



Figure 9 - Base Station Structural Block Diagram

7.1 System Timing Unit Function (STIM Card)

The STIM card provides all necessary clock and synchronization signals for overall system operation. These include timing for Channel Card, Radio A/D and D/A conversion, and RF subsystem and system time. It interfaces with external GPS receiver which provide a 10MHz and PPS (pulse per second) reference. When the GPS unit is present, the timing card synchronizes itself to the GPS. GPS is required to maintain system synchronization between different basestations. This synchronization is essential to allow soft handoff capability.

Back plane communications interface to the card is over an InterWAVE proprietary bus. An RS-232 link is used to communicate between the STIM card and GPS unit.

7.2 Radio Module Function

The Radio Module is composed of two cards: an RF card and a digitizing card. The RF card interface to air interface signals at selected frequency. The digitizing card provides an interface between the RF card and the digital base-band receive and transmit signals to the proprietary back plane buses. The Radio function performs up conversion of the transmit base-band signals to the RF signal, which can be send through to the antenna. In the receiver direction, down conversion is performed on RF signals main and diversity, which