

# Isys i/O™ WiFi & Handheld Remotes overview

“Complete control in the palm of your hand!”

It's been said many times before but never been truer. Today's WiFi touchpanels and handheld remotes from Crestron represent the state-of-the-art in compact wireless control employing bright color touchpanels, alphanumeric LCD displays, electroluminescent backlighting, and a variety of tactile controls. Ergonomics are optimized to provide greater comfort and more intuitive operation, transforming the handheld device into a natural extension of the human body.

With 35+ years of control system know how, it's a given that Crestron handhelds and WiFi touchpanels are leaps and bounds beyond the common “universal learning remote”. Crestron's control technology and software tools afford infinite programmability to suit any application, going beyond conventional home theater and AV system control, extending domain over lighting, climate, security, and more.

The much heralded **TPMC-8X Isys i/O WiFi Touchpanel** marries wireless touchpanel control with mobile computing in an alluring and ergonomic design that's perfect for home or office. The TPMC-8X actually runs on a Windows® XP

Embedded platform, enabling Web browsing, streaming media, and Voice-over-IP all within the Crestron touchpanel environment! The smaller **TPMC-4X Isys i/O Handheld WiFi Touchpanel** provides true 2-way touchpanel control complete with wireless video in a sleek, handheld form factor.

The **MT-1000C MiniTouch** employs a compact color touchscreen in a smart, stylish handheld package offering a choice of 1-way RF or IR communications. The ergonomic **ML-600 MiniLCD** features an intuitive button layout specialized for AV/Home Theater control and display of custom menus containing input sources, TV channels, radio stations, or even lighting and climate control functions.

Leave it to Crestron to create the **WPR-48 Waterproof Handheld Remote**. The “remote on a rope” is completely immersible, providing control where no remote has gone before. And, Crestron's offering is rounded out by the straightforward **CNRFHTR RF Handheld Remote**, employing a variable layout of up to 30 multi-colored pushbuttons and engravable faceplate.

## Isys i/O WiFi Touchpanels and Handheld Remotes



# Isys i/O™ WiFi & Handheld Remotes cross reference

	Isys i/O WiFi		MiniTouch	Handheld Remotes		
	TPMC-8X 8.4" WiFi Touchpanel	TPMC-4X Handheld WiFi Touchpanel	MT-1000C MiniTouch	ML-600 MiniLCD	WPR-48 Waterproof Remote	CNRFHT RF Handheld Remote
<b>Display</b>						
Display Type	TFT Active Matrix Color Touchscreen	TFT Active Matrix Color Touchscreen	TFT Active Matrix Color Touchscreen	Backlit LCD		
Display Size	8.4"	3.5"	3.8"	2.1" H x 1.4"W		
Resolution	800 x 600 SVGA	240 x 320 QVGA (portrait)	320 x 240 QVGA	5 characters per 10 labels +4char. each for group/page		
Color Depth	18-bit 262k Colors	16-bit 64k Colors	16-bit 64k Colors	Monochrome		
<b>Buttons &amp; Controls</b>						
Programmable Hard Buttons	2	9	11	32	9 Rocker Type Up to 48 functions	CNRFHT-15: Up to 15 CNRFHT-30: Up to 30
Softkey Pushbuttons	4	4		10		
Thumb Pad	5-Way	5-Way	5-Way	5-Way		
3-Way Toggle Wheel		●				
Biometric Fingerprint Scanner	●					
Button Backlighting		●	●	●	Backlit Label Inlay	
<b>Touchpanel Graphics</b>						
Color Depth	16-bit 64k	16-bit 64k	16-bit 64k			
Synapse Image Rendering	●	●	●			
Multimode Objects	●	●				
True Feedback, Dynamic Text, & Animation	●	●				
Dynamic Graphics & PNG Translucency	●	●				
Dynamic Menu Objects	●					
<b>Memory</b>						
Ram	512MB	64MB	16MB			
Flash	1GB	32MB				
Memory Card Slot	Up to 4GB					
Maximum Project Size	190MB	12MB	16MB			
<b>Embedded PC</b>						
Operating System	Windows XP Embedded	Windows CE .NET 4.2				
Web Browser, Media Player, Remote Desktop, VoIP, NetMeeting, Yahoo! Widgets, MS Office Document Viewers, & Adobe Acrobat Reader <sup>1</sup>	●					
Keyboard/Mouse	USB, Bluetooth, onscreen	onscreen				
<b>Video</b>						
Streaming via Media Player	●					
Streaming MJPEG	●	●				
<b>Audio</b>						
Integrated Speakers & Microphone	●					
WAV Sound File Audio Feedback	●		●			
<b>Wireless</b>						
2-Way Wi-Fi RF via 3rd-party 802.11x WAP	802.11a/b/g	802.11b				
1-Way RF 418 MHz via CNRFGWA-418 or MC2W			●	●	●	
1-Way RF 434 MHz via CNRFGWA or MC2W					●	●
1-Way IR 38 kHz RC5 via C2N-IRGW or CNXRMRD			●	●	●	
1-Way IR 455 kHz via CN-TVAV					●	
<b>Batteries</b>						
Lithium-Polymer Rechargeable						
Lithium-Ion Rechargeable	●	●	●		●	
External Battery Option	●					
Disposable				AAA (x4)		9 Volt (x1)
<b>Docking Station</b>						
Desktop Docking Station	● <sup>2</sup>	●	●		●	

