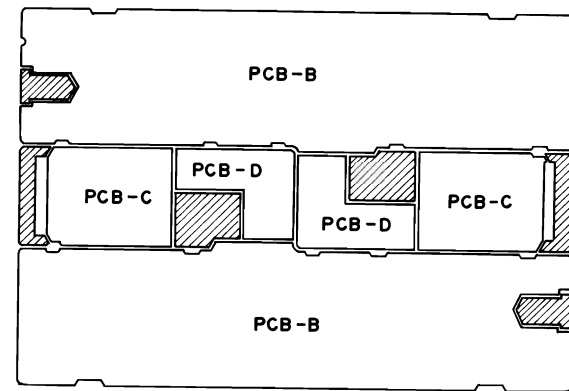
⚠ Safety component symbol
 This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

Note; Combination Circuit Board
 The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board A 82-773-622-21



Combination circuit Board B 82-179-631-01



☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆ MEMO ☆☆☆☆☆

| Symbol No. | Part No. | Description |
|---|---------------|---|
| D1,2,3 | 87-027-393-01 | Zener diode, HZ 4C2 |
| D4,5,6,7,8, 9,10,11,12, 13,14,15, 18, 19 | 87-027-097-01 | Diode, IS1555 |
| D21 | 87-027-823-01 | LED, 2063K-01K |
| D22,23,37, D24,25,26 27, 28,29 30, 31 | 87-027-542-01 | LED, LN317RP |
| D32,33,34, 35,36 | 87-027-544-01 | LED, LN05202P |
| L1 | 87-005-121-01 | Choke coil, 2,2μH |
| L2 | 87-003-051-01 | Choke coil, 470μH |
| X1 | 82-769-613-01 | Crystal, 4.5MHz |
| S1,2,3,4,5, 6,7,8,9,10, 11,12,13,14, 15 | 87-031-665-01 | Light tact switch (MUTING, HI-BLEND, LW, MW, FM, MEMO, AUTO/MANU DOWN, UP, PRE- SET CHANNEL 1,2,3,4,5,6) |
| R28-1,28-2 28-3,28-4 | 82-769-640-01 | < Resistors > Resistor block 56kΩx4 |
| C3,16 | 87-015-695-01 | < Capacitors > 1μF 50V Electrolytic |
| C12,26,33 | 87-015-696-01 | 2.2μF 50V Electrolytic |
| C18,19 | 87-015-698-01 | 4.7μF 50V Electrolytic |
| C5,11 | 87-015-896-01 | 220μF 6.3V Electrolytic |
| << SUB CIRCUIT BOARD SECTION >> | | |
| PCB-C | * | Sub circuit board |
| IC1,2,3 | 87-027-429-01 | IC, TC4016BP |
| D1,2,3,4,5 6,7,8,9,10 | 87-027-097-01 | Diode, IS1555 |
| PIN5 | 87-032-642-01 | Pin, 12P |
| << JACK CIRCUIT BOARD SECTION >> | | |
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| J3 | 87-049-064-01 | Connector ass'y 16P (REMOTE) |
| PIN4 | 87-049-068-01 | Pin, 3P |
| << SWITCH CIRCUIT BOARD SECTION >> | | |
| PCB-E | * | Switch circuit board |
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| << MISCELLANEOUS >> | | |
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| ⚠ T1 | 82-779-617-01 | Power transformer (G model only) |
| ⚠ S3 | 87-031-685-01 | Rotary swith (VOLTAGE SELECTOR) (H model only) |
| ⚠ J4 | 87-032-937-01 | AC outlet (H model only) |
| ⚠ J4 | 87-032-996-01 | AC outlet (G model only) |
| PL1 | 82-779-616-01 | Pilot lamp 12V 150 mA |
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| ⚠ | 87-034-892-01 | AC power cord (G model only) |
| L2 | 82-769-616-01 | Bar antenna coil |
| | 82-779-614-01 | Flat cable, 7P |
| | 82-779-613-01 | Flat cable, 8P |
| | 82-779-612-01 | Flat cable 12P |
| ⚠ | 87-085-181-01 | Cord bushing (H model only) |
| ⚠ | 87-085-166-01 | Holder, AC power cord (G model only) |
| | 87-085-182-01 | Cord bushing B |
| CON 3 | 82-779-620-01 | TL connector ass'y 3P |
| CON 4 | 82-779-615-01 | TL connector ass'y 6P |



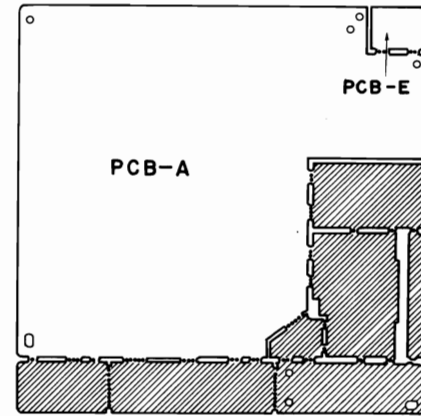
Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

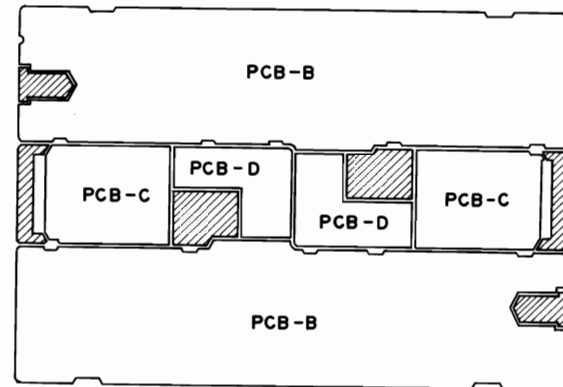
Note: Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board A 82-773-622-21

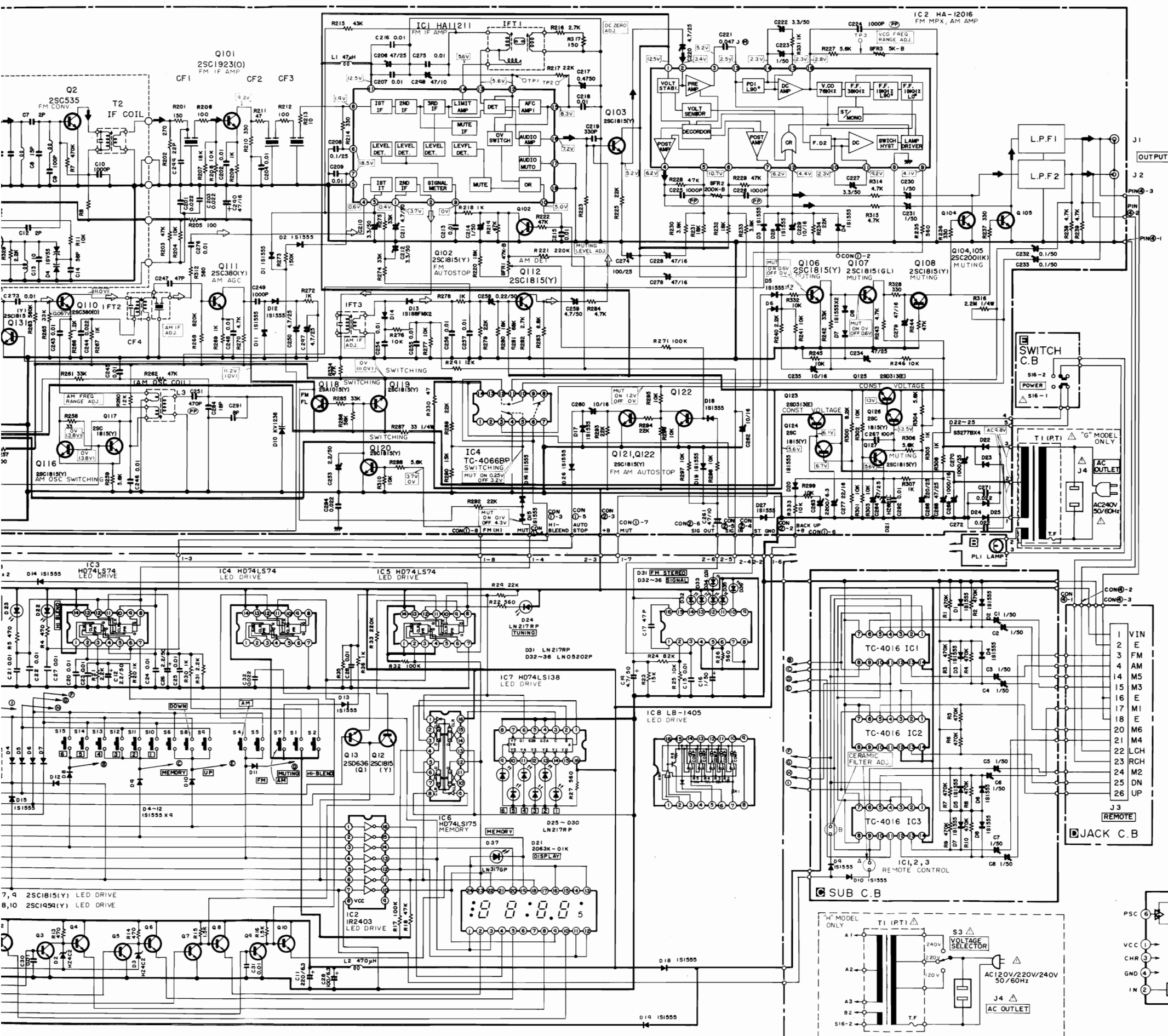


Combination circuit Board B 82-179-631-01

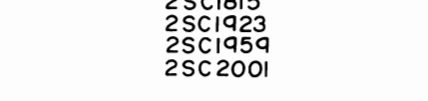
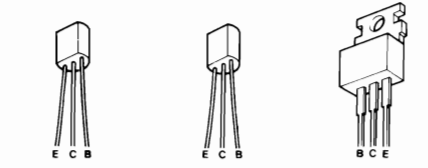


☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆ MEMO ☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆

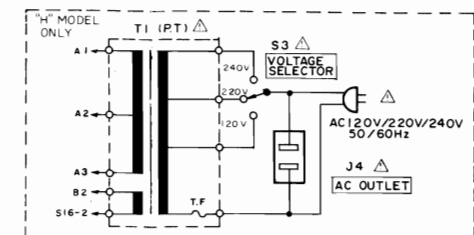
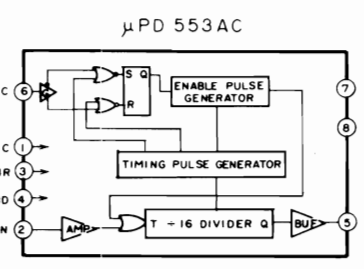
4 5 6 7 8 9 10 11 12 13 14 15 16



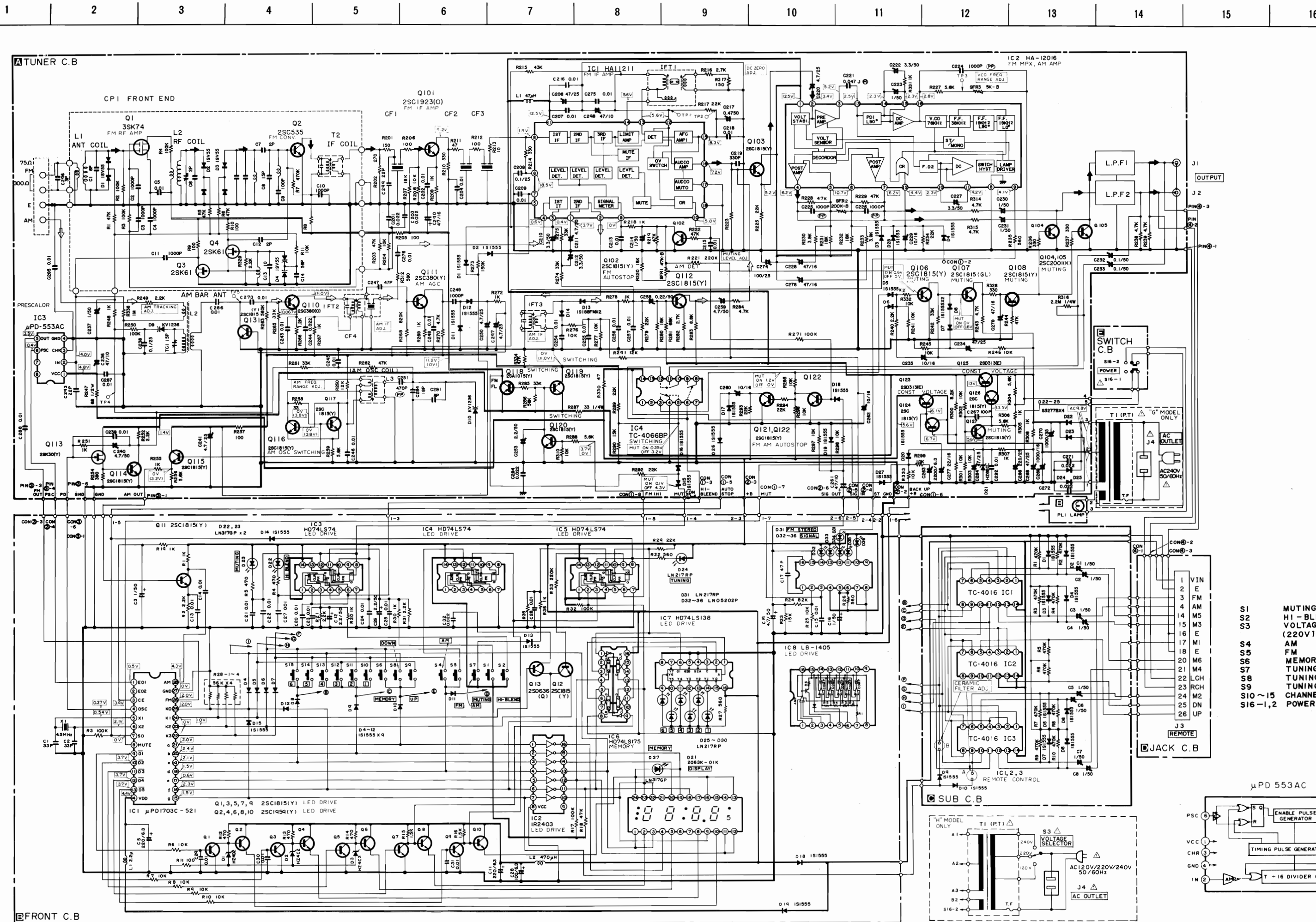
- NOTES:**
- 1) B (+) power supply
 - 2) Signal path
 - 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But () is with AM reception
 - 4) Resistors with no designation have a rated power of 1/4W and a tolerance of ±5%.
 - 5) Capacitors with no designation have a dielectric strength of less than 50WV.
 - 6) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
 - 7) Ceramic capacitor symbols:
 - For temperature compensation (SL)
 - High dielectric constant system (YY)
 - High dielectric constant system (YW, YP, YZ)
 - Semiconductor ceramic
 - 8) Explanation of symbols
 - Mylar capacitor
 - Polypropylene film capacitor
 - Fuse resistor
 - Nonflammable resistor
- Safety component symbol
 This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.
- This schematic diagram is subject to change without notice in the interests of improved performance.



