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**ASTi**  
**Prism & Spectrum**  
**Remote Distribution Modules**  
**Technical & User Guide**

**Document: ASSY-01-UMRXRD-UG-1**



Product Name: Prism & Spectrum

ASTi Prism & Spectrum Remote Distribution Modules Technical & User Guide

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ASTi

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# General Information

## Description

The Prism and Spectrum modules allow Iris devices to be located up to 300 feet away from the Telestra system. There are two types of Prism units. The first supports two (2) Spectrum units plus two (2) local ports, while the second supports four (4) Spectrum units. The Spectrum module supports up to two (2) Iris devices with two (2) additional ports for future ASTi USB devices.

## Features

### 2 Channel Prism

- One (1) USB, mini-B type connector to Telestra
- Two (2) RJ-45 connectors to Spectrum units
- Two (2) USB, A type connectors to Iris devices

### 4 Channel Prism

- One (1) USB, mini-B type connector to Telestra
- Four (4) RJ-45 connectors to Spectrum units

## Spectrum

- One (1) RJ-45 connector to a Prism unit
- Four (4) USB, A type connectors to USB devices (2 Iris units + future modules)

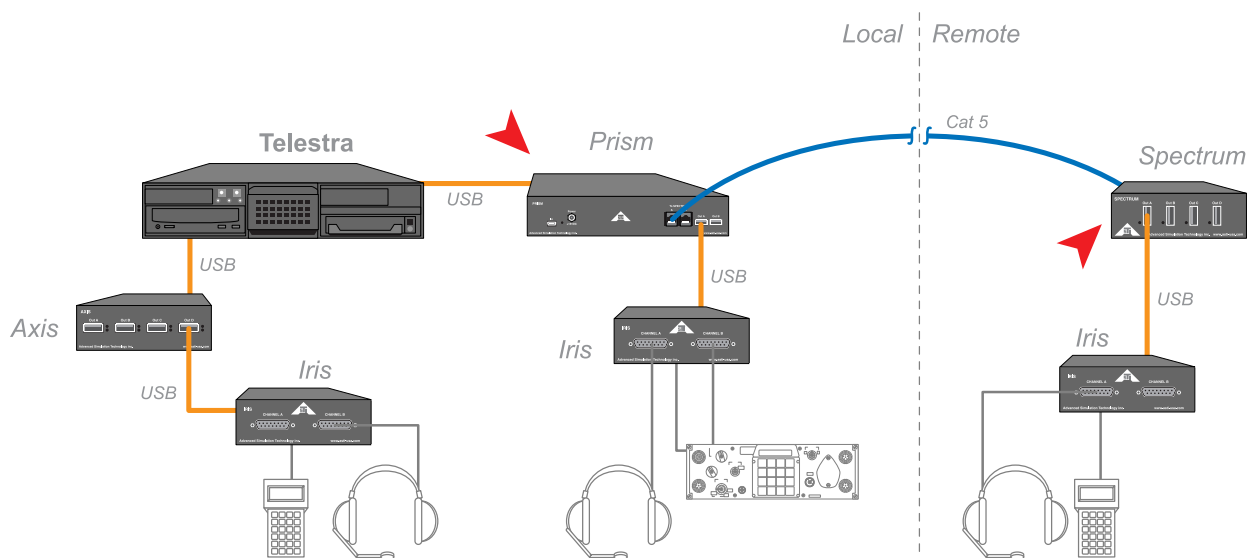


Figure 1: Telestra Hardware Connection and Functionality Diagram

# Physical Specifications

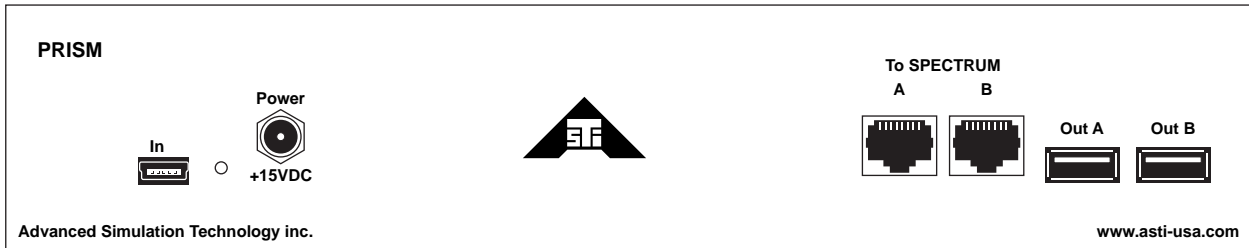


Figure 2: 2-Channel Prism Rear Panel

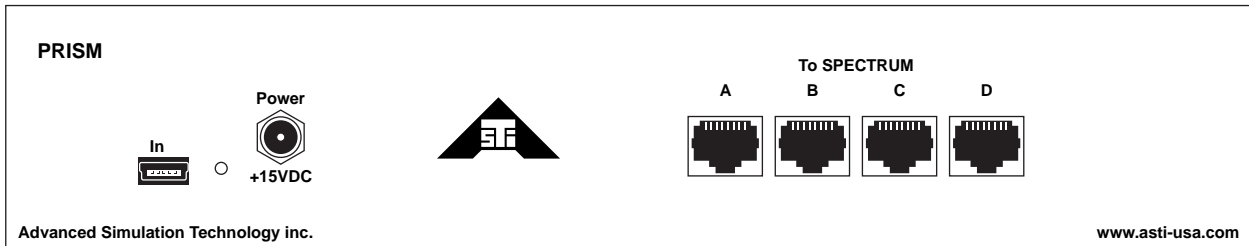


Figure 3: 4-Channel Prism Rear Panel

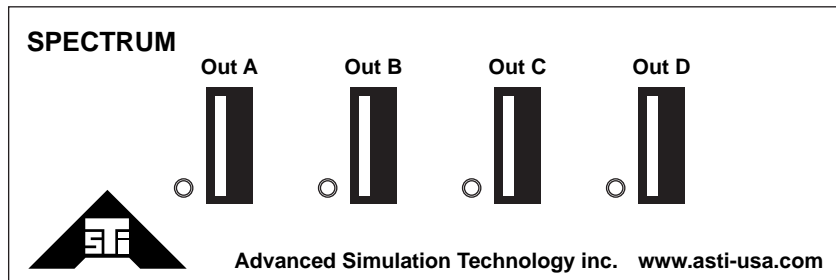


Figure 4: Spectrum Front Panel

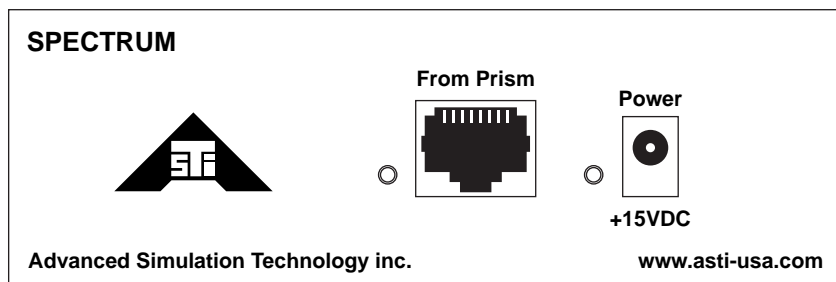


Figure 5: Spectrum Rear Panel



## **Dimensions**

### **Prism**

8.438" wide x 1.658" high x 13.5" deep

For complete Prism dimensions refer to drawing CHDW-RX-001.

Allow at least 2" or more of space to the rear of module for cable access and clearance.

### **Spectrum**

5.5" wide x 1.53" high x 3.32" deep

For complete Spectrum dimensions refer to drawing CHDW-RD-001.

Allow at least 2" or more of space to the front and rear of module for cable access and clearance.

## **Weight**

Prism only: 3 lbs.

Prism with power supply: 3.75 lbs.

Spectrum\*: 1 lb.

\* Usually, the Spectrum device will derive power from its parent Prism unit over the cable connecting them, making a separate power supply unnecessary.

