

Crestron **Series 3500:**
ColorTouch & VideoTouch
Touchpanels

Operations Guide

Contents

Series 3500 Touchpanels	1
Description	1
Functional Description	1
Physical Description	3
Configuration Differences	6
Leading Specifications	6
Installation/Setup	7
Identity Code	7
Recommended Cleaning	8
Preparation for Use	8
Hardware Hookup	9
Configuring the Touchpanel	11
Programming	15
Reserved Join Numbers	15
Workshop Versus SIMPL Windows	16
Problem Solving	19
Troubleshooting	19
Further Inquiries	20
Syntax	20
Return and Warranty Policies	21
Merchandise Returns / Repair Service	21
CRESTRON Limited Warranty	21

Series 3500 Touchpanels

Description

Functional Description

The Series 3500 Touchpanels are 10.4 inch (26.4 cm) active matrix touchscreen control panels for the CRESNET II remote control system (herein referred to as the CRESNET II system). There are four Series 3500 configurations available. Two of the four touchpanels offer a video window in addition to the 256 color display (255 color plus one video) and are commonly known as VideoTouch. The remaining two touchpanels offer 256 color display and are commonly known as ColorTouch. ColorTouch and VideoTouch are available in lectern-mount and adjustable tiltcase configurations. Configuration selection is based on application requirements. Refer to “Configuration Differences” on page 6 for a more detailed description of each.

The purpose of a ColorTouch and VideoTouch Series 3500 unit is to replace hard-wired panels in either a CRESNET II or an RS-232 based control system. The touchpanel is capable of replacing large, complicated panels with a series of simpler screens, each specific to the control problem at hand. Thus, very large numbers of functions can be made available to the user without the confusion associated with hardware panels of that complexity. Series 3500's icons, graphics, and text can dramatically increase any user's comprehension of the control environment. Devices, functions, and control zones are quickly organized and more easily accessed. The Series 3500 Touchpanels offer:

- 256 color active matrix display
- full color video window capability, NTSC or PAL, full or partial screen (VideoTouch only)
- pop-up sub panels to reduce memory requirements, providing optimal speed and performance
- multiple button, slider control, and icon configurations
- up to 999 functions and 96 screens
- imported photographs, drawings, and icons
- support for downloadable fonts - proportional and non-proportional
- foreign language text

- RS-232 interface for stand-alone applications (lectern-mount configurations only)
- VGA OUT port (lectern-mount configurations only)
- printout of screen designs on standard printer
- Position Lock feature provides durable support of panel at any angle of inclination between 0 and 70 degrees (tiltcase configurations only).

Software

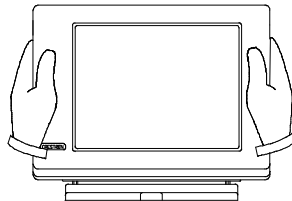
VisionTools™ for Windows (VTW), a design and programming Windows™-based software, permits the creation of unlimited control screen variations incorporating two and three-dimensional graphics and text. A set of pages which make up a project can be designed for each Series 3500 Touchpanel application. Each page contains objects such as custom control graphics, two and three-dimensional buttons, sliders, and digital readouts which allow the user to interface with the CRESNET II system. The project is uploaded to the touchpanel and programmed into the flash PROM. The touchpanel uses the programmed project until another set is uploaded from the PC. The PC may be disconnected from the rack or panel except during reprogramming. For additional software information, consult the help file available on the VTW installation disks.

Position Lock Button

The position lock button is centrally located at the front of the base on Series 3500 adjustable tiltcase touchpanels. These touchpanels permit incremental angle positions indicated by audible clicks. Range of motion is adjustable for user comfort and can vary from zero inclination to 70 degrees from horizontal. Thus the user can position the touchscreen to a comfortable angle, just as a microphone can be repositioned for each speaker. The comfortable angle is herein referred to as user position. The position lock guarantees that once a user position is established or locked, the angle will not degrade from repeated presses on the touchscreen.

The touchscreen is free to move up from the horizontal to an incremental angle. Grasp the touchscreen with a hand at each side and gently tilt up to a comfortable position. To activate position lock, slightly reverse the motion until the touchpanel stops moving. Correct hand placement is shown below. The touchscreen is now set into user position.

Hand Position for Tilting Touchpanel to Vertical

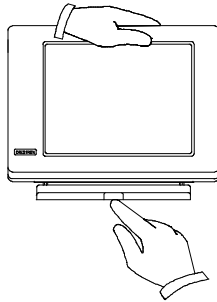


Once in user position, position lock is activated which means the touchscreen can not be forced to the horizontal position without depressing the position lock button. The touchscreen is still free to tilt up; a new user position is established at each increment or audible click.

The position lock button needs to be depressed before the touchscreen can be returned to the horizontal position. To depress the button, slightly position the touchscreen in the vertical direction with two hands, avoiding any tilting. The

position lock button can be depressed with one hand; the touchscreen can be tilted down to the horizontal position with the other, shown below.

