HotPort

Hardware Installation Guide
HotPort Series 7000
Indoor and Outdoor Wireless Mesh Nodes

HotPort 7100 - Indoor Node

HotPort 7200 - Outdoor Node

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Reliable connectivity anywhere™

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Safety Instructions

The HotPort outdoor wireless mesh node must be installed by a qualified professional such as a licensed electrician. Failure to install this equipment properly may result in equipment damage and personal injury or death.

 This symbol is intended to alert the user to the presence of non-insulated dangerous voltage that may be of sufficient magnitude to constitute a risk of lethal electric shock to persons.

 This symbol is intended to alert the user to the presence of important operating, maintaining and servicing instructions in the literature accompanying the HotPort node. Failing to comply with this instruction may result in electrical shock.

 This symbol is intended to alert the user to the presence of important operating, maintaining and servicing instructions in the literature accompanying the HotPort node. Failing to comply with this instruction may result in a hazard.

Contents

⚠ Caution! Risk of electric shock!

POWER LINES CAN BE LETHAL

Do not install the HotPort outdoor mesh node where possible contact with power lines can be made. Antennas, poles, towers, guy wires, or cables may lean or fall and contact these lines. People may be injured or killed if they are touching or holding any part of the equipment when it contacts electric lines. Make sure there is NO possibility that equipment or personnel can come in contact directly or indirectly with power lines.

ASSUME ALL OVERHEAD LINES ARE POWER LINES

The horizontal distance from a tower, pole or antenna to the nearest power line should be at least twice the total length of the pole/antenna combination. This will ensure that the pole will not contact power if it falls either during or after installation.

SURVEYING THE SITE

Look over the entire site before beginning any installation and anticipate possible hazards. Never assume anything without checking it out for yourself! Don't take shortcuts!

TO AVOID FALLING, USE SAFE PROCEDURES WHEN WORKING AT HEIGHTS ABOVE GROUND

- Select equipment locations that will allow safe and simple installation.
- Don't work alone. A friend or co-worker can save your life if an accident happens.
- Don't attempt repair work when you are tired. Not only will you be more careless, but your primary diagnostic tool - deductive reasoning - will not be operating at full capacity.
- Use approved non-conducting ladders, shoes, and other safety equipment. Make sure all equipment is in good repair.

- If a tower or pole begins falling, don't attempt to catch it. Stand back and let it fall.
- If anything such as a wire or pole does come in contact with a power line, DON'T TOUCH IT OR ATTEMPT TO MOVE IT. Instead, save your life by calling the power company.
- Don't attempt to erect antennas or towers on windy days.
- MAKE SURE ALL TOWERS AND POLES ARE SECURELY GROUNDED, AND ELECTRICAL CABLES CONNECTED TO ANTENNAS HAVE LIGHTNING ARRESTORS. This will help prevent fire damage or human injury in case of lightning, static build-up, or short circuit within equipment connected to the antenna. The HotPort outdoor node has built-in lightning protection. Be sure that any other equipment connected to the HotPort node also has the same level of protection.
- The base of the antenna pole or tower must be connected directly to the building protective ground or to one or more approved grounding rods, using 10 AWG ground wire and corrosion-resistant connectors.
- Refer to the National Electrical Code for grounding details.

IF AN ACCIDENT SHOULD OCCUR WITH THE POWER LINES:

- DON'T TOUCH THAT PERSON, OR YOU MAY BE ELECTROCUTED.
- Use a non-conductive dry board, stick, or rope to push or drag them so they no longer are in contact with electrical power.
- Once they are no longer contacting electrical power, administer CPR if you are certified.
- Immediately have someone call for medical help.

⚠ Do not open the cover

- Dangerous voltages inside.
- No serviceable parts inside.
- Refer to qualified service personnel.
- Unit must be disconnected from power prior to servicing.
- Unit has tamper-evident labeling that indicates when the cover has been removed.

HotPort Node Installation

This hardware installation guide describes how to install the HotPort node safely. The HotPort is intended to be installed by trained professionals. Be sure to read and understand all installation and safety instructions before proceeding with the installation.

