Crestron **ST-1550 & 1550C**
1-Way Wireless RF Touchpanels
Operations Guide

CRESTRON

This document was prepared and written by the Technical Documentation department at:

Contents

1-Way Wireless RF Touchpanels: ST-1550 & ST-1550C

Introduction

This Operations Guide for the 1-Way Wireless RF Touchpanels ST-1550 & ST-1550C (the touchpanel) is intended for authorized Crestron™ Dealer/ Programmers. The guide focuses on the configuration and programming functions that allow you to customize the touchpanel to satisfy the system requirements and to suit the preferences of the end user. The SmarTouch STS Touchpanel User's Operations Guide (latest revision of Doc. 5804) covers operating functions that are typically performed by the end user.

The two guides combined provide details of the touchpanel whether it is used in a Crestron Cresnet™ control system or as part of a Crestron SmarTouch™ wireless RF control system. Become familiar with the information in the User's Operations Guide, before furnishing it to the end user.

NOTE: It is not necessary to provide this Operations Guide to the end user.

Leading Specifications

The table below provides a summary of leading specifications for the touchpanels.

Leading Specifications of the ST-1550 & ST-1550C Touchpanels

SPECIFICATION	DETAILS
Power Options *ST-BTP (or equivalent)*	Rechargeable NiCad battery pack (included) (Fully charged, 2800 mAh capacity. Operating time depends on usage.)[1]
AC: Domestic External Adapter	12VDC, 1.5A, 120VAC Input (included) (P/N PW-1215 or equivalent)
AC: International External Adapter	12VDC, 1.5A, 230VAC Input (included with international version touchpanel) (P/N PWI-1215 or equivalent)
ST-DS	Docking Station/charger with external power pack (included)
Default NET ID	3
Default RF ID	10
Default Timeouts	1 minute for standby
	2 minutes for power down
Control System Update Files [2, 3, 4]	
2-Series Control System Update	Version C2-1001.CUZ or later
CEN/CN-TVAV Update File	Version 5.10.13V.UPZ or later
CNMSX-AV/Pro Update File	Version 5.10.11X.UPZ or later
CNRACKX/-DP Update File	Version 5.10.11W.UPZ or later
ST-CP Update File	Version 4.01.04S.UPZ or later
RF Specifications	1-Way Wireless RF Touchpanel, 433.92 MHz[5]
Dimensions	Width: 8.75 in (22.23 cm)
	Height: 5.70 in (14.48 cm)
	Depth: 3.33 in (8.45 cm)
Weight (without battery pack)	1.85 lb (0.84 kg)
Memory	1 MByte flash memory
	(768 Kbytes available for user programming)
Touchscreen Dimensions	Height: 3.550 in (9.017 cm)
	Width: 4.700 in (11.938 cm)
Touchscreen Resolution	320 x 240 pixels, 256 colors
Touchscreen LCD	STN color, dot matrix type for ST-1550C
	FSTN Transmissive mode, dot matrix type for ST-1550
Touchscreen Illumination	Backlit fluorescent
Touchscreen Composition	Resistive Membrane

1. Battery life is 180 minutes continuous usage with background lighting at full brightness. Actual operating time depends on usage and settings for background brightness and timeouts.
2. The latest versions can be obtained from the Downloads | Software Updates section of the Crestron website (www.crestron.com). Refer to NOTE after last footnote.
3. Crestron 2-Series control systems include the AV2 with CAGE2, PAC2, PRO2, and RACK2.
4. CNX update files are required for either CNMSX-AV/Pro or CNRACKX/-DP. Filenames for CNX update files have a UPZ extension and ST-CP files are in one EXE or zipped UPZ file. To avoid program problems, make certain you are using the update file with the correct suffix letter (e.g., S, V, W, X).
5. Requires Crestron CNRFGWA 1-Way RF Receiver, or ST-CP SmarTouch Control Processor.

NOTE: Crestron software and any files on the website are for Authorized Crestron dealers only. New users may be required to register to obtain access to certain areas of the site (including the FTP site).

Industry Compliance

As of the date of manufacture, this unit has been tested and found to comply with specifications for CE marking and standards per EMC and Radio Communications Compliance Labeling (N11785)

NOTE: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. The equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

■ Reorient or relocate the receiving antenna.

■ Increase the separation between the equipment and receiver.

■ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

■ Consult the dealer or an experienced radio/TV technician for help.

Configuring the Touchpanel (Advanced Settings Screen)

Opening Screen for ST-1550 (top) and ST-1550C (bottom)

It may be necessary to make adjustments or *configure* the touchpanel to accommodate the preferences of the end user. Descriptions for preferences and power management settings of the touchpanel are provided in the latest revision of the SmarTouch Touchpanel User's Operations Guide (Doc. 5804).

Other configuration options are available through the Advanced Settings screen. To access the Advanced Settings screen, it is necessary to restart the touchpanel.

The Opening Screen, shown to the left of this paragraph, appears when a finger is held to the touchscreen for approximately three seconds as power is applied. This screen indicates that you are in "setup mode" and can proceed to configure the touchpanel.