Hand Position for Tilting Touchpanel to Horizontal

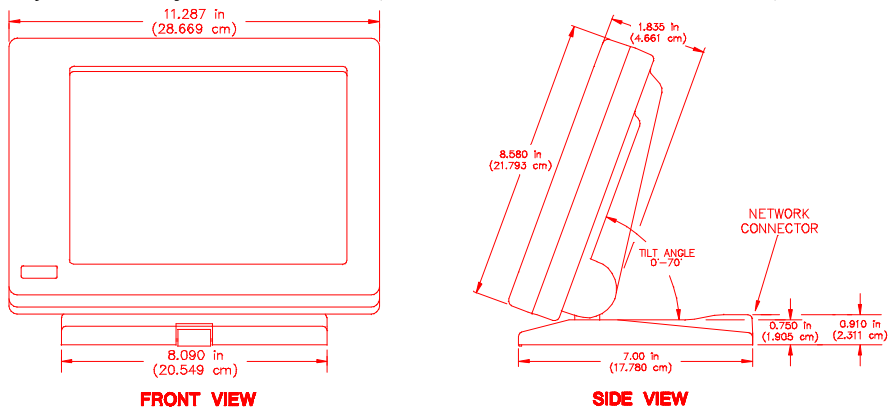


Physical Description

Touchpanels

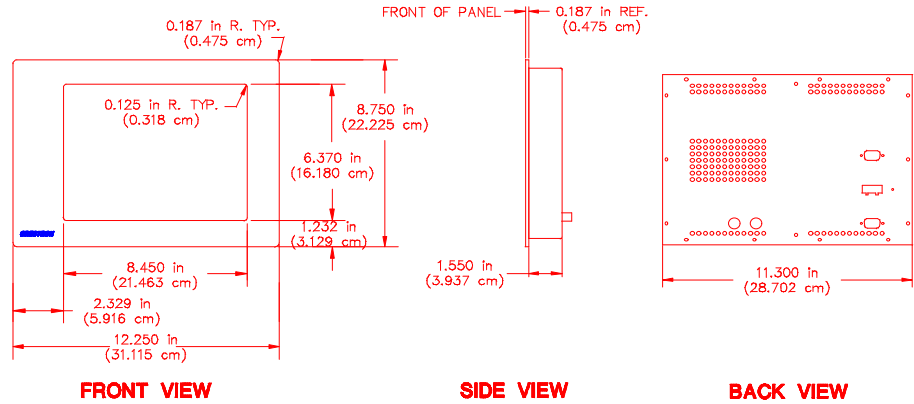
The 10.4 inch (26.4 cm) touch sensitive viewing screen is located on the front of each Series 3500 Touchpanel. The electronic hardware is housed in a high impact, black molded plastic enclosure for the adjustable tiltcase configurations, shown below. These two touchpanels are designed to be placed on a counter and possess a hinged base which can tilt from 0 to 70 degrees. Depress the button located at the front of the base when pivoting the touchpanel to the horizontal position. A 6-pin, 6-position RJ11 modular jack is located at the rear of the CT-3500's base. Use the cable assembly (supplied) to connect the touchpanel to the CN-RJ11 (supplied), which attaches directly to the CRESNET II network. The VT-3500 has an 8-position, 8-pin modular telephone jack on the base. A supplied 11 to 12 foot network cable with 8-position, 8-pin connectors on each end connects the panel to the VT-3500IMC (supplied) or VT-3500IMW (purchased separately). Each VideoTouch interface module has video connectors and a 4-pin network connector for attachment to the CRESNET II network.

Physical Views of CT- and VT-3500 (CN-RJ11 and VT-3500IMC not shown)



The CT-3500L and VT-3500L, shown after this paragraph, are housed in a black metal box topped with a plastic cover. These units are designed for lectern mount. The 15-pin VGA OUT, four-pin network, nine-pin RS-232, and two coaxial cable ports are located on the rear of the panel. The coaxial cable ports are only available on the VT-3500L.

Physical Views of CT- and VT-3500L (CT-3500L does not have VIDEO ports)



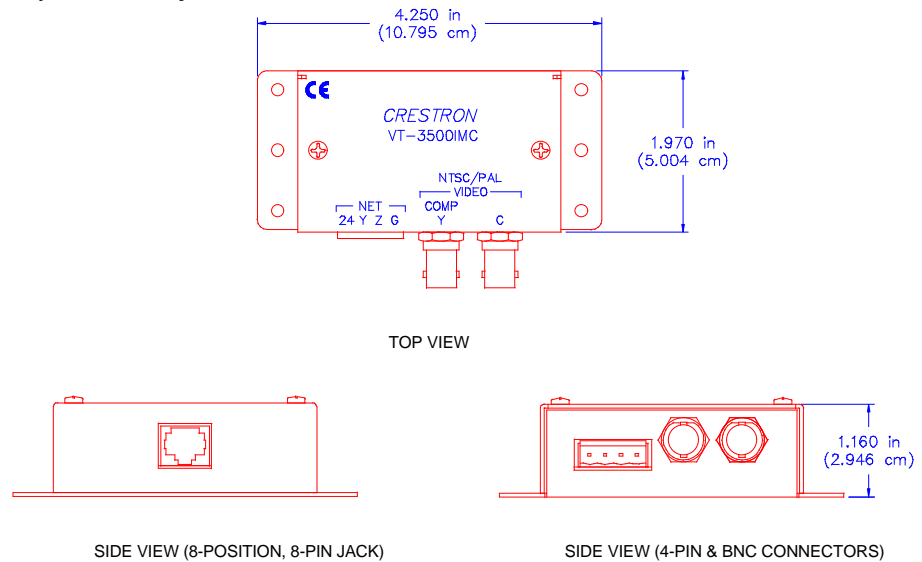
Interface Modules

NOTE: All Series 3500 touchpanels are supplied with cable assemblies that connect to the interface modules. Pinout information of these assemblies is provided in this section of the Operations Guide. If the assembly must be “user-modified” in any way, Crestron cannot guarantee the behavior of the touchpanel. The product may not function accordingly, as stated in this Operations Guide.

There are three interface modules available for the Series 3500 Touchpanels: VT-3500IMC and VT-3500IMW for the VT-3500 and CN-RJ11 for the CT-3500.

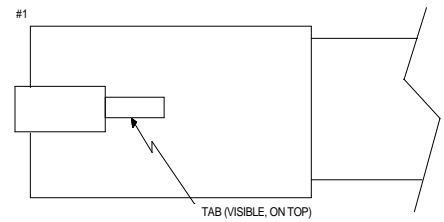
The VT-3500IMC, shown below, is supplied with every VT-3500. The module is housed in a black enclosure with silk-screened top panel. A 4-pin network connector and two BNC connectors (for the video source) are located on one side of the unit. An 8-position, 8-pin modular telephone jack is located on the opposite side. At the shorter sides of the VT-3500IMC, the enclosure extends to form feet at a right angle to the side. There are three holes per foot for inserting screws to further stabilize the unit.

