TST-602

5.7" Wireless Touch Screen

- > Advanced wireless touch screen controller
- > Compact, lightweight contoured design
- > 5.7" LED Edgelit color LCD display
- > Capacitive touch screen technology
- > Smart Graphics[™] support^[11]
- > Voice recognition capability^[1,2]
- > High-performance H.264 streaming video^[1]
- > Rava® SIP intercom and phone technology^[1]
- > Customizable audio feedback
- > Web browsing^[1,2]
- > On-screen keyboard and mouse
- > Customizable screensaver
- > Built-in microphone and speakers
- > Illuminated buttons and engravable backlit text^[3]
- > No-button front bezel option included
- > Dual-mode RF wireless performance Extended Range 2.4 GHz RF plus Wi-Fi^{® (8)}
- > Instant-Waking® behavior like an IR remote with all the benefits of 2-way RF!
- > Supports roaming for extended wireless coverage^[7]
- > Includes wired Ethernet connectivity as an alternative to Wi-Fi^[1]
- > Fast charging, long lasting Li-lon battery
- > Low-profile table dock charger^[9]
- > Available in smooth black or white, or textured black finishes

The Crestron[®] TST-602 Wireless Touch Screen delivers enhanced wireless control for the home, boardroom, or classroom in a stylish, ergonomic design. Its curved shape feels natural in the hands, with easy-access thumb-operable buttons placed to either side of a perfectly-sized color touch screen display. Dual-mode wireless performance with roaming capability assures dependable connectivity throughout the home or workplace. Wired Ethernet connectivity is also available via the included table dock.

Featuring a high-contrast 5.7" capacitive touch screen with Smart Graphics[™], the TST-602 allows completely customizable control over audio, video, lighting, shades, climate, security, and other technologies. Scrolling menus of media titles and channel presets make it quick and easy to find and select any TV channel, video title, or music track. Optional tactile pushbuttons provide easy, immediate access to commonly used functions such as volume, mute, power, and on-screen menu navigation. Additional advanced features include the abilities to control any function using voice commands, view security cameras and other video sources, communicate using built-in intercom and phone capabilities, and browse the Internet.^[1,2]

Smart Graphics™

Crestron touch screens use Smart Graphics to deliver the ultimate user experience *and* the ultimate value by enabling the creation of dynamically



rich user interfaces with incredible efficiency and unparalleled functionality. Using Smart Graphics, programmers can swiftly integrate fluid gesture-driven controls, animated feedback, rich metadata, embedded apps and widgets, and full-motion video for a deeply engaging and ultra-intuitive touch screen experience.

Crestron Smart Graphics offers these enhancements and more:

- Cool-looking graphical buttons, sliders, knobs, and gauges that are intuitive and fun to use
- Kinetic effects to enhance the feeling of realism, with lists and toolbars that scroll with momentum at the flick of a fingertip
- Drag-and-drop objects that snap into place, offering an easy way to switch sources
- Dashboard widgets to personalize the touch screen with clocks, weather, news, and other information ^[2]
- A power-saving screensaver, allowing display of time, temperature, and other text content at a reduced brightness level
- Customizable themes allowing a completely different look and feel for every user, event, or season
- Fully-developed SmartObjects[™] that enable sophisticated control over complex devices with minimal programming

Tactile Pushbuttons

In addition to its touch screen display, the TST-602 features illuminated tactile pushbuttons for quick access to volume adjustment, channel selection, and on-screen menu navigation functions. Eight additional pushbuttons, elegantly trimmed by illuminated button dividers, flank the edges of the touch screen to support additional programmable functions.

High-quality backlit laser-engraving lends a crisp, legible appearance to button text in both darkened and fully lit rooms. The pushbuttons come pre-engraved with labeling suited to a typical home theater or multimedia



presentation application. If needed, customized engraving can be attained simply using Crestron Engraver software. A no-button front bezel is also included, which may be installed in place of the button bezel for a very clean appearance with no front panel pushbuttons.^[3]

Two additional itrigger" style buttons are positioned on top of the TST-602 for easy control of the display brightness, sleep mode, and other programmable functions.

