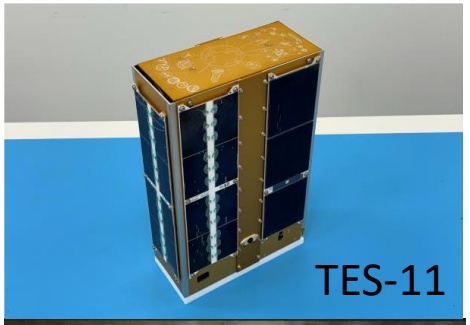

MICROCOM
ENVIRONMENTAL
™

NOAA DCS Projects

- **Binary Protocol: Will provide new message options to GOES DCS users.**
  - Includes special Compaction modes to allow quick transition to Binary that will provide backward compatibility for existing ASCII and Pseudo Binary messages.
  - Currently working with NOAA to bring a separate receive system online at WCDA to perform final testing in advance of operational deployment.
- **Lat/Lon/TxID Messages: Will keep PDT info accurate an up to date.**
  - Special messages will be sent by DCPs upon deployment and redeployment.
  - Special receive system at WCDA will also support pre-deployment testing.
- **DCPC Implementation: Will finally bring remote commanding to DCPs.**
  - Continuing to focus on enhancing legacy DADDS to support DCPC.
  - Will be providing a demo of recent implementations tomorrow.
- **Ionospheric Scintillation Metric: Will identify IS impacted DCS messages.**
  - Developed last summer, testing over the fall, and reported provided to NOAA.
  - New DADDS metric will help disambiguate reason for corrupted messages.

SmallSat DCS Project

- Microcom is continuing to with NOAA, NASA, EUMETSAT, and others on proof of concept to allow SmallSats to utilize International DCS systems.
- SmallSats will benefit from global DCS coverage.
- NOAA and EUMETSAT could benefit from reduced probability of interference from Space to Ground transmission in nearby bands.
- **TES-11 Launched Onboard a FireFly Rocket July 2024.**
  - **Since launch have successfully transmitted and received thousands of message to both sent.**
  - **TES-16 will hopefully launch this summer.**
  - **Planning for having two SmallSat DCS transmitters in low earth orbit simultaneously.**



MICROCOM ENVIRONMENTAL

Enhanced DCP Standard Project

- Microcom has been working with NOAA, EUMETSAT and other CGMS organizations over the last two years to develop new DCP standard that will provide common and more robust RF communications.
  - New standard will add to, not replace, current regional and domestic formats.
  - Initial use will most likely be on International DCS for such applications as SmallSats and/or or environmental projects that could benefit from worldwide coverage and/or robust communications (e.g. ocean buoys).
- Development work began in the summer of 2024 and is mostly complete.
  - New formats will provide user option of either 400 and 800 bps, as well as an option to efficiently use Reed Solomon Forward Error Correction coding.
  - Both transmit and demodulation implemented and functionally tested.
  - Working on performance testing and demodulator hardening.

MICROCOM ENVIRONMENTAL

New Director of Business Development

- Daniel Gillies
  - Formally of the NOAA GeoXO program
  - Started with Microcom in March 2025 as a contractor
  - Focus: New US Government (NASA, DoD, Etc) & New Market Business Development
    - ***Brett Betsill remains direct PoC for NOAA NESDIS business development***
- Initiatives
  - Identifying new applications for Microcom Environmental's DCS products leveraging SBIRs, Grants & Other Solicitations
    - Application of Small Sat GTX-2.0 for Marine Mammal Tracking Tags / Mobile Transmitters
    - In-Situ Fire Data Relay Using XTension Radio Relay & GTX-2.0 Satellite Transmitter
    - Use of DCS Data as a Signal of Opportunity for Ionospheric Nowcasting

