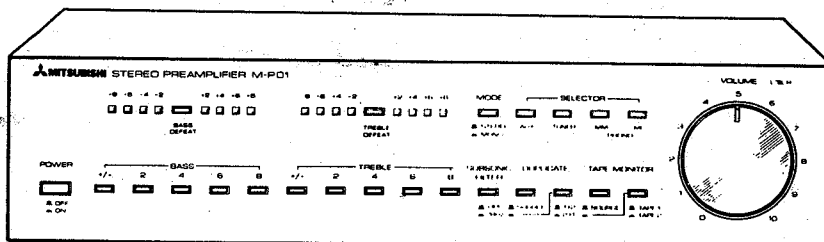


SERVICE MANUAL

**STEREO PREAMPLIFIER**  
MODEL M-P01



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# SPECIFICATIONS

|  |  |  |
|--|--|--|
| <b>Input Sensitivity/Impedance</b>   | PHONO MC . . . 0.1 mV/10 ohms  | <b>Signal to Noise Ratio (DIN)</b> . . . PHONO MC . . . . . 72 dB<br>(47 ohms terminated)  |
|  | PHONO MM . 2.3 mV/50 kohms/<br>100pF   |  |
| <b>Output Level/Impedance</b> . . . . .  | TUNER, AUX,<br>PLAY 1, PLAY 2 . . 150 mV/<br>50 k ohms                                     | TUNER, AUX,<br>PLAY 1, PLAY 2 . . . . . 106 dB<br>(closed circuit)<br>92 dB<br>(47 kohms/250 pF terminated)  |
|  | OUTPUT . 1V (rated output)/<br>600 ohms 18 (maximum output)<br>REC 1, REC 2 150mV/600 ohms |  |
| <b>Equivalent Input Noise Level</b> . . . . .<br>(IHF, A network)              | PHONO MC . . . . . -157 dB (V)<br>(47 ohms terminated)                                     | <b>Total Harmonic Distortion</b> . . . . . PHONO MC . . . . . 0.005%<br>(at rated output attenuator) PHONO MM . . . . . 0.003%<br>-20 dB from 20Hz to 20kHz) |
|  | PHONO MM . . . . . -136 dB (V)<br>(closed circuit)   |  |
| <b>Signal to Noise Ratio</b> . . . . .<br>(IHF, A network, at rated<br>output) | TUNER, AUX,<br>PLAY 1, PLAY 2 . . -126 dB (V)<br>(closed circuit)                          | TUNER, PLAY 1,<br>PLAY 2 . . . . . 0 ~ 0.5 dB<br>(from 10 Hz to 100 kHz)   |
|  | PHONO MC . . . . . 77 dB<br>(47 ohms terminated)   | <b>Tone Control</b> . . . . . BASS . . ±2,4,6,8, dB at 100 Hz<br>TREBLE ±2,4,6,8, dB at 10 kHz   |
|  | PHONO MM . . . . . 48 dB<br>(closed circuit)   | <b>Subsonic Filter</b> . . . . . 18 Hz (-6 dB/oct)   |
|  | 90 dB (10mV input, closed circuit)   | <b>Phono Overload Level</b> . . . . . PHONO MC . . . . . 12 mV<br>(at 1kHz with 0.1% THD) PHONO MM . . . . . 290 mV  |
|  | TUNER, AUX,<br>PLAY 1, PLAY 2 . . . . . 110 dB<br>(closed circuit)                         | <b>Power Consumption</b> . . . . . 18 W  |
|  |  | <b>Dimensions</b> . . . . . 270 x 70 x 247 mm<br>(W x H x D) (10-5/8" x 2-3/4" x 9-3/4")   |
|  |  | <b>Weight</b> . . . . . 3.2 kg (7 lbs)   |

\* Design and specifications are subject to change without notice for improvement.

# FRONT PANEL

**① BASS TONE CONTROL switches**

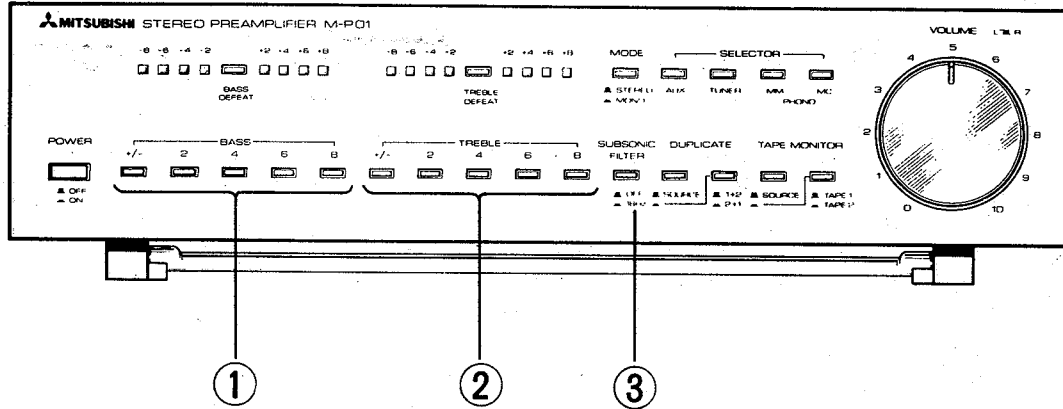
These control the bass tone. They do not work when the BASS DEFEAT switch is on.