Physical Views of the VT-3500IMC



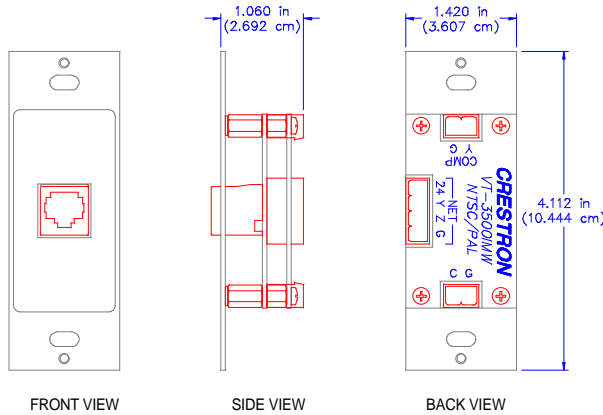
8-Position, 8-Pin Jack Pinout (for VT-3500IMC and VT-3500IMW)

PIN #	SIGNAL	COLOR
1	+24 V (Network)	GRY
2	GND (Network)	ORG
3	Y (Data)	BLK
4	Z (Data)	RED
5	GND (Lum.)	GRN
6	Y (Lum.)	YEL
7	C (Chrom.)	BLU
8	GND (Chrom.)	BRN



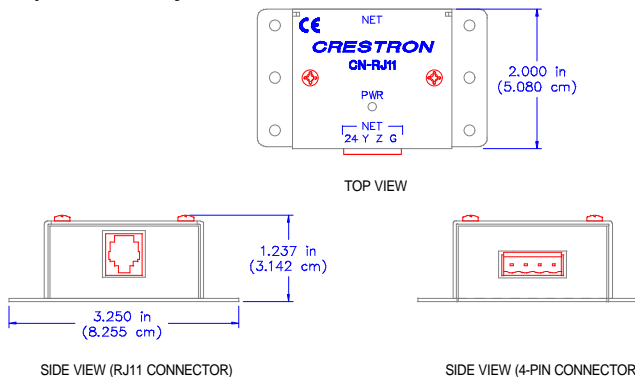
The VT-3500IMW, shown below, is not provided with each VT-3500 order; it must be purchased separately. This unit installs into a one-gang electrical box (2.5 inch depth minimum). A decora-style wallplate can be mounted over the unit once it is installed. A 4-pin network connector and two 2-pin connectors (for the video source) are located on the back side of the unit. An 8-position, 8-pin modular telephone jack is located on the opposite side.

Physical Views of the VT-3500IMW



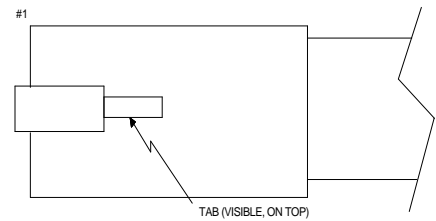
CRESTRON's CN-RJ11, shown below, is a network one-to-one converter that interfaces 4-wire CRESNET and modular devices. The converter is housed in a black enclosure with silk-screened top panel. A 4-pin network connector is located on one side of the unit. A 6-position, RJ11 modular telephone jack is located on the opposite side. At the shorter sides of the CN-RJ11, the enclosure extends to form feet at a right angle to the side. There are three holes per foot for inserting screws to further stabilize the unit.

Physical Views of the CN-RJ11



6-Pin Jack Pinout (for CN-RJ11)

PIN #	SIGNAL	COLOR
1	+24 V (Network)	WHT
2	+24 V (Network)	BLK
3	Y (Data)	RED
4	Z (Data)	GRN
5	GND (Network)	YEL
6	GND (Network)	BLU



Configuration Differences

There are four Series 3500 configurations available and selection depends on type of installation (tiltcase or lectern mount) and whether video is required. A configuration is defined by one of two prefixes, CT- or VT-, and one of two suffixes, no suffix or L. The VT- prefix identifies the touchpanel as having video capability. No suffix indicates an adjustable tiltcase configuration; these units are moveable and can tilt. The "L" suffix identifies the touchpanel as a lectern mount. Refer to the table after this paragraph for a concise listing of each Series 3500 configuration.

NOTE: Wall-mount and rack-mount kits are available options that can be purchased with lectern-mount configurations. Parts and instructions are provided with each kit.

Series 3500 Touchpanel Configurations

CONFIGURATION	DISPLAY	INSTALLATION
CT-3500	256 Color	Movable and can tilt
CT-3500L	256 Color	Lectern mount
VT-3500	256 Color (255 Color plus one Video)	Movable and can tilt
VT-3500L	256 Color (255 Color plus one Video)	Lectern mount

Leading Specifications

The table after this paragraph provides a summary of leading specifications for the Series 3500 Touchpanels. Dimensions and weight are approximations rounded to the nearest tenth unit.

Leading Specifications for Series 3500 Touchpanels

SPECIFICATION	DETAILS
Power Requirements	24 Watts, 24 VDC 1.0 Amp for VT-3500/L 18 Watts, 24 VDC 0.75 Amp for CT-3500/L
CRESNET Power Factor	24 Watts for VT-3500/L 18 Watts for CT-3500/L
CRESNET II Workshop	Version 4.20.03 or later
CRESNET II Operating System	3.11.18 or later
VisionTools for Windows	Version VTW 6.8 or later
Memory	1 Mbyte

Leading Specifications for Series 3500 Touchpanels (Continued)

SPECIFICATION	DETAILS
CT-3500 & VT-3500 Dimensions & Weight (without VT-3500IMC)	Height: 9.5 in (24.1 cm) Width: 11.3 in (28.7 cm) Depth: 8.6 in (21.8 cm) Weight: 6.2 lb (2.8 kg) for CT-3500 Weight: 7.0 lb (3.2 kg) for VT-3500
VT-3500IMC Dimensions & Weight	Height: 1.7 in (4.4 cm) Width: 3.9 in (9.8 cm) Depth: 1.1 in (2.7 cm) Weight: 0.7 lb (0.3 kg)
CN-RJ11 Dimensions & Weight	Height: 2.0 in (5.0 cm) Width: 3.3 in (8.3 cm) Depth: 1.2 in (3.0 cm) Weight: 0.4 lb (0.2 kg)
CT-3500L & VT-3500L Dimensions & Weight	Height: 8.8 in (22.2 cm) Width: 12.3 in (31.1 cm) Depth: 1.7 in (4.4 cm) Weight: 4.5 lb (2.0 kg) for CT-3500L Weight: 5.8 lb (2.6 kg) for VT-3500L
View Screen Dimensions	Height: 6.4 in (16.2 cm) Width: 8.5 in (21.5 cm)
View Screen Resolution	640 x 480 pixels
View Screen Display	Active Matrix Color LCD
View Screen Illumination	Backlit Fluorescent
View Screen Touch Screen	Resistive Membrane
RS-232 Port	9-pin D-female (for CT-/VT-3500L only)
VGA OUT Port	15-pin D-female (for CT-/VT-3500L only)
VIDEO Port: S-Video or Composite (select from Setup Menu - refer to Configuring the Touchpanel section)	2 BNC Video Input Connectors on VT-3500IMC (VT-3500 only) on back of unit (VT-3500L only)

As of the date of manufacture, the Series 3500 Touchpanels have been tested and found to comply with specifications for CE marking.



