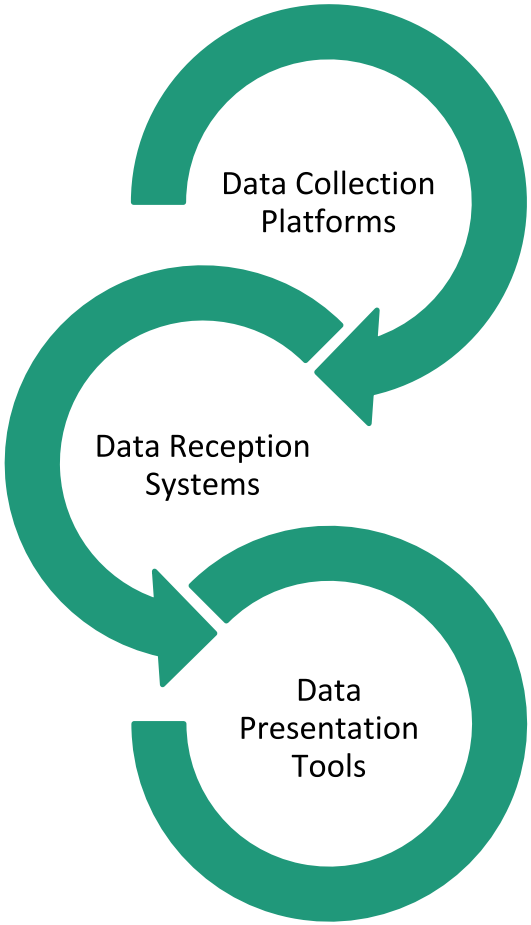

MICROCOM
ENVIRONMENTAL
™

Complete Data Solutions

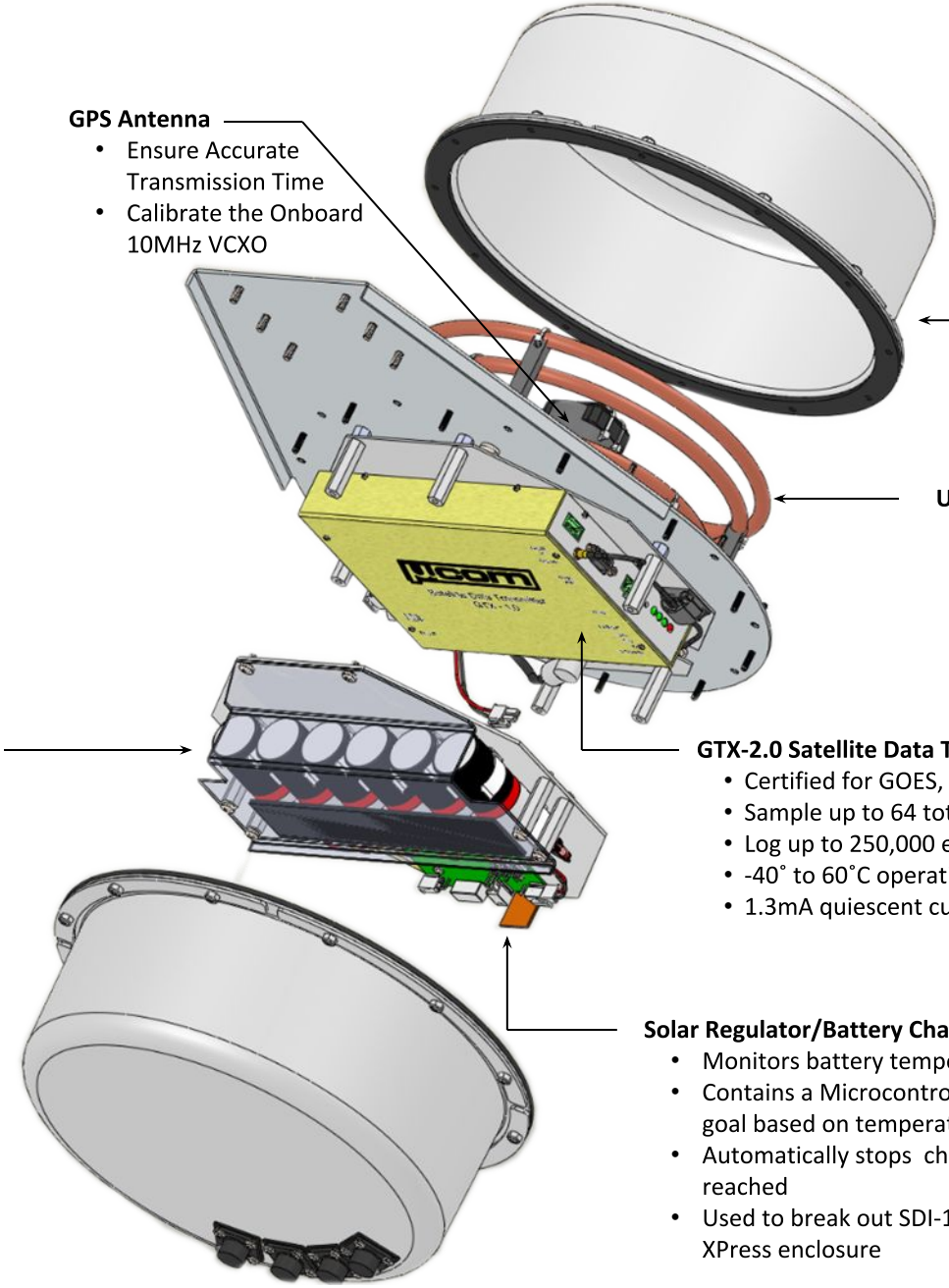


MICROCOM ENVIRONMENTAL

The XPress

- Fully integrated GOES DCS Data Collection Platform
  - GTX-2.0 Satellite Data Transmitter & Logger
  - UB6 Satellite Transmit Antenna
  - 5 Watt Solar Panel
  - GPS Antenna
  - Internal Battery Pack
  - Solar Regulator
- Lightweight
- IP66 Enclosure
- Mounting & Solar Panel options available
- Extremely cost-effective

MICROCOM ENVIRONMENTAL



GPS Antenna
- Ensure Accurate Transmission Time
- Calibrate the Onboard 10MHz VCXO

UV Resistant ABS Plastic Shell
- Neoprene Gasket Seal
- IP66

UB6 Transmit Antenna
- 6 dB Gain
- 3 dB Beam Width of 78°
- Right hand circular polarized
- Transmits Data at 402MHz

12V 4.5aH Battery Pack
- Absorbed Glass Mat Construction

GTX-2.0 Satellite Data Transmitter & Logger
- Certified for GOES, EUMETSAT, INSAT, and Himawari
- Sample up to 64 total sensors parameters
