

Equipment Overview

The equipment shown below will be installed at the customer site.

Satellite Hardware



Satellite Modem



Network Controller



PoE Injectors and Power Cables

(included with Mikrotik devices)



WIM Access Point

Model Varies



UPS (model may vary)



Point-of-Sale Device

(model varies; includes power adapter; case comes separately)






















The Following is Required for the HOST Site Install:











Required Equipment Per Host Site

| Item Type | Qty | Spares |
|----------------------|-----|--------|
| Point-of-Sale Device | 1 | 0 |
| Host Site UPS | 1 | 0 |
| Controller | 1 | 1 |
| WIM Access Point | 1 | 1 |
| Tria | 1 | 1 |
| Modem | 1 | 1 |
| Reflector | 1 | 0 |
| Az/EI | 1 | 0 |
| Universal Mount | 1 | 0 |














Required Installation Supplies Per Host Site

















| Supplies | Qty | Example | Specs |
|---|---|---|---|
| RG6 Coaxial Cable | Typical: 20 meters Max Functional Length: 45 meters |  | Swept-tested to 3 GHz, 100% shielded, Solid Copper, 60% Braid, 75 Ohm Optional: with #17 messenger cable attached |
| Grounding Wire #17 Note: Not needed if RG6 has this wire attached | Typical: 15 meters Max Functional Length: 45 meters |  | 17 awg insulated CCS |
| Bare Solid (No Braiding) Copper Grounding Wire #10 (Needed for the WiFi pole <u>only</u> if distance from pole to grounding source is over 6 meters) | For Satellite ODU Grounding: Max 6 ½ Meters For WiFi Pole Mounting: Max 6 ½ Meters Total: 13 meters |  | 10 awg Insulated Solid Copper Core |
| Brass grounding clamp | Bulk |  | Must be UL approved. |
| Grounding Rod | 1 |  | Must be used if no current grounding source exists. |







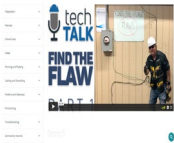
| Supplies | Qty | Example | Specs |
|---|--------------------|---|---|
| CAT5e outdoor-rated Ethernet cable | Typical: 60 meters |  | 24 AWG solid copper conductor, HDPE insulation, LDPE outer jacket, PE tape wrap |
| 3-prong to 2-prong power outlet adapter for the UPS | 1 |  | No widened tips on the 2-prong, must fit basic power outlets. |
| UV-Protected RJ45 connectors with sleeve | 4 |  | FCC and RoHS compliant, UL rated |
| Single Coax Cable Clips | 60 |  | UV protected PVC plastic, zinc plated mounting screw, 1/4" hex drive head |
| Ground wire clips for #10 wire | 5 |  | UV protected PVC plastic, zinc plated mounting screw, 1/4" hex drive head |
| Screw clip anchor kit | Bulk |  | #8X1" 1/4" anchor |
| F-connectors | 4 |  | Bandwidth: within 0 MHz to 3 GHz, Impedance: 75 Ohms, Meets or exceeds all SCTE Specifications |
| Pass-through bushings | 2 |  | Center passageway accommodates up to 0.30" O.D. coax, UV protected plastic |
| 3-meter galvanized Steel Pole with min. 38mm diameter and threads on end (used for WiFi mounting) | 1 |  | Schedule 20 or higher; if threaded poles are not available then another method must be used for attaching PVC |
| Threaded pipe fitting for extending the steel pole with PVC | 1 |  | Must securely fasten the PVC to the metal pole. |
| 2-meter PVC with min. 38 mm diameter and threads on end | 1 |  | Must be within 2 to 3 meters in length. |
| Wall mount with mounting hardware for AP/Controller Pole | 1 |  | Securely mounts the galvanized steel pole; swivel mount that can be used on walls or roofs recommended. |
| 76mm stainless steel ring clamps | 3 |  | Must include 50mm to 76mm in its diameter range. |
| Galvanized Steel Ground Strap, UL/CUL listed | 1 |  | Minimum of 152mm |

