



In-Building Antenna Guide

PRODUCT CATALOGUE

Over 70 Years of Experience

Panorama Antennas is a privately owned family business, now in its third generation, and is a leading designer and manufacturer of antennas for wireless communication. Established in London in 1947, Panorama started life as a manufacturer of consumer products and buoyed by huge demand in 1952, began manufacturing TV components and antennas. With the transistor radio trend of the 1960s, Panorama's expert knowledge swiftly led us into the manufacturing of communication antennas.

Throughout the 70s and 80s, Panorama evolved to become the first specialized communication antenna manufacturer in the UK, developing a range of cellular antennas to coincide with the launch of the mobile phone network in Britain. 1990 was a year of huge change as Panorama found itself revolutionizing cellular glass mount antenna technology, filing a patent application for the first ever solid state coupling circuit. Through creating a new benchmark for quality in the production of components and leading technology development, Panorama has grown side by side with the cellular telecommunications industry.

Today Panorama produces antennas for the world's leading communication companies and has grown to include over 100 staff in 5 international sales offices, as well as operating 4 fully owned subsidiaries. Manufacturing, design and development are located in London less than a mile from the original factory. Our network of international sales representatives means that all customers get the attention and advice they require, providing local support on a global scale.

Antennas For Next Generation

Panorama's constant cutting-edge research ensures that our antennas meet the demands of the very latest technology. With over 70 years' experience in delivering world-class antenna products, Panorama's current product range reflects our unparalleled expertise in providing high-quality performance antennas.



Quality Assurance

In 1989, Panorama Antennas became the first antenna manufacturer in Europe to gain ISO 9000 certification. Panorama currently holds the ISO 9001-2015 certificate for quality assurance.

Environmental Management System

Panorama has attained ISO 14001:2015 International standard for effective environmental management system (EMS)

Patents

Panorama Antennas currently holds several patents and registered designs both in Europe and worldwide.

RoHS Compliance

All of the products that Panorama Antennas manufactures are 100% RoHS 3 compliant. Investment in advanced technology enables Panorama to test materials supplied to us ensuring that no non-compliant material is passed on to the customer.

REACH

REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals, EC 1907/2007) is the European Union's chemical regulation that came into force on 1 June 2007 and has been phased in over an 11 year period. Panorama Antennas wholeheartedly supports the objective of REACH to enhance public health and safety and the protection of the environment. Panorama is committed to meeting REACH requirements and can provide information about substances in accordance with the requirements.

Associations

Panorama Antennas is currently a member of the following professional associations:

- **Federation of Communication Services**
- **TCCA (The Critical Communications Association)**
- **British Safety Council**
- **B-APCO (British Association of Public Communication Officers)**





VHF Ceiling Mount Antenna

FEATURES

- Robust panel mount antenna
- Efficient VHF coverage
- Low smoke halogen free flame, retardant radome

The CMWBV-144-NJ is a VHF ceiling mounted antenna designed for inbuilding, DAS and network infill applications.

The CMWBV-144-NJ offers omni-directional VHF coverage in a robust enclosure minimising cable runs and allowing VHF radio systems to be installed with relatively compact antennas.

Part no.	Frequency (MHz)
CMWBV-144-NJ	136-152

Inbuilding Antenna VHF

Dual Band Ceiling Mount Antenna

FEATURES

- Covers VHF and UHF bands
- Ceiling mount application
- Low smoke, halogen free, flame retardant dome

Dual band VHF/UHF ceiling mounted antenna designed for short range in-building, DAS and network infill applications. It combines omni-directional VHF and UHF antennas in a rugged enclosure with a single feed, for simple integration into an existing system.



Part no.	Frequency (MHz)
CM-152-TET-NJ	147-158/380-430
CM-157-TET-NJ	153-162/380-430
CM-H7-TET-NJ	162-174/380-430

Inbuilding Antenna VHF/UHF

VHF/UHF Offset Dipole

FEATURES

Suitable for external or internal use
Available in VHF or UHF versions
Ideal for fixed radio terminals
Easy installation

The ODP is lightweight antenna solution with grey colour, low visibility. Can be used for fixed radio terminals or network infill/range extension. The ODP features an integral coaxial cable and can be wall or mast mounted.



