



INTRAPLEX® VF-15 & VF-18A VOICE MODULES

2-Wire FXO/FXS Voice Frequency Modules

The GatesAir Intraplex® voice modules provide digital transport of voice grade audio for telephone, intercom, fax, and modem circuits.

Two-wire voice frequency modules are suited for foreign exchange lines, PBX tie lines between offices, off-premises extensions and automatic ring down applications. Two-wire voice modules come in two configurations: Foreign Exchange Office (FXO) and Foreign Exchange Station (FXS).



Intraplex® VF-15 — VF-18A Voice Modules Features

Coding	T1 and Variable-Rate Systems	E1 Systems
FXO PCM	VF-15	VF-15E
FXS PCM	VF-16A	VF-16AE
FXO ADPCM	VF-17	VF-17E
FXS ADPCM	VF-18A	VF-18AE

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 Mbps), E1 (2 Mbps), or other high-speed digital lines.

- Two independent voice channels per module
- Optional ADPCM coding for efficient time slot utilization
- Selectable loop start or ground start signaling
- Automatic Ring Down capability when FXS modules are used at both ends of the circuit
- Input and output attenuation over an 18 dB range in 0.1 dB increments
- Support for fax or modem transmission up to 9600 bps (PCM) or 2400 bps (ADPCM)
- Built-in ring generator and talk battery on FXS modules

Intraplex® VF-15 —VF-18A Voice Modules

Specifications

Specifications and designs are subject to change without notice

General			
Modules	<ul style="list-style-type: none"> VF-15/15E (FXO), VF-16A/16AE (FXS): Two-channel PCM VF-17/17E (FXO), VF-18A/18AE (FXS): Two-channel ADPCM 		
System Compatibility	<ul style="list-style-type: none"> The VF-15, VF-16A, VF-17, and VF-18A are compatible with Intraplex T1 & variable-rate access products. The VF-15E, VF-16AE, VF-17E, and VF-18AE are compatible with Intraplex E1 access products. 		
Analog			
Frequency Response	300 to 3000 Hz, +0.5 to -1.0 dB		
Input/Output Level (Nominal)	0 dBm in, 0 dBm out		
Input Signal Level (Max)	+11 dBm (VF-15), +8.0 dBm (VF-16A)		
Output Signal Level (Max)	+4.0 dBm		
Input/Output Impedance	600 Ω		
Idle Channel Noise	Less than 23 dBmC0		
Signal to Distortion	1004 Hz input, 0 to -30 dBm0: Greater than 33 dB, C message		
Signaling			
FXO Signaling (VF-15/15E, VF-17/17E)	Loop Start	Detection	Resistance
		Off-Hook	1800 Ω or less
	Ground Start	On-Hook	10K Ω or more
		Off-Hook	850 Ω
	Answering	On-Hook	10K Ω or more
		Off-Hook	1800 Ω
On-Hook	Off-Hook	1800 Ω	
	On-Hook	10 Ω	
FXO Signaling (VF-16A/16AE, VF-18A/18AE)	Loop Start	Detection/Transmission	External Resistance
		Off-Hook	650 Ω or less
	Ground Start	On-Hook	10K Ω or more
		Ring-Gnd	1500 Ω connected to -5V or less
Ringing Voltage	48 VRMS, 20/30 Hz, 3 REN maximum load		
Automatic Ring Down (ARD)	<ul style="list-style-type: none"> Requires FXS module on each end of circuit Ring 2 seconds on, 4 seconds off Ring back tone 300 Hz 		
Network Interface			
Coding and Data Rate	<ul style="list-style-type: none"> 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 		
Time Slot (DS0) Assignment	<ul style="list-style-type: none"> VF-15/15E, VF-16A/16AE <ul style="list-style-type: none"> One-channel operation occupies one selectable time slot Two-channel operation occupies two selectable contiguous time slots VF-17/17E, VF-18A/18AE <ul style="list-style-type: none"> Both channels occupy a single selectable time slot 		
Input/Output Modules			
Connector	RJ-11 jacks on MA-303 module adapter		
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 °C – 50 °C operating		
Humidity	0% – 90% noncondensing		