

DATASAT
TECHNOLOGIES

DATASAT TECHNOLOGIES

Product Range

DATASAT
TECHNOLOGIES

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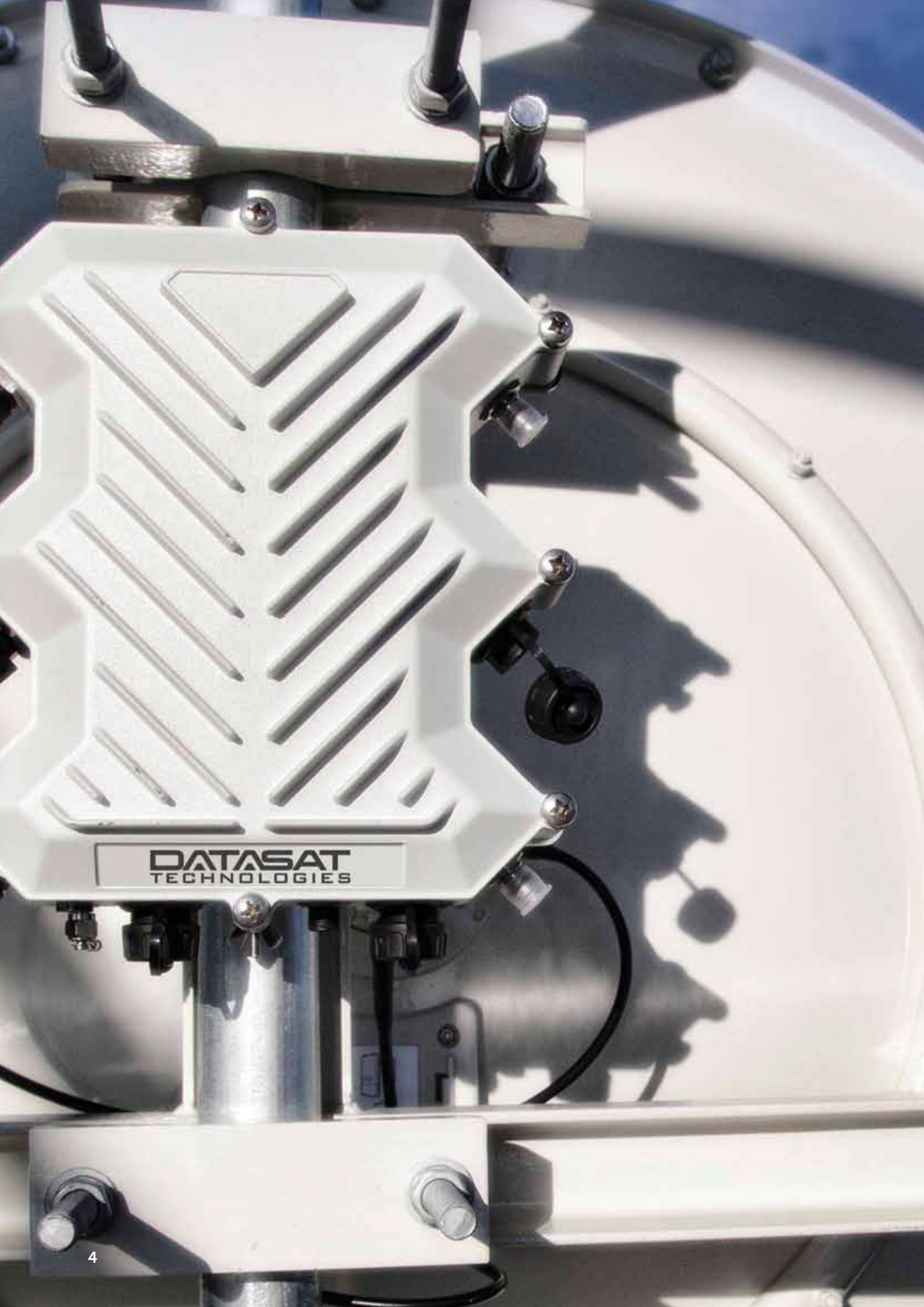
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About Datasat Technologies

Datasat Technologies is a leading wireless network service provider designing and manufacturing a unique combination of technologies to extend the potential of wireless network infrastructure. Featuring advanced IP Layer 3 architecture, Datasat wireless technology enables greater coverage and throughput using wireless devices than previously possible.

There are many wireless equipment providers so, to be successful, a supplier's offering must be distinctive and technically excellent. Datasat invests heavily in research and development to ensure that the company is continually at the forefront of the wireless networking industry. Our focus on ruggedised outdoor wireless equipment optimised for video and rich media. Based on the Layer 3 distributed architecture, Datasat wireless systems place intelligence at the edge of the network to increase performance and security.

Datasat Technologies is one of the few providers that can deliver four dual band radios with a single wireless device. This provides the flexibility to create multi-frequency, multi-network systems within the same ruggedised, climate-tested chassis. With intelligent, distributed management, the QuadraFlex range of outdoor wireless solutions can be created with enhanced throughput and coverage using fewer wireless systems. With Datasat Technologies products, customers can achieve high performance, high availability networks with less investment and management overhead.



7 things that you should know about Layer 3

The Datasat QuadraFlex range uses Layer 3 routing to bring intelligence to the edge of the network – at each and every node. But what does that actually mean for the performance and management of network infrastructure? In this guide, we look at the key benefits of a Layer 3 distributed intelligence architecture.

1) Climbing the stack isn't dumb

Layer 3 routing is the step on from Layer 2 switching. A Layer 2 switch works at the data layer (Layer 2) of the IP stack whereas a Layer 3 router works at the network layer (Layer3). When using Layer 2 switching, all broadcast data packets are forwarded throughout the network unless filters are applied. Most Layer 2 switches use MAC addressing to connect between devices but these have to be learnt over the whole network at the start of a session. In the Layer 3 world, there is intercommunication between networks, routers and users both locally and at remote locations. This communications allows intelligence to be added to each router to ensure network traffic is more effectively routed.

2) Let your router decide

Apart from moving from switching to routing, Layer 3 allows network services such as traffic management and firewalls to be implemented at an individual router level. There is no need for a central controlling device as there would be in a Layer 2 network. In a Layer 2 network the firewall tends to be an edge/egress device. In Layer 3, it can be a set of distributed devices.

3) More data, less flooding

A major drawback for a Layer 2 network is that, in effect, every device on the network is polled when data packets are sent. This is a very inefficient use of bandwidth. One solution to this was to create Layer 2 VLANs to create a series of subnets to relieve some network congestion. The drawback is that the network still needed to route at a Layer 3 level between Layer 2 VLAN if they were to communicate. A Layer 3 network uses routing to ensure that the data packet goes directly to subnet or individual end port without polling any other device. This significantly reduces bandwidth congestion.