Installation/Setup

Identity Code

Every equipment and user interface within the CRESNET II network requires a unique identity code (ID CODE). These codes are recognized by a two-digit hexadecimal number from 03 to FE. Refer to “Configuring the Touchpanel” on page 11 for instructions on setting the unit’s ID CODE. The ID CODE of the unit must match the ID CODE specified in the CRESNET II SIMPL-I program. Refer to “Programming” on page 15 for an example of SIMPL-I program.

Recommended Cleaning

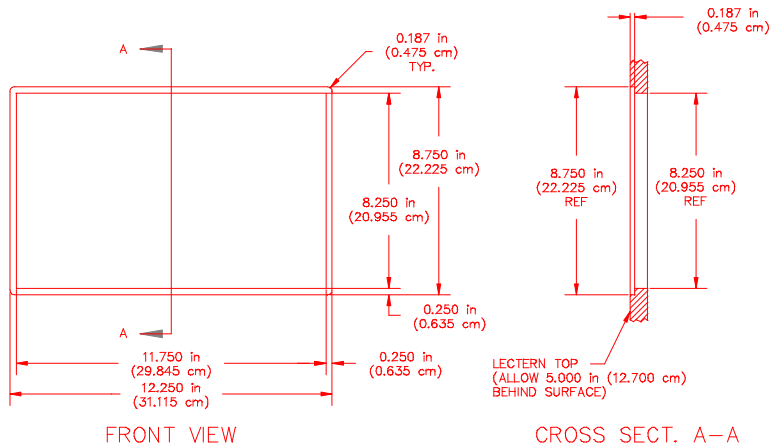
Keep the surface of the touchscreen free of dirt, dust, or other materials that could degrade optical properties. Long term contact with abrasive materials can scratch the surface which may detrimentally affect image quality.

For best cleaning results, use a clean, damp, non-abrasive cloth with any commercially available non-ammonia glass cleaner. Bezels may not provide a complete water-tight seal. Therefore, apply cleaning solution to the cloth rather than the surface of the touchscreen. Wipe touchscreen clean and avoid ingress of moisture beneath panels.

Preparation for Use

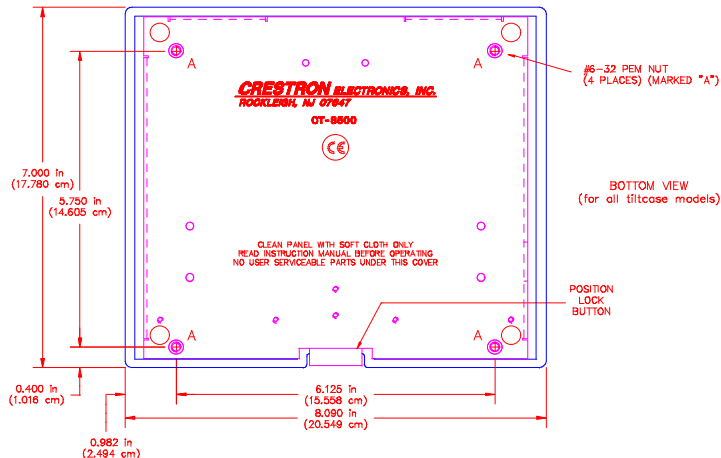
The only preparation that may be required is to mount the touchpanel. If a CT-3500L or VT-3500L is being installed, the cutout dimensions are required. Refer to the lectern cutout details below for these configurations. Cutout measurements in the figure have been rounded up to the nearest 1/8 inch.

CT/VT-3500L Lectern Cutout Detail



If a CT-3500 or VT-3500 is being mounted to a flat surface, locate the mounting holes on the “foot” of the touchpanel. Refer to the mounting information below for these configurations. Mount the touchpanel with #6-32 hardware (not supplied).

CT/VT-3500 Mounting Detail



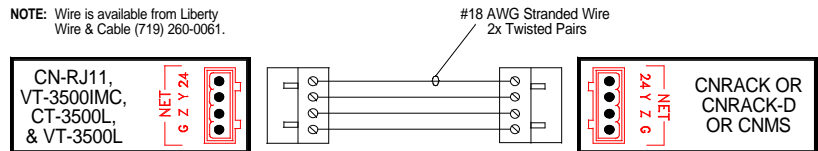
Hardware Hookup

Due to configuration differences, the hookup diagram differs for each Series 3500 touchpanel. As a result, there are different connection views for the lectern-mount and adjustable tiltcase configurations. Complete the following steps in the order provided to ensure proper installation of the unit.

1. Before making any connections, review latest revision of network interconnection drawing (Doc. 5411) or, if necessary, the network modular cable requirements (Doc. 5682).
2. Connect the touchpanel to the CRESNET II network via a CRESNET II network cable, shown below, and appropriate interface module.

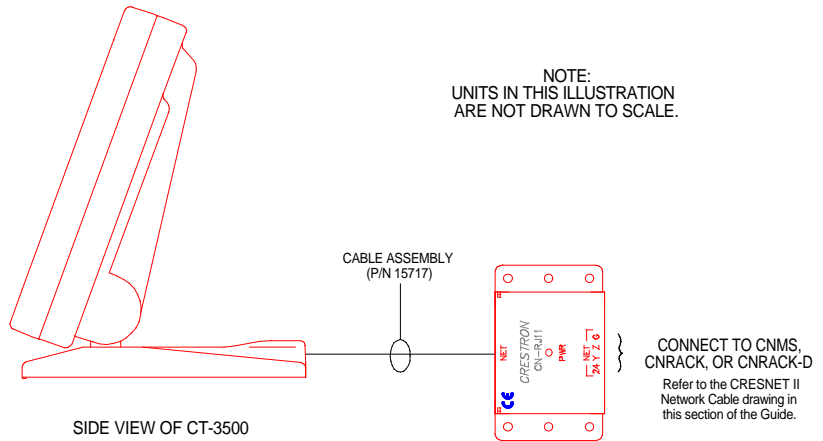
Recommended CRESNET II Network Cable, Part No. CRE-2S18218

NOTE: Wire is available from Liberty Wire & Cable (719) 260-0061.



