



Accelerated Concepts Cellular Extender



6200-FX Trouble Shooting Guide

Version 1.3

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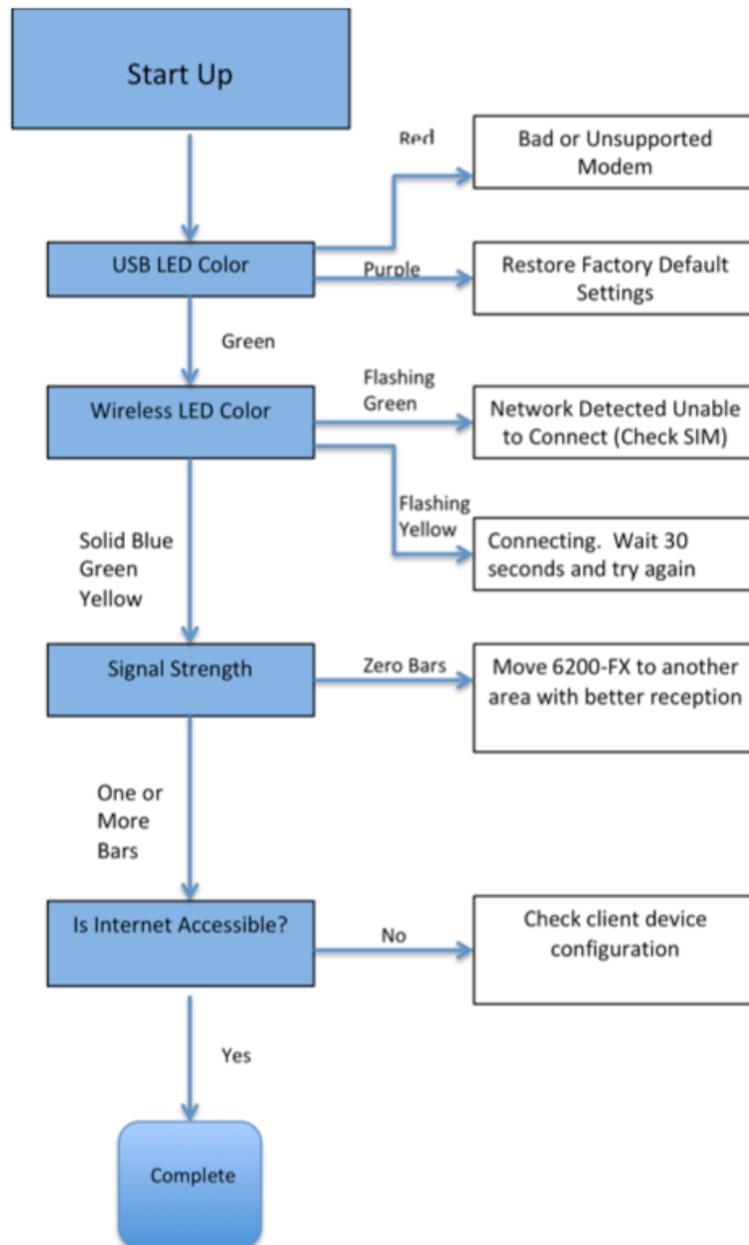
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Initial Setup/Power On

Before powering on the 6200-FX ensure you have the following equipment:

- USB Modem
 - SIM card (optional, only required if modem uses a SIM)
 - Ethernet Cable
 - 6200-FX power supply (Or POE, see **Power** section)
 - Client Device (Router/Laptop)
1. Insert SIM into USB Modem, if required
 2. Insert Modem into 6200-FX (see **USB Modem** section)
 3. Insert one end of Ethernet Cable into 6200-FX and the other into the appropriate port on the Client Device (see **Ethernet Cable** section)
 4. Connect the 6200-FX power supply and turn it on.
 5. Wait 30 seconds
 6. Refer to the "Startup and Troubleshooting" section for more instructions.