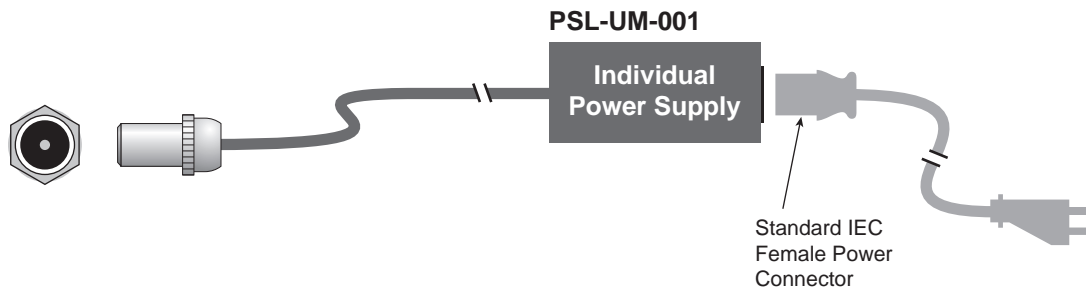
# Module and Cabling Requirements

## Power Requirements

### Prism

Input to PSL-UM-001	100-240 VAC, 50-60 Hz, 1.5Arms (120VAC), 0.75Arms (240VAC)
Output of PSL-UM-001	15 VDC at 5A max, < +/- 5% voltage regulation, < 150 mV max voltage ripple
Power connector	Inside Diameter 0.100", Outside Diameter 0.218", bushing 0.219", locking, center positive

The Prism module must be powered by an individual power supply (included at shipment).



*Figure 6: Prism Power Supply*

The power adapter inlet connector is an IEC320 type C14 or C8, requiring a matching cordset equipped with an IEC320 C13 or C7 connector (female line cord). Country-specific power connectors must be acquired separately for international use.

Other types of power supplies may be used, given that the power output is 15 VDC, 5A, with the properly fitting power connector.

### Spectrum

Spectrum modules receive power from the Prism unit via the Cat5 cable, which connects them.

## Temperature & Humidity Ranges

Operating temperature range	+10°C to +40°C (50°F to 104°F)
Operating max. temperature gradient	20°C (68°F) per hour
Operating humidity range	10% to 90% non-condensing
Storage temperature range	-10°C to +70°C (14°F to 158°F)
Storage max. temperature gradient	30°C (86°F) per hour
Storage humidity range	5% to 95%

## Power-On Ordering Requirements and Lost USB Devices

The USB audio distribution architecture has specific requirements regarding the power on sequencing of devices in order to achieve a working system. The Telestra processor system must perform a discovery process in order to find all the devices that are connected, and hence this system is started last in the sequence of elements. The discovery process runs as part of the system framework boot process, or it is manually initiated from RMS, by clicking the “Hardware” tab, and then the “Reset USB network” link. Prior to this all other elements of the USB sub-system must be connected, and powered on. **Note** that the Prism/Spectrum extender architecture should be powered on before or simultaneously with the Iris audio interface units.

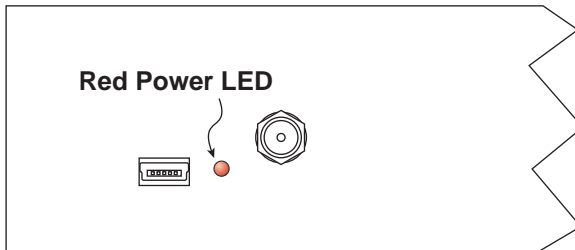
If any element of the USB sub-system is powered off and then back on again without rebooting the Telestra processor, or initiating a manual USB discovery, then the result will be that those devices are “lost” to the system, and will no longer process audio. The most effective way to check for this condition is to look at the RMS system, select the “Hardware” tab, and then the “Layout” tab. Any Iris units that were connected at the time of system boot and have been subsequently powered off will show up with a red ‘X’ through the device. If profiling is turned on (see Telestra 3 User Guide for details), then any device that is not active on the USB sub-system will be reported with a red ‘X’. To recover from this situation, power on the required USB devices (Prism devices first, Iris devices last), and then either reboot the Telestra, or initiate a manual USB re-discovery using RMS. If using RMS, once the re-discovery process has completed, it will be necessary to reload the model.

