

A Portable Downlink for LRIT / HRIT Reception In The Field

Michael Guberek
Technical Director



GLOBAL LG

ABSTRACT

This system, which includes a 1m diameter parabolic dish, is designed to directly receive L-Band LRIT and HRIT services at 1691.0 and 1694.1 MHz, respectively. By changing the feedhorn and receiver, the system is also able to receive KU-band EUMETCast-Europe service on 11262.5 MHz. The 1m antenna is assembled by one operator in under 15 minutes without the need of tools. The XRIT ingest application software allows the reception, processing and storage of imagery from GOES-E, GOES-W, GOES-R/S/T/U, COMS, MSG and EUMETCAST.

HARDWARE DESCRIPTION

DEPLOYABLE ANTENNA

Durable, reliable, with ease-of-use, the deployable antenna yields unprecedented gain in such a compact size. The parabolic reflector is made of 12 precision-machined aluminum segments, with captive hardware. The operator easily reads reflector azimuth and elevation from built-in decals. Deployable, super-stable tripod has three leveling feet and built-in level bubble to establish accurate positioning on uneven terrain. Three feedarms are designed to work with both L and KU-band feeds supplied by Global-LG.



ULTRA-RUGGED COMPUTER

Getac X500 Ultra Rugged Notebook combines powerful Intel 4th generation processors with a brilliant 15.6-inch HD sunlight-readable display. The X500 runs Windows 10 and contains moisture-sealed doors for its many ports including USB, eSATA, ethernet, etc. Built from high quality magnesium alloy, the X500 is specially engineered to protect the computer against drops, shocks, spills, vibration, dust and moisture. The X500 has been independently tested and certified to MIL-STD 810G, IP65, MIL-STD-461F and ANSI/ISA 12.12.01 standards.



L AND KU-BAND FEEDS

With options for L or KU-band, feed and downconverter are integrated in a highly stable, high-gain, low-noise temperature, low-power consumption assembly. The high performance scalar feed supplies excellent performance for geosynchronous satellites, the Single Output Universal LNB making it ideal for reception in weak signal areas. Both LNBs are supplied in a hermetic canister, compatible with the antennas feedarms.

L-BAND RECEIVER

Housed in a sleek, compact, durable extruded aluminum case, the Dartcom L-Band receiver is a high-quality, low cost receiver for direct broadcast LRIT transmissions from MSG, GOES, COMS-1 and Electro services. It is also fully compatible with the new GOES-R HRIT service. The receiver interfaces through USB to host computer for fast, reliable data transfer. It features a 20-LED real-time signal level display for easy dish alignment and operational signal monitoring and an adjustable RF attenuator to accommodate LNB signal inputs between -15dBm and -75dBm.



OPTIONAL DVBS2 RECEIVER

DVBS2 receiver card fits into the host computer's PCIe slot, providing reception of KU-band EUMETCast transmissions via commercial communication satellites, allowing it to receive METEOSAT 2nd Generation (MSG) Imagery covering Europe/Middle East/North Africa regions.

CONCLUSIONS

Mike is supplying text for this area. 1m diameter parabolic dish, is designed to directly receive L-Band LRIT and HRIT services at 1691.0 and 1694.1 MHz, respectively. By changing the feedhorn and receiver, the system is also able to receive KU-band EUMETCast-Europe service on 11262.5 MHz. The 1m antenna is assembled by one operator in under 15 minutes without the need of tools. The XRIT ingest application software allows the reception, processing and storage of imagery from GOES-E, GOES-W, GOES-R/S/T/U, COMS, MSG and EUMETCAST. by one operator in under 15 minutes without the need of tools. The XRIT ingest application software allows the reception, processing and storage of imagery from GOES-E, GOES-W, GOES-R/S/T/U, COMS, MSG and EUMETCAST.