Startup and Troubleshooting



Connections

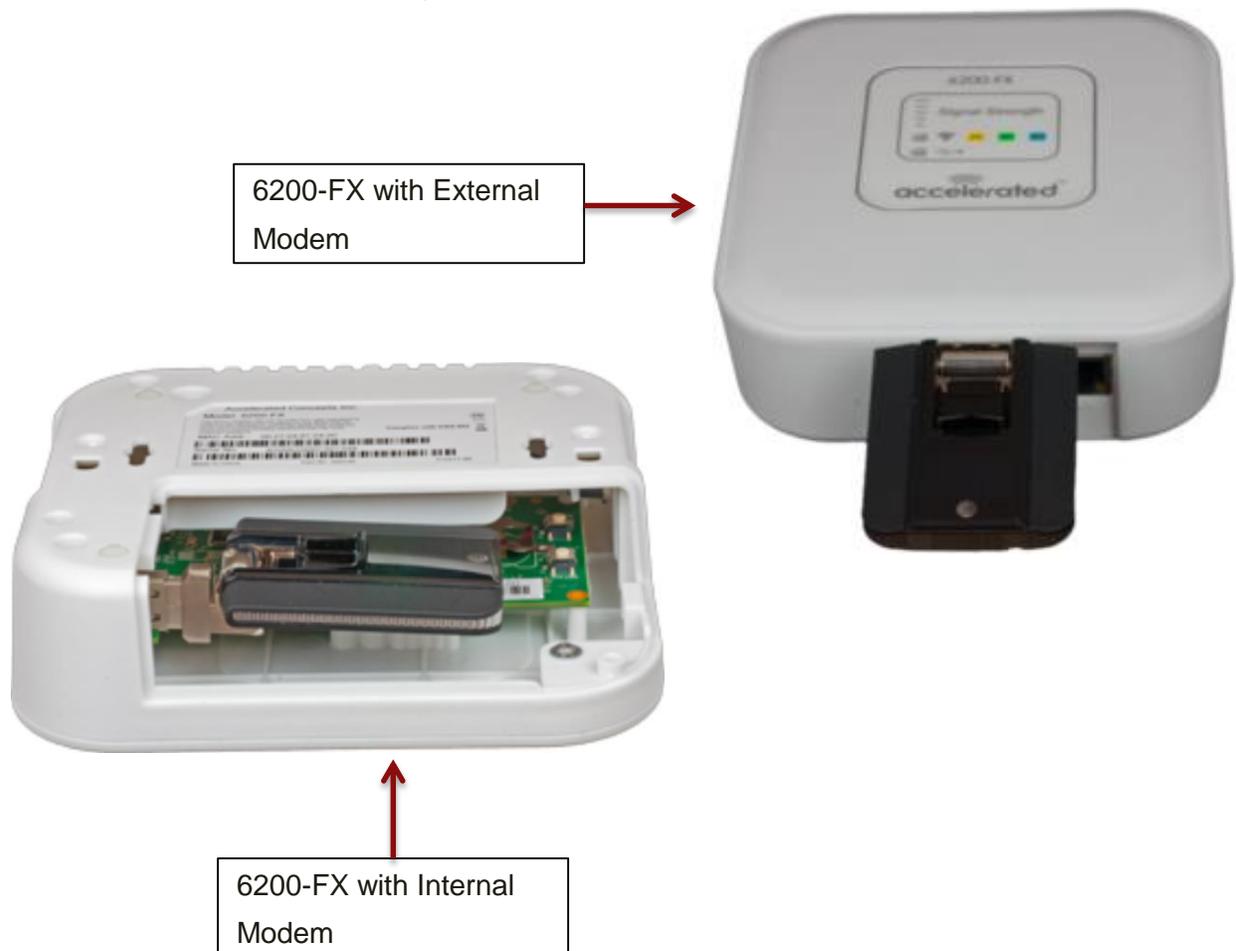
In order for the 6200-FX to function properly all connections must be correct. If the 6200-FX device is not working properly, first ensure that the unit has been properly set up. The following needs to be connected to the 6200-FX:

USB modem

A supported USB modem must be inserted into either the internal or external USB port. A list of supported USB modems can be found at: <http://acceleratedconcepts.com/support>



The 6200-FX device only operates with one USB modem at a time. Do not plug a USB modem into both the USB ports on the unit.



Ethernet Cable

An Ethernet cable is connected to both the Ethernet port on the 6200-FX and the end device (client computer, AT&T VPN 8200, router, etc.). If the device is a router or AT&T VPN 8200, the Ethernet cable should be inserted into either the Internet, WAN, or Uplink port (see device's User Guide)

