

The advertisement features a background of satellite imagery showing Earth from space, with blue and white clouds and green landmasses. The top section has a white banner with the title 'Satellite Data Reception' in blue. Below this is the MORCOM logo, which consists of the word 'MORCOM' in blue with a purple waveform inside the 'O's, all enclosed in a purple rounded rectangle with 'INTERNATIONAL INC.' written below it. The main title 'GOES GVAR SYSTEM' is in large blue letters, followed by the subtitle 'For Precise Weather Information Sharing' in black. A large white satellite dish is visible on the right side of the page. At the bottom, there is a list of four bullet points in red, describing the system's features.

Satellite Data Reception



GOES GVAR SYSTEM

For Precise Weather
Information Sharing

- **Easy Installation and Setup**
- **Runs on Windows OS
(XP, Windows 7, Windows 8)**
- **Receives Real Time GOES GVAR Data**
- **Compatible with Newest Operational GOES,
GMS, and Meteosat Satellites**

MORCOM Weather Satellite Systems

GOES GVAR SYSTEM

The MORCOM GVAR system is ideal for weather information systems applications, storm warning systems, forecasting, agriculture, oceanographic studies, and environmental and meteorological institutes.

The GVAR system is a high-performance solution for ingesting GVAR data from the GOES satellites in real-time. It acquires, processes, and displays high-resolution digital imagery directly from GOES, GMS or Meteosat spacecraft utilizing a 3.0 meter parabolic satellite antenna. The system is individually configured and sold to support either GOES-GVAR, GMS, or Meteosat-series spacecraft.

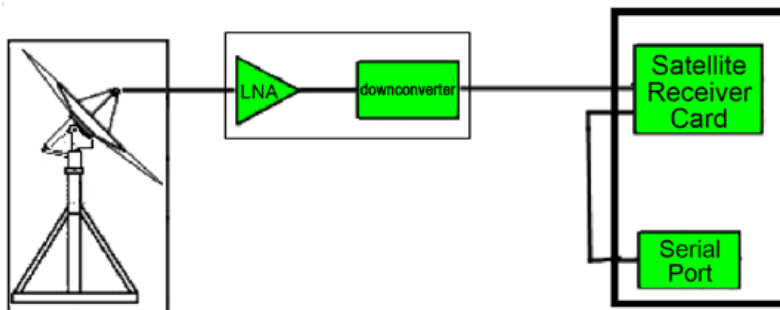
GOES Imager and Sounder data is distributed to the user community through the GOES GVAR telemetry. GVAR (GOES VARIable) is the data transmission format used with the current generation of GOES meteorological satellites.

Our GOES GVAR series offer a high-performance, high-reliability solution for ingesting GVAR/LRIT data from GOES satellites in real-time. It provides full display and processing capabilities for the resulting infra-red, visible and water vapor images. It supports GVAR data from GOES 8, 9, 10, 11, 12 and 13 with automatic detection during ingest.

The GVAR / LRIT signals transmitted in the L-band are converted to a signal in the VHF frequency range. The converted output signal is usually at or about 70 MHz then sent to the station where the DSP drivebay receiver card processes the data obtained from the signal.

The antenna chosen for the GOES GVAR signal is a received only stationary antenna with fix azimuth and elevation. It consists of a 3.0m (10 ft) or (3.7m (12 ft) dish, prime focus in fiber glass with 8-panel assembly. All parts related to the mounting pole are made of black painted stainless steel.

A scalar feed horn with N-type output receives the signal transmitted from the spacecraft which is aligned once to maximize the linearly polarized signal from the GOES transmitter and then fixed in place.



A preamplifier for a GVAR / LRIT receiving system is essentially the same as would be used in an HRPT system.

The downconverter outputs a signal usually at or about 70 MHz and fully filtered to prevent out of band interference. It's designed for harsh radio environments with pre-select filter to reduce cellular phone and radar interference.



The GVAR/LRIT demodulation technique includes more complex encoding and bit error correction techniques that increase the complexity of the signal processing. These include randomization, Viterbi convolutional encoding to reduce bit errors in transmission, Reed Solomon encoding to perform bit error correction, and data compression.