Table 1. Summary of HotPort Series 7000 Mesh Nodes

Model	Use	No. of Radios
7100	Indoor, Worldwide, 2.4, 4.9, 5 GHz	1 or 2
7200	Outdoor, Worldwide, 2.4, 4.9, 5 GHz	1 or 2

This guide covers both dual-radio and single radio models. The only difference between dual-radio models and single-radio models is the second radio. Single radio models will identify themselves in software as 7101 or 7201; dual radio models will identify themselves as 7102 or 7202.

Package Contents

The HotPort node package contains the following items. If you are missing any of these items, contact your Firetide reseller.

HotPort 7100 Indoor Mesh Node

 • HotPort node in plenum-rated enclosure.

Antennas

 • Six detachable 2.4 GHz 5 dBi omnidirectional antennas.
 • Six detachable 5 GHz 5 dBi omnidirectional antennas.
 • *These are the only antennas approved for use with the 7100 in the 2.4, 4.9, and 5 GHz bands.*.

Power

 • External power module with NEMA5-15 (US) to IEC-320 cord. Other IEC cords are available separately.

Documentation

 • HotPort 7100 Quick Install Guide.
 • Warranty and registration card.

Compact Disk (CD)

 • HotView Pro software.
 • HotView Pro Reference Guide.
 • HotPort 7000 Hardware Installation Guide
 • Warranty/Registration Card.
 • EULA.

HotPort 7200 Outdoor Mesh Node

 • HotPort node in NEMA-4X enclosure with weatherproof caps.
 • Six N to reverse-polarity SMA adapters.
 • Mounting bracket for pole and wall mounting. Designed to fit 37 mm to 50 mm (1.5 in to 2.0 in) poles.

Mounting Kit

 • U-Bolts, M6x1.0-80mm, with flat washers, split washers, nuts.
 • Claw-tooth pole grippers.
 • M6x1.0-40mm hex bolt.
 • M6x1.0-20mm hex bolt.
 • Hex-head socket wrench.

Antennas

 • Six detachable 2.4 GHz indoor omnidirectional antennas.
 • Six detachable 5 GHz indoor omnidirectional antennas.

Power

 • AC power cord with NEMA 5-15 (US) plug. Other IEC cords are available separately.

Documentation

 • HotPort 7200 Quick Install Guide.
 • Warranty and registration card.

Compact Disk (CD)

 • HotView Pro software.
 • HotView Pro Reference Guide.
 • HotPort Series 7000 Hardware Installation Guide.
 • Warranty/Registration Card.
 • EULA.

Planning Your Installation

Staging Considerations

You should set up and test your nodes indoors, on a bench or table, before installing them. This will allow you to pre-configure the nodes so that they are all on the same RF channel, etc. You will use HotView Pro to configure the HotPort nodes and create a small mesh network. Test the network settings you plan to use.

1. Check to see that all nodes are visible in HotView Pro. If not, troubleshoot per directions in the HotView Reference Guide.

2. Set the Country Code for your country of operation.

3. Re-verify that all nodes are visible, and verify that dual-radio nodes have both radios correctly meshed.

Warning: The staging antennas provided with Firetide outdoor nodes are for temporary use only. They MUST be replaced with outdoor-rated antennas as soon as the mesh is staged and operational. The staging antennas are NOT waterproof and NOT moisture resistant. If used outdoors, the antennas may fail.

Your CD has a copy of Firetide's Accessory Guide. Contact your Firetide Reseller for assistance in selecting and ordering outdoor antennas suitable for your application(s).

Indoor Node Installation

Indoor node installation is straightforward. Firetide recommends that you power up and configure all nodes on a table or bench before deployment. Use HotView or HotView Pro to configure your mesh. Place the unit on a table or shelf. Apply power. The power LED should illuminate immediately; after about 60 to 90 seconds, the status LED should switch to steady green.