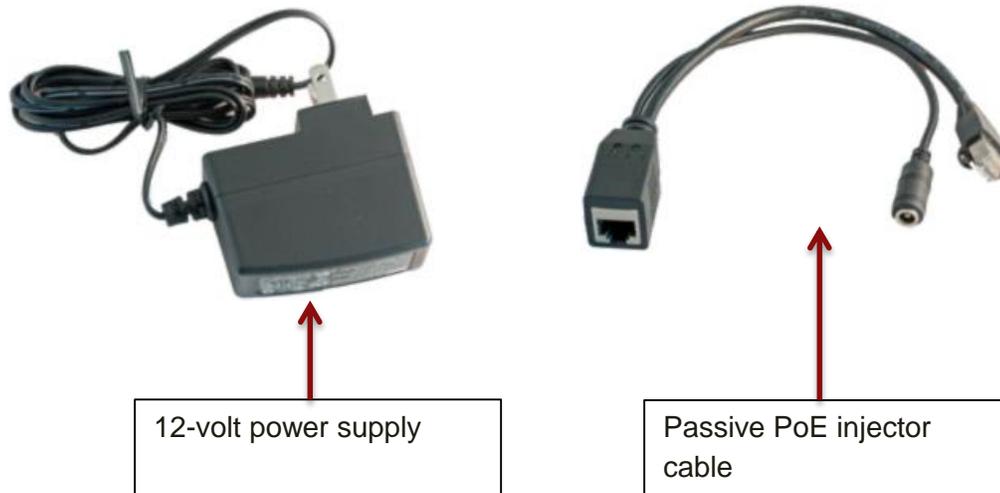


Power

A 12-volt AC power supply, a passive PoE injector cable, or an optional 12-volt battery pack must be used to power the 6200-FX.

 The 6200-FX device can only operate with one supply of power.

 DO NOT supply power to the device with both the PoE cable and the 12-volt battery/12-volt AC power supply.



 The optional 12-volt battery supplied with the 6200-FX device typically has a life of 2-3 hours. The 12-volt battery is not intended to be a permanent power source for the unit. If the 12-volt battery is being utilized be sure you are using a new battery.



Ethernet Options

The 6200-FX device is by default configured for Auto-negotiation, but can be configured for a different Ethernet negotiation setting. Below is a list of the Ethernet negotiation settings that the 6200-FX can be configured to.

- 10 Mbps Full Duplex
- 100 Mbps Full Duplex
- 10 Mbps Half Duplex
- 100 Mbps Full Duplex
- Auto-negotiation

While in this setting, the 6200-FX device communicates with the device connected to the other end of the Ethernet cable and chooses the highest performance transmission mode that both devices support. This is typically 100 Mbps Full Duplex.



Location

The placement of the 6200-FX device at a particular site greatly affects the signal received from the cellular network. To maximize signal strength, do the following:

- Ensure that a cellular network tower is in the vicinity of the site where the 6200-FX is located. Contact your cellular provider for further information.
- Place the 6200-FX in an open space as far from the floor as possible within the site. Ensure that the location where the unit is placed is free of electrical interference (magnetic fields, other cellular devices, etc.)



Do not place the 6200-FX device in a metal enclosure! Also, ensure that there are no other wireless communication devices (cell phones, wireless routers, etc.) within 1 ft. of the unit

Restore Default Settings

Restoring a 6200-FX device to factory default settings will clear out the settings obtained from the 6200-FX's remote configuration and load the factory default settings. To restore a 6200-FX device back to default settings, perform the following steps:

1. Power off the 6200-FX for at least two seconds.
2. Remove all USB devices from the 6200-FX.
3. Unscrew the modem cover from bottom of unit. Remove the cover to expose modem and default reset switch.



4. Power on the 6200-FX and wait 30 seconds for the device to complete startup.
 - a. Note: at this point the only light that should be illuminated is a red USB LED.
5. Press the "Default Reset" button located on the circuit board of the 6200-FX.
6. Once the Default configuration button is pressed, ensure that the USB and Wireless LEDs of the 6200-FX are alternately flashing red and green. This indicates that the 6200-FX is applying the default configuration.
7. Wait for the 6200-FX to reboot and apply the changes. Once the USB LED illuminates red and all other lights are off, it is safe to power off the 6200-FX
8. Insert the modem cover and secure with screw.

As of firmware version 2.150.61, which was released 2013-03-06, the default button works in the following way:

The 6200-FX will only register that the default button has been pressed if the 6200-FX is powered on without a USB device connected to it. The user must also wait for the 6200-FX device to finish the start-up process before pressing the Default button. The start-up process takes approximately 50 seconds, and its completion is signified by the USB LED on the 6200-FX illuminating red. Depending on how many times the Default button is pressed, the 6200-FX will perform the following actions.

1. Restores default configuration.
2. Restores default configuration and reverts to the previous firmware (typically the factory default firmware unless the firmware has been updated multiple times).
3. Reverts to the previous firmware but keeps the current configuration
4. This undoes the changes and sets the 6200-FX back to how it originally was before the Default button was pressed.