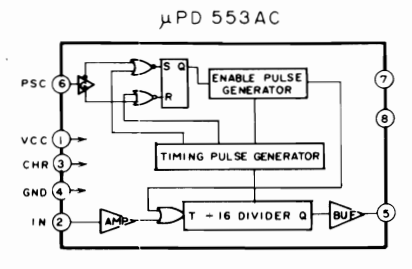
- S1 MUTING
- S2 HI - BLEND
- S3 VOLTAGE SELECTOR (220V) (H MODEL ONLY)
- S4 AM
- S5 FM
- S6 MEMORY
- S7 TUNING
- S8 TUNING DOWN
- S9 TUNING UP
- S10 ~ 15 CHANNEL 1~6
- S16-1,2 POWER (OFF)



SCHEMATIC DIAGRAM



- S1 MUTING
- S2 HI-BLEND
- S3 VOLTAGE SELECTOR (220V) (H MODEL ONLY)
- S4 AM
- S5 FM
- S6 MEMORY
- S7 TUNING
- S8 TUNING DOWN
- S9 TUNING UP
- S10~15 CHANNEL 1~6
- S16-1,2 POWER (OFF)



J3 REMOTE

AC OUTLET
AC 240V 50/60Hz

J1 OUTPUT

J2 L.P.F.2

J4 JACK C.B.

SWITCH C.B.

TI (P.T.)

TI (P.T.)

TI (P.T.)

TI (P.T.)

TI (P.T.)

TI (P.T.)

TI (P.T.)

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TI (P.T.)

TI (P.T.)

TI (P.T.)

TI (P.T.)

TI (P.T.)

NOTES (1) B(+) Pattern Component side pattern Others pattern
 (2) The voltage is the reference value measured with a tester (20 K ohms/V) But () is with AM reception.

WIRING

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A
B
C
D
E
F
G
H
I
J

AM Tracking Adjustment
 L2 603 kHz
 TC1 1,404 kHz

AM Freq. Range Adjustment
 L3 522 kHz (TP4 voltage 1.25 V)

AM IF Adjustment
 IFT2, 3 450 kHz

5. FM Distortion (STEREO) Adjustment
Settings:
 • BAND switch: FM
 • MUTING switch: OFF
 • Input signal: 98.0 MHz, 72 dB, L/R Pilot 6 kHz (E model), 10 kHz (K model)
 • Test point: TP1, 2
 • Adjustment location: FM IFT in front end
Method:
 Adjust FM IFT so that the distortion is reduce to minimum value.
Rating:
 Less than 0.3%

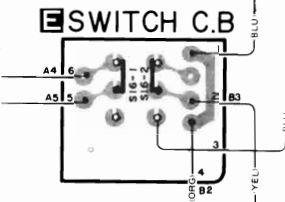
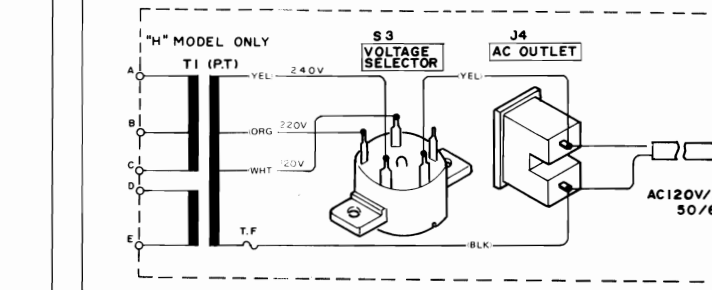
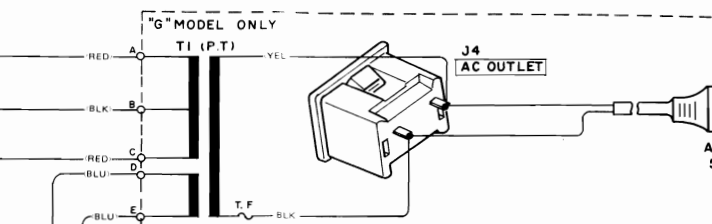
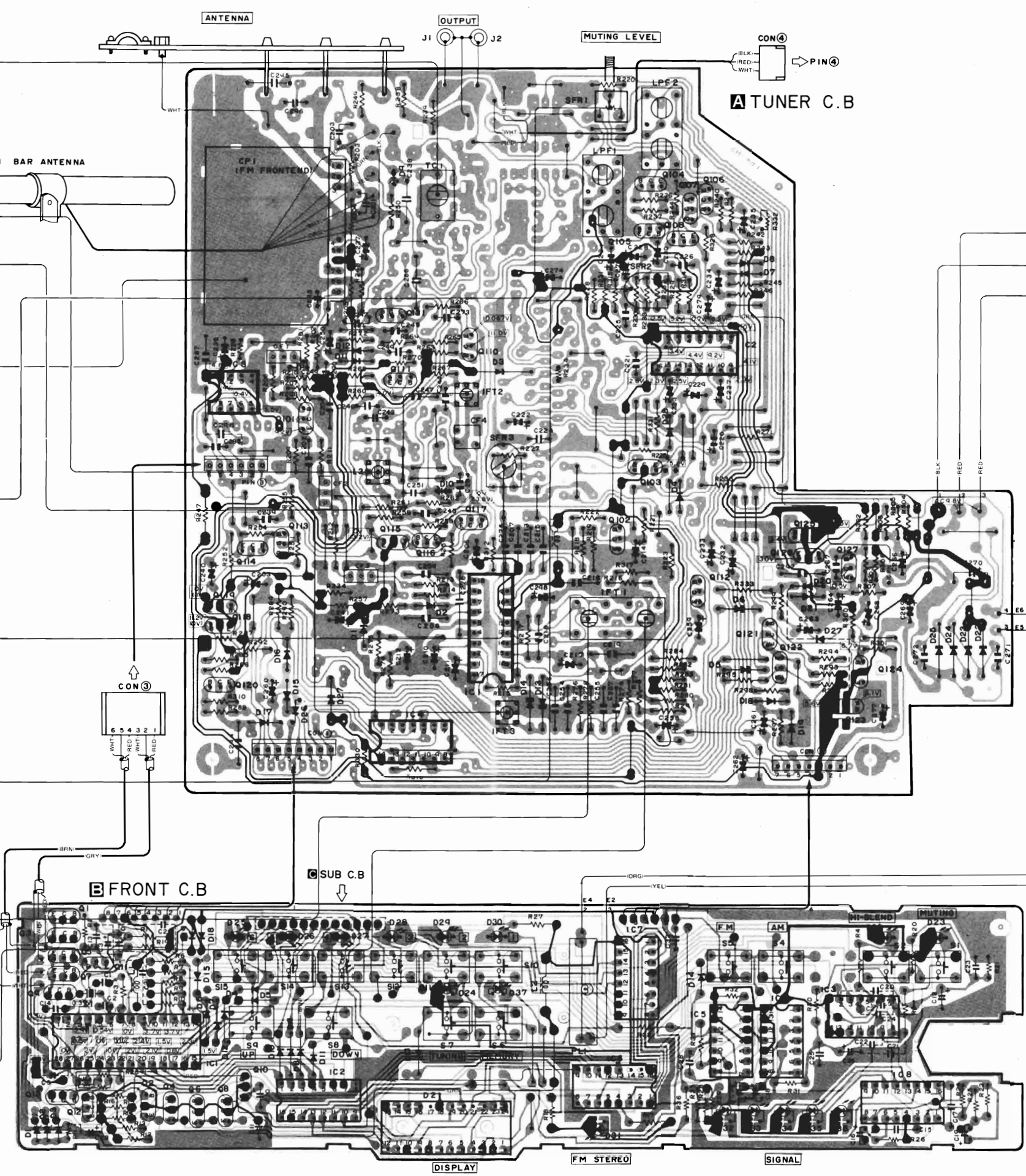
6. Muting Level Adjustment
Settings:
 • BAND switch: FM
 • MUTING switch: ON
 • Input signal: 98.0 MHz, 37 dB
 • Adjustment location: SFR1
Method:
 Set the output of the signal generator to 37 dB and adjust SFR1 so that the signal is output.
Rating:
 25 dB

3. FM V.C.O. Adjustment
Settings:
 • BAND switch: FM
 • MADE switch: STEREO
 • MUTING switch: OFF
 • Test point: TP3
 • Adjustment location: SFR3
Method:
 Adjust so that the frequency at the test points is 76 ± 0.08 kHz.

4. FM Separation Adjustment
Settings:
 • BAND switch: FM
 • MODE switch: STEREO
 • HI-BLEND switch: OFF
 • MUTING switch: OFF
 • Input signal: 98 MHz, 72 dB
 • Test point: Output jack
 • Adjustment location: SFR2
Method:
 Adjust so that the separation at the test points is at its maximum.
Rating:
 More than 40 dB

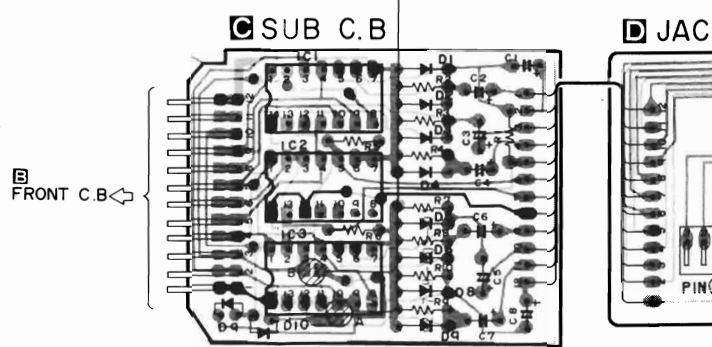
1. DC Zero Adjustment
Settings:
 • BAND switch: FM
 • MUTING switch: OFF
 • Test point: TP1, 2
 • Adjustment location: IFT1, A
Method:
 Pointer of DC V.T.V.M. is oscillated right and left. Adjust IFT1 so that pointer "0" center.
Rating:
 0 ± 50 mV

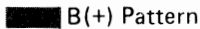

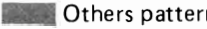
2. FM Distortion (MONO) Adjustment
Settings:
 • BAND switch: FM
 • MODE switch: MONO
 • MUTING switch: OFF
 • Input signal: 98.0 MHz, 72 dB, MOD. 40 kHz (E model), 75 kHz (K model)
 • Test point: TP1, 2
 • Adjustment location: IFT1, B
Method:
 Adjust IFT1 so that the distortion is reduce to minimum value.
Rating:
 Less than 0.15%

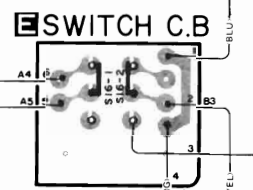
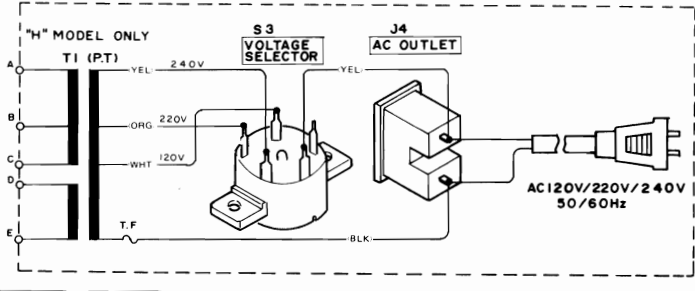
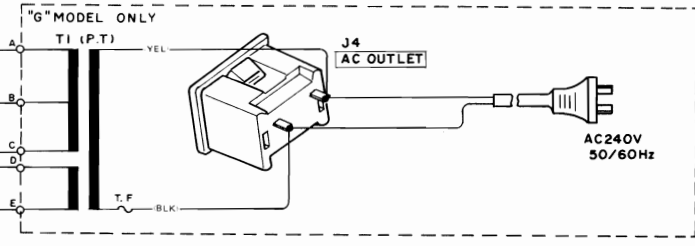
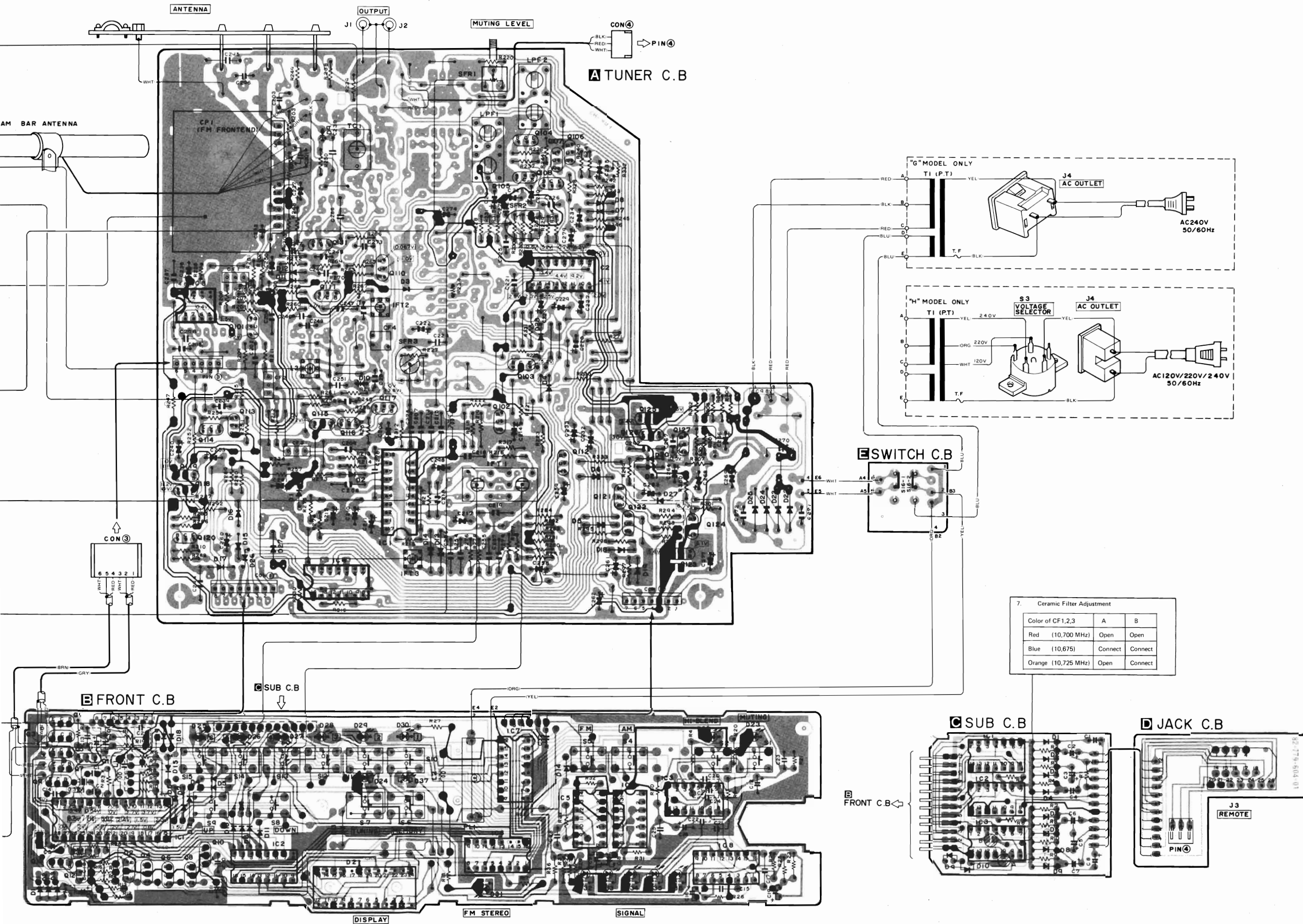
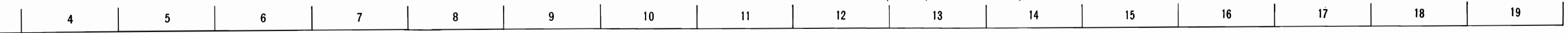


7. Ceramic Filter Adjustment

| Color of CF1,2,3 | A | B |
|---------------------|---------|---------|
| Red (10,700 MHz) | Open | Open |
| Blue (10,675) | Connect | Connect |
| Orange (10,725 MHz) | Open | Connect |

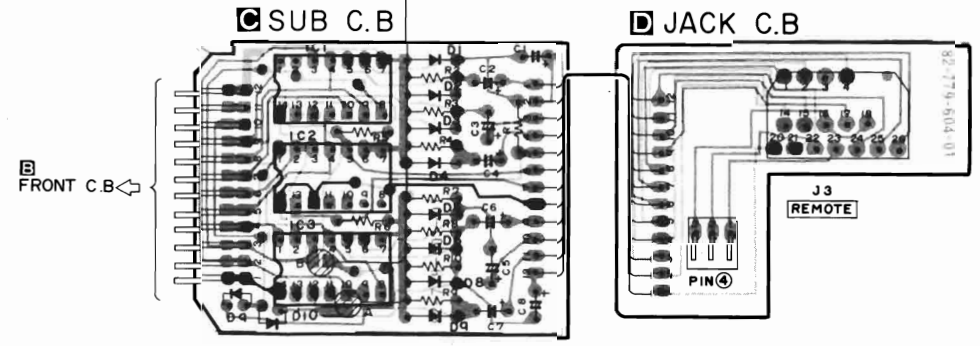


- NOTES (1)  B(+) Pattern  Component side pattern  Others pattern
 (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
 But () is with AM reception.



