

Crestron **ST-CP**  
SmarTouch™ Control Processor

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Operations Guide



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# SmarTouch™ Control Processor: ST-CP

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## Description

### Functional Description

The SmarTouch control processor, part of the SmarTouch STS/STSI, interfaces with almost all electronic equipment for complete control commands without delay. The control processor should be located in an area near the A/V equipment that needs to be controlled. It plays a vital role during programming and operation. The control processor is hard wired to the user interface and PC when programming. During operation, it receives RF signals from user interfaces. It then sends the commands to the appropriate device.

There are two control processor configurations available. Configuration selection is based on the type of power availability and the communication frequency. Use the ST-CP with a 120V power supply and a transmission frequency of 433.92 MHz. Use the ST-CP/UK with a 220V power supply and a transmission frequency of 418 MHz. For purposes of this Operations Guide, the term ST-CP is used for either configuration.

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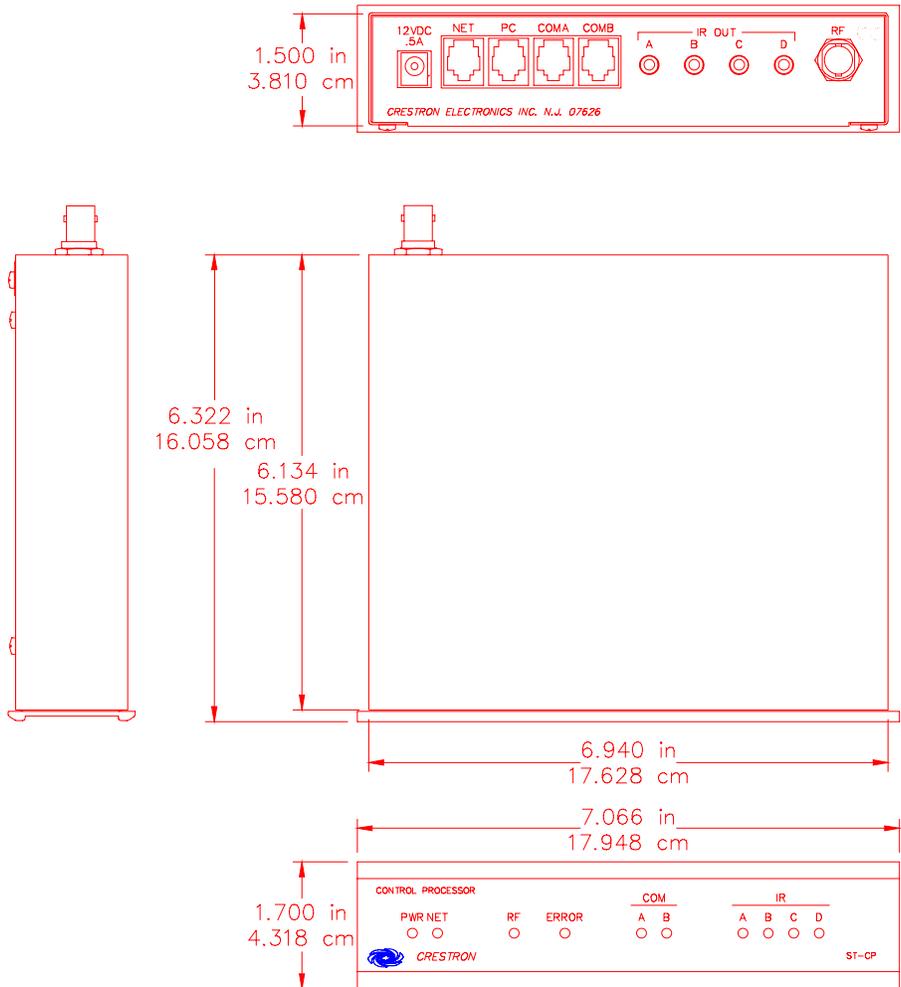
**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. The equipment generates, uses and can 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 be 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.
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### Physical Description

The ST-CP, shown below, is housed in a black enclosure with silk-screened labels on the front and back of the case. On the front there are 10 LEDs for indicating the current status of the unit. All connections are made on the back of the unit. There are four rubber feet on the base of the unit for stability and to prevent slippage.

