



Overcoming barriers to communication

3000 Distributed Antenna System

Features

3000 Primary/Secondary Hub

Frequency Range 136MHz – 2.7GHz
Up to 8 optical or coaxial interfaces to secondary hubs or remote units
Supports up to 4 wireless services connection interfaces
Unique software programmable RF combiner architecture enabling flexible service routing
MMF operating distances of at least 550m. SMF operating distances of at least 2km
Web based network management and SNMP interface
RJ-45 Ethernet and Serial management interface
Local monitoring capabilities for hub and remote units via LEDs

Remote Units

Coaxial and Fibre connected versions
+18dBm wideband output power
Powered from the Hub unit
Ceiling or wall mountable, can be located in roof space
Multi-service capability from 136MHz to 2.7GHz for any service irrespective of carrier frequency

The Zinwave 3000 Distributed Antenna System (DAS) comprises centrally located primary hub units (PH), distributed Secondary Hubs (SH), and Remote Units (RU) deployed to provide wireless coverage throughout a building. The Primary and Secondary Hubs have the same form factor. The Remote Units are designed for un-obtrusive deployment on building walls or within ceiling voids.

Single or dual-star configurations are supported. With up to 8 remote units from one Primary Hub, and up to 64 remote units from a single Primary hub via 8 Secondary hubs.

The Primary and Secondary hubs are modular to provide full flexibility, each having 4 input modules and 8 output modules. A PH can support 4 service inputs.

The Primary and Secondary hubs are connected via fibre (SMF or MMF). Both coaxial and fibre based RUs and drive modules are available thus allowing user choice on cabling to the Remote Units.

Zinwave's patented technology enables fibre agnostic transmission of multiple RF signals simultaneously, irrespective of frequency or protocol. The 3000 DAS enables any number or combination of multi-service distribution from 136 MHz – 2.7 GHz e.g. GSM, CDMA, UMTS, TDMA, iDEN, WiFi, WiMAX, Tetra, PMR, LMR, SMR DVB-H





About Zinwave

Zinwave is a company at the forefront of wireless technology development, pioneering a new approach to in-building coverage. A rapidly expanding company, with principle operations based in Cambridge, UK, Zinwave is led by a management team with extensive experience in all parts of the wireless industry and international telecoms markets.

Sales and support worldwide is provided from offices in the UK and the US. Also based in Cambridge, UK, is an experienced RF planning, program management and execution team.

Zinwave has developed an easy-to-use, scalable, self-configuring in-building cellular and wireless infrastructure system that overcomes the problems associated with poor signal propagation. Its unique system features combine to improve the economics of in-building coverage systems by reducing the cost of planning, implementation, and the support of new services.

Zinwave's unique approach supports the convergence of new wireless technologies, enabling organisations to introduce all wireless service requirements previously unavailable from any single coverage infrastructure.

Unique Technology Expertise

With patented technologies drawn from world-leading research groups at Cambridge University and University College London, Zinwave is the only company today that can utilise the full capability of existing multi-mode fibre (MMF) to propagate wideband wireless signals without down-conversion.

Zinwave's unique **Active Wideband Distributed Antenna System (DAS)** technology provides a unified wireless indoor coverage solution, enhancing wireless performance and eliminating the blindspots caused by structural interference. By transporting a wideband frequency range throughout the system without altering the signal Zinwave has the only active DAS system to offer true wideband over long distances using multi-mode fibre (MMF) or single-mode fibre (SMF).

Without Zinwave's technology, such coverage can only be achieved by expensive re-cabling of buildings using coaxial cables or single-mode optical fibre, or implementing multiple in-building systems each with restricted spectrum or application capability.

The Zinwave Distributed Antenna System

The Zinwave Distributed Antenna System (DAS) is the solution of choice for future proof provision of in-building wireless coverage. A flexible and advanced in-building system for cellular and wireless services, providing a platform for the addition of new services within a wideband spectrum (current products addressing the range of 136 MHz to 2.7 GHz) without costly upgrades, extra hardware or any new MMF or SMF rollouts.

The Zinwave DAS is a simple three-stage system, constituting a Primary Hub (PH), Secondary Hubs (SH), and Remote units (RU). It utilises multimode or single mode fibre cable for connectivity. Zinwave's proprietary technology features true wideband capabilities allowing unique simultaneous support for any wireless standard including 2G, 3G, LTE, PMR/LMR, DVB-H, TETRA, Wi-Fi, WiMAX, RFID etc. Full management control over this spectrum allows new services to be added on-demand without deploying additional system components. The technology can be configured in a single, dual star or mixed architecture to meet exact service needs. In addition it offers a service distribution feature with dynamic routing of the input signals to the output ports, allowing sectorisation.

Zinwave's DAS offers an Element Management System (EMS) providing a user friendly web interface for configuration and diagnostics. The EMS has an SNMP interface for higher level integration.

Benefits

Flexible and Scalable

- Addresses any size installation from single buildings to campuses
- Supports simultaneous multi-service, multi-operator deployments for any wireless service within the 136 MHz – 2700 MHz frequency range
- Utilises MMF or SMF allowing the use of any existing MMF infrastructure, potentially eliminating the need for investment in new cabling
- Self configuring system with gain levels adjusted automatically to accommodate different cable lengths

Future Proof

- New and emerging services can be added without requiring additional components or overlays
- Frequency migration of existing services can be supported without requiring upgrades

Reduces Capex and Opex

- One set of hardware and cabling for any number of services required
- Add new services on demand without costly upgrades
- Low cost components
- Low equipment count also means reduced support costs
- Simple installation and low maintenance overheads
- Delivers lowest planning and implementation cost with its automatic system calibration

Application Scenarios

Large Enterprise Site

The Requirement

Single enterprise occupying large high-rise building requires cost-effective in-building coverage from a single operator with multiple cellular services

The Solution

Zinwave's 3000 system can deploy up to 64 Remote Units supported from one Primary Hub via Secondary Hubs

- Exploits existing MMF (or SMF if required) connecting all Secondary Hubs distributed over the building
- Remote Units placed on each floor, linked via fibre or coaxial cable to the SH, and remotely powered from the SH
- WLAN Access Point can be injected locally at the SH

Small Site

The Requirement

Small Site requiring single or multiple services

The Solution

Zinwave's Single Primary Hub deployed at a central location feeding up to 8 Remote Units. Can also utilise Zinwave's Integrated Coverage Solution (ICS) which combines the DAS with the unique Zinwave fibre repeater

- Simple fast installation over fibre or coax depending on the building requirements and distances
- Simple management using Web interface

Large Public Multi-Operator Site

The Requirement

International airport occupying a large geographical footprint over several buildings requires cost-effective total in-building coverage for multiple cellular and Public Safety services

The Solution

Zinwave Hubs deployed as part of a campus-wide centrally managed solution

- Exploits any existing Fibre plant
- Connecting all areas and buildings to a single equipment location containing the Primary Hubs
- Multiple operators and services can share the same infrastructure without the need to accommodate multiple overlay schemes