

FibeAir™ 1000/28

Fast Ethernet Radio

Features

6 - 3 8 GHz

- Provides Fast Ethernet + up to 8 E1s
- Operates in the millimetric wave frequencies of 6-38 GHz
- Multiple modulation scheme, 16 and 128 QAM
- Automatic TX power control
- Full throughput at any packet size
- (1+0) or Protected (1+1) configuration
- Additional 2 Mbps wayside channel and 64 Kbps user channel
- Compact, easy to deploy, and fully software configurable
- Complies with FCC, ETSI, ITU-R, ITU-T, and IEEE
- CeraView™, Java-based SNMP element manager and PolyView™ open interface network management applications



Fast Ethernet

Description

The FibeAir 1000 Digital Radio system offers compact, easy to deploy, and cost-effective LAN-to-LAN and PBX connectivity for campus networks, large enterprises, and metro last mile access. The system provides full throughput, full-duplex Fast Ethernet (100 Mbps) connectivity together with up to 8 E1 ports for TDM based information.

The FibeAir 1000 system uses advanced technologies to efficiently transport Fast Ethernet and telephony payloads with fiber-like quality. Forward Error Correction (FEC) and powerful Digital Signal Processors (DSP) are implemented in the design to ensure low residual BER ($<10^{13}$) and high system performance in all weather conditions.

FibeAir 1000 operates in the 6-38 GHz frequency bands, and provides Fast Ethernet, 8 x E1 ports, 2 Mbps wayside channel port (supports Ethernet (10BaseT) or E1 connection) and 64 Kbps user channel.

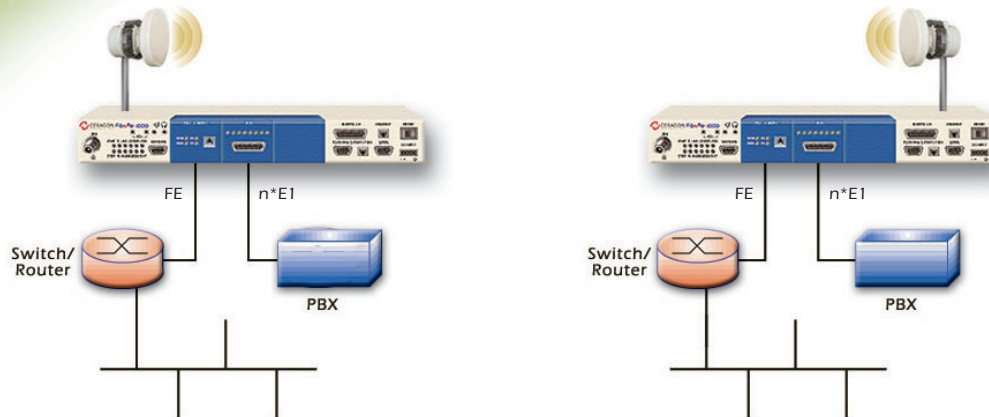
In a FibeAir 1000 protected (1+1) configuration, two radios are connected to provide redundancy while using the same frequency channel.

Being affordable for private/public network designers, FibeAir 1000 is the ultimate network solution.



FibeAir™ 1000/28

Technical Specifications



GENERAL	6 GHz	7/8 GHz	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz	26 GHz	28 GHz	32 GHz	38 GHz
Standards	FCC/ETSI	ETSI	FCC/ETSI	ETSI	ETSI	FCC/ETSI	FCC/ETSI	ETSI	FCC/ETSI/Canada	ETSI	ETSI
Operating Frequency Range (GHz)	5.925-6.425 6.425-7.1	7.1-8.5 GHz	10.7-11.7	12.75-13.25	14.5-15.35	17.7-19.7	21.2-23.6	24.5-26.5	LMD5, A1, A2, B, LMCS, ETSI	31.8-33.4	37-38.4, 38.6-40/ 37-39.5
Tx/Rx Spacing (MHz)	240, 252.04, 260, 266, 340	119, 154, 161, 245, 311.32, 168, 182, 196, 266	500/530, 520, 490	266	315/420/728	1560/1010/ 1120	1200/1232/ 1008/600	1008	350-500/1008	812	700/1260/ 1000
Channel Spacing 16 QAM (MHz)	28/40	28/29.65	28/40/30	28	28	50/55/80 40/27.5	50/56 30/28	56 28	50/56 28	28	50/56 28
Capacity	Fast Ethernet + 8E1 (up to 116 Mbps)										
Modulation Type	16 QAM/128 QAM										
Frequency Stability	±0.001%										
Frequency Source	Synthesizer										
RF Channel Selection	Via NMS										
System Configurations	Non-Protected (1+0), Protected (1+1)										

RADIO	6/7/8 GHz	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz	26 GHz	28 GHz	32 GHz	38 GHz
Tx Power 16/128 QAM (dBm)	-72/6	-70	-71/8	-71/8	20/17	20/17	20/17	20/17*	17/15	15/15
Tx Range 16/128 QAM	30/25 dB									
Auto Tx Control (ATPC) 16/128 QAM	30/25 dB									
Rx Sensitivity (BER=10 ⁻⁶) 16/128 QAM (dBm)	-76/8	-76/8	-76/8	-76/8	-73/68	-72/67	-72/67	-72/67*	-76/7	-70/66
Unfaded BER	Better than -20 dBm Better than 10 ⁻¹³									

ANTENNA	6 GHz	7/8 GHz	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz	26 GHz	28 GHz	32 GHz	38 GHz
1 Ft Gain (dBi)	—	—	—	29.2	31.9	33.5	35	36	36.6	37	39
2 Ft Gain (dBi)	—	30.1	—	35.5	36.6	38.5	40	41	41.5	42	44
3 Ft Gain (dBi)	—	—	—	37.8	38.9	42	43.5	44.5	—	—	—
4/6 Ft Gain (dBi)	39.3	36.4/40.2	40.5/43.6	41.5/45	42.6/46	44.5/48	46/49.5	47/-	—	—	—
8 Ft Gain (dBi)	41.9	42.9	—	—	—	—	—	—	—	—	—
10 Ft Gain (dBi)	43.3	44.8	—	—	—	—	—	—	—	—	—
12 Ft Gain (dBi)	45.2	46.3	—	—	—	—	—	—	—	—	—
15 Ft Gain (dBi)	46.9	48.2	—	—	—	—	—	—	—	—	—
Polarization	Vertical or Horizontal										
Std Mounting OD Pole	48 mm - 114 mm/1.9" - 4.5" [Subject to vendor and antenna size]										

*For LMDS B channel, Tx power is 14 dbm and receiver sensitivity level - 62 dbm

/R&Z Designers / CFA.1000-12/2002



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