CyberData

The IP Endpoint Company

PoweredUSB 6-Port 2.0 Hub Operations Guide

Part #010630

Document Part #931035B

CyberData Corporation
3 Justin Court
Monterey, CA 93940
(831) 373-2601

VoIP Outdoor Intercom Operations Guide 931035B
Part # 010630

CyberData
The IP Endpoint Company

Technical Support

The fastest way to get technical support for your Point of Sale product is to submit a Technical Support form at the following website:
http://www.cyberdata.net/support/contactsupportretail.html

Phone: (831) 373-2601, Ext. 333
Email: support@cyberdata.net
Fax: (831) 373-4193
Company and product information is at **www.cyberdata.net**.

Revision Information

Revision 931035B was released on June 2, 2017, and has the following changes:

- Adds Section 1.10, "Compliance"

Pictorial Alert Icons

General Alert

This pictoral alert indicates a potentially hazardous situation. This alert will be followed by a hazard level heading and more specific information about the hazard.

Ground

This pictoral alert indicates the Earth grounding connection point.

Hazard Levels

Danger: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This is limited to the most extreme situations.

Warning: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Caution: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also alert users against unsafe practices.

Notice: Indicates a statement of company policy (that is, a safety policy or protection of property).

The safety guidelines for the equipment in this manual do not purport to address all the safety issues of the equipment. It is the responsibility of the user to establish appropriate safety, ergonomic, and health practices and determine the applicability of regulatory limitations prior to use. Potential safety hazards are identified in this manual through the use of words Danger, Warning, and Caution, the specific hazard type, and pictorial alert icons.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning

Electrical Hazard: This product should be installed by a licensed electrician according to all local electrical and building codes.

Warning

Electrical Hazard: To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

Warning

The PoE connector is intended for intra-building connections only and does not route to the outside plant.

Contents

Chapter 1 Product Overview 1
1.1 Product Description 1
1.2 Compatibility 1
1.3 Features 1
1.4 Product Components (included items) 1
1.5 External 2
1.6 Installation 3
1.6.1 Mounting 3
1.6.2 Connections 3
1.6.3 USB PoweredUSB Connections 4
1.6.4 Connector Keying 5
1.6.5 Pin Out 6
1.6.6 PoweredUSB Cable Sources 6
1.7 Operation 7
1.7.1 Current Maximums: 7
1.8 PC Stand-by / Wake Peripheral Control 7
1.9 JP2 Jumper Control Settings 8
1.9.1 Jumper OFF (Green mode) 8
1.9.2 Jumper ON 9
1.10 Compliance 10
1.10.1 Safety 10
1.10.2 FCC Statement 10

1 Product Overview

1.1 Product Description

The CyberData PoweredUSB 6-Port 2.0 Hub provides a simple and affordable way to add up to six PoweredUSB ports to your PC that are controlled by the PC's Stand-by/Wake commands. With this USB add-on, it is easy to connect devices that need more than the standard USB interface supplied 500mA of +5 volts.

1.2 Compatibility

- IBM PC Windows XP and higher operating system compatible
- Apple Computer Compatible
- The USB 2.0 Standard is fully supported.
- The HUB controller on this product is USB 2.0 compliant for a "powered hub".