Preferences and Settings Menu
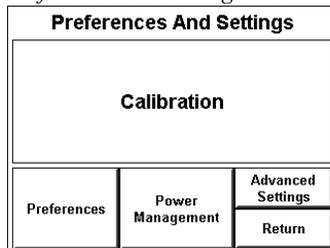
Remove your finger and touch the Opening Screen again to display the Preferences and Settings Menu, shown to the left of this paragraph. All resources to configure the touchpanel are available from this menu.

Advanced Settings Screen
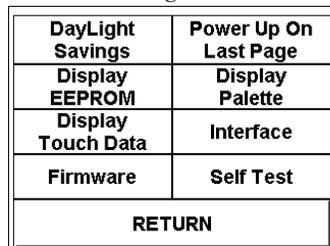
The **Advanced Settings** button from the Preferences and Settings Menu opens the Advanced Settings Screen, shown to the left of this paragraph.

The Advanced Settings Screen contains diagnostic buttons (**Display EEPROM**, **Display Touch Data**, **Firmware**, **Display Palette** (**Colorbar** for ST-1550), and **Self Test**). Diagnostic buttons should only be used under supervision of a Crestron technical support representative during telephone support. These options are numeric in nature and their interpretation is beyond the scope of this Operations Guide.

This screen also contains special settings buttons (**DayLight Savings**, **Power Up On Last Page**, and **Interface**). Details of the special settings buttons are discussed in the following paragraphs. Touch the **RETURN** button, located at the bottom of the screen, to display the Preferences and Settings Menu.

Daylight Savings

Daylight Savings Screen

Set Daylight Savings Time Northern Hemisphere	Set Daylight Savings Time Southern Hemisphere
RETURN	
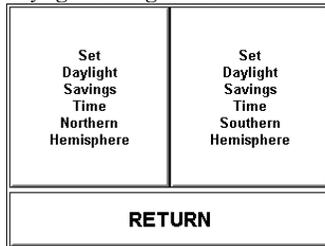
To access the Daylight Savings Screen, shown to the left of this paragraph, touch the **Daylight Savings** button from the Advanced Settings Screen. Two options are available: **Set Daylight Savings Time Northern Hemisphere** and **Set Daylight Savings Time Southern Hemisphere**. Each button can be toggled (ON/OFF states). Activating one of these buttons causes the internal real time clock to automatically adjust on the appropriate dates for Daylight Savings Time. An activated button is indicated by the button's background color changing to blue (black for ST-1550). After verifying the setting, touch the **RETURN** button, located at the bottom of the screen, to display the Advanced Settings Screen.

NOTE: If you wish to completely deactivate the Daylight Savings Time feature, verify that both buttons are not activated (both assume a background color of gray).

Power Up On Last Page

The **Power Up On Last Page** button lets you specify which screen appears when unit is powered up. When set to ON (indicated by the button's background color changing to blue [black for ST-1550]), the last screen to be displayed reappears and all feedback is restored when the touchpanel is reactivated. When set to OFF (the button's text assumes the same shade as all the other buttons on the screen), the first page of the project appears when the touchpanel is activated.

Interface

Interface Screen

CRESNET ID: 03	RF ID: 10
▼	▲	▼	▲
RETURN	
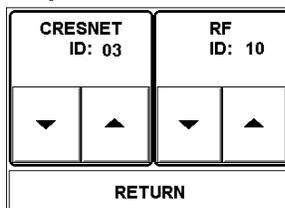
The touchpanel communicates with an ST-CP (for SmarTouch) or other Crestron control system (for Cresnet) via wireless RF (through a CNRFGWA gateway). To do so, the touchpanel Cresnet ID and RF ID settings and those assigned in the control system program must match. To set the Cresnet ID and RF ID, select the **Interface** button from the Advanced Settings Screen and display the Interface Screen, shown to the left of this paragraph.

The CRESNET ID network identity number (NET ID), displayed in the top left corner of the Interface Screen, is only used during screen uploads to the touchpanel, and consists of a two-digit hexadecimal number. "03" is shown as an example in the illustration and happens to be the default. The down and up arrow buttons decrease and increase the NET ID by one, respectively (i.e., 01, 02, 03, . . . FE).

The radio frequency identity number (RF ID), displayed in the top right corner of the Interface Screen, is necessary to secure RF communications such that controls can be activated from the touchpanel. The RF ID consists of a two-digit hexadecimal number. The touchpanel can be set to one of fifteen numbers; "10" is shown as an example in the illustration and happens to be the default. The down and up arrow buttons decrease and increase the RF ID most significant digit by one, respectively (i.e., 10, 20, 30, …, F0).

NOTE: Crestron recommends that 00 not be selected as a valid RF ID.

After the Cresnet ID and RF ID settings have been verified, touch the **RETURN** button, located at the bottom of the screen, to save the settings and display the Advanced Settings Screen.

Programming

The touchpanel provides wireless RF user interface in either a Cresnet control system or a SmarTouch control system.

Have a comment about Crestron software?

Direct software related suggestions and/or complaints to Crestron via email (software@crestron.com). Do not forward any queries to this address. Instead refer to "Further Inquiries" on page 18 for assistance.

If the touchpanel is to be part of the SmarTouch system, refer to the latest revision of the SmarTouch STS Touchpanel User's Operations Guide (Doc. 5804) for descriptions regarding the system's equipment and how to connect the panel in programming and operation modes.