- Log up to 250,000 entries
- -40˚ to 60˚C operating temperature
- 1.3mA quiescent current

Solar Regulator/Battery Charger
- Monitors battery temperature
- Contains a Microcontroller that calculates the charge goal based on temperature
- Automatically stops charging when that goal is reached
- Used to break out SDI-12 connection from GTX 2.0 to XPress enclosure

MICROCOM ENVIRONMENTAL

Long-Term Deployment

- Quick & easy set-up
- Cost-effective & versatile mounting options for various applications
- Replaces the need for gage houses and enclosures

MICROCOM ENVIRONMENTAL

Seasonal Deployment

- Monitor rivers impacted by snow melt in spring and early summer
- Change sensors and monitor drought and fire conditions in summer and fall

MICROCOM ENVIRONMENTAL

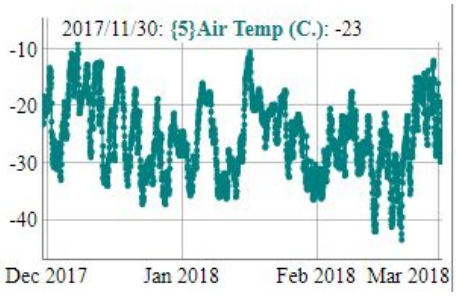
Rapid Deployment

- Additional monitoring in anticipation of extreme weather and flooding
- Post-flooding & post-wildfire monitoring
- Temporary replacement for destroyed DCPs after extreme weather