4) More red lights for unwanted traffic

Layer 3 routers allow granular traffic management to be set at an individual user, device and application level. Not only can finely tuned traffic priorities can be set, precision rate limiting, congestion management and interference avoidance protects against network incidents capable of bringing networks to a halt. This allows for greater 'goodput' – higher consistent data rates – across the network with reduced points of failure.

5) A step forward in security

By segregating traffic over the network, a Layer 3 architecture is inherently more secure. By extending Layer 3 intelligence to the edge reduces the surface area that is available for attack. The reason for this is that Layer 2 switches have limited security capabilities with security policies set and executed by the central controller. Layer 3 allows granular security rules to be administered on the router via Layer 3 Access Control Lists. So if any router is compromised, the attacker only has access to the subnet controlled by that device.

6) Making your life easier

Configuration and management of a Layer 3 network is more straightforward. The network administrator can manage edge routers through web-based or SMTP access. What's more, many Layer 3 protocols are dynamic once implemented. A well designed and implemented Layer 3 network also allows the administrator to set up automatic self-healing routes for data to enable near real time recovery of communications should one device fail.

7) It's all about quality

An intelligent Layer 3 architecture allows the administrator to set stringent Quality of Service (QoS) policies. With policies administered on the individual edge routers, the network can be partitioned into multiple priority levels. The policies will determine priority for different classes of service or the network rights and application access of individual user or user group.

There are still many instances where Layer 2 is perfectly acceptable for network requirements. However, by implementing Layer 3 routing at the edge, the network will benefit from improved security, availability and bandwidth utilisation.



Quadraflex DN100 Rugged 2 Radio Wireless System

The QuadraFlex DN100 is a full outdoor carrier grade communication system, which provides flexible access and backhaul capabilities for point-to-point and point-to-multi point applications. The QuadraFlex DN100 has been designed to provide outstanding security, manageability and reliability.

The weather proof and compact design of the QuadraFlex DN100 allows for indoor and outdoor deployments of the same unit. Multi-radio support ensures multi-band and multi-mode operation, which increases coverage area, resilience and significantly reduces the number of QuadraFlex DN100 required. With up to 300Mbps headline throughput, the Datasat QuadraFlex DN100 delivers resilience and performance.

Thanks to innovative Layer 3 architecture, the QuadraFlex units bring the network intelligence closer to the edge of the network. With Firewall, QoS and routing being delivered via the distributed intelligence architecture, the network eliminates a central controller and becomes inherently resilient. This architecture helps virtually eliminate latency via intelligent bandwidth allocation and provision to maximise network 'goodput'.

In addition to WPA/AES and WPA-2 AES, QuadraFlex supports Department of Defence required levels of security which mandates the use of 802.11i/WPA2 and 802.1X/EAP-TLS, including 'over the air' data integrity using 128-bit AES encryption. In addition, QuadraFlex supports WPA2-Enterprise with the EAP-TLS option considered the most secure standard by the Department of Defence and other international agencies.

With true multi radio capability, the QuadraFlex DN100 reduces the number of devices deployed, thus reducing real estate used. The Layer 3 architecture removes the need for routers or expensive controllers and delivers network connectivity with distributed intelligence static routers, even in extreme environments. In addition, new QuadraFlex DN100 systems can be added or removed from a network with minimal effort. Networks can be scaled up or down in a matter of minutes.

Key features

- 2x High Power Radio Interfaces (802.11a/b/g/n) delivers dual band licence-exempt 2.4GHz and 5GHz simultaneous operation
- 2x2:2 MIMO Operation
- Ruggedised IP67 designed form factor with MIL-STD-810G for vibration and operating temperature compliance between -40oC and +70oC
- Layer 3 architecture delivers resilience, reliability, security and automatic route healing while ensuring maximum reach
- Operates in controller-less and controller-based environments
- Eliminates any additional routing equipment or integration issues

Quadraflex DN200 Rugged 4 Radio Wireless System



The QuadraFlex DN200 is a rugged, full outdoor carrier grade communication system, which provides flexible access and backhaul capabilities for point-to-point and point to multi point applications. Including four high power radio interfaces, the QuadraFlex offers dual band 2.4GHz and 5GHz simultaneous operations – ideal for the latest MIMO applications.

Offering up to 300Mbps headline throughput, the QuadraFlex DN200 enables high power dual band operations to provide multiple network services simultaneously over a single wireless infrastructure. Multi-radio support ensures multi-band and multi-mode operation, which increases coverage area, resilience and significantly reduces the number of QuadraFlex DN200 required.

QuadraFlex units bring the network intelligence closer to the edge of the network. With Firewall, QoS and routing being delivered via the distributed Layer 3 architecture, the network eliminates a central controller and becomes inherently resilient. This architecture helps virtually eliminate latency via intelligent bandwidth allocation and provision to maximise network 'goodput'. The QuadraFlex DN200 can also act as a Layer 3 link state router.

In addition to WPA/AES and WPA-2 AES standard security, QuadraFlex supports Department of Defence required levels of security which mandates the use of 802.11i/WPA2 and 802.1X/EAP-TLS, including 'over the air' data integrity using 128-bit AES encryption. In addition to the above QuadraFlex supports WPA2-Enterprise with the EAP-TLS option which is considered to be most secure standard by the Department of Defence and other international agencies.

With true multi radio capability, the QuadraFlex DN100 reduces the number of devices deployed, thus reducing real estate used. The Layer 3 architecture removes the need for routers or expensive controllers and delivers network connectivity with distributed intelligence static routers, even in extreme environments.

Key features

- 4x High Power Radio Interfaces (802.11a/b/g/n) delivers dual band licence-exempt 2.4GHz and 5GHz simultaneous operation with up to 300Mbps headline throughput
- Advanced traffic management including QoS algorithm to ensure maximum "goodput" or practical throughput
- MIL-STD-810G for vibration and operating temperature compliance between -40oC and +70oC
- Layer 3 architecture delivers resilience, reliability, security and automatic route healing while ensuring maximum reach
- Operates in controller-less and controller-based environments
- No appreciable bandwidth degradation as well as deterministic latency and jitter per hop
- Two Gigabit Ethernet ports for optional PoE (Power over Ethernet) power supply input.



QuadraEdge ISM Intelligent Subscriber Module

QuadraEdge Intelligent Subscriber Module is a fully outdoor mounted wireless unit, which is used to communicate with existing QuadraFlex wireless outdoor routers. The QuadraEdge ISM employ the innovative Layer 3 architecture to provide an intelligent end-point for point-to-point and point-to-multi point wireless networks.

Designed to add value and not be a standard CPE, the QuadraEdge ISM is a distributed edge device designed to add intelligence right up to the customer premises, thanks to its Layer 3 architecture. Firewall, QoS and networking are done right at the edge of the network at the customers' premises, thereby avoiding central network loading.

In addition to WPA/AES and WPA-2 AES standard security, networks featuring the QuadraEdge ISM are made inherently secure by proper IP planning and design. Layer 3 design removes the need for central loading, which significantly reduces the surface area available for security attacks.

