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Intraplex® VF-25 - VF-27 Frequency Modules

E & M Voice Frequency Module

The Intraplex® voice modules provide digital transport of voice-grade audio for telephone, intercom, fax, and modem circuits, and can transport FSK data for remote control, two-way radio, EAS audio and other audio monitoring applications.

E & M voice frequency modules are available with PCM coding (64 Kb/s per channel) or ADPCM coding (32 Kb/s per channel).

Coding	E & M modules for T1 systems	E & M modules for E1 systems
PCM	VF-25	VF-25E
ADPCM	VF-27	VF-27E

A choice of interfaces is available by selection of module adapters:
4-Wire with one 50-pin telco-type connector - MA-305B
4-Wire with four RJ-45 connectors - MA-306
4-Wire with eight RJ-45 connectors - MA-308B
2-Wire with one 50-pin telco-type connector - MA-309

These modules plug into Intraplex access products, allowing voice channels to be combined with other types of payload channels for transport over T1 (1.5 Mb/s), E1 (2 Mb/s), or other high-speed digital lines.

Product Features

- Four independent voice channels per module; saves space, power and cost
- One-, two-, three-, or four-channel operation for bandwidth efficiency
- Selectable E & M signaling: Types I, II, III, V, or transmission only (TO) operation for application flexibility
- Support for fax or modem transmission at up to 9600 b/s (VF-25/VF-25E) or 2400 b/s (VF-27/VF-27E)
- Local and remote loopbacks for ease of testing

General	
Modules	VF-25/VF-25E: four-channel PCM E & M or TO
	VF-27/VF-27E: four-channel ADPCM E & M or TO
System Compatibility	The VF-25 and VF-27 are compatible with Intraplex TI, ISDN (TO only), and variable-rate access products
	The VF-25E and VF-27E are compatible with Intraplex E1 access products E & M signaling for ADPCM modules (VF-27 and VF-27E) are not supported in Digital CrossConnect products

Voice Frequency	
Frequency Response	300 to 3000 Hz, ±0.5dB
Input/Output Level (Nominal)	0 dBm in, 0 dBm out
Input/Output Level Range (4-Wire)	VF-25/VF-27/VF-27E input: -16.0 to + 3.0 dBm
	VF-25/VF-27/VF-27E output: -10.0 to + 10.0 dBm
	VF-25E input: 0 dBm or -16 dBm
	VF-25E output: 0 dBm or +7.0 dBm
	Input/Output Level Range
Input/Output Level Range (2-Wire)	Additional 0, 3 or 10 dBm output attenuation on MA-309
Attenuation for Tandem Applications (MA-308, MA-308B)	Additional 23 dB attenuation can be implemented in transmit and/or receive circuits
Input/Output Impedance	600 ohms
Idle Channel Noise	Less than 23 dBrnC0
Signal to Distortion	1004 Hz input, 0 to 30 dBm: less than 33 dB in C message weighting
2-Wire Echo Return Loss	ERL minimum: 28 dB; SRL high minimum: 20 dB; SRL low minimum: 20 dB
4-Wire Trans Hybrid Loss	ERL minimum: 28 dB, SRL high minimum: 20 dB; SRL low minimum: 20 dB
4-Wire RX Level Terminated From 2-Wire	-28.5 dB

Signaling		
FXO Signaling (VF-15/15E, VF-17/17E)	Detection	Resistance
Loop Start	Off-Hook	1800 ohms or less
	On-Hook	10K ohms or more
Answering	Off-Hook	1800 ohms
	On-Hook	10K ohms
FXS Signaling (VF-16A/16AE, VF-18A/18AE)	Detection	External
	Transmission	Resistance
Loop Start	Off-Hook	650 ohms or less
	On-Hook	10K ohms or more

Ringing Voltage	48 VRMS, 20/30 Hz, 3 REN maximum load
Automatic Ring Down (ARD)	Requires FXS module on each end of circuit
	Ring 2 seconds on, 4 seconds off
	Ring back tone 300 Hz

Input/Output Modules	
Connectors	RJ-11 jacks on MA-303 module adapter

Network Interface	
Coding and Data Rate.	VF-15/16A: μ-law PCM, 64 kbps per channel
	VF-15E/16AE: A-law PCM, 64 kbps per channel
	VF-17/18A: μ-law ADPCM, 32 kbps per channel
	VF-17E/18AE: A-law ADPCM, 32 kbps per channel

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Time Slot (DS0) Assignment	
VF-15/15E, VF-16A/16AE	One-channel operation occupies one selectable time slot
	Two-channel operation occupies two selectable, contiguous time slots
VF-17/17E, VF-18A/18AE	Both channels occupy a single selectable time slot
Status and Diagnostics	
LED Indicators	Service on/off (one per card); busy (one per channel
Physical and Environmental	
Nominal Power Consumption	VF-15: 1.2W; VF-16A off-hook: 4.4W; VF-16A on-hook: 2.5W
Temperature	0° to 50° C operating
Humidity	0%-90% non-condensing

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