OPERATIONAL DESCRIPTION

1. DESCRIPTION

a) Individual Stages

The Power Amplifier is divided into the following sections:

- Splitter Stage: includes DC supply, display LEDs, driver, temperature sensor and 2-way hybrid splitter.
- Amplification Stage: consists of two 100W final amplifier modules.
- Combiner Stage: consists of VSWR monitor circuitry, hybrid combiner, circulator and low pass filter.

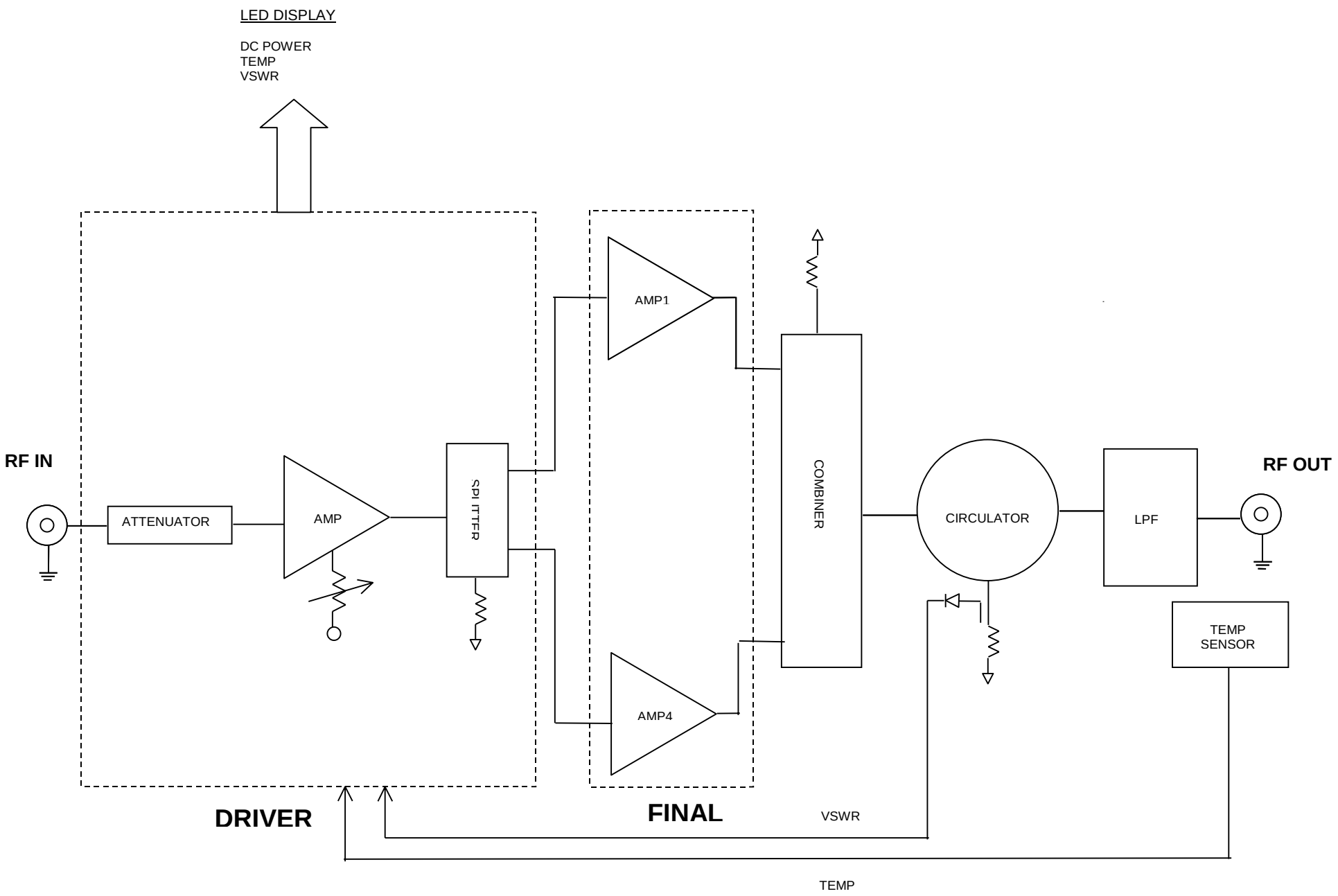
b) Overall Lineup

The input RF is padded down and fed to a MMIC gain block before getting amplified by a RF power transistor that has adjustable gain. This intermediate amplified RF signal goes through a 2-way hybrid splitter and then amplified again by 2 final PA modules. The resultant signals are recombined and routed to a circulator and then a low pass filter before going out to the PA's output port.

A temperature sensor locating on the driver board monitors the PA's heat sink temperature. Temp LED display will turn on when the heat sink temperature is exceeded 65°C. The PA's Output VSWR level is monitored at the circulator load. VSWR LED display will turn on when the output VSWR is approximately 3:1.

Signals	LED	Condition
DC Power	Green	DC power is on
VSWR	Red	Greater or equal to 3:1 VSWR at the output
Temp	Red	Ambient Temp is at least 65°C

Table 1. LED Display


LED DISPLAY
DC POWER
TEMP
VSWR
RF IN
ATTENUATOR
AMP
SPLITTER
AMP1
AMP4
COMBINER
CIRCULATOR
LPF
RF OUT
TEMP SENSOR
DRIVER
FINAL
VSWR
TEMP