The QuadraEdge ISM has a headline connectivity speed up to 300Mbps as well as a 10/100 Fast Ethernet port with PoE capabilities. Its ability to handle dual band 2.4GHz and 5GHz traffic simultaneously and its integrated plate antennae make the QuadraEdge ISM the ideal customer premises equipment to accommodate the latest MIMO applications.

Key features

- Dual band Licence exempt 2.4GHz and 5GHz operation with up to 300Mbps headline connectivity
- High Power Radio Interfaces (802.11a/b/g/n) and 1x 10/100 Fast Ethernet Port with PoE in
- Integration with QuadraFlex wireless routers and QuadraSphere NMS platform
- WPA/AES and WEP security for legacy clients and WPA-2 AES industry standard security support for backhaul traffic at all times
- 14dBi 2.4GHz integrated dual polarised MIMO plate antenna, 18dBi 5GHz dual polarised MIMO plate antenna in the same housing
- Controller-less & Controller-based Environments

QuadraStorm

Hybrid Digital Video Management System



The QuadraStorm is a robust and reliable hybrid digital video management system available with 8 hot swap disks. It provides an ideal solution for the demanding surveillance requirements of airports, ports, casinos, town centres, utilities, government and the police as well as high security industrial and commercial applications.

Easy to install and operate, the QuadraStorm is able to simultaneously record video images from a combination of analogue and IP network cameras. Up to 64 channels can be recorded simultaneously from up to 32 analogue cameras or 64 IP/megapixel cameras with a choice of H.264, MxPEG, MPEG-4 or MJPEG compression. Up to 8 HDcctv cameras can be specified at the time of the order.

Datasat's remote monitoring software allows users to securely monitor real-time live images or retrieve recorded video over the network, whilst multiple QuadraStorm servers can be configured into a server group to support large and distributed video surveillance applications.

Simple drag and drop function enables each user to create unique multiple display preferences whilst the QuadraStorm offers an extremely fast search facility to allow users to be able to quickly review recorded images of any incident.

Export to the native format and benefit from features such as encryption and image authentication or alternatively convert the video to any of a wide selection of standard formats such as MPEG, Flash Video, AVI, and many more.

Key features

- Simultaneously record video images from a combination of analogue and IP network cameras
- Up to 64 channels can be recorded from up to 32 analogue cameras or 64 IP/megapixel cameras
- Up to 8 HDcctv cameras can be specified at the time of the order
- Support for wide range of image formats including H.264, MPEG-4, M-JPEG and MxPEG
- Integrated remote monitoring software allows users to securely monitor real-time live images or retrieve recorded video over the network
- Multiple QuadraStorm servers can be configured into a server group to support large and distributed video surveillance applications
- 1 year 'return to base' warranty



QuadraStorm Extreme CCTV Video Management System

The QuadraStorm Extreme is a robust and reliable CCTV Video Management System ideally suited for targeted surveillance operations. Supporting up to 4 IP cameras, the system enables advanced video management capabilities as well as accommodating high resolution, high frame rate streams from all four camera simultaneously.

Easy to install and operate, QuadraStorm Extreme is ideally suited for harsh environment deployment. While not suitable for direct outdoor installations, its full solid state design features no moving parts or fans to make the system robust and reliable. Manufacture agnostic, the system is ONVIF compliant and can manage cameras from 50 leading manufacturers and integrates functionality such as motion detection, event triggers and alarms.

In addition, the Datasat remote monitoring software allows users to securely monitor real-time live images or retrieve recorded video over an IP network. Video can be recorded and stored using a choice of H.264 or M-JPEG compression.

Simple drag and drop function enables each user to create unique multiple display preferences whilst QuadraStorm Extreme offers an extremely fast search facility to allow users to be able to quickly review recorded images of any incident from anywhere on the network.

Export to the native format and benefit from features such as encryption and image authentication or alternatively convert the video to any of a wide selection of standard formats such as MPEG, Flash Video, AVI, and many more.

Key features

- Up to 2TB of storage per server
- Support for up to 4 IP cameras. Support for 50 leading camera brands
- Frame rates from 1fps to real-time
- Full solid state set-up without moving parts or fans. Can be powered by 12v regulated power supply
- Compact form factor for mobile and rugged deployment. VESA, Wall, Rack and rail mounts available
- Seamless integration with QuadraFlex intelligent wireless systems
- 1 year 'return to base' warranty

QuadraReach mVoIP Service



The QuadraReach mVoIP Service is designed to provide seamless roaming between WiFi and GSM networks as well as delivering reliable connectivity areas where GSM/3G/4G connectivity is not available. The service delivers reliable, cost-effective mobile communications anywhere within the wireless network footprint – allowing for a flat rate subscription-based charge for all mobile calls.

Each QuadraReach client uses the seamless Datasat mVoIP app. Once installed and registered calls are made in the normal way from the users contact list or keypad. Every time the user enters an authorised Wi-Fi network, the app registers the phone to the QuadraReach Server. Licensing and service are set up on the basis of individual phone identification and/or IMEI information and the actual mobile number. The QuadraReach server allocates a static phone number to every account. The QuadraReach service provides significant savings when outbound calls are made to most worldwide locations. QuadraReach operates in two modes:

Unified Number Calling

The user is provided with a SIP number. If the user is within the coverage of the WiFi network coverage, the

app registers with the QuadraReach service. The calls are routed over the WiFi network at minimal cost. If the network is not available, the service routes the call to the user's standard mobile number seamlessly. In essence, this service unifies the customer identity to just one number.

Call Package

In this mode, the user does not have an alternative to their SIP number. It is designed to provide cost effective calling between SIP customers. Significant cost savings are made as incoming calls and outgoing calls are significantly cheaper than using standard mobile roaming methods and charges.

Key features

- Seamless roaming between WiFi and GSM networks
- Free calls across WiFi networks to devices that are registered on the SIP server
- Free calls across WiFi networks to devices that are registered on the SIP server
- Datasat QuadraReach server handles all configurations and routings
- Integrated SIP gateway handles local and PSTN interconnect and billing
- IManaged bandwidth on Datasat QuadraFlex network



QuadraPower Integrated UPS & PoE Switch

QuadraPower is an integrated UPS and Power over Ethernet (PoE) switch to deliver continuous operations in remote locations. Both solar and wind ready, it requires less wiring and separate power equipment than traditional wireless networks. QuadraPower integrates with the QuadraFlex range of wireless equipment and can be remotely monitored via the QuadraSphere NMS.

For outdoor applications where an uninterrupted service is essential - such as surveillance - the QuadraPower enclosure is powered using Power Over Ethernet (PoE) and is solar and wind ready to maintain operation when utility power fails. Features include an advanced battery charge controller to protect against over-charging or over-discharging of the valve-regulated sealed lead acid AGM batteries. In this way, QuadraPower gives over a day's battery life for a standard WiFi device and 12 hours for wireless device and camera.