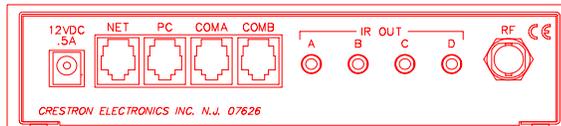
*ST-CP Physical Views*



## ST-CP Ports

A number of ports are provided on the back of the ST-CP. Each has a silk-screened label. Refer to illustration and descriptions below.

### ST-CP Ports



### 12 VDC .5 A

This DC power socket connector is used to supply power via an external AC power pack. Crestron recommends specific power packs for its devices. The recommended power pack for the ST-CP is Crestron part number **PW-1205** (**PWI-1210** for international use of the ST-CP/UK). If an external power pack other than this Crestron model is obtained, verify that it meets the required specifications and polarity as shown after this paragraph.

#### AC Power Pack Specifications

CRESTRON POWER PACK	INPUT SPECS	OUTPUT SPECS
PW-1205	120V~60Hz	12VDC .5 A
PWI-1210	230V~50Hz	12VDC 1A

#### AC Power Pack Polarity



### NET

This 6-pin, 6-position RJ11 modular jack is used for expansion to SmarTouch peripherals or for programming the touchpanel. For expansion, insert the RJ11 connector end of the cable to a SmarTouch peripheral. When programming, insert the RJ11 connector end of the touchpanel to control processor cable (CA15710) and connect to the user interface.

### PC

This 6-pin, 6-position RJ11 modular jack is used to communicate with a PC when programming. Insert the RJ11 connector end of the PC to control processor cable (64618) and connect to the PC. Refer to the pinout table below.

#### RJ11 (PC and COM A - B) Pinouts

PIN	DESCRIPTION
1	CTS
2	GND
3	RXD
4	TXD
5	RTS
6	No Connect

**NOTE:** The maximum baud rate on all RJ11 (PC and COM A - B) connectors is 38400.

**COM A - B**

These bi-directional 6-pin, 6-position RJ11 modular jacks are used to control additional audio/visual equipment via their RS-232 ports. Refer to the pinout table on the previous page.

**IR OUT A - D**

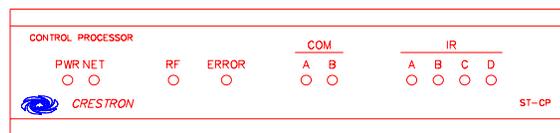
These 3.5mm mini phone jacks are used to control IR devices. Insert the mono mini plug of the STIRP and place the STIRP shell over the IR sensor window of the A/V equipment. Also, the Crestron relay controller (SP-RY) or slide controller (SP-SC) can be connected to these phone jacks.

**RF**

This 50 ohm BNC connector attaches to the supplied antenna which is used to receive RF signals from the user interface. In some installations, the RF reception range can be increased by mounting the antenna away from the equipment with a BNC male to BNC female 50 ohm cable (not included).

***ST-CP Indicators***

There are 10 LED indicators located on the front panel of the ST-CP. Refer to illustration and descriptions below.

*ST-CP Indicators***PWR (Power)**

This LED illuminates when power is supplied to the ST-CP.

**NET**

This LED illuminates either when sending commands to SmarTouch peripheral equipment or while processing commands from the PC (i.e., when uploading).

**RF**

This LED illuminates when commands are received from the user interface.

**ERROR**

This LED illuminates when a programming problem is detected.

**COM A - B**

These LEDs illuminate when communications is occurring from the corresponding COM ports.

**IR A - D**

These LEDs illuminate when commands are transmitted from the associated IR output ports.

## Leading Specifications

The table below provides a summary of leading specifications for the ST-CP. Dimensions and weight are rounded to the nearest thousandth unit.