Voice Recognition

Some things are easier *said* than *done*, so why not just *say* what you want and let Crestron *do* it for you? With built-in voice recognition, the TST-602 provides the ability to use spoken commands to control virtually anything. Voice recognition can be used to quickly turn devices on or off, select and play a specific media title or playlist, change the channel, choose a lighting scene, lock the doors, arm the security system, or enter a password. Simply press the Voice Recognition button on the touch screen and say a command and Crestron does the rest.^[1,2]

Streaming Video

High-performance streaming video capability makes it possible to view security cameras and other video sources right on the touch screen. Native support for H.264 and MJPEG formats allows the TST-602 to display live streaming video from an IP camera, a streaming server (Crestron CEN-NVS200, DM-TXRX-100-STR, or similar^[4]), or a DigitalMedia[™] switcher.^[1]

Rava® SIP Intercom

Rava SIP Intercom Technology enables hands-free VoIP communication with other Rava-enabled touch screens and door stations, supporting 2-way intercom, video intercom^[5], and paging. VoIP phone capability is also possible through integration with an SIP-compatible IP phone system or SIP server, allowing hands-free telephone functionality complete with speed-dialing, caller ID, custom ringers, and other enhancements. Built-in echo cancellation affords full-duplex performance for clear, seamless voice communication using the TST-602's integrated microphone and speakers.^[1]

Web Browsing

Its built-in Web browser allows the TST-602 to be used to access the Internet, providing a useful utility for viewing online media guides and quickly checking on social media sites, auctions, stocks, sports, and other online information.^[1,2]

On-Screen Keyboard & Mouse

On-screen multi-language keyboard and mouse capabilities provide for entry of passwords, URLs, and text search items, and enable the touch screen to be used as a wireless mouse touchpad to control a computer running TouchPoint[®] Virtual Mouse & Keyboard Software (VMK-WIN).

Audio Feedback

Customized audio files can be loaded on the TST-602 to add another dimension to the touch screen graphics using personalized sounds, button feedback, and voice prompts.

Dual-Mode Wireless

To deliver the ultimate in wireless touch screen performance and functionality, the TST-602 employs a combination of Crestron Extended Range 2.4 GHz RF (ER) and Wi-Fi[®] wireless technologies.

- Extended Range RF (Required) Primary functionality is supported via Crestron ER (Extended Range) wireless communications, providing seamless control with true feedback using the TST-602's tactile buttons and basic touch screen objects. A single ER gateway ^[4] enables ultra dependable wireless performance at a range of up to 200 feet (60 m) indoors ^[6]. Roaming capability allows for even greater coverage using up to eight ER gateways.
- Wi-Fi (Optional) While the TST-602 can be operated using only ER wireless, advanced wireless capabilities such as streaming video, intercom, voice recognition, Web browsing, and dynamic graphics can only be supported using both ER and Wi-Fi together (dual-mode). Crestron enhanced Wi-Fi wireless performance achieves a remarkable 50 feet (15 m) omnidirectional coverage indoors^[6]. For Wi-Fi networks with multiple access points, the TST-602 supports the ability to hand off communication from one access point to another if the active connection is lost.^[7] The choice of 802.11 b, g, and n protocols affords reliable, high-speed wireless performance in virtually any RF environment. For optimal Wi-Fi performance, Crestron offers the CEN-WAP-1500 High Power Dual-Band Wireless Access Point.

IMPORTANT: EVERY INSTALLATION OF THE TST-602 REQUIRES A CRESTRON ER WIRELESS GATEWAY TO ENABLE ESSENTIAL WIRELESS CAPABILITY. THE TST-602 WILL NOT WORK WITH WI-FI (OR WIRED ETHERNET) ALONE.^[8]

Instant-Waking®

To ensure the most transparent user experience possible, the TST-602 has been engineered to wake instantly at the press of a button or touch of the touch screen. Button presses are sent immediately, just like an IR remote but with none of IR's limitations. So spontaneous actions like muting the audio, pausing the video, or changing the channel can be executed on-the-fly with just a single button press.

Extended Battery Life

Intelligent power management and robust Lithium Ion battery technology afford up to 3.2 hours of continuous operation and several days of typical use between charges.

Table Dock Charger

The TST-602 includes a low-profile table dock for charging its internal battery. While docked, the touch screen remains fully operational so you're always in control. The table dock can also provide a wired Ethernet connection for the touch screen in the absence of Wi-Fi. The table dock and touch screen look stylish together sitting on a countertop or side table, and can also fit discreetly in a cabinet or drawer. A single cable connects the table dock to a compact interface module, which provides wired connections for power and Ethernet. The interface module can be installed in a wall-mounted electrical box, or simply attached to any flat surface or a single rack rail. Power can be supplied using the included power pack or 24VDC Cresnet[®] power.^[9,10]



SPECIFICATIONS

Note: See also TST-600-DS and TST-600-IMCW for additional specifications.

