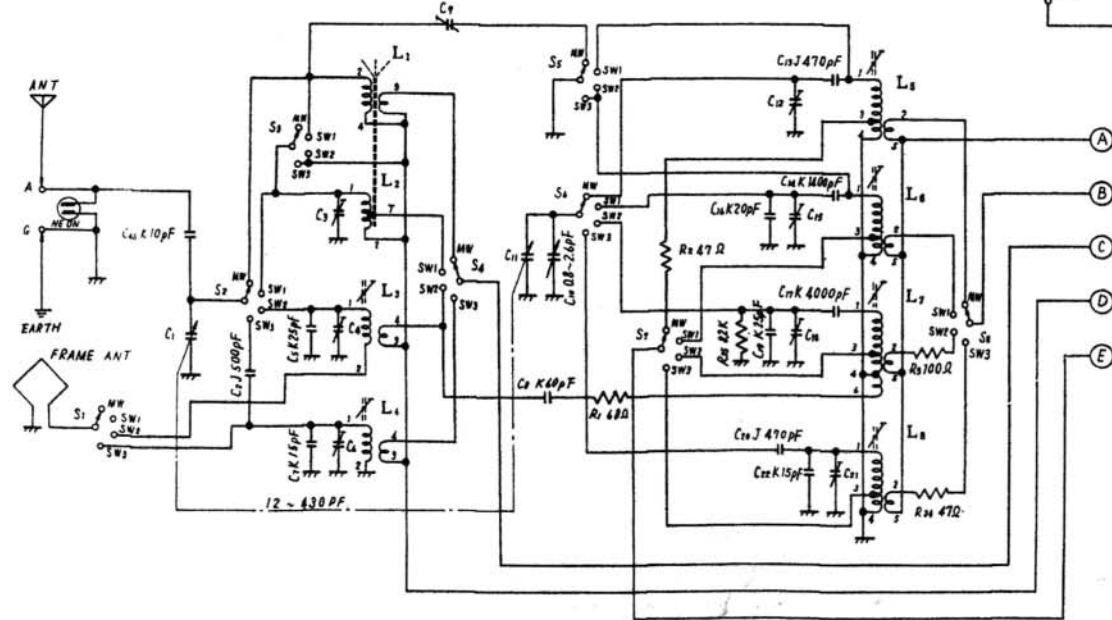
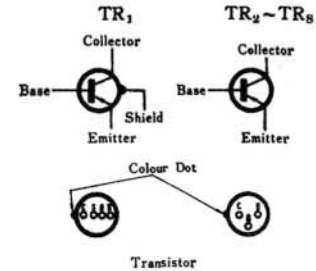
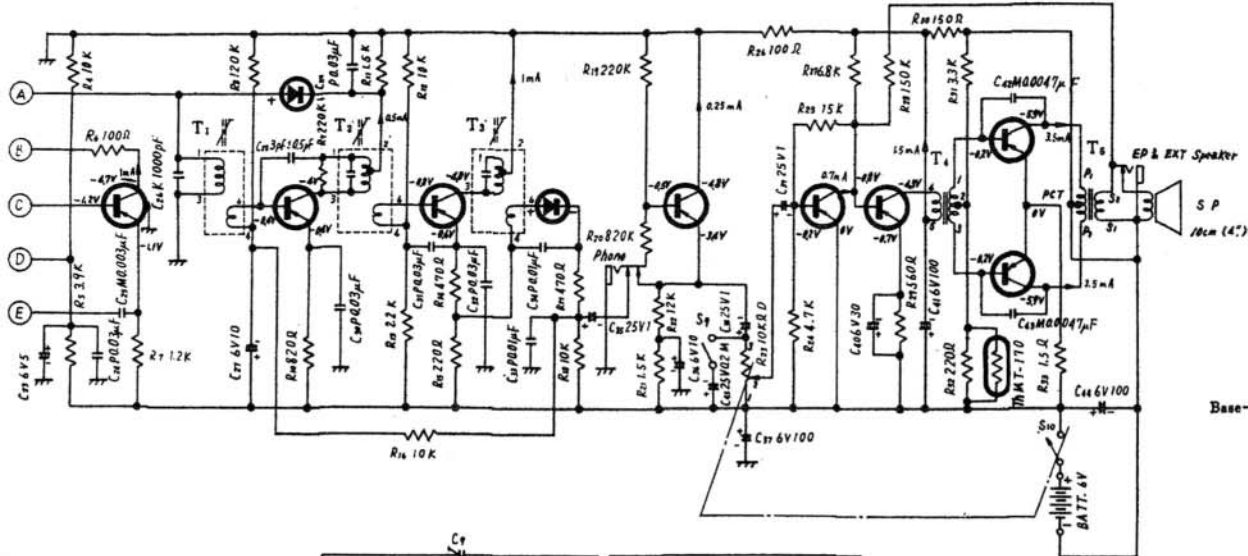


