Load VSWR & Protection

The total instantaneous RF voltage or current seen at the output of an amplifier under infinite load VSWR conditions can be twice the rated voltage or current. Refer to the Tech Data Sheet to determine the rated power, saturated power, operating load VSWR and the protected load VSWR. Three types of load VSWR protection (some optional) are included in RF-LINKS amplifiers.

Electronic - The reflected signal from the load is sampled, detected and fed to a control circuit which in turn biases the input current controlled attenuator. This feedback process is analog and follows the curve below.

Brute Force - The output transistors are sufficiently rugged and/or biased to withstand any load VSWR.

Isolator - Via a terminated circulator which is a magnetically biased ferrite device that interacts with the electromagnetic RF signal in such a way as to permit RF energy to travel in one direction only. The signal from the amplifier travels from port 1 to 2. If port 2 is properly terminated (50 Ohm) all the energy is dissipated in the output load. If not terminated, the RF energy proceeds from port 2 to 3 where it is dissipated in the circulator load internal to the HPA.