**② TREBLE TONE CONTROL switches**

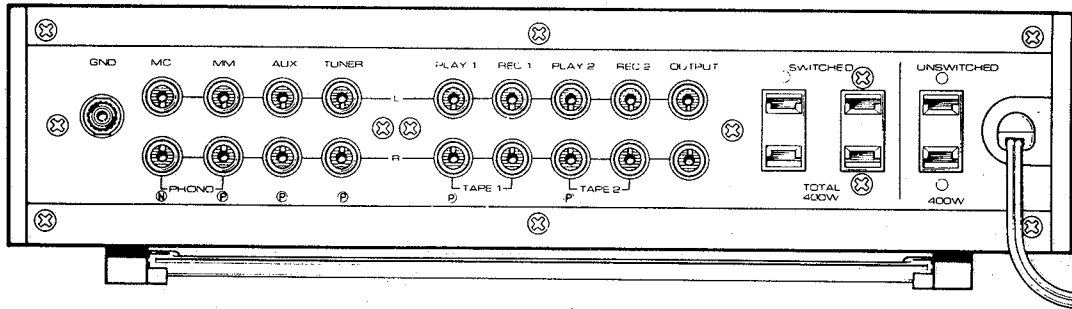
These control the treble tone. They do not work when the TREBLE DEFEAT switch is on.