The ruggedised outdoor design of the enclosure and its ability to operate across a wide temperature range ensures that it will continue to run in the harshest of environments. The UPS function overcomes both blackout and brownout situations thus maintaining system availability when other systems are down.

QuadraPower has tight integration with the Datasat QuadraFlex range of intelligent wireless systems. It also has multiple ports for CAT5 cable, antenna cables/connectors or other cabling. This ensures that all elements on the networks can be powered by the same unit and reduces the chance of a single point of failure. Battery status, current, power and temperature can be monitored from anywhere on the network or via a web-based device..

Key features

- Ruggedised, IP67 Outdoor PSU
- Solar ready, Wind ready
- Power rating: 30W. 48VDC 60W over PoE charging
- 26 hours life for typical WiFi Access Point. 12 hours life for WiFi Access Point & CCTV camera
- PoE output voltage: 24VDC @ 1A. Secondary output voltage: 24VDC @ 1.5A
- Remotely Monitor battery status, current, power, temperature and relays

QuadraSphere NMS Network Monitoring System



Every communication network requires a Network Monitoring System (NMS) to efficiently monitor various network parameters and pre-empt network outages. As the network becomes larger; the NMS becomes more critical to the long term health of the network. QuadraSphere is the Datasat NMS, which is designed to monitor the Datasat portfolio of products and specifically the QuadraFlex outdoor wireless routers.

The QuadraEdge Subscriber module is one of the few customer premises equipment working on Layer 3 that is now manageable on the QuadraSphere NMS. The system is split into the hardware and software element and is designed to compliment the capabilities of the QuadraFlex ruggedised outdoor routers. Working together and developed keeping in mind the role of an average IT administrator, QuadraSphere is designed to be simple yet powerful. With emphasis on flexibility and graphical representation of information, the system is critical for networks where network outages are unacceptable.

With a simple, yet powerful interface, the QuadraSphere is a 'fire and forget' system. Once connected to the network, it can be accessed from anywhere, and on any device with a web browser. Chrome is the browser of choice, and both PC and mobile versions of this are supported. Access to various parts of the network can be segregated with security defined users and access control. Custom Maps and widget based dashboards can be set up in minutes to monitor network health.

Further cloud based implementation of the NMS enables proactive and reactive monitoring of multiple networks. Datasat offers a cloud based NMS solution to monitor networks and a solution for this can be provided on request.

Key features

- Monitor QuadraFlex DN100 and DN200 nodes and QuadraEdge ISM devices
- Solid state storage for robustness, integrity and quiet operation
- Map view for easy identification of network and one click access to network infrastructure. Multi-map set-up to enable multi-network monitoring
- Precision monitoring of known areas with the help of timed monitoring feature. Get information such as ping times, Ethernet throughput and network health delivered at one location
- Accessible on mobile devices with Chrome browser support
- NMS software needs no additional per network element licence

Datasat DT24D-SMSCTR-14

Dual Polarised Sector Antenna



The Datasat DT24D-SMSCTR-14 Dual Polarised Sector Panel WiFi antenna is ideal for service providers operating in the 2.4GHz ISM band. Its dual polarised design provides increased received signal and high data rates for a wide range of 802.11n and MIMO wireless LAN applications.

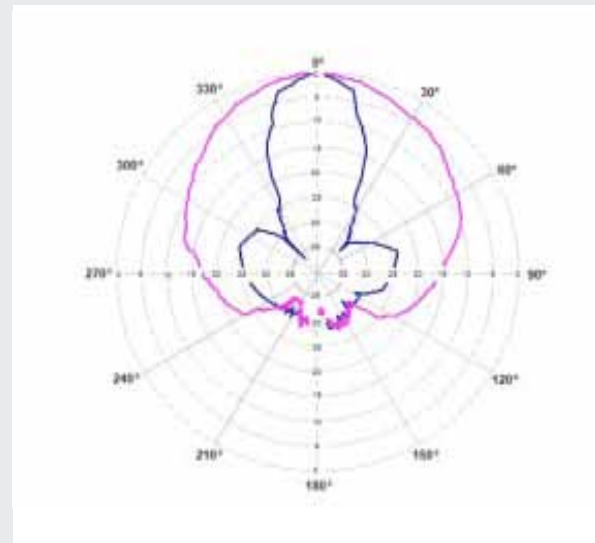
Meeting stringent environmental standards, the Datasat DT24D-SMSCTR-14 antenna delivers rugged and reliable outdoor WiFi performance. It provides continuous operations between -40°C and +70°C. The antenna is RoHS and WEEE compliant.

Each model in this range of antenna is distinguished by its gain shown as the last digits in the model name.

DT24D-SMSCTR-16

DT24D-SMSCTR-17

DT24D-SMSCTR-18



Key features

- Dual Polarised for efficient RF transmission
- Designed for MIMO applications. Compatible with 802.11n/g/b
- High gain up to 14dB
- Rugged outdoor construction for reliable operations
- 20° down-tilt mast mounting and hardware
- Seamless integration with Datasat QuadraFlex products



Datasat DT55D-HVSCCTR-21 Dual Polarised Sector Antenna

The Datasat DT55D-HVSCCTR-21 is a Dual Polarised Sector Panel WiFi antenna that covers the entire 5GHz band. It is a rugged, outdoor antenna with extended range and designed for continuous operation in extreme environments.. Its dual polarised design and high gain increases the received signal for a wide range of 802.11n and MIMO wireless LAN applications.

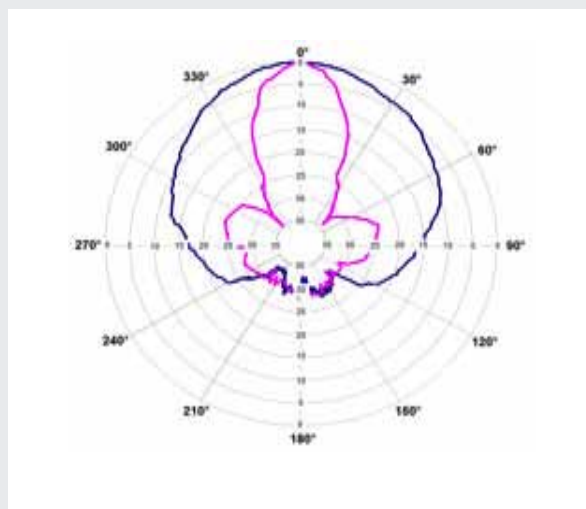
Meeting stringent environmental standards, the Datasat DT55T-HVRCTR-21 antenna delivers rugged and reliable outdoor WiFi performance. It provides continuous operations between -40°C and +70°C. The compact size of this antenna delivers high data throughput and spans the entire range of 5GHz channel frequencies.