You can create a program that allows you to set up the ST-1550 and ST-1550C to monitor and operate a Crestron control system using the Crestron programming tools Crestron Application Builder™ (AppBuilder) and SIMPL™ Windows®. These tools are intended for users with different levels of programming knowledge. The flexibility of each tool is proportional to the degree of programming expertise (i.e., the more flexible, the more a programmer needs to know and account for). Of course, one can initiate programming using the easiest method (Crestron AppBuilder) and use advanced techniques that are available from SIMPL Windows to customize the job.

The following are recommended software version requirements for the PC:

- SIMPL Windows version 2.01.05 or later. Requires SIMPL+ Cross Compiler version 1.1.

- Crestron Database version 11.7.211 or later.

- Application Builder version 1.0.9 or later. Requires SIMPL Windows.

- VisionTools Pro-e version 2.4. Used for graphical touchscreen design.

NOTE: VisionTools Pro-e (VT Pro-e) is a Windows compatible software package for creating Crestron touchpanel screen designs. Refer to "Programming with VisionTools™ Pro-e" on page 13 for additional details regarding VT Pro-e.

Programming with the Crestron AppBuilder

The easiest method of programming, but does not offer as much flexibility as SIMPL Windows.

The Crestron AppBuilder offers automatic programming for such residential and commercial applications as audio distribution, home theater, video conferencing, and lighting. The interface of this tool guides you through a few basic steps for designating rooms and specifying the control system, touchpanels, devices, and functionality. The Crestron AppBuilder then programs the system, including all touchpanel projects and control system logic.

The Crestron AppBuilder is fully integrated with Crestron's suite of software development tools, including SIMPL Windows, VT Pro-e, Crestron Database, User IR Database, and User Modules Directory. The Crestron AppBuilder accesses these tools behind the scenes, enabling you to easily create robust systems.

Crestron offers a Scheduler feature built into the touchpanel. This feature allows the end user to record a function or a sequence of button presses, and set up a time and date schedule for the button presses to be automatically activated. There are actually two parts to the Scheduler: developing a button sequence and scheduling a button sequence/function. Each part can be utilized independently of the other or they can be combined.

With proper and careful project design, end-users can easily make adjustments to the system to record a systematic series of events to suit their needs and preferences. Also, the end-user can schedule an *event* to begin at any given date and time and

reoccur as programmed. An *event* is defined as the actions initiated by one sequence or a single button function.

DEFINITIONS:

Function: A single button press (join number 1 through 999), which typically triggers one or more commands to be sent from the control system.

Sequence: A series of button presses that can be recorded and played back in real time.

Event: A schedulable action, that is, either a sequence of button presses or a direct button press (*function*).

Schedule: A list of *events* that have been designated to run on specific dates at a specific time.

NOTE: These procedures discuss including the Scheduler feature as part of an AppBuilder project. The Scheduler feature can also be included in a SIMPL Windows program by using VT-Pro-e to add the appropriate pages from the AppBuilder template, "st-1550c basic.vtt" (included with the Crestron database).

Enabling Touchpanel Scheduler Feature

To take advantage of the Scheduler Feature, you need to indicate to AppBuilder that you want to include the Scheduler pages in the project. To do so, navigate to the *Interfaces* tab of the program. In the window at the bottom, double-click on the ST-1550 interface device information to display the "Interface Properties" window. Select the *General* tab, click on the *Include Scheduler Properties* check box (as shown in the figure below) to select it, and click on OK to close the window.

Interface Properties Window
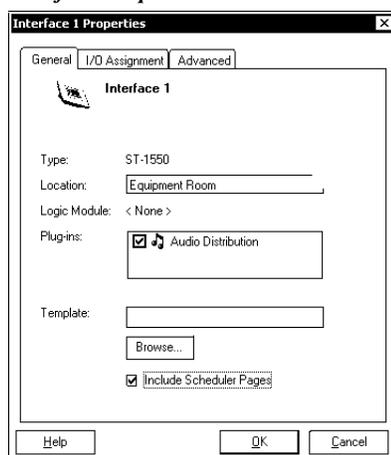
When you finish entering all the necessary information for the system and click the **Build System** button on the *Finish* tab, AppBuilder includes the Scheduler pages in the project.

Button Sequence Development

The purpose of developing a button *sequence* is to build a consecutive order of preselected buttons that run in real time when a single programmed button is touched. You determine and assign the join number for the programmed button from a range of reserved join numbers. The buttons in the *sequence* can be chosen from any page in the project.

Obtain the latest version of VT Pro-e from the Downloads | Software Updates section of the Crestron website (www.crestron.com)

Sequences + Scheduler Page

Sequences + Scheduler
Start Sequence Learn / Finish/Cancel Learn / Run Sequence
Schedule Event / View Schedules
Return To Main

Learn Sequence #1 Page

Select Sequence To Record
Sequence 1 (3200) / Sequence 2 (3201)
Sequence 3 (3202) / Sequence 4 (3203)
Sequence 5 (3204) / Sequence 6 (3205)
After A Sequence Is Selected, Hit Here To Learn. When done, hit FINISH on the Sequence Screen.

