Complete Install Equipment List

Viasat Community Internet
Revision – 2020.12.14

Viasat

Contents

Equipment Overview:

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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)
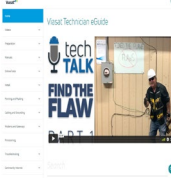
Point-of-Sale Device
(model varies; includes power adapter; case comes separately)

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 and WiFi Analyzer downloaded	1	
5GHz (dual-band) Android Smartphone (no iPhones nor iOS devices) with the following apps installed: Viasat Staging Application, FSM mobile app, WiFiman and Coverage This device must have "802.11 a/b/g/n" or "802.11 ac" in its technical specifications.	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	
13mm open-ended ratchet wrench	1	
6-point metric deep socket ratchet wrench to accommodate sockets	1	

Tools	Qty	Example
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	1	
Needle-nose Pliers	1	
Multimeter	1	

Tools	Qty	Example
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	
Safety harness (if climbing a tower)	1	

The following is required for the HOST site install:
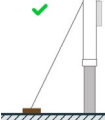
Required Equipment per Host Site:

Item Type	Qty	Spares
Point-of-Sale Device	1	1
Host Site UPS or Solar Kit	1	1
Controller	1	1
WIM Access Point	1	1
Tria	1	1
Modem	1	1
Reflector	1	1
Az/El	1	1
Universal Mount	1	1

Required Installation Supplies per Host Site:

Supplies	Qty	Example	Specs
RG6 Coaxial Cable	Typical Length: 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 only 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.
CAT5e outdoor-rated Ethernet cable	Typical Length: 60 meters		24 AWG solid copper conductor, HDPE insulation, LDPE outer jacket, PE tape wrap, UV Resistant
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
Galvanized Steel Pole with min. 38mm outer diameter and threads on end (used for WiFi mounting)	Length varies per site		Schedule 20 or higher; if threaded poles are not available then another method must be used to attach PVC

Supplies	Qty	Example	Specs
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 1 to 2 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
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	Bulk		~90mm
Epoxy for AP antenna orientation	Bulk		The AP antennas are loose and epoxy must be applied to stabilize them
Silicone sealant (used on bushings and wall mounts)	Bulk		RTV flexible
Bishops tape (for shingles-based roof satellite install)	Bulk		Insulating Mastic Seal Tape, 6 1/2" Wide
Tar-based roof sealant (for use on concrete roofs - **do not** use on shingles)	Bulk		N/A
Optional: For satellite ODU installs into less secure building materials use: 12" 11/32 bolts (or longer based on width of the concrete block) with matching nuts and lock washers	Bulk		Only needed in situations where the standard ODU hardware isn't enough to stably install the dish. BUT if the ODU is still unstable after using longer bolts, then a different install strategy or location is required
Grounding screw for satellite ODU (if not included in kit)	1		See ODU instructions
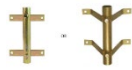
Supplies	Qty	Example	Specs
Optional: Modem Shelf (Only if no existing location available)	1		Fits all inside equipment (Modem/UPS)
Printed Business Owner Agreement	1		N/A
Marketing material	Per Manual		N/A
Guy wire and anchor	As many as needed		Guy wire and anchor are required if extra support is needed on installed pole
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

The following is required for EVERY EXTENDED COVERAGE POINT install:

This means multiply each quantity listed below by the number of Coverage Points that will be installed. Carry 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
WiFi Access Point	1		Model may vary
Grounding Wire #17	Max Functional Length: 6 meters		17 awg insulated CCS
Bare Solid (No Braiding) Copper Grounding Wire #10 (Needed for the WiFi pole only 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 Length: 20 meters Max Functional Length: 100 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
Screw clip anchor kit	Bulk		#8X1" 1/4"anchor

Supplies	Qty	Example	Specs
Pass-through bushings	2		Center passageway accommodates up to 0.30" O.D. coax, UV protected plastic
Galvanized Steel Pole with min. 38mm diameter and threads on end (used for WiFi mounting)	Length varies per install		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 1 to 2 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
Epoxy for AP antennas	Bulk		The AP antennas are loose and epoxy must be applied to stabilize them
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