Crestron **CNXIR-8**
CNX Infrared & Serial Expansion Card

Operations Guide

CRESTRON
REMOTE CONTROL SYSTEMS

Contents

CNX Infrared & Serial Expansion Card: CNXIR-8

Description

Functional Description

The CNXIR-8 Infrared & Serial Expansion Card provides for infrared (IR), ASCII, or other serial communication and control. IR output is rated up to 1.12 MHz. Serial protocols include RS-232.

NOTE: RS-232 levels provide a 0 – 5V range, which may not be compatible with all devices.

Physical Description

The CNXIR-8, shown below, is a circuit board fastened to an aluminum faceplate. The card is manufactured to easily fit into an unoccupied slot in a Crestron CNX Generation Control System.

CNXIR-8 Faceplate
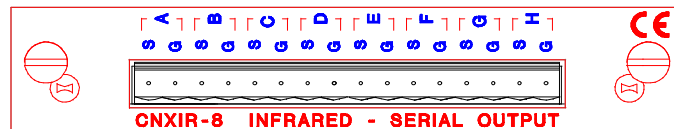
The faceplate contains one male, 16-pin connector. Silk screening is applied to the faceplate; pins are labeled A through H. A supplied 16-position connector can be wired and attached to the faceplate connector.

Leading Specifications

The table below provides a summary of leading specifications for the CNXIR-8. Dimensions are approximations rounded to the nearest hundredth unit.

Leading Specifications of the CNXIR-8

SPECIFICATION	DETAILS
Power Requirements	24 VDC, network power; 3 Watts
IR Output	Up to 1.12MHz
Output Signal Levels	0 to 5VDC (compatible with most RS-232 input devices)
SIMPL Windows	Version 1.19.08 or later
CNX Operating System	Version 5.01.00 or later
CNX Monitor	Version 2.00 or later
Dimensions	Height: 0.980 in (2.490 cm) Width: 5.000 in (12.700 cm)

As of the date of manufacture, the unit has been tested and found to comply with specifications for CE marking.

CE

Setup

Installation

Items required to install the CNXIR-8 are already attached to the unit. The only tools required are a Phillips tip screwdriver and a grounding strap. Follow the assembly procedure below.

CAUTION: The CNXIR-8 contains electrostatic sensitive devices (ESD); observe precautions for handling ESDs to avoid damaging the card.

NOTE: If installing the CNXIR-8 into a CNMSX-AV, it is assumed that the CNXCAGE has been installed.

1. Disconnect power from the CNMSX.

2. Use the Phillips tip screwdriver and remove two screws and blank faceplate from the control system.

3. Align the CNXIR-8 with the card guides in the open slot and slide the expansion card into postion.

4. Firmly press both ends of the CNXIR-8 faceplate to seat the expansion card into the control system connector.

5. Tighten the thumb-nail screws to secure the CNXIR-8 to the control system.

6. Reapply power to the CNMSX.

Preparation for Use

Connections are made to the eight serial outputs for IR, one-way RS-232, or serial interface. Each output is labeled S (signal) and G (ground). Refer to a sample hookup diagram below and aside from reapplying power to the control system last, complete theconnections in any order.

Sample Hookup Connections for CNXIR-8
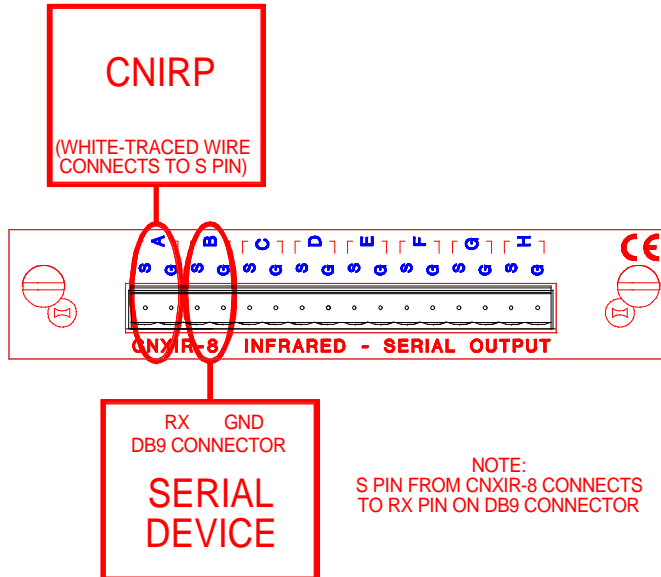
Programming with SIMPL Windows®

