

# C-TAC<sup>®</sup> Plus

## Computer Tester Analyzer Controller

### Key Benefits

- Event correlation and tracing across multiple processors
- Resolves software and integration problems quickly
- Common user interface across dissimilar targets
- Integrate, test, and evaluate systems without affecting timing or execution order
- Custom Interfacing for Legacy Support



C-TAC<sup>®</sup> Plus

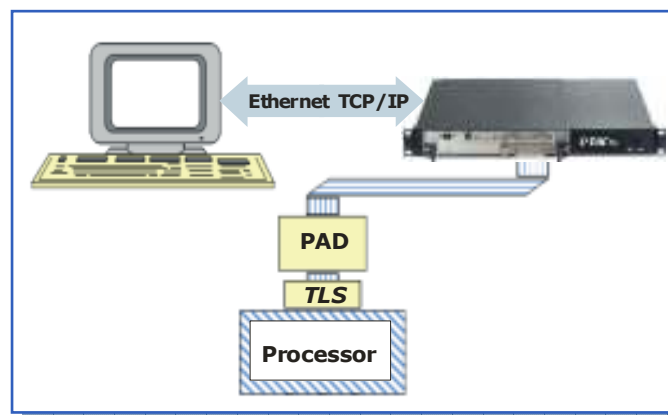
C-TAC<sup>®</sup> Plus combines the two most successful ITCN technologies, C-TAC<sup>®</sup> and SystemTrace<sup>®</sup>, to provide a high performance, next generation, embedded system analyzer and debugger tool. C-TAC Plus provides simultaneous, assembly-level, Real-Time Non- Intrusive (RTNI) monitoring of processor execution and memory access activity and a console interface for processor controls. Monitoring is performed on a completely non-intrusive basis without the injection of wait states or cycle stealing, and does not affect bus timing or message sequencing. C-TAC Plus also provides time-correlation of data across multiple processors and buses as system level evaluation in the operational environment.

### Channels

C-TAC Plus channels are available for the following:

- MIL-STD-1750A (Various)
- AN/AYK-14 (VPM)
- Z8002
- Custom

Channels for other targets are in development. Custom interfaces can be readily adapted from existing channels by minor modifications to the PIM, PAD, and TLS. Contact the factory to discuss your particular application.



C-TAC Plus Functional Diagram

### System Components

C-TAC Plus consists of two major components:

1. Acquisition Board Set (EDAC-CP, PIM-CP)
2. LRU Interface (PAD-CP, TLS)

Systems are combined for simultaneous monitoring of multiple targets.

The Acquisition Board Set and LRU Interface components are customized to provide a turnkey solution for legacy system support. Customization normally includes changes to firmware and programmable logic, and do not generally require hardware modifications. Connection for the LRU under test may be made using custom circuit boards or cabling. This is also included with the C-TAC Plus system.

## User Interface Package (UIP)

The UIP software provides a graphical interface to C-TAC Plus. Using windows and pull-down menus, the user can setup, control, and analyze data acquisition scenarios for embedded systems. The GUI provides a network-centric interface to allow control of multiple base units over an Ethernet network.

### UIP Components

- **Session Manager:** Centralized control of all functions and channels
- **Session Editor:** Configures the channels to capture the data required
- **Symbol Editor:** Configures symbolic names access, and data types for memory locations and I/O
- **Log Review:** Displays the captured data in table format of RAW and disassembled format including scale, offset and engineering units
- **STEP:** Displays captured variables in graphical form (Value vs. Time)
- **PEP:** Displays captured procedures or message packets in graphical form (Procedures/Messages vs. Time)
- **Auto Symbol Translator:** The optional Auto Symbol Translator (AST) automates Symbol Entry to significantly reduce data entry time and errors. The AST converts compiler-generated symbol tables to a C-TAC format. ASTs are available for Ada, JOVIAL and other compilers and assemblers.

### Workstation PC Requirements

The C-TAC Plus software requires a PC with the following minimum specifications:

- **CPU:** Pentium Class 1 GHz or greater
- **Memory:** 256MB RAM or greater
- **Monitor:** 19" SVGA or larger
- **Disks:** 40 GB HDD, CD ROM
- **Mouse:** 3 Button
- **O/S:** Windows 2000, XP
- **NIC:** 10/ 100 Base-T Ethernet

Contact ITCN's sales staff for detailed information about our test equipment and services at 800-439-4039, or visit our website at [www.itcninc.com](http://www.itcninc.com).

## Features

C-TAC Plus provides the following feature set. Features included depend on customer requirements and LRU interface limitations.

- **Disassembler:** provides instruction mnemonics for memory displays.
- **Script Processing Controls:** provides batch and remote controlled (TCP/IP) operations.
- **Download/Save Memory:** provides ability to load a file into or save data from LRU memory. This feature is available for EPROM and Flash memory as a custom operation.
- **Execution Monitoring:** provides recording of user specified memory address ranges in real time. This feature provides timestamps and state machine operations.
- **Run-Time Variable Monitoring:** provides a display of selected program variables at 5Hz on the PC while the system operates.
- **Memory Utilization Monitoring:** A.K.A. Code Mode. This feature tracks user specified memory ranges to provide a report detailing which locations within those ranges have been hit or missed during normal operation.
- **Console Operations:** This feature provides an interface for controlling the processor to interactively read and edit memory, registers, and I/O. This feature also includes breakpoints and other custom LRU controls.
- **Data Analysis:** This feature provides a software toolset to view data collected in the execution monitor. This includes Log Review, STEP, and PEP as well as Code Review.

## Specifications

- **Number of Available Events:** 256
- **Event Trace Buffer Size:** 1 Million Records
- **Event Log Disk Size:** 1.2 Billion Records
- **Event Log Disk Type:** 40GB IDE or larger
- **Event Timestamp Resolution:** 15 nanoseconds
- **System Cabling:** 3M Micro-D, 3 meters
- **Size:** 1U High, 19" rack mountable, 16" Deep
- **Weight:** Under 25 lbs.
- **Power:** 110/240 v, 50/60 Hz, 300w

*Note: All specifications are subject to change without notice.*