# NATIONAL R-440

**TR<sub>1</sub> 2SA70** Conv.  
**TR<sub>2</sub> 2SA101** 1st IF Amp.  
**D<sub>1</sub> 0A70** D. AGC  
**TR<sub>3</sub> 2SA101** 2nd IF Amp.  
**D<sub>2</sub> 0A70** Det. & AGC  
**TR<sub>4</sub> 2SB173** Pre Amp.  
**TR<sub>5</sub> 2SB173** 1st AF Amp.  
**TR<sub>6</sub> 2SB175** 2nd AF Amp.  
**TR<sub>7</sub>, TR<sub>8</sub> 2SB178×2** Output



IF Transformer



Antenna & Oscillator Coil

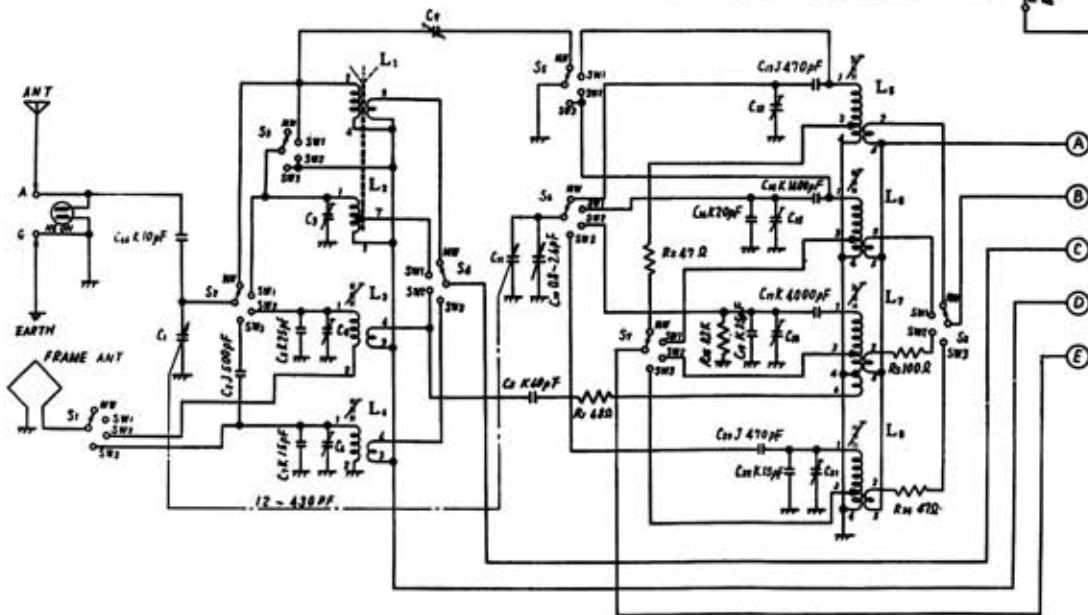
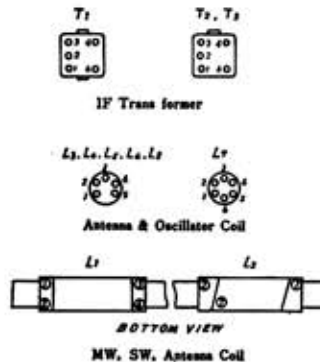
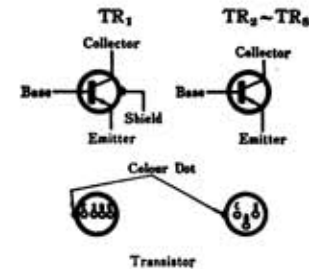
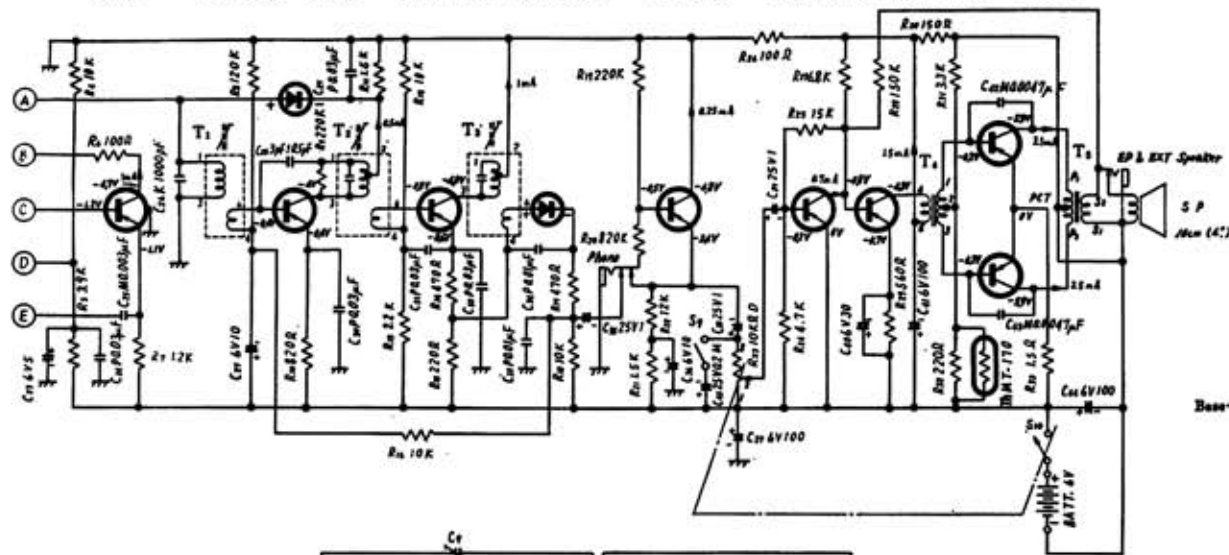