| Supplies | Qty | Example | Specs |
|---|------------|---|--|
| Grounding wire #12 or thicker for steel pole | 6 ½ meters |  | 12awg ground wire or thicker (#10 wire will work) |
| Grounding bus with 3 port holes. (Needed if distance from WiFi pole to grounding source is over 6 meters) | 1 |  | Min. 3 port holes |
| Outdoor UV rated zip-ties | 20 |  | ~90mm |
| Silicone sealant (used on bushings and wall mounts) | Bulk |  | RTV flexible |
| Bishops tape (for shingles-based roof <u>satellite</u> <u>install</u>) | Bulk |  | Insulating Mastic Seal Tape, 6 1/2" Wide |
| Tar-based roof sealant (for use on <u>concrete roofs...do</u> <u>not use on</u> <u>shingles.</u>) | Bulk |  | N/A |
| Optional: Modem Shelf (Only if no existing location available) | 1 |  | Fits all inside equipment (Modem/UPS) |
| Printed Business Owner Agreement | 1 |  | N/A |
| Marketing material | Per Manual |  | N/A |
| If no other mounting options: Pole-in-Ground Mount with Concrete. | 1 |  | 7-8 feet schedule 40 galvanized steel pole,, anti-spin device, PVC pole sweep, fast-dry concrete |

Required Tools for Host Site and Coverage Point Installs:

| Tools | Qty | Example |
|--|-----|---|
| 5GHz Laptop (802.11 a/b/g/n or ac) with an ethernet port | 1 |  |
| <p>5GHz (dual-band) Android Smartphone (no iPhones!) with the following apps installed: Viasat Staging Application, FSM mobile app, WiFiman and Coverage Wi-Fi Analyzer.</p> <p>This device must have "802.11 a/b/g/n" or "802.11 ac" in its technical specifications.</p> | 1 |  |
| Short pre-terminated ethernet cables for device activation | 2 |  |
| Power drill | 1 |  |
| Cable Prep Tool for RG6 Coaxial Cable | 1 |  |
| UTP modular crimping tool | 1 |  |
| Linear compression tool for RG6 connectors | 1 |  |
| Coax cable cutters | 1 |  |
| Hammer for grounding rod | 1 |  |
| Screwdriver (flat head) or Nut Driver | 1 |  |
| Screwdriver (Phillips head) | 1 |  |
| Inclinometer | 1 |  |
| 3.4 N-m torque wrench | 1 |  |












| Tools | Qty | Example |
|--|-----|---|
| 13mm open-ended ratchet wrench | 1 |  |
| 6-point metric deep socket ratchet wrench to accommodate sockets | 1 |  |
| 8mm 6-point metric short socket | 1 |  |
| 13mm 6-point metric deep socket | 1 |  |
| Torpedo/Bullet Level | 1 |  |
| Tape measure | 1 |  |
| 16mm paddle bit | 1 |  |
| 16mm masonry bit | 1 |  |
| Ladder (~30ft, telescoping) | 1 |  |
| Shovel | 1 |  |
| Post hole digger | 1 |  |
| 5/16" x 1 3/4" Lag Shield | 1 |  |
| 13mm masonry bit | 1 |  |
| Hammer Drill | 1 |  |
| 6.35mm magnetic nut driver (for power drill) | 1 |  |
| 8mm magnetic nut driver (double-check) | 1 |  |
















| Tools | Qty | Example |
|--|-----|---|
| Needle-nose Pliers | 1 |  |
| Multimeter | 1 |  |
| Cable tester for Cat5e AND coaxial cable | 1 |  |
| Cable Prep Tool for RJ45 Cable | 1 |  |
| Cable Prep Tool for Grounding Wire | 1 |  |
| Saw for Cutting PVC | 1 |  |
| Newest version of the eGuide | 1 |  |

The Following is Required for EVERY COVERAGE POINT Install:

This means multiply each quantity listed below by the number of Coverage Points that will be installed. Carry plenty extra if you are unsure how many points will be installed.