There are two buttons with reserved join numbers that must be touched when developing a sequence. These buttons exist on the Home | Sequences + Scheduler part of the Application Builder template, "st-1550c basic.vtt" (included with the Crestron database), shown to the left of this paragraph. Copy or redraw these buttons to another page so that the end user can use them as needed. One button, "Start Sequence Learn", initiates the "learning" function and the other, "Finish/Cancel Learn", terminates it. Complete the following steps to assign a programmable button to a button sequence. It is assumed that the "Start Sequence Learn", "Finish/Cancel Learn", and programmable buttons as well as the buttons to be included in the sequence exist in the project available to the end user.

1. Touch the **Start Sequence Learn** button (reserved join number = 3072).

2. Touch the programmable button. Its join number must be within the reserved join number range from 3200 to 3327. In template "st-1550/c basic .vtt", a number of programmable buttons with reserved join numbers were grouped onto a single page, Learn Sequence #1, as shown to the left of this step.

3. Touch the **Hit Here to Learn** button at the bottom of the screen. The opening menu of the project appears so that you can select buttons to add to the sequence.

4. Touch the buttons in the sequence at the same speed that you would like to be replicated. These buttons can be from any page in the project.

5. Each page in "st-1550/c basic.vtt" has a **SEQ + SCHED** button. Use this button to return to the Sequences + Scheduler page after touching all the buttons in the sequence.

6. Touch the **Finish/Cancel Learn** button (reserved join number = 3073) from the Sequences + Scheduler page.

Scheduling a Sequence/Button Press

Schedule Event #2 Page

Set Schedule Time			
Event Time	Event Date	Cycle	Button
03:29:39 PM	SEP 11, 1999	WKEND	3200
Set Event Time To Current Time	Adjust Time	Adjust Date	Set Cycle
Select Schedule		RETURN	

The purpose of scheduling a sequence or button is to initiate an *event* at a programmed date and time. The programmed date and time is defined as the activation time. It is assumed that the sequence has been developed as described in the previous paragraph or the preferred button initiates a *function*. A **Schedule Event** button (found on the Sequences + Scheduler page in "st-1550/c basic.vtt") has a reserved join number (3424) and must be touched prior to pressing the button to be scheduled. A sample schedule laid out on the Schedule Event #2 page, shown to the left of this paragraph, is made available so that the time, date, and cycle of the event can be entered.

There are a number of fields on this page that can be set by selecting the **Adjust Time**, **Adjust Date**, or **Set Cycle** buttons. Each of these buttons causes a different sub page to appear. Once the sample schedule information is assigned, it must be transferred to one of thirty possible scheduled *events*. The **Select Schedule** button on the Schedule Event #2 page opens the Schedule Event #3A page and permits the end-user to save the schedule. Complete the following steps to schedule a sequence or button.

Sequences + Scheduler Page

Sequences + Scheduler

Start Sequence Learn	Finish/Cancel Learn	Run Sequence

Schedule Event	View Schedules

Return To Main

1. Touch the **Schedule Event** button (reserved join number = 3424) from the Sequences + Scheduler page, shown to the left of this step.

Schedule Event #1 Page

Select Event To Schedule

Sequence 1 (3200)	Sequence 2 (3201)
Sequence 3 (3202)	Sequence 4 (3203)
Sequence 5 (3204)	Sequence 6 (3205)

Cancel Event Scheduling

2. Touch any button with a digital join number. The button may be one that has a programmed sequence or one that initiates a specific function (join number 1 through 999). In this example, the available buttons are sequence buttons that are available from the Schedule Event #1 page, shown to the left of this step.

Schedule Event #2A Page with Time Adjust Subpage Open

Set Schedule Time

Event Time	Event Date	Cycle	Button
03:29:39 PM	SEP 11, 1999	WKEND	3200

Set Event Time To Current Time	Adjust Time	Adjust Date	Set Cycle

Hour ▲	Hour ▼	Min ▲	Min ▼	Sec ▲	Sec ▼

Hide Time Controls

3. To set the activation time for the event, touch the **Adjust Time** button to open a subpage titled Time Adjust on the Schedule Event #2A page, shown to the left of this step. Use the increment/decrement buttons to increase and decrease the hours, minutes, and seconds of the event. Each of these buttons have reserved join numbers.

NOTE: If the activation time is close to the current time, touch the **Set Event Time To Current Time** button (join number 3360) to set the sample schedule time and date to the current time. Then use the increment/decrement buttons as described in the next step to make adjustments.

4. Touch the **Hide Time Controls** button to close the subpage when the activation time for the event is set.

Schedule Event #2A Page with Date Adjust Subpage Open

Set Schedule Time

Event Time	Event Date	Cycle	Button
03:29:39 PM	SEP 11, 1999	WKEND	3200

Set Event Time To Current Time	Adjust Time	Adjust Date	Set Cycle

Year ▲	Year ▼	Month ▲	Month ▼	Day ▲	Day ▼

Hide Date Controls

5. To set the activation date for the event, touch the **Adjust Date** button to open a subpage titled Date Adjust on the Schedule Event #2A page, shown to the left of this step. Use the increment/decrement buttons to increase and decrease the year, month, and day of the event. Each of these buttons have reserved join numbers.