**③ SUBSONIC FILTER**

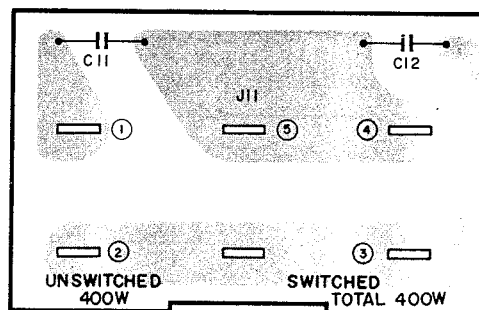
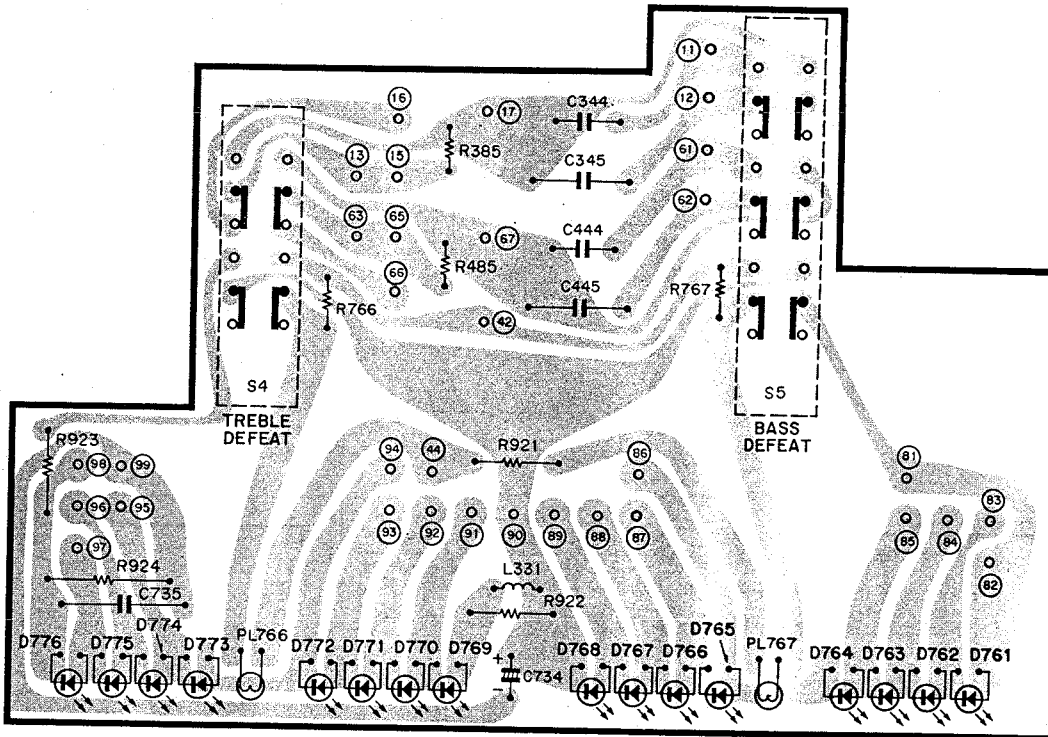
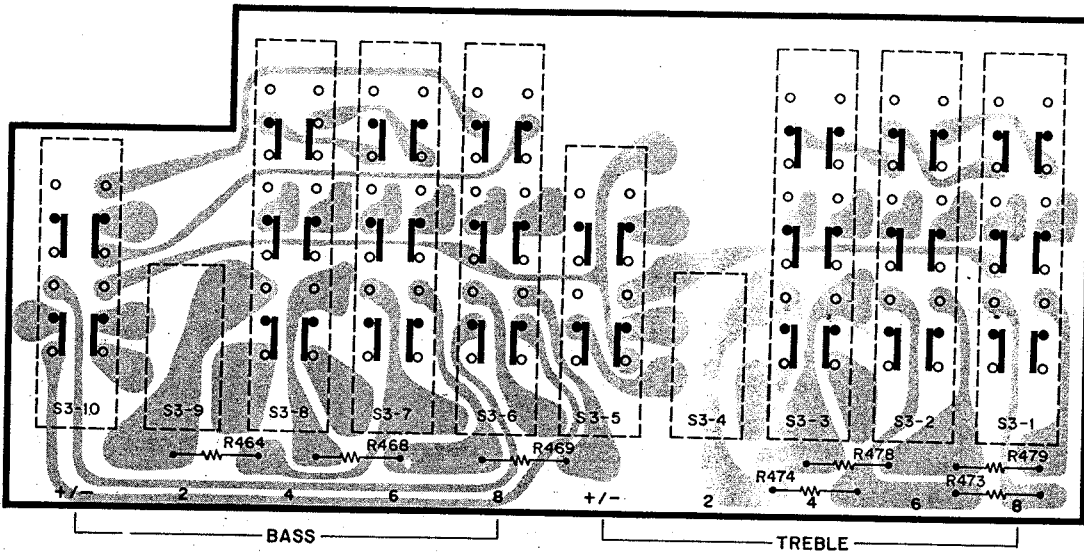
This switch helps to suppress the in audible ultra-low-range noise generated by warped records. It also prevents distortion and the speakers from being damaged.

