

Motorola OS-Spectra Components

Easy "Power-up and Point" Setup

COMPONENTS SHEET



MOTOROLA POINT-TO-POINT BROADBAND WIRELESS SOLUTIONS

MOTOROLA OS-SPECTRA AND MOTOROLA OS-SPECTRA LITE

System Components and Setup

Each end of a Motorola OS-Spectra or OS-Spectra Lite link consists of an outdoor unit (ODU), a powered indoor unit, called the Motorola OS-Spectra PIDU *Plus*, and the required mounting equipment. The systems also contain embedded web servers to manage a link either locally or remotely. Because the OS-Spectra and OS-Spectra Lite consist of the same hardware components, upgrading from the OS-Spectra Lite product is a simple software upgrade.

Initial setup is easy: Simply install the units on their respective mountings and align the antennas. Each pair of ODUs comes preset with an IP address and the Ethernet MAC address of the other ODU to which it will connect. The preset addresses enable the link's security features and allow the two units to communicate only with each other. Setup is simply "power-up and point." The installer aligns the antennas using an audible signal that translates the received signal strength into an audio tone. When the tone is highest, the two connection points are optimally aligned.

Outdoor Unit

The outdoor unit is one-half of each end of a Motorola OS-Spectra- or OS-Spectra Lite-enabled wireless Ethernet link. A single RJ-45 (CAT5e) cable connects the ODU to the PIDU and supplies the ODU with both power and the Ethernet data to be communicated over the link. The recently refined ODU, identical for both OS-Spectra and OS-Spectra Lite, is a small, durable, lightweight transceiver that contains all the required radio and networking elements (including the multiple antennas and other hardware needed for multi-beam space-time coding).

MOTOROLA OS-SPECTRA CONNECTORIZED

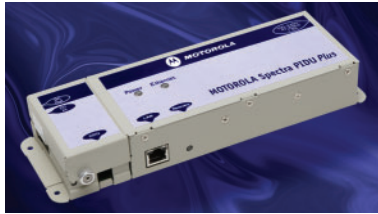
The Connectorized versions accommodate an external antenna for reliable communications over long distances, including open expanses of water and land.



Motorola OS-Spectra and
Motorola OS-Spectra Lite Integrated

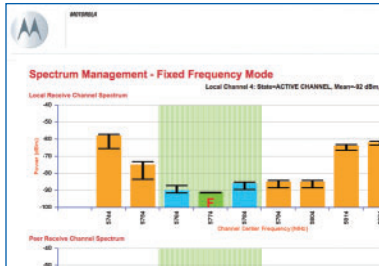


Motorola OS-Spectra and
Motorola OS-Spectra Lite Connectorized



Motorola OS-Spectra PIDU *Plus*

INTELLIGENT DYNAMIC FREQUENCY SELECTION (Performance information)



SYSTEM STATISTICS (Status)

Mikrotik

System Status - Master

Equipment			Wireless	
Attribute	Value	Unit	Attribute	Value
Link Name	Spectra Place House		Wireless Link Status	OK
Link Location	Monopole		Target Receive Modulation Mode	256QAM (MIMO)
Software Version	98100_8100+ loading		Maximum Transmitt Power	25
Hardware Version	001-0001		Receive Maximum Transmitt Power	25
Region Code	1		Transmitt Power	25.5
Elapsed Time Indicator	3 Days 01:10:09		Receive Power	-85.7
Channel : Internal			Modem Error	0.0
Channel Link Status	Channel Link OK		Link Loss	148.0
Channel Speed And Duplex	100 Mbps Full Duplex		Transmitt Data Rate	0.00

SYSTEM CONFIGURATION

The configuration page includes fields for: Link Name (Spectra Place House), Link Location (Monopole), Modem Status Mode (Master), Target Receive Modulation Mode (256QAM 1.1 BT (Dual-Cell 20 Mbps)), Channel Capped Max Wireless Speed (Disabled), and Max Transmitt Power (25). Buttons for 'Submit Updated System Configuration' and 'Reset Page' are at the bottom.

ODU Casing

The ODU's casing has an integrated safety and hoist loop, making installation easier and providing extra protection against a fall. Casing webs increase the surface area to improve cooling and increase rigidity without adding extra weight. For quick positioning on a pole or mast, the ODU comes with a self-gripping "grip-tight" mounting bracket. When partially tightened, a "friction fit" between the bracket components allows fine tilt adjustments before final tightening. The bracket also enables simple, one-handed tightening and adjustment. Overall, the ODU's small size and light weight make it easy to install in space-constrained and aesthetically challenging environments.

ODU Connectivity

The OS-Spectra and OS-Spectra Lite ODU casing allows a rich array of supported interfaces and configuration options:

- Gigabit Copper Ethernet (1000 Base T)
- Gigabit Optical Ethernet (1000 Base SX)
- Dual T1/E1 Interface (OS-Spectra) and Single T1/E1 (OS-Spectra Lite)
- Power over Gigabit Ethernet

The system's single-cable configuration enhances simplicity of use and reduces cable cost.

Motorola OS-Spectra PIDU *Plus*

The OS-Spectra PIDU *Plus* is one-half of each end of an OS-Spectra- or Spectra Lite-enabled wireless Ethernet link. A single RJ-45 terminated CAT5e cable connects the PIDU *Plus* to the ODU and carries both power and data. To guard against power and PIDU *Plus* failure, the PIDU *Plus* can be configured to provide redundant powering. About the size of a pocket dictionary, the lightweight PIDU has a rugged metal case that fits in a 1U high, rack-mount tray and operates reliably in temperatures from -40° F to +140° F (-40° C to +60° C).

Each PIDU *Plus* has two LEDs: a power LED that indicates the unit is powered up and working, and an Ethernet LED that indicates when data is being transferred. The unit also provides the following interfaces:

ODU This is the RJ-45 connection to the ODU, carrying both power and data.

LAN This is the RJ-45 connection to the user's data network. The connection supports automatic selection of speed setting, duplex setting and Tx/Rx pair swapping.

DC Out DC-Out powers external boxes such as T1/E1 converters.

DC In This connects the PIDU *Plus* to a battery or solar powering device.

Recovery The Recovery switch is used to regain control of the system in the event of configuration errors or software image corruption.

Mains Power A power cable supplied with a universal connector is provided with the PIDU *Plus*.

Network Management

The Motorola OS-Spectra and OS-Spectra Lite are configured and managed either locally or remotely, using a standard web browser or SNMP. Standard MIBs are supported as well as the WiMAX MIB and Motorola's unique MIB. The screens pictured on the left are examples of the many screen displays provided for real-time network management.

For more information about the Motorola Point-to-Point Solutions:

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