ASTi
Telestra USB Device
Connections Matrix

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Product Name: Telestra

ASTi Telestra USB Device Connections Matrix

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Table of Contents

Introduction

ASTi's Telestra product line includes a variety of USB-based digital audio and input/output (I/O) distribution equipment. USB connections originate at the Telestra processing platform, and eventually terminate at one or more Iris audio interface modules. The installation and connection of intermediate devices will vary depending on the required distribution of these Iris devices.

This document addresses which types of connections are supported (and which are not). Where connections *are* supported, maximum cable lengths and connector types are highlighted.

For the sake of clarity, this document uses the word "upstream" in reference to devices that are closer to the Telestra system in relation to other "downstream" devices.

ASTi's USB interface is based on the industry standard USB 2.0, but has been optimized for use with this product line.

WARNING: Do not connect commercially-available, standard USB devices to the USB ports on the Iris, Axis, Prism or Spectrum devices. This may cause damage to these devices.

Hardware Overview

There are eight (8) different devices that can be used in any Telestra installation:

1. **Telestra**: The processing platform itself

   See "Telestra v3.0 User Guide" (DOC-01-TELS-UG-3) for full details.

2. **Iris**: The audio interface module where headsets and other I/O devices are attached.

   See "Iris Audio Interface Module Technical & User Guide" (ASSY-01-UMAU-UG-1) for full details.

3. **Axis**: The local USB distribution module

   See "Axis Local Distribution Module Technical & User Guide" (ASSY-01-UMLD-UG-1) for full details.

4. **Prism**: The USB extender module

5. **Spectrum**: The remote USB distribution module

   See "Prism & Spectrum Remote Distribution Modules Technical & User Guide" (ASSY-01-UMRXRD-UG-1) for full details.

6. **1U Iris Extended and Local Options**: The 1U Extended Iris is a 1U enclosure containing one (1) standard Iris devices and one (1) Spectrum remote distribution module. The 1U Local Iris is a 1U enclosure containing one (1) Iris devices and one (1) Axis local distribution module.

   See "Iris Audio Interface Module Technical & User Guide" Appendix A (ASSY-01-UMAU-UG-1) for the full details.

7. **4-Channel Iris**: There are two 4-Channel Iris options. The 4-Channel Extended Iris is a single 1U enclosure containing two (2) standard Iris devices and one (1) Spectrum remote distribution module. The 4-Channel Local Iris is a single 1U enclosure containing two (2) Iris devices and one (1) Axis local distribution module.

   See "Iris Audio Interface Module Technical & User Guide" Appendix A (ASSY-01-UMAU-UG-1) for the full details.

8. **6-Channel Iris**: The 6-Channel Iris is a single 1U enclosure containing three (3) standard Iris devices and one (1) Axis local distribution module.

   See "Iris Audio Interface Module Technical & User Guide" Appendix B (ASSY-01-UMAU-UG-1) for the full details.

USB Connector Types

In the following diagrams, connectors marked with an "A" represent standard USB type A plugs. Connectors marked with a "b" represent miniature USB type B plugs.

Receptacle

not to scale

Connector Shape

A

b

Standard
Type A

Miniature
Type B
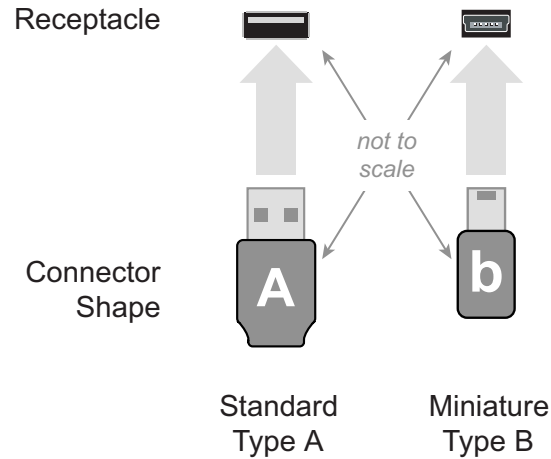
Cables Suggestion

ASTi highly suggests using professionally-made, high-quality Cat 5 and USB cables. Our tests have shown that most errors are the result of improperly constructed or poor quality cables.

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.

Telestra Connections

All USB devices require ASTi cable "CA-UA-UMB-X", where X stands for length, for correct operation.