### *Leading Specifications of the ST-CP*

SPECIFICATION	DETAILS
Power Requirements	12 or 24 VDC
SIMPL™ Windows®	Version 1.20.01 or later*
VisionTools™ for Windows®	Version 10.7 or later*
VT Pro	Version 1.1.7 or later*
ST-CP Operating System	Version 4.00.52s or later*
ST-CP Monitor	Version 1.36 or later*
Crestron Database	Version 11.7.210 or later*
Dimensions & Weight	Height: 1.70 in (4.32 cm) Width: 7.07 in (17.95 cm) Depth: 6.32 in (16.06 cm) Weight: 2.00 lb (0.95 kg)

\* The latest software versions can be obtained from the Software Downloads page (SIMPLWIN, TOUCHPNL, OPSYS, and CRESDB Libraries) of Crestron's website ([www.crestron.com](http://www.crestron.com)). New users are required to register in order to obtain access to the FTP site.

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



## Preparation for Use

The ST-CP provides two roles as an integral part of the SmarTouch STS. First, it stores the project programmed with SmarTouch software via the PC. It also receives RF signals from the user interface and transmits commands to A/V equipment or peripheral pieces of SmarTouch equipment, during normal operation. The following paragraphs detail the connections that must be made to the ST-CP in each role.

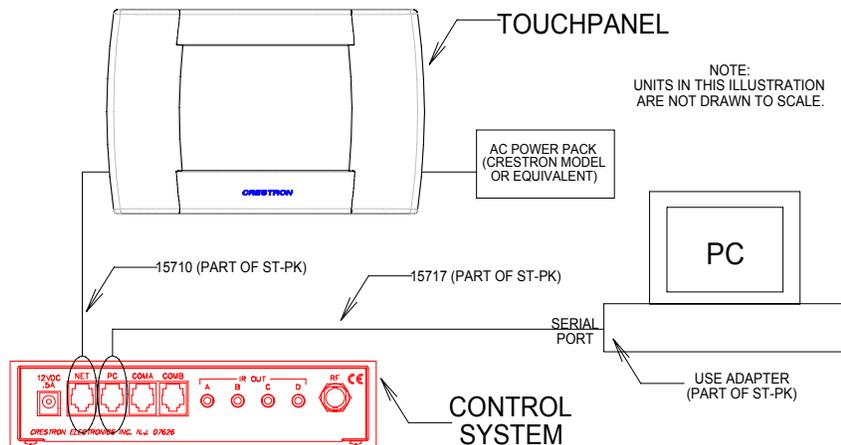
### Programming

When programming, refer to figure that follows this paragraph for a typical connection diagram. Complete the following steps in the order provided to ensure proper connection.

**NOTE:** The PC to control processor and touchpanel to control processor cables only need to be attached when programming.

**NOTE:** The procedure that follows assumes that a touchpanel is being used as the user interface. No connections to the user interface need to be made, if a wireless hand-held transmitter is utilized.

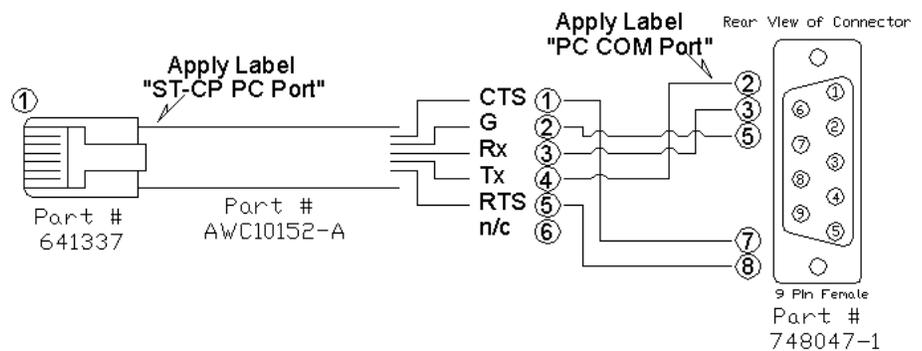
Typical Connection Diagram when Programming