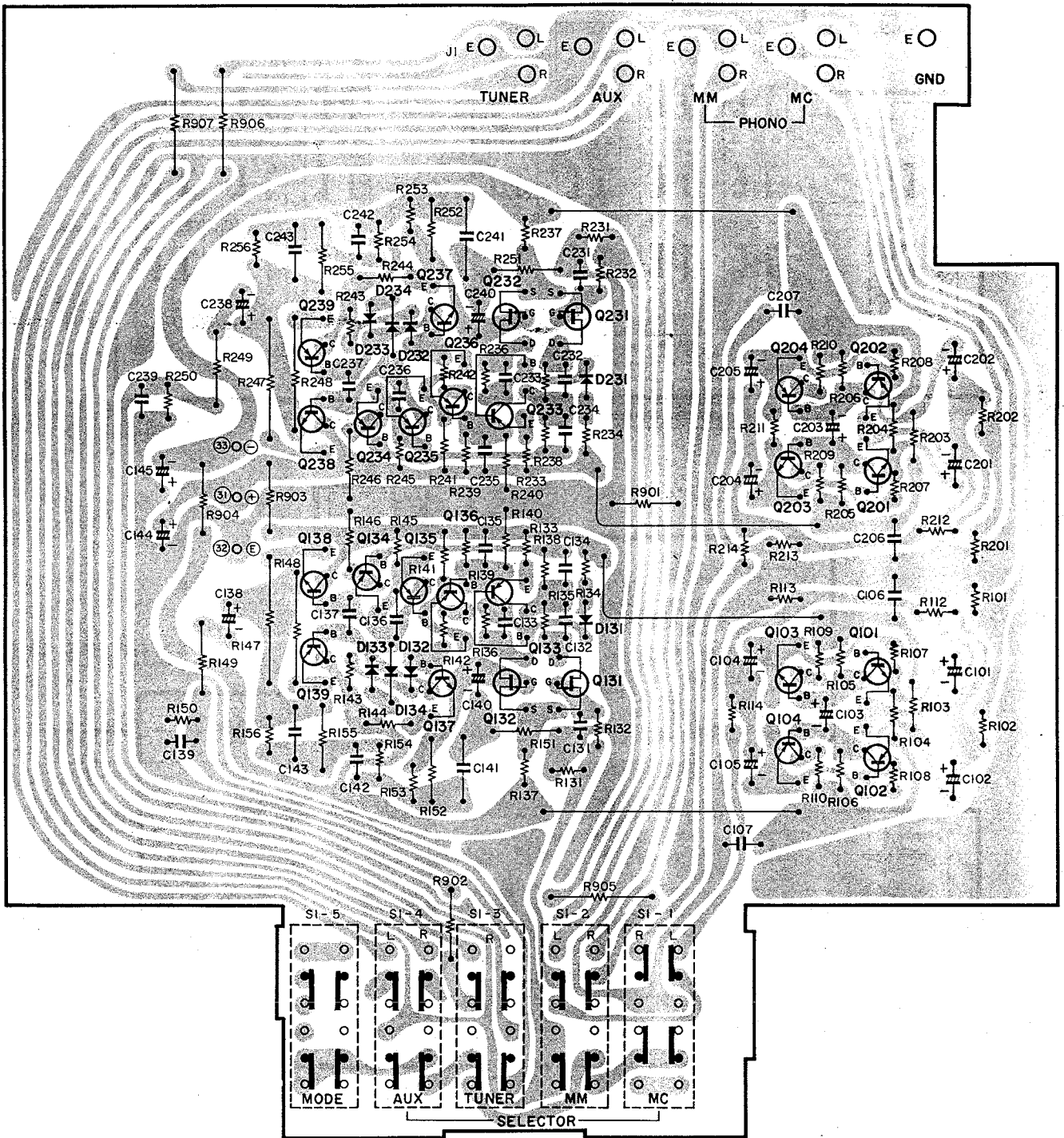


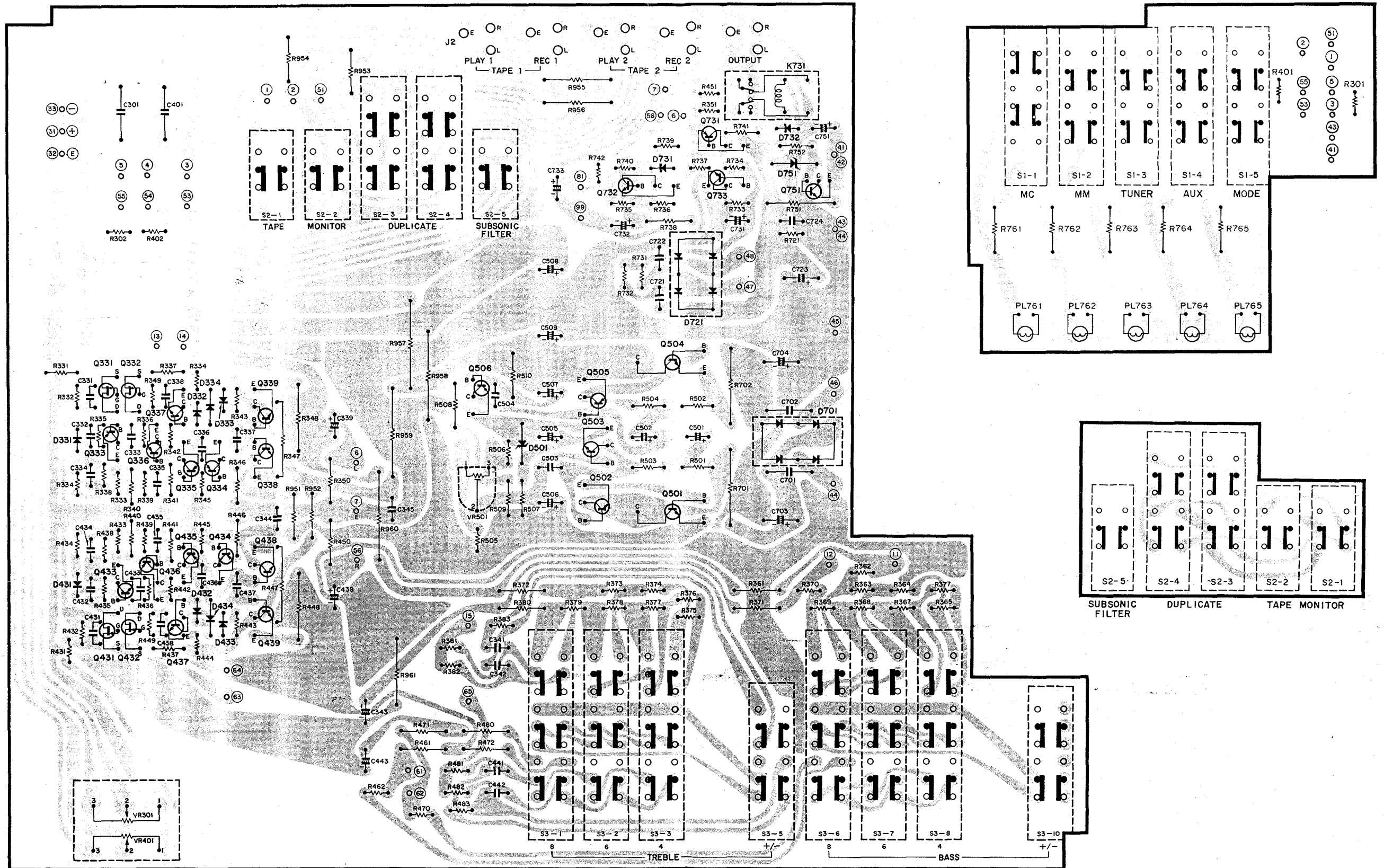
# REAR PANEL



# PRINTED CIRCUIT BOARD