MICROCOM ENVIRONMENTAL

Extreme Applications

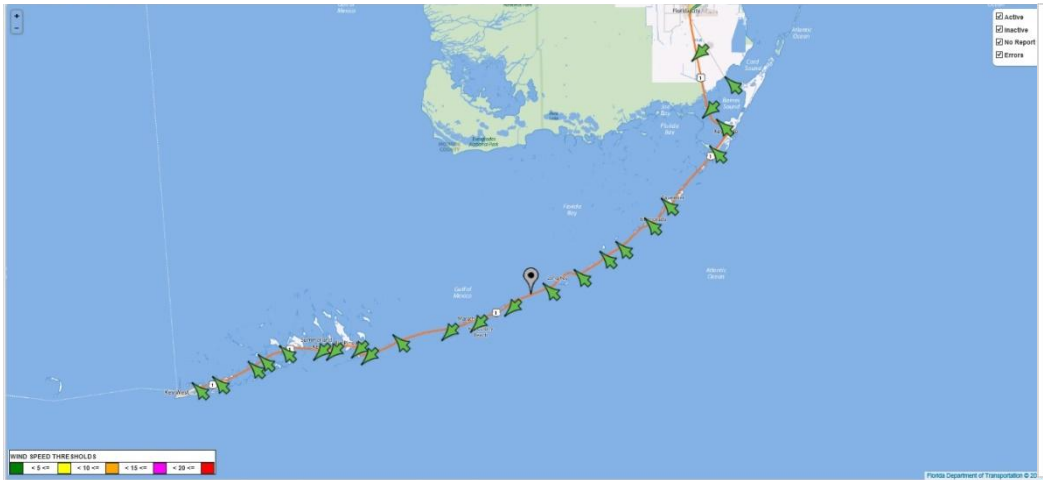
- 7 XPress units deployed in Yellowknife, Canada for the De Beers Mining Company to monitor lake water levels
- All 7 continue to operate in constant sub -20°C, heavy snow, and limited sunlight during the winter months

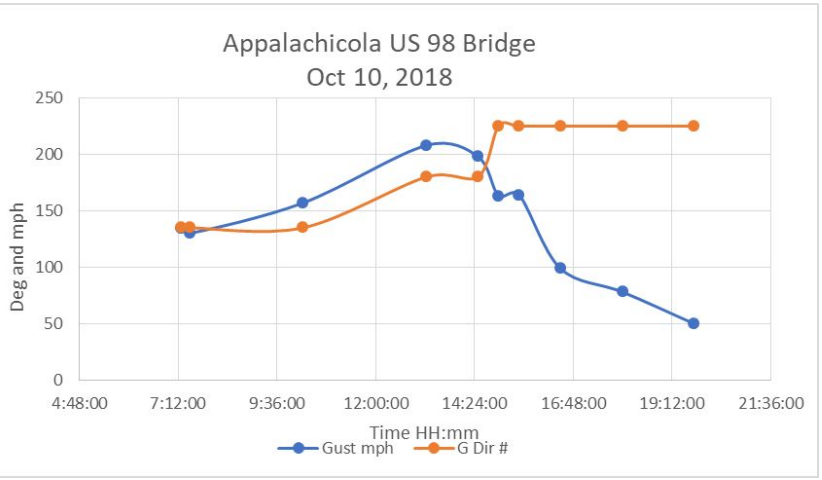


MICROCOM ENVIRONMENTAL

Extreme Applications

- Over 75 XPress units were deployed throughout Florida for the Florida Department of Transportation to monitor wind speed/direction and other sight specific parameters
- 26 units deployed throughout the Florida Keys during Hurricane Irma
  - Recorded wind gusts of up to 140 mph.
- 50 units deployed throughout the Florida Panhandle during Hurricane Michael
  - Recorded wind gusts of up to 208 mph