7. Ceramic Filter Adjustment

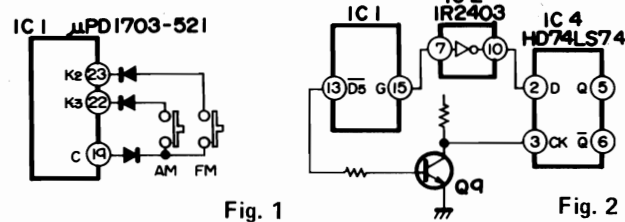
| Color of CF1,2,3 | A | B |
|---------------------|---------|---------|
| Red (10,700 MHz) | Open | Open |
| Blue (10,675) | Connect | Connect |
| Orange (10,725 MHz) | Open | Connect |



Circuit description classified by symptom

Model ST-R80

1. FM/AM selection



The units is set to AM when the signal from pin 19 of IC1 µPD1703-521 enters pin 22, and set to FM when it enters pin 23. The signal output from pin 13 as the IC1 output enters IC4 (D flip-flop IC) pin 3 via Q9. The output of pin 15 enters IC4 terminal 2 via IC2 (inverter IC). The input and output of IC4 are as shown in figure 3.

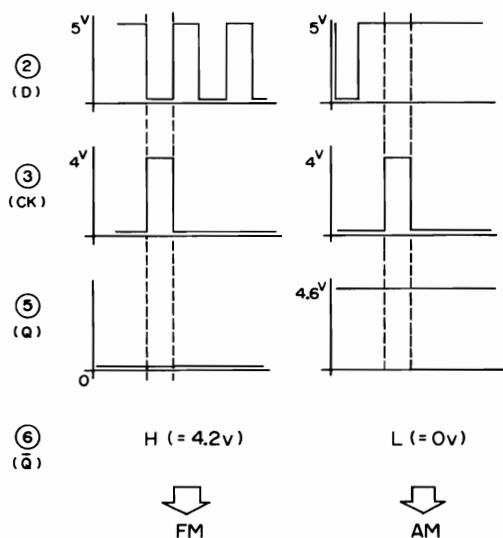


Fig. 3

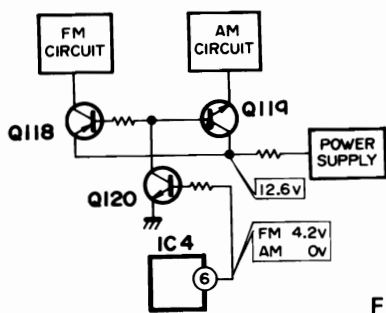


Fig. 4

IC4 pin 6 is set to 4.2 V during the FM mode, so Q120 Q118 are set to ON and 10 V is supplied to the FM circuit. IC pin 6 is set to 0 V during the AM mode, so Q119 is set to ON and 10 V is applied to the AM circuit.

2. AUTO/MANUAL selection

2-1 AUTO/MANUAL section

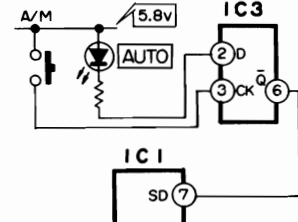


Fig. 5

IC3 pin 6 is set to 0 V when power is supplied and the AUTO: indicator lamp lights. When the AUTO/MANUAL button is pressed next, since IC3 is the D flip-flop, pin 6 is set to 4.4 V, the "AUTO" indicator lamp goes off and at the same time 4.0 V is applied to IC1 pin 7 so that manual tuning becomes possible.

2-2 Auto stop

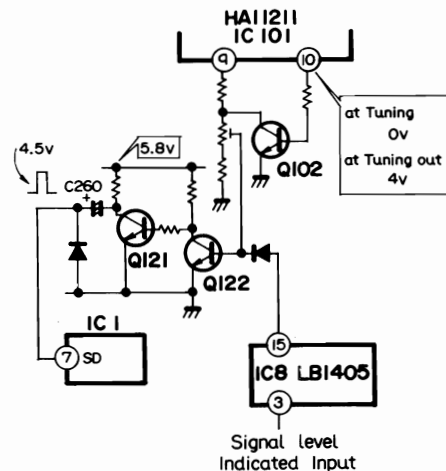


Fig. 6

When set to auto tuning, IC101 (HA11211) pin 10 is set to 0 V, so Q102 is OFF and the following operation is done by the output of pin 9. When the sum of the output of IC101 pin 9 and IC8 (signal level indicator IC) is sufficient, Q122 is set to ON, Q121 to OFF and a pulse is generated at C260 and applied to IC1 pin 7, and Auto-stop is applied. The voltage at this pin 7 is 1 ~ 3 V measured by a tester when it is tuned.

3. Muting circuit

3-1 During button operation

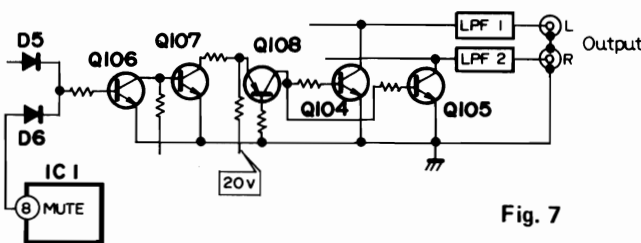


Fig. 7

When Q106 is set to ON, muting is applied.

When the FM/AM select button or the UP/DOWN button is pressed, 4.2 V is output to IC1 pin 8 and muting is applied.

3-2 MUTE button ON/OFF operation

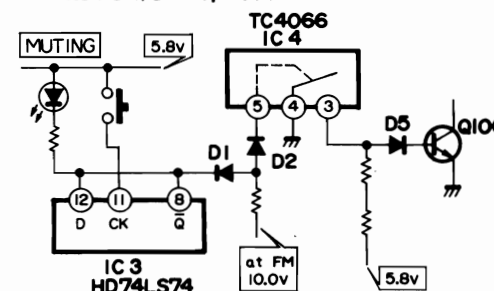


Fig. 8

When power is applied, IC3 pin 8 is set to 0 V, the MUTING indicator lamp lights and D1 is set to ON, so no voltage is applied to IC4 terminal 5, and the switch between pin 3 and 4 is open. As a result, 1.5 V is applied to D5 anode and the unit enters the MUTING ON mode.

4. Hi-blend ON/OFF operation

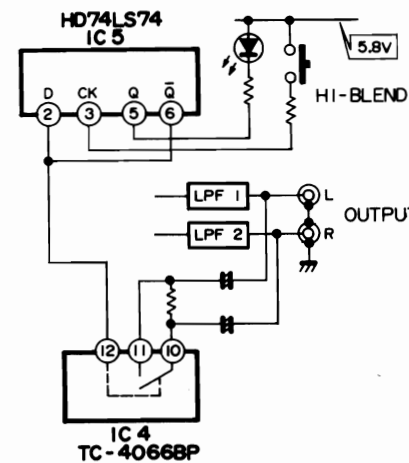


Fig. 9

When the HI-BLEND button is pressed, 4.4 V is applied to IC4 pin 12 and HI-BLEND is applied.

5. Memory indicator lighting

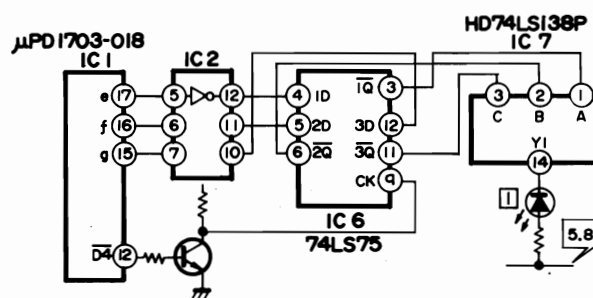


Fig. 10

IC6 is also a D flip-flop. When data (1D, 2D, 3D) is present when CLOCK (CK) is applied, they pass through it and appear as outputs (1Q, 2Q, 3Q). IC7 interprets this 3-bit signal. For example, this is how memory (1) lights (figure 11).

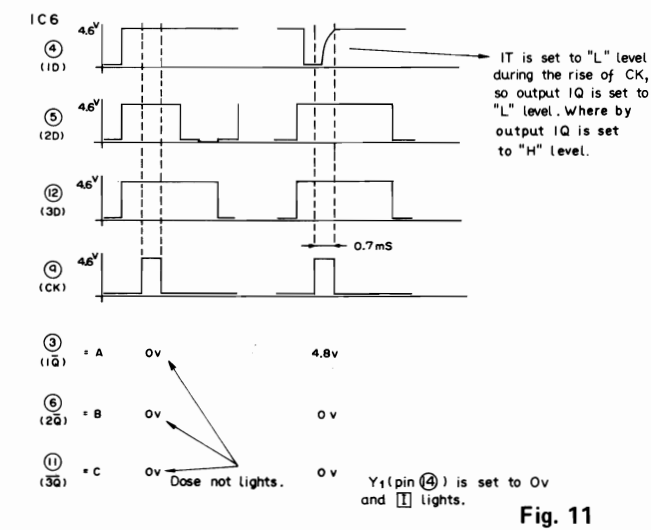


Fig. 11

6. Repairing

The difficulty of repairing the synthesizer tuner is that a no variable capacitor is provided, so whether the controller or radio is wrong cannot be judged easily. The following troubleshooting method is convenient:

6-1 Cutting off muting

It is recommended to cut off muting by removing R244 (47 kΩ).

6-2 Applying tuning voltage from outside

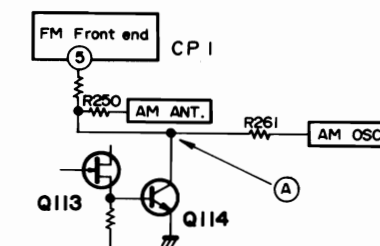


Fig. 12

It is designed so that tuning is possible by means of the voltage change (approx. 1.5 V ~ 7.0 V) at point A (figure 12) in both FM and AM.

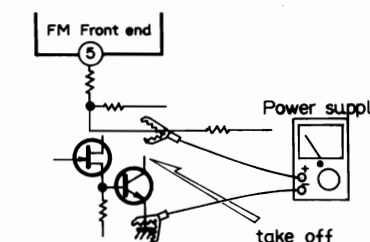


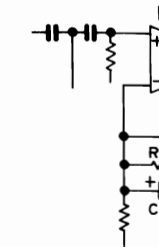
Fig. 13

Supply the as shown in The radio controller s When no m order.

Refer 87.5 M 954 k

Model SA-C

7. DSL I/II



DSL I an changed a about 40

Model SA-P

8. Protection

When an short-circu ween Q11 and 0.75

2. AUTO/MANUAL selection

2-1 AUTO/MANUAL section

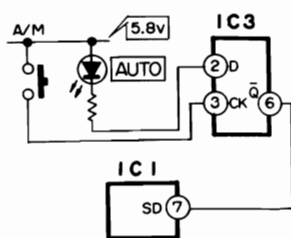


Fig. 5

IC3 pin 6 is set to 0 V when power is supplied and the AUTO: indicator lamp lights. When the AUTO/MANUAL button is pressed next, since IC3 is the D flip-flop, pin 6 is set to 4.4 V, the "AUTO" indicator lamp goes off and at the same time 4.0 V is applied to IC1 pin 7 so that manual tuning becomes possible.

2-2 Auto stop

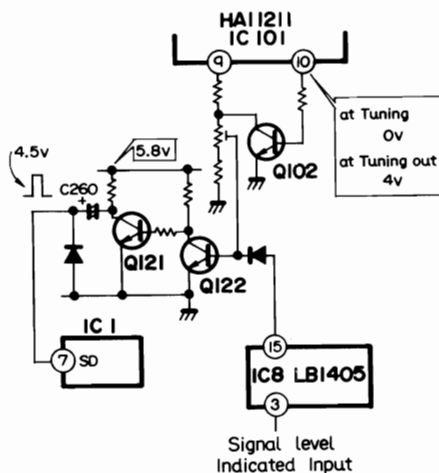


Fig. 6

When set to auto tuning, IC101 (HA11211) pin 10 is set to 0 V, so Q102 is OFF and the following operation is done by the output of pin 9.

When the sum of the output of IC101 pin 9 and IC8 (signal level indicator IC) is sufficient, Q122 is set to ON, Q121 to OFF and a pulse is generated at C260 and applied to IC1 pin 7, and Auto-stop is applied.

The voltage at this pin 7 is 1 ~ 3 V measured by a tester when it is tuned.

3. Muting circuit

3-1 During button operation

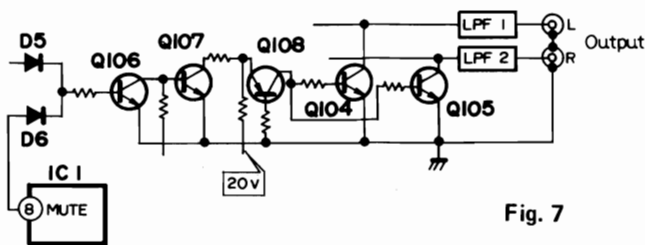


Fig. 7

When Q106 is set to ON, muting is applied.

When the FM/AM select button or the UP/DOWN button is pressed, 4.2 V is output to IC1 pin 8 and muting is applied.