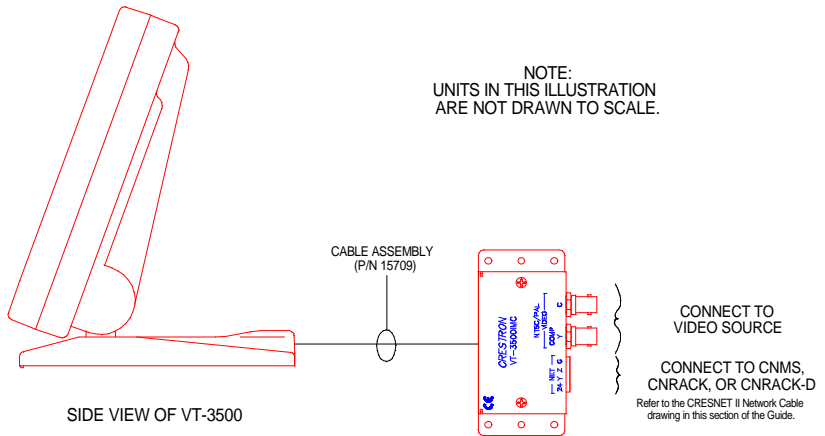
- A supplied cable assembly (P/N 15717) with 6-position, 6-pin connectors on each end connects the CT-3500 to the CN-RJ11, shown below. Connect the CN-RJ11 to the CRESNET II system via the network cable.

CT-3500 Typical Connection Diagram



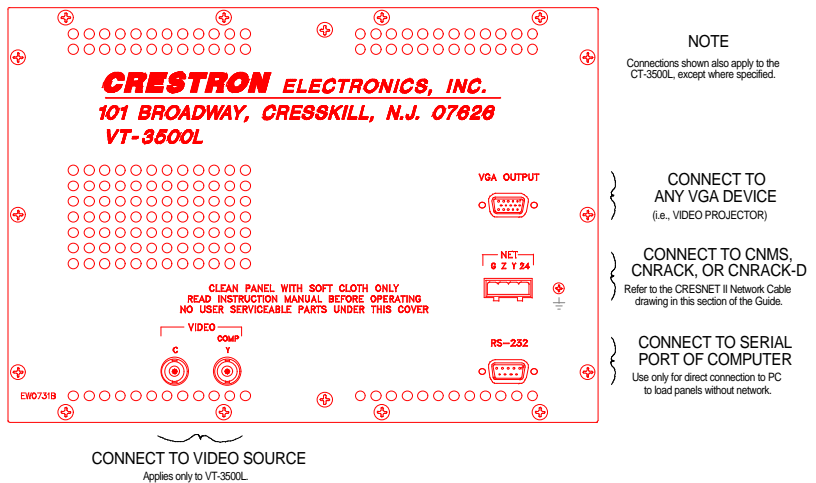
- A supplied 11 to 12 foot network cable assembly (P/N 15709) with 8-position, 8-pin connectors on each end connects the VT-3500 to the CN-RJ11 to the CRESNET II system via the network cable.

VT-3500 Typical Connection Diagram



- Connect the CT-3500L or VT-3500L directly to the CRESNET II system via the network cable, shown below.

CT/VT-3500L Typical Connection Diagram



NOTE: Network termination points are available at the control system power supply. Network units may also be daisy-chained together. Refer to the latest revision of the CRESNET II reference manual section on CNPWS power supplies (Doc. 8091) for wire gauge specifications and connection details.

3. This step only applies to video windows (VideoTouch configurations). If composite video is required, connect video cable to VIDEO COMP port (composite video input). Otherwise, if S-video is required, connect chrominance and luminance to VIDEO C and VIDEO Y ports, respectively. Select appropriate input in the Setup Menu as described in the Configuring the Touchpanel section.
4. This step only applies to VideoTouch and CT-3500L configurations. If necessary, connect a VGA device, such as a video projector, to VGA OUTPUT.
5. Apply power to the touchpanel and observe illumination of the touch-sensitive screen. The touchpanel enters RUN MODE and displays a

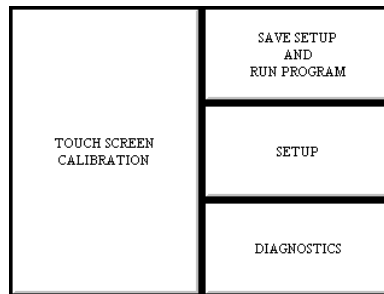
loaded panel page. To enter SETUP MODE and not RUN MODE, hold a finger to the touchscreen as power is applied. The user may configure the unit while in SETUP MODE.

Configuring the Touchpanel

To configure the unit, it may be necessary to access a series of setup screens prior to viewing run-time screens that are loaded into the touchpanel for normal operation. The Main Menu for configuring the touchpanel appears when a finger is held to the touchscreen as power is applied. Remove your finger when the message "SETUP MODE" appears on the touchscreen. Holding a finger to the touchscreen for five seconds after the "SETUP MODE" message is displayed sets the brightness to high.

Upon entering SETUP MODE, the Main Screen, shown below, displays four buttons: TOUCH SCREEN CALIBRATION, DIAGNOSTICS, SETUP, and SAVE SETUP AND RUN PROGRAM.

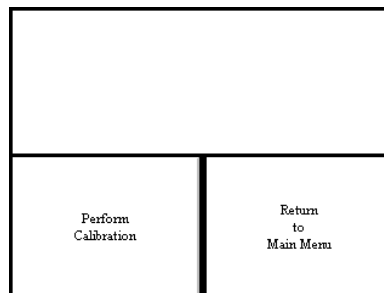
Main Menu



Calibration Menu

Calibration of the touchscreen is required if the active touch area of a button does not coincide with the button's image. Select the TOUCH SCREEN CALIBRATION button to display the Calibration Menu, shown below. The Calibration Menu offers the choice to initiate calibration with the Perform Calibration button or return to the previous screen with the Return to Main Menu button. Choose an option by touching the correct button. When touching the screen, be as accurate as possible. If you proceed to calibrate the touchpanel, the screen prompts you with the message "Touch Screen Calibration Menu" nearly centered on the display. Another message, "Touch Upper Left Corner", appears in the upper left corner. Touch the corner of the screen to initiate calibration. Another message, "Touch Lower Right Corner", appears in the lower right corner. Touch the corner of the screen to return to the Main Menu.