## Installation USB Cabling & USB Ports

For complete information on connecting Telestra USB devices, see the “Telestra USB Device Connections Matrix” document (ASSY-01-UMCX-IN-1).

## Indicator LEDs

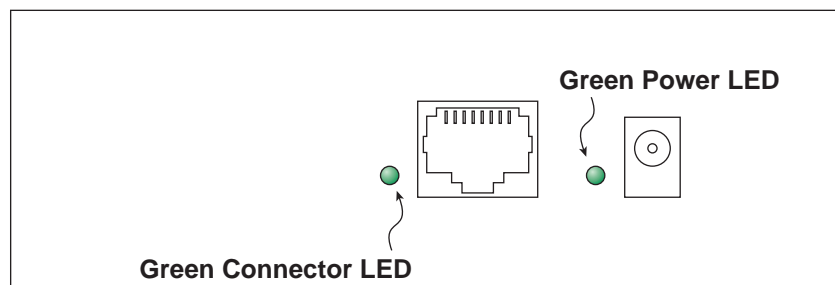
### Prism (Either Version)



*Figure 7: Prism Rear Panel Indicator Light*

The red LED on the rear panel of the Prism unit will light when power is applied.

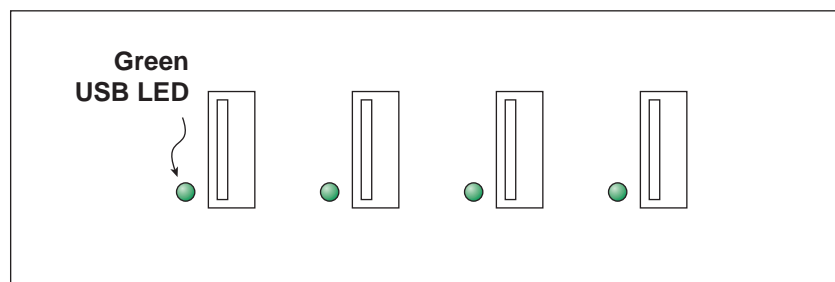
### Spectrum



*Figure 8: Spectrum Rear Panel Indicator Lights*

The green power LED will light when power is being received from the Prism unit. A separate power supply for the Spectrum is not necessary.

The green connector LED will light when the Spectrum module is connected to a Prism unit and when the spectrum is detected in the Telestra software.



*Figure 9: Spectrum Front Panel Indicator Lights*

The green USB LEDs will light when an Iris is connected to the Spectrum module and when the Iris is detected in the Telestra software.

## Memory Devices

- Microcontroller internal RAM
- EEPROM

## Mounting Options

### Spectrum

- Flush mounting to a flat surface is possible. Refer to the full sized template below.

The three hole pattern on the Spectrum mounting plate is compatible with NS-35 DIN rail mounting hardware adapter (sold separately).