Touch Screen Display

Display Type: TFT Active matrix color LCD Size: 5.7 inch (145 mm) diagonal Aspect Ratio: 4:3 VGA Resolution: 640 x 480 pixels Brightness: 350 nits (cd/m²) Contrast: 800:1 Color Depth: 18-bit, 262k colors Illumination: Edgelit LED Viewing Angle: ±80° horizontal, ±70° vertical Touch Screen: Projected Capacitive

Buttons, Switches, & Indicators

Sleep: (1) Top-mounted pushbutton (left); programmable, normally initiates "Sleep" mode when docked, turns power on/off when undocked; also resets the unit if held for 5 seconds

Brightness: (1) Top-mounted pushbutton (right); programmable, normally sets display brightness level

Hard Keys: (8) Optional pushbuttons, programmable, engravable backlit $\text{text}^{\scriptscriptstyle[3]}$

Up/Down: (2) Optional backlit translucent "up" and "down" pushbuttons, programmable, engravable backlit text on bezel^[3]

Navigation Pad: (5) Optional backlit translucent pushbuttons for 4-way directional navigation and "select", programmable

Battery Switch: (1) Rear panel recessed slide switch, shuts off battery for long-term storage

Battery LED: (1) Green LED, indicates battery condition and charging status when docked

Memory

LPDDR2 RAM: 1 GB Flash: 4 GB Maximum Project Size: 512 MB

Graphics Engine

Supports Smart Graphics^{™ [11]}, multi-language Web browser^[1,2], multi-language on-screen keyboard, screensaver

Languages

Smart Graphics: Arabic, Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, English (UK), English (US), Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Portuguese (Brazilian), Romanian, Russian, Slovak, Spanish, Swedish, Thai

On-Screen Keyboard: Arabic, Chinese (Simplified), Croatian, Czech, Danish, Dutch, English (UK), English (US), Finnish, French (Canada), French (Switzerland), German, Hebrew, Hungarian, Italian, Japanese, Norwegian

Bokmal, Polish, Portuguese, Russian, Serbian, Spanish, Swedish, Turkish Voice Recognition: Afrikaans (South Africa); Chinese, Mandarin (China, Simplified); Chinese, Mandarin (Hong Kong, Simplified); Chinese, Mandarin (Taiwan, Traditional); Chinese, Yue (Hong Kong, Traditional); Czech (Czech Republic); Dutch (Netherlands); English (Australia); English (Canada); English (Generic); English (India); English (New Zealand); English (South Africa); English (UK); English (US); French (France); German (Germany); isiZulu (South Africa); Italian (Italy); Japanese (Japan); Korean (South Korea); Polish (Poland); Portuguese (Brazil); Russian (Russia); Spanish (Spain); Turkish (Turkey)

Web Browser: Arabic, Bulgarian, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Filipino, Finnish, French, German, Greek, Hebrew, Hindi, Hungarian, Indonesian, Italian, Japanese, Korean, Latvian, Lithuanian, Norwegian Bokmal, Pashto, Persian, Polish, Portuguese, Romanian, Romansh, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Thai, Turkish, Ukrainian, Vietnamese

Wireless Communication (Primary) -Extended Range RF^[8]

RF Transceiver: 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), IEEE 802.15.4 compliant

Transmitting Power: 75 mW (Ch.11), 100 mW (Ch.12-23), 15 mW (Ch.24), 3.5 mW (Ch.25), 1 mW (Ch.26) @ High Setting; 1 mW (Ch.11-25), 0.5 mW (Ch.26) @ Low Setting

Range (typical): 100 to 200 feet (30 to 60 m) maximum indoor, 1000 feet (300 m) outdoor, subject to site-specific conditions

Gateway: Requires a Crestron Extended Range (ER) Wireless Gateway^[4] **Roaming:** Supports roaming between a maximum of eight gateways

Wireless Communication (Secondary) - Wi-Fi® [8]

Transceiver: IEEE 802.11b/g/n Wi-Fi (2.4 GHz 2-way RF), static IP or dynamic IP via DHCP