3-2 MUTE button ON/OFF operation

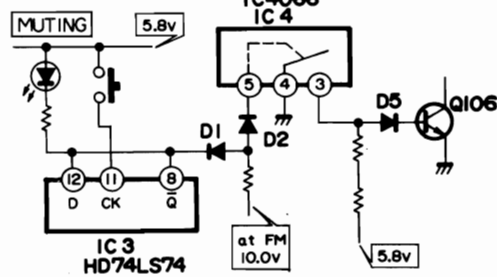


Fig. 8

When power is applied, IC3 pin 8 is set to 0 V, the MUTING indicator lamp lights and D1 is set to ON, so no voltage is applied to IC4 terminal 5, and the switch between pin 3 and 4 is open. As a result, 1.5 V is applied to D5 anode and the unit enters the MUTING ON mode.

4. Hi-blend ON/OFF operation

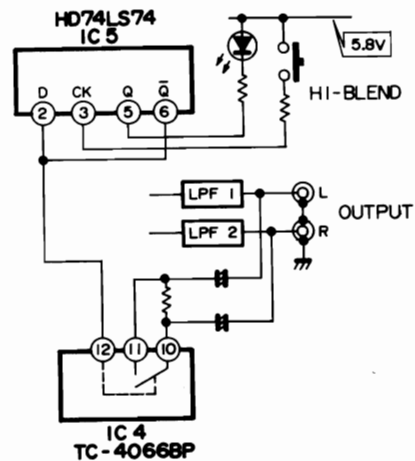


Fig. 9

When the HI-BLEND button is pressed, 4.4 V is applied to IC4 pin 12 and HI-BLEND is applied.

5. Memory indicator lighting

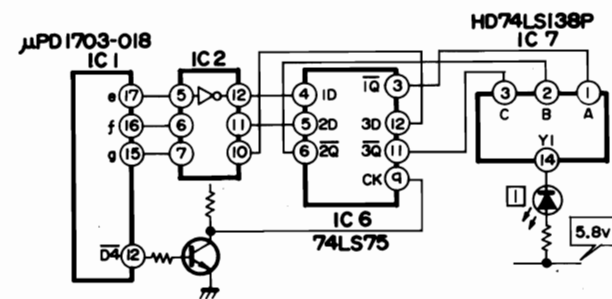


Fig. 10

IC6 is also a D flip-flop. When data (1D, 2D, 3D) is present when CLOCK (CK) is applied, they pass through it and appear as outputs (1Q, 2Q, 3Q).

IC7 interprets this 3-bit signal.

For example, this is how memory (1) lights (figure 11).

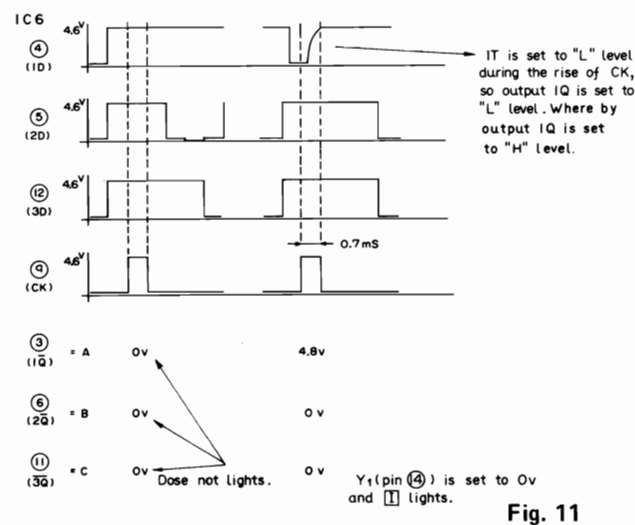


Fig. 11

6. Repairing

The difficulty of repairing the synthesizer tuner is that a no variable capacitor is provided, so whether the controller or radio is wrong cannot be judged easily.

The following troubleshooting method is convenient:

6-1 Cutting off muting

It is recommended to cut off muting by removing R244 (47 kΩ).

6-2 Applying tuning voltage from outside

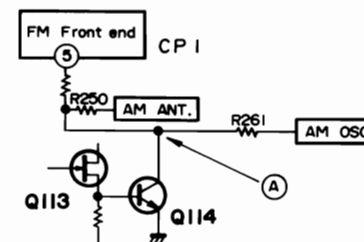


Fig. 12

It is designed so that tuning is possible by means of the voltage change (approx. 1.5 V ~ 7.0 V) at point A (figure 12) in both FM and AM.

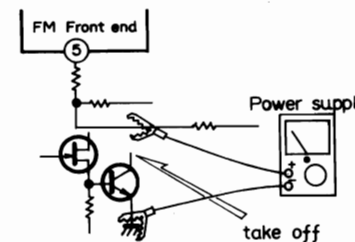


Fig. 13

Supply the voltage from outside after detaching Q114 collector as shown in Figure 13.

The radio section is normal when reception is possible (see controller section).

When no noise occurs, the radio can be judged to be out of order.

Reference value at point A

87.5 MHz approx. 1.5 V

954 kHz approx. 3.9 V

Model SA-C80

7. DSL I/II selection

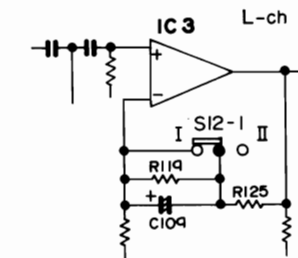


Fig. 14

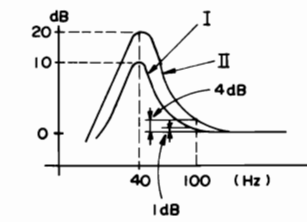


Fig. 15

DSL I and II are : NF amount and frequency response are changed as shown in the figure 14, and overall differences as about 40 Hz and 100 Hz are as shown in figure 15.

Model SA-P80

8. Protection circuit when over-current is applied

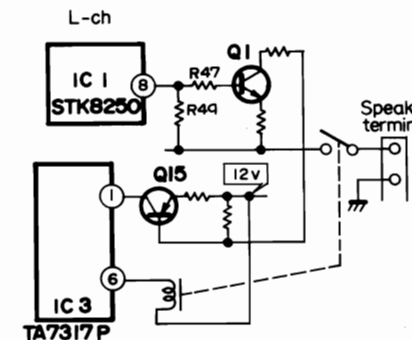


Fig. 16

When an accident such as the speaker terminals being level short-circuited with GND, a potential difference occurs between Q11 base and emitter, so Q11 is set to ON, Q15 to ON and 0.75 V is applied to IC3 pin 1 and the relay is released.

ELECTRICAL MAIN PARTS LIST=SA-C80H,G

| Symbol No. | Part No. | Description |
|---|---------------|--|
| << MAIN CIRCUIT BOARD SECTION >> | | |
| PCB-A | * | Main circuit board |
| IC1,3 | 87-027-629-01 | IC, 4558DX |
| IC2 | 87-027-814-01 | IC, NJM4562D-D |
| Q1,2,3,4 | 89-110-847-91 | Transistor, 2SA1084 (E1-E3) |
| Q5,6,11,13,14 | 89-309-456-01 | Transistor, 2SC945L (P) |
| Q7,8 | 89-320-011-01 | Transistor, 2SC2001 (K) |
| Q9 | 89-304-954-01 | Transistor, 2SC495 (Y) |
| Q10 | 89-105-054-01 | Transistor, 2SA505 (Y) |
| Q12 | 89-107-336-01 | Transistor, 2SA733 (P) |
| D1,2,3,4 | 87-027-219-01 | Diode, MA150 |
| D5,6 | 87-027-469-01 | Zener diode, HZ162 |
| D11,12 | 87-027-393-01 | Zener diode, HZ4C2 |
| D21,22 | 87-027-323-01 | Zener diode, HZ22-2L |
| D23 | 87-027-376-01 | Diode, 1B4B41 |
| D30,31 | 87-027-365-01 | Diode, S5277B |
| D32,33 | 87-027-097-01 | Diode, 1S1555 |
| J1~14 | 82-780-624-01 | Pin jack, 14P (PHONO, AUX, TAPE 2 PLAY, TUNER, TAPE 1 REC, TAPE 1 PLAY, OUTPUT) |
| VR2 | 87-021-686-01 | Volume, 250kΩ - W,D (BALANCE) |
| VR3 | 87-021-683-01 | Volume, 50kΩ - 0 (TREBLE) |
| VR4 | 87-021-682-01 | Volume, 50kΩ - S (BASS) |
| S1~6 | 82-780-620-01 | Push-switch (FUNCTION) |
| S7~12 | 82-780-621-11 | Push-switch (DSL I/II, LOW FILTER, MODE, LOUDNESS, MUTING) |
| S13 | 87-031-549-01 | Push-switch (POWER) (H model only) |
| S13 | 87-031-560-01 | Push-switch (POWER)(G model only) |
| RY1 | 87-045-134-01 | Relay, 22AS |
| PIN | 87-032-641-01 | Pin, 11P |
| < Resistors > | | |
| R254 | 87-025-154-01 | 270Ω 1W Metal film resistor |
| R21,22 | 87-025-274-01 | 82Ω ¼W Metal film resistor |
| R19,20 | 87-025-280-01 | 3.9kΩ ¼W Metal film resistor |
| R17,18 | 87-025-288-01 | 47kΩ ¼W Metal film resistor |
| < Capacitors > | | |
| C3,4 | 87-015-643-01 | 2.2μF 50V Electrolytic LL |
| C17,18 | 87-015-640-01 | 3300μF 6.3V Electrolytic SM |
| C13,14 | 87-014-122-01 | 0.018μF PP |
| C11,12 | 87-014-123-01 | 0.068μF PP |
| C180 | 87-019-112-01 | 0.01μF Spark killer |
| << VOLUME CIRCUIT BOARD SECTION >> | | |
| PCB-B | * | Volume circuit board |
| VR1 | 87-021-685-01 | Volume, 100 kΩ - B, D (VOLUME) |
| << LED CIRCUIT BOARD SECTION >> | | |
| PCB-C | * | LED circuit board |
| D1~6 | 87-027-543-01 | LED, LN317GP |
| << POWER CIRCUIT BOARD SECTION >> | | |
| PCB-D | * | Power circuit board (H model only) |
| PCB-D | * | Power circuit board (G model only) |
| J15,16 | 87-032-937-01 | AC outlet (H model only) |
| J15,16 | 87-032-996-01 | AC outlet (G model only) |
| S15 | 87-031-551-01 | Rotary switch (VOLTAGE SELECTOR) (H model only) |

| Symbol No. | Part No. | Description |
|--|---------------|--------------------------------------|
| C190 | 87-019-112-01 | < Capacitor > 0.01μF Spark killer |
| << MISCELLANEOUS >> | | |
| T1 | 82-780-605-01 | Power transformer (H model only) |
| T1 | 82-780-603-01 | Power transformer (G model only) |
| | 87-034-956-01 | AC power cord (H model only) |
| | 87-034-892-01 | AC power cord (G model only) |
| | 87-085-181-01 | Cord bushing (H model only) |
| | 87-085-166-01 | Holder, AC power cord (G model only) |
| PL1 | 82-780-626-01 | Pilot lamp |

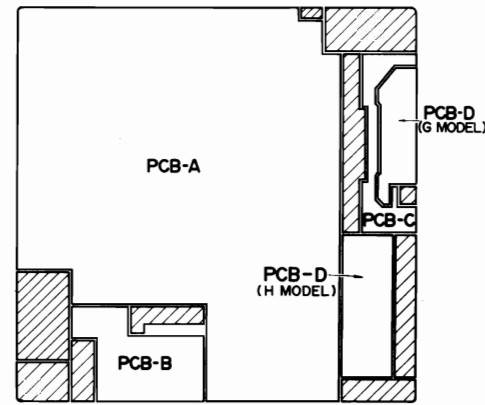
▲ Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

Note: Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 82-780-611-01



ELECTRICAL MAIN PARTS LIST=SA-P80H,G

| Symbol No. | Part No. | Description |
|---|---------------|-----------------------------|
| << MAIN CIRCUIT BOARD SECTION >> | | |
| PCB-A | * | Main circuit board |
| IC1,2 | 87-027-789-01 | IC, STK-8250 |
| IC3 | 87-027-379-01 | IC, TA7317P |
| Q11,12 | 89-309-456-01 | Transistor, 2SC945L(P) |
| Q13 | 89-109-654-01 | Transistor, 2SA965 (Y) |
| Q14 | 89-322-354-01 | Transistor, 2SC2235 (Y) |
| Q15 | 89-107-336-01 | Transistor, 2SA733 (P) |
| D13,14,64 | 87-027-219-01 | Diode, MA150 |
| 65 | | |
| D33 | 87-027-365-01 | Diode, S5277B |
| D85,88 | 87-027-323-01 | Zener diode, HZ22-2L |
| D86,87 | 87-027-322-01 | Zener diode, HZ18-2 |
| D89,90,91,92 | 87-027-626-01 | Diode, S5277D |
| D93 | 87-027-788-01 | Diode, D5FB20 |
| D94 | 87-027-376-01 | Diode, 1B4B41 |
| L1,2 | 82-499-639-01 | Inductor coil, 1μH |
| SFR5 | 87-021-698-01 | Semi-fixed resistor, 47kΩ-B |
| RY1 | 87-045-168-01 | Relay, G4D-12V |
| PIN-1 | 82-481-649-01 | Pin, 2P |
| PIN-2 | 87-032-897-01 | Pin, 3P |
| < Resistors > | | |
| R141 | 87-029-066-01 | 1.5Ω Fuse resistor |
| R167,168,169,170 | 87-029-114-01 | 4.7Ω Fuse resistor |
| R59,60 | 87-025-318-01 | 10Ω Metal film resistor |
| R61,62 | 87-025-193-01 | 10Ω Metal film resistor |
| R65,66 | 87-025-055-01 | 270Ω Metal film resistor |
| R49,50 | 87-025-246-01 | 0.33Ω Cement resistor |
| < Capacitors > | | |
| C119,120 | 87-015-916-01 | 22μF 100V Electrolytic |
| C115,116 | 87-015-914-01 | 47μF 100V Electrolytic |
| C121,122 | 87-015-894-01 | 15000μF 50V Electrolytic |
| C58,60 | 87-015-639-01 | 47μF 10V Electrolytic, BP |
| << DRIVER (Lch) CIRCUIT BOARD SECTION >> | | |
| PCB-B | * | Driver (Lch) circuit board |
| Q1 | 89-501-505-01 | FET, 2SK150GR |
| Q3 | 89-309-456-01 | Transistor, 2SC945L (P) |
| Q5 | 89-315-834-01 | Transistor, 2SC1583 (F) |
| Q7 | 89-111-246-01 | Transistor, 2SA1124 (R) |
| Q9 | 89-326-326-01 | Transistor, 2SC2632 (R) |
| D1 | 87-027-323-01 | Zener diode, HZ22-2L |
| D3 | 87-027-469-01 | Zener diode, HZ16-2 |
| D5,9 | 87-027-219-01 | Diode, MA150 |
| D7 | 87-027-475-01 | Zener diode, HZ-6B1 |
| SFR1 | 87-021-559-01 | Semi-fixed resistor, 100Ω-B |
| SFR3 | 87-021-694-01 | Semi-fixed resistor, 10kΩ-B |
| < Capacitor > | | |
| C39 | 87-015-141-01 | 10μF 16V Electrolytic, BP |
| << DRIVER (Rch) CIRCUIT BOARD SECTION >> | | |
| PCB-C | * | Driver (Rch) circuit board |
| Q2 | 89-501-505-01 | FET, 2SK150GR |
| Q4 | 89-309-456-01 | Transistor, 2SC945L (P) |
| Q6 | 89-315-834-01 | Transistor, 2SC1583 (F) |
| Q8 | 89-111-246-01 | Transistor, 2SA1124 (R) |
| Q10 | 89-326-326-01 | Transistor, 2SC2632 (R) |
| D2 | 87-027-323-01 | Zener diode, HZ22-2L |
| D4 | 87-027-469-01 | Zener diode, HZ16-2 |
| D6,10 | 87-027-219-01 | Diode, MA150 |
| D8 | 87-027-475-01 | Zener diode, HZ-6B1 |
| SFR2 | 87-021-559-01 | Semi-fixed resistor, 100Ω-B |
| SFR4 | 87-021-694-01 | Semi-fixed resistor, 10kΩ-B |