Calibration Menu



Diagnostics Menu

The DIAGNOSTICS button from the Main Menu should only be used under supervision from a CRESTRON technical support representative during telephone support. The options available from the Diagnostics Menu, shown below, are numeric in nature and their interpretation is beyond the scope of this manual.

Diagnostics Menu (ColorTouch [left] & VideoTouch [right] Configurations)

Display EEPROM	Display Palette	Display Colorbar	Display Touch Data
Self Test			About...
			Return

Display EEPROM	Display Palette	Display Colorbar	Display Touch Data
Self Test			About...
Display Video			Return

Setup Menu

To obtain the Setup Menu, shown below, select and hold the SETUP button from the Main Menu until the Setup Menu is displayed. Many options for setting parameters of the touchpanel are available from the Setup Menu and are explained in the following paragraphs. After setup parameters have been set, select the Return button, located at the lower right corner of the Setup Menu.

Setup Menu

Interface	RS-232	Panel Tracking	Composite Video
			S-Video
Fast Motion	Soft	Backlight Timeout	Save Setup
Still Video	Sharp		
Brightness Low	Brightness Medium	Brightness High	Return

Brightness

Screen brightness may need to be altered because of ambient light conditions or personal preference. Three brightness buttons, Brightness Low, Brightness Medium, and Brightness High, located in the bottom row of the Setup Menu may be selected to assign brightness setting. Current brightness setting is shown in red rather than black text.

Composite Versus S-Video (VideoTouch configurations only)

Composite video mode uses a single video signal for luminance and chrominance. S-Video mode uses separate signals for luminance and chrominance which results in superior resolution and color fidelity. If selected, the text color of this button is shown as red rather than black.

Fast Motion Versus Still Video (VideoTouch configurations only)

Fast motion mode reduces motion artifacts and should be used for most video sources. Still video mode works best for still pictures. It has a maximum resolution

and reduces flicker. However, it suffers from motion artifacts. If selected, the text color of this button is shown as red rather than black.

Soft Versus Sharp Mode (VideoTouch configurations only)

While in soft mode, video filtering and noise reduction can produce a better image from some sources. Sharp mode provides maximum detail, but is more susceptible to noise in source. If selected, the text color of this button is shown as red rather than black.

Save Setup

It is advisable to regularly save setup parameters if the user is satisfied with the settings. If parameters are saved, the settings are restored in the event of a power failure. The Save Setup button located just above the Return button in the corner of the Setup Menu may be selected at any time to save setup parameters. The button text changes color from black to red while in save mode.

Return

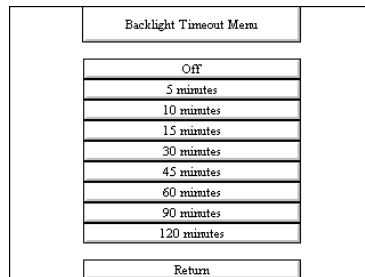
Select the Return button, located at the lower right corner of the Setup Menu, after setup parameters have been set.

Backlight Timeout Menu

NOTE: Display backlight requires warm-up time. A display reaches 80% of its final level in five minutes and full brightness in 20 minutes.

The touchpanel display hardware life can be lengthened by turning off the backlight when the touchpanel is inactive. The Backlight Timeout button is located in the middle row of the third column of the Setup Menu. Selection of this button changes the touchpanel display to reveal the Backlight Timeout Menu, shown below. An inactivity timer can be set for a specific time period ranging from 5 to 120 minutes or timeout can be disabled with the Off button. Backlight timeout is factory set to five minutes.

Backlight Menu



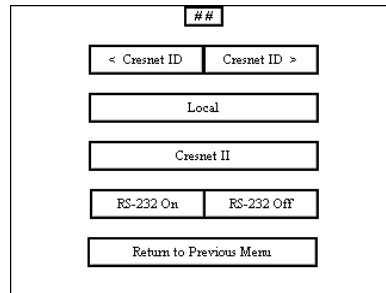
Panel Tracking

Panel tracking is a useful communication feature between touchpanels when more than one touchpanel exists on the network. Panel tracking is enabled when the Panel Track button, centrally located in the top row of the Setup Menu, is selected. Selection is indicated with red text. When enabled, a given touchpanel maintains communication in such a way that a page change to any touchpanel on the network forces the same page change to all enabled touchpanels. Panel tracking is disabled when the Panel Track button is deselected. When disabled a given touchpanel does not respond to page changes made to other touchpanels on the network. Panel tracking is factory set with the Panel Track button deselected.

Interface Menu

The touchpanel communicates with a CRESNET II system to activate other controls or to display feedback from components within the system. The communication interface must be correctly specified or communication will not occur. To set communication parameters select the Interface button located in the upper left corner of the Setup Menu and display the Interface Menu, shown below.

Interface Menu



The CRESNET network identity number (NET ID) is displayed in the upper-most rectangle of the Interface Menu. NET ID is the two-digit hexadecimal number represented by ## in the figure for illustrative purposes. The hexadecimal number can range from 03 to FE and must correspond to the NET ID set in the SIMPL-I program of the CRESNET II system. Matching NET IDs between touchpanel and VisionTools for Windows program is required if data is to be successfully transferred or new touchpanel screens are to be loaded. NET ID is factory set to 03.

Two side-by-side buttons beneath the hexadecimal display, < Cresnet ID and Cresnet ID >, decrease and increase the NET ID by one, respectively.

The touchpanel usually communicates with a CRESNET II system. Occasionally the touchpanel can be used in a local demo mode where it merely displays various menus, but does not communicate with CRESNET II system. In local mode, the directory buttons change pages, but buttons requiring feedback do not work. Two centrally located buttons on the Interface Menu, Local and Cresnet II, determine communication mode. Select Local to set the touchpanel into demo mode and Cresnet II for normal CRESNET II communication mode. Text within the selected button changes color from black to red. Communication mode is factory set to Cresnet II.

Two side-by-side buttons, RS-232 On and RS-232 Off, are located just above the Return to Previous Menu button at the bottom of the Interface Menu. RS-232 is just for external control applications. Panel loading is always available; RS-232 does not have to be on.

If the touchpanel is utilized in a system without a CRESNET II system, ensure that the RS-232 button is selected. Additional RS-232 parameters must be set with the RS-232 Menu since alternative parameters may be required for successful transfers to a PC. Text within the selected button changes color from black to red. RS-232 On is the default setting.

Select the Return to Previous Menu button, located at the bottom of the Interface Menu, after interface parameters have been set.