6. Touch the **Hide Date Controls** button to close the subpage when the activation date for the event is set.

Schedule Event #2A Page with Cycle Adjust Subpage Open

Set Schedule Time

Event Time	Event Date	Cycle	Button
03:29:39 PM	SEP 11, 1999	WKEND	3200

Set Event Time To Current Time	Adjust Time	Adjust Date	Set Cycle

Off	Once	Daily
Weekly	Weekdays	Weekends

Hide Cycle Controls

7. The cycle of the event determines how often it occurs. To set the cycle for the event, touch the **Set Cycle** button to open a subpage titled Cycle Adjust on the Schedule Event #2A page, shown to the left of this step. Available options for how often an event can occur are: Off (never occurs), Once, Daily, Weekly, Weekdays, and Weekends. Each of these buttons has a reserved join number.

8. Touch the **Hide Cycle Controls** button to close the subpage when the activation cycle for the event is set.

Schedule Event #3A Page

#	Event Time	Event Date	Cycle	Button
	Select Schedule To Save To:			
01	03:39:39 PM	SEP 11, 1999	WKEND	3200
02	10:50:28 AM	MAR 04, 1999	OFF	0
03	10:50:28 AM	MAR 04, 1999	OFF	0
04	10:50:28 AM	MAR 04, 1999	OFF	0
05	10:50:28 AM	MAR 04, 1999	OFF	0
More		**RETURN**		

9. The event time and date have been properly set up in the basic schedule. Touch the **Select Schedule** button to open the Schedule Event #3A page, shown to the left of this step. Notice that this page has five schedules defined on the screen. To gain access to five more schedules, touch the "More" button.

10. Determine the schedule that you want to use and touch that line. The new schedule time, date, cycle, and join number appear automatically. The event is now scheduled.

The Schedule System Display

The schedule system display appears because of the command text specifier "N". This command text is written in a border or button in the following format:

`N{Schedule Number},{Specifier}

The available schedule numbers are 0 through 31, where schedule 0 is the basic schedule. Refer to the table below for a description of the specifiers.

Table of Specifiers

SPECIFIER	MEANING	NOTES
0	Seconds	0 to 59
1	Minutes	0 to 59
2	Hours	24-Hour Time, 0 to 23
3	Day of the Month	1 to 31
4	Month	1 to 12
5	Year	4-Digit, e.g., 2002
6	Weekday	0 to 6
7	Day of the Year	0 to 365
8	Hours	12-Hour Time, 1 to 12
9	12-Hour Time Type	AM or PM
10	Month	3 Characters: JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC
11	Day of the Week	3 Characters: SUN, MON, TUE, WED, THU, FRI, SAT
12	Type of Schedule	Cycle Type: OFF, ONCE, DAILY, WEEK, WKDAY, WKEND
13	Join Number for that Schedule	

EXAMPLE: To show the type of cycle for schedule #1, the command text in a border or button would look like:

`N1,12

NOTE: As with all command text, formats such as that shown above are the only text allowed in the border or button.

Programming with SIMPL™ Windows®

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

NOTE: In the following description, the PRO2 control system is used.

SIMPL Windows is Crestron's 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. SIMPL Windows offers drag and drop functionality in a familiar Windows® environment.

This section describes a sample SIMPL Windows program that includes a touchpanel.

Configuration Manager is where programmers "build" a Crestron control system by selecting hardware from the *Device Library*. In Configuration Manager, drag the PRO2 from the Control Systems folder of the *Device Library* and drop it in the upper pane of the *System Views*. The PRO2 with its associated communication ports is displayed in the *System Views* upper pane.

PRO2 System View
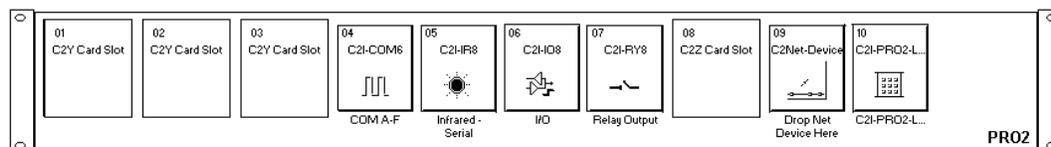
The *System Views* lower pane displays the PRO2 system tree. This tree can be expanded to display and configure the communications ports.

Expanded PRO2 System Tree
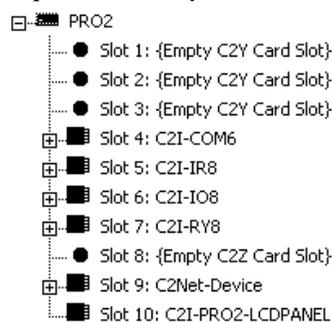
C2Net-Device Slot in Configuration Manager

To incorporate a Touchpanel into the system, a gateway device is required. The C2Net-Device Slot can accept a gateway such as the CNRFGWA. Once a gateway is configured in a C2Net-Device Slot, the slot allows Cresnet communication between the touchpanel and the control system.

In Configuration Manager, drag the CNRFGWA gateway from the Wireless Receivers (RF) folder of the *Device Library*. The *System Views* upper pane displays the CNRFGWA device icon below the PRO2 graphic.

NOTE: An ST-CP control processor is automatically configured with a CNRFGWA in its STCP-Net Device Slot 3 when the ST-CP is dragged into the upper pane of *System Views*.