Telestra-to-Axis

From Telestra *(upstream)*   **To Axis** *(downstream)*

3 ft. max.

This type of connection is supported.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 3 feet

Telestra-to-6-Channel Iris

From Telestra *(upstream)*   **To 6-Channel Iris** *(downstream)*

3 ft. max.

This type of connection is supported.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 3 feet

Telestra-to-Prism

From Telestra *(upstream)*   **To 2ch or 4ch Prism** *(downstream)*

3 ft. max.

This type of connection is supported for both the 2-channel and 4-channel versions of the Prism module.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 3 feet

Telestra-to-Spectrum

From Telestra *(upstream)*   **To Spectrum** *(downstream)*

This type of connection is not supported.

Telestra-to-Iris

From Telestra *(upstream)*   **To Iris** *(downstream)*

This type of connection is not supported.

Telestra-to-1U Local Iris

From Telestra *(upstream)*   **To 1U Local Iris** *(downstream)*

3 ft. max.

This type of connection is supported.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 3 feet

Telestra-to-1U Extended Iris

From Telestra *(upstream)*   **To 1U Extended Iris** *(downstream)*

This type of connection is not supported.

Telestra-to-4-Channel Local Iris

From Telestra *(upstream)*   **To 4-Channel Local Iris** *(downstream)*

3 ft. max.

This type of connection is supported.

Cable type: USB cable, standard A type connector to miniature B type connector
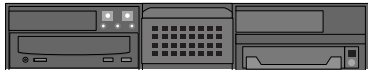
Maximum cable length: 3 feet

Telestra-to-4-Channel Extended Iris

From Telestra *(upstream)*   **To 4-Channel Extended Iris** *(downstream)*

This type of connection is not supported.

Axis Connections

⚠️ All USB devices require ASTi cable "CA-UA-UMB-X", where X stands for length, for correct operation.

Axis-to-Axis

From Axis *(upstream)*   **To Axis** *(downstream)*

❌

This type of connection is not supported.

Axis-to-Prism

From Axis *(upstream)*   **To 2ch or 4ch Prism** *(downstream)*

❌

This type of connection is not supported, regardless of the type of Prism device.

Axis-to-Spectrum

From Axis *(upstream)*   **To Spectrum** *(downstream)*

❌

This type of connection is not supported.

Axis-to-Iris

From Axis *(upstream)*   **To Iris** *(downstream)*

15 ft. max.

This type of connection is supported.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 15 feet

Axis-to-1U Extended and Local Iris

From Axis *(upstream)*   **To 1U Extended and Local Iris** *(downstream)*

This type of connection is not supported.

Axis-to-4-Channel Extended and Local Iris

From Axis *(upstream)*   **To 4-Channel Extended and Local Iris** *(downstream)*

This type of connection is not supported.

Axis-to-6-Channel Iris

From Axis *(upstream)*   **To 6-Channel Iris** *(downstream)*

This type of connection is not supported.

Prism Connections

⚠️ All USB devices require ASTi cable "CA-UA-UMB-X", where X stands for length, for correct operation.

Prism-to-Axis

From 2ch or 4ch Prism *(upstream)*   **To Axis** *(downstream)*

This type of connection is not supported, regardless of the type of Prism device.

Prism-to-Prism

From 2ch or 4ch Prism *(upstream)*   **To 2ch or 4ch Prism** *(downstream)*

This type of connection is not supported, regardless of the types of Prism devices.

Prism-to-Spectrum

From 2ch or 4ch Prism *(upstream)*   **To Spectrum** *(downstream)*

300 ft. max.

This type of connection is supported for both the 2-channel and 4-channel versions of the Prism module.

Cable type: Category 5 or better, Unshielded Twisted Pair (UTP), RJ-45 connectors

Maximum cable length: 300 feet

2-Channel Prism-to-Iris

From 2ch Prism *(upstream)*   **To Iris** *(downstream)*

6 ft. max.

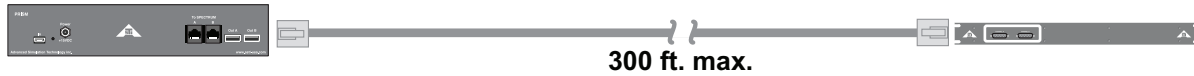This type of connection is supported for *only the 2-channel version* of the Prism module.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 6 feet

Prism-to-1U Extended Iris

From 2ch or 4ch Prism *(upstream)*   **To 1U Extended Iris** *(downstream)*

300 ft. max.