Note the location of the reset button in the lower right corner of the rear panel. To reset the unit, apply power and wait until the unit has fully booted and the status light has come on. Then use a paperclip to press and hold the reset button until the status LED blinks.

Positioning Indoor Antennas

The Firetide-supplied antennas are rated for use in dry, indoor environments. If the antenna is exposed to weather, moisture, or high humidity, it may fail. Use an approved outdoor-rated antenna instead.

MIMO technology takes advantage of signal reflections to improve performance. Antenna orientation affects this. Firetide recommends that you begin deployment with the antennas on each radio parallel and in the same plane as the node itself.

Depending on performance, you may wish to try other orientations.

Figure 2. HotPort Series 7100 Mesh Node - Front View

Figure 3. HotPort Series 7100 Mesh Node - Rear View

Figure 1. Staging Antennas

Figure 4. Power Supply

Outdoor Node Installation

Preparing the Unit

1. Pre-assemble the antenna, HotPort node, and other devices to a metal pole and antenna and then relocate and attach it to a roof top. It is often easier to install all devices to one object, such as a pole, and then attach the pole to the roof. In many cases, connecting the devices to a pole already attached to the roof top can be difficult and dangerous.

2. A lightning surge suppressor must be used. Some antennas include one. If not, you must install a lightning suppressor.

3. Install the antenna and any wireless devices higher than the HotPort node. Take care when locating the HotPort node far away from the antenna; a short antenna cable gives better performance than a longer one. Firetide recommends that you use antenna cables less than 3 meters.

4. The HotPort node and its antenna must both be grounded.

5. Use weatherproofing kits that include non-vulcanized rubber to weatherproof connectors and antennas. All Ethernet cables must be waterproofed; standard RJ-45 connectors do not last outdoors.

6. Power over Ethernet: Consider which devices require PoE and what the required input voltage will be.

7. Connect peripheral devices to the HotPort node.

8. Connect power to the HotPort node and peripherals.

WARNING

The staging antennas provided with Firetide outdoor nodes and access points are for temporary use only. They MUST be replaced with outdoor-rated antennas as soon as the mesh is staged and operational.

The staging antennas are NOT waterproof or moisture resistant. If used outdoors or in humid environments, the antennas may fail.

Your CD has a copy of Firetide's Accessory Guide. Contact your Firetide Reseller for assistance in selecting and ordering outdoor antennas suitable for your application(s).

Tools Needed

For HotPort 7200 outdoor nodes, you will need:

- #2 Phillips screwdriver.
- Small adjustable wrench.
- Wire cutters to cut tie wraps around cables.
- Weatherproofing kit – this kit provides electrical tape and butyl mastic.

Depending on the installation location, you may need ladders, a lift truck, or other means to access the actual installation locations.

Preparing Earth Ground

The HotPort node must be properly connected to earth ground. Failure to do so may result in equipment damage, injury, or death. The product warranty does not cover damages resulting in part or in whole from improper grounding. Consult your location's building and electrical codes regarding antennas and follow them, or consult the National Electric Code (NEC).

- If connecting to a tower or pole, connect the base of the tower pole directly to the building's ground or to one or more approved grounding rods using 10 AWG ground wire and corrosion-resistant connectors.
- Connect the grounding cable to rain gutters only if the rain gutter is connected to earth ground.

- Ground rods should be copper-plated, 1.8 - 2.4 m (6 - 8 ft) long.
- Install all grounding components in straight lines. If bends are unavoidable, do not make sharp turns.
- Earth-to-ground should not be more than 10 ohms.
- Understanding the soil is very important in order to create a proper earth ground. If your soil is rocky or sandy, drive your ground rods and then pull them back out and dump an approved ground enhancement material into the holes where the grounding rods go. Then replace the grounding rods. Keep in mind that some salt compounds are corrosive and can cause copper to corrode.

Safety Considerations

Consider the following safety issues.

- Use approved, non-conducting ladders.
- Use approved and non-conducting shoes and other safety equipment. Make sure that all equipment is in good repair.

