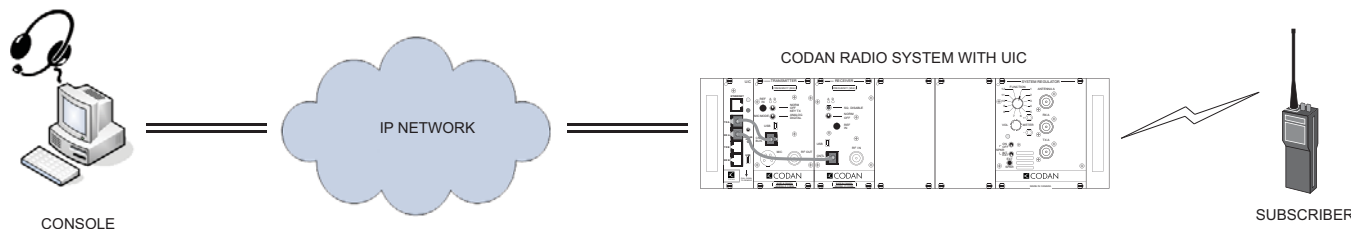


TN660 UIC-4 Universal Interface Card

The UIC-4-00 Universal Interface Card (UIC) is a plug-in module which provides an IP-based Ethernet network connection between MT-4 radio systems and other Land Mobile Radio (LMR) subsystems.



The UIC is programmable to support the TIA P25 Digital Fixed Station Interface (DFSIs) standard via its network connection. The UIC can control and monitor radio modules installed in both the A-side (left) and B-side (right) of the subrack. An additional firmware purchase is required for B-side operation.

TIA P25 DFSI Operation

The UIC supports the DFSI as published in the P25 standard document TIA-102.BAHA. The UIC provides a fully end-to-end digital link between consoles and subscriber units and supports analog-mode calls as well as P25 calls. The UIC transports digital P25 audio data packets (IMBE™) between the console and the transmitter and receiver radio modules without any conversion to or from baseband audio. The UIC uses Codan LVDS serial data to transport digital information between the UIC and the receiver and transmitter modules. This preserves a fully end-to-end digital link, including audio encryption. Analog voice is carried via the DFSI as digitized u-law pulse-code modulation (PCM) audio data.

Console Controlled / Software Programmable Features

Some of the UIC functions (eg. call start/end, channel selection, etc.) are dynamically controlled by the console. The console that is used in a system with the UIC may not implement or provide access to all of the functions. See the console's documentation for more information on which UIC features are accessible from the console.

Other UIC functions (eg. IP address programming, interface mode selection, etc.) are controlled by static programmable configuration settings. These settings can be viewed and modified using the UIC Configuration Software.

Part Numbers

UIC-4-00	Universal Interface Card
APP-UIC-4-01	UIC Configuration Software (available for free on the Codan LMR website)
APP-UIC-4-02	Firmware for DFSI Operation

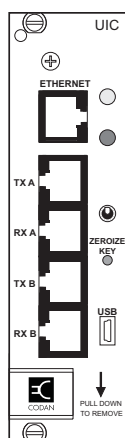
TN660 UIC-4 Universal Interface Card

The UIC supports all of the following features:

- Channel and Bank control of receiver and transmitter modules (2 banks of 16 channels each).
- Detect the mode (analog or P25) of an inbound call on the receiver and report to the console.
- Receiver squelch selection (muted or unsquelched) controlled by the console.
- Monitors the states of the transmitter's forward and reverse alarm signals and report to the console.
- Clear the encryption keys from all encryption-equipped radio modules through the UIC's front panel Zeroize Key push button or from the console.
- Control and monitoring of 8 digital general purpose input and output (GPIO) signals from the console. The 4 inputs are 10 mA max., 0 to +1 Vdc low / +2 to +13.8 Vdc high. The 4 outputs are 20 mA max., 0 Vdc low / +5 Vdc high.
- Control and monitoring of 8 analog GPIOs for use with external equipment. The 4 inputs are 0 to +3.3 Vdc, 3 kΩ impedance. The 4 outputs are 20 mA max., 0 to +3.3 Vdc.
- Monitoring power supply voltage levels and reporting to the console.
- Programmable simplex mode operation.
- Local repeating under the control of the console, or automatically when the UIC is not connected to a console.
- Current draw of 128 mA maximum.

The DFSI also supports the following features:

- Audio Reception and Transmission using IMBE™ (P25) or u-law PCM (analog).
- Passes all received P25 data to the console (NAC, TGID, MFID, ALGID, KID, etc.).
- Full end-to-end digital encryption if supported by the console and subscribers.
- Outbound audio buffering when transmitting P25 mode calls, with a programmable buffer length (200 ms max.).