| Symbol No. | Part No. | Description |
|---|---------------|--|
| C40 | 87-015-141-01 | < Capacitor > 10μF 16V Electrolytic, BP |
| << LED CIRCUIT BOARD SECTION >> | | |
| PCB-D | * | LED circuit board |
| IC4 | 87-027-816-01 | IC, LB1409 |
| Q16 | 89-405-712-01 | Transistor, 2SD571 (L) |
| D52 | 87-027-732-01 | LED, SG-235D |
| D53,54,55,56,57,58,59,60,61 | 87-027-731-01 | LED, SR-535D |
| D62,63 | 87-027-219-01 | Diode, MA150 |
| PIN | 87-032-636-01 | Pin, 6P |
| << POWER CIRCUIT BOARD SECTION >> | | |
| PCB-E | * | Power circuit board |
| S3 | 87-031-552-01 | Push-switch (POWER) |
| < Capacitor > | | |
| C127 | 87-019-112-01 | 0.01μF Spark killer |
| << SWITCH CIRCUIT BOARD SECTION >> | | |
| PCB-F | * | Switch circuit board |
| S1,2 | 82-781-624-01 | Push-switch (SPEAKERS A, B) |
| << JACK CIRCUIT BOARD-1 SECTION >> | | |
| PCB-G | * | Jack circuit board-1 |
| J3 | 87-032-979-01 | Jack, 6.3φ (PHONES) |
| PIN | 87-032-638-01 | Pin, 8P |
| << JACK CIRCUIT BOARD-2 SECTION >> | | |
| PCB-H | * | Jack circuit board-2 |
| J1,2 | 82-781-623-01 | Pin jack, 2P (INPUT) |
| | 82-774-648-01 | Speaker terminal, 8P |
| << VOLTAGE SELECTOR CIRCUIT BOARD SECTION >> | | |
| = H model only | | |
| PCB-I | 82-749-620-01 | Voltage selector circuit board |
| S4 | 87-031-551-01 | Rotary switch (VOLTAGE SELECTOR) |
| F1 | 87-035-312-01 | Fuse, 7A |
| | 87-098-079-01 | Fuse label, 7A |
| | 87-033-147-01 | Fuse clamp |
| << MISCELLANEOUS >> | | |
| T1 | 82-781-603-01 | Power transformer (H model only) |
| T1 | 82-781-606-01 | Power transformer (G model only) |
| | 87-034-957-01 | AC power cord (H model only) |
| | 87-034-948-01 | AC power cord (G model only) |
| F1 | 87-035-190-01 | Fuse, "T" 2A (G model only) |
| | 87-098-019-01 | Fuse label, "T" 2A (G model only) |
| | 87-085-181-01 | Cord bushing (H model only) |
| | 87-085-166-01 | Holder, AC power cord (G model only) |
| | 87-033-161-01 | Fuse holder, 1P (G model only) |
| | 87-033-140-01 | Splice connector (H model only) |

▲ Safety component symbol

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OH,G

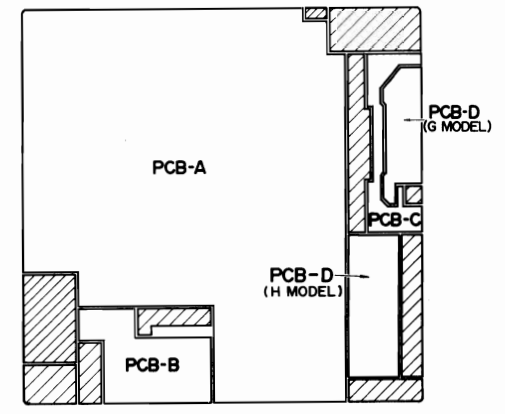
ELECTRICAL MAIN PARTS LIST= SA-P80H,G

| Symbol No. | Part No. | Description |
|-------------------|---------------|--------------------------------------|
| | | < Capacitor > |
| △ C190 | 87-019-112-01 | 0.01μF Spark killer |
| ≪ MISCELLANEOUS ≫ | | |
| △ T1 | 82-780-605-01 | Power transformer (H model only) |
| △ T1 | 82-780-603-01 | Power transformer (G model only) |
| △ | 87-034-956-01 | AC power cord (H model only) |
| △ | 87-034-892-01 | AC power cord (G model only) |
| △ | 87-085-181-01 | Cord bushing (H model only) |
| △ | 87-085-166-01 | Holder, AC power cord (G model only) |
| PL1 | 82-780-626-01 | Pilot lamp |

△ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 82-780-611-01



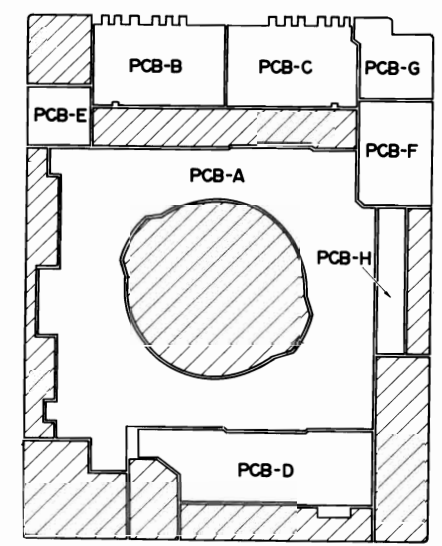
| Symbol No. | Part No. | Description |
|--|---------------|-----------------------------|
| ≪ MAIN CIRCUIT BOARD SECTION ≫ | | |
| | * | Main circuit board |
| PCB-A | | |
| IC1,2 | 87-027-789-01 | IC, STK-8250 |
| IC3 | 87-027-379-01 | IC, TA7317P |
| Q11,12 | 89-309-456-01 | Transistor, 2SC945L(P) |
| Q13 | 89-109-654-01 | Transistor, 2SA965 (Y) |
| Q14 | 89-322-354-01 | Transistor, 2SC2235 (Y) |
| Q15 | 89-107-336-01 | Transistor, 2SA733 (P) |
| D13,14,64 | 87-027-219-01 | Diode, MA150 |
| 65 | | |
| D33 | 87-027-365-01 | Diode, S5277B |
| D85,88 | 87-027-323-01 | Zener diode, HZ22-2L |
| D86,87 | 87-027-322-01 | Zener diode, HZ18-2 |
| D89,90,91, | 87-027-626-01 | Diode, S5277D |
| 92 | | |
| D93 | 87-027-788-01 | Diode, D5FB20 |
| D94 | 87-027-376-01 | Diode, 1B4B41 |
| L1,2 | 82-499-639-01 | Inductor coil, 1μH |
| SFR5 | 87-021-698-01 | Semi-fixed resistor, 47kΩ-B |
| RY1 | 87-045-168-01 | Relay, G4D-12V |
| PIN-1 | 82-481-649-01 | Pin, 2P |
| PIN-2 | 87-032-897-01 | Pin, 3P |
| < Resistors > | | |
| △ R141 | 87-029-066-01 | 1.5Ω Fuse resistor |
| △ R167,168,169, | 87-029-114-01 | 4.7Ω Fuse resistor |
| 170 | | |
| R59,60 | 87-025-318-01 | 10Ω Metal film resistor |
| R61,62 | 87-025-193-01 | 10Ω Metal film resistor |
| R65,66 | 87-025-055-01 | 270Ω Metal film resistor |
| R49,50 | 87-025-246-01 | 0.33Ω Cement resistor |
| < Capacitors > | | |
| C119,120 | 87-015-916-01 | 22μF 100V Electrolytic |
| C115,116 | 87-015-914-01 | 47μF 100V Electrolytic |
| C121,122 | 87-015-894-01 | 15000μF 50V Electrolytic |
| C58,60 | 87-015-639-01 | 47μF 10V Electrolytic, BP |
| ≪ DRIVER (Lch) CIRCUIT BOARD SECTION ≫ | | |
| PCB-B | * | Driver (Lch) circuit board |
| Q1 | 89-501-505-01 | FET, 2SK150GR |
| Q3 | 89-309-456-01 | Transistor, 2SC945L (P) |
| Q5 | 89-315-834-01 | Transistor, 2SC1583 (F) |
| Q7 | 89-111-246-01 | Transistor, 2SA1124 (R) |
| Q9 | 89-326-326-01 | Transistor, 2SC2632 (R) |
| D1 | 87-027-323-01 | Zener diode, HZ22-2L |
| D3 | 87-027-469-01 | Zener diode, HZ16-2 |
| D5,9 | 87-027-219-01 | Diode, MA150 |
| D7 | 87-027-475-01 | Zener diode, HZ-6B1 |
| SFR1 | 87-021-559-01 | Semi-fixed resistor, 100Ω-B |
| SFR3 | 87-021-694-01 | Semi-fixed resistor, 10kΩ-B |
| < Capacitor > | | |
| C39 | 87-015-141-01 | 10μF 16V Electrolytic, BP |
| ≪ DRIVER (Rch) CIRCUIT BOARD SECTION ≫ | | |
| PCB-C | * | Driver (Rch) circuit board |
| Q2 | 89-501-505-01 | FET, 2SK150GR |
| Q4 | 89-309-456-01 | Transistor, 2SC945L (P) |
| Q6 | 89-315-834-01 | Transistor, 2SC1583 (F) |
| Q8 | 89-111-246-01 | Transistor, 2SA1124 (R) |
| Q10 | 89-326-326-01 | Transistor, 2SC2632 (R) |
| D2 | 87-027-323-01 | Zener diode, HZ22-2L |
| D4 | 87-027-469-01 | Zener diode, HZ16-2 |
| D6,10 | 87-027-219-01 | Diode, MA150 |
| D8 | 87-027-475-01 | Zener diode, HZ-6B1 |
| SFR2 | 87-021-559-01 | Semi-fixed resistor, 100Ω-B |
| SFR4 | 87-021-694-01 | Semi-fixed resistor, 10kΩ-B |

| Symbol No. | Part No. | Description |
|--|---------------|--------------------------------------|
| | | < Capacitor > |
| C40 | 87-015-141-01 | 10μF 16V Electrolytic, BP |
| ≪ LED CIRCUIT BOARD SECTION ≫ | | |
| PCB-D | * | LED circuit board |
| IC4 | 87-027-816-01 | IC, LB1409 |
| Q16 | 89-405-712-01 | Transistor, 2SD571 (L) |
| D52 | 87-027-732-01 | LED, SG-235D |
| D53,54,55,56, | 87-027-731-01 | LED, SR-535D |
| 57,58,59,60, | | |
| 61 | | |
| D62,63 | 87-027-219-01 | Diode, MA150 |
| PIN | 87-032-636-01 | Pin, 6P |
| ≪ POWER CIRCUIT BOARD SECTION ≫ | | |
| △ PCB-E | * | Power circuit board |
| △ S3 | 87-031-552-01 | Push-switch (POWER) |
| < Capacitor > | | |
| △ C127 | 87-019-112-01 | 0.01μF Spark killer |
| ≪ SWITCH CIRCUIT BOARD SECTION ≫ | | |
| PCB-F | * | Switch circuit board |
| S1,2 | 82-781-624-01 | Push-switch (SPEAKERS A, B) |
| ≪ JACK CIRCUIT BOARD-1 SECTION ≫ | | |
| PCB-G | * | Jack circuit board-1 |
| J3 | 87-032-979-01 | Jack, 6.3φ (PHONES) |
| PIN | 87-032-638-01 | Pin, 8P |
| ≪ JACK CIRCUIT BOARD-2 SECTION ≫ | | |
| PCB-H | * | Jack circuit board-2 |
| J1,2 | 82-781-623-01 | Pin jack, 2P (INPUT) |
| | 82-774-648-01 | Speaker terminal, 8P |
| ≪ VOLTAGE SELECTOR CIRCUIT BOARD SECTION ≫ | | |
| = H model only | | |
| △ PCB-I | 82-749-620-01 | Voltage selector circuit board |
| △ S4 | 87-031-551-01 | Rotary switch (VOLTAGE SELECTOR) |
| △ F1 | 87-035-312-01 | Fuse, 7A |
| | 87-098-079-01 | Fuse label, 7A |
| | 87-033-147-01 | Fuse clamp |
| ≪ MISCELLANEOUS ≫ | | |
| △ T1 | 82-781-603-01 | Power transformer (H model only) |
| △ T1 | 82-781-606-01 | Power transformer (G model only) |
| △ | 87-034-957-01 | AC power cord (H model only) |
| △ | 87-034-948-01 | AC power cord (G model only) |
| △ F1 | 87-035-190-01 | Fuse, "T" 2A (G model only) |
| | 87-098-019-01 | Fuse label, "T" 2A (G model only) |
| △ | 87-085-181-01 | Cord bushing (H model only) |
| △ | 87-085-166-01 | Holder, AC power cord (G model only) |
| △ | 87-033-161-01 | Fuse holder, 1P (G model only) |
| △ | 87-033-140-01 | Splice connector (H model only) |