SIMPL (Symbol Intensive Master Programming Language) is an easy-to-use programming language that is completely integrated and compatible with all Crestron system hardware. The objects that are used in SIMPL are called symbols. SIMPL Windows offers drag and drop functionality in a familiar Windows® environment.

SIMPL Windows is Crestron Electronics' software for programming Crestron control systems. It provides a well-designed graphical environment with a number of workspaces (i.e., windows) in which a programmer can select, configure, program, test, and monitor a Crestron control system.

The next two subsections describe a sample SIMPL Windows program that utilizes the CNXIR-8. The first subsection details how the sample program works with a textual description and block diagram. The second subsection provides a broad description of how to actually create the SIMPL Windows program.

NOTE: The following description assumes that the reader has knowledge of SIMPL Windows. If not, please refer to the extensive help information provided with the software.

NOTE: There is no need to recreate the sample SIMPL Windows program. A copy of this program is available from Crestron's ControlCD (version 4.03 and later). Search for the CNXIR-8.SMW project in the SIMPL Windows Example Base.

How the Program Works

A basic CNXIR-8 SIMPL program is shown below in block diagram form. For this example, the CNXIR-8 occupies slot #1 of a CNMSX-PRO. Assume a touchpanel interfaces directly with two IR drivers. Port A contains a Sony ST-92TV IR driver and Port C contains a Panasonic AG-1980 VCR IR driver. Both drivers are obtained from the Crestron Database. The touchpanel directly activates buttons on the IR drivers, which closely simulates a user pressing buttons on the remote. As long as a button is held on a touchpanel, the IR command tied to that button is sent out.

Block Diagram of CNXIR-8
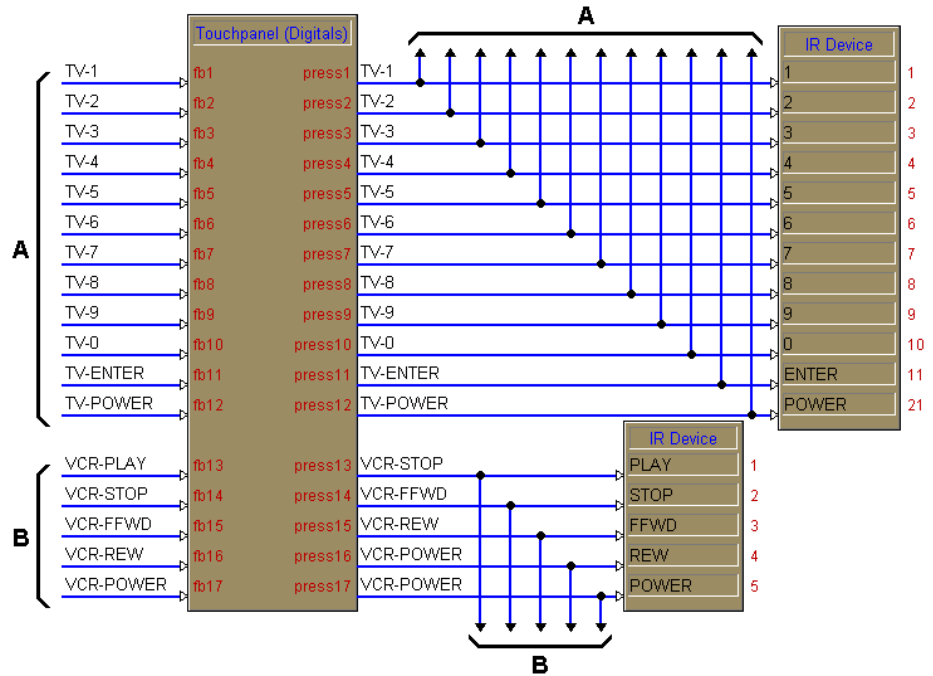
How to Create the Program

Use the Configuration Manager workspace in SIMPL Windows to select and configure all the devices that need to be included into the system. For this example, add a CNXIR-8 to slot #1 of the CNMSX-PRO. Also add a CT-3000 to the system; its NET ID must be set to 03, shown on the next page.