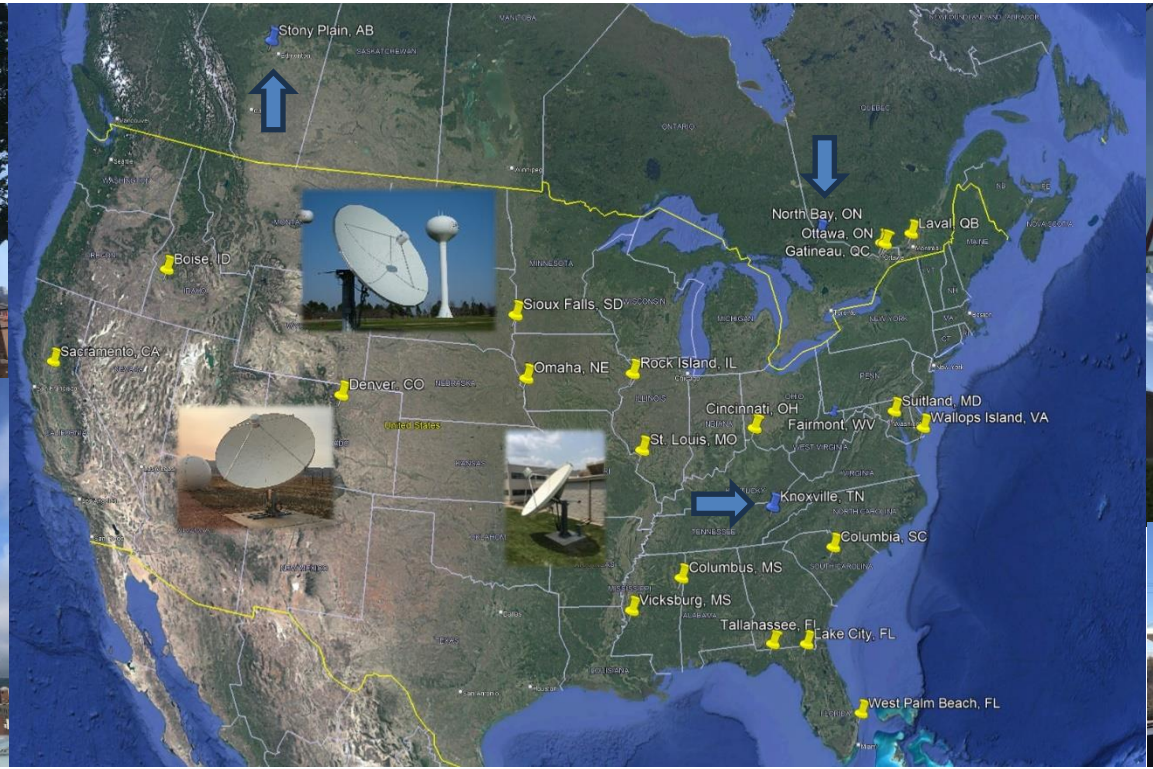
MICROCOM ENVIRONMENTAL

Microcom *DigiTrak* Receivers

- DAMS-NT *DigiTrak* Direct Readout Ground System
  - Direct Reception from the GOES Satellite
  - Lowest latency, highest reliability
  - Nearly 50 systems delivered and deployed since 2003
- Rack (200+ Channels) and Desktop (4-16 Channels) Versions
- *Recent Sales/Installation News*
  - *Actively producing and delivering new LNB for DRGS (and HRIT) to address product discontinuance by Quorum.*
  - *Delivered two complete DRGS systems to Environment Canada (Water Survey of Canada) in March 2025.*
    - *One DRGS to be installed north of Ottawa, and the other just west of Edmonton; installs expected this summer.*
  - *Will be delivering and installing DAMS-NT DigiTrak DRGS system for at the Tenneessee Valley Authority in Knoxville next week.*

MICROCOM ENVIRONMENTAL

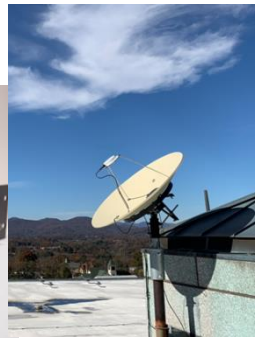
Sampling of North American DRGS Sites



MICROCOM ENVIRONMENTAL

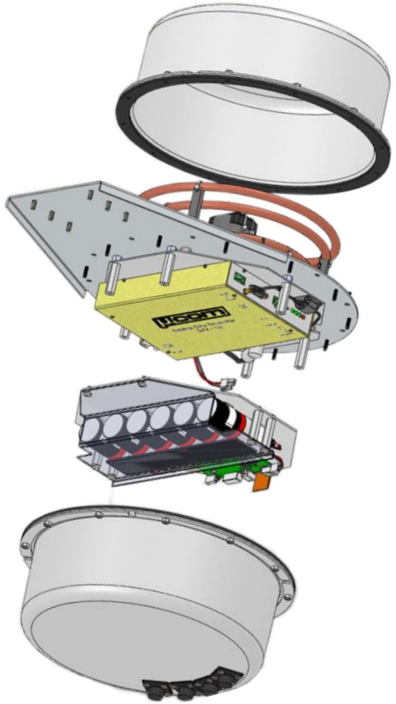
DigiRIT HRIT Receive System

- System Characteristics:
  - Easy installation with 2 people - multiple mounting options for various site configurations
  - Does not require a dedicated computer - transfers data via an Ethernet connection
  - GOES retransmission with complete DCS channel coverage and low latency
  - East and West satellites provide opportunity for redundancy and backup
- Utilization Summary:
  - Over 60 *DigiRIT* systems have been delivered and deployed since 2012
  - USACE alone has nearly 30 *DigiRIT* systems deployed
  - Other users include USGS, NIFC, BOR, BC Hydro, Alberta Environmental
- *Recent Sales/Installation News*
  - *Installed second USGS DigiRIT at the HIF2 in Tuscaloosa, AL in May 2024.*
  - *Sold a DigiRIT system to Newfoundland Environment in March 2025.*