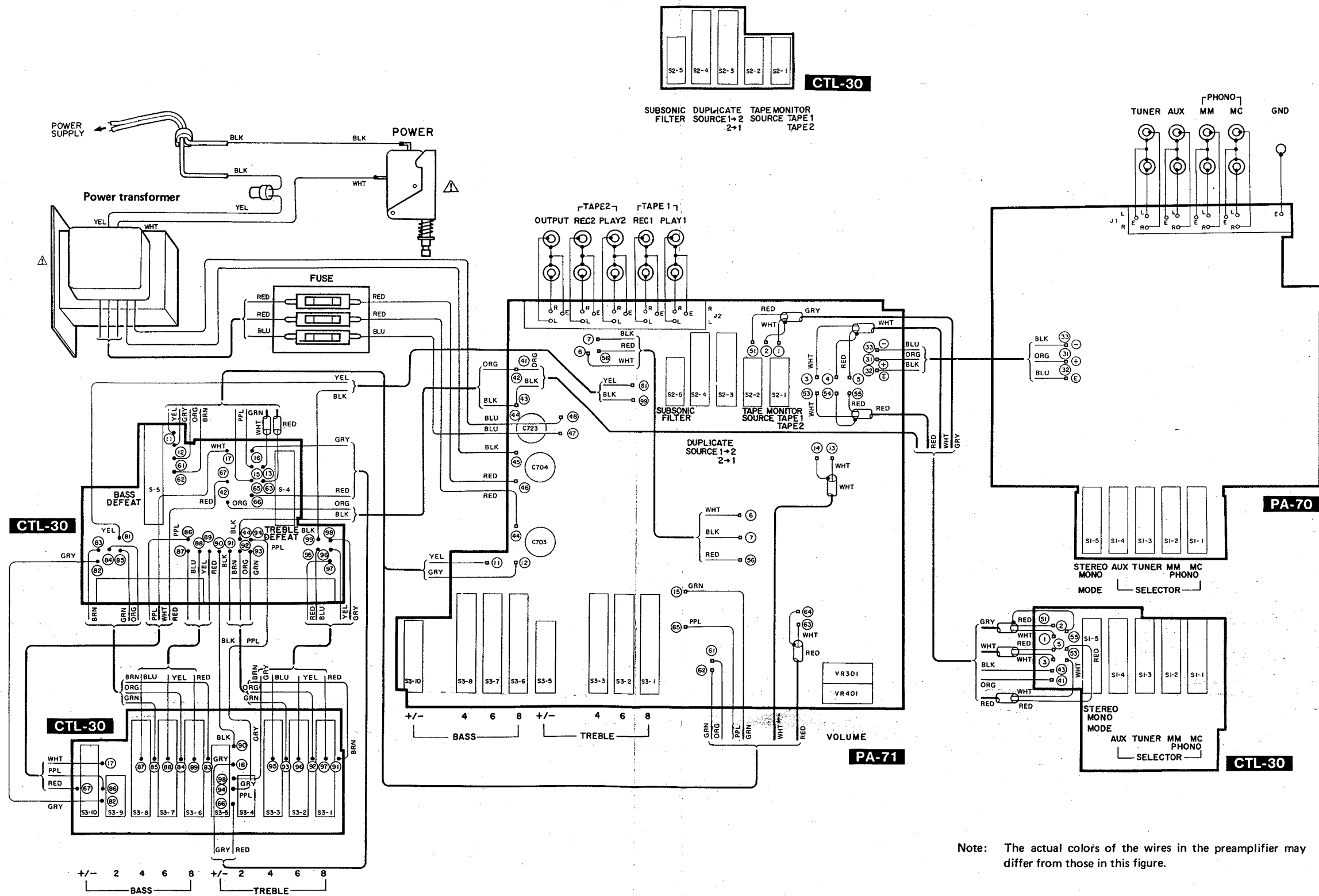




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# WIRING SCHEMATIC



