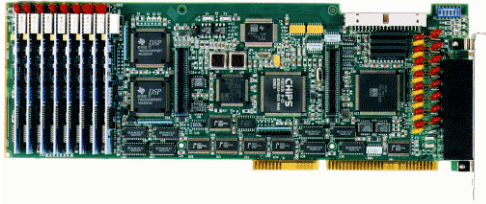


Product Bulletin



PowerFax M-8

The PowerFax M-8™, an 8-line analog fax board from Commetrex employs the latest in DSP technology to halve the cost of medium-density PC-based fax boards. The M-8, and its sister products, the M-4 and the M-T1, redefine the economics of fax servers of all types. Although they are priced at approximately thirty percent less than that of competitive products they offer world-class, market-proven performance. The PowerFax M-8 software is available for the Windows NT operating system and is installed via an easy-to-use automated installation procedure.

The M-8 is designed to simplify application development. It includes, in addition to fax send and receive, file-format conversion, document-queue management, and fax-status functions. And the MultiFax Fax Description Language (MultiFax FDL) supports the dynamic assembly of a fax from multiple elements, such as graphics and text.

Features

- High density—8 lines per board
- DSP-based fax software
- Automated software install/deinstall
- 14.4 Kbps send/receive
- Turnaround polling
- Dynamic document re-sizing and re-encoding
- No-charge software upgrades
- MultiFax Fax Description Language
- Comprehensive API and developer's kit
- C-language demo programs
- Highest-productivity development environment
- Unlimited technical support

Benefits

- Economical, high-density systems
- Software-defined functionality offers the ultimate in system configurability.
- Simplifies installation - reduces opportunity for errors
- Reduced system size and cost
- Up-to-date fax-resource software at no additional cost
- On-the-fly creation of fax text and documents
- Turnaround polling with document ID simplifies fax-on-demand systems
- Comprehensive technical support and demo programs speed system development

Overview

The M-8 multiline fax system combines Windows NT APIs and the MultiFax modems with any combination of 4 loop-start or DID trunk interfaces on a single, long ISA slot PC add-in board. The M-8 board includes an "enhanced-compliant" MVIP switch to support advanced applications that require inter-board connection and switching. The M-8 also includes a powerful, '386-class control processor and a large DRAM to dramatically reduce host-PC overhead. The fax modems are implemented on open-architecture Texas Instruments DSPs, allowing simple software upgrades to take advantage of the latest software releases.

Commetrex's MultiFax, available since mid-1993 as an OEM software product, is market-proven by over 100 fax-system developers in Asia, North America, and Europe. It is being used in the most demanding applications to send and receive hundreds of thousands of faxes a day.

But the M-8 is not just a proven multiline fax board. It's a comprehensive developer's system which supports the rapid development of high-function fax systems of all types. With its exclusive Fax Description Language (FDL), the M-Series developer can easily implement information-service platforms which create ad hoc fax images from disparate elements such as text and graphical objects.

MultiFax has the highest fax-machine connection rate in the industry since it can dynamically re-size and re-encode fax images to suit the capabilities of the receiving terminal. This means a B4 MultiFax image can be dynamically converted to A4 size should the receiving terminal not support B4. Similarly, MR-encoded images will be dynamically converted to MH should the receiving terminal not support MR.

Applications

The M-8 offers the lowest-cost medium-density PC-based multiline fax platform available. It is suitable for information service systems, fax-server, fax-mail and fax store-and-forward applications from high-volume fax broadcast systems to enterprise-wide LAN fax servers and SOHO integrated voice/fax systems.

The M-Series is also well suited for fax broadcast and LAN-based fax server systems. Its market-proven technology, high density, and low cost per port make it an exceptional choice for supporting high-volume commercial fax systems as well as corporate fax servers.

System Environment

There are three main data structures in MultiFax: MultiFax Document Queues (MDQs), Fax Status structures, and MultiFax System Parameters. MDQs, which are managed with 7 MultiFax functions, contain documents to be sent and received. This permits documents to be easily assembled independently of the fax application, strongly supporting client/server architectures. The Fax Status structures reflect the status of the current fax operation, including such indications as current page, current document, fax negotiation results, transfer rate, resolution, encoding, and error codes. System parameters hold information such as the default values for subscriber ID, country code, and manufacturer ID.

Development Productivity

The M-8 provides you with the most productive development environment available for fax applications. The M-8's API gives you queue-management, status, send, and receive functions, plus the functions for call-control and parameter-management. The MultiFax/M Developer's Kit includes source code for sample applications and several utilities to aid your development process.