RS-232 Menu (Lectern-Mount Configurations Only)

Select the RS-232 button, located at the top of the second column of the Setup Menu, to change the touchpanel display to the RS-232 Menu, shown after this

paragraph. The RS-232 Menu specifies four parameters required for the touchpanel to use its RS-232 serial port. Ten baud rate buttons, labeled 110, 150, 300, 600, 1200, 2400, 4800, 9600, 19200, and 38400, are available for selection. Also select seven or eight data bits; none, odd, or even parity; one or two stop bits. Selections for each of the four parameters are indicated with red text. The parameters are factory set to 38.4 Kbd, eight data bits, no parity bits, and one stop bit.

RS-232 Menu

RS-232 Menu			
Baud Rate	110	150	300
	600	1200	2400
	4800	9600	19200
	38400		
	Return to Previous Menu		
Data Bits	7		8
Parity	None	Odd	Even
Stop Bits	1		2

Select the Return to Previous Menu button, located at the bottom of the RS-232 Menu, after RS-232 parameters have been set.

Save Setup and Run Program

The Save Setup and Run Program button, located at the upper right corner of the Main Menu, saves all of the setup information to EEPROM and displays the main page that has been programmed into your system.

Programming

Reserved Join Numbers

A reserved join number is a feature of the software that enables a designer to create a button on a page that either calls up the Setup Menu, ramps brightness, etc. The tables below provide a list of reserved join numbers available within the software.

Reserved Join Numbers for Series 3500 Touchpanels

JOIN NUMBER	FUNCTION	VALUE
1016	Brightness	Off
1017	Brightness	Low
1018	Brightness	Medium
1019	Brightness	High
1035	Call up Setup Menu	Not Applicable
1093*	Composite Video Mode	Not Applicable
1094*	S-Video Mode	Not Applicable
1095*	Fast Motion Mode	Not Applicable
1096*	Still Video Mode	Not Applicable
1097*	Soft Mode	Not Applicable
1098*	Sharp Mode	Not Applicable
1099*	Set Video Adjustments to 50%	Not Applicable
(Refer to the next table for analog join numbers.)		

* Applies to VideoTouch configurations only.

Reserved Analog Join Numbers for VideoTouch Configurations

JOIN NUMBER	FUNCTION
520	Video Brightness
521	Video Contrast
522	Video Saturation
523	Video Hue

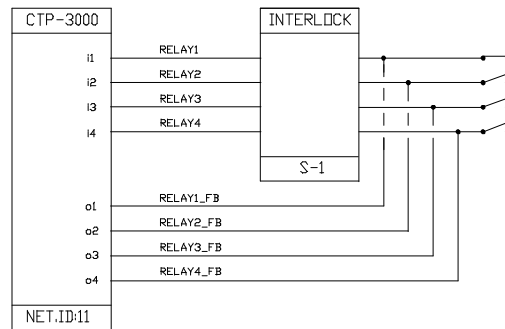
Workshop Versus SIMPL Windows

The print date of this Operations Guide occurs so precariously close to the official release of SIMPL Windows that an exemplary discussion of both programming methods should coexist. The Workshop is Crestron's DOS-based programming software; whereas SIMPL Windows, by virtue of its name, is Windows-based. Although Crestron will continue to provide support for Workshop queries, there is no plan to add new features to it. For this reason, Crestron suggests that all new programming be done with SIMPL Windows.

Workshop

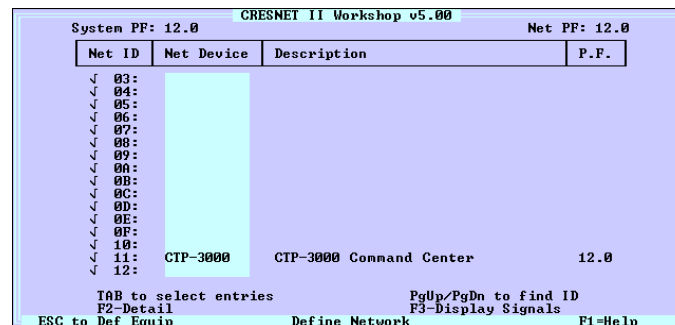
SIMPL is CRESTRON's programming language designated for easy implementation of the control system requirements. The objects that are used in SIMPL are called symbols. A basic touchpanel SIMPL program is shown below in block diagram form.

Series 3500 SIMPL Program

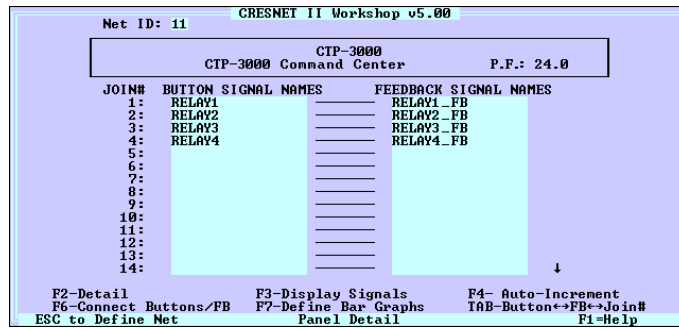


The CRESNET II Workshop is designed to simplify the various operations needed to program and run a CRESNET II control system. The series of screen displays, shown below, are accessible from the "Define Network" option of the SIMPL-I Menu in the CRESNET II Workshop. These screens are shown to clarify the means of assigning signal names for the SIMPL program in the previous illustration.

Workshop Screens (1 of 2)



Workshop Screens (2 of 2)



SIMPL Windows

SIMPL Windows was designed to supersede the CRESNET II Workshop. 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 CRESNET control system.

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

Using the same example in the previous Workshop section, the following paragraphs and illustrations provide insight to a small portion of a CRESNET control system developed with SIMPL Windows.