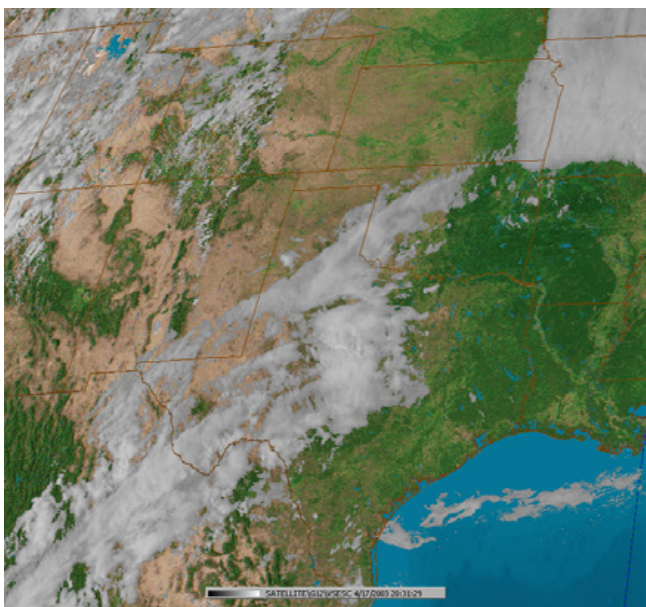
The DSP drivebay satellite receiver card provided offers a high quality performance at converting the incoming RF signal to a bandwidth of 70 MHz IF which is then directly digitized at 50 million samples per second with 10 bit resolution. Digital Signal Processing techniques are used to implement tuning, AGC, carrier tracking and symbol recovery.

The demodulated data is then processed in a gate array to convert the varied signal formats to NRZ data and clock. BER performance is within 1 dB of theoretical. DSP advantages include repeatable performance, long

term operation without component drift and flexible multi-mode operation.

Our weather visualization suit software consists of the following components:

- A software module that always is running to perform all background processing including data reception, product generation and web publishing.
- A watchdog service responsible for software updates and fail-safe monitoring of the system.
- A Viewer software module, an interactive graphics program is used by the meteorologist to create and view weather products, and to perform analysis. This visualization software is a weather product authoring tool used to create and view weather products. It utilizes 24-bit color plus an 8-bit Alpha transparency channel to allow full color backgrounds to be combined with as many layers of weather data as desired, and produces broadcast quality graphic output.
- An alarm client module which is a network enabled alarm module that can reside on any machine to receive and acknowledge alarm conditions.



Features

Parabolic Antenna

- 3.0m or 3.7m parabolic dish, made out of glass-fiber reinforced precision compression molded polyester reflector with eight segments.
- Galvanized steel azimuth/elevation mount and pedestal.
- 100 m of RF-50Ω coaxial cable.

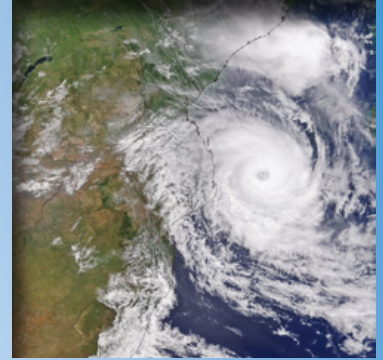
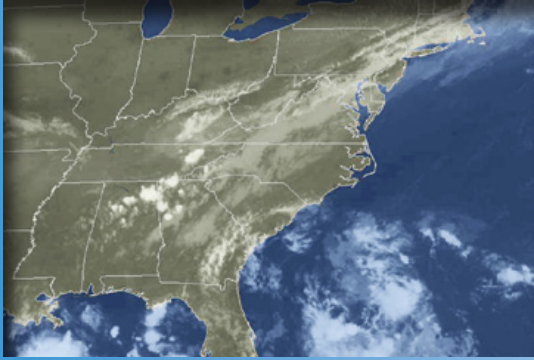
Feed System

- Scalar feed horn with N-type output to downconverter.
- LNA/downconverter designed for harsh radio environments with pre-select filter to reduce cellular phone and radar interference.
- Low noise figure of 1.2dB (92K) typical.
- Weatherproof O-ring sealed machined case and connectors.

Ingesting and Processing System

Workstation

- Data Ingest, Processing and Visualization software:
Yosemite Suite
- Operating System:
Windows platform
- DSP Satellite Receiver Card: MetCom Quorum LRD 100



MORCOM — Your source for quality weather information solutions

- Weather Satellite Ground Stations (GVAR, HRPT, LRIT, Eumetsat)
- WIFS/GIFS Systems
- Meteorological Communications (GTS)
- GOES Direct Readout Ground Systems
- Future-proof GOES-R Compatible hardware (antenna and processor)



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