1.3 Features

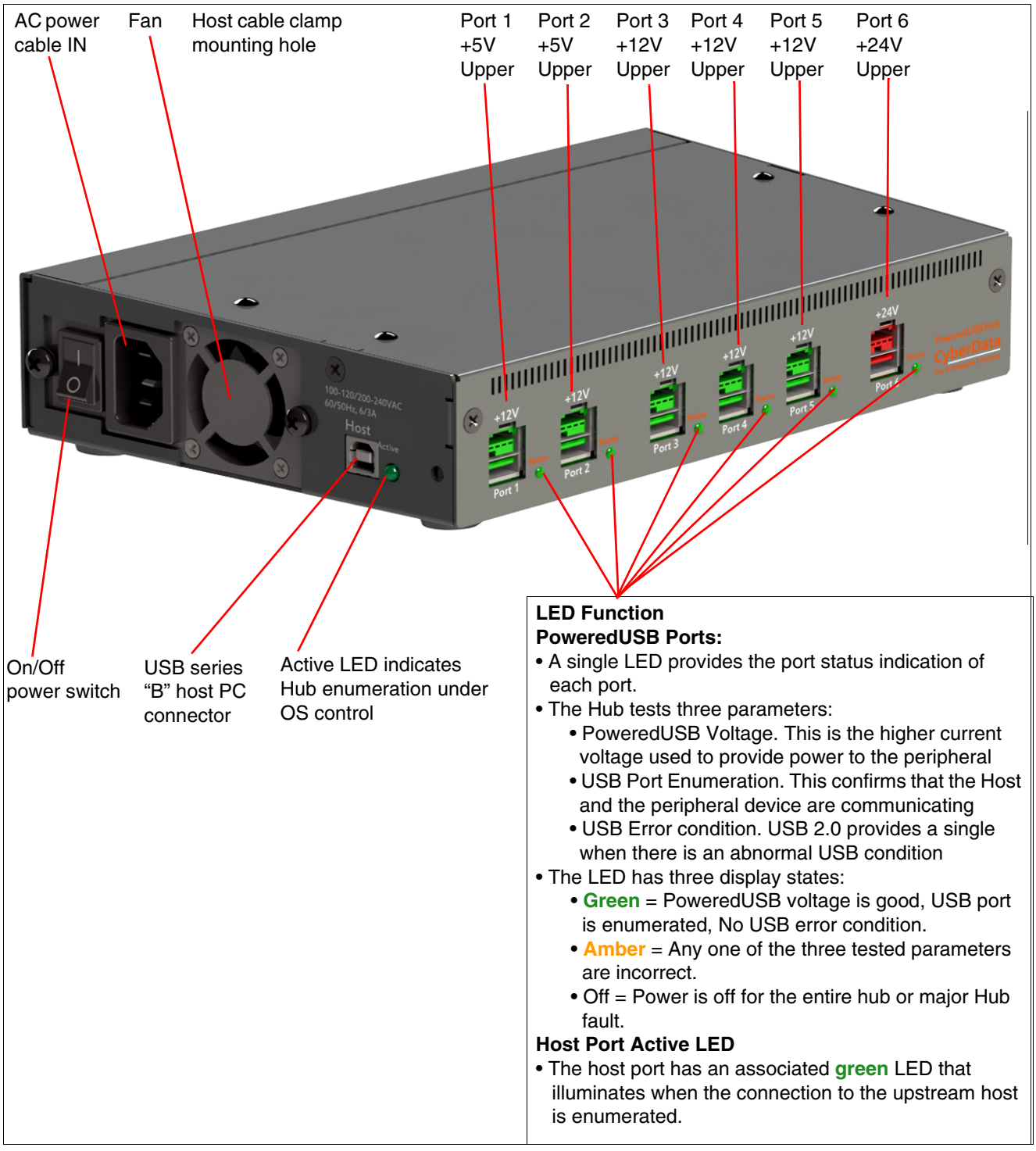
- 6 PoweredUSB ports
  - One +24 volt at 2.5A
  - Five +12 volt at 2.5A each
- Short circuit and over-current protected
- No external power supply required
- Plug-N-Play installation
- Peripheral power controlled by PC Stand-by/Wake commands
- LED indicators to show port enumeration status
- Two year warranty

1.4 Product Components (included items)

- CyberData PoweredUSB Hub (1)
- Rubber Feet (4)
- Instruction / Operations Manual (this document) (1)
- Host USB cable strain relief clamp (1)

1.5 External

Figure 1-1. External Components Identification



Note The AC Power Cable is only supplied to US customers. User should use ONLY a suitable Power Supply cord that conforms to IEC 60320/C13.

1.6 Installation

1.6.1 Mounting

The unit may be mounted in any orientation except that the Powered USB connectors should not be facing upward to prevent conductive materials from entering the connectors. Mounting feet are included for setting on a flat surface. The only restriction is that the fan and intake vents are not blocked or have the air flow restricted.

Note In order to maintain safe operation of the unit and to reduce the risk of equipment damage, this unit should **not** be mounted with any openings facing upward. This unit is intended to be operated in a dry location.

1.6.2 Connections

1.6.2.1 AC

The AC connection is a standard IEC 60320 type C13. **This cable is supplied for North American operations ONLY.** If used outside of North America user should use ONLY a suitable Power Supply cord that **conforms to IEC 60320/C13**

Input Requirements:

Voltage: 100 - 240 VAC

Frequency: 60 / 50 Hz

Input Current: 4.0A (RMS) at 115VAC **or** 2.0A (RMS) at 230VAC

1.6.2.2 Host Connector

The Host connector is a standard high-speed USB “A” to “B” type cable and can be procured from a variety of sources.