MICROCOM ENVIRONMENTAL

The XPress DCP Package

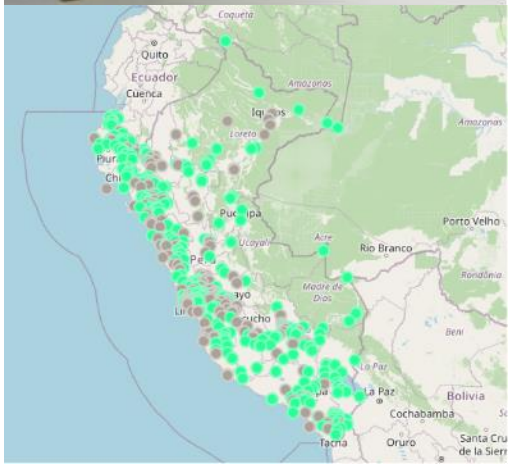


- Fully integrated GOES DCS Data Collection Platform
  - GTX-2.0 Satellite Transmitter and Logger
  - UB6 Satellite Transmit Antenna
  - 5-Watt Solar Panel
  - GPS Antenna
  - Internal Battery Pack
  - Solar Regulator
- Lightweight IP66 Enclosure
- *Recent Sales*
  - *16 to Omnimetrix in Canada*
    - *12 for to Water Security Agency in Saskatchewan; approximately 60 total XPress units to date*
  - *5 to State of Oregon Water Resource Department*
  - *10 to Sanambiente in Colombia*

MICROCOM ENVIRONMENTAL

GTX-2.0 Transmitter and Data Logger

- NOAA and EUMETSAT Certified
- Integral SDI-12 and Tipping Bucket inputs.
- Statistical processing and custom equation execution.
- *Deployments and Recent Sales*
  - *Over 260 units deployed in Brazil sold through Microcom's partner Simtech; most are Hydro DCPs.*
    - *20 units to Acqua in the state of Goiás in December 2024.*
    - *42 units to Aqua e Solo in the state Rio Grande do Sul in April 2025.*
  - *Over 200 systems deployed in Peru by Microcom partners ADR Technology and SIAP+MICROS, most notably/recently …*
    - *~100 systems in use by SENAMHI (National Meteorology and Hydrology Service of Peru) as of 2024; 10 more sold in February 2025.*
    - *21 units in October 2024 for the PNSU – Housing Project (now under SENAMHI ownership).*
    - *9 units February 2025 to China International Water & Electric Corp (Peru) – a company focused on dam construction – collected data will be shared with SENAMHI.*



MICROCOM ENVIRONMENTAL

GTXO-2.0 Satellite Transmitter Only

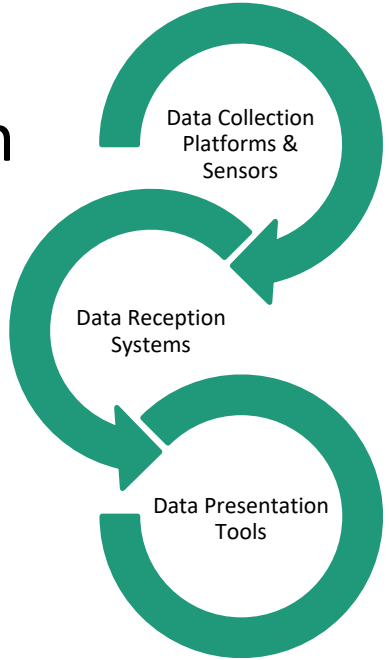
- NOAA Certified in 2023
- EUMETSAT Certified 2024
- Same proven transmitter technology and design as the Microcom Environmental GTX-2.0.
- USB port for computer configuration.
- RS-232 port for data logger connection.
- *Recent Sales*

  Delivered 200 GTXO-2.0 units in 2024 for installation in the United Republic of Tanzania for Integrated Water Resources Management using EUMETSAT DCS service.

MICROCOM ENVIRONMENTAL

Microcom DCS Solutions

Data Collection to Data Presentation
Designed and Built in the USA
Questions?



MICROCOM ENVIRONMENTAL

Points of Contact

Brett Betsill
President
BBetsill@MicrocomDesign.com
410.771.1070 x121

Daniel Gillies
Director of Business Development
Daniel@MicrocomDesign.com
410.771.1070 x130

Sara Orrell
Office Manager and Inside Sales
SaraO@MicrocomDesign.com
410.771.1070 x110

Roger Henry
International Sales
rhenry@microcomdesignint.com
514.952.3447

Matt Taylor
RF Engineer/Technical Support
MattT@MicrocomDesign.com
410.771.1070 x143

Steve Scott
Senior Technician/Tech Support
MattT@MicrocomDesign.com
410.771.1070 x143

International Partners

Omnimetrix
3465 Rue Ashby
Saint Laurent, QC H4R 2K3
514.684.1004
roger@omnimetrix.com

SIMTECH Representações Ltda
Praça Pio X, 55 – SI 903, Candelária
Rio de Janeiro, RJ 20040-020, Brasil
21 2506 5900
simtech@simtech.com.br

MICROCOM ENVIRONMENTAL