

## FNBBDT Secure Voice IPODs

Future Narrowband Digital Terminal interfaces save bandwidth

- Industry's most efficient secure FNBBDT voice compression, down to 2.4 Kbps per call
- Dynamic sharing of bandwidth for multiple services
- Transparent activity to remote end users
- Supports over the Air Rekeying (OTA)
- FAX traffic via FAX/Relay
- Efficient transport of ISDN PRI/BRI signaling traffic
- Interchangeable with all DNE TAC products
- Standards-Based for Interoperability

### Overview

Ultra Electronics - DNE Technologies introduces a unique Future Narrowband Digital Terminal (FNBBDT) Secure Voice card for its TAC Multi-Service Access Concentrators. This new family of Interface Protocol Option Devices (IPODs) provides warfighters with the ability to use all modes of the latest STE and FNBBDT secure telephone units to fulfill their mission needs for economical, secure voice/data/fax traffic transmissions.

DNE's FNBBDT cards offer the most efficient secure voice bandwidth compression available, allowing users to maximize bandwidth at the warfighter level. These cards offer voice compression down to 2.4 kbps, allowing as many as 14 non-secure or 11 secure calls over a 64 kbps link.

Dynamic bandwidth sharing of multiple services allows superior quality of service through efficient voice, data, and fax traffic consolidation.

A transparent mode is available to assist with the efficient transport of ISDN PRI/BRI signaling traffic.

DNE's FNBBDT Secure Voice IPODs feature Over the Air (OTA) Rekeying, allowing users to rekey in place, without having to move the secure phone to another line.

In addition, DNE's TAC allows the remote FNBBDT units to communicate across the network to negotiate a common, bandwidth-saving rate. This is accomplished by the use of an automated modem function, which is transparent to the remote users trying to connect across the WAN network.

These new IPODs are also standards-based, offering interoperability with a wide range of FNBBDT secure phones, and, like all DNE IPODs, are additionally interoperable within all of DNE's TAC products for simple and inexpensive spare options.

DNE offers two types of FNBBDT IPODs for use in their TAC Multi-Service Access Concentrators. The 1-port, 24 channel T1 Digital V.34 FNBBDT Secure/Compressed Voice IPOD is ideal for integrating the digital voice/data/fax traffic of a deployed Private Branch Exchange (PBX) with other services over an economic, single uplink back to the Wide Area Network (WAN). The 4-port FXS Analog V.34 FNBBDT Secure/Compressed Voice IPOD provides an ideal solution for integrating analog voice/data/fax traffic from stand-alone FNBBDT secure phone devices over a bandwidth efficient uplink back to a remote PBX.

**Technical Overview**

The DNE FNBBDT Secure Voice IPODs offer a unique capability - a DSP (Digital Signal Processor)-based Secure Voice interface that minimizes bandwidth in secure and non-secure modes when using an FNBBDT secure phone device.

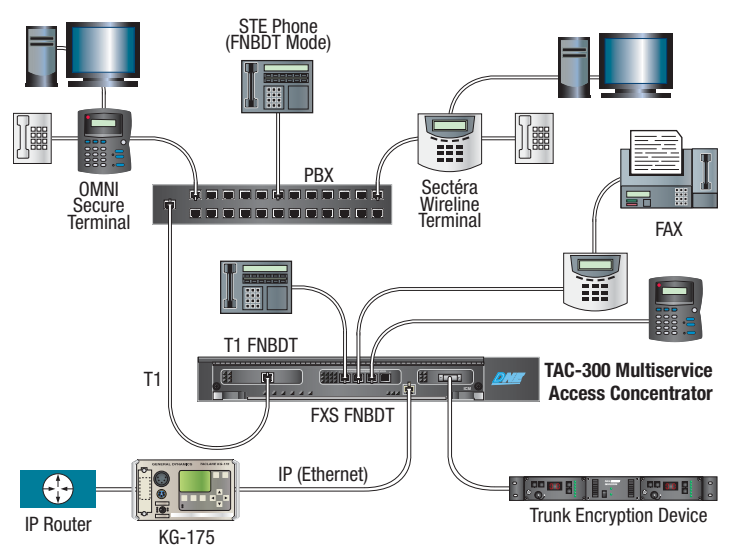
When in non-secure mode, the AAL2 compression system uses G.729a/b at 8 Kbps or MELP at 2.4 Kbps. A cell fill, cell delay algorithm is used to ensure the minimum cell bandwidth is utilized.

When a phone goes secure, the DSP switches to secure mode, and the phones at each end of the link negotiate the best analog bandwidth

(as low as 2.4 Kbps). Once the call is negotiated, the DSP performs a demodulation/modulation function, using only the negotiated bandwidth for the duration of the secure call including room for some overhead.

Two modes are supported. The FNBBDT Low line quality mode connects at 2.4 Kbps (DTE), while the FNBBDT Normal line quality mode connects between 2.4 Kbps to 19.2 Kbps (DTE).

These cards combine with additional DNE TAC option cards to offer the warfighter a complete, efficient, and low-cost transport of voice and data services.



The TAC Multiservice Access Concentrators, with new FNBBDT IPODs installed, provide warfighters with industry standard, bandwidth efficient, secure transmission of voice, data and fax traffic from all existing types of FNBBDT devices. The V.34 FNBBDT IPODs are available in a 24 channel T1 Digital (one port) or an FXS Analog (4 ports), and are compatible with both the TAC-300 and TAC-900 models.

**T1 Digital V.34 (1 port)**

**FXS Analog V.34 (4 ports)**

<b>Voice Compression</b>	Standard Voice Compression mode supports G.729a/b 8kbps, and MELP 2.4kbps, and offers transparent pass-through at 64kbps. Secure mode offers FNBBDT analog bypass. Additional functions include Fax/Relay support, G.165 adaptive echo cancellor, bad frame interpolations and ATM Adaptation Type Voice over AAL2.	
<b>Compatibility</b>	DNE's FNBBDT IPODs have been tested with L-3 Secure Terminal Equipment (STE®) in FNBBDT mode, L-3 Omni®, and GD/Motorola Sectera®. Contact DNE for specific information on testing and interoperability settings.	
<b>Management</b>	Like all interface cards for DNE's TAC Multi-Service Access Concentrators, the FNBBDT IPODs can be managed via the embedded web server using any web browser, or through a local craft terminal, Telnet, or any SNMP management system.	
<b>Circuit Specifications</b>	D4 or ESF Framing Zero suppression for B8ZS CAS, CSS Signaling	Loop Start, PLAR
<b>Front Panel Indicators</b>	ST: POD Status TX: Cells Transmitted RX: Cells Received RED: Red Alarm YEL: Yellow Alarm AIS: Alarm Indication Signal	ST: Port Status HOOK RING
<b>Interfaces</b>	One RJ-48C connector jack	Four RJ-11 connector jacks
<b>Environmental</b>	0° C to 40° C Operating, -20° C to 65° C storage, Up to 95% Humidity (non-condensing), Operating altitudes of up to 15,000 ft (4600m), storage altitudes up to 40,000 ft (12,200m)	
<b>Power</b>	10W maximum	11W standby, 17.6W maximum
<b>Dimensions Weight</b>	.75" x 4.6" x 7.95" 6.5 oz (card only), 184.3g	1.1" x 4.2" x 6.88" 6.5 oz (card only) 184.3g



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