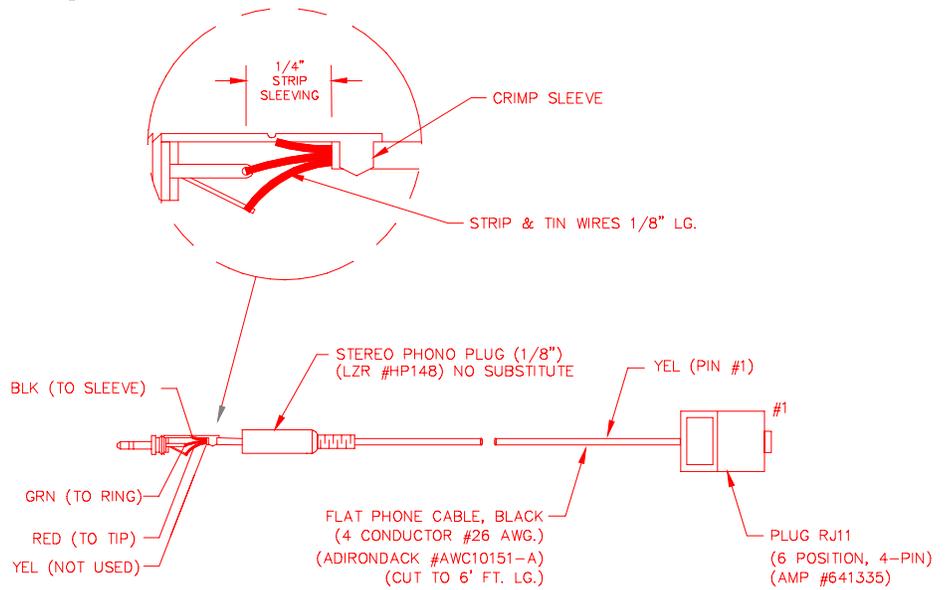
1. Attach the RJ11 to DB9F adapter (15556, supplied with ST-PK) to one end of the PC to control processor cable (15717, supplied with ST-PK).
2. Attach the DB9 connector (of the adapter and cable combination) to the RS-232 port on the PC.
3. Attach the RJ11 connector (of the adapter and cable combination) to the ST-CP port, labeled PC.
4. Attach the 3.5 mm stereo connector of the touchpanel to control processor cable (15710, supplied with ST-PK) to the touchpanel.
5. Attach the RJ11 connector of the touchpanel to control processor cable to the ST-CP port, labeled NET.
6. Attach the 500 mA power pack to ST-CP (1000 mA power pack for ST-CP/UK) and insert plug into outlet.
7. The touchpanel should either receive power from the supplied power pack or an internal battery.

In the event that the two cables and adapter required to download a program from the control processor to the touchpanel are lost or not acquired via the purchase of the ST-PK, the following two diagrams are provided so that the cables can be made on site.