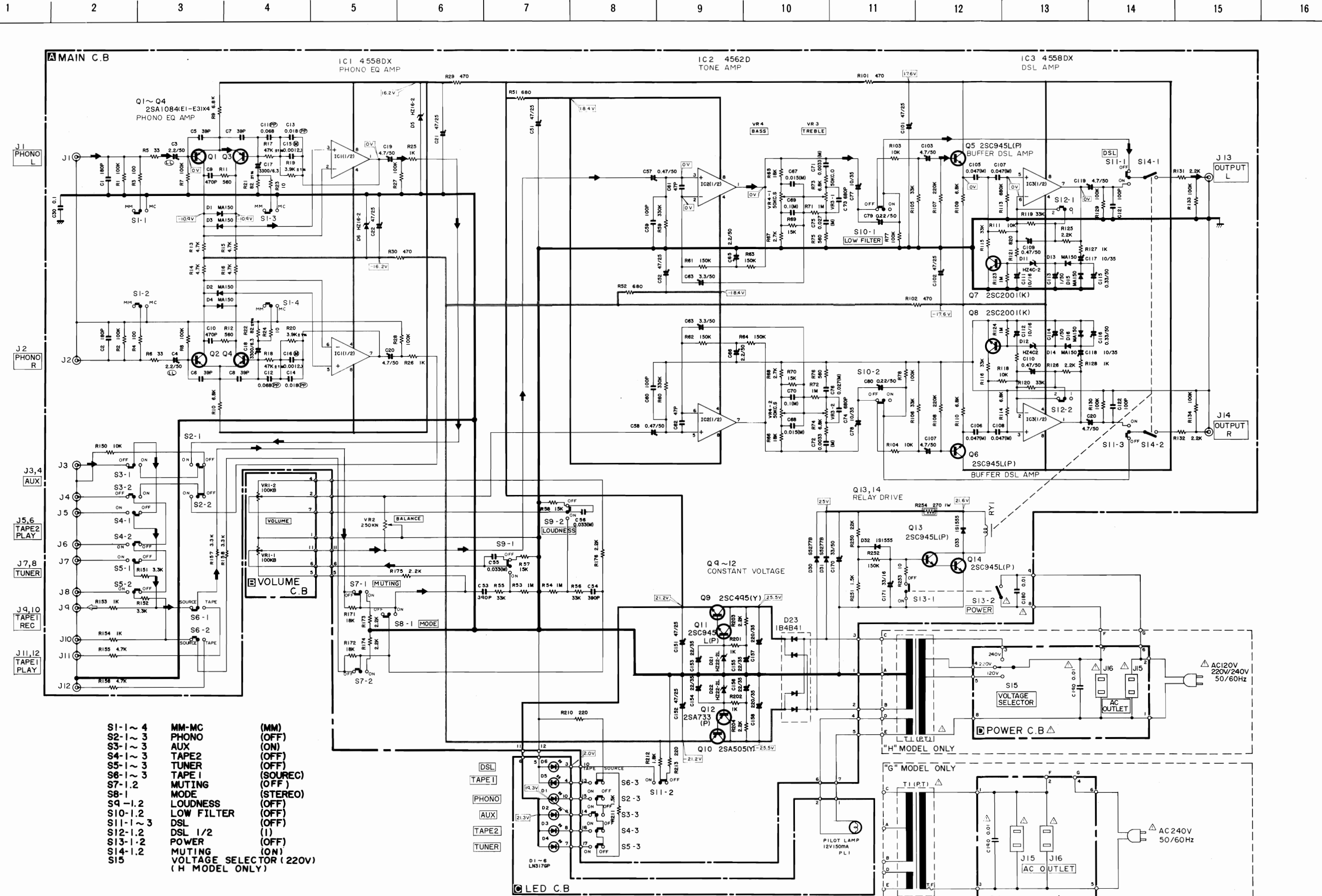
△ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 82-781-610-01



SCHEMATIC DIAGRAM



- S1-1 ~ 4 MM-MC (MM)
- S2-1 ~ 3 PHONO (OFF)
- S3-1 ~ 3 AUX (ON)
- S4-1 ~ 3 TAPE2 (OFF)
- S5-1 ~ 3 TUNER (OFF)
- S6-1 ~ 3 TAPE1 (SOURCE)
- S7-1,2 MUTING (OFF)
- S8-1 MODE (STEREO)
- S9-1,2 LOUDNESS (OFF)
- S10-1,2 LOW FILTER (OFF)
- S11-1 ~ 3 DSL (OFF)
- S12-1,2 DSL 1/2 (I)
- S13-1,2 POWER (OFF)
- S14-1,2 MUTING (ON)
- S15 VOLTAGE SELECTOR (220V) (H MODEL ONLY)

A
B
C
D
E
F
G
H
I
J

J1 PHONO L
J2 PHONO R
J3,4 AUX
J5,6 TAPE2 PLAY
J7,8 TUNER
J9,10 TAPE1 REC
J11,12 TAPE1 PLAY

DSL
TAPE1
PHONO
AUX
TAPE2
TUNER

"H" MODEL ONLY

"G" MODEL ONLY

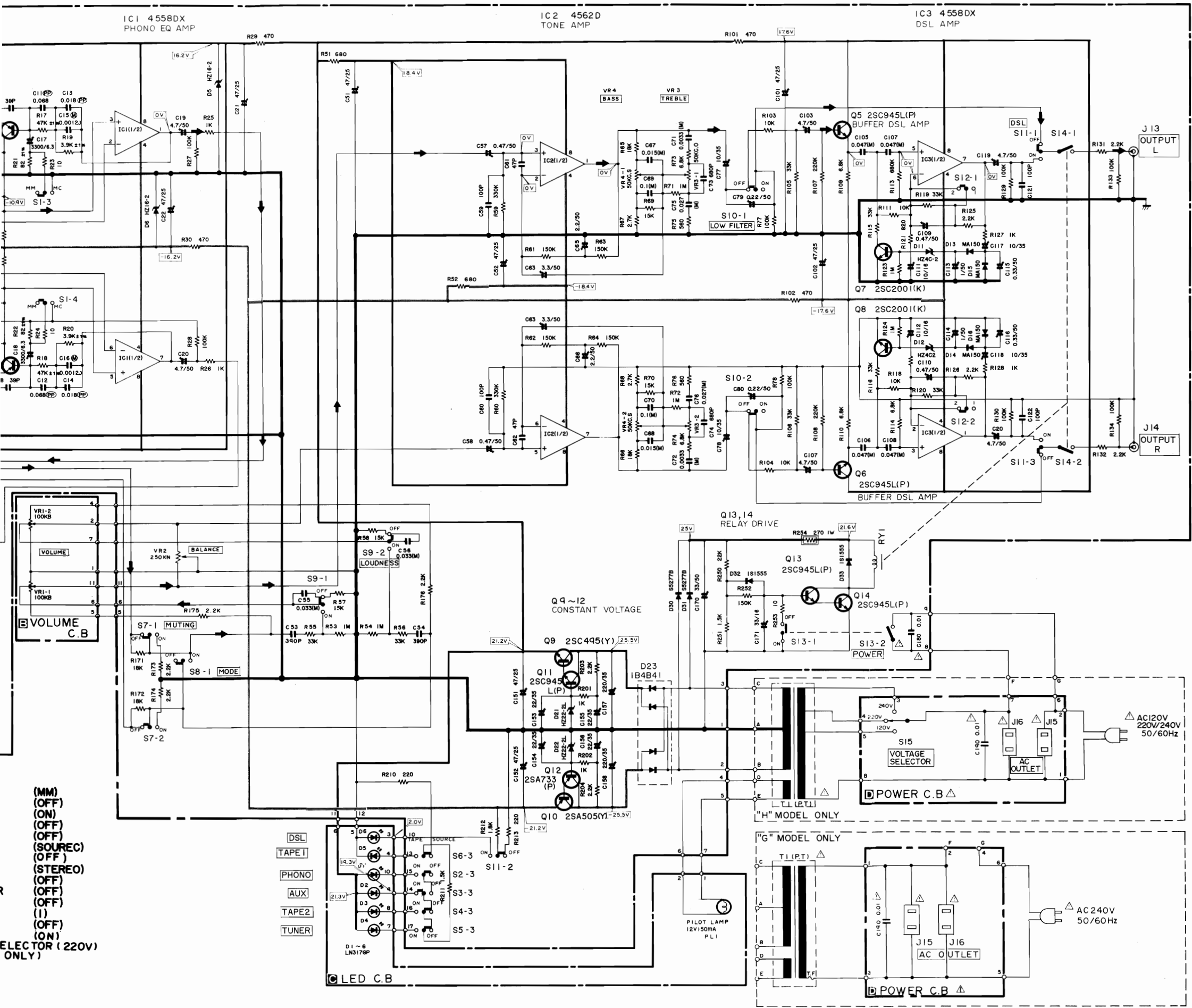
LED C.B.

POWER C.B.

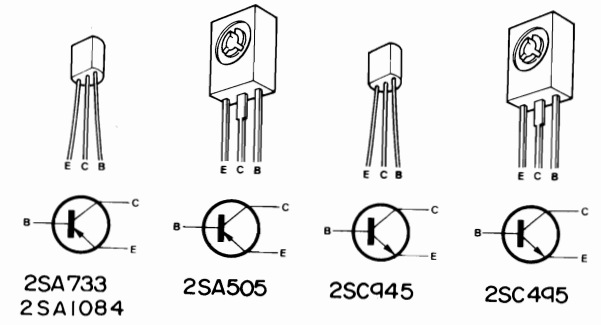
POWER C.B.

AC120V 220V/240V 50/60Hz

AC240V 50/60Hz



- NOTES:**
- 1) B (+) power supply B (-) power supply
 - 2) Signal path
Rec path,
 - 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
 - 4) Resistors with no designation have a rated power of 1/4W and a tolerance of ±5%.
 - 5) Capacitors with no designation have a dielectric strength of less than 50WV.
 - 6) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
 - 7) Ceramic capacitor symbols:
 - High dielectric constant system (YY)
 - High dielectric constant system (YW, YP, YZ)
 - 8) Explanation of symbols:
 - Mylar capacitor
 - Aluminum solid capacitor
 - Polypropylene film capacitor
 - Bi-polarized capacitor
 - Low-leakage capacitor
 - Fuse resistor
 - Nonflammable resistor
- Safety component symbol**
 This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.
- This schematic diagram is subject to change without notice in the interests of improved performance.



(MM)
(OFF)
(ON)
(OFF)
(OFF)
(SOURCE)
(OFF)
(STEREO)
(OFF)
(OFF)
(OFF)
(I)
(OFF)
(ON)
ELECTOR (220V)
ONLY)

DSL
TAPE 1
PHONO
AUX
TAPE 2
TUNER

LED C.B

"H" MODEL ONLY

"G" MODEL ONLY

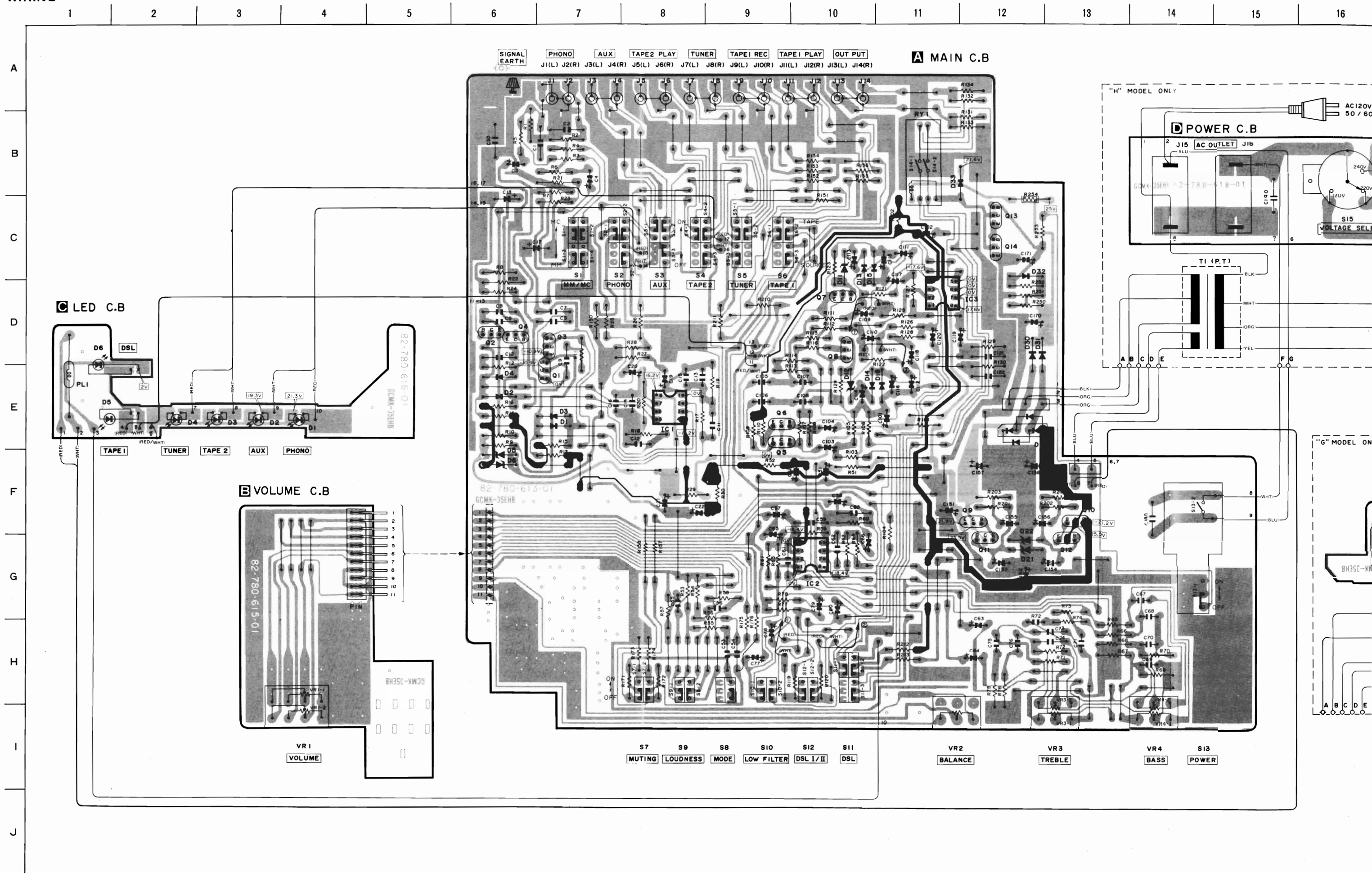
PILOT LAMP
12V150mA
P.L1

POWER C.B

POWER C.B

WIRING

NOTES (1) B(+) Pattern B (-) Pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) w



