



Overcoming barriers to communication

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.

Features and specifications

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 HU to AU) 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





Features and specifications

2765 Antenna Unit

Converts optical I/O to electrical I/O (SMA connector)

powered via Power over Ethernet (remotely or using local PoE injector option)

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, WiMAX, LMR, PMR, SMR, Paging, DCS, EDGE, EVDO

RF Parameters

Downlink

	Min	Typ	Max	Unit	
System Bandwidth	370		2500	MHz	
RF input power	-5	0	+10	dBm	
Max RF output power			+12	dBm	Composite power at RU output (wideband)
EVM degradation		1	3	%	At maximum wideband RU output power for 64-QAM 802.11g
Wideband gain flatness	-5		+5	dB	Over full frequency range
Single band gain flatness	-2		+2	dB	In any 100MHz band
Wideband Spurious emissions			-115	dBm/Hz	At RU output for maximum output power
Return loss			1.5:1		

* Assuming worst-case fibre loss

Uplink

	Min	Typ	Max	Unit	
System Bandwidth	370		2500	MHz	
Noise Figure*		10	13	dB	
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	2675 Antenna Unit
Number of Optical Ports	8 transceivers in industry standard, hot pluggable SFP form factor	1 transceiver, duplex SC connector
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	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	15W

Supervisory

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	Antenna Unit
RF connectors	SMA (female) connectors, separate Tx and Rx; total of 4 RF I/O pairs	2 x SMA (female) connectors
Optical connectors	8 x Pluggable SFP (1310nm), LC duplex connectors	1 x SC duplex connector
Supervisory	RJ45 (Ethernet), RS232 (CLI)	
Power	IEC switched mains connector	Power over Ethernet via RJ45

Dimensions

	Hub	Antenna Unit
Width:	445mm (17.5 in), brackets for 19" rack mounting	120mm (4.75 in)
Height:	44mm (1.8 in)	200mm (8.0 in)
Depth:	270mm (10.6 in).	60mm (2.4 in)
Weight:	3.5 kg	0.75 kg

Environmental Specifications

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



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 60825-1:2003 Safety of laser products

Ordering Information

Item code	Description	Notes
Hub Items		
2700	2700 Hub (HU)	Basic Hub (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	Mains lead, 2m, UK	
9302	Mains lead, 2m, European	Power over Ethernet via RJ45
9303	Mains lead, 2m, US	
AU Items		
2765	High Power Antenna Unit, integrated optics	
9322	PoE for AU (single), 2xRJ45, UK plug	
9323	PoE for AU (single), 2xRJ45, EU plug	
9324	PoE for AU (single), 2xRJ45, US plug	

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