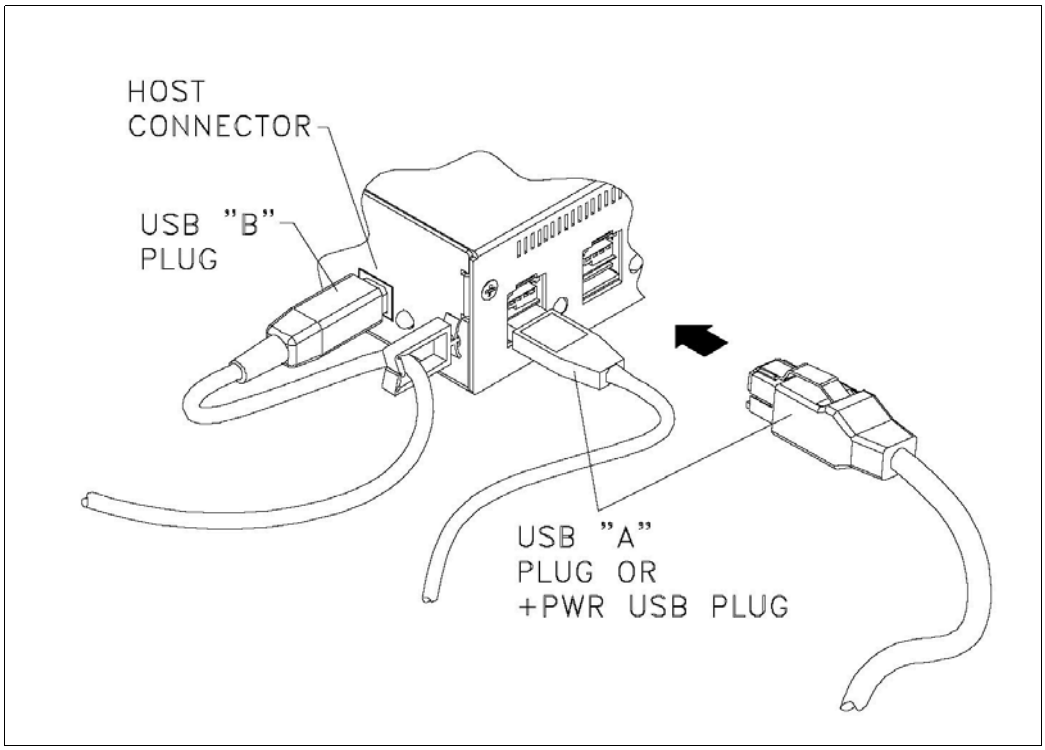
Max length of 5 meters (16.4 feet) with good quality cable

Figure 1-2. Connections

1.6.3 USB PoweredUSB Connections

The PoweredUSB connections are a standard “A” type connector with 4 extra pins designed to supply higher voltages. The “A” connector side of this product can be used, by itself, without the locking PoweredUSB connector being used.

Figure 1-3. USB PoweredUSB Connections

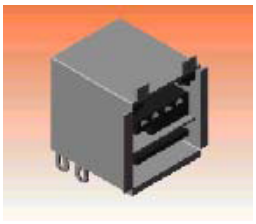


1.6.4 Connector Keying

The PoweredUSB connectors are keyed in such a way as to only allow the correct voltage cables to be installed.

Figure 1-4. Connector Keying Picture with Color Coding

Teal

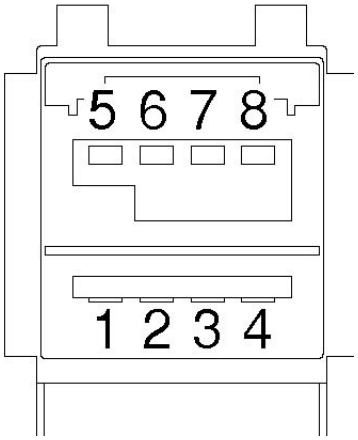


12 Volt Keyed
Ports 1 - 5

Red

24 Volt Keyed
Port 6

Figure 1-5. USB PoweredUSB Socket Connector Pin Assignments



1.6.5 Pin Out

Table 1-1. Pin Out

Pin	Signal	Description
1	Vbus	USB standard “A”
2	D-	USB standard “A”
3	D+	USB standard “A”
4	Ground	USB standard “A”
5	Ground	USB PoweredUSB
6	Vplus	USB PoweredUSB
7	Vplus	USB PoweredUSB
8	Ground	USB PoweredUSB
Shell	Shield	

1.6.6 PoweredUSB Cable Sources

Custom and standard cable assemblies may be ordered from CyberData or they may be procured from other sources.

For more information about the cables and connectors of PoweredUSB use the following link: **www.poweredusb.org**

1.7 Operation

The device is a standard USB Hub compliant to the USB 2.0 specification, with the addition of the PoweredUSB ports. When connected to a Host, it enumerated as a "Generic USB Hub".

