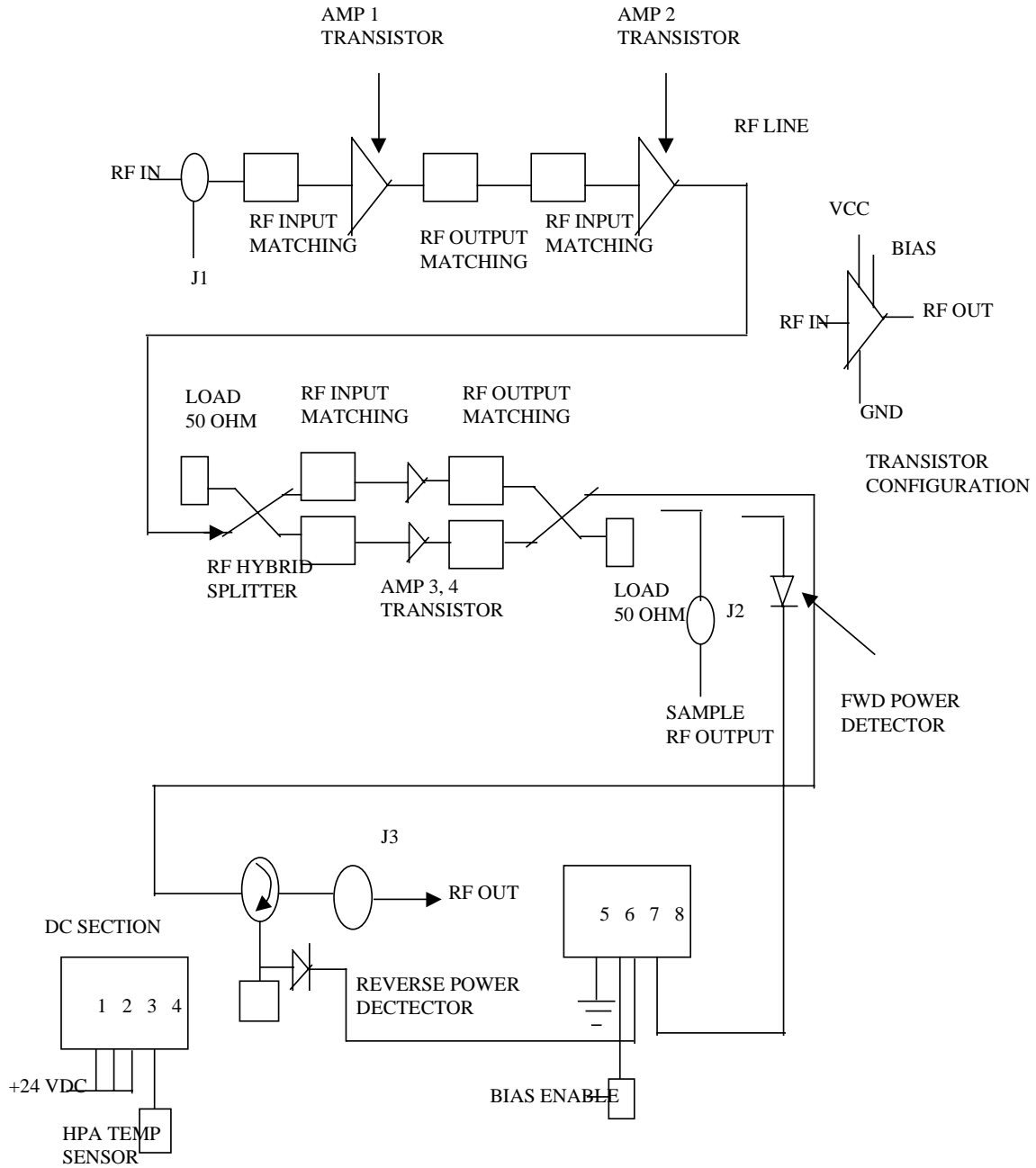


Schematic Diagram of High Power Amplifier



Description of the High Power Amplifier Assembly

The basic operation of the HPA tile used in the REMEC-Airtech Booster is described below.

The RF goes in on J1 at a power level of +21.0 dBm it is then amplified by transistor 1 by 8.0 dB approximately. The RF is then routed to transistor 2 and is further amplified by 8.0 dB. The output of amplifier 2 is then equally divided by a hybrid splitter. Each half is then amplified by 7.0 dB by transistor amplifier 3 and 4. Both RF signals are then combined by a hybrid coupler to produce a nominal power of + 44.0 dBm. A sample of RF is provided on J2 (NOT USED ON REMEC-Airtech Product).

There is a forward power detector, which converts a sample of RF to a video voltage which is then routed to the booster control circuitry. There is also an isolator on the output of the HPA which allows RF to pass in and out while providing isolation by dissipating any reflected RF power. The reverse power detector detects reflected power and once again converts it into a video voltage that is then fed to the booster control circuitry.

The Bias current enables switches on transistors 1, 2, 3 and 4 allows for correct RF operation and amplification. The RF is provided through SMB J3.