



Exhibit 8: Operational Description

**External Radio Frequency
Power Amplifier ACOM 700S**

Model 700S

Operational Description

The PA is built around a push-pull implementation of the BLF188XRU dual LDMOS transistor, working in a common-source configuration and Class AB minimum IM3 products.

The input signal is passed thru a permanent 10dB T-pad attenuator, than thru a set of switchable T-pad attenuators. In addition to attenuation, they provide for good input SWR across the whole frequency range of the amplifier. Following is a matching balun transformer that provides two anti-phase ($\Delta\phi = 180^\circ$) driving signals for the gates. The amplified signal is fed thru a matching and balun transformer pair and sent to the Diplexer Filter block. It consists of 6 switchable pairs of LP/HP filters. The LP filter passes the operating frequency signal to the antenna, while the HP filter passes all the harmonic content to a matched 50 ohm dummy load inside the amplifier.

Multiple measuring and protection systems are implemented throughout the amplifier. The controller block is based on a fast Microchip DSP CPU. There is a CAT/AUX transceiver interface, as well as RS232 port for computer/RCU interfacing.

Multiple parameters in normal operation and fault modes are stored in non-volatile memory and are accessible to the user. Settings and status data can be downloaded to PC for further analysis, logging and troubleshooting.

The 1500W lightweight switching power supply has a full PFC, less than 1VA standby consumption and comprehensive EMI filtering.