Console Systems

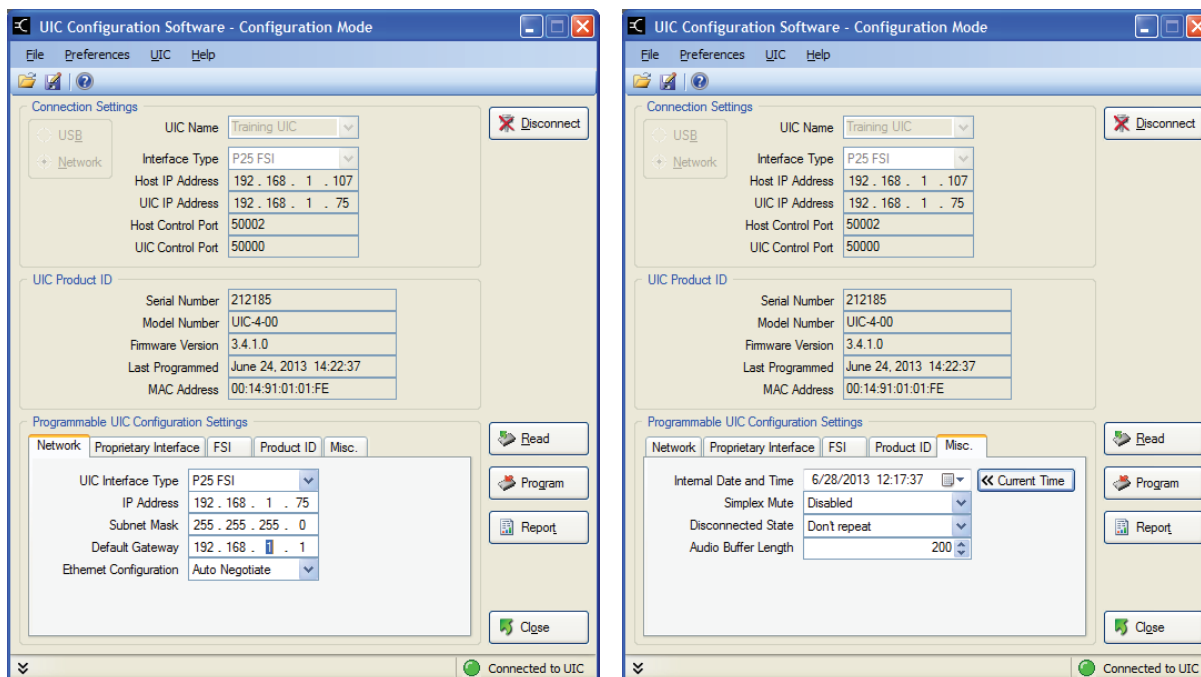
The UIC will interface with the following P25 DFSI consoles:

Avtec Scout
Catalyst IP FSI Gateway
InterTalk (Pantel)
Moducom UltraCom IP
Bosch / Telex C-Soft (P25 version)
Zetron Acom

TN660 UIC-4 Universal Interface Card

UIC Configuration Software

The UIC Configuration Software is used to read and to modify various static configuration settings in the UIC. The application can be used to configure the UIC locally by connecting to it via its USB port, or remotely by connecting via Ethernet (using either the DE-UIC or DFSI interface).



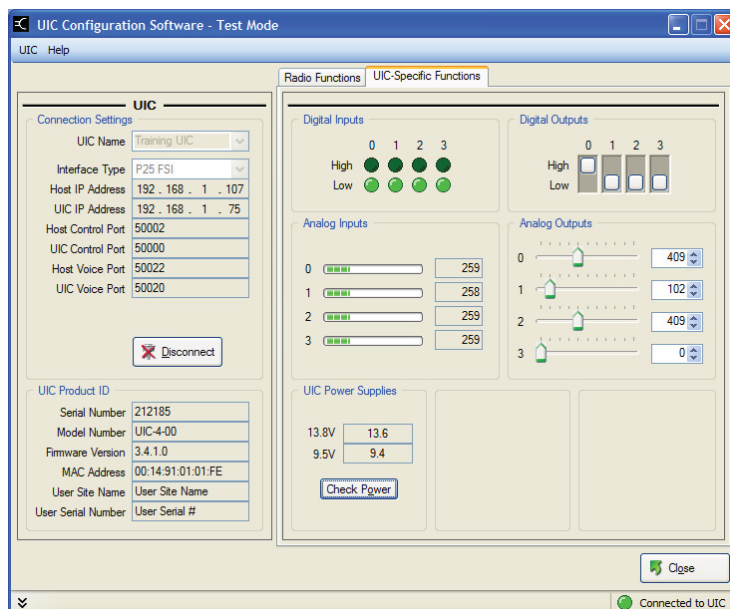
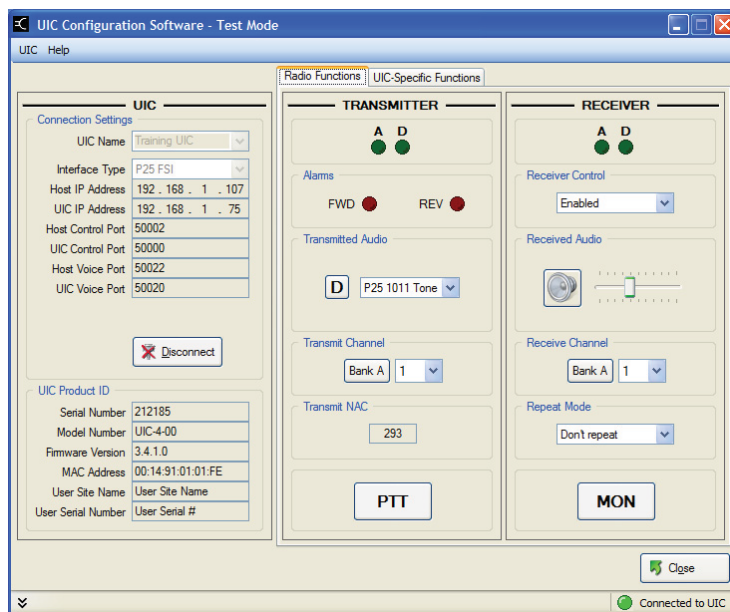
UIC MAC Address

The UIC has a factory-assigned unique Ethernet MAC address that cannot be modified. This unique address is stored in non-volatile memory and is not affected by changes to any of the UIC's configuration settings.

TN660 UIC-4 Universal Interface Card

Radio Functions and General purpose Inputs / Outputs

The UIC Configuration Software can also be used to test Radio Functions and General Purpose Inputs / Outputs when connected via Ethernet.



IMBE™ is a trademark of Digital Voice Systems, Inc.