# Solid state hang AGC

Recently, I converted an early valve-type hang AGC circuit over to a solid-state system. It works as a hang AGC system should—very fast attack time with no AGC "pop". Q1 and Q2 function as audio amplifiers. CR1 is the AGC diode, with C7 and R9 serving as the charging network. Q2 output is stepped up through the 2k to 10k audio transformer. CR2 charges R10-C8 to a higher voltage than that across R9-C7, which keeps the FET (Q3) cut off. A 2N5716 was used because of its low pinch-off voltage. When the voltage across R10-C8 decays to a lower voltage than that across R9-C7, Q3 conducts and clamps the AGC bus to ground. CR3 is the charging diode for the .01uF AGC capacitor. AGC threshold is determined by the value of RT. The value should be between 100k and 470k depending on the AGC threshold desired.
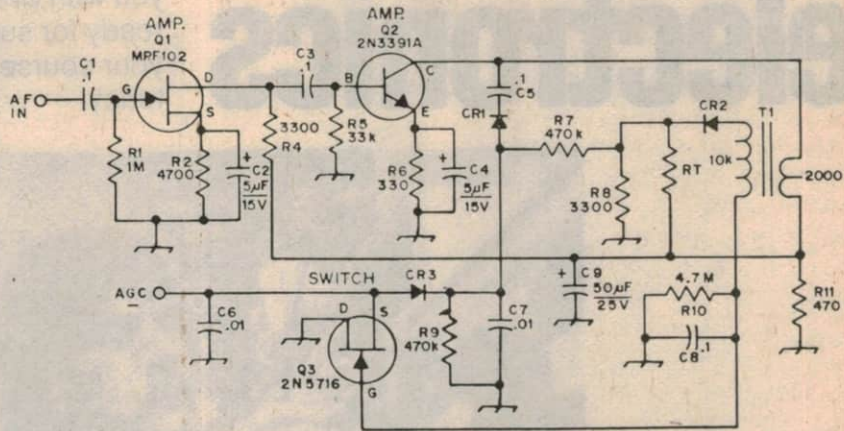
Like the original tube version, the AGC line must be of very high impedance. This would be the case with a FET IF system. If this circuit is to be used with an integrated circuit or bipolar IF amplifier system, a low-impedance driver would be necessary.

(By Dick Stevens, W1QWJ, in "QST".)