Each model in this range of antenna is distinguished by its gain shown as the last digits in the model name.

DT55D-HVSCCTR-14

DT55D-HVSCCTR-16

DT55D-HVSCCTR-18



Key features

- Vertical and horizontal polarisation. Designed for MIMO applications
- High gain up to 21dB
- Rugged outdoor construction for reliable operations. 20° mechanical down-tilt mast mounting and hardware
- Non-overlapping 5GHz channels provide low interference and stable communications
- Port to port isolation under 28dB
- Seamless integration with Datasat QuadraFlex products

Datasat DT55L-DPDISH-23 Dual Polarised Dish Antenna



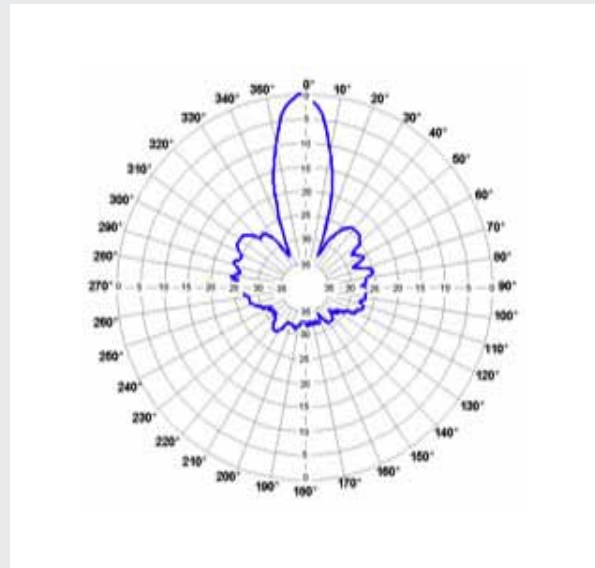
The Datasat DT55L-DPDISH-23 is a high performance Dual Polarised solid dish antenna. Its excellent electrical performance and rugged outdoor design make it ideal for a wide range of MIMO and 802.11a applications. The antenna covers the complete 5GHz band.

Meeting stringent environmental standards, the DT55L-DPDISH-23 antenna delivers rugged and reliable outdoor WiFi performance. It provides continuous operations between -40°C and +70°C. The compact size of this antenna delivers high data throughput and spans the entire range of 5GHz channel frequencies.

Each model in this range of antenna is distinguished by its gain shown as the last digits in the model name.

DT55L-DPDISH-29

DT55L-DPDISH-32



Key features

- Dual Polarised for efficient RF transmission
- Designed for MIMO applications
- Compatible with 802.11a. High gain up to 21dB
- Rugged outdoor construction for reliable operations
- Includes randomize where applicable
- Seamless integration with Datasat QuadraFlex products

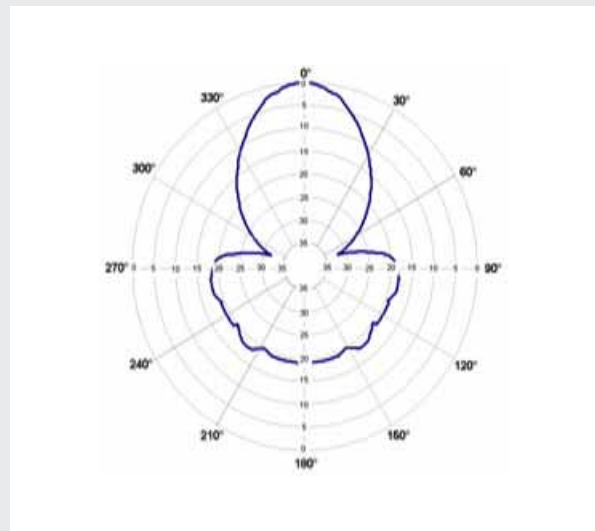


DT55D- HVPANEL-14 Dual Polarised Panel Antenna

The Datasat DT55D-HVPANEL-14 is a high performance Dual Polarised Panel WiFi antenna is ideal for long distance point-to-point links. It takes full advantage of the interference-free 5GHz band to extend the reach of outdoor wireless networks. Its dual polarised design and high gain increases the received signal for a wide range of 802.11a/n/ac and MIMO wireless LAN applications.

Meeting stringent environmental standards, the Datasat DT55D-HVPANEL-14 antenna delivers rugged and reliable outdoor WiFi performance. It provides continuous operations between -40°C and $+70^{\circ}\text{C}$. The compact size of this antenna makes for simple installation while its coverage of the entire 5GHz band eliminates the need for separate antennae for each frequency channel.

Each model in this range of antennae is distinguished by its gain shown as the last digits in the model name.



Key features

- Dual Polarised for efficient RF transmission
- Designed for MIMO applications. Compatible with 802.11a/n/ac
- High gain up to 14dB
- Rugged outdoor construction for reliable operations
- 20° mechanical down-tilt mast mounting and hardware
- Seamless integration with Datasat QuadraFlex products

DTDB- PANEL-1418 Dual Polarised Panel Antenna



The Datasat DTDB-PANEL-1418 is a panel antenna that delivers high speed dual concurrent wireless – 2.4GHz and 5GHz - over extended distances. Designed for MIMO and 802.11a/b/g/n/ac applications, the antenna provides excellent outdoor coverage. When integrated with Datasat QuadraFlex wireless products, the DTBDPANEL-1418 is one of the few point to point antennae capable of dual band, dual polarised concurrent operation

Meeting stringent environmental standards, the Datasat DTDB-PANEL-1418 antenna delivers rugged and reliable outdoor WiFi performance. It provides continuous operations between -40°C and +70°C. The antenna is RoHS and WEEE compliant.



Key features

- Dual Polarised for efficient RF transmission
- Designed for MIMO applications
- Compatible with 802.11a/n/ac for 5GHz applications
- Compatible with 802.11b/g/n for 2.4GHz applications
- Compact size for simple installation
- Seamless integration with Datasat QuadraFlex products

Technical Specifications

DN100

Radio (up to 2 per router)

Antenna 4 x RP-TNC type connectors, all ports are transmit and receive

Operating Frequency*

802.11a/n ISM Band: 5.150 ~ 5.825GHz (DFS support on request)

802.11b/g/n ISM Band: 2.400 ~ 2.484GHz

Modulation

802.11b: CCK, DQPSK, DBPSK

802.11a/g: OFDM/DSSS

802.11n: OFDM/DSSS

Output Power*

2.4 GHz: up to 23dBm per chain/26dBm two chains (limited by regulatory requirements)

5 GHz: up to 22dBm per chain/25dBm two chains (limited by regulatory requirements)

Receive Sensitivity (two chains typical sensitivity)

802.11b: up to -92dBm @1M

802.11g: up to -95dBm @6M

802.11a: up to -95dBm @6M

802.11an HT20: up to -76dBm

802.11an HT40: up to -73dBm

Please note, values differ based on mode, frequency and throughput

Interfaces

4x RP-TNC antenna ports

2x Gigabit Ethernet port with PoE in

Type SMA GPS receiver antenna port (on GPS ready units)