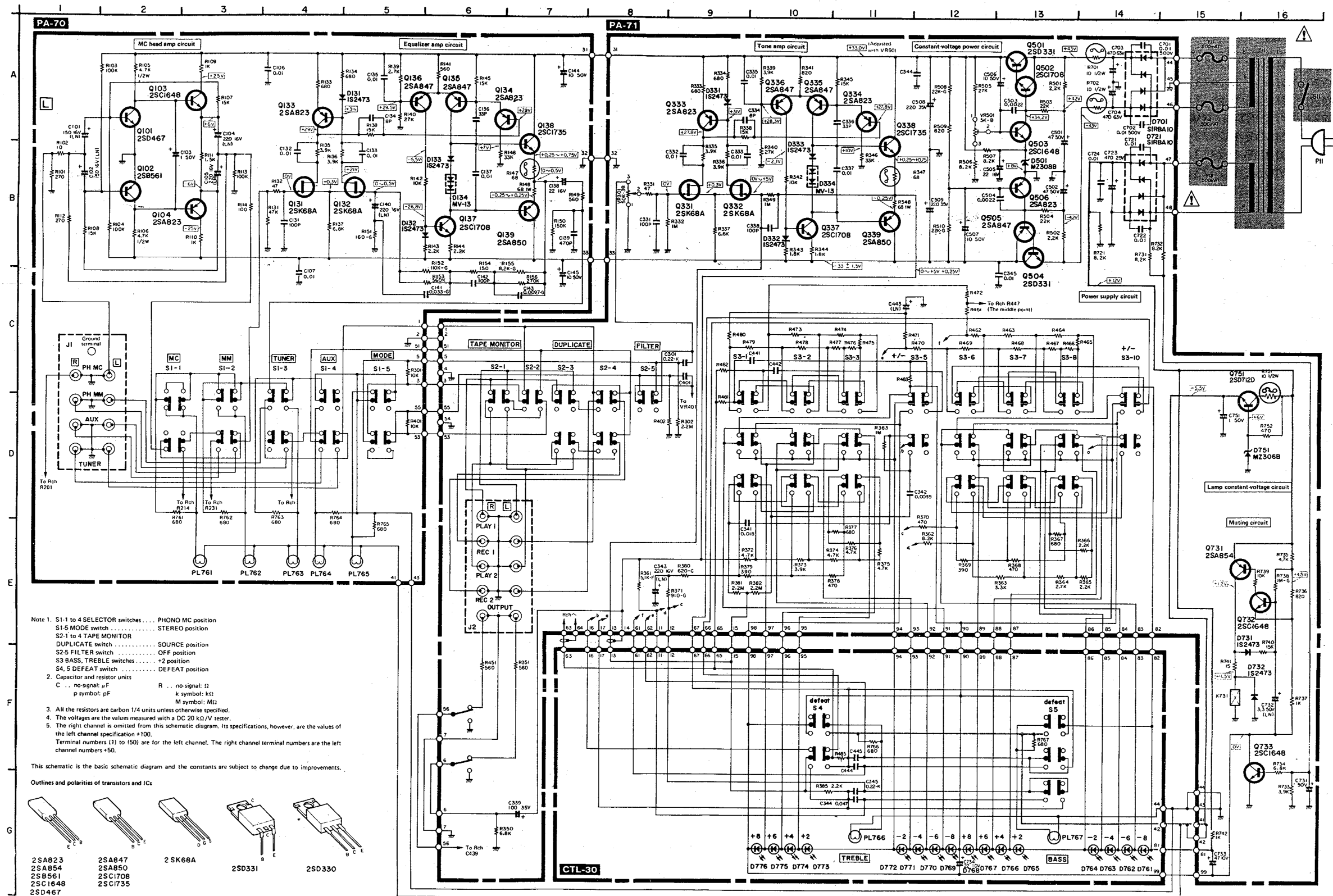
Note: The actual colors of the wires in the preamplifier may differ from those in this figure.