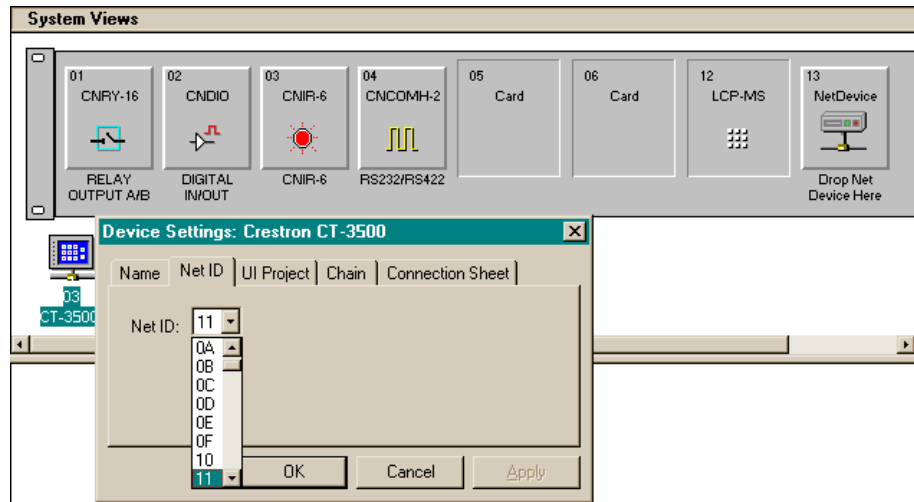
To begin, the programmer should envision the system in block diagram form, shown below.

Block Diagram of CRESNET Control System



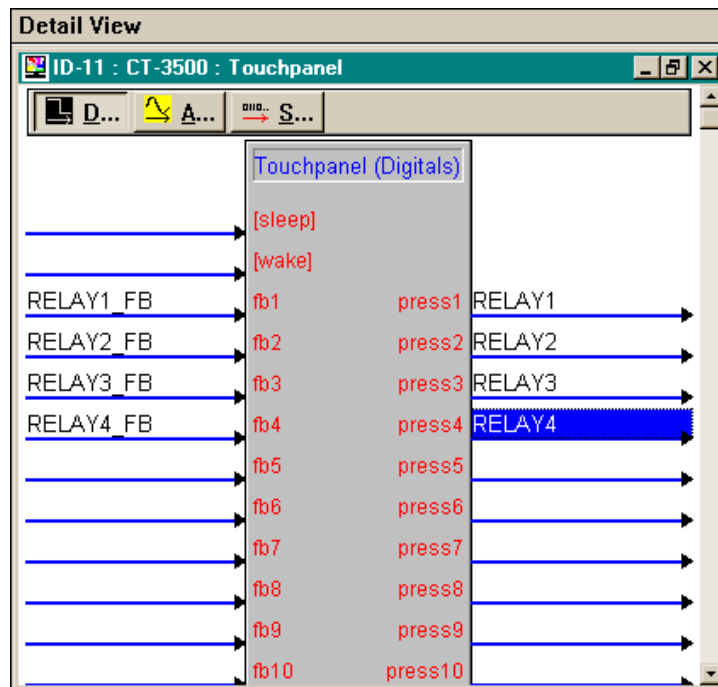
Use the Configuration Manager workspace in SIMPL Windows to select and configure all the devices that need to be included into the system. For this example, a CT-3500 must be added to the system and its NET ID must be set to 11, shown after this paragraph.

Graphical System View in SIMPL Windows' Configuration Manager



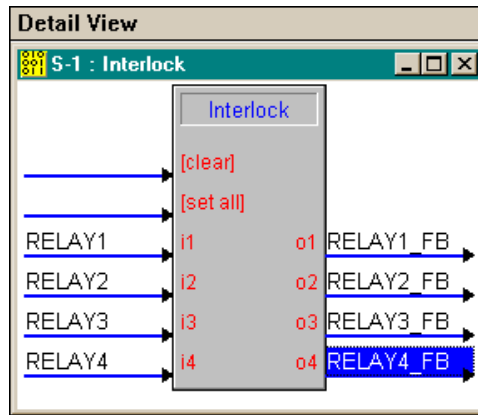
Use the Programming Manager workspace in SIMPL Windows to select symbols and assign their respective signals. For this example, a touchpanel symbol was added automatically when the CT-3500 was added to the system. Assign signals as shown below.

Graphical Detail View of a Touchpanel in SIMPL Windows' Programming Manager



For this overly simplified example, there is only one logic symbol used. Use the Programming Manager to select and assign signals to the Interlock symbol, shown after this paragraph.

Graphical Detail View of an Interlock in SIMPL Windows' Programming Manager



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.

Series 3500 Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Touchpanel does not function.	Touchpanel is not communicating to the network.	Use Performance Viewport (via CRESNET Workshop or VTW) to poll the network. Verify network connection to the touchpanel. Verify touchpanel is in "CRESNET II" mode as defined in the Interface Menu of the "Configuring the Touchpanel".
	Touchpanel is not receiving network power.	Confirm that power is supplied to the network.
	Touchpanel is incorrectly calibrated.	Enter SETUP MODE and recalibrate.
Touchpanel is not responding and screen displays "Cresnet Error"	Incorrect network wiring.	Touch screen to remove message and verify correct wiring to all connectors.
	Touchpanel ID is not set to match the NET ID in the SIMPL program.	Touch screen to remove message and enter Performance Viewport (via CRESNET Workshop or VTW) to poll the network. Verify that the NET ID for the touchpanel is properly set to match the SIMPL program.
	Touchpanel ID not unique, two or more units share same ID.	Enter Performance Viewport (via CRESNET Workshop or VTW) to poll the network. Verify that each ID is used once.
Touchpanel display is dark.	Backlight timeout has elapsed.	Touch screen to reactivate.
	Screen brightness is improperly set.	Enter SETUP MODE and alter screen brightness from the Setup Menu.

Series 3500 Troubleshooting (Continued)

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Unexpected response from touchpanel.	Touchpanel is incorrectly calibrated.	Enter SETUP MODE and recalibrate.
Touchpanel exhibits slow operation.	Compressed graphics take time to decompress.	If there are no memory problems, decompressed graphics decrease the drawing time of panel pages.
		If there are no memory problems, convert 16 color graphics to 256 color to decrease the drawing time of panel pages.

Further Inquiries

If after reviewing this Operations Guide for the Series 3500 Touchpanels, 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 +32.15.730.974.
- In Asia, call Crestron Asia at +852.2341.2016.
- In Latin America, call +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.

Syntax

The following syntax codes are provided for compatibility purposes only. It is a sample of SIMPL-C programming for the block diagram example illustrated in "Programming" on page 15.

NET.ID <03 to FE>: CTP-3000

```

i1 = <relay1>                \i1 refers to join# of touchpanel button
o1 = <relay1_fb>
" = " "
i4 = <relay4>
o4 = <relay4_fb>
    
```


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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