USB interface (Master)

Serial Interface (RJ 45 proprietary)

DC in port

Management interface: Supported via RJ 45 Ethernet ports

Package Content

Mounting bracket and accessories

Hardware Installation and Quick Start Guides

DC power supply

Power Consumption

48V DC, 20W maximum (with both radios)

Networking

Full 802.11b/g, 802.11a, 802.11n Client Compatibility

Multiple intelligent routing options

Bridging on request

Support for static & dynamic addressing for wireless and wired clients

Onboard DHCP Server or Forwarder

Quality of Service (On request)

802.11e WMM

802.11q VLAN support

Multiple SSID support

Security

Authentication: WPA, WPA2, 802.11i RADIUS, 802.1x
Encryption Algorithms: AES, WPA, WPA2, WPAPSK, WPA2PSK, TKIP, WEP, (128 bit AES)

128 bit AES encryption of Backhaul and access traffic

Packet Filtering & Forwarding

Client Access Control Lists

Router Access Control

Configurations ordering information

DN100 node with DC Power input only

Warranty

One (1) year on parts and labour

Region Info

US version: P/N 2001DN100-US

EU version: P/N 2001DN100-EU

Canada version: P/N 2001DN100-CAN

India version: P/N 2001DN100-IN

Rest of the world version: P/N 2001DN100-RW

Measurements

DN100 - 25.4x21.59x6.5 cm

Compliance

EN 301 489-1:V1.8.1:2008, EN 301 489-17:v2.1.1:2009

EN 300 328:V1.7.1:2006

EN 60950-1:2006

FCC Part 15 Sub Part B Clauses 107 & 109

FCC Part 15 Sub Part C Clause 247

FCC Part 15 Subpart E Clause 407

RSS-GEN Issue 3

RSS-210 Issue 8

RSS-102 Issue 4

MIL-STD-810G environmental and vibration standards

IC-4779A-DNMAH92

*Region and regulation dependent

DN200

Radio (up to 4 per router)

Antenna 8 x RP-TNC type connectors, all ports are transmit and receive

Operating Frequency*

802.11a/n ISM Band: 5.150 ~ 5.825GHz (DFS support on request)

802.11b/g/n ISM Band: 2.400 ~ 2.484GHz

Modulation

802.11b: CCK, DQPSK, DBPSK

802.11a/g: OFDM/DSSS

802.11n: OFDM/DSSS

Output Power*

2.4 GHz: up to 23dBm per chain/26dBm two chains (limited by regulatory requirements)

5 GHz: up to 22dBm per chain/25dBm two chains (limited by regulatory requirements)

Receive Sensitivity (two chains typical sensitivity)

802.11b: up to -92dBm @1M

802.11g: up to -95dBm @6M

802.11a: up to -95dBm @6M

802.11an HT20: up to -76dBm

802.11an HT40: up to -73dBm

Please note, values differ based on mode, frequency and throughput

Interfaces

8x RP-TNC antenna ports

2x Gigabit Ethernet port with PoE in

Type SMA GPS receiver antenna port (on GPS ready units)

USB interface

Serial Interface (RJ 45 proprietary)

DC in port

Management interface: Supported via RJ 45 Ethernet ports

Package Content

Mounting bracket and accessories

Hardware Installation and Quick Start Guides

DC power supply

Power Consumption

48V DC, 30W maximum (with all four radios)

Networking

Full 802.11b/g, 802.11a, 802.11n Client Compatibility

Multiple intelligent routing options

Support for static & dynamic addressing for wireless and wired clients

Onboard DHCP Server or Forwarder

Quality of Service (On request)

802.11e WMM

802.1p/q with 4 queues per VLAN and ESSID

802.1p and DSCP

SIP VOIP Support

VQC - Voice Quality Classification

Call Admission Control

TSpec Classification

Seamless Mobility

Call Reporting

Traffic control: CBQ, HTB

Security

Authentication: WPA, WPA2, 802.11i RADIUS, 802.1x - Encryption Algorithms: AES, WPA, WPA2, WPAPSK, WPA2PSK, TKIP, WEP, (128 bit AES)

128 bit AES encryption of Backhaul and access traffic

Packet Filtering & Forwarding

Client Access Control Lists

Router Access Control

Configurations ordering information

DN200 node with DC Power input only

Warranty

One (1) year on parts and labour

Region Info

US version: P/N 2002DN200-US

EU version: P/N 2002DN200-EU

Canada version: P/N 2002DN200-CAN

India version: P/N 2002DN200-IN

Rest of the world version: P/N 2002DN200-RW

Measurements

DN200 - 24x20.8x10.795 cm

Compliance

EN 301 489-1:V1.8.1:2008, EN 301 489-17:v2.1.1:2009

EN 300 328:V1.7.1:2006

EN 60950-1:2006

FCC Part 15 Sub Part B Clauses 107 & 109

FCC Part 15 Sub Part C Clause 247

FCC Part 15 Subpart E Clause 407

RSS-GEN Issue 3

RSS-210 Issue 8

RSS-102 Issue 4

MIL-STD-810G environmental and vibration standards

IC-4779A-DNMAH92

*Region and regulation dependent

QuadraEdge

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| <p>Radio Antenna 2 x RP-TNC type connectors</p> <p>Operating Frequency* 802.11a/n ISM Band: 5.150 ~5.825GHz (DFS client mode) 802.11b/g/n ISM Band: 2.400 ~ 2.484GHz Modulation 802.11b: CCK, DQPSK, DBPSK 802.11a/g: OFDM/DSSS 802.11n: OFDM/DSSS</p> <p>Output Power* 2.4 GHz: up to 23dBm per chain/26dBm two chains (limited by regulatory requirements) 5 GHz: up to 22dBm per chain/25dBm two chains (limited by regulatory requirements)</p> <p>Receive Sensitivity (two chains typical sensitivity) 802.11b: up to -92dBm @1M 802.11g: up to -95dBm @6M 802.11a: up to -95dBm @6M 802.11an HT20: up to -76dBm 802.11an HT40: up to -73dBm Please note, values differ based on mode, frequency and throughput</p> <p>Weatherproof to IP65</p> | <p>Interfaces 2x RP-TNC antenna ports 1x 10/100 Fast Ethernet port with PoE in support</p> <p>Package Content Mounting bracket and accessories Hardware Installation and Quick PoE injector Supplied with approved antenna DTDB-PANEL-1418 2x2 MIMO Dual Band Panel Antenna</p> <p>Start Guides Power Consumption 48V DC, 10W maximum (Via PoE Injector)</p> <p>Networking Multiple intelligent routing options Support for static & dynamic addressing On-board DHCP Server NAT Masquerading supported Quality of Service (On request) SIP VoIP Support</p> <p>Security Authentication: WPA, WPA2, 802.11i RADIUS, 802.1x - Encryption Algorithms: AES, WPA, WPA2, WPAPSK, WPA2PSK, TKIP, WEP, (128 bit AES)</p> | <p>Warranty One (1) year on parts and labour</p> <p>Region Info US version: P/N 2010ISM-US EU version: P/N 2010ISM-EU Canada version: P/N 2010ISM-CAN India version: P/N 2010ISM-IN Rest of the world version: P/N 2010ISM-RW</p> <p>Optional Accessories Ethernet surge protection LMR 195/LMR400 cable for antenna</p> <p>Connectivity Ethernet cable for power and networking</p> <p>*Region and regulation dependent</p> |
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QuadraStorm

