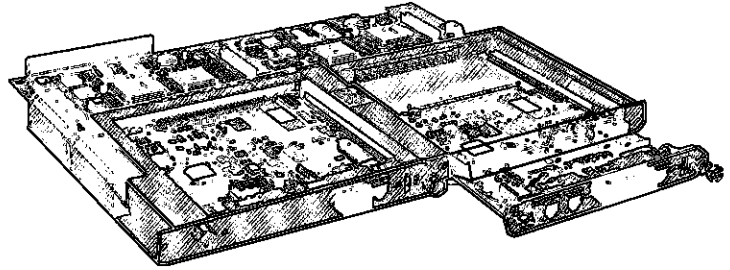


TURBO UNIVERSAL VOICE MODULE

For Marathon[®] and NetRunner[®] Integration Products

The Turbo Universal Voice Module supports MICOM's ClearVoice™ technology delivering toll quality voice/fax connections over frame relay or leased lines.



Voice Compression Module With Plug-In Analog Interfaces

Features

- ClearVoice technology delivers toll quality telephone conversations while consuming minimal bandwidth, averaging less than 4 Kbps
- Implements the International Telecommunications Union (ITU) G.729 standard for digital voice compression
- Supports standard and enhanced voice interfaces for worldwide compatibility:
 - E&M Types I, II, IV and V
 - FXS Loop and Ground Start
 - FXO Loop Start
 - FXO Ground Start (Centrex)
 - AC-15
 - RonTron
- Fax support for all Group 3 fax machines (2.4 to 14.4 Kbps)
- Autocall, Fax Sharing and Line Sharing capabilities for simplified voice/fax calling
- Easy software updates from PC platform
- Centralized manageability from NETMan™ management system, including call accounting
- Supported by all MICOM Marathon and NetRunner base units for easy upgrades
- Three-year hardware warranty

Overview

The Turbo Universal Voice Module (TUVM) allows voice and fax transmission to share a common connection with data and LAN traffic in a Marathon or NetRunner integrated network. Integrating voice/fax communications with data or LAN traffic eliminates inter-office long distance charges and voice/fax tie lines. The result is significant reductions in your organization's remote communications costs.

Powerful digital signal processors and ITU (International Telecommunications Union) G.729 standard-based ClearVoice technology provide toll quality conversations with 8 Kbps digital voice compression. Silence suppression, background noise regeneration and robust voice switching make ClearVoice a complete voice solution: highly bandwidth-efficient with no-compromise voice quality.

Marathon and NetRunner Dynamic Bandwidth Allocation features allow for easy and cost-effective integration of voice and fax traffic with data and LAN communications over [™]MicroBand ATM private leased lines or public frame relay links. The TUVM also supports MICOM's proprietary voice algorithms, offering superior quality voice in applications where bandwidth is extremely limited.

Support of Group 3 fax transmissions is standard on the Turbo Universal Voice Module, which automatically shifts V.17 fax machines to Group 3 rates. Each TUVM channel supports both voice and fax traffic by automatically identifying whether a call is from a telephone or fax machine and shifting to the correct mode. The TUVM allows a fax machine to receive transmissions from the PSTN and the corporate network. No dedicated fax machine is required and you can maintain your published fax number.

With the TUVM, voice/fax calls get routed to destinations anywhere in a Marathon/NetRunner network simply by dialing a single number sequence. For even greater convenience, the TUVM can be configured to automatically call a predetermined destination whenever one of its voice/fax channels goes active.

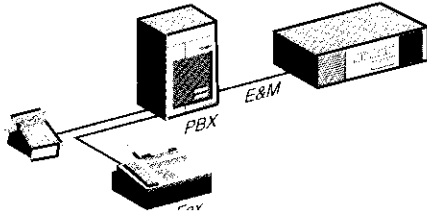
Powerful digital signal
processors and new

ClearVoice technology provide
toll quality voice using
minimal bandwidth

Specifications

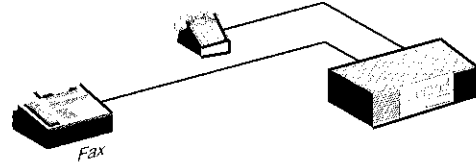
The TUVM's Modular Voice/Fax Interfaces Support a Variety of Applications

E&M Interface Module



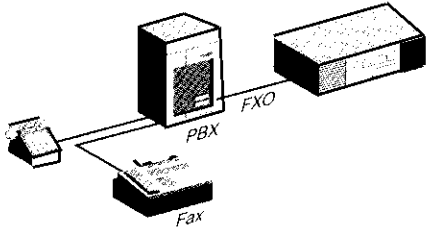
TUVM connects directly to PBXs, Central Office switching systems or voice switching systems via its E&M interface module for support of tie line applications.

FXS Interface Module



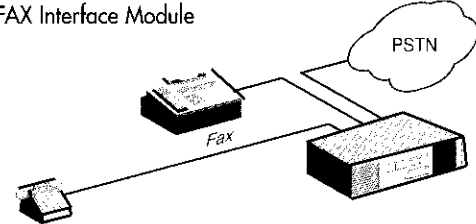
TUVM connects directly to telephone instruments or fax machines via its FXS interface module. This interface also provides connections to line circuits of PBXs and Key Telephone Systems.

