

Compact Telemetry Receiver (CTR)

When tracking has to be right all the time, every time

Argon ST's Compact Telemetry Receiver

(CTR) provides a single unit capability for the reception and demodulation of telemetry signals that exceeds established performance criteria. The CTR directly addresses the complex nature of crowded telemetry bands to improve the probability of high data quality under extreme multi-path conditions. The multi-mode CTR receives and demodulates AM, FM, PM, BPSK and QPSK signals, and also demodulates FQPSK-JR and SOQPSK-TG signals (ARTM Tier 1). Its integral diversity combiner enables pre-detection combined data and post detection Best Signal Selected tracking AM to be provided simultaneously. Improved dynamic range enables the CTR to be used with both traditional mechanical antenna servos and with linear predictor tracking loops, as found in phased array antenna systems.



Features:

- **Receivers:** Dual channel, Superheterodyne with 70 MHz IF output
- **Frequency Ranges:** 2200-2400 MHz, 1435-1540 MHz (other tuning ranges available)
- **Frequency Resolution:** 100 kHz steps
- **Gain Control Modes:** Auto, Manual and Hold
- **AGC Time Constants:** 5 selections from 0.01 to 100 ms
- **Dynamic Range*:** Threshold to 0 dBm * <1 dB compression. No damage with inputs up to +10 dBm
- **Video Bandwidths:** 0.2, 0.4, 0.6, 0.8, 1.6, 3.0, 4.0, 6.0, 8.0, 12 and 16 MHz, and 75 mSec "roofed" NTSC 525 line video de-emphasis (Standard, other bandwidths available)
- **Tape Carrier Frequencies:** Selectable from 200 kHz to 20 MHz in 25 kHz steps
- **Stored Configurations:** Recalls up to 20 stored setups per channel in non-volatile memory
- **Remote Control:** 10/100 BaseT Ethernet
- **Linear AM Demodulation:** Provided by an absolute value AM Detector
- **System Reference:** 20 MHz external input and 10 MHz Output
- **IF Filters:** 0.3, 0.5, 1.0, 1.5, 2.5, 4.0, 6.0, 10, 12, 16, 20 and 30 MHz (Standard, other bandwidths available)
- **Graphical User Interface:** Windows PC based, C++ application provides same control switches and displays as actual front panel

The Compact Telemetry Receiver family of products is designed to provide the customer with maximum flexibility for product configuration. The basic 3U rack-mountable chassis is capable of holding eight RF/electronic modules in various combinations. Many modules are available depending on your requirement(s). Argon ST, Inc., will incorporate our mature and proven design to meet your needs. The CTR can be operated as a dual-channel receiver, or two independent receivers. Two integral playback converters allow the channels to be operated independently as playback receivers.

The Single System Solution for the Demodulation of Telemetry Signals

For more information, contact
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What Sets Argon ST's CTR Apart from the Others:



- Minimum 10dB improvement compared to single channel when tested in accordance with IRIG-1 18-02 Vol. II for out-of-phase fades.
- AM distortion performance yields an increase in usable dynamic range of about 18 dB over past tracking systems. This increase in dynamic range is of particular importance to Airborne Telemetry Receiving Systems because they will typically see greater signal levels and have greater dynamics than a ground-based system.

- Diversity Combiner provides signal-to-noise improvement that is within 0.5 dB of theoretical under all test conditions defined in IRIG-1 18-02 Vol. II.
- The Argon ST Compact Telemetry Receiver standard configuration provides:
 - Three band Tuning Range: S-Band, L-Band, Upper L-Band.
 - Demodulation; Multimode Demodulator.
 - Pre-Detection Diversity Combiner and Post Detection Best Signal Selection.
 - Record Carrier, with Two Channels of Playback.
 - Optional configurations may include: One, two, or three band Tuning ranges; FM Only Demodulation; Dual Receivers with or without Diversity Combining.
 - So whatever your mission...

Physical Characteristics:



- **Weight:** 40 lbs.
- **Dimensions:** Width: 19.00 inches
- **Height:** 5.25 inches (3U)
- **Depth:** 22.00 inches
- **Electrical:** 115 VAC, 60 Hz, 70 W; also 230 VAC and DC input options
- **Connections:** Rear panel easy interface module stack utilizing:
 - RJ-45 jack for (Ethernet connectivity)
 - BNC and N-Type connectors for all coaxial signal interfaces

A detailed technical paper with full parameters of our CTR system is available on request

Export of this product is subject to the Export Administration Regulations ECCN 5A991

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