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| <p>Cameras Analogue inputs: Up to 32 channel, BNC 1 Vpp, 75Ω - Optional loop through panel with auto-termination HDcctv inputs: Up to 8 channels Network inputs: 64 (IP/megapixel) channel Hybrid config: Up to 64 video channels recorded simultaneously</p> <p>Compression Formats: H.264, MPEG-4, M-JPEG and MxPEG PTZ devices: Full 3 axis control (PAN, TILT & ZOOM) using a 3-axis mouse or joystick PTZ Preset and Tour IP camera setup: Drop down menu</p> | <p>IP camera ping: Available IP camera web Browser setup: Direct access IP camera Discovery: uPnP, Bonjour</p> <p>Storage Internal HDD: Up to 8 x 3.5" SATA-HDDs (Hot-Swappable) RAID level: 0, 1, 5, optional</p> <p>Network Network ports: 2 x 1000 Mbps• Protocols: TCP/IP, DNS, SMTP, NTP, SSH, HTTP, RTSP Configuration: Static IP entry Time sync (NTP): Automatically synchronised to other Datasat servers</p> | <p>or external time source Bandwidth: Per user</p> <p>Recording System Video standards: PAL or NTSC standards, HDcctv and IP Video resolution: QCIF, CIF, 2CIF, DCIF, D1, HD720, HD1080, VGA, megapixel, custom Analogue rate: D1 Up to 25/30 fps (PAL/NTSC)per input. Up to 800/960 fps per server IP rate: High image rates supported, camera dependent Video displays: Adjustable in size and number</p> <p>Warranty 1 year 'return to base'</p> |
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QuadraStorm Extreme

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| <p>Cameras 1 x IP camera per channel HDcctv inputs: Up to 4 channel Camera hardware independent: Support for 50 leading camera vendors</p> <p>Compression Formats: H.264 and M-JPEG PTZ devices: Full 3 axis control (PAN, TILT & ZOOM) using a 3-axis mouse or joystick PTZ Preset and Tour IP camera setup: Drop down menu IP camera ping: Available IP camera web Browser setup: Direct access IP camera Discovery: uPnP, Bonjour</p> | <p>Storage Internal storage: Up to 2TB per server SSD/4TB HDD</p> <p>Network Network ports: 1 x 1000 Mbps Protocols: TCP/IP, DNS, SMTP, NTP, SSH, HTTP, RTSP Configuration: Static IP entry Time sync (NTP): Automatically synchronised to other Datasat servers or external time source Bandwidth: Per user</p> <p>Recording System Video standards: HDcctv and IP Video resolution: QCIF, CIF, 2CIF, DCIF, D1, HD720, HD1080, VGA, megapixel, custom</p> | <p>Analogue rate: D1 Up to 25/30 fps (PAL/NTSC)per input. Up to 800/960 fps per server IP rate: High image rates supported, camera dependent Video displays: Adjustable in size and number</p> <p>Dimensions 192x210x62mm</p> <p>Warranty 1 year 'return to base'</p> |
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QuadraPower Integrated Switch

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| <p>PoE Output Voltage Available (DC) 12V, 18V, 24V, 48V</p> <p>Available Capacities (Amp Hours) 18Ah, 36Ah</p> <p>Total Output Power 30W</p> <p>Maximum PoE Input Voltage 57V</p> <p>Battery Type Valve Regulated Sealed Lead Acid Absorbent Glass Mat (AGM)</p> <p>Battery Voltage 12V</p> <p>Battery Life 5 Years</p> <p>Controller Type Dual Input Solar/POE PWM, 12V 8A</p> | <p>Max Solar Panel Size 135W</p> <p>Overcharge Protection 14.4V</p> <p>Over-discharge Protection 11.0V</p> <p>Over-discharge Recovery Voltage 12.0V</p> <p>Controller Self Consumption <0.5V</p> <p>Charging PoE Power Supply 120/220VAC in; 24VDC 60W out</p> <p>Enclosure Type Polycarbonate</p> <p>Enclosure External Size 17.5 x 12.5 x 6" (445 x 318 x 152mm)</p> | <p>Enclosure Internal Size 14 x 10 x 5" (356 x 254 x 127mm)</p> <p>Space for Customer Electronics 7 x 7 x 4" (177 x 177 x 102mm)</p> <p>Operating Temperature -30°C to +60°C (-22°F to 140°F)</p> <p>System Weight (Without Batteries) 4lb (1.8kg)</p> <p>Battery Weight (Each) 5.5lb (2.5kg)</p> <p>System Monitoring Remote (Via QuadraSphere NMS)</p> |
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QuadraSphere NMS

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| <p>Dimensions 192x210x62mm</p> <p>Power requirements: 12v DC via 110-240v 50/60Hz supplied PSU 12v 80W PSU</p> | <p>I/O interfaces: 4x USB 2.0 Ports VGA port for display HDMI port for display Stereo Line out and Analogue Line in</p> <p>Accessories needed: Monitor (VGA or HDMI compatible) Mouse and keyboard</p> | <p>Ordering options: VESA mount version Rail mount version Wall mount version</p> <p>In the Box: 1 Mini ITX Server with QuadraSphere licence Quickstart guide</p> |
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Datasat DT24D-SMSCTR-14 Sector

Electrical Specifications

Frequency (Mhz): 2400-2500
 Gain (dB): 2 X 14±0.5
 VSWR: 1.5 : 1
 H Plane BW (°): 65 ± 5
 E Plane BW (°): 17 ± 2
 Polarisation: H & V
 Port to Port Isolation: > 30
 Max. Power Input (Watts): 50
 Impedance (Ω): 50
 Front to Back Ration (dB): > 22
 Cross Point (dB): > 25
 Connector Termination: 2 X N(F)

Mechanical Specifications

Dimensions (mm): 450 X 130 X 80
 Gross Weight (Kg): 1.5
 Radome: UV Stabilised ASA
 Mounting Hardware: MS Galvanised and Powder Coated
 Mounting Style: Tower and Pole
 Supporting Pole Diameter: 2 Inches
 Mounting Adjustment Azimuth: ±180°,
 Elevation: ± 20°