Drag the ST-1550 from the Touchpanels (Wireless | Wireless one way) folder of the *Device Library* and drop it on the CNRFGWA symbol in *System Views*. The PRO2 system tree displays the CNRFGWA gateway in Slot 9, with a default NET ID of 24. The CNRFGWA displays the touchpanel at the touchpanel's default RF ID location, "10," as shown in the following illustration.

C2Net Device, Slot 9

```
□ 🗀 Slot 9: Net-Device
    ● ID 03: {EMPTY}
    ● ID 04: {EMPTY}
    ● ID 05: {EMPTY}
    ● ID 06: {EMPTY}

    ● ID 21: {EMPTY}
    ● ID 22: {EMPTY}
    ● ID 23: {EMPTY}
  □ 🖳 ID 24: CNRFGWA
      ● RFID 01: {EMPTY}
      ● RFID 02: {EMPTY}
      ● RFID 03: {EMPTY}

      ● RFID 0D: {EMPTY}
      ● RFID 0E: {EMPTY}
      ● RFID 0F: {EMPTY}
      🖳 RFID 10: ST-1550
      ● RFID 11: {EMPTY}
```
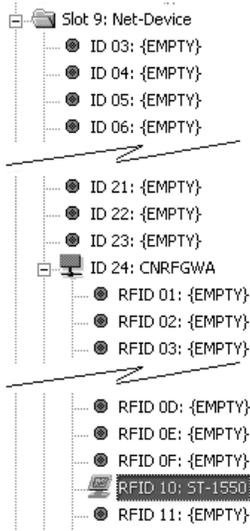
Double-click the CNRFGWA icon in the upper pane to open the "Device Settings" window. This window displays CNRFGWA device information. Select the Net ID tab to change the gateway Net ID, as shown in the following figure.

Device Settings Window for the CNRFGWA

```
┌─────────────────────────────────────────────┐
│ Device Settings: Crestron CNRFGWA         [X] │
├─────────────────────────────────────────────┤
│ ┌Device Name┐ Net ID ┌Connection Sheet┐┌Device Info┐│
│                                               │
│   Net ID:  24 ▼                               │
│           ┌──────┐                            │
│           │24  ▲ │                            │
│           │25    │                            │
│           │26  ─ │                            │
│           │27    │                            │
│           │28    │                            │
│           │29    │                            │
│           │2A    │                            │
│           │2B  ▼ │                            │
│           └──────┘                            │
│                                               │
│         ┌─────┐  ┌────────┐  ┌───────┐        │
│         │ OK  │  │ Cancel │  │ Apply │        │
│         └─────┘  └────────┘  └───────┘        │
└─────────────────────────────────────────────┘
```
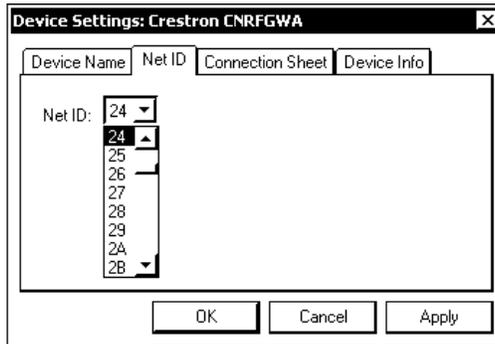
Similarly, expand the system tree in the lower pane and double-click the ST-1550 icon to open the "Device Settings" window for the touchpanel. Select the RF/IR ID tab to change the touchpanel RF ID, as shown in the following figure. For more information on setting the RF/IR ID, see Interface on page 5.

NOTE: The hardware and software settings of the RF ID must match. Although the device setting window in SIMPL Windows allows choices through the range of two-digit Hexadecimal numbers from 01 through FE, the RF ID setting for the hardware is limited to numbers in increments of the most significant digit (i.e., 00, 10, 20). Since 00 is not a valid selection in SIMPL Windows, the RF ID number is limited to the fifteen numbers 10, 20, 30, 40, . . .F0.

Touchpanel Device Settings Window
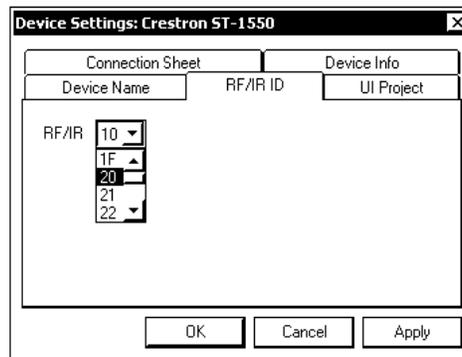
ST-1550 Symbol in Programming Manager

Programming Manager is where programmers "program" a Creston control system by assigning signals to symbols. The following diagram shows the ST-1550 symbol in the SIMPL Windows' Programming Manager.

