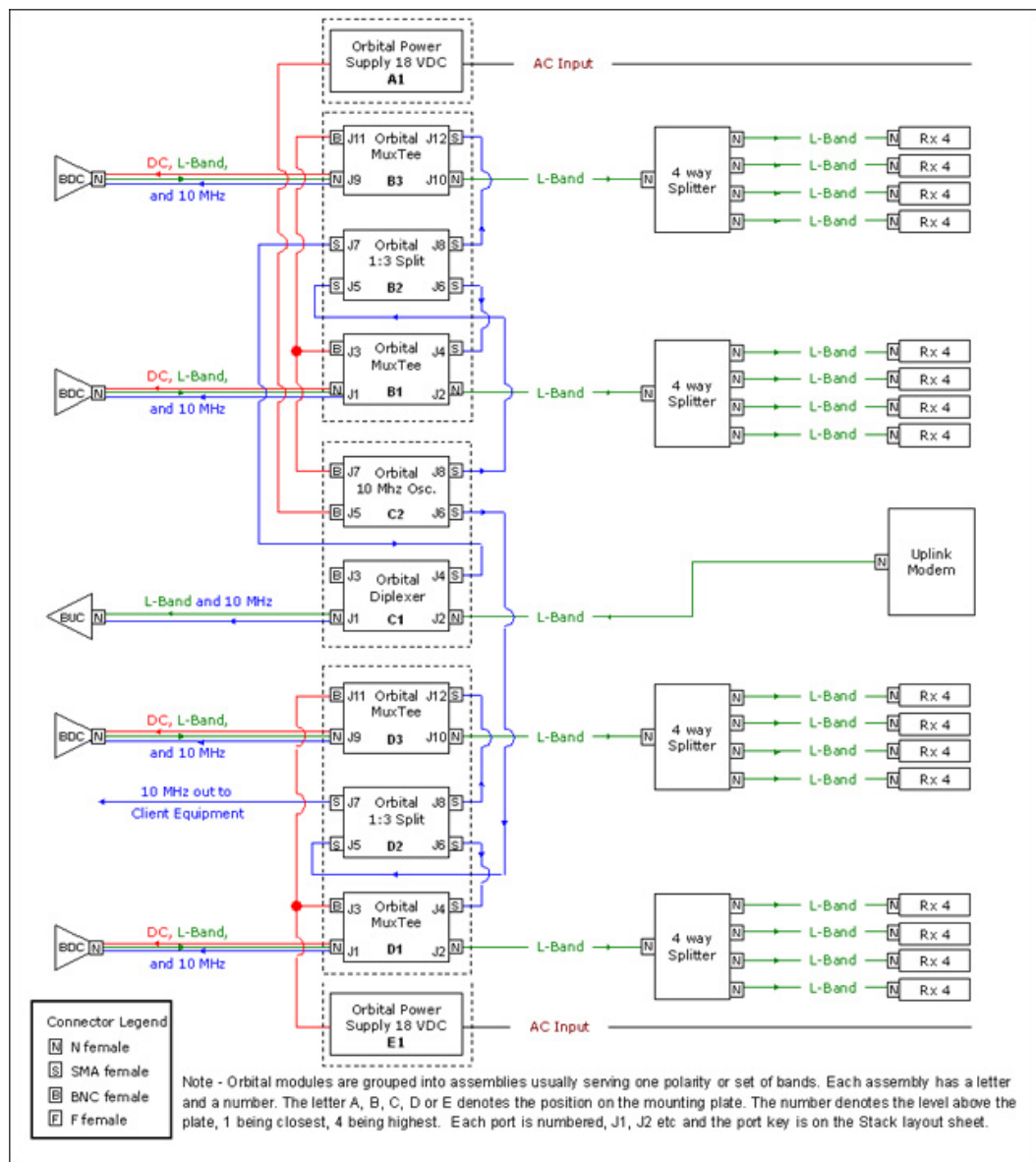


Using Orbital Systems Interface Products to bring 4 BDCs, 16 Modem/Receivers and a BUC, under the discipline of a single 10 MHz Oscillator.

The client needed multiple receivers/modems to cover 2 GHz of bandwidth (10.7 - 12.75 GHz). For each polarity, a wide band LNA, a highband BDC, and a lowband BDC were required. System performance required instant acquisition, high stability, and optimal BER, therefore external reference BDCs were needed. The same high quality conditions were required to be met for the uplink.

Attempting to pass the 10 MHz through the dividers from the modems would have resulted in intermittent loss of lock, poor phase noise, high bit error rate and cycle slip. Good system design dictates a standalone, high quality, external reference oscillator multiplexing properly with the DC and L band signals. This design also provides high isolation between modems so that 10 MHz leakage does not impair system performance. The Orbital Mux Tees provide greater than 92 dB of isolation and less than 0.5 dB insertion loss. As well, the system is not dependant on a single modem for reference and DC power, and additional modems can be easily added.

Orbital modular designs permit easy access to each signal port for diagnostics, testing, and system maintenance. Modularity also permits easy re-configuration, expansion, and replacement at low incremental cost - the benefits of custom design, the low cost of mass production.



Signal Line Legend

- DC Power
- L-Band
- 10 MHz Reference