1.7.1 Current Maximums:

1.7.1.1 Standard USB Lower A supply:

Each lower portion of the A Ports provides +5V @ 500mA. If more than 500mA is drawn from any port, that port goes into USB Over-current, the +5 volts is turned off, and the fault condition is reported to the host according to USB 2.0 Specifications.

1.7.1.2 PoweredUSB Upper A supply:

+12V Ports (5)
+24V Port (1)

The +12V ports are protected by a PTC that allows 2.5A continuous current. This PTC will go into protection if a sustained overload is applied.

The +24V Port is also protected by a PTC that allows 2.5A continuous current. This PTC will go into protection if a sustained overload is applied (For example, with a 3 amp load, the PTC will shut off port power after approximately 30 seconds).

FOR ALL PORTS:

Specific short protection is provided for the Standard USB connector and the PoweredUSB connector.

Standard lower USB A portion of the connector

This portion of the connector will not support more that 500mA and the power will be shut down immediately if any load is greater than 500mA.

PoweredUSB portion of the USB connector

This portion of the connector is a little more flexible and will allow for temporary overloads in accordance with PoweredUSB specification 0.8g. But, in all cases, the connector is protected against short circuits. Should any PoweredUSB port be shorted, the HUB will shut down completely until the short is removed. Depending on the duration of the short, the power supply may need to be turned off using the power switch on the side of the hub, for at least 30 seconds before it can be turned on again.

1.8 PC Stand-by / Wake Peripheral Control

Under Windows operating systems, USB devices can be placed into low power Stand-by mode. The PoweredUSB Hub expands on this feature and allows the operating system to control power to the retail peripherals attached via the hub. A two-pin jumper (JP2) located next to the power connector on the Printed Circuit Board controls this green feature. Please read the JP2 Jumper Control settings section below for details on controlling the standby feature.

1.9 JP2 Jumper Control Settings

Jumper JP2 controls the PC Stand-by/Wake Peripheral Control feature. **Please refer to the Check-Off list shipped with your Hub for the factory set status of this jumper.** If you need to change the jumper setting please contact CyberData for a addendum instruction on Hub case assembly/ disassembly.

1.9.1 Jumper OFF (Green mode)

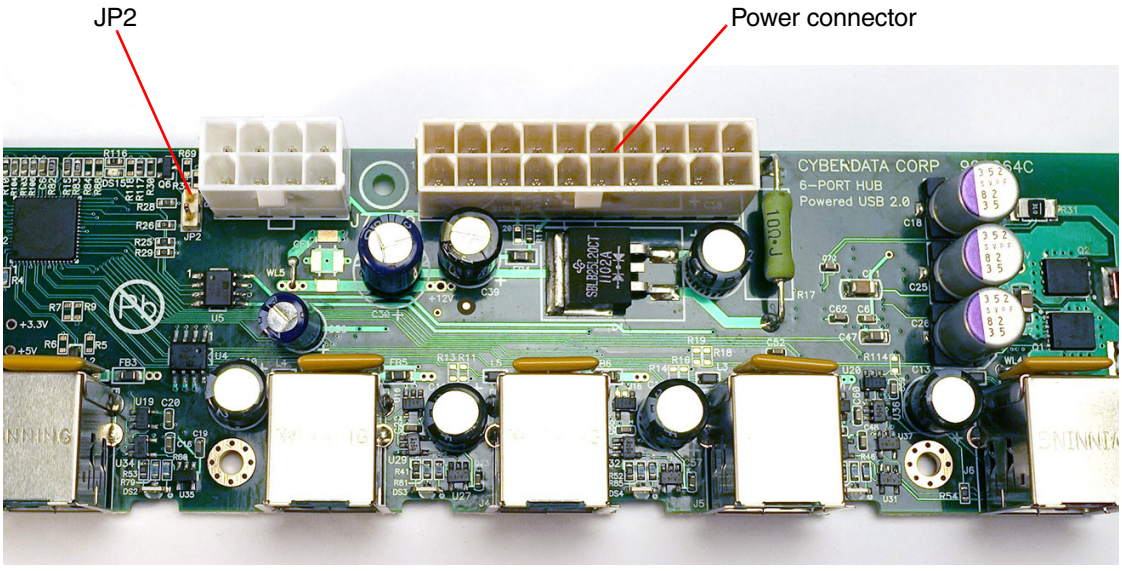
When the jumper on JP2 is removed or the jumper is placed on a single pin (see Figure 1-6), the Hub will be in the “Green” mode whereby the Hub will shutdown all peripherals and the power supply fan whenever the Host PC is placed in Stand-by or is shut down. The Hub will exhibit the following characteristics when in this mode:

1. Plug in power cord and turn on Hub power switch – Power supply fan does not come on, no power to peripherals, no Active LED light, USB port LEDs light **amber**.