# SCHEMATIC DIAGRAM

M-P01

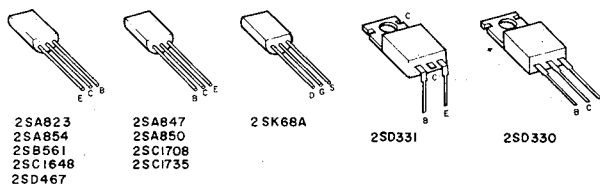
M-P01



- Note 1. S1-1 to 4 SELECTOR switches ..... PHONO MC position  
 S1-5 MODE switch ..... STEREO position  
 S2-1 to 4 TAPE MONITOR  
 DUPLICATE switch ..... SOURCE position  
 S2-5 FILTER switch ..... OFF position  
 S3 BASS, TREBLE switches ..... +2 position  
 S4, 5 DEFEAT switch ..... DEFEAT position
2. Capacitor and resistor units  
 C ... no-signal:  $\mu$ F      R ... no-signal:  $\Omega$   
 p symbol: pF                      k symbol: k $\Omega$   
 M symbol: M $\Omega$
3. All the resistors are carbon 1/4 units unless otherwise specified.  
 4. The voltages are the values measured with a DC 20 k $\Omega$ /V tester.  
 5. The right channel is omitted from this schematic diagram, its specifications, however, are the values of the left channel specification  $\times 100$ .  
 Terminal numbers (1) to (50) are for the left channel. The right channel terminal numbers are the left channel numbers  $+50$ .

This schematic is the basic schematic diagram and the constants are subject to change due to improvements.



Outlines and polarities of transistors and ICs



NOTE:  $\Delta$  and  $\square$  marks components on Parts list are for performance of this unit, replace them, uses safety critical components or designed component as specified.






## SERVICE PARTS LIST

NOTE:  and  marked components on Parts list have special characteristics to keep safety performance of this unit. When replacing any of these parts, be sure to use only specified parts.

| Symbol No.         | Parts No. | Description    |
|--------------------|-----------|----------------|
| <b>Diodes</b>      |           |                |
| D131               | M07060320 | DIODE 1S2473   |
| D132               | M07060320 | DIODE 1S2473   |
| D133               | M07060320 | DIODE 1S2473   |
| D134               | M04091331 | VARISTOR MV-13 |
| D231               | M07060320 | DIODE 1S2473   |
| D232               | M07060320 | DIODE 1S2473   |
| D233               | M07060320 | DIODE 1S2473   |
| D234               | M04091331 | VARISTOR MV-13 |
| D331               | M07060320 | DIODE 1S2473   |
| D332               | M07060320 | DIODE 1S2473   |
| D333               | M07060320 | DIODE 1S2473   |
| D334               | M04091331 | VARISTOR MV-13 |
| D431               | M07060320 | DIODE 1S2473   |
| D432               | M07060320 | DIODE 1S2473   |
| D433               | M07060320 | DIODE 1S2473   |
| D434               | M04091331 | VARISTOR MV-13 |
| D501               | M07133322 | DIODE MZ308    |
| D601               | M07133322 | DIODE MZ308    |
| D701               | M07151320 | DIODE S1RBA10  |
| D721               | M07151320 | DIODE S1RBA10  |
| D731               | M07060320 | DIODE 1S2473   |
| D732               | M07060320 | DIODE 1S2473   |
| D751               | M05129320 | DIODE MZ306    |
| D761               | M05129321 | LED            |
| D762               | M05129321 | LED            |
| D763               | M05129321 | LED            |
| D764               | M05129321 | LED            |
| D765               | M05129321 | LED            |
| D766               | M05129321 | LED            |
| D767               | M05129321 | LED            |
| D768               | M05129321 | LED            |
| D769               | M05129321 | LED            |
| D770               | M05129321 | LED            |
| D771               | M05129321 | LED            |
| D772               | M05129321 | LED            |
| D773               | M05129321 | LED            |
| D774               | M05129321 | LED            |
| D775               | M05129321 | LED            |
| D776               | M05129321 | LED            |
| <b>Transistors</b> |           |                |
| Q101               | M07215303 | 2SD467         |
| Q102               | M07215304 | 2SB561         |
| Q103               | M05104310 | 2SC1648        |
| Q104               | M05104312 | 2SA823         |
| Q131               | M07139304 | 2SK68A         |