Start-up

The 6200-FX device is configured to go through a specific start-up sequence, as detailed below.

1. Immediately upon powering on, the USB LED will illuminate YELLOW, verifying that power is being delivered to the 6200-FX. The USB LED should immediately turn BLUE for two seconds, YELLOW for one second, GREEN for one second, and settle on RED. This indicates that the 6200-FX successfully booted up and is waiting for the USB modem to be initialized (if connected).
2. Approximately 10 seconds after power up, the USB, Wireless, and signal strength LEDs will illuminate in a pattern corresponding to the LEDs section of this Troubleshooting Guide.

LEDs

The 6200-FX has lights on the front panel that help an installer or end-user to discern the current status. The USB and Wireless LEDs are labeled; the bars outlined in orange are the signal strength indicator. These lights usually indicate the state of their respective subsystems. Some light patterns represent the whole system state instead of a subsystem.

The icons in the chart represent the state of the lights.

Black () indicates an off light.

White () indicates that the light is irrelevant in a pattern – these continue to show their own subsystem status. Multicolored symbols indicate a changing light.

Examples:

 The Wireless light blinks red/off/green/off. The other lights can be any color.

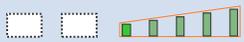
 The Wireless light flashes amber twice. The other lights can be any color.

 The USB and Wireless lights are alternating red/green.

System Status	
	Power is off
	Power is on; early boot stage
	Initializing modem
	Downloading firmware (green bar moves downward)
	Reconfiguring

USB Subsystem	
	No modem or unsupported modem
	Modem detected
	Modem Connected – Session Established

3G/Wireless Subsystem	
	2G network detected and connected
	3G network detected and connected
	4G network detected and connected
	Network detected, can not connect
	Cannot determine between 4G/3G/2G
	Cannot detect network
	Network detected, unable to register
	Connecting to network (first try)
	Connecting to network (second try)
	Connecting to network (third try)

Signal Strength	
	Signal strength

Real-Time Management

Below are details for all the commands that can be sent to a 6200-FX device, along with details as to what each command does.

Remote Control

- Check status - the 6200-FX will immediately send its current status
- Check signal strength - the 6200-FX will send its signal strength and network info once every 10 seconds for the next 15 minutes
- Perform Speed Test - the 6200-FX will perform a speed test and send the Upload/Download results
- ARPing Attached Device - the 6200-FX will attempt to ARPing the client device attached to its Ethernet port.
- Send Wake-on-LAN to Attached Device - the 6200-FX will send a wake-on-LAN packet to the client device attached to its Ethernet port.
- Check Configuration - the 6200-FX will immediately pull its configuration and reboot to apply any new settings
- Reboot - reboot the 6200-FX

SMS

- Set Configuration - a popup window appears where a user can enter in a configuration option or set of options to apply to the 6200-FX. Multiple config options must be separated by a comma. For example, if a user wants to set the APN of a 6200-FX to managedvpn, they would enter "modem_apn=managedvpn".
- Configuration Reset - restore default configuration on the 6200-FX and reboot.
- Firmware Reset - restore to backup firmware image on the 6200-FX, and reboot.
- Factory Reset - restore default configuration on the 6200-FX, restore to backup firmware image, and reboot.
- Remote Control - tell the 6200-FX to bring up its remote control tunnel (useful if on low data plan, so the remote control tunnel is not always up using data).
- Reboot - reboot the 6200-FX

Required Network Access for 6200-FX General Connectivity

The following IP addresses or domains need to be available to the 6200-FX through its WAN cellular connection in order for the device to function properly and provide a plug-n-play connection.

IP Address	Ports Needed	Domain Name (details)
108.166.125.69	123	Time1.accnscom (time server)
71.100.234.61	123	time2.accns.com (backup time server)
50.28.67.96	123	(backup time server)
108.33.27.70	80/443	configuration.accns.com (Accelerated View server - config/firmware/certificates)
108.33.27.72	514	logs.accns.com (syslog server)
108.166.111.162	514	syslog.accns.com (backup syslog server)
184.106.213.137	500/4500	remote.accns.com (IPSEC remote control server)
8.8.8.8		(ping testing - although this can be substituted)

Technical Support

If you are having problems installing any of our products and need technical assistance, please call or email our help desk.

- support@accelecon.com
- +1 (813) 699-3110
- Support hours are 9am to 5pm EST GMT – 5

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