FXO Interface Module



TUVM connects to loop-start lines of switch via its FXO interface module. It operates like a telephone instrument, monitoring for ringing and closing circuits that are in use. Enhanced FXO interface can connect to Central Office switch directly or indirectly.

FAX Interface Module



TUVM connects directly to a telephone instrument and fax machine via its FAX interface. This interface allows a fax machine to operate over its normal PSTN line or share access to the MICOM integrated network.

INTERFACE MODULES

Standard Interface:

E&M Type I
FXO Loopstart
FAX

Enhanced Interface:

E&M Types I, II and V
FXS Loopstart
FXS Groundstart
FXO Loopstart
FXO Groundstart

INTERFACE CONNECTOR

RJ-11 modular jack or 4-position terminal block (FXS/FXO)
8-position terminal block (2- or 4-wire, E&M)

VOICE DIGITIZATION RATES (Kbps)

8.0 G.729 Algorithm or MICOM proprietary at 4.0, 4.8, 6.4, 7.2, 8.0, 9.6, 12.0, 14.4, and 16.0

GROUP 3 FAX RATES (Kbps)

2.4, 4.8, 7.2 and 9.6

SIGNALING SPECIFICATIONS

FXS DC Current: 20 ma into 900 ohms
FXO Loop Range: 1750 ohms @ 48 V
E&M Loop Range: 900 ohms
Dial Pulse Distortion: 3%
DTMF Distortion: 1.5%

ANALOG SPECIFICATIONS

Input and Output Impedances

Standard Interfaces:

FXO, FAX - 600 ohms+2 μ f
E&M - 600 ohms

Enhanced Interfaces:

FXS, FXO - 600 ohms+2 μ f or Complex
E&M - 600 ohms or Complex (2-wire only)

Voice Input Gain: -6dB to 19dB

Voice Output Attenuation:

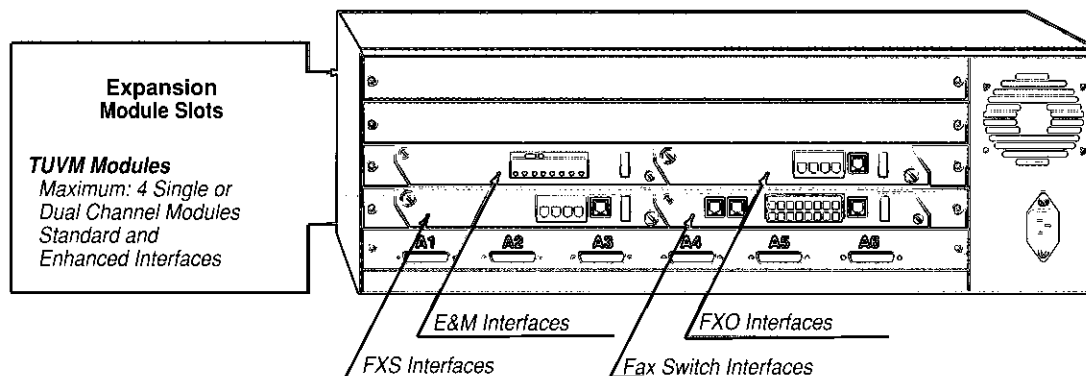
Standard Interface: 0dB to 25dB
E&M Enhanced Interface: Gain option: +7dB (4-wire only)

Frequency Response: 304-3404 Hz

Echo Return Loss: 22dB

Signal to Noise Ratio: 37dB @ 1004 Hz

Specifications



COMPATIBLE MICOM PRODUCTS

Compatibility with Marathon/NetRunner Releases 4.2E and later. Requires Marathon/NetRunner Release 5.0 or later for ClearVoice.

MODELS

Base Modules:

- 5000UVM/1T - single channel
- 5000UVM/2T - dual channel

Interface Modules

Standard:

- 5000V/EM - E&M I
- 5000V/XO - FXO Loopstart
- 5000V/FAX - FAX Switch

Enhanced:

- 5000V/EM+ - E&M I, II, IV, V
- 5000V/XSL - FXS Loopstart
- 5000V/XSG - FXS Groundstart
- 5000V/XOL - FXO Loopstart
- 5000V/XOG - FXO Groundstart

AGENCY COMPLIANCE

Standard Interface:

- FCC Part 15, Class A
- C.R.C., c.1374
- FCC Part 68
- DOC Part CS-03
- UL 1950
- CSA Standard C22.2 No. 950 M-89

Enhanced Interface:


- FCC Part 15, Class A
- C.R.C., c.1374
- CISPR 22 Level A
- FCC Part 68
- DOC Part CS-03
- UL 1950
- CSA Standard C22.2 No. 950 M-89
- TUV: EN60950/VDE0805
- BABT 340, Issue 6
- BZT EN60950/EN41003



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