MultiFax FDL

MultiFax Fax Description Language (FDL) macros support the creation of faxes from dynamically assembled elements. For example, a personalized fax letter including information obtained from a centralized database, a pre-scanned signature, the date, time, and even a per-call personalized paragraph, can be created and transmitted in seconds. Examples of FDL macros are

```
@CONVERT:END           @CONVERT:PADTOEND
@CONVERT:FILE          @CONVERT:PAGEBREAK
@CONVERT:FONT          @CONVERT:PAGESIZE
@CONVERT:MARGIN        @CONVERT:TEXT
```

These macros are inserted into a text file and converted using the MultiFax file- and format-conversion functions. The resulting file is then placed in the appropriate MDQ.

Format Conversions

The files produced by word processing, page layout, and graphics packages are generally not in the file format a fax transmits and receives. MultiFax supports conversions from FDL, PCX, Bi-Level TIFF, TIFF-F, and text (including Windows NT outline fonts).

MultiFax API Functions

AllocFaxRes	GetConvertedPages
AnswerFaxPoll	GetDocStatus
CheckTiff	GetFaxResStatus
EndConvert	GetDocStatus
ReceiveFax	GetVersion
CancelFax	ClosePort
OpenConvert	CreateQueue
FaxConvertDirect	QueueDoc
SendFax	QueueFree
ReleaseFaxRes	ReleaseFaxRes
GetAppPorts	GetParms
GetAppResource	ResetSendQueue
GetConvertedPages	SetPageSize

Developer Support

The M-8 includes unlimited technical support. And at Commetrex this is top-level support. Our support engineers are development engineers themselves, experienced in developing in-house applications using the same Commetrex products our customers use. They are experts in not only the specifics of MultiFax, but with the computer, telephony, and fax environments as well.

Specifications

HOST REQUIREMENTS: 386/486/Pentium
PC-AT with Windows NT

CAPACITY: 8 ports per board. 48 ports per PC
FAX ENCODING: MH, MR and MMR. Error
Correction Mode (ECM)

FAX MODEMS: V.21 (300bps) for T.30 negotiation,
V.27ter (2400/4800bps), V.29 (7200/9600bps),
V.17/V.33 (14400/12000/9600/7200bps)

FORMAT CONVERSIONS: ASCII, PCX,
TIFF-F, TIFF, Windows NT System Fonts, FDL

BOARD WARRANTY

7-year hardware warranty

TELEPHONE INTERFACE

Line Interface: Loop Start (optional DID)
Connector: 4 RJ-48
Impedance: 600 Ohms nominal
Ring Detection: Min. Threshold 40 Vrms 17-33 Hz
Loop Current Range: 18-70 mA

HOST INTERFACE

Electrical: PC/AT bus designed to IEEE P966 ISA
Mechanical: Board designed to meet IBM's specifications PC/AT Prototype Adapter Reference Manual #6361674
Bus Speed: 4-12 MHz
I/O Mapped Memory: 32 KB of on-board interface memory accessed at DMA rates via I/O string move
I/O Addresses: Switch select any of the 64 I/O addresses
Interrupts: Choice of 7 software configurable interrupt lines with all boards sharing only 1 interrupt line

POWER REQUIREMENTS

+5 V 1.75 Amps
+12 V 70 mA
-12 V 100 mA

TONE DIALING

DTMF Digits: 0-9, *, # and ABCD per ITU-T Q.23 and Q.24
Rate: Programmable (10 digits/sec nominal) Wait-for-dial-tone capability
Dialing Parameters: Software controllable
Dialing Amplitude: Network compatible (configurable by country) programmable range -33 dBm to 1 dBm

PULSE DIALING

10 Digits: 0-9
Pulsing Rate: 10 pulses/sec (nominal)
Make/Break Ratio: Network compatible (configurable by country) 40/60 nominal

DTMF TONE DETECTION

DTMF Digits: 0-9, *, #, ABCD
Dynamic Range: -47 dBm to 0 dBm per tone, programmable
Tone Duration: 40 ms (minimum)
Acceptable Twist: 10 dB
Talk-off: Exceeds all Q.24 standards including Mitel CM 7291 and Bellcore TR-TSY-000762 tests

ON-BOARD PROCESSORS AND MEMORY

DSPs: 2 Texas Instruments TMS320C51 DSPs at 40 MIPS each
Microprocessor: 25 MHz 80386SX
Memory: 512 KB of dedicated DRAM for the on-board microprocessor and 160 KB of fast static RAM for the on-board microprocessor (32 KB shared with the host and 128 KB shared with the DSPs)

MVIP-COMPLIANT INTERFACE

Compatible with any MVIP-compliant telephony interface
Enhanced-compliant switching access to any of the 512 MVIP time slots

REGULATORY CERTIFICATION (USA AND CANADA)

Telephone Network: FCC Part 68 and DOC CS-03
EMI: FCC Part 15 Subpart J, Class A

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