2700 Distributed Antenna System

The Zinwave 2700 Distributed Antenna System (DAS) comprises a centrally located hub unit (HU) and remotely attached Antenna Units (AU). The hub is a 1U high 19" rack mount device supporting 4 RF service inputs and driving up to 8 independent AUs through fibre optic connections. The AU is housed in a small enclosure designed for un-obtrusive installation with separate antennas in an office environment.

The Zinwave system is a simple 2 stage design, utilising multimode or single mode fibre cable to connect each AU to the Hub.

ZinWave's technology makes the use of conventional multimode fibre practical for wideband high frequency RF transmission. This patented technology enables the simultaneous transmission of multiple RF signals for different services over practical link lengths using low cost uncooled transceivers.

2700 Hub

- Frequency Range 370MHz – 2.5GHz
- Interface for up to 8 optical transceiver outputs over MMF to remote AU
- Supports up to 4 concurrent RF services via 4 x RF input/outputs (SMA ports)
- 1U 19" rack mountable form factor
- Unique software programmable RF combiner architecture enabling wide variety of RF to antenna mappings
- MMF operating distances (from Hub to Antenna) of at least 550m
- SNMP GUI-based and CLI-based network management
- RJ-45 Ethernet and Serial management interface
- Health monitoring capabilities for hub and remote DAS units

2760 Antenna unit

- Converts optical I/O to electrical I/O (SMA connector)
- Powered via 48V external power supply, or optionally via PoE systems
- Attractive but robust design
- Ceiling or wall mountable, can be located on wall or in roof space if required
- Multi-service capability e.g. TETRA, GSM, CDMA, TDMA, UMTS, iDEN, WLAN, Paging, DCS, EDGE, EVDO
- MMF operating distances (from Hub to Antenna) of at least 550m
- Upgradeable to support future wireless standards

RF Parameters

Downlink	Min	Typ	Max	Unit	
System bandwidth	370		2500	MHz	
RF input power	-5	0	+10	dBm	
Max RF output power			+6	dBm	Total Broadband composite output power
System gain *	-10		+10	dB	1dB adjustment steps
Wideband gain flatness	-5		+5	dB	Over full frequency range
Single band gain flatness	-2		+2	dB	In any 100MHz band
Spurious emissions			-110	dB/Hz	
Return loss			1.5:1		

*** Assuming worst-case fibre loss**

Uplink	Min	Typ	Max	Unit	
System bandwidth	370		2500	MHz	
Noise Figure *		10	+13	dBm	
Max RF input power	-30		-15	dBm	Input Gain adjustment for minimum coupling loss
System gain **	-10		+10	dB	1dB adjustment steps
Wideband gain flatness	-5		+5	dB	Over full frequency range
Single band gain flatness	-2		+2	dB	In any 100MHz band

*** Assuming 300m multi-mode fibre, 15dB Input Gain**
**** Assuming worst-case fibre loss**

Fibre Optic Specifications

	Hub Unit	Antenna Unit
Number of optical ports	8 transceivers in industry standard, hot pluggable SFP form factor	1 transceiver via single small form pluggable-units (SFP)
Wavelength	1310nm	
Fibre types supported	MM (both 50 and 62.5um) And SM cable 9/125um)	
Fibre distance (MM Cable)	At least 550m, dependent on fibre quality	
Fibre distance (SM Cable)	At least 2km	
Laser safety classification	Class 1	

Power

	Hub Unit	Antenna Unit
Supply	100 - 240 Volts, 50 / 60 Hz	100 - 240 Volts, 50 / 60 Hz or 40—76V DC (48V nominal) for PoE supply
Consumption	15W	4W

Supervisory

	Hub Unit	Antenna Unit
Network management options	SNMP v2, CLI via telnet & RS232	Remote via Hub
Interface	100base-T Ethernet port and RS232 for CLI	

Physical Specifications

Connectivity	Hub Unit	Antenna Unit
RF Connectors	SMA (female) Connectors, separate Tx and Rx; 4 RF I/O pairs	2 x SMA (female) connectors
Optical connectors	8 x Pluggable SFP (1310nm), LC duplex connectors	1 x Pluggable SFP (1310nm), LC duplex connectors
Supervisory	RJ45 (Ethernet), RS232 (CLI)	
Power	IEC switched main connector	Power over Ethernet via RJ45 or direct DC via latching 2 pole connector

Dimensions	Hub Unit	Antenna Unit
Width	445mm (17.5in), brackets for 19" rack mounting	130mm (5.125in)
Height	44mm (1.8in)	215mm (8.5in)
Depth	270mm (10.6in)	45mm (1.8in)
Weight	3.5kg	0.75kg

Environmental Specifications

	Hub Unit	Antenna Unit
Operating temperature (Ambient, non-condensing	0 to +55 deg C	0 to +45 deg C
Storage	-25 to +55 deg C	-25 to +55 deg C

Standards & Approvals

EMC, Regulatory & Safety Requirements	EN 55022/CISPR22 FCC Part 15 Class A European EMC directive 89/336/EEC
Electrical Safety	EN 60950 NEC (National Electrical Code—US) UL 1950
Laser Safety	BS EN 60825-1:20034 Safety of laser products.

ZinWave

Ordering Information

Item Code	Desscrition	Notes
Hub Items		
2700	2700 HU	Basic HU (without optical modules fitted)
2780	2.5GHz MM SFP	Code for separate purchase of SFP modules to populate the hub (max 8 x SFP per hub
9301	Main lead, 2m, UK	
9302	Main lead, 2m, European	
9303	Main lead, 2m, US	
AU Items		
2760	AU includes 2.5GHZ MM SFP	
9370	AU Power Supply Unit, 100-240V, 50-60Hz, DC—LEMO plug, IEC mains plug (included with AU as default)	
9301	Main lead, 2m, UK	
9302	Main lead, 2m, European	
9303	Main lead, 2m, US	

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Ref ZP400027-3.02