Part no.	Frequency (MHz)
ODP-JRC	139-157
ODP-H5	149-159
ODP-H6	156-162
ODP-H7	162-174
ODP-TET	380-430
ODP-U	430-472
ODP-UT	406-472
ODP-U2	450-512

Inbuilding Antenna VHF/UHF



Dual Band Wall Mount Antenna

FEATURES

Covers VHF and UHF frequencies
Mast mount or wall mount
Low smoke halogen free flame
retardant radome

Dual Band VHF/UHF wall mounted antenna designed for short range in-building, DAS and network infill applications. It combines omni-directional VHF and UHF antennas in a rugged enclosure with a single feed, for simple integration into an existing system.

Part no.	Frequency (MHz)
WM-157-TET-NJ	153-162/380-430
WM-H7-TET-NJ	162-174/380-430

Inbuilding Antenna VHF/UHF



UHF Ceiling Mount Antenna

FEATURES

- Easy installation
- In building UHF coverage
- Discrete low profile appearance

The Panorama UHF ceiling antenna is designed to provide area coverage for UHF networks. Used in airports, campus sites and shopping centres the antenna ensures reliable coverage.

The discrete and low profile appearance of the antenna minimises visibility by amongst building users and is ideal for spaces with low ceiling height.

Part no.	Frequency (MHz)
CM-S1-08NJ	380-400
CM-S2-08NJ	410-430
CM-S4-08NJ	450-470

Inbuilding Antenna UHF

UHF High Gain Wall/Mast Mount Antenna

FEATURES

- High Gain 6dBi
- Improves range
- Easy installation
- Light weight solution

The ODP S[X]G6 series is a lightweight antenna solution with 6dBi gain. Ideal for use with fixed radio terminals in poor network coverage areas.

The ODP features an integral coaxial cable and can be wall or mast mounted.



Part no.	Frequency (MHz)
ODP-SIG6-8B	380-400
ODP-S2G6-8B	410-430
ODP-433G6-8BP	420-450
ODP-S4G6-4B	450-470

Inbuilding Antenna UHF

Ultra Low Profile SiSo UHF Ceiling Antenna

FEATURES

Ultra Low Profile
Siso UHF Wideband Ceiling Antenna
Flame Retardant Materials

The CMS-380-520-05NJ range has been designed to provide SiSo UHF coverage for DAS networks in an ultra low profile package. The compact, robust low-profile housing contains a highly efficient antenna element covering 380-520MHz.

At < 22mm (0.85") high the antenna is extremely discreet and ideal for low clearance deployment locations.



Part no.	Frequency (MHz)
CMS-380-520-05NJ	380-520

Inbuilding Antenna UHF



UHF Directional Wall/Mast Mount Antenna

FEATURES

Mast mount or wall mount
Low smoke, halogen free,
flame retardant radome

The WM8-X antenna is designed for in-building, DAS and network infill applications. It has a rugged, compact enclosure and offers 8dBi gain directional coverage, allowing UHF radio systems to be seamlessly integrated within the building environment.

Part no.	Frequency (MHz)
WM8-395-NJ	380-410
WM8-TET-NJ	380-430
WM8-UT-NJ	406-472
WM8-U2-NJ	450-520

Inbuilding Antenna UHF



Low PIM Ultra Low Profile SiSo Ceiling Antenna

FEATURES

- Ultra Low Profile
- SiSo UHF+3G/4G/5G Antenna
- Flame Retardant Materials
- Low PIM

The CMSLP-038-4 range has been designed to provide SiSo UHF+3G/4G & 3.8GHz 5G coverage for DAS networks in an ultra low profile package. The compact, robust low-profile housing contains a highly efficient antenna element covering 380-520/617-960/1710-3800MHz.

At < 22mm (0.85") high the antenna is extremely discreet and ideal for low clearance deployment locations.