NOTE: SIMPL Windows v1.19.08 or later is required to program the CNMSX-PRO. If using an earlier version of SIMPL Windows, Crestron recommends a SIMPL Windows and operating system upgrade.

Graphical System View of CNXIR-8 and CT-3000 in SIMPL Windows' Configuration Manager
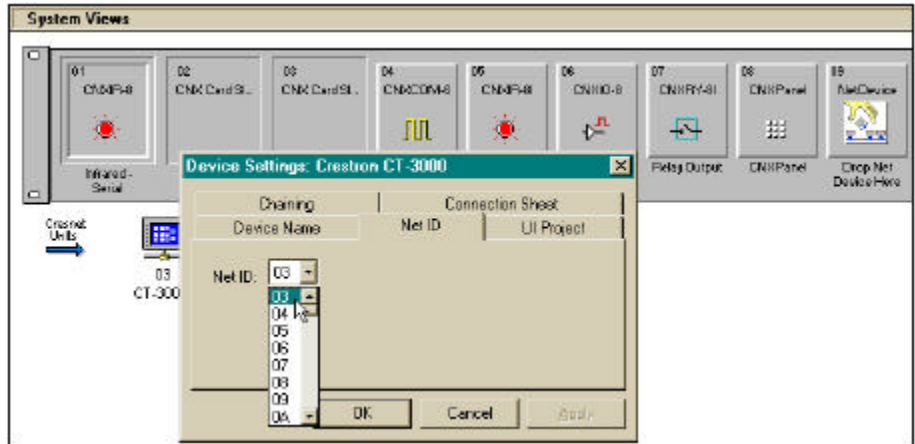

Click on the CNXIR-8 in slot #1 of the CNMSX-PRO to display all the IR ports of the card in the *Detail System View* area of the Configuration Manager. To assign specific IR devices, select them from either the Crestron or User Database which is available from the Device Library. Both are sorted by manufacturer or device type.

For this example, a Sony ST-92TV driver is assigned to Port A and a Panasonic AG-1980 VCR driver is assigned to Port C, as shown below. Both were selected from the Crestron Database.

NOTE: The two drivers selected have built-in logic. Configuration Manager displays a Default Logic Window when the driver is dropped its respective port. To maintain simplicity of the example, default logic was not loaded for each of the devices.

CNXIR-8 Port Assignments Displayed in the Detail System View Area of SIMPL Windows' Configuration Manager
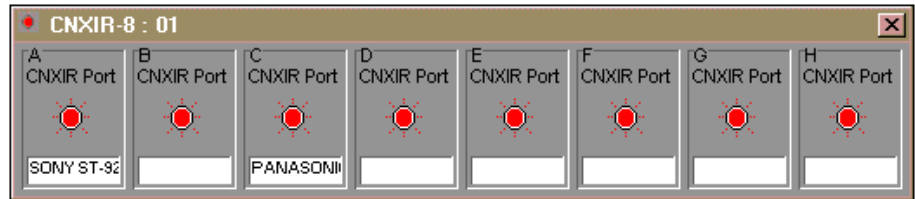

Use the Programming Manager workspace in SIMPL Windows to select symbols and assign their respective signals. For this example, a touchpanel and CNXIR-8 symbols were added automatically when the devices were added to the system in the Configuration Manager workspace. Expand the Network Modules folder and double click on the touchpanel for a detail view (alternatively CTRL+D or drag and drop into Detail View). Assign signals as shown on the next page.