Configuring the XPress

- The XPress has 4 external connectors
  - Solar Power, RS-232, & 2 SDI-12/Tipping Bucket connectors
- The XPress can be configured using the provided RS-232 cable and GTX Utility software
  - The GTX Utility is provided with all units and can be downloaded on the GTX webpage
  - Tutorials on using the GTX Utility can be found on Microcom Environmental's YouTube Page

MICROCOM ENVIRONMENTAL

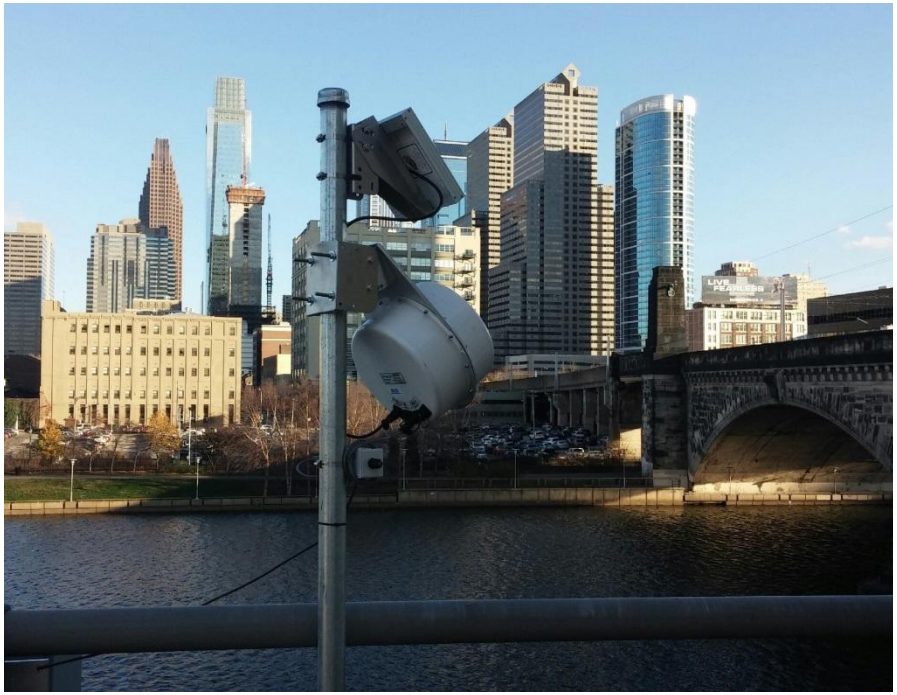
SDI-12 Interfaces

- The XPress utilizes SDI-12, but Microcom offers SDI-12 interfaces for all other common sensor data communications protocols
- All SDI-12 Interfaces can be packaged in NEMA IP66 enclosures
- Microcom also offers the XTend, an additional sensors breakout interface

MICROCOM ENVIRONMENTAL

Mounting

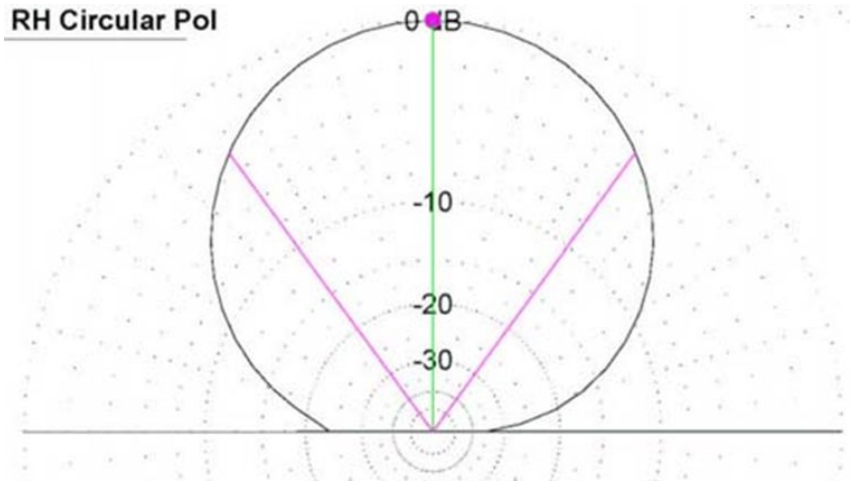
- Stainless Steel U bolt (1 – 3.5” diameter poles)
- Stainless Steel V bolt (1 – 3.5” diameter poles)
- Stainless Steel Band-it Clamps for larger poles and towers