Detail View of the ST-1550 in SIMPL Windows' Programming Manager
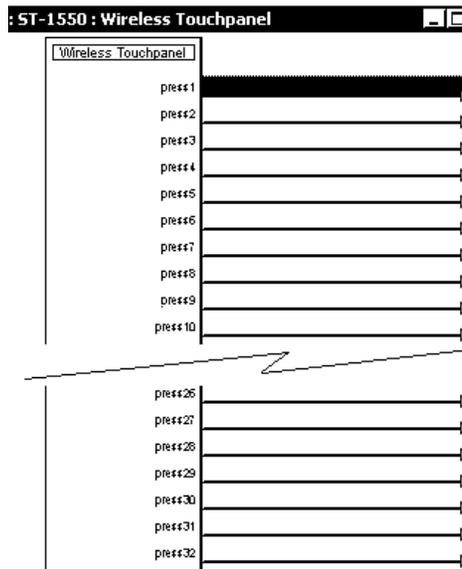
The table below lists and gives functional descriptions for the touchpanel outputs.

Symbol Output Signal Descriptions

OUTPUT	DESCRIPTION
press 1 through press 32	Notifies control system of button press (1 – 32). High/1 = press On Low/0 = press Off

Programming with VisionTools™ Pro-e

Unlimited control screen variations incorporating two- and three-dimensional graphics and text are possible and can be created with VisionTools Pro-e (VT Pro-e), a design and programming Windows®-based software program. A set of pages, which make up a project, can be designed for each application. Each touchpanel can be organized with the ideal, color-oriented (ST-1550C) or gray-scale

(ST-1550) control environment with custom control graphics: icons, two and three-dimensional buttons, and floor plans. The project is uploaded to the touchpanel's flash PROM. The touchpanel uses the project until another is uploaded from the PC. The PC may be disconnected from the control processor except when uploading a project.

For additional software information, refer to the help file provided with the software. The latest version of VT Pro-e can be obtained from the Downloads | Software Updates section of the Crestron website (www.crestron.com).

Loading a Project

REMINDER: Every network device within Cresnet requires a unique identity code (NET ID). These codes consist of a two-digit hexadecimal number from 03 to FE. Matching NET IDs between the touchpanel and the VT Pro-e project is required. The touchpanel NET ID setting is used only for uploading projects. For more information on setting the NET ID, refer to "Interface" on page 5.

To load a program, refer to the figures shown after this paragraph for typical connection diagrams. Complete the following steps provided to ensure proper connection to the system.

Typical Connection Diagram when Uploading a Project from the ST-CP
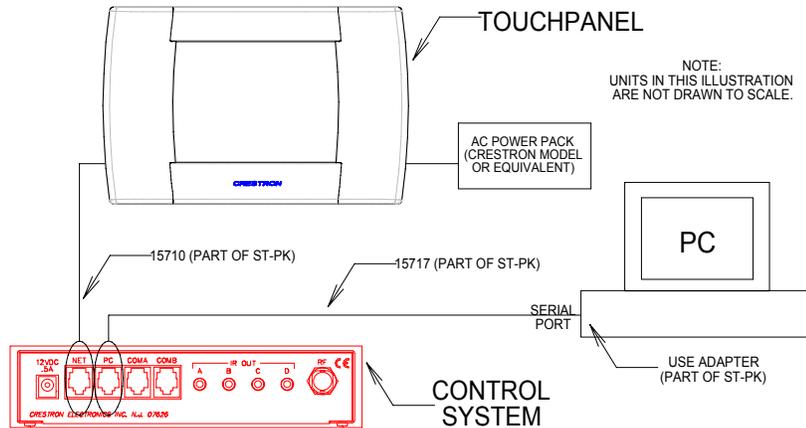
Typical Connection Diagram when Uploading a Project from the PRO2 or equivalent.

NOTE: If the control system in use has a 4-pin network connector rather than a modular (RJ11-type) NET connector, use an ST-CBL (sold separately) or make a cable. Refer to the cable specifications, shown after the following steps.

1. Before making any connections to the touchpanel, verify that control system is properly connected to the PC (using cable 15717 and adapter) and powered on.

2. Attach the stereo connector end of the programming cable, part number 15710, to the touchpanel.

3. Attach the RJ11 connector end of the programming cable, part number 15710, to the connector labeled NET on the control system.

4. Attach the appropriate Crestron external AC power pack or equivalent to the touchpanel and plug the power cable into an appropriate outlet.

5. Use Crestron VT Pro-e software or Viewport to upload the panel design project to the touchpanel. Refer to the software help file for upload settings.

NOTE: Network transfers should always be set to XMODEM, never ASCII when uploading touchpanels.

6. After the touchpanel has been programmed, disconnect the programming cable. The touchpanel communicates with the control system via RF signals.

Programming Cable Specifications

Reserved Join Numbers

A reserved join number is a feature of the software that enables a designer to create a button on a touchpanel page that completes a predetermined function. The table after this paragraph provides a list of reserved join numbers available within SIMPL Windows software.

NOTE: Many touchpanel configuration "shortcuts" are available via the software. A button can be created on a page that either calls up the Preferences Menu, ramps contrast, adjusts brightness, etc., via reserved join numbers.

