

T500GT-ADCCP

AFSCN Gateway ADCCP

The RT Logic 500 Advanced Data Communication Control Protocol Translator (T500GT-ADCCP) is the next generation system for deterministic transport of Serial Telemetry (TM) and Serial Telecommand (TC) data between mission control center systems and AFSCN Automated Remote Tracking Stations (ARTS sites).

Applications

The T500GT-ADCCP allows users to control an ARTS site via the AFSCN and monitor the ARTS status and configuration directly from the user application across a LAN or from an optional GUI. The T500GT can also support connectivity to commercial networks (such as USN) or private ground antenna systems.

The T500GT-ADCCP provides a spacecraft command interface that is accessible from either the LAN or through direct connection to a variety of encryption units. Commands are sent to the T500GT in either Dibit or Ternary format, and then translated by the system into a CCS message for transmission to the ARTS site. Any subsequent command echo packets are returned to the command and control system in the appropriate format for further processing. The T500GT-ADCCP supports polarity inversion and format conversion for telemetry streams.

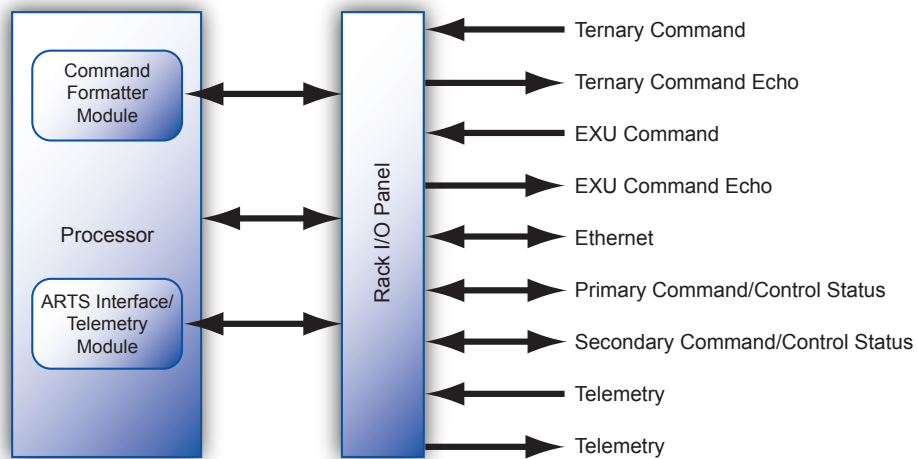
The T500GT-ADCCP can also be configured to provide ARTS simulation, which allows full testing of the command and control system prior to integration with an actual ARTS. This simulation capability is available without any additional hardware. In addition, a contact archival feature is available as an option for logging all ARTS traffic, including status messages received from the ARTS and ADCCP messages sent to the ARTS.

A companion product, RTGuard, provides secure, bidirectional transfer of control and status information across red/black boundaries for satellite control center applications connected to the AFSCN (Air Force Satellite Control Network) and/or dedicated remote tracking stations. RTGuard is a Protection Level 4 (PL4) Certified and Accredited Cross Domain Solution (CDS), allowing RTGuard to be quickly deployed in satellite control centers utilizing the T500GT-ADCCP.



Key Features

- ✓ AFSCN Interoperability (AFSCN-SIS-000508)
- ✓ USN, NISN Support
- ✓ ARTS Simulation
- ✓ AIM Compatibility
- ✓ Supports Primary/Backup CCS Links
- ✓ Command Interface Support: Ternary, EXU (Or Dibit), Network
- ✓ Compatible with Standard Decryptors/Encryptors: MYK, KI-17, Elwell, AES, Other
- ✓ Robust Digital Data Recording and Playback
- ✓ Supports Configuration Changes without Powering Down (Software-Defined Algorithms)
- ✓ Network: Dual 10/100/1000 Ethernet
- ✓ FEC Support
- ✓ BER, Reed-Solomon, CRC



Modular, Digital Design

The T500GT-ADCCP is a high-performance, real-time, digital processing system and protocol translator with dynamically reconfigurable algorithms. The T500GT-ADCCP has a full range of firmware and software personality options for processing telemetry and command streams, PCM simulation, error detection and correction (BER, Reed-Solomon, CRC), archive, recording, playback, and custom functions.

The T500GT-ADCCP platform is a server-class PC running a secure Linux OS with hot-swappable disk drives, dual hot-swappable power supplies, Intel Xeon CPU, dual Gbit Ethernet ports, and RT Logic digital processor cards. It is available in 1U, 2U, 4U, or 5U configurations, and mounts in a 19-inch rack. Multiple I/O options are available. The modular design of the RT Logic Telemetry software architecture permits easy tailoring of a standard T500GT-ADCCP configuration to meet customer-specific requirements. The system is compatible with other RT Logic products, such as the USB/SGLS T70/70XL modem and the T501 Front-End Processor, as well as third-party systems.

Standard Configurations

- T500GT-ADCCP: Single Contact RGF/ADCCP Interface System, Base 1RU Platform
- T500GT-RGF: RGF Simulator Software Option

Specifications

- Base Platform Includes
 - 1RU Rackmount Server, Linux OS
 - Telemetry Software Framework
 - Rear Rack I/O Panel and Interconnect Cables
 - Dual Hot-Swappable Disk Drives
 - Redundant Hot-Swappable Power Supplies
 - Dual 10/100/1000 Ethernet NICs
 - Java/Web Browser GUI for Setup/Control
- Options
 - 2RU, 4RU, 5RU Servers
- Disk Configurations
 - Fiber NICs
 - Choice of Server Manufacturer
- Power (Typical)
 - 110/220 VAC, 50/60Hz, 700 Watts
- Environmental
 - 10 °C to 35 °C Operating
- Regulatory
 - FCC