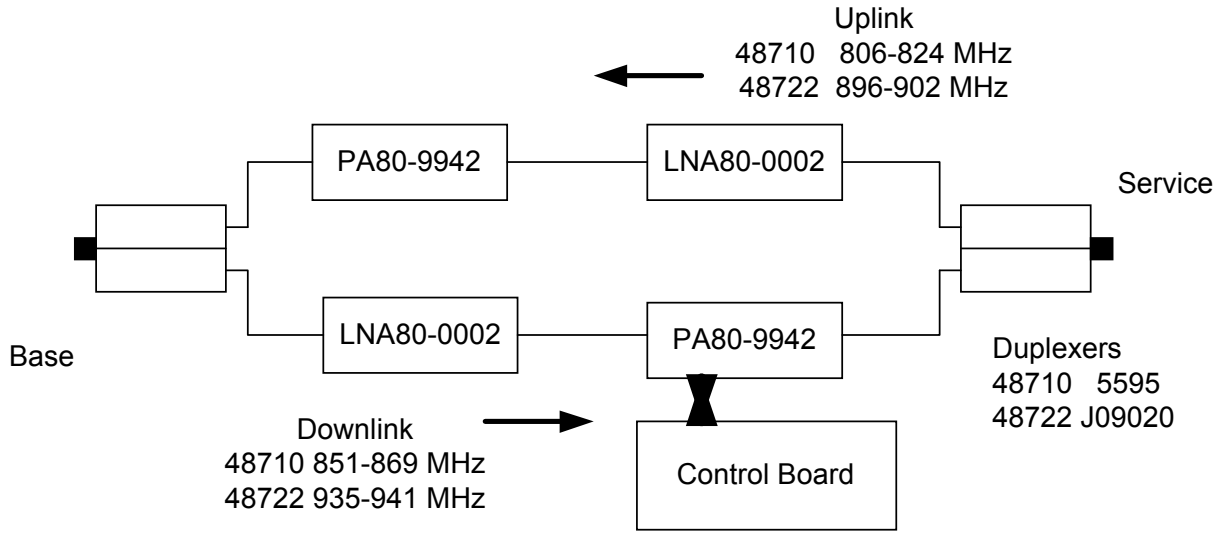
IWD48710
Technical Description

The 48710 series signal boosters are designed to enhance radio communications in buildings, basements, tunnels and other RF shielded environments. The 48710 is tuned for the 800 MHz SMR band and the 48722 is tuned 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, 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 models are used for the uplink and downlink on both the 48710 and 48722. Likewise, the control board is the same for both models. Differentation is provided by the duplexing filters on the base and service area connectors that determine the basic pass band and direct the RF signals to the proper gain path, uplink and downlink respectively.

Both links have automatic gain control (AGC) in the power amplifiers to prevent overdrive. Manual gain adjustment is provided in the LNA stage. Overdrive limiting is provided by the AGC circuitry and set at the factory and so that the 48710 series will not exceed the FCC limits for spurious emissions

The control board distributes DC power to the amplifier modules and monitors each module for any fault condition. LED indicators provide visual diagnostics while the 15 pin din connector has DC and TTL test points for more in depth trouble shooting.

Block Diagram