Reserved Join Numbers for SmarTouch Touchpanel

JOIN NUMBER	FUNCTION	VALUE
1015	Power	Off
1016	Stand by	On
1017	Brightness	Low
1018	Brightness	Medium
1019	Brightness	High
1023	Contrast	Up
1024	Contrast	Down
1035	Reboots the System *	N/A
1036	Discharges ST-BTP **	N/A
1120 - 1123	Digital Battery Bargraph	Gauge Bottom (1120) to Gauge Top (1123)
1160	Keyclick Volume	Up
1161	Keyclick Volume	Down
1172	Keyclick	On
1173	Keyclick	Off
3072	Scheduler	Start Learn
3073	Scheduler	End Learn
3074	Scheduler	Increment Seconds
3075	Scheduler	Decrement Seconds
3076	Time & Date Adjustment	Increment Minutes
3077	Time & Date Adjustment	Decrement Minutes
3078	Time & Date Adjustment	Increment Hours
3079	Time & Date Adjustment	Decrement Hours
3080	Time & Date Adjustment	Increment Days
3081	Time & Date Adjustment	Decrement Days
3082	Time & Date Adjustment	Increment Months
3083	Time & Date Adjustment	Decrement Months
3084	Time & Date Adjustment	Increment Years
3085	Time & Date Adjustment	Decrement Years
3200 - 3327	Scheduler	Programmable Buttons
3360	Time & Date Adjustment	Set Scratchpad Time & Date to Touchpanel's Current Time & Date
3361	Time & Date Adjustment	Save Settings
3362 - 3423	Scheduler (Odd Join Numbers Most Commonly Used)	Even #s: Copy Schedule to Scratchpad Odd #s: Copy Scratchpad to Schedule (i.e., 3362: Copy Schedule 1 to Scratchpad 3363: Copy Scratchpad to Schedule 1)
3424	Scheduler	Select Event Button

*　Holding a button (assigned with join number 1035) for more than five seconds places the touchpanel into "setup mode". Use this mode to configure the touchpanel.

**　While discharging, the touchpanel backlight is set to maximum and the timeouts are disabled.

> **NOTE:**　If designing an analog battery gauge bargraph, it can be displayed with any of the standard command text on analog channel 2. Therefore, `A2 displays the gauge as a bargraph that fills bottom to top. `D2 displays a bargraph that fills left to right (as designed in the "st-1550/c basic.vtt" project). Obtain the latest version of VT Pro-e from the Downloads | Software Updates section of the Crestron website (www.crestron.com).

Problem Solving

Troubleshooting

The table below and on the next page provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

SmarTouch Touchpanel Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Project can not be uploaded to touchpanel: 1. Screen is black.	Touchpanel is in standby or powered down.	Touch the touchpanel to display a screen. Verify that the panel has power supplied to it, either battery or power pack.
2. Checking communications error.	Incorrect COM port specified.	Verify upload preferences is set to the COM port being used to communicate to the control system.
		Verify upload preferences specifies RACK (not the PANEL) as target of the upload.
3. Checking panel type error.	Incorrect NET ID setting.	Verify that panel NET ID matches the NET ID specified during upload. Refer to "Interface" in this Operations Guide.
	Problem with cable between control system and touchpanel.	Check the cable for errors or poor connections.
Wrong screens appear on touchpanel.	Screens were not uploaded.	Upload screens as described in the help files found in VT Pro.
Touchpanel does not function.	No power to the touchpanel.	Confirm that battery pack is installed or external adapter is connected.
	Touchpanel is incorrectly calibrated.	Select the Calibration button from the Preferences and Settings Menu to enter "calibration mode".
		If the Calibration button cannot be reached, complete the following steps. Remove power (battery pack or adapter). Reapply power while holding finger to the touchscreen for approximately 3 seconds. During this short period, the words "SETUP MODE" appear. When finger is lifted from screen, the Opening Screen appears. Touch the Opening Screen and select the Calibration button from the Preferences and Settings Menu to enter "calibration mode".

SmarTouch Touchpanel Troubleshooting (Continued)

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Touchpanel does not function and RF LED on ST-CP illuminates, but COM or IR LEDs do not illuminate.	Touchpanel RF ID is not set to match the RF ID assigned in the SmarTouch system program.	Verify that RF ID match. Refer to "Interface" in this Operations Guide and RF ID parameters assigned in the program.
Touchpanel display is dark or too light.	Screen brightness or contrast is improperly set.	Hold a finger to the touchscreen for more than 10 seconds as power is applied. The display sets the brightness and contrast to a safe value.
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.

Further Inquiries

If after reviewing this Operations Guide you cannot locate specific information or have questions, please take advantage of Crestron's award winning customer service 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 +5255-5093-2160.

- In Australia and New Zealand, call Crestron Pacific at +613-9480-2999.

Firmware Upgrades

To take advantage of all the ST-1550 and ST-1550C features, it is important that the unit contains the latest firmware available. Therefore, please check our website (http://www.crestron.com/downloads/software_updates.asp) for the latest version of firmware. Not every product has a firmware upgrade, but as Crestron improves functions, adds new features, and extends the capabilities of our products, firmware upgrades are posted. For questions regarding upgrade procedures, contact Crestron customer service.

Future Updates

As Crestron improves functions, adds new features, and extends the capabilities of the ST-1550 and ST-1550C, additional information and programming examples may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website (www.crestron.com) periodically for manual update availability and its subjective value. Updates are available from the Downloads | Product Manuals section and are identified as an "Addendum" in the Download column.

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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.

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Crestron Electronics, Inc.
15 Volvo Drive   Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
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Operations Guide – DOC. 5803A
05.02

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