- If mounting to a pole or tower, make sure all poles and towers are securely grounded.
- Make sure antennas are DC grounded; if not, cables must have lightning arrestors.

Antenna Placement

Firetide recommends the use of antennas specifically designed for MIMO applications. While it is possible to select and mount six individual antennas, determining correct placement and spacing is difficult. Use an antenna engineered for best results with MIMO.

If you are not using three antennas on each radio, install antennas in order, from the front of the unit toward the back. Do not 'skip' antenna connections.

Mounting Outdoor Antennas

Once you determine which RF band to use, you can order spectrum-specific high-gain antennas from Firetide or another supplier.

Many installers prefer to mount the HotPort node and its associated antennas to a short bar, typically about 2 meters long. This entire bar assembly is them mounted horizontally to the vertical mast of the main antenna structure.

Mounting Guidelines

- It is often easier to install all devices onto a pole, and then attach the pole to the roof. In many cases, connecting the devices to a pole already attached to the roof top can be difficult and dangerous.
- A lightning surge suppressor must be used. Some antennas include one. If not, install a lightning surge suppressor.
- Locate the HotPort close to the antenna; a short antenna cable gives better performance than a longer one. Firetide recommends antenna cables less than 3 meters.

- The HotPort node and its antenna must both be grounded.
- Large or heavy antennas must be mounted to a pole or other secure structure.
- The antennas should not be within 1 meter (~3 ft.) of any metal bar or structure, and ideally not within 1 meter (~3 ft.) of any concrete or stone structure. In general, try to locate the antennas as far from such objects as practicable.
- Shorter antenna cables give better performance. Plan your installation to minimize antenna cable length. However, do not attempt to splice or shorten the antenna cable.
- If a longer coax cable is required, the system requires a high-quality, low-loss 50 ohm cable. Contact your local distributor to obtain a 50 ohm cable with the correct connectors. Firetide recommends LMR400 cable or better.
- Minimize use of connectors and adapters.
- Once you've verified that everything is working, waterproof all connections!
- Do not mount the antenna pole near power lines.
- When mounting next to an access point, mount the access point lower on the pole and at least 1 meter (~3 ft.) from the antennas. You can also mount the access point on a horizontal bar to achieve the required separation.

Mounting Bracket

Your HotPort node shipped with a two-piece mounting bracket. This bracket is of the same design as the HotPort 6202 outdoor bracket, so you can install a 7200 in place of a 6201 or 6202.

The assembly is shown below. To mount the node, remove the outer piece, by loosening the thumb screws.

The inner bracket can be left attached to the node, as shown below.

Mounting the Universal Bracket

You can mount the node to a wall, a light pole, or an irregularly shaped pole. The universal mounting bracket has been designed with multiple holes and slots to allow mounting with bolts, straps, or other methods. Extra nuts and bolts are provided for this purpose; don't be alarmed if you have leftover fasteners when installation is complete.
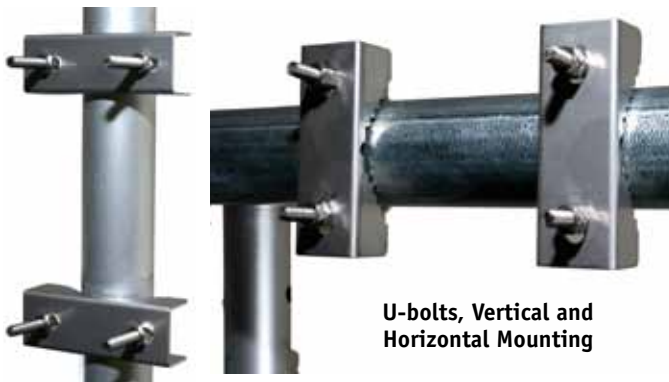
Wall Mounting

The Universal Mounting Bracket contains holes and slots to allow it to be mounted via U-bolts or straps. Use four screws (not supplied) to attach the universal mounting bracket securely to the wall using the four holes near the top and bottom of the universal mounting bracket. Use appropriate anchors when attaching to masonry or other materials.