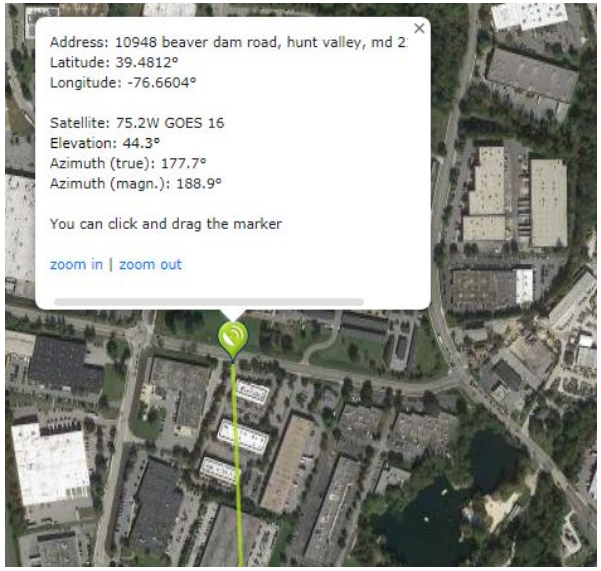


MICROCOM ENVIRONMENTAL

Aiming

- The integrated UB6 antenna has a gain of 6dBi with a 3dB beamwidth of 78 degrees
- Use dishpointer.com for elevation, azimuth, and direction
- The Stainless Steel Mounting Bracket can be adjusted for 5˚ - 85˚ elevation

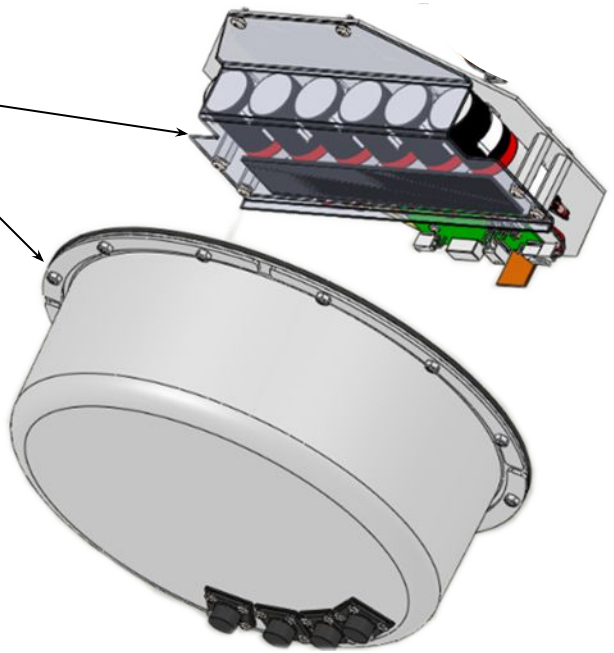




MICROCOM ENVIRONMENTAL

Maintenance

- The only routine maintenance needed is changing the battery packs.
- For the most part, this should be done every 5 years.
- To replace the batteries, remove:
  - 12 Nylon Locking Nuts
  - Bottom Cover
  - Connection Cables
  - Retention Plate
  - Neoprene Gasket
- It is important to replace the Neoprene Gasket Seal when changing the batteries