2. Plug in Host USB “B” connector from operational Host PC—Active LED lights once Hub enumerates under OS control, fully compliant USB peripherals enumerate under OS control, +12V and +24V power is turned on once peripherals enumerate correctly, and enumerated port status LEDs change to **green** (un-enumerated port LEDs stay **amber**).

3. Shutting down or placing Host PC in Standby (or unplugging Host USB “B” connector)—Active LED light extinguishes and USB port LEDs light **amber**, +12V and +24V power to peripherals and power supply fan turn off, peripherals and Hub lose enumeration on PC.

Figure 1-6. JP2 Connector with jumper OFF



JP2 Pin-1 and Pin-2
normally not jumpered

1.9.2 Jumper ON

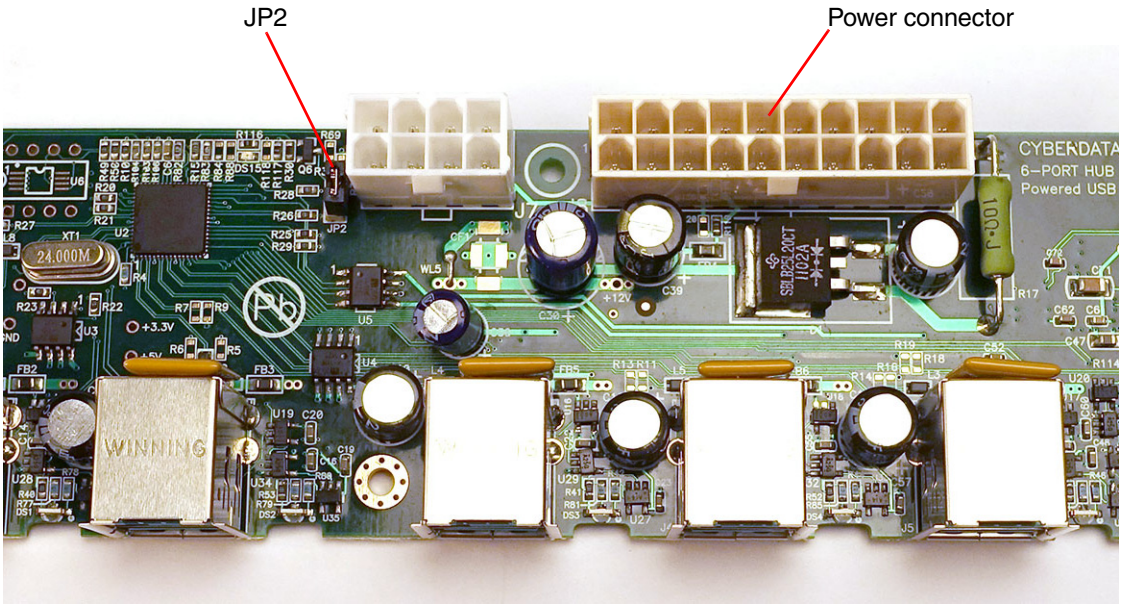
When the jumper is placed on both pins of JP2 the “Green” mode is disabled (see Figure 1-7). The Hub will exhibit the following characteristics when in this mode:

1. Plug in power cord and turn on Hub power switch – Power supply fan will come on, power is supplied to peripherals, no Active LED light, and USB port LED lights **amber**.

2. Plug in Host USB “B” Connector from operating PC – Active LED lights once Hub enumerates under OS control. Peripherals enumerate under OS control and enumerated USB port status LEDs light **green**.

3. Shutting down or placing Host PC in Standby (or unplugging Host USB “B” connector)—Active LED light extinguishes and USB port LEDs light **amber**, +12V and +24V power to peripherals and power supply fan stay on, peripherals and Hub lose enumeration on PC.

Figure 1-7. JP2 Connector with jumper ON



JP2 Pin-1 and Pin-2
normally not jumpered

1.10 Compliance

1.10.1 Safety

This product is listed by UL. Representative samples of this product have been evaluated by UL and meet applicable safety standards. (Standard: UL 62368-1, CSA C22.2 No. 62368-1-14).

Note You can download the Declaration of Conformity document from the **Downloads** tab of the product's webpage.

1.10.2 FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.