Pole Mounting

1. Insert the two U-bolts through the holes in the claw-toothed pole-gripper piece.

2. On each U-bolt, place a washer, a lock washer, and a nut. Smaller pole diameters usually require a second nut as a spacer to hold the bracket away from the U-bolt clamp. Finger-tighten the nuts. There should be about 12-15 mm (1/2-5/8") of U-bolt sticking past the second nut.

U-bolt Mounted on Pole

Mount the second U-bolt. Use the mounting bracket as a guide to correctly space the two U-bolts, then tighten the nuts. A horizontal pole-mount is also shown for reference.

**U-bolts, Vertical and Horizontal Mounting**

Use lock washers and nuts to secure the bracket to the U-bolts. Installation on a horizontal pole is the same, you just use different holes in the mounting plate.

Universal Mounting Bracket Attached to Pole

This shows the use of spacer nuts when mounting to smaller poles. You may find an open-end wrench useful for tightening the inner nuts in these applications.

Mounting Bracket Showing Use of Spacer Nuts
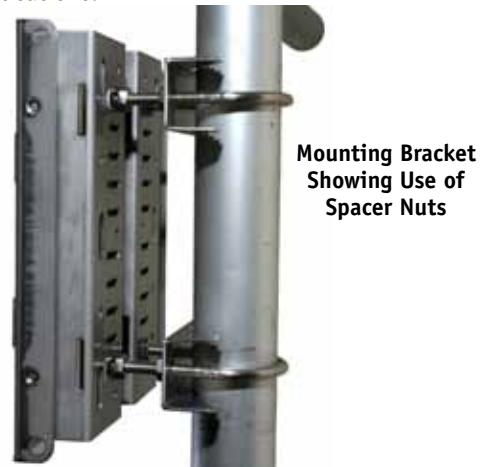
Using Mounting Straps

For poles with diameters larger than 50 mm (2"), irregularly shaped poles, or light poles, you can use mounting straps (not supplied) to mount the HotPort enclosure.

1. Position the universal mounting bracket against the pole.

2. Thread two mounting straps around the pole and through the slots located near the top and bottom of the universal mounting bracket. Secure the mounting straps.

3. Attach the enclosure to the universal mounting bracket by sliding the metal clips on the back of the enclosure into the metal straps on the universal mounting bracket.

Secure the enclosure to the universal mounting bracket using the four captive screws on the sides of the universal mounting bracket.

Mounting Antennas

Now that you've attached the Universal Mounting Plate, you are ready to proceed to the next steps. Most outdoor applications use separately-mounted antennas, if so, mount your antennas now. If you are using the temporary staging antennas, the next step is to attach the HotPort node itself.

Connecting Cables

After your node is mounted, attach the six antennas, the power cable, and any Ethernet cables you need. Note that all of the weatherproof caps have been removed from the node for illustrative purposes. You should not leave any unused connector uncovered.

Figure 5. HotPort 7200 Bottom Panel

Note the locations of the reset button under the weatherproof cap. To reset the unit, apply power and wait until the unit has fully booted and the status light has come on. Then use a paperclip to press and hold the reset button until the status LED blinks.

Power Connection

Connect the suppled AC power cable to AC power and to the HotPort node. If you wish to power your node with DC power, you will need a source of power which can deliver 12 V ±10% at 3 A. Information on building custom power cables is shown in Appendix B. Do not connect both AC and DC supplies simultaneously.

Powering Other Ethernet Devices

Ports 2 and 3 on a Series 7200 node can provide Power over Ethernet (PoE) functionality to Powered Devices (PD) connected to these ports. (Port 1 cannot.) A Powered Device can receive data and the power to process the data from the HotPort node, which functions as Power Sourcing Equipment (PSE) in this configuration. To receive power from a HotPort node, the device must support the IEEE 802.3af standard, which defines PoE functionality.

Connecting Antennas

Don't forget to order your permanent outdoor antennas! You can't use the staging antennas outdoors, they might fail.