Security: 64 & 128-bit WEP, WPA[™] & WPA2[™]-PSK with TKIP & AES Range: Up to 50 feet (15 m), subject to site-specific conditions Gateway: Requires a CEN-WAP-1500 or similar 802.11b/g/n wireless access point and Ethernet-enabled Crestron control system Handoff: Supports handoff between a maximum of four Wi-Fi wireless access points^[7]

Wired Communications

Ethernet^[1]: (Via table or wall dock) 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP USB: USB client for console only

Video

Streaming Formats: H.264 (MPEG-4 part 10 AVC) or MJPEG, up to 1024x720 @ 30 fps $^{\left[1\right]}$

Audio

Features: Built-in microphone and speakers, Rava[®] SIP Intercom^[1], multilanguage voice recognition^[1,2] **Audio Feedback Formats:** MP3

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Connectors

Docking Connector: (1) multi-pin connector; Mates with the docking port on the table or wall dock ^[9]

USB: (1) Mini-B USB console port, for installer use only; Mini-B to A USB cable included

NOTE: See TST-600-IMCW interface module specification for additional connectors^[9]

Battery

Rechargeable Battery: Li-ion, 3.7 Volt, 3200 mAh, model TST-600-BTP^[12] **Usage per Charge:** 3.2 hours continuous, 90 hours under normal use (10% active duty cycle with standby/power down enabled) **Charging Time:** 2.5 hours with touch screen in standby, 3.5 to 5 hours during use

Power Requirements

Power Pack: 0.75 Amps @ 24 Volts DC;

100-240 Volts AC, 50/60 Hz power pack, model PW-2407WU included Cresnet® Power Usage: 18 Watts (0.75 Amps @ 24 Volts DC)^[10]

Note: May be powered by power pack or Cresnet network power, not both. All power connections are made via the TST-600-IMCW interface module^{[9,10]}

Environmental

Temperature: 32° to 112°F (0° to 45°C); 50° to 104°F (10° to 40°C) while charging Humidity: 10% to 90% RH (non-condensing) Heat Dissipation: 40 BTU/hour

Construction

Enclosure: Plastic, non-slip grips/feet, integral docking port **Front Bezels:** Plastic, button and no-button bezels included, button bezel includes white translucent illuminated Up/Down and Navigation Pad buttons and 8 hardkey buttons with illuminated dividers and default backlit text engraving, optional custom backlit text engraving sold separately^[3]

Dimensions

Height: 5.10 in (130 mm) Width: 8.08 in (206 mm) Depth: 1.59 in (41 mm)

Note: Combined height of the TST-602 touch screen docked on the TST-600-DS table dock^[9] is 3.30 in (84 mm)

Weight

22.5 oz (636 g) without table dock or interface module

MODELS & ACCESSORIES

Available Models

TST-602-B-S: 5.7" Wireless Touch Screen, Black Smooth TST-602-B-T: 5.7" Wireless Touch Screen, Black Textured TST-602-W-S: 5.7" Wireless Touch Screen, White Smooth

Included Accessories

TST-600-BTP: Battery Pack (Qty. 1 included) TST-600-DS-B-S: Table Dock, Black Smooth (Qty. 1 included with TST-602-B-S) TST-600-DS-B-T: Table Dock, Black Textured (Qty. 1 included with TST-602-B-T) TST-600-DS-W-S: Table Dock, White Smooth (Qty. 1 included with TST-602-W-S) TST-600-IMCW: Interface Module for TST-600-DS (Qty. 1 included) PW-2407WU: Wall Mount Power Pack, 24VDC, 0.75A, 2.1mm, Universal (Qty. 1 included) TST-602-FPB-S-NB_FRONT_BEZEL: No-Button Bezel Kit, Black Smooth (Qty. 1 included with TST-602-B-S) TST-602-FPB-T-NB FRONT BEZEL: No-Button Bezel Kit, Black Textured (Qtv. 1 include with TST-602-B-T) TST-602-FPW-S-NB FRONT BEZEL: No-Button Bezel Kit, White Smooth (Qty. 1 included with TST-602-W-S)

Available Accessories

TST-602-FP-BKLT-B-S_FRONT_BEZEL_BLANK: Button Bezel Kit, No Engraving, Black Smooth

TST-602-FP-BKLT-B-S_FRONT_BEZEL_ENGRAVED: Button Bezel Kit w/ Custom Backlit Engraving, Black Smooth

TST-602-FP-BKLT-B-T_FRONT_BEZEL_BLANK: Button Bezel Kit, No Engraving, Black Textured