| Symbol No. | Parts No. | Description |
|------------|-----------|-------------|
| Q132       | M07139304 | 2SK68A      |
| Q133       | M05104312 | 2SA823      |
| Q134       | M05104312 | 2SA823      |
| Q135       | M07140303 | 2SA847      |
| Q136       | M07140303 | 2SA847      |
| Q137       | M07113310 | 2SC1708     |
| Q138       | M07128303 | 2SC1735     |
| Q139       | M07133304 | 2SA850      |
| Q201       | M07215303 | 2SD467      |
| Q202       | M07215304 | 2SB561      |
| Q203       | M05104310 | 2SC1648     |
| Q204       | M05104312 | 2SA823      |
| Q231       | M07139304 | 2SK68A      |
| Q232       | M07139304 | 2SK68A      |
| Q233       | M05104312 | 2SA823      |
| Q234       | M05104312 | 2SA823      |
| Q235       | M07140303 | 2SA847      |
| Q236       | M07140303 | 2SA847      |
| Q237       | M07113310 | 2SC1708     |
| Q238       | M07128303 | 2SC1735     |
| Q239       | M07133304 | 2SA850      |
| Q331       | M07139304 | 2SK68A      |
| Q332       | M07139304 | 2SK68A      |
| Q333       | M05104312 | 2SA823      |
| Q334       | M05104312 | 2SA823      |
| Q335       | M07140303 | 2SA847      |
| Q336       | M07140303 | 2SA847      |
| Q337       | M07113310 | 2SC1708     |
| Q338       | M07128303 | 2SC1735     |
| Q339       | M07133304 | 2SA850      |
| Q431       | M07139304 | 2SK68A      |
| Q432       | M07139304 | 2SK68A      |
| Q433       | M05104312 | 2SA823      |
| Q434       | M05104312 | 2SA823      |
| Q435       | M07140303 | 2SA847      |
| Q436       | M07140303 | 2SA847      |
| Q437       | M07113310 | 2SC1708     |
| Q438       | M07128303 | 2SC1735     |
| Q439       | M07133304 | 2SA850      |
| Q501       | M07366303 | 2SD331      |
| Q502       | M07113310 | 2SC1708     |
| Q503       | M05104310 | 2SC1648     |
| Q504       | M07366303 | 2SD331      |
| Q505       | M07140303 | 2SA847      |
| Q506       | M05104312 | 2SA823      |
| Q601       | M07366303 | 2SD331      |

| Symbol No.            | Parts No. | Description   |
|-----------------------|-----------|---|
| Q602                  | M07113310 | 2SC1708   |
| Q603                  | M05104310 | 2SC1648   |
| Q604                  | M07366303 | 2SD331  |
| Q605                  | M07140303 | 2SA847  |
| Q606                  | M05104312 | 2SA823  |
| Q731                  | M07137308 | 2SA854  |
| Q732                  | M05104310 | 2SC1648   |
| Q733                  | M05104310 | 2SC1648   |
| Q751                  | M07413303 | 2SD712  |
| <b>Fuse Resistors</b> |           |   |
| R147                  | M07215416 | 1/4 W68-J   |
| R247                  | M07215416 | 1/4 W68-J   |
| R347                  | M07215416 | 1/4 W68-J   |
| R447                  | M07215416 | 1/4 W68-J   |
| R701                  | M07133420 | 1/2 W10-J   |
| R702                  | M07133420 | 1/2 W10-J   |
| <b>Switches</b>       |           |   |
| S1                    | M07366450 | PUSH (SELECTOR, MODE)   |
| S2                    | M07366452 | PUSH (FILTER, DUPLICATE TAPE MONITOR)   |
| S3                    | M07366451 | PUSH (TREBLE, BASS)   |
| S4                    | M07366454 | PUSH (TREBLE DEFEAT)  |
| S5                    | M07366453 | PUSH (BASS DEFEAT)  |
| S11                   | M07357450 | PUSH (POWER)       |
| <b>Lamps</b>          |           |   |
| PL761                 | M07366250 | (GREEN)   |
| PL762                 | M07366250 | (GREEN)   |
| PL763                 | M07366250 | (GREEN)   |
| PL764                 | M07366250 | (GREEN)   |
| PL765                 | M07366251 | (ORANGE)  |
| PL766                 | M07366250 | (GREEN)   |
| PL767                 | M07366250 | (GREEN)   |
| <b>Miscellaneous</b>  |           |   |
| K731                  | M07215465 | RELAY   |
| T11                   | M07439549 | POWER TRANSFORMER  |
| (VR301<br>VR401)      | M07366400 | VARIABLE RESISTOR   |
| F11                   | M05152490 | FUSE 500MA-SEMKO  |
| F12                   | M05152490 | FUSE 500MA-SEMKO   |
| F13                   | M05152490 | FUSE 500MA-SEMKO  |
|                       | M07366210 | KNOB (VOLUME)   |
|                       | M07366212 | KNOB (TREBLE, BASS)   |
|                       | M05147120 | KNOB (POWER)  |
|                       | M07366213 | KNOB (FILTER, DUPLICATE TAPE MONITOR)   |