When connecting antennas, connect them in numerical order 1-2-3. If you are not using three antennas per radio, do not 'skip' antenna connectors. The antenna 1 connector is at the top of the unit (farthest from the power and Ethernet connections) on both the left and right side.

Appendix A - Contacting Firetide

Dealer-Provided Technical Support and Warranty Service

If you need additional technical assistance, please contact your Firetide dealer directly. All authorized Firetide dealers are trained and authorized to provide technical support and warranty services for our products and have qualified technical staff available to help you build and maintain your Firetide mesh network.

Firetide-Provided Technical Support

You can also get technical support from Firetide. Simply email support@firetide.com, or call 1-877-FIRETIDE, extension 2, or +1 408 399 7771.

Product Returns

Please contact your Firetide dealer for instructions on returning defective or damaged products for repair or replacement. Do not return products to Firetide, Inc. Please keep all original packaging materials in the event they are needed to return the product for servicing.

Sales Assistance

If you need additional HotPort wireless mesh nodes or accessories, please contact your Firetide dealer directly. If you do not know your dealer's name, simply email **sales@firetide.com** and we will send you the dealer information you need. To help us provide the best service possible, be sure to include your phone number, address, and the serial numbers of the HotPort nodes at your location.

Mailing Address

Firetide, Inc.
140 Knowles Drive
Los Gatos, CA 95032 USA

Appendix B - Connector Wiring

HotPort Outdoor Node AC Power Connector

Figure 6 shows the pinout of the AC Power connector used on Series 7200 outdoor nodes. Views are shown of both the connector on the unit, and the mating connector on the cable itself. Pin 1 is neutral; pin 2 is line, and pin 3 is ground.

Figure 6. Series 7200 AC Power Connector

Series 6200 AC Power Connector View

Series 6200 AC Power Cable-End View
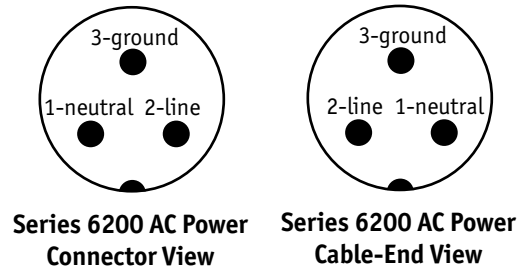
HotPort Outdoor Node DC Power Connector

Figure 7 shows the pinout of the power connector used to supply power to Series 7200 nodes. Each view is of the cable connector, as viewed end-on. Pin 4 is +12VDC power. Pin 3 is ground.

Figure 7. Series 7200 DC Power Connector

Series 6200 DC Power Connector

**Cable-End View**   **Connector View**
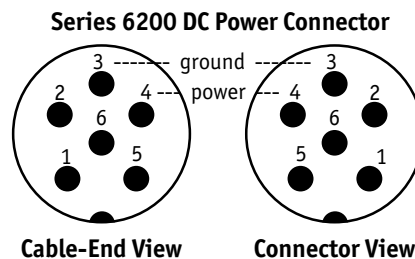
Custom Power Cables

Firetide offers an accessory DC power cable. The part number is 3200-2401, and this cable can be used to connect other DC sources to your Series 7200 node. One end of the cable has the six-pin connector used by the Series 7200; the other end has a weatherproof 4-pin connector. Both connectors are of the LTZ type. The cable is wired as shown in Figure 8.

Custom cables can be built in either of two ways.