This type of connection is supported for both the 2-channel and 4-channel versions of the Prism module.

Cable type: Category 5 or better, Unshielded Twisted Pair (UTP), RJ-45 connectors

Maximum cable length: 300 feet

Prism-to-1U Local Iris

From 2ch Prism *(upstream)*   **To 1U Local Iris** *(downstream)*

This type of connection is not supported, regardless of the types of Prism devices.

Prism-to-4-Channel Extended Iris

From 2ch or 4ch Prism *(upstream)*   **To 4-Channel Extended Iris** *(downstream)*

300 ft. max.

This type of connection is supported for both the 2-channel and 4-channel versions of the Prism module.

Cable type: Category 5 or better, Unshielded Twisted Pair (UTP), RJ-45 connectors

Maximum cable length: 300 feet

Prism-to-4-Channel Local Iris

From 2ch Prism *(upstream)*   **To 4-Channel Local Iris** *(downstream)*

This type of connection is not supported, regardless of the types of Prism devices.

Prism-to-6-Channel Iris

From 2ch Prism *(upstream)*   **To 6-Channel Iris** *(downstream)*

This type of connection is not supported, regardless of the types of Prism devices.

4-Channel Prism-to-Iris

From 4ch Prism *(upstream)*   **To Iris** *(downstream)*

This type of connection is not supported using the 4-Channel Prism device.

Spectrum Connections

⚠️ All USB devices require ASTi cable "CA-UA-UMB-X", where X stands for length, for correct operation.

Note: Only two Iris devices can connect to each Spectrum.

Spectrum-to-Axis

From Spectrum *(upstream)*   **To Axis** *(downstream)*

This type of connection is not supported.

Spectrum-to-Prism

From Spectrum *(upstream)*   **To 2ch or 4ch Prism** *(downstream)*

This type of connection is not supported, regardless of the type of Prism device.

Spectrum-to-Spectrum

From Spectrum *(upstream)*   **To Spectrum** *(downstream)*

This type of connection is not supported.

Spectrum-to-Iris

From Spectrum *(upstream)*   **To Iris** *(downstream)*

6 ft. max.

This type of connection is supported.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 6 feet

Note: Due to the nature of the USB extension, the Iris must be powered on after the Prism.

Spectrum-to-1U Extended and Local Iris

From Spectrum *(upstream)*   **To 1U Extended and Local Iris** *(downstream)*

This type of connection is not supported.

Spectrum-to-4-Channel Extended and Local Iris

From Spectrum *(upstream)*   **To 4-Channel Extended and Local Iris** *(downstream)*

This type of connection is not supported.

Spectrum-to-6-Channel Iris

From Spectrum *(upstream)*   **To 6-Channel Irises** *(downstream)*

This type of connection is not supported.

Iris Connections

⚠️ All USB devices require ASTi cable "CA-UA-UMB-X", where X stands for length, for correct operation.

Iris-to-Axis

From Iris *(upstream)*   **To Axis** *(downstream)*

This type of connection is not supported.

Iris-to-Prism

From Iris *(upstream)*   **To 2ch or 4ch Prism** *(downstream)*

This type of connection is not supported.

Iris-to-Spectrum

From Iris *(upstream)*   **To Spectrum** *(downstream)*

This type of connection is not supported.

Iris-to-Iris

In some configurations, it is possible to daisy-chain one Iris device off another, upstream Iris module. This can only be done when the upstream Iris device is connected directly to an Axis local distribution module.

From Iris off Axis *(upstream)*   **To Iris** *(downstream)*

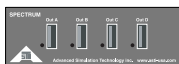**6 ft. max.**

This type of connection is supported.

Cable type: USB cable, standard A type connector to miniature B type connector

Maximum cable length: 6 feet

If the upstream Iris device is connected to a Spectrum unit, daisy-chaining is not supported.

From Iris off Spectrum *(upstream)*   **To Iris** *(downstream)*

This type of connection is not supported.

Iris-to-1U Extended and Local Iris

From Iris *(upstream)*   **To 1U Extended and Local Iris** *(downstream)*

This type of connection is not supported.