BOTTOM VIEW

MW, SW, Antenna Coil

# NATIONAL MODEL R-440

**TR<sub>1</sub>** 2SA101 Conv.  
**TR<sub>2</sub>** 2SA101 1st IF Amp.  
**D<sub>1</sub>** 0A70 D. AGC  
**TR<sub>3</sub>** 2SA101 2nd IF Amp.  
**D<sub>2</sub>** 0A70 Det. & AGC  
**TR<sub>4</sub>** 2SB173 Pre Amp.  
**TR<sub>5</sub>** 2SB173 1st AF Amp.  
**TR<sub>6</sub>** 2SB175 2nd AF Amp.  
**TR<sub>7</sub>, TR<sub>8</sub>** 2SB178×2 Output



## Notes:

1. S<sub>1</sub>~S<sub>8</sub>: Band Selector switch "MW" position.
2. S<sub>9</sub>: Tone switch in "HIGH" position.
3. S<sub>10</sub>: Power source switch in "OFF" position.
4. DC voltages indicated are taken with circuit tester (10KΩ/V) (Band selector set to MW & No signal applied.)
5. Indicated voltages for TR<sub>1</sub>~TR<sub>8</sub> are from transistor terminal to bias line.
6. Capital letters (M, K, J, P,) in the circuit diagram show allowable tolerances of resistors and capacitors as follows.  
M = ±20% K = ±10% J = ±5% P = +100%  
- 0%
7. Battery current  
No signal 13~20mA  
Maximum output 160~200mA
8. PF = pico farad = mmf  
μF = micro farad = MF