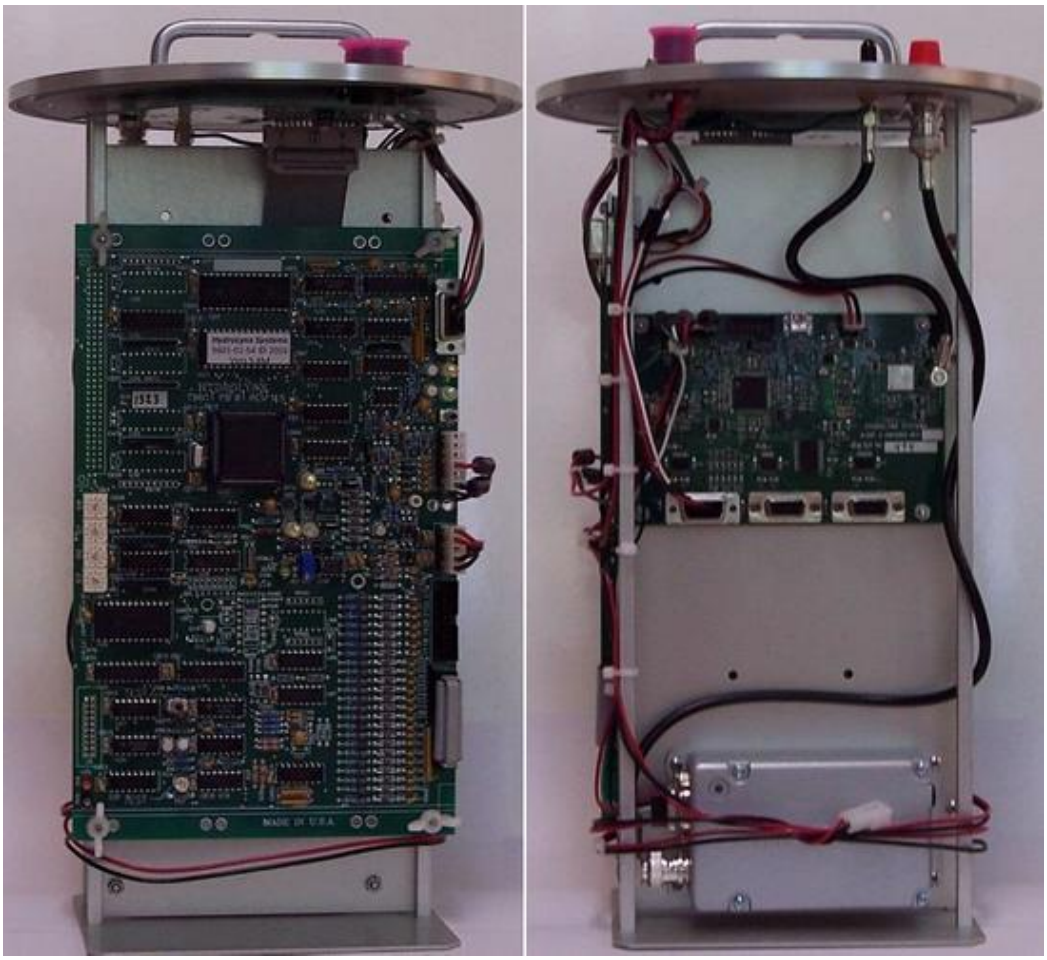
TELEMETRY EQUIPMENT

MODEL 5096/A2

ALERT2 Data Transmitter



Model 5096/A2 — original 5096 PCB (left) and ALERT2 upgraded unit with encoder installed (right)

General Description

The HydroLynx Model 5096/A2 ALERT2 Data Transmitter uses the HydroLynx ALERT2 Encoder to transmit ALERT2 data reports; implementing the important design goals of ALERT2: which increases data throughput and data flexibility while eliminating erroneous data reports. To achieve these goals, ALERT2 combines a high baud rate, state-of-the-art data encryption with Forward Error Correction (FEC), and Time Division Multiple Access (TDMA) communications.

High baud rate data transmissions allow the ALERT2 data packet to include more information than standard ALERT transmissions. The data content portion of the ALERT2 data packet is designed for format flexibility, allowing various data types to be included in ALERT2 data reports. To ensure reliable transmission via RF communication paths at a high baud rate, the data packet includes advanced data encryption with FEC. ALERT2 TDMA communications eliminates the data report collisions inherent in standard ALERT communications. TDMA requires the addition of a GPS antenna/receiver to ensure that the transmitter's clock keeps the ALERT2 data report within its allocated TDMA time slot.

The 5096/A2 uses the same logic board that has provided 25 years of reliable field performance in the 5096 models. The 5096/A2 is field-programmable through an RS-232 port and includes a full set of commands for data collection, data logging, and ALERT2 data transmission. With the ALERT2 data packet, sensor data values may now be calibrated and reported in engineering units in multiple formats:

16-bit Unsigned Integer	0 to 65,535 (vs. ALERT format: 0–2,047)
Signed Integer	–32,767 to 32,767
Single Precision Float	7 decimal digit IEEE floating point
Double Precision Float	16 decimal digit IEEE floating point

Station ID (SID) Range	1 to 65,534 (vs. ALERT format: 0–8,191)
Sensor Number (SN)	0 to 254 per station (individually programmable)

Model 5096/A2-UP ALERT2 Upgrade

The Model 5096/A2-UP ALERT2 upgrade includes the HydroLynx Systems ALERT2 Encoder, a GPS antenna/receiver with lightning arrestor, and a 9601-02 Version 5.X EPROM. The ALERT2 Encoder is installed between the 9601 PCB and the radio, providing an ALERT2 Protocol compliant data packet. The Version 5.X EPROM along with the encoder upgrade allows the same 5096 models that have provided 25 years of reliable field performance to collect, process, and transmit ALERT2 data.

HydroLynx Systems recommends including a 5033-0.3B Solar Panel along with an 18 amp/hr battery at all sites using the 5096/A2 ALERT2 Data Transmitter. Contact HydroLynx Systems for additional information, procedures or details on the ALERT2 upgrade. ALERT2 technology has been licensed from Blue Water Design LLC.

Ordering Information

5096/A2-54	Transmitter in Round Canister, 1 Precipitation Input
5096/A2-88	Same as 5096/A2-54 with 2 Digital Inputs
5096/A2-90	Same as 5096/A2-54 with 2 Digital & 1 Analog Inputs
5096/A2-81	Same as 5096/A2-54 with 3 Digital & 7 Analog Inputs
5096/A2-N	Transmitter in NEMA 4X Enclosure
5096/A2-UP	ALERT2 Upgrade to existing 5096 Data Transmitter
5096STATUS	Status Input Connector
5096RS232	7-Pin MS Male Bulkhead Connector
5096/A2-H	ALERT2 High Data Rate (HDR)

Radio Options

Default	Maxon 5W with Enclosure
Supported	Ritron 5W with or without Enclosure