Part no.	Connector
CMSLP-038-4-05NJ	N Female
CMSLP-038-4-054310J	4.3-10

UHF & Cellular Ceiling Antenna

FEATURES

- Ceiling mount design
- Future proof UHF and cellular coverage
- Flame Retardant Radome
- Low PIM

Panorama's CMWBD-038-3-NJ allows businesses and facilities to support multi-service / multi-operator wireless coverage. A huge number of services are supported from 380MHz UHF to 6GHz - including UHF, GSM900, AWS 1700MHz, Quadband GSM, 3G UMTS, 2.4GHz WLAN, LTE & WiMAX etc. enabling simultaneous connectivity for employees, consumers and emergency services and providing in-building service providers and DAS installers with a convenient one size fits all solution.



Part no.	Frequency (MHz)
CMWBD-038-3-NJ	380-470/698-960-1710-6000

Inbuilding Antenna UHF/Cell

Inbuilding Antenna UHF/Cell

Wideband Ceiling Mount Antenna

FEATURES

- Discreet ceiling mount design
- Highly efficient wideband coverage
- Concealed screw fixings
- Low PIM and SAR tested to EN50385:2002

The CM-7-60-NJ ceiling antenna is a compact and subtle way to provide optimum in-building or DAS coverage for the networks of today and tomorrow. Concealed beneath the antenna housing is a highly efficient wideband element capable of supporting 2G/3G/4G/WLAN and WiMAX networks from 698-960MHz and 1710-6000MHz.



Part no.	Connector
CM-7-60-NJ	N Female
CM-7-60-4310	4.3-10

Inbuilding Antenna Cell



Low PIM SiSo Omni Ceiling Antenna

FEATURES

- Ultra Low Profile
- SiSo UHF/3G/4G/5G Antenna
- Flame Retardant Materials
- Low PIM Construction

The CMSLP-6-60 range has been designed to provide omni-directional coverage for 4G & 5G networks in a low profile package. The compact, robust low-profile housing contains an efficient low PIM element covering 617-960/1710-6000MHz.

The antenna is designed to be ceiling mounted and can be fitted on a conductive or non-conductive panel.

Part no.	Connector
CMSLP-6-60-05NJ	N Female
CMSLP-6-60-054310J	4.3-10

Inbuilding Antenna Cell



Low PIM MiMo Omni Ceiling Antenna

FEATURES

- Low Profile
- 2x2 MiMo 4G/5G
- Flame Retardant Materials
- Low PIM

The CMM-6-60 range has been designed to provide 2x2 MiMo coverage for 4G & 5G networks in a low profile package. The compact, robust low-profile housing contains two antenna elements with effective isolation and low correlation covering 617-960/1710-6000MHz.

Part no.	Connector
CMM-6-60-05NJ	N Female
CMM-6-60-054310J	4.3-10

Inbuilding Antenna Cell

MiMo Directional 3.6/5GHz Antenna

FEATURES

- Supports 2x2, 3x3 or 4x4 MiMo across 3.4-3.8/5.0GHz
- Up to 4x wideband elements with gain
- Suitable for mast and rail mounting

The WMM[X]9G-36-55 is a high directional gain 2x2, 3x3 or 4x4 MiMo antenna for 5G / CBRS / private LTE networks. Incorporating two, three or four separately fed gain element assemblies in a single housing the WMM[X]9G-36-55 is equipped to provide client side MiMo support for 3.6 and 5.0GHz networks.

The weather resistant housing is designed for rail or mast mounting.



Part no.	MiMo LTE
WMM29G-36-55-NJ	2x2
WMM39G-36-55-NJ	3x3
WMM49G-36-55-NJ	4x4

Inbuilding Antenna 5G LTE

Ultra Low Profile MiMo 3.6/5GHz Antenna

FEATURES

- Ultra Low Profile
- Up to 4 x 4 MiMo Dual Band Private LTE / CBRS
- EN45545-2 Certified
- EN50155 Certified
- Certified to IP69K and IK10

The CM[X]-36-55 range has been designed to provide MiMo dual band 3.6/5.0GHz coverage for private LTE / CBRS in an ultra low profile package. The compact, robust low-profile housing contains up to four antenna elements with effective isolation and low correlation covering 3.4-3.8/4.9-6GHz.

The antenna is designed to be ceiling mounted and can be fitted on a conductive or non-conductive panel.



