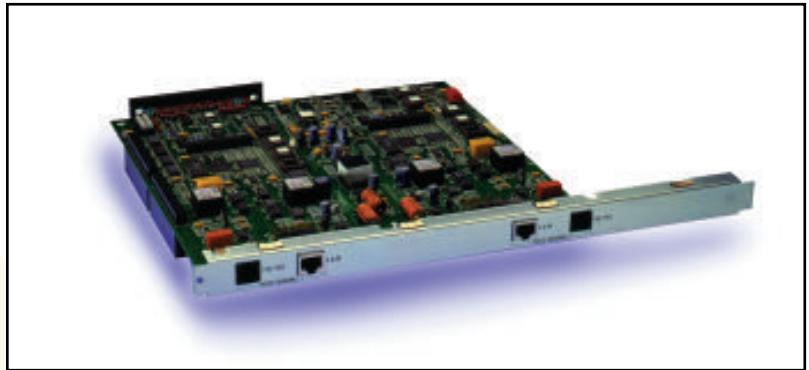


# ClearVoice™ MODULE

For Marathon® Integration Products

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



ClearVoice Module With Built-In Analog Interfaces

## Features

- ClearVoice technology delivers toll-quality telephone conversations over data networks
- Consumes minimal network bandwidth, averaging less than 4 Kbps
- Implements the International Telecommunications Union (ITU) G.729 standard for digital voice compression
- Worldwide compatibility with flexible voice interfaces:
  - E&M Types I, II, IV and V
  - FXS Loop Start
  - FXO Loop Start
  - AC-15
  - RonTron
- Fax support for all Group 3 fax machines (2.4 to 14.4 Kbps)
- Autocall capability for simplified voice/fax calling
- Easy software updates from PC platforms
- Centrally manageable by MICOMVision™ Manager network management system
- Expansion module for all MICOM Marathon products
- Three-year hardware warranty

# Overview

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The ClearVoice Module (CVM) allows voice and fax transmission to share common connections with data and LAN traffic in a Marathon 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 a significant reduction in your organization's remote communications costs.

Powerful digital signal processors and International Telecommunications Union (ITU) 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, reducing bandwidth requirements with no-compromise voice quality.

Marathon Dynamic Bandwidth Allocation features allow easy and cost-effective integration of voice and fax traffic with data and LAN communications over <sup>™</sup>MicroBand ATM private leased lines or frame relay links. The CVM is also compatible with MICOM's proprietary voice algorithms, offering superior quality voice in applications where bandwidth is extremely limited.

Support for Group 3 fax transmissions is standard on the ClearVoice Module, which automatically shifts V.17 fax machines to Group 3 rates. Each CVM 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.

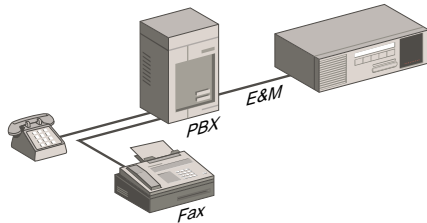
With the CVM, voice/fax calls get routed to destinations anywhere in a Marathon network simply by dialing a single number sequence. For even greater convenience, the CVM can be configured to automatically call a predetermined destination whenever one of its voice/fax channels goes active.

Powerful digital signal  
processors and new  
ClearVoice technology  
provide toll-quality voice  
using minimal bandwidth

# Specifications

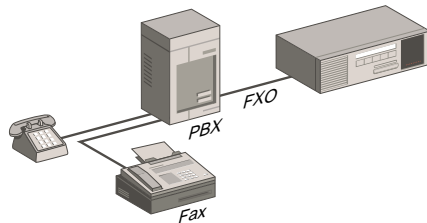
## The CVM's Voice/Fax Interfaces Support a Variety of Applications

### E&M Interface



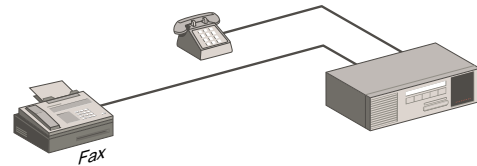
CVM connects directly to a PBX, Central Office switching system or a voice switching system via its E&M interface, supporting tie line applications.

### FXO Interface



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

### FXS Interface



CVM connects directly to a telephone or fax machine via its FXS interface. This interface also provides connections to line circuits of PBXs and Key Telephone Systems.

### INTERFACE TYPES

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

### INTERFACE CONNECTOR

RJ-11 modular (FXS/FXO)  
RJ-1CX 8-pin modular (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:  
FXS, FXO - 600 ohms + 2 mf or Complex  
E&M - 600 ohms or Complex (2-wire only)

Voice Input Gain: -6dB to 19dB

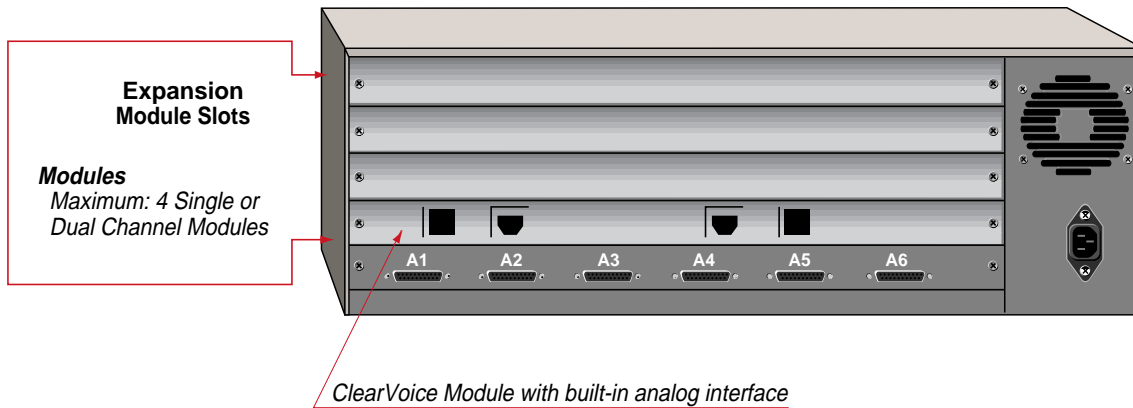
Voice Output Attenuation:  
0dB to 25dB  
Gain option: +7dB (4-wire only)

Frequency Response: 304-3404 Hz

Echo Return Loss: 22dB

Signal to Noise Ratio: 37dB @ 1004 Hz

# Specifications



## COMPATIBLE MICOM PRODUCTS

Marathon Release 5.0 and later.

## MODELS

- 5000CVM/1- single channel
- 5000CVM/2- dual channel

## AGENCY COMPLIANCE

- 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
- ISO 9001 Certified




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