



Date: August 20, 2008

Subject: Technical Operational Description

Product Category: FS31H

Model Number: FS31H-4

Description: UHF RF Bi-Directional Repeater (RFBDA)

The RF Bi-Directional Repeater Unit interfaces with the Base Station to provide a boost to the UHF RF signals. The unit also samples the main RF signals Uplink and Downlink path to provide alternate connection to a Distributive Antenna System (DAS). The Downlink UHF RF 457 – 462 MHz signals from the donor antenna once amplified will be Re-transmitted via the RF Port to the Base Station Unit (BSU). The Uplink UHF RF 464 – 469 MHz signals are also amplified and transported on coax cable to the donor antenna where they will be radiated via the medium to the donor site.

A Distributive Antenna System (DAS) port is common for both Transmit of the Downlink frequencies and Receive of the Uplink frequencies simultaneously. Internally there is a duplexer that accepts the RF signals keeps them isolated while directing to it's dedicate path. This is done while maintaining the integrity of the frequencies.

The Base Station port is common for both Transmit of the Uplink frequencies and Receive of the Downlink frequencies simultaneously. Internally there is a duplexer that accepts the RF signals keeps them isolated while directing to it's dedicate path. This is done while maintaining the integrity of the frequencies.

The Tapped Downlink Output Port RF signal is 30 dB lower in reference to the DAS port RF signals. The RF signals is a sampling of the main RF signal that could be fed to another Distributive Antenna System (DAS). Location of the secondary DAS is determined by the system engineering.

The Tapped Uplink Input Port receives the RF signals traveling from the secondary Distributive Antenna System (DAS) and lowers the strength by 20 dB which then couples into the main path to be transmitted via coax cable out to the donor antenna. Excessive RF gain does not improve performance therefore signal is lowered to keep noise low and not interfere with the main RF signal path.

The Downlink path has 70 dB RF Gain that can be attenuated to desired levels with an attenuator. A desired RF level is determined by the RF signal received into the unit and varies from application. The Digital Attenuator range control is 60 dB.

The Uplink path has 70 dB RF Gain that can be attenuated to desired levels with an attenuator. A desired RF level is determined by the RF signal received into the unit and varies from application. The Digital Attenuator range control is 60 dB.