*Graphical Detail View of Touchpanel in SIMPL Windows' Programming Manager*
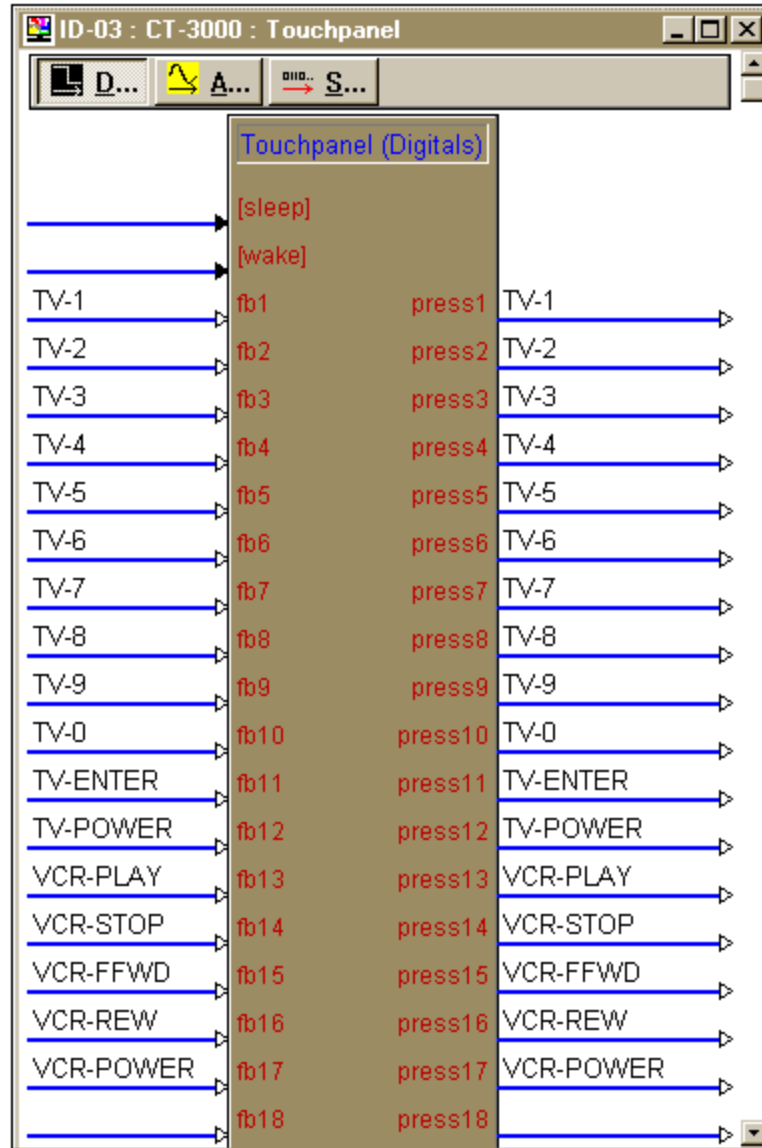
Expand the Central Control Modules folder and the CNXIR-8 folder. Double click on the two ports of the CNXIR-8 for a detail view (alternatively CTRL+D or drag and drop into Detail View). Assign signals as shown on the next page.

Graphical Detail View of Port A on the CNXIR-8 in SIMPL Windows' Programming Manager
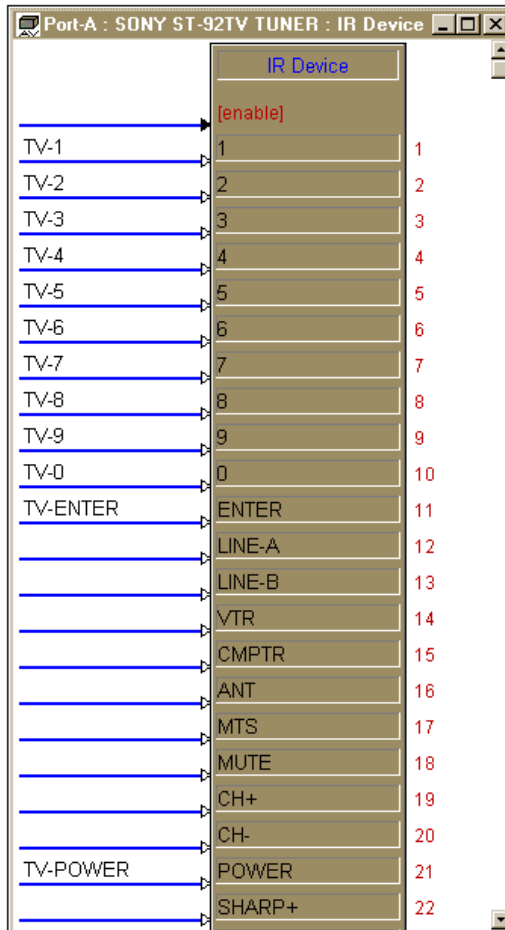
NOTE: If the optional [enable] line into the IR driver is not used, the driver is considered to always be enabled.