Required Installation Supplies Per Coverage Point

| Supplies | Qty | Example | Specs |
|---|--|---|---|
| Coverage Point UPS | 1 |  | May be the same as the Host Site UPS or may be a different model |
| WIM AP | 1 |  | Model may vary |
| Grounding Wire #17 Note: Not needed if RG6 has this wire attached | Typical: 15 meters Max Functional Length: 45 meters |  | 17 awg insulated CCS |
| Bare Solid (No Braiding) Copper Grounding Wire #10 (Needed for the WiFi pole <u>only</u> if distance from pole to grounding source is over 6 meters) | For WiFi Pole Grounding: Max 6 ½ Meters |  | 10 awg Insulated Solid Copper Core |
| Brass grounding clamp | Bulk |  | Must be UL approved. |
| Grounding Rod | 1 |  | Must be used if no current grounding source exists. |
| CAT5e outdoor-rated Ethernet cable | Typical: 40 meters |  | 24 AWG solid copper conductor, HDPE insulation, LDPE outer jacket, PE tape wrap |
| 3-prong to 2-prong power outlet adapter for the UPS | 1 |  | No widened tips on the 2-prong, must fit basic power outlets. |
| UV-Protected RJ45 connectors with sleeve | Bulk |  | FCC and RoHS compliant, UL rated |
| Single RJ45 Cable Clips | Bulk |  | UV protected PVC plastic, zinc plated mounting screw, 1/4" hex drive head |
| Ground wire clips for #10 wire | Bulk |  | UV protected PVC plastic, zinc plated mounting screw, 1/4" hex drive head |

| Supplies | Qty | Example | Specs |
|--|------------|---|---|
| Screw clip anchor kit | Bulk |  | #8X1" 1/4" anchor |
| Pass-through bushings | 2 |  | Center passageway accommodates up to 0.30" O.D. coax, UV protected plastic |
| 3-meter galvanized Steel Pole with min. 38mm diameter and threads on end (used for WiFi mounting) | 1 |  | Schedule 20 or higher; if threaded poles are not available then another method must be used for attaching PVC |
| Threaded pipe fitting for extending the steel pole with PVC | 1 |  | Must securely fasten the PVC to the metal pole. |
| 2-meter PVC with min. 38 mm diameter and threads on end | 1 |  | Must be within 2 to 3 meters in length. |
| Mount and hardware for AP Pole | 1 |  | Securely mounts the galvanized steel pole; swivel mount that can be used on walls or roofs recommended. |
| 76mm stainless steel ring clamps | 1 |  | Must include 50mm to 76mm in its diameter range. |
| Galvanized Steel Ground Strap, UL/CUL listed | 1 |  | Minimum of 152mm |
| Grounding wire #12 or thicker for steel pole | 6 ½ meters |  | 12awg ground wire or thicker (#10 wire will work) |
| Grounding bus with 3 port holes. (Needed if distance from WiFi pole to grounding source is over 6 meters) | 1 |  | Min. 3 port holes |
| Outdoor UV rated zip-ties | 20 |  | ~90mm |
| Silicone sealant (used on bushings and wall mounts) | Bulk |  | RTV flexible |
| Bishops tape (for shingles-based roof <u>satellite install</u>) | Bulk |  | Insulating Mastic Seal Tape, 6 1/2" Wide |
| Tar-based roof sealant (for use on <u>concrete roofs</u> ...do not use on shingles.) | Bulk |  | N/A |
| If no other mounting options: Pole-in-Ground Mount with Concrete. | 1 |  | 7-8 feet schedule 40 galvanized steel pole,, anti-spin device, PVC pole sweep, fast-dry concrete |