FUNCTIONAL DESCRIPTION

Overview

It is difficult to use portable cell phones and radios inside buildings due to the RF loss created by walls. By the time the basestation signal reaches the phone/radio inside the signal is too low to work.

The BDA800 enhances portable and radio performance inside buildings. It amplifies the signal from the basestation and the signal from the portable/radio. The outside antenna receives the signal from the basestation. The signal is amplified and filtered by the BDA800. The inside antenna retransmits this signal. The inside antenna receives the signal from the mobile/radio. The BDA800 filters and amplifies this signal. The outside antenna then retransmits the signal.

Installed Configuration

In a typical configuration the BDA800 is connected to two antennas. The outside antenna is pointed at the basestation. The inside antenna is used to re-radiate the signal inside the building.

The gain of the repeater can be configured for between 10dB and 45dB. The unit operates on signals from 806-824MHz for the Uplink and 851-869MHz for the Downlink. Up to 16 users can operate with the BDA.

Circuit Description

The BDA800 is power via a 110VAC to 12V wall transformer. It is available in several different package and input/output configurations. Plastic and metal boxes as well as TNC, BNC, and Type N connectors are readily available options

The BDA800 receives the basestation signal from the outside antenna. The signal passes through a diplexer. It is then amplified and filtered. The amplifier will reduce its gain in order to prevent the signal power from increasing beyond the rated power levels. The signal passes through another diplexer that is used to keep the signal from affecting the other path.

In the other direction the BDA800 receives the mobile/radio signal from the inside antenna. The signal passes through a diplexer. It is then amplified and filtered. The amplifier will reduce its gain in order to prevent the signal power from increasing beyond the rated power levels. The signal passes through another diplexer that is used to keep the signal from affecting the other path.