Telephonics’ NetCom® Communications Networking Unit (CNU) incrementally augments the capabilities of ground vehicle C4ISR systems. It preserves investments in legacy intercom systems while providing advanced capabilities that enhance the situational awareness and safety of soldiers.

**Battle-Space Network Connectivity**

The CNU provides connectivity to battle-space networks like Warfighter Information Network-Tactical (WIN-T) and helps minimize platform C4ISR system Size, Weight and Power-Cost (SWaP-C). The CNU is compatible with the VIC-3 intercom system and offers key capabilities for the digital battlefield that the VIC does not support. The CNU provides spiral capability enhancements for these systems while facilitating a transition to a full NetCom intercom system in the future.

The CNU has a digital architecture with its core functionality implemented in software and firmware. A dual-core Digital Signal Processor (DSP) and a Field Programmable Gate Array (FPGA) provide a high performance platform with advanced audio processing capabilities and communications functionality. Spare processing capability and memory capacity provides the ability to add new functionality in the future to allow the CNU to evolve with vehicle C4ISR system architectures. An optional embedded web server can ease integration of the CNU into C4ISR systems and adds a platform for the integration of web applications.

Robust capabilities allow the CNU to transform the communications capabilities of ground combat and support vehicles including:

- **Caution and Warning System (CAWS)** — CAWS Plays pre-programmed audio messages to enhance the situational awareness of vehicle crews. Messages are initiated through triggers provided via the J1939 CAN bus messages, Ethernet messages or discrete inputs. Up to 256 messages with a total run time of 512 seconds are provided via standard .wav or mp3 files created on a PC. Analog message audio is routed to a VIC-3 system via an alarm input.
Communications Networking Unit

Robust Capabilities

The NetCom CNU has robust capabilities that transform the communications capabilities of ground combat and support vehicles:

- CAWS
- Radio control
- Non-lethal messaging
- Text-to-Speech (TTS)
- VoIP interface

- **Radio Control** – The CNU includes dual RS-232 interfaces providing remote control and configuration of current force radios allowing the elimination of control heads resulting in SWaP savings. Software running on smart displays or other vehicle computing platforms provide radio control allowing any function defined in the radio Interface Control Document (ICD) to be implemented. Dual Ethernet interfaces in the CNU provide communications with the smart displays or computing platforms.

- **Non-Lethal Messaging** – The CNU provides vehicle crews the ability to communicate with the local populace in native languages through standardized and pre-programmed messages that provide accurate and consistent communications. Multiple languages are supported and new languages can be added by recording messages using a standard PC. The user interface is provided via a Graphical User Interface (GUI), or voice control, to facilitate use during stressful situations. Analog announcement audio is routed from the CNU to a loud hailer or vehicle PA system.

- **TTS Engine** – The CNU includes a TTS engine that helps to enhance soldier situational awareness while reducing operational stress. Text messages received via an Ethernet interface are converted to audio and delivered to the crew eliminating the need for them to constantly scan displays. As an example, FBCB2 text messages can be converted to audio in this way.

- **VoIP Interface** – The CNU provides H.323 and optional Session Initiation Protocol (SIP) calling capability, allowing vehicle crews to communicate over digital battlespace networks. Multiple VoIP call paths can be set up via a single CNU, allowing multiple users to make independent SIP calls simultaneously. Calls can be set up using dedicated network paths (i.e., to IP addresses) or can be user-programmable via a GUI control interface.

The CNU has low space claim with dimensions of 4.80 in. (w) x 4.56 in. (l) x 4.13 in. (h) and has the same mounting footprint as a VIC-3 FFCS. All controls are by an external computing device that can be positioned anywhere space is available in a vehicle. Its lightweight (3.3 lb.) and low power consumption (8 watts nominal) features make it ideal for use in cramped ground vehicles. It is ruggedized for the ground vehicle environment and has been qualified to MIL-STD-810 and MIL-STD-461.

For additional information, contact Telephonics at 631.755.7000 or visit www.telephonics.com.