Iris-to-4-Channel Extended and Local Iris

From Iris *(upstream)*   **To 4-Channel Extended and Local Iris** *(downstream)*

This type of connection is not supported.

Iris-to-6-Channel Iris

From Iris *(upstream)*   **To 6-Channel Iris** *(downstream)*
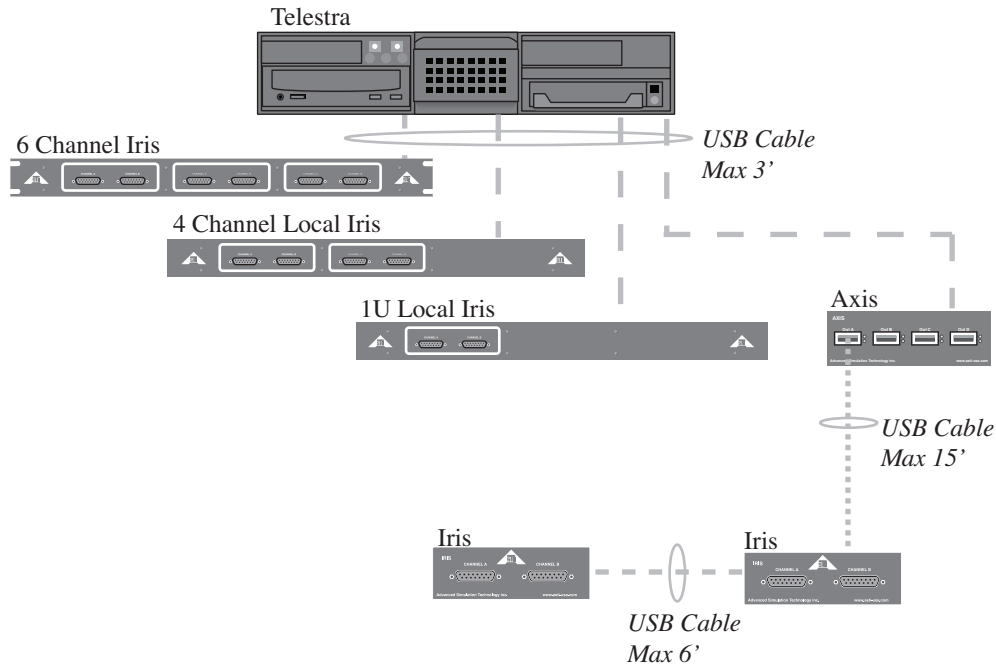

This type of connection is not supported.

