

2 Description


2.1 Design Philosophy

The AFL 800MHz Off air Amplifier for the Pasadena Blue line project are 2 way on-band RF amplifiers. It's application is as an interface between the donor radio site and the tunnel leaky feeder system.

Each unit is housed in an environmentally-protected IP65 steel wall-mount case. Handles are provided for carrying the unit and the door is fitted with locks. The unit interfaces with 'N' type female connectors for RF connections and heavy duty connectors for routing of AC power supply input and alarm output wiring.

To provide adequate selectivity in the Downlink and Uplink paths, combine design duplexers are used at the air interface ports. In addition each channel to be passed is selected by a 15kHz or 25KHz Channel module which provides a high level of rejection at adjacent channels. To provide the required gain to reach the required signal levels, low-noise amplifiers (LNAs) are used in each path, these being followed by power amplifier modules in the uplink to provide the required intermodulation performance. Gain adjustment is available locally using switched attenuators.

Note that "Downlink" refers to the RF path from the base station (donor site) to the leaker feeder and that "Uplink" refers to the RF path from leaky feeder to the remote base station.

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