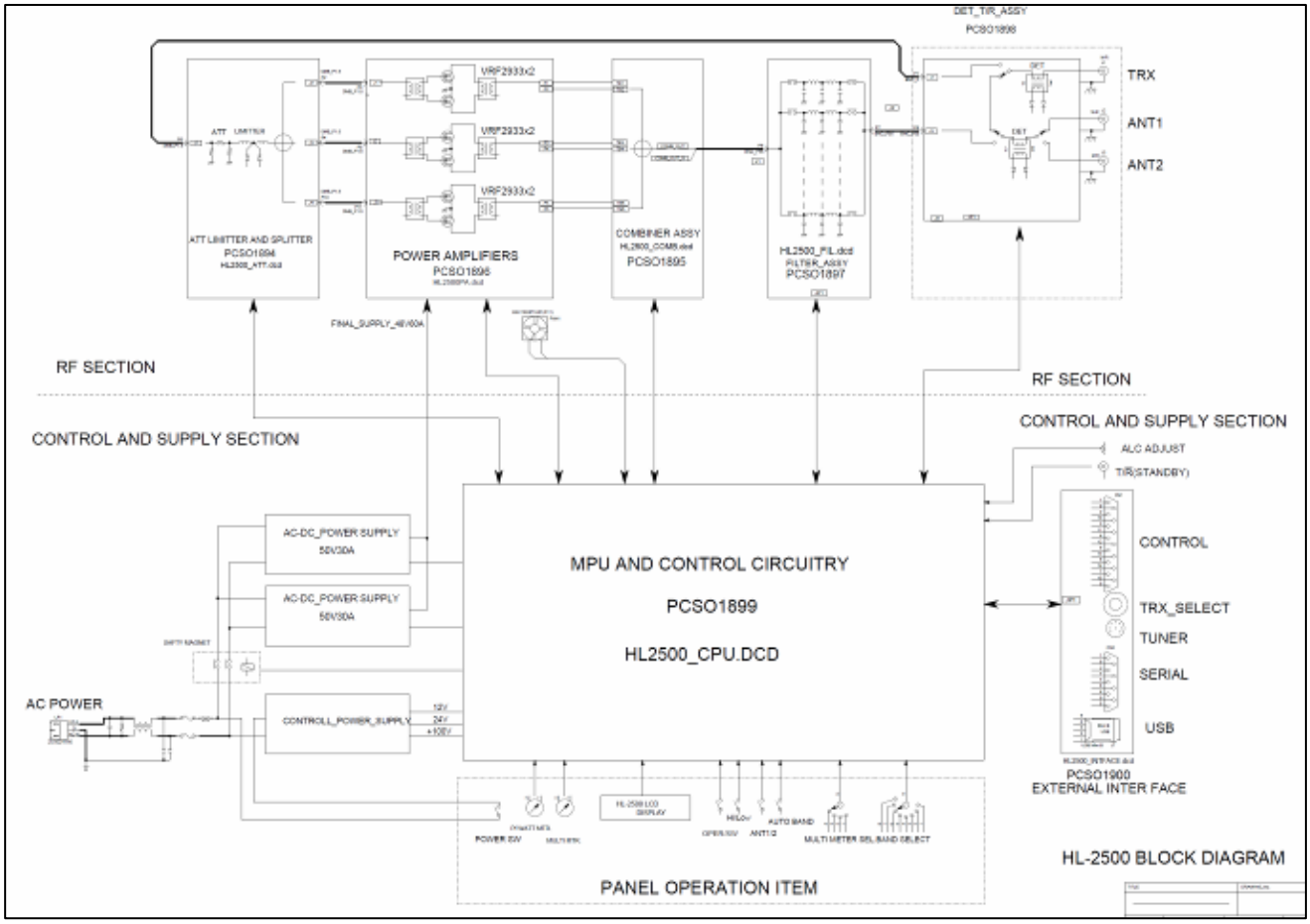
14 Block Diagram and Explanation of Major Circuitry



14-A RF Amp

Driving RF signal transmitted from the transceiver is lead to the ATT/ Limitter board via T/R-Assy unit, where there is 3dB attenuator as well as RF limiter. These circuitry properly levels the magnitude of RF signal and also instantly shuts down the input to protect the amplifier.

There is a three port splitter located in this board that sprits a driving signal equally into three components, which are then fed to final PA module.

PA module consists of three sets of wide band class AB1 linear amp. using THP2933 FET's in the push-pull form. 500W is achieved per one basic amp. board. Then the three outputs from the PA module is sent to the combiner unit, where three 500W components are combined to become 1,500W.

Operating status of three PA's are strictly monitored in the combiner stage with regard to heat balancing of respective amps.

Finally 1,500W of RF output is lead to LPF (low pass filter) unit, where harmonics and spurious signals are reduced to FCC rules. Filtered output signal is sent to T/R ASSY unit again and is lead to antenna terminal by way of antenna relay.