Part no.	MiMo LTE
CM4-36-55-2SP	4x4



Directional 4x4 MiMo 4G/5G Antenna

FEATURES

- 4x4 MiMo directional antenna for 4G/5G
- 4x CAT18/20
- 617-960/1710-6000MHz elements
- Suitable for wall or mast mounting

The WMM4G-6-60 is a high directional gain 4x4 MiMo signal boosting antenna for 4G and 5G networks. Incorporating four separately fed wideband element assemblies in a single housing the WMM4G-6-60 is equipped to provide client side MiMo support for 4G and 5G networks offering 6dBi of peak gain at 617-960MHz and 9dBi peak gain at 1710-6000MHz.

Part no.	Connector
WMM4G-6-60-5SP	4x SMA Male
WMM4G-6-60-05NJ	4x N Female



Ultra Low Profile MiMo WiFi Antenna

FEATURES

Ultra Low Profile
Up to 4 x 4 MiMo Dual Band WiFi
EN45545-2 Certified
EN50155 Certified
Certified to IP69K and IK10

The CM[X]-24-58 range has been designed to provide MiMo dual band WiFi coverage in an ultra low profile package. The compact, robust low-profile housing contains up to four antenna elements with effective isolation and low correlation covering 2.4-2.5/4.9-7.2GHz.

The antenna is designed to be ceiling mounted and can be fitted on a conductive or non- conductive panel.

Part no.	MiMo WiFi
CM2-24-58-2RPSP	2x2
CM3-24-58-2RPSP	3x3
CM4-24-58-2RPSP	4x4

*Other connectors available

Dual Band Directional Patch Antenna

FEATURES

High gain directional antenna
Covers 2.4 & 5GHz for WIFI/WLAN
Ideal WIFI coverage extender for large rooms, car parks & warehouses

The Panorama client patch antenna is a directional wall or mast mounted antenna covering 2.4 & 5GHz for WIFI / WLAN applications.

This antenna is ideal for point to point communications or can be used to cover a wide area thanks to its relatively wide beamwidth in the horizontal and vertical planes. Several of these antennas can be used to provide cost effective sectorised coverage.



Part no.	Frequency (MHz)
W24-58-CP-9	2400-2480/4900-6000

MiMo Directional 2.4/5GHz Antenna

FEATURES

Supports 2x2, 3x3 or 4x4 MiMo across 2.4/5.0GHz
 Up to 4x wideband elements with gain
 Suitable for mast and rail mounting

The WMM[X]9G-24-58 is a high directional gain 2x2, 3x3 or 4x4 MiMo antenna for WiFi networks. Incorporating two, three or four separately fed gain element assemblies in a single housing the WMM[X]9G-24-58 is equipped to provide client side MiMo support for 2.4 and 5.0GHz networks.

The weather resistant housing is designed for rail or mast mounting.



Part no.	MiMo WiFi
WMM29G-24-58-NJ	2x2
WMM39G-24-58-NJ	3x3
WMM49G-24-58-NJ	4x4

Inbuilding Antenna WiFi



TETRA UHF Branch Line Antenna Combiner

FEATURES

Combines two TETRA radios on the same antenna
 Combines two antennas on the same radio

When you can only fit one antenna on a vehicle, then this combiner is the solution providing > 26dB isolation over 380-430MHz with an antenna match at 1.2:1 with low insertion loss.

Part no.	Frequency (MHz)
DBLC-TET-N	380-430

Combiner

Cables

C240

Cable Data	
Impedance	50ohms
Attenuation (per metre)	0.22dB @ 850MHz, 0.34dB @1800MHz, 0.42dB @ 2600MHz
Outer Diameter	6.1mm (0.2")
Shield Efficiency (IEC 61196-1)	<- 90dB

C400

Cable Data	
Impedance	50ohms
Attenuation (per metre)	0.1dB @ 850MHz, 0.18dB @1800MHz, 0.26dB @ 2600MHz
Outer Diameter	10.3mm (0.4")
Shield Efficiency (IEC 61196-1)	<-85dB

C55

Cable Data	
Impedance	50ohms
Attenuation (per metre)	0.34dB @ 850MHz, 0.51dB @1800MHz, 0.59dB @ 2600MHz
Outer Diameter	4.25mm (0.16")
Shield Efficiency (IEC 61196-1)	<-100dB

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