

RANGER 2950 AM.FM/SSB POWER CONTROLLER AND REGULATION

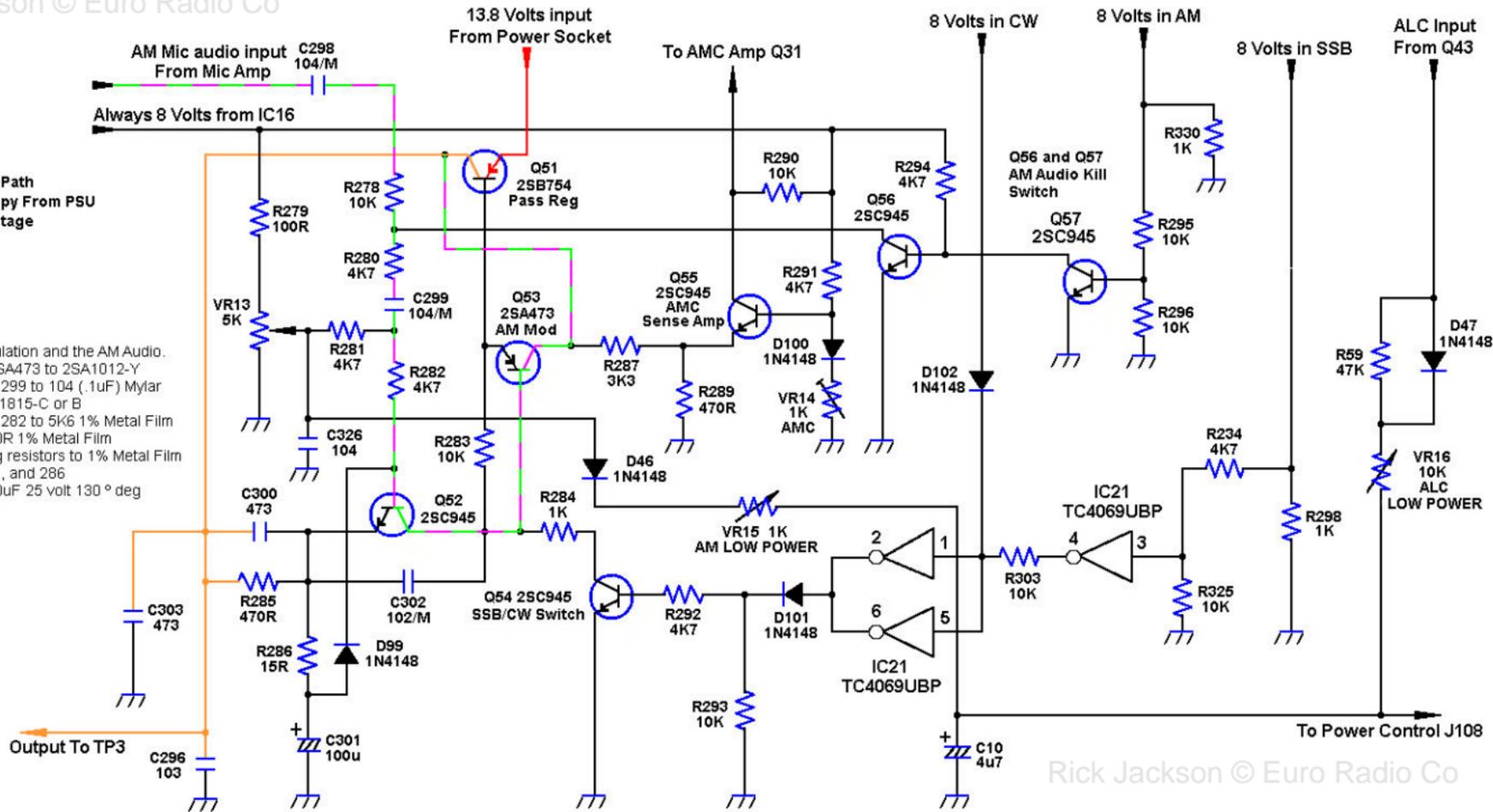
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COLOUR KEYS:

- = AM Mic audio Path
- = 13.8 Volts Supply From PSU
- = PA Control Voltage

NOTE:

To improve the Regulation and the AM Audio.
 Change Q53 from 2SA473 to 2SA1012-Y
 Change C298 and C299 to 104 (.1uF) Mylar
 Change Q52 to 2SC1815-C or B
 Change R281 and R282 to 5K6 1% Metal Film
 Change R285 to 560R 1% Metal Film
 Change the following resistors to 1% Metal Film
 R278, 279, 280, 283, and 286
 Change C301 to 100uF 25 volt 130 ° deg



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HOW IT ALL WORKS

Transistor Q51 is the main pass transistor, which is connected to the 13.8-volt supply and acts like a variable resistor, and supplies the DC voltage to the Collector of the Finals and Driver in the PA stage.

Transistor Q51 works like this, the more negative its Base, the harder it conducts and the more its Collector voltage drops.

AM MODE:

The conduction of Q51 is controlled by Q52 and Q53, in the AM mode the Base bias on Q52 is determined by VR13 and the mike audio.

The mike audio path goes from Q52 to Q53 and to the Collector of Q51; the audio is injected in to the Base of Q52, goes out of the Collector, is passes to the Base of Q53, goes out of the Collector, and is passes to the Collector of Q51. Since the DC supply is applied to the Collectors of the Finals and Driver, which will change at an audio rate the result, is amplitude modulation.

FM MODE:

TO BE COMPLETED WHEN I GET SOME SPARE TIME

SSB MODE:

TO BE COMPLETED WHEN I GET SOME SPARE TIME