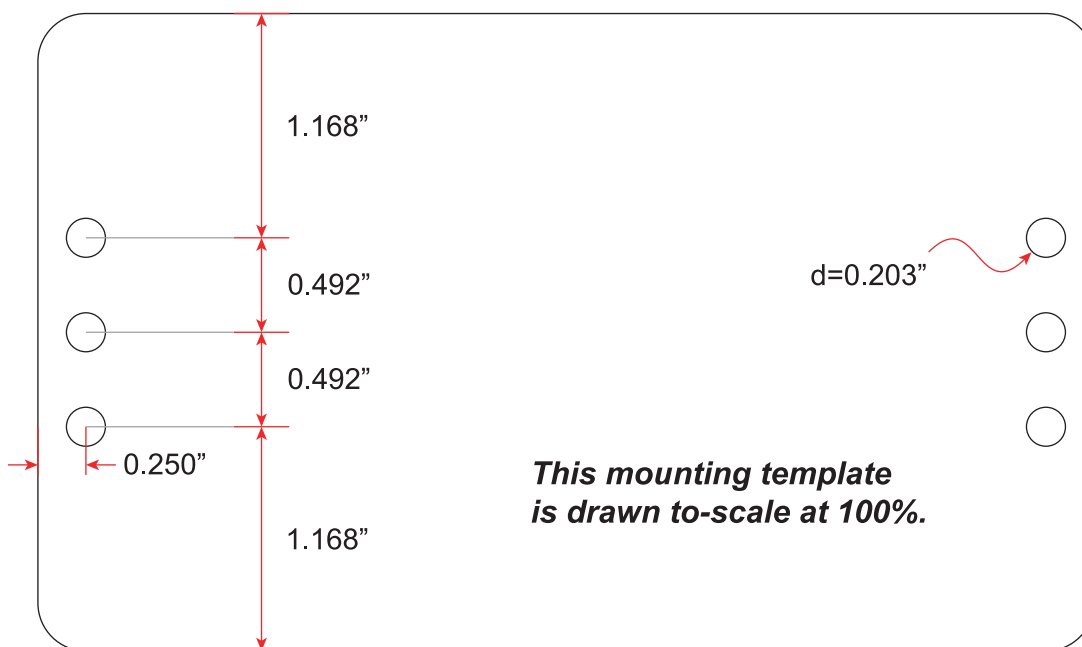
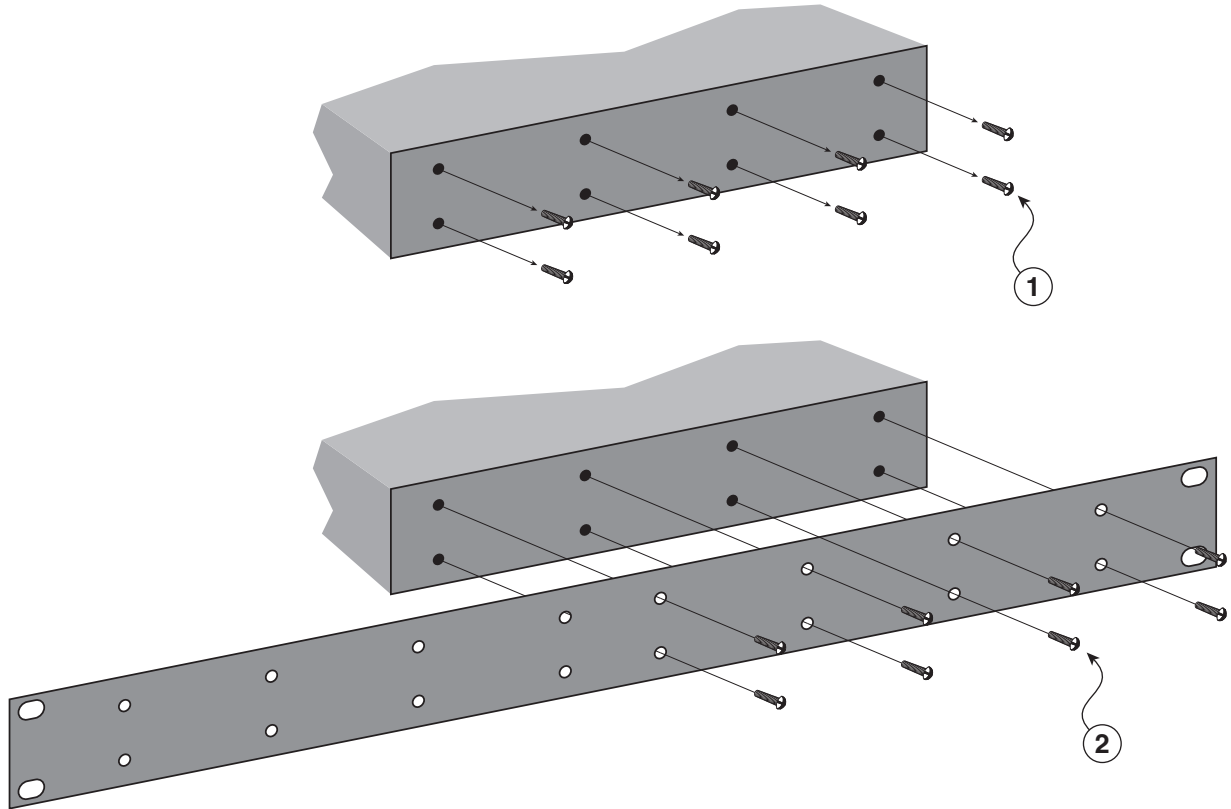


Figure 10: Spectrum Mounting Template

- Up to three (3) Spectrum devices may be mounted in a 19" rack using ASTi part number RMK-UM-001. This will occupy 1U of height.