A
B
C
D
E
F
G
H
I
J

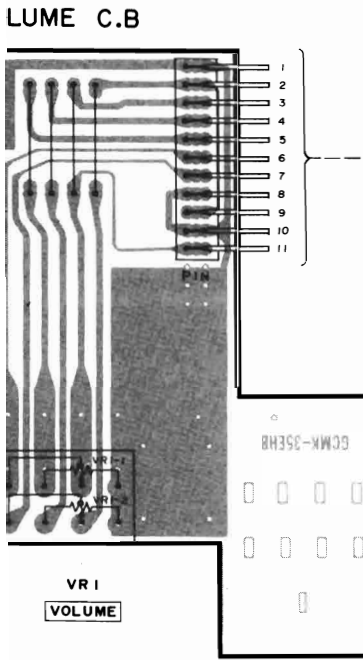
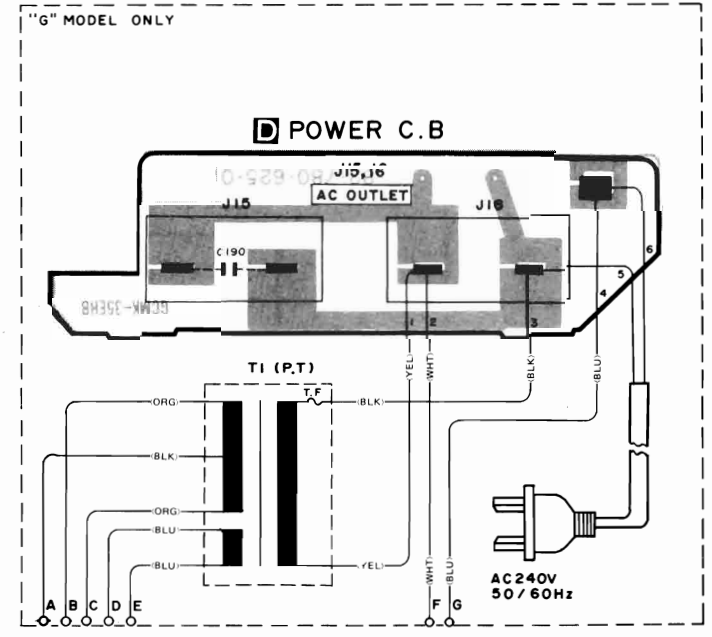
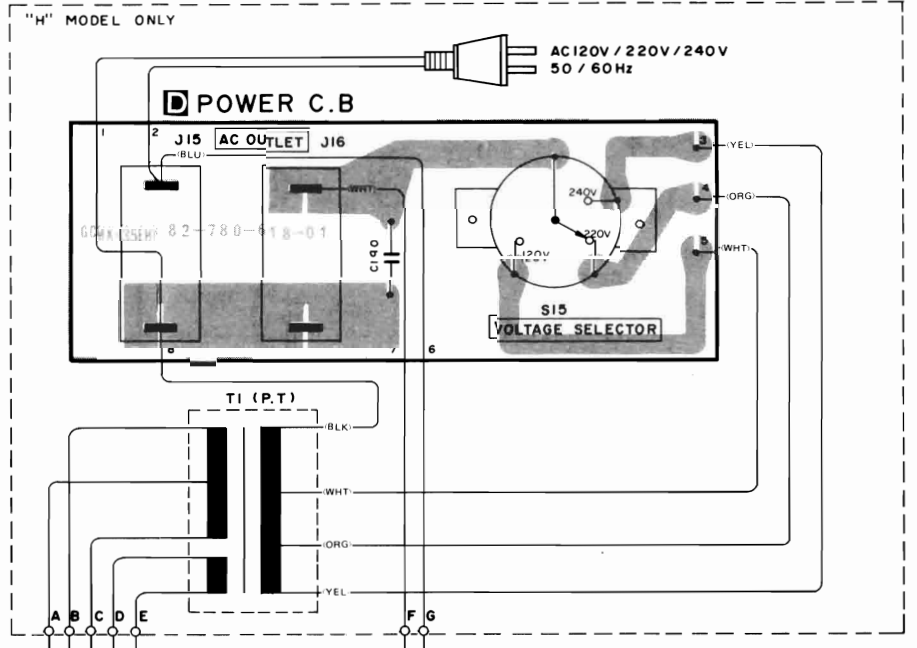
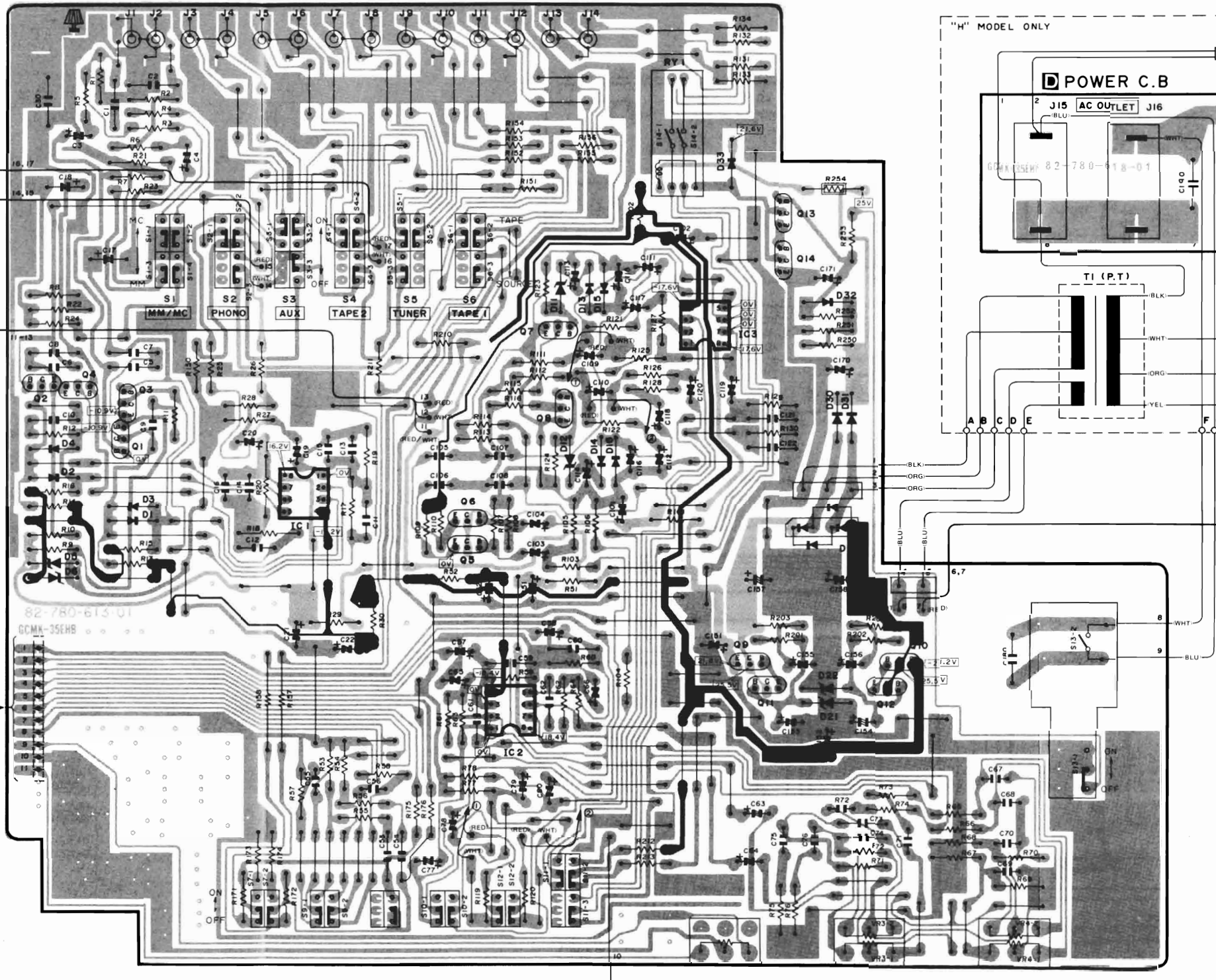
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

NOTES (1) B(+) Pattern B(-) Pattern Others pattern
 (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

SIGNAL EARTH PHONO AUX TAPE 2 PLAY TUNER TAPE 1 REC TAPE 1 PLAY OUT PUT
 J1(L) J2(R) J3(L) J4(R) J5(L) J6(R) J7(L) J8(R) J9(L) J10(R) J11(L) J12(R) J13(L) J14(R)

A MAIN C.B



S7 S9 S8 S10 S12 S11
 MUTING LOUDNESS MODE LOW FILTER DSL I/II DSL

VR2 VR3 VR4 S13
 BALANCE TREBLE BASS POWER

SCHEMATIC DIAGRAM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A

B

C

D

E

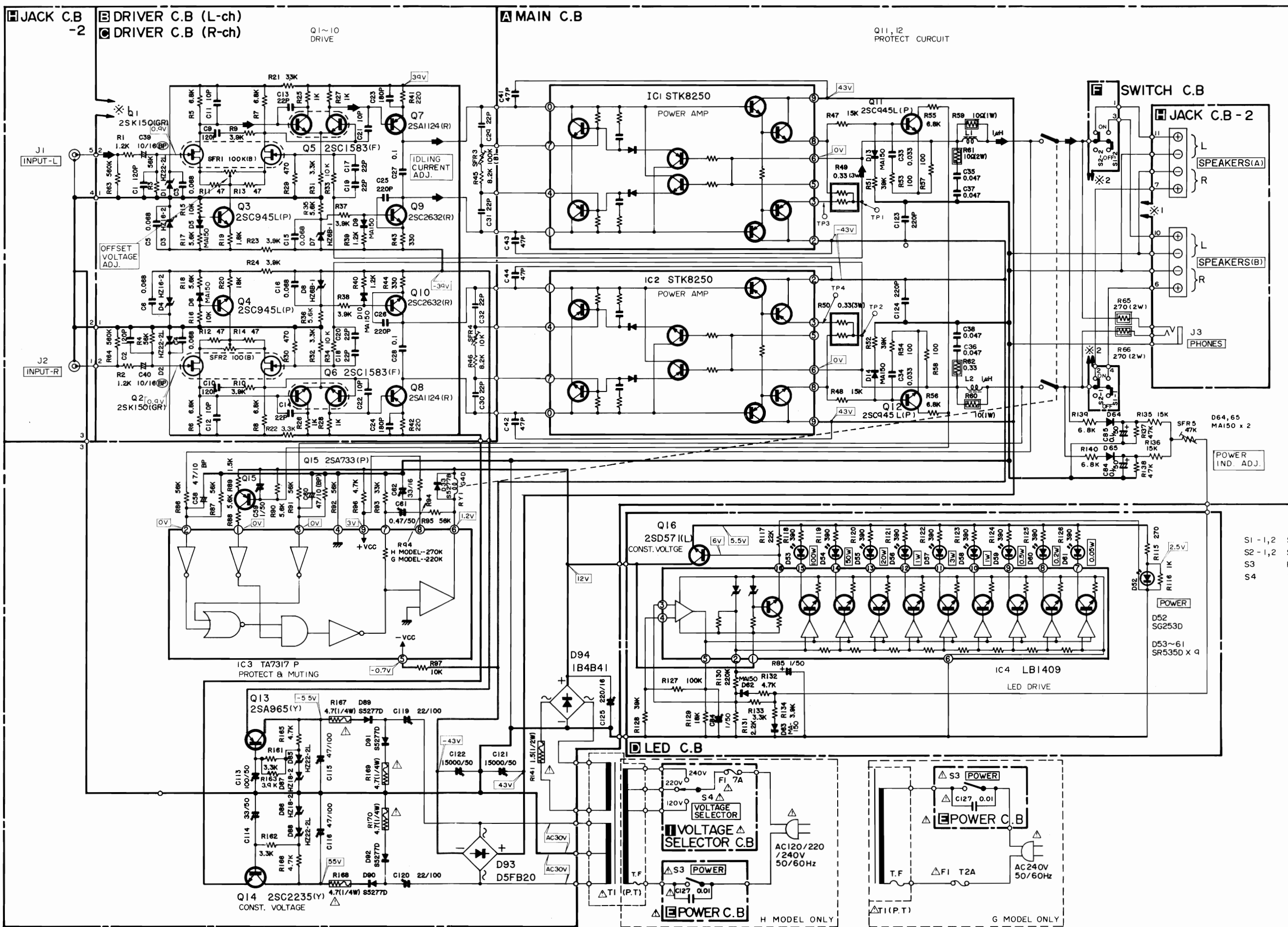
F

G

H

I

J



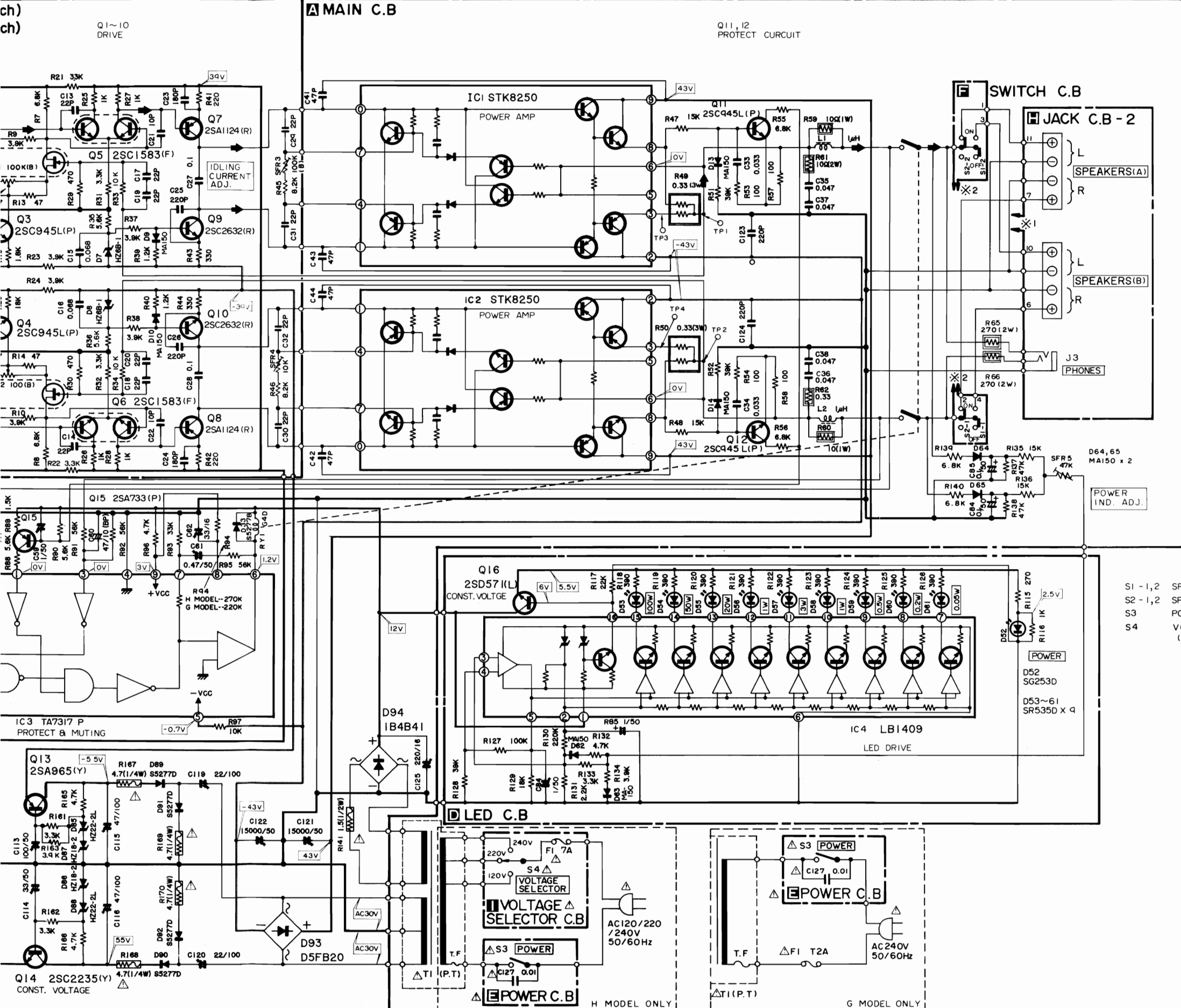
- S1 -1,2 SPEAKERS (B) (OFF)
- S2 -1,2 SPEAKERS (A) (ON)
- S3 POWER (OFF)
- S4 VOLTAGE SELECTOR (220V) (H MODEL ONLY)

D52 SG253D
D53~61 SR535D x 4

H MODEL ONLY

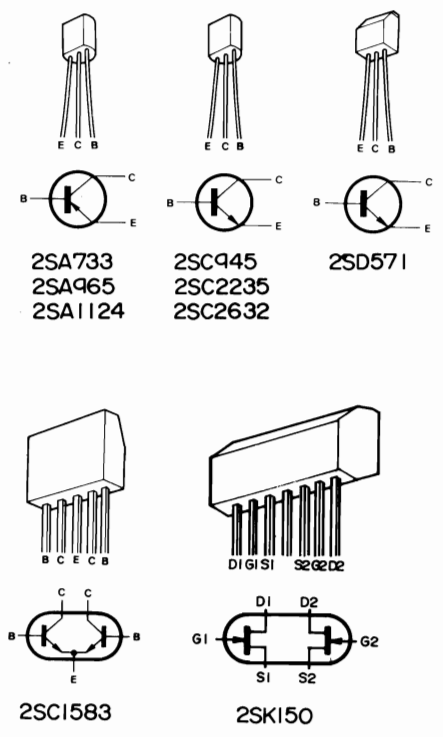
G MODEL ONLY

ch) ch)



