Working with radio modems

The MicroPilot autopilot and the HORIZON^{mp} ground control software communicate with each other by radio modems. Radio modems come in a variety of configurations and protocols. Cost, licencing, error rate, range, etc. are factors that you need to consider when choosing a communication method.

In this application note we look at 2 configurations in detail—a single link configuration using spread spectrum modems and a dual link arrangement using modems for the uplink and the audio channel of a video link for the downlink. We will explain the operation of each and discuss advantages and disadvantages. We will also explain how to set up the MicroPilot autopilot and HORIZON^{mp} for each method.

Throughout this application note, we will be using specific terminology to refer to data rates at different points in the system. These terms are:

Modem data rate

This is the data rate between the end equipment—either HORIZON^{mp} or MicroPilot autopilot—and the modem.

On air data rate

This is the data rate between the modems.

Throughput

This is the effective rate of data transfer between the modems. High error rates, overly short polling intervals, and slow modem turnaround will all cause decreased performance and lower the throughput.