Environmental Specifications

Temperature Range (°C): -40 to +70
 Wind Speed (km/hr): 200
 Humidity: 95% No Condensation
 Shock: QM 333, Category D.
 Vibration: QM 333, Category D.
 Water Protection: IP 65
 Environmental Protection: QM 333, Category D.
 RoHS / WEEE Comply: Complied

Datasat DT55D-HVSCTR-21 Sector

Electrical Specifications

Frequency (Mhz): 4900-5900
 Gain (dB): 2 X 21±0.5
 VSWR: 1.6 : 1 @ 4.9-5.2GHz
 1.5 : 1 @ 5.2-5.9GHz
 H Plane BW (°): 60± 5
 E Plane BW (°): 8 ± 2
 Polarisation: Dual Linear H & V
 Port to Port Isolation: > 28
 Side Lobe Level (dB)>12
 Max. Power Input (Watts): 50
 Impedance (Ω): 50
 Front to Back Ration (dB): > 26
 Cross Point (dB): > 26
 Connector Termination: 2 X N(F)

Mechanical Specifications

Dimensions (mm): 750 X 170 X 90
 Gross Weight (Kg): 3.5
 Radome:UV Stabilised ASA
 Mounting Hardware:Stainless Steel
 Mounting Style: Tower and Pole
 Supporting Pole Diameter (mm): 50-60
 Elevation: 20°

Environmental Specifications

Temperature Range (°C): -40 to +70
 Wind Speed (km/hr):200
 Humidity:95% No Condensation
 Shock:QM 333, Category D.
 Vibration:QM 333, Category D.
 Water Protection:IP 65
 Environmental Protection:QM 333, Category D.
 RoHS / WEEE Comply:Complied

Datasat DT55L-DPDISH-23 Dish

Electrical Specifications

Frequency (Mhz): 4900-5900
 Gain (dB): 2 X 23±0.5
 VSWR: 1.5: 1
 H Plane BW (°): 12± 0.5
 E Plane BW (°): 12 ± 0.2
 Polarisation: Linear H & V
 Port to Port Isolation: > 30
 Max. Power Input (Watts): 50
 Impedance (Ω): 50
 Front to Back Ration (dB): > 25
 Cross Point (dB): > 22
 Connector Termination: 2 X N(F)

Mechanical Specifications

Dimensions (mm):Ø 300
 Gross Weight (Kg):2.9
 Packing Dimensions14x14x6
 Mounting Hardware:MS Galvanised and Powder Coated
 Mounting Style: Tower and Pole
 Supporting Pole Diameter:2 inches
 Mounting adjustment:H Plane +/- 180°
 V Plane +/- 15°

Environmental Specifications

Temperature Range (°C):-40 to +70
 Wind Speed (km/hr): 200
 Humidity:95% No Condensation
 Shock: QM 333, Category D.
 Vibration: QM 333, Category D.
 Water Protection: IP 65
 Environmental Protection: QM 333, Category D.
 RoHS / WEEE Comply:Complied

Datasat DT55D-HVPANEL-14 Panel

| Electrical Specifications | Mechanical Specifications | Environmental Specifications |
|---------------------------------|--|------------------------------------|
| Frequency (Mhz): 4900-5900 | Dimensions (mm): 300x300x10 | Temperature Range (°C): -40 to +70 |
| Gain (dB): 2 X 14±0.5 | Gross Weight (Kg): 1.2 | Wind Speed (km/hr): 200 |
| VSWR: 1.5 : 1 | Mounting Hardware: MS Galvanised and Powder Coated | Humidity: 95% No Condensation |
| H Plane BW (°): 24± 0.5 | Mounting Style: Tower, Pole and Wall | Shock: QM 333, Category D. |
| E Plane BW (°): 24 ± 0.2 | Supporting Pole Diameter: 2 inches | Water Protection: IP 65 |
| Polarisation: LH & V | Mechanical Down-Tilt: 20° | RoHS / WEEE Comply: Complied |
| Port to Port Isolation: > 30 | | |
| Max. Power Input (Watts): 50 | | |
| Impedance (Ω): 50 | | |
| Front to Back Ration (dB): > 26 | | |
| Cross Point (dB): > 22 | | |
| Connector Termination: 2 X N(F) | | |

Datasat DTDB-PANEL-1418 Panel

| Electrical Specifications | Mechanical Specifications | Environmental Specifications |
|--|---|---|
| Frequency (Mhz): 2400-2500/4900-5900 | Dimensions (mm): 300x300x75 | Temperature Range (°C): -40 to +70 |
| Gain (dB): 14±0.5/ 18±0.5 | Gross Weight (Kg): ≈2.3 | Wind Speed (km/hr): 200 |
| VSWR: 1.5: 1/ 1.5 : 1 | Packing Dimensions: 14x14x6 | Humidity: 95% No Condensation |
| H Plane BW (°): 26 ± 2/ 26 ± 2 | Mounting Hardware: UV Stabilised ABS | Shock: QM 333, Category D. |
| E Plane BW (°): 26 ± 2/ 26 ± 2 | Mounting Style: Tower, Pole and Wall | Vibration: QM 333, Category D. |
| Polarisation: H & V/H & V | Supporting Pole Diameter: Up to 2 inches | Water Protection: IP 67 |
| Port to Port Isolation: >28/> 30 | Mounting Adjustment: H Plane 60°, E Plane 20° | Environmental Protection: QM 333, Category D. |
| Max. Power Input (Watts): 50/50 | | RoHS / WEEE Comply: Complied |
| Impedance (Ω): 50/50 | | |
| Front to Back Ration (dB): > 25/>28 | | |
| Cross Point (dB): > 25/>28 | | |
| Connector Termination: N Type (F)/N Type (F) | | |

Training & Support

Datasat Technologies offers a range of technical training and support services to ensure that distributors and resellers fully realise the benefit of the Datasat product range.

In-depth Training

To ensure that our reseller partners are best equipped to make the most from the Datasat product lines, the company offers a range of training courses. Our training leverage many years of practical experience to provide clear instruction on the commercial and technical aspects of wireless system selection, design, installation, operation and maintenance. Training ranges from introductory courses for the novice through to in-depth technical training for existing wireless network specialists.

24x7 Technical Support

Datasat Technologies is committed to delivering the highest levels of customer service. It is a major part of the company's commitment to quality. The company offers a range of technical support options depending on what best meets our partner's requirement. All Datasat customers have the assurance that a support engineer is available 24x7, 365 days a year as required.

To find out more about the Datasat wireless product range from Datasat Technologies or to become a partner with Datasat Technologies, call +44 (0)118 934 9199 or email sales@datasat.com

UK

Datasat Technologies Limited.
5 Tavistock Estate
Ruscombe Lane
Twyford, RG10 9NJ, UK

Tel: +44 (0)118 934 9199

Email: sales@datasat.com

Web: www.datasattechnologies.com

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