

DATASHEET



Crestron to amBX XC Interface

Revision: 1.0

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Summary

This datasheet relates to Ultamation's amBIENT XC interface module for Crestron control systems. It provides the essential information for integration between the amBIENT XC unit and the Crestron control processor, and for programming of the module with a host Crestron program.

The module has been developed against the amBIENT XC v2.5 protocol.

Installation Notes

The Crestron system is connected to each XC unit over an RS232 connection. The connection should be a standard straight through connection.



Setting	Value
Baud	9600
Data bits	8
Parity	None
Stop bits	1
Hardware flow control	None
Software flow control	None

Programming Notes

Each XC unit will require a separate instance of the module in the SIMPL Windows program.

To establish communication with the unit, you should first pulse the Initialise signal.

The module exposes the various error codes reported by the XC unit, and these signals can be monitored to determine if there has been a communications fault, and take remedial action.

You must also connect to the unit by pulsing the Connect signal. Once connected, the unit's OSD is locked and cannot be operated manually.

Note: If connection fails, the unit will reject Lightscape override requests until a successful connection is made. This is **not** the case for RGB updates which can be set whether the unit is in a connected state or not. Obviously, a physical connection is still required!

Once connected, pulsing disconnect will return the unit to manual operation.

Care should be taken when connecting/disconnecting quickly as the unit requires a little time to settle before the next connection. It is not necessary to disconnect between changing Lightscape override modes, so it is recommended (if practical) to refrain from disconnecting from the unit once connected.

RGB Selection

The latest protocol update allows for selection of specific RGB colours within Lightscapes. This has the perhaps the greatest practical value when selecting a static colour Lightscape.

For dynamic control of a static colour, use the following procedure:

- Ensure the unit is configured with a single colour static Lightscape
 - these can be downloaded from the ambient website
<http://www.ambx.com/pro/lightscapeLibrary/XCSC%20%5BSingle%20Colour%5D/index.html>
 - The OneColourIs Lightscape is appropriate
- Establish a connection to the XC unit as described above
- Select the single colour static Lightscape (e.g. OneColourIs)
- You must specify which palette entry you wish to edit, in the case of OneColourIs, this is palette entry 1. The module uses a zero based index, so palette entry "1" is specified by "0".
 - E.g. Use an Analog Initialise to set RGB_Colour_Index# to '0d'
- Specify the required levels of Red, Green and Blue for the signals RGB_Red#, RGB_Green# and RGB_Blue# as using full scale analogue values.
 - i.e. 0% - 100%, 0d - 65535d, etc.
- Pulse the digital signal RGB_Update_Colour to request the new colour.
 - The unit will take fairly rapid updates, but we recommend pacing the commands to – say – 0.5s updates. The XC's built in fade provides a clean transition.

The Module Signals

amBX_[Rx\$ Tx\$]	Connect to the COM port definition.
Initialise	Initialise the unit for host serial communications.
Connect	Establish a host connection. Required for override modes, and locks out the unit's OSD.
Disconnect	Close the connection. Allow a short time (2s) following disconnection before reconnecting.
Request_Device_Info	Request the protocol version from the unit. Limited value.
Result_[OK Error	Ok or Unspecified Error
Not_Connected	Connect to the unit before changing modes
Mode_Does_Not_Exist	Invalid override mode selected
CRC_Incorrect]	CRC error – check physical cabling for problems
Set_Scheduler_Mode	Instruct the unit to run the internal scheduler for Lightscape transitions – i.e. No Override
Set_Override_Mode_[n]	Direct selection of a Lightscape. The internal scheduler is overridden.
RGB_Update_Colour	Request a palette colour update
RGB_Colour_Index#	The palette colour index (ZERO BASED!)
RGB_[Red Green Blue]#	The colour value to set (Full scale: 0-100%)

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