1. You can obtain a 4-pin female LTZ connector and build an adapter cable.

2. You can cut the 4-pin male LTZ connector off the cable and attach whatever type of connector you require.

Figure 8. DC Power Adapter Cable Wiring
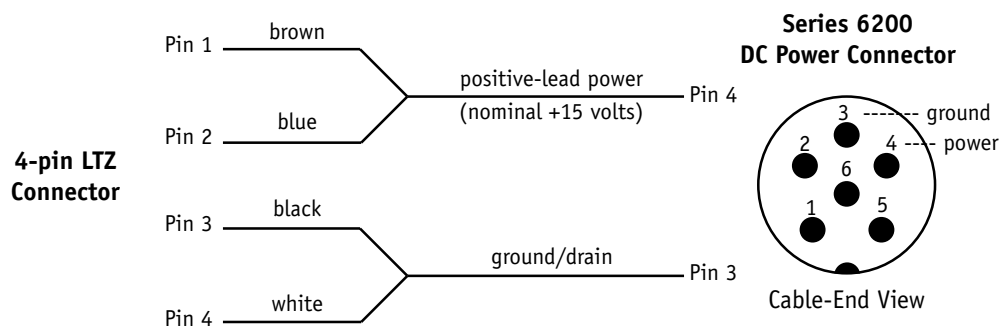
DC power to a HotPort node must be 12 VDC ±15%, at 3A. Series 7200 nodes can provide PoE-compliant 48 VDC power to other devices.

Appendix C - Specifications

Common Specifications

Wireless Interface

These tables describes the technical limits of the nodes. Various country restrictions may further limit available choices.

Model	Use	No. of Radios
7100	Indoor, Worldwide, 2.4, 4.9, 5 GHz	1 or 2
7200	Outdoor, Worldwide, 2.4, 4.9, 5 GHz	1 or 2

Single-radio HotPort 7100 nodes appear as 7101.
Dual-radio HotPort 7100 nodes appear as 7102.
Single-radio HotPort 7200 nodes appear as 7201.
Dual-radio HotPort 7200 nodes appear as 7202.

For all models:

Bands (GHz)	Frequency (GHz)	Restrictions
802.11a	5.15-5.25	
802.11n	5.25-5.35	
	5.725-5.825	
	4.9-5.090	Japan only
	4.94-4.990	US Public Safety
	5.470-5.725	ETSI 301.893, U-NII
802.11b/g	2.412-2.484	
802.11n		

Bands (GHz)		Max TX Power
802.11a	5.725-5.825 UNII-3	26dBm
802.11n		26dBm
		24dBm
		23dBm
	5.470-5.735 UNII	23 dBm
	5.25-5.36 M UNII-2	23 dBm
	5.15-5.25 UNII-1	17 dBm
802.11b		24 dBm
802.11g		26dBm
802.11n		26dBm

Supported Data Rates & Standards

- 802.11a   6/9/12/18/24/36/48/54Mbps
- 802.11a   Capable of switching to 1/4 and 1/2 rates for 4.940 – 4.990 GHz Public Safety Band
- 802.11b   1/2/5.5/11Mbps
- 802.11g   6/9/12/18/24/36/48/54Mbps
- 802.11n   6.5/13/19.5/26/65/130/195/260 (1)
7.2/14.4/21.7/28.9/72.2/144/216.7/288.9 (2)
13.5/27/40.5/54/135/270 (3)
15/30/45/60/150/300 (4)
  (1) 20MHz LGB (2) 20MHz SGB (3) 40MHz LGB (4) 40MHz LGB
- Network Standards: IEEE 802.11a/b/d/g/e/f/h/i/n
- Dynamic Frequency Selection (DFS) capable in conjunction with Firetide Software application

Mesh Protocol

- Firetide AutoMesh Protocol

Mesh Management Software

- HotView Pro™ mesh management software

Security & Encryption

- Security: WPA—64/128/256 w/TKIP, AES,

Antennas

- Twelve detachable omnidirectional, vertical polarization, six for each band.

Regulatory Agency Certifications

- Contact your Firetide dealer for product availability and certifications for your country.