Graphical Detail View of Port C on the CNXIR-8 in SIMPL Windows' Programming Manager
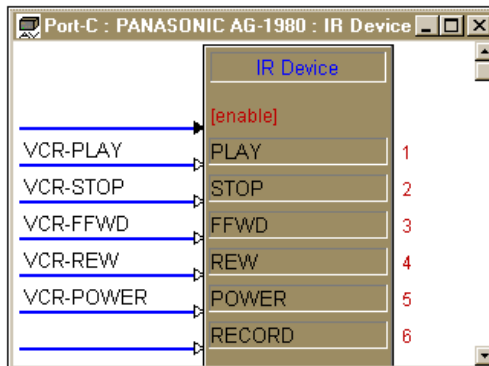
NOTE: If the optional [enable] line into the IR driver is not used, the driver is considered to always be enabled.

Problem Solving

Troubleshooting

The table below provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron technical support representative.

CNXIR-8 Toubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
CNXIR-8 does not function.	CNX Control System is not receiving power.	Verify power to CNX Control System.
	Circuit card is not properly seated in slot.	Verify CNXIR-8 is properly inserted into CNX Control System slot per procedures in this Operations Guide.
	Programming error.	Check SIMPL Windows program.
A particular IR device does not function.	CNIRP wiring was extended and polarity was reversed.	Verify proper polarity on CNIRP wiring.
	Incorrect or missing driver for IR device.	First, install appropriate driver using SIMPL Windows.
		Second, verify functionality of driver using DEAL for Windows and CNXLIR, Crestron's Infrared/Serial Learner.
	Programming error.	Check SIMPL Windows program.

Further Inquiries

If after reviewing this Operations Guide for the CNXIR-8, you cannot locate specific information or have questions, please take advantage of Crestron's award winning technical support team by calling:

- In the US and Canada, call Crestron's corporate headquarters at 1-888-CRESTRON [1-888-273-7876] or 1-201-767-3400.

- In Europe, call Crestron International at +32-15-50-99-50.

- In Asia, call Crestron Asia at +852-2341-2016.

- In Latin America, call Crestron Latin America at +525-574-15-90.

For local support from exclusive Crestron factory-trained personnel call:

- In Australia, call Soundcorp at +613-941-61066.

- In New Zealand, call Amber Technologies at +649-410-8382.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange, or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number, and return address.

2. Products may be returned for credit, exchange, or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, Cresskill, N.J., or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee, plus shipping costs, on any products returned with an RMA.

3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its Cresnet II products, denoted by a "CN" prefix model number, to be free from manufacturing defects in materials and workmanship for a period of three (3) years from the date of shipment to purchaser. Disk drives and any other moving or rotating mechanical parts are covered for a period of one (1) year. CRESTRON warrants all its other products for a period of one year from the defects mentioned above, excluding touchscreen display components which are covered for 90 days. Incandescent lamps are completely excluded from Crestron's Limited Warranty. CRESTRON shall, at its option, repair or replace any product found defective without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

CRESTRON shall not be liable to honor warranty terms if the product has been used in any application other than that for which it was intended, or if it has been subjected to misuse, accidental damage, modification, or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced, or removed.

This warranty shall be the sole and exclusive remedy to the purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON makes no other warranties nor authorizes any other party to offer any warranty, expressed or implied, including warranties of merchantability for this product. This warranty statement supersedes all previous warranties.

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