TST-602-FP-BKLT-B-T_FRONT_BEZEL_ENGRAVED: Button Bezel Kit w/ Custom Backlit Engraving, Black Textured

TST-602-FPW-S_FRONT_BEZEL_ BLANK: Button Bezel Kit, No Engraving, White Smooth

TST-602-FPW-S_FRONT_BEZEL_ENGRAVED: Button Bezel Kit w/Custom Engraving, White Smooth

TST-600-SMK: Swivel Mount Kit for TST-600-DS

TST-600-DSW: Wall Dock

CEN-ERFGW-POE: Extended Range RF Wireless Gateway

CEN-RFGW-EX: infiNET EX® & ER Wireless Gateway

MC3: 3-Series Control System[®] w/infiNET EX[®] & ER Wireless Gateway DIN-AP3MEX: DIN Rail 3-Series[®] Automation Processor w/infiNET EX[®] & ER Wireless Gateway

CEN-WAP-1500: High Power Dual-Band Wireless Access Point **TPS-6X-DS:** Desktop Docking Station for TPS-6X

TPS-6XNL-DS: Desktop Docking Station for TPS-6X, No-Lock

TPS-6X-DS-C: Desktop Docking Station for TPS-6X, Charging Only **TPS-6XNL-DS-C:** Desktop Docking Station for TPS-6X, Charging Only, No-Lock

TPS-6X-DSC-LP: Low-Profile Desktop Docking Station for TPS-6X, Charging Only



SMK-6X: Swivel Mount Kit for TPS-6X-DS CBL-CAT5E-P-50: Ethernet LAN Cable, Plenum, 50 ft CEN-NVS200: Network Video Streamer DM-TXRX-100-STR: HD Streaming Transmitter/Receiver SW-VMK-WIN: TouchPoint[®] Virtual Mouse & Keyboard Software for Windows[®]

Notes:

- The TST-602 requires a LAN connection via either Wi-Fi wireless or wired Ethernet to enable advanced functionality including voice recognition, streaming video, intercom, Web browsing, and dynamic graphics. In addition to Wi-Fi or Ethernet, the TST-602 requires ER (Extended Range) wireless communications for all applications to enable basic functionality. The TST-602 will not work with Wi-Fi or Ethernet alone. The wired Ethernet connection is only available when docked.
- 2. Voice recognition, Web browsing, weather information, and certain other functions require an Internet connection via Wi-Fi or Ethernet.
- Text engraving is not backlit on the white model. All models include a button bezel with default engraving. Custom engraving is sold separately. All buttons may be removed using the TST-602-FP-NB No-Button Bezel (included).
- 4. Item(s) sold separately.
- 5. H.264 compatible IP camera required.
- 6. Wireless range subject to site-specific conditions.
- 7. True roaming is supported for ER wireless communication only, affording uninterrupted wireless performance for primary touch screen functions. Wi-Fi ihandoff" capability enables automatic handoff amongst up to four pre-designated Wi-Fi wireless access points, wherein the last successful Wi-Fi connection is maintained indefinitely until that connection is lost, at which point communication is handed off to the next nearest access point. A very brief interruption to wireless Ethernet communication may occur during the handoff. Primary ER wireless communication is unaffected by the Wi-Fi handoff process.
- 8. ER (Extended Range) RF wireless communication supports basic wireless touch screen functionality, and is required for all applications. For advanced functionality including streaming video, intercom, voice recognition, Web browsing, and dynamic graphics, Wi-Fi wireless communication is also required (dual-mode). The TST-602 will not work with Wi-Fi alone. Advanced functionality can also be enabled while docked through a wired Ethernet LAN connection (in combination with ER wireless).
- 9. The TST-602 ships with (1) TST-600-DS Table Dock and (1) TST-600-IMCW Interface Module included. Additional docking options are available separately. The TST-602 is compatible with any 24VDC powered TPS-6X series docking station as long as power is provided using the power pack that ships with the TST-602 (or Cresnet power where supported). When docked in a TPS-6X series docking station, the TST-602 does not interface with Cresnet data or wired analog video. Refer to the spec sheet for each individual docking product for additional information.
- Connection to a Cresnet power supply or network is for power only. Cresnet communication is not supported.
- 11. Supports Smart Graphics only. Not compatible with itraditional" UI projects.
- Internal battery pack included. Battery pack replacement must be performed by a Crestron qualified technician.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

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