Summary

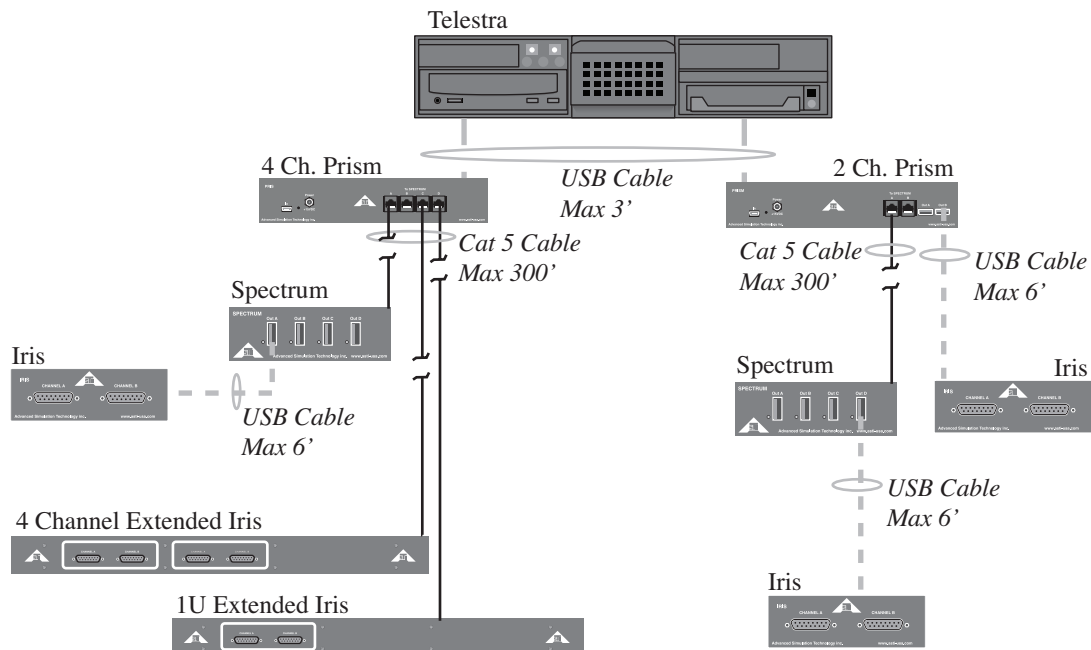| From Device	To	Cable Type	Max. Length (ft.)
Telestra	Axis	USB A to mini-B	3
Telestra	Prism	USB A to mini-B	3
Telestra	6-Chan. Iris	USB A to mini-B	3
Telestra	1U local Iris	USB A to mini-B	3
Telestra	4-Chan. Local Iris	USB A to mini-B	3
Telestra	Spectrum	-	-
Telestra	Iris	-	-
Telestra	1U Extended Iris	-	-
Telestra	4-Chan. Extended Iris/	-	-
Axis	Axis	-	-
Axis	Prism	-	-
Axis	Spectrum	-	-
Axis	1U Extended and Local Iris		-
Axis	4-Chan. Iris/ both	-	-
Axis	6-Chan. Iris	-	-
Axis	Iris	USB A to mini-B	15
Prism (both versions)	Axis	-	-
Prism (both versions)	Prism	-	-
Prism (both versions)	6-Chan. Iris	-	-
Prism (both versions)	1U Local Iris	-	
Prism (both versions)	4-Chan. Local Iris	-	-
Prism (both versions)	Spectrum	Category 5 or better, Unshielded Twisted Pair (UTP)	300
Prism (2 channel version)	Iris	USB A to mini-B	6
Prism (both versions)	1U Extended Iris	Category 5 or better, Unshielded Twisted Pair (UTP)	300
Prism (both versions)	4-Chan. Extended Iris/	Category 5 or better, Unshielded Twisted Pair (UTP)	300

From Device	To	Cable Type	Max. Length (ft.)
Prism (4 channel version)	Iris	-	-
Spectrum	Axis	-	-
Spectrum	Prism	-	-
Spectrum	Spectrum	-	-
Spectrum	1U Extended and Local Iris	-	-
Spectrum	4-Chan. Iris/ both	-	-
Spectrum	6-Chan. Iris	-	-
Spectrum	Iris	USB A to mini-B	6
Iris	Axis	-	-
Iris	Prism	-	-
Iris	Spectrum	-	-
Iris	4-Chan. Iris/ both	-	-
Iris	6-Chan. Iris	-	-
Iris (connected to Axis)	Iris	USB A to mini-B	6
Iris (connected to Spectrum)	Iris	-	-
1U and 4-Channel Extended Iris	Prism	Category 5 or better, Unshielded Twisted Pair (UTP)	300
1U and 4-Channel Extended Iris	Telestra	-	-
1U and 4-Channel Extended Iris	Spectrum	-	-
1U and 4-Channel Extended Iris	Axis	-	-
1U and 4-Channel Local Iris	Telestra	USB A to mini-B	3
1U and 4-Channel Local Iris	Prism	-	-
1U and 4-Channel Local Iris	Spectrum	-	-
1U and 4-Channel Local Iris	Axis	-	-
6-Channel Iris	Telestra	USB A to mini-B	3
6-Channel Iris	Prism	-	-
6-Channel Iris	Axis-	-	-
6-Channel Iris	Spectrum	-	-

USB Connections Overview Diagram

Local USB Hardware Options

Telestra

6 Channel Iris

4 Channel Local Iris

1U Local Iris

Axis

USB Cable Max 3'

USB Cable Max 15'

Iris

Iris

USB Cable Max 6'

Extended USB Hardware Options

Telestra

4 Ch. Prism

2 Ch. Prism

USB Cable Max 3'

Cat 5 Cable Max 300'

Cat 5 Cable Max 300'

USB Cable Max 6'

Spectrum

Iris

Spectrum

Iris

USB Cable Max 6'

4 Channel Extended Iris

1U Extended Iris

USB Cable Max 6'

Iris

This is an example of USB hardware connectivity with maximum cable lengths, please note connection possibilities may vary depending on system.