## Prism

- Refer to drawing CDHW-RX-001 for mounting hole dimensions for the Prism.
- Up to two (2) Prism devices may be mounted in a 1U 19" rack using ASTi part number RMK-RX-PNL-01, as shown below.



*Figure 11: Mounting Prism to Rackmount Bracket*

1. Remove the eight (8) screws from the front faceplate of the Prism unit.
2. Using the original screws, attach body of Prism unit to rear of 19" mounting bracket.

## Troubleshooting



All USB devices require ASTi cable "CA-UA-UMB-X", where X stands for length, for correct operation. For more information on connections refer to "Telestra USB Device Connections Matrix" document (ASSY-01-UMCX-IN-1).

**Symptom:** All LEDs on Prism and Spectrum are off.

**Possible Cause:** The Prism is not receiving power from the power adapter.

**Remedy:**

1. Ensure that the power adapter is connected to the Prism.
2. Check that the power adapter is connected to a live source of power.

**Symptom:** Connector LED is not lit on the Spectrum.

**Possible Cause:** There is not a connection or the connection is faulty between the Prism and Spectrum.

**Remedy:**

1. Power the Iris on after the Prism.
2. Ensure that a Category 5 UTP cable with straight-through conductors is connected between the Prism and Spectrum units.
3. Connect a short Category 5 patch cord between the Prism and Spectrum units. Verify the operation of the system.



**Symptom:** An Iris is connected to the Spectrum and the corresponding USB LED is off or the USB Fail indicator on the Iris is lit.

**Possible Cause:**

1. The software is not running.
2. The Iris is malfunctioning.
3. The Spectrum is malfunctioning.

**Remedy:**

1. Ensure that the Model is running and that the Iris device is in the Hardware Database. If not, try resetting all devices in software.
2. Unplug the Iris device from the Spectrum.
3. Connect the Iris to a different Spectrum (or Prism/Axis, if possible).
4. Restart the Telestra system. If the device does not become operational, use another USB cable and restart again. If the device continues to fail, contact ASTi.
5. Using a short Cat5 UTP cable, attach the Spectrum to the Prism. Then connect a known working Iris device to the Spectrum, and restart the Telestra system. If the device continues to fail, contact ASTi.

## Warranty Information

The equipment is warranted for a period of one (1) year following purchase.

## Repairs and Returns

If it becomes necessary to return equipment to ASTi please observe the following instructions:

1. Obtain an RMA number through ASTi's website: <http://www.asti-usa.com/support/>
2. When packaging the equipment in question, make sure it is well protected. The device should be properly enclosed in an antistatic bag to prevent possible ESD damage. Failure to properly package the equipment during shipping could void the warranty.
3. Do not include accessory pieces such as rack mount kits, power supplies or software.  
pOnly send items that do not work.
4. The shipping label must include the RMA number.
5. Include a description of the problem, point of contact, phone number, return address and unit serial number(s). Failure to include this information could extensively delay the return of the equipment.
6. If an RMA number is not used within sixty (60) days of issuing date, the request data and number issued will be closed and designated as unused.
7. Any items received from customers without RMA numbers or appropriate contact information included with shipment will not be tested. After sixty (60) days, ASTi reserves the right to scrap all hardware received in this condition.
8. If the equipment is not under warranty a Purchase Order will be required to cover the cost of any repairs. ASTi will provide a quote for all non-warranty repair items.
9. Equipment will be shipped back using Federal Express, unless otherwise directed. If the repair is non-warranty then shipping charges will be billed.

## Disclaimer and Warnings

- Connect only ASTi-approved devices to the USB ports. Attempted use of non-ASTi USB devices may result in equipment damage. p
- Do not use commercial extender cables with ASTi USB devices.
- There are NO user serviceable components in these devices. Opening the chassis will void the warranty.
- If the Spectrum is connected to an energized Prism, there will be voltage present on the board and at the power connector.