Series 7200 Outdoor Unit Specifications

Network Ports
- Three 10/100/1000 Mbps Ethernet ports with weatherproof connectors, LED activity indicator
- IEEE 802.3, 802.3u compliant
- CSMA/CD 10/100/1000 autosense
- Ports 2, 3 PSE Power over Ethernet per 802.3at

Enclosure
- Cast aluminum NEMA-4X/IP66 enclosure
- Six N-type antenna connectors
- Two weatherproof power connectors (AC and DC)
- Three weatherproof Ethernet connectors
- System LEDs (power, status, mesh (per radio), ethernet)
- Weight: 12 lbs (5.5 Kg) with bracket
- Dimensions: 8.8" x 11.2" x 4" (220 x 280 x 100 mm)

Power
- AC Input: 90-240 VAC, 50-60 Hz, 0.9A
- DC Input: 12 VDC ±15%, 3 A
- Port 2: IEEE 802.3af compliant PoE (PSE), 13.5 W max
- Port 3: IEEE 802.3af compliant PoE (PSE), 13.5 W max

Environmental Specifications
- Operating temperature: -40º C to +60ºC
- Storage temperature: -40º C to +85º C
- Humidity (non-condensing): 10% to 90%
- Storage humidity (non-condensing): 5% to 95%
- Maximum altitude 15,000 feet (4600 meters)

Included Accessories
- Bracket for pole and wall mounting
- External power cord
- Six 2.4 GHz and six 4.9-5.8 GHz 5 dBi omni staging antennas, for indoor and temporary use only. The 7200 has been certified with a 9 dBi omni, 16 dBi sector, and 19 dBi panel outdoor antenna. Contact Firetide for part numbers and ordering information.

Series 7100 Indoor Unit Specifications

Network Ports
- Four 10/100/1000 Mbps Ethernet ports with LEDs
- PoE PD on Port 1
- IEEE 802.3, 802.3u compliant
- CSMA/CD 10/100/1000 autosense

Enclosure
- Plenum-rated metal enclosure
- Six RP-SMA antenna connectors
- One DC power connector
- Four Ethernet connectors
- System indicator LEDs: power, status, per-radio mesh, ethernet
- Weight: 3 lbs (1.4 Kg)
- Dimensions: 9.4" x 6" x 1.8" (238 x 152 x 48 mm)

Power
- DC Input: 12 VDC ±15%, 3 A

Environmental Specifications
- Operating temperature: 0º C to +60ºC
- Storage temperature: -20º C to +70º C
- Humidity (non-condensing): 10% to 90%
- Storage humidity (non-condensing): 5% to 95%
- Maximum altitude 15,000 feet (4600 meters)

Included Accessories
- AC power adapter
- Six 2.4 GHz and six 4.9-5.8 GHz 5 dBi omni staging antennas, for indoor use only.

Appendix D - Regulatory Notices

USA

FCC Class A Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

FCC Part 15 Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in an office installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

FCC Part 90 Note

This equipment has been tested pursuant to FCC Part 90, DSRC-C mask certification, and is approved for use in the US on Public Safety bands by licensed Public Safety agencies.

Public Safety Band

Pursuant to Part 90.1215, use of antennas with gain greater than 9 dBi and up to 19 dBi in the 4.940 - 4.990 GHz Public Safety band is permissible without reduction of TX output power. The antenna shall have a directional gain pattern in order to meet the requirement of point to point and point to multi-point operation.

Modifications

Any modifications made to this device that are not approved by Firetide, Inc. may void the authority granted to the user by the FCC to operate this equipment.

FCC Radiation Exposure Statement

To ensure compliance with the FCC's RF exposure limits, the antenna used for this transmitter must be installed to provide a separation distance from all persons.

- For the 7100, the distance must be 20 cm.
- For the 7200, the distance must be 76 cm.

The 7100 and 7200 must not be co-located or operated in conjunction with any other antenna or transmitter. Installers and end users must follow these installation instructions.

Installation

Antenna(s) for this unit must be installed by a qualified professional. Operation of the unit with non-approved antennas is a violation of U.S. FCC Rules, Part 15.203(c), Code of Federal Regulations, Title 47.

Canadian Compliance Statement

This Class A Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte les exigences du Reglement sur le material broilleur du Canada.

This device complies with Class A Limits of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

Firetide HotPoint 7100 and 7200 wireless mesh nodes are certified to the requirements of RSS-210 for 2.4 and 5 GHz spread spectrum devices. The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations. For further information, contact your local Industry Canada office.

Canadian units will not transmit in the 5600-5650 MHz band.

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