- NOTES:**
- 1) B (+) power supply B (-) power supply
 - 2) Signal path
 - 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But () is with AM reception or recording. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
 - 4) Resistors with no designation have a rated power of 1/4W and a tolerance of ±5%.
 - 5) Capacitors with no designation have a dielectric strength of less than 50V.
 - 6) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
 - 7) High dielectric constant system (YY)
 High dielectric constant system (YW, YP, YZ)
 - 8) Explanation of symbols
 Mylar capacitor
 Aluminum solid capacitor
 Polypropylene film capacitor
 Bi-polarized capacitor
 Low-leakage capacitor
 Fuse resistor
 Nonflammable resistor
 Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

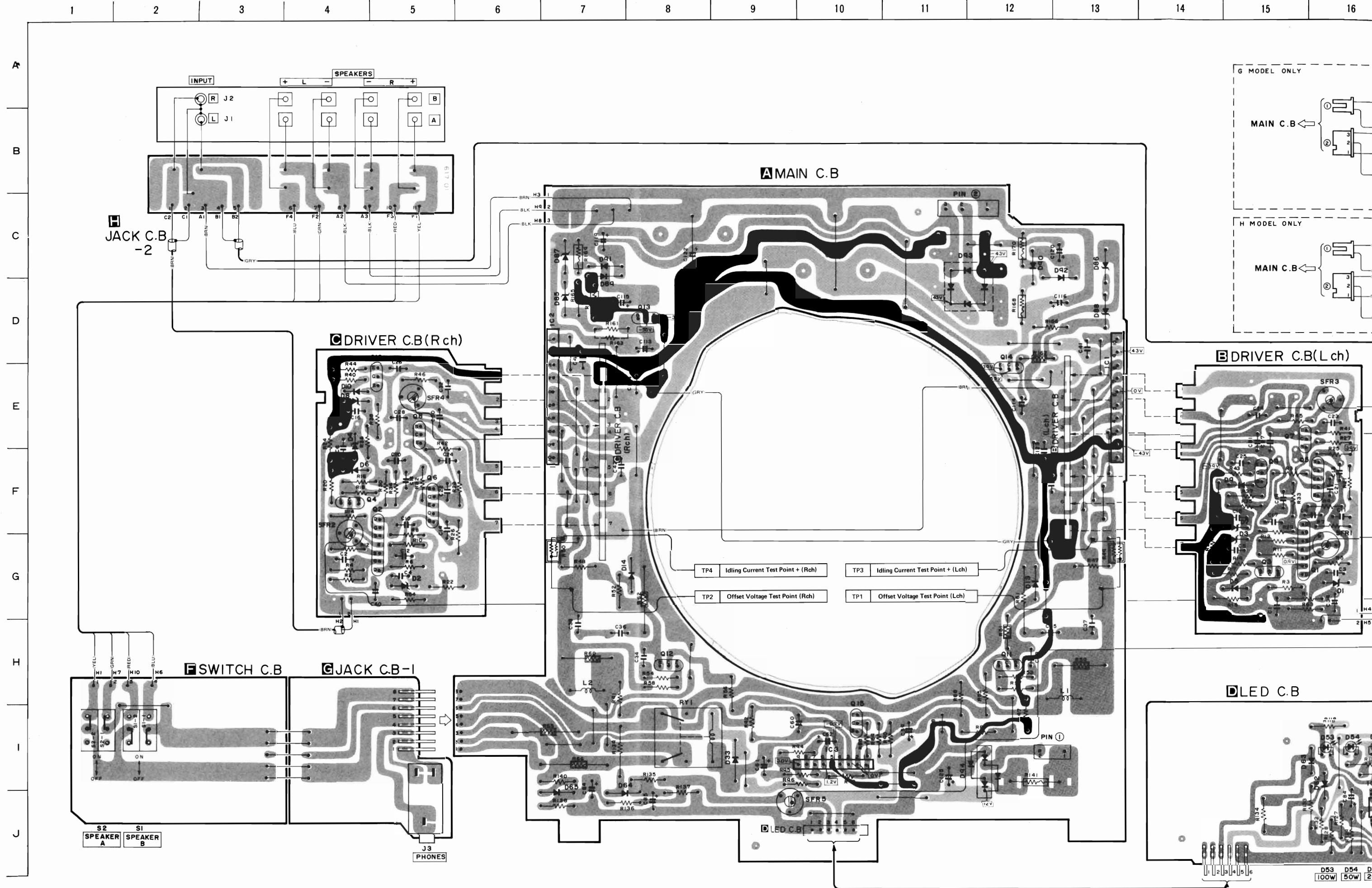
- S1 - 1,2 SPEAKERS (B) (OFF)
- S2 - 1,2 SPEAKERS (A) (ON)
- S3 POWER (OFF)
- S4 VOLTAGE SELECTOR(220V) (H MODEL ONLY)



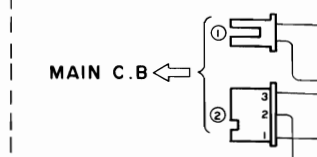
H MODEL ONLY G MODEL ONLY

WIRING

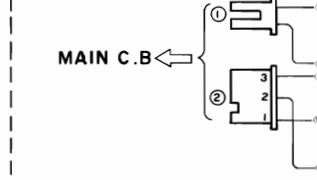
NOTES (1) B(+) Pattern B(-) Pattern Others pattern
 (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) w



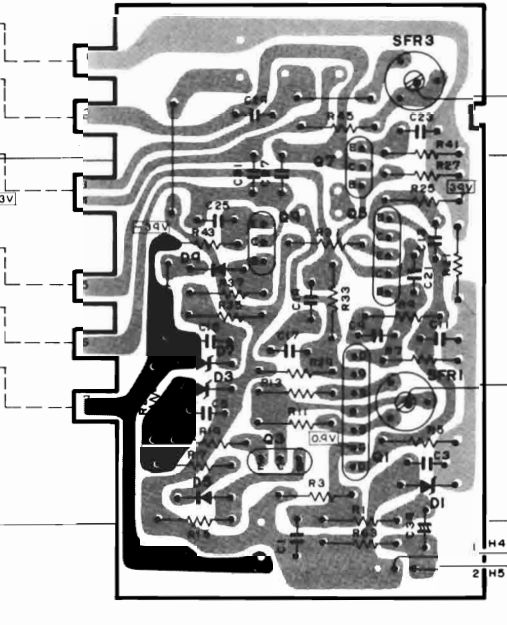
G MODEL ONLY



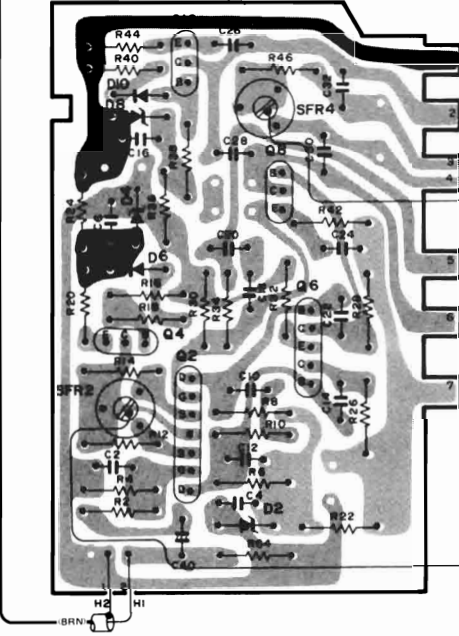
H MODEL ONLY



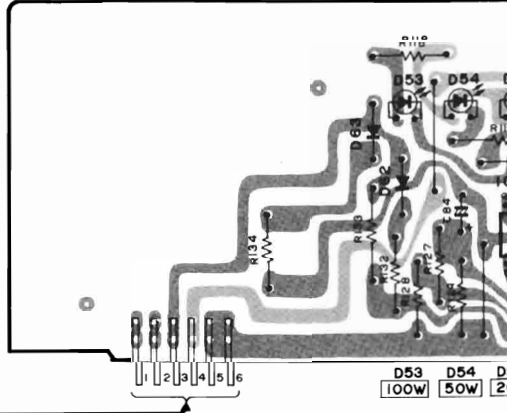
B DRIVER C.B. (L ch)



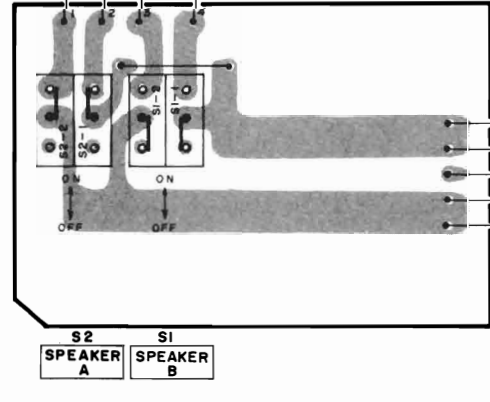
C DRIVER C.B. (R ch)



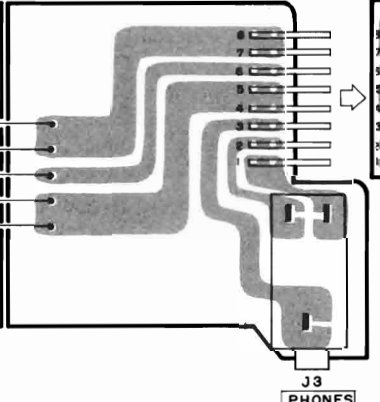
D LED C.B.



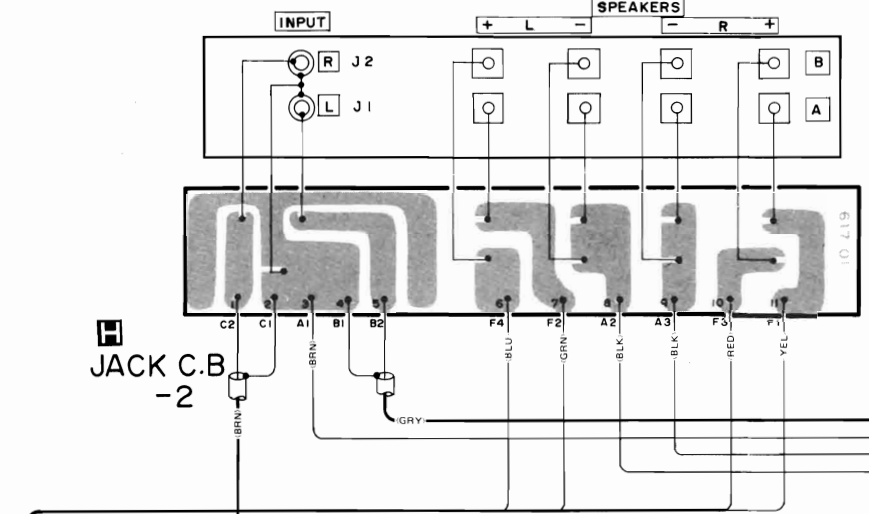
F SWITCH C.B.



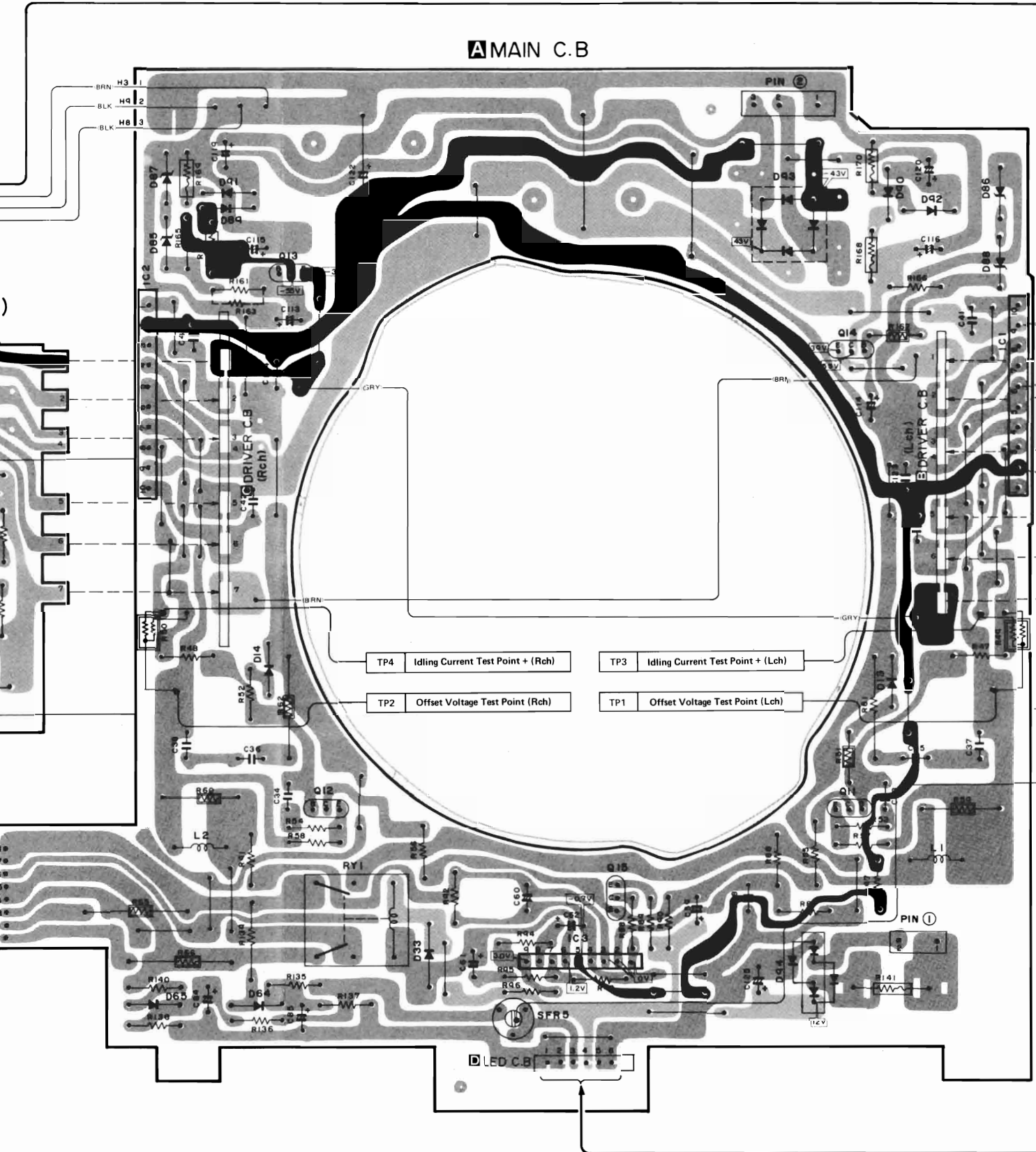
G JACK C.B.-1



JACK C.B.-2



A MAIN C.B.



S2 SPEAKER A, S1 SPEAKER B

J3 PHONES

D53 100W, D54 50W, D55 20W

AIWACO.,LTD.