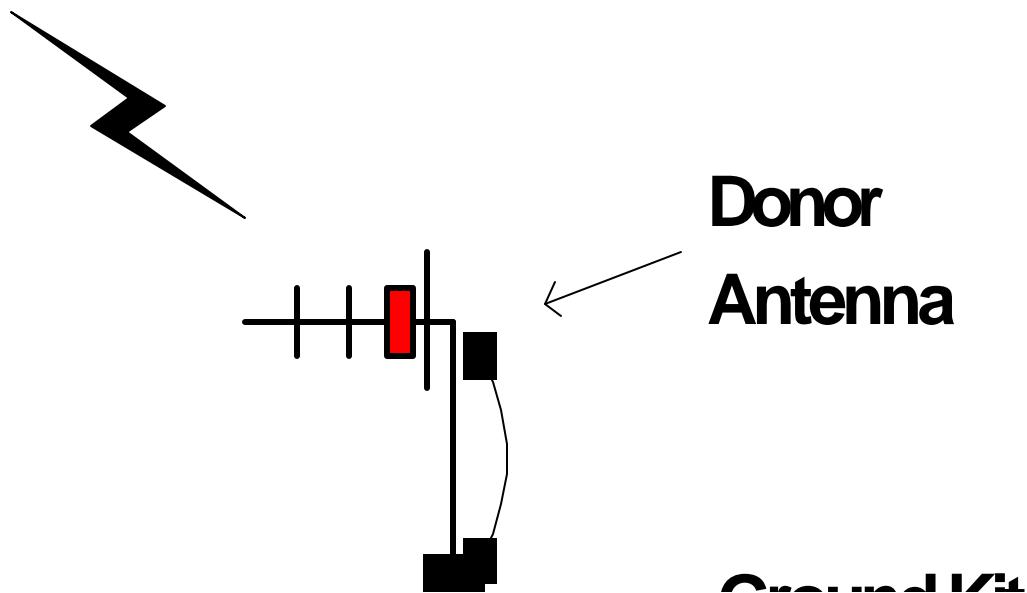


## Operational Description: IWD48900

The 48900 signal boosters are designed to enhance radio communication in buildings, basements, tunnels and other RF shielded environments. The 48910 is tuned for the 800 MHz Cellular band, the 48920 for the 800 SMR band and the 48930 for the 900 MHz SMR band.

These units work by receiving and amplifying the base TX signals via a donor antenna directed at the desired base site. This RF path is called the downlink. The amplified base TX signal is re-radiated via antenna(s) or radiating cable into the Service Area. Subscriber mobile RF signals are received by the same service area radiating elements and amplified in the uplink RF path to be radiated back to the base via the donor antenna.



The LNAs and Power Amplifiers are broadband. The same amplifiers are used for the uplink and downlink. Likewise, the control board is the same for both models. Differentiation is provided by the duplexing filters on the base and service area connectors that determine the basic passband and direct the RF signals to the proper gain path, uplink and downlink respectively.

Both the downlink and uplink have Automatic Gain Control (AGC) in the power amplifiers to prevent an overdrive condition. Manual gain adjustment is provided in the LNA stage. Overdrive limiting is provided by the AGC circuitry and set at the factory. This ensures that the unit will not exceed FCC limits for spurious emissions.

The control board distributes DC power to the amplifier modules and monitors each module for any fault conditions. LED indicators provide visual diagnostics and a NC / NO relay provides for remote notification for any fault condition.

SMA female connectors on the faceplate of the 48900 allow for connection of externally mounted passive 50 Ohm filtering. The external filter can only limit the related passband to a narrower pass band within the approved service. This is helpful if there are strong undesired

signals in the pathway of the donor antenna. Should the conditions change in the field, the external filter can be removed or replaced with minimal interruption in service. Separate ports are provided for both the uplink and downlink.