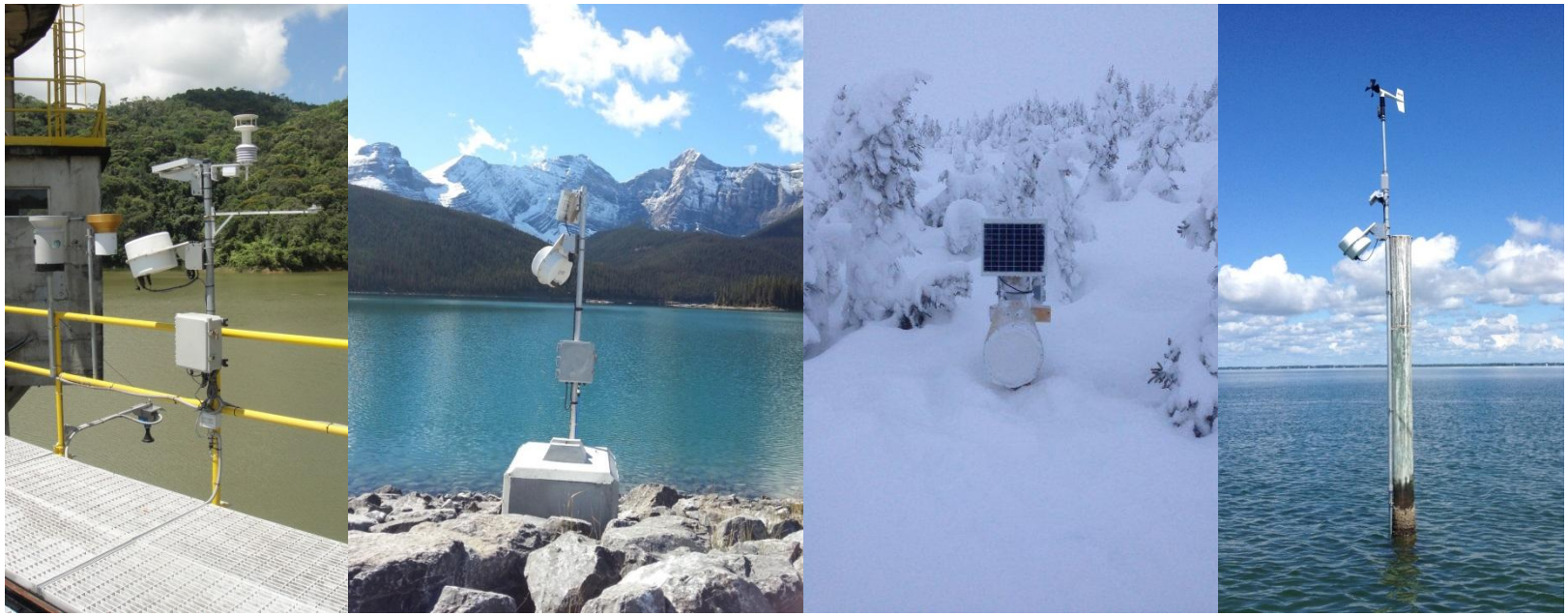
MICROCOM ENVIRONMENTAL

Receive Systems

- DAMS-NT DigiTrak Direct Readout Ground System
  - Direct Reception from the GOES Satellite
  - Lowest latency
  - Most reliable
  - ≥ 3.7 Meter Dish

- DigiRIT HRIT Receive System
  - Rebroadcast of all DCS messages
  - Roughly 20 – 25 second Latency
  - Low-cost
  - 1.5 Meter Dish

MICROCOM ENVIRONMENTAL



MICROCOM ENVIRONMENTAL

Points of Contact

Brett Betsill
President
BBetsill@MicrocomDesign.com
410.771.1070 x21

Perry West
Director of Sales & Marketing
PWest@MicrocomDesign.com
410.771.1070 x30

Craig Pulford
Vice President
CPulford@MicrocomDesign.com
410.771.1070 x26

MICROCOM ENVIRONMENTAL