PC to Control Processor Cable



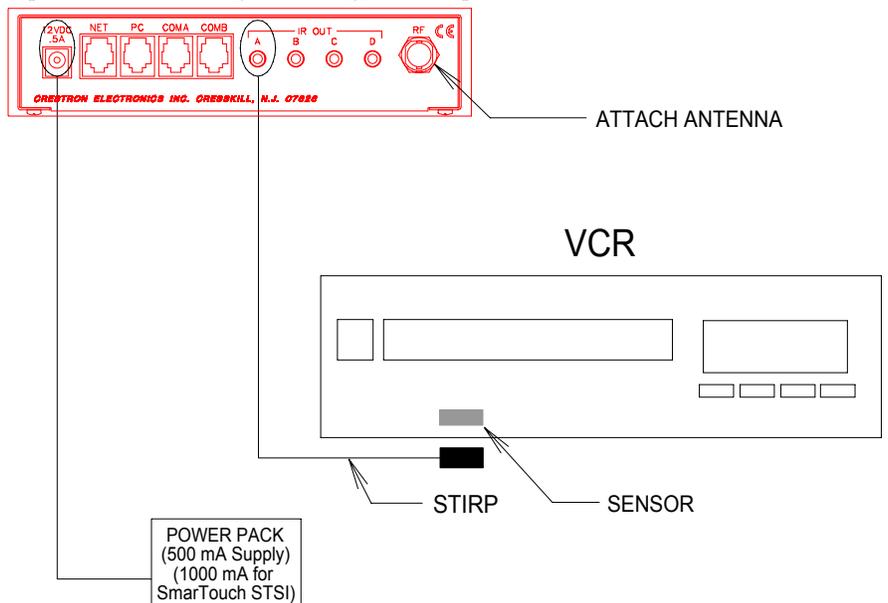
*Touchpanel to Control Processor Cable*



### Operation

When operating the ST-CP under normal conditions, refer to figure shown below for a typical connection diagram. Complete the following steps in the order provided to ensure proper connection of the system. It is assumed that the SmarTouch STS is currently connected for programming.

*Typical Connection Diagram During Normal Operation*



1. Completely disconnect touchpanel to control processor cable (15710).
2. Completely disconnect PC to control processor cable (15717) and RJ11 to DB9F adapter (15556).

3. Attach supplied antenna to BNC connector labeled RF on the back of the ST-CP.
4. Insert the mono mini plug of the STIRP into one of the four IR OUT ports of the ST-CP. Identifying the correct IR OUT port depends on the designations made when programming. In the illustration provided, it is assumed that the VCR is assigned to PORT A. Refer to the latest revision of the STIRP Installation Instructions (Doc. 5674) for details to attach the STIRP to IR sensor windows.
5. Repeat previous step, as necessary.

## Problem Solving

### Troubleshooting

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

#### *ST-CP Troubleshooting*

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
A/V device does not respond.	STIRP or serial port not placed properly.	Verify placement of STIRP (Hold phosphor card under STIRP while pressing button) and tightness of serial cable.
	Used wrong IR or serial port.	Verify proper IR or serial port is defined.
	Wrong manufacturer or model number listed in SmarTouch system.	Open the project in software and verify device definition.
	Incorrect program is in control system.	Verify program is uploaded to control system with Performance Viewport from the software.
	Incorrect panel screens are in touchpanel.	Use the software to open the project and verify that each button that is suppose to control the device has a join number and the command associated with it lists "SEND<device name> <function name>" (e.g., SEND LIV_RM_VCR PLAY). Download the touchpanel screens again.
A/V device does not respond and wrong LEDs on ST-CP for device's IR or serial port illuminate.	SmarTouch system calls out wrong port or no port for device.	Open SmarTouch system via software and change the port.

*ST-CP Troubleshooting (Continued)*

<b>TROUBLE</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
RF LED on ST-CP does not illuminate when trying to control A/V equipment.	Button on screen only has internal functions (i.e., join number greater than or equal to 1000 or no join numbers, set to 0).	Reopen project and verify that button join number is between 1 and 999.
	ST-CP is not receiving power.	Verify that power pack is attached to ST-CP.
	RF transmitter in SmarTouch is faulty.	Contact a CRESTRON technical support representative.
	RF antenna is not securely attached to ST-CP RF port.	Verify that ST-CP RF antenna is properly attached.
	RF antenna is not properly located (i.e., inside a metal rack).	Remotely locate RF antenna. Mount the antenna away from the equipment with a BNC male to BNC female 50 ohm cable.

**Further Inquiries**

If after reviewing this Operations Guide for the ST-CP, 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, call Crestron Pacific at +613-9480-2999.

For local support from exclusive Crestron factory-trained personnel in New Zealand call Amber Technologies at +649-410-8382.

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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 shall not be liable to honor the terms of this warranty 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 original 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 is not liable for any claim made by a third party or made by the purchaser for a third party.

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.

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