<sup>1</sup> See product spec for a complete list of embedded applications

<sup>2</sup> Accessory sold separately

This chart intended for summary comparison only; see each product specification for complete information.

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# ISYS I/O WIFI & HANDHELD REMOTES

## → Isys i/O WiFi Touchpanels

### Isys i/O™ 8.4" WiFi Touchpanel **TPMC-8X**

Crestron's Isys i/O TPMC-8X is a compact, stylish Wi-Fi touchpanel featuring the Windows® XP Embedded OS to deliver a 2-way wireless control solution with blazingly fast performance and native capabilities for browsing the Internet, streaming multimedia, and much more. A brilliant 8.4" active-matrix SVGA display and 16-bit color depth combine to produce stunning 3D graphics using new dynamic menu objects, dynamic graphics, animations, multimode objects, PNG translucency, and exclusive Synapse™ image rendering – all with astonishing speed.

**Advanced Ergonomics**—Incredibly thin and compact, the TPMC-8X is brilliantly designed to provide a powerful mobile control solution that's easy to hold and intuitive to use. Its magnesium alloy enclosure presents a sleek, modern appearance that is both rugged and lightweight.

**Tactile Controls**—An integrated 5-way thumbpad and up/down arrow buttons add quick-access and tactile response for controlling functions ranging from simple volume adjustment and channel selection to on-screen menu navigation or even pan/tilt camera control. Four additional "softkeys" are positioned below the touchscreen, programmable for context-sensitive menu functions. A stylus is even included for use with the on-screen keyboard, conveniently stowed in its own storage slot.

**Bluetooth® Technology**—Built-in Bluetooth enables the use of a wireless mouse, keyboard, and other devices. A USB 2.0 port is also provided for connecting wired devices.

**Biometric Scanner**—The built-in fingerprint scanner unleashes a whole new level of convenience and security, allowing individual users to be identified instantly and logged on automatically. With just the touch of a fingertip, each user can be presented with a unique graphical interface with its own set of preferences, access privileges, and even its own look through the use of touchpanel "skins".

**Wi-Fi Wireless**—Integrated 802.11a/b/g Wi-Fi technology with WEP encryption delivers secure, high-speed 2-way wireless performance across wireless LAN's, affording mobile freedom and seamless communications with Crestron control systems, computers, digital media servers, and other IP-based devices.

**Embedded PC**—The power of Isys i/O™ is in its embedded PC engine, combining rock solid touchpanel performance with built-in Windows Media® Player and RealPlayer®, Internet Explorer, Adobe® Acrobat® Reader, and Microsoft Word, Excel, and PowerPoint® document viewers. While simultaneously controlling your home theater or boardroom, the TPMC-8X provides everything needed for enjoying online



music and movies, and viewing Web pages and other documents without necessitating a separate computer.

The TPMC-8X also lets you access data and run applications on other computers via Remote Desktop, and use NetMeeting® and Skype™ for interactive conferencing and voice-over-IP (VoIP) communications – right on the touchpanel. Plus, support for Yahoo! Widgets affords an easy solution for integrating everything from calendars and clocks to stock tickers, weather forecasts, news feeds, and thousands of other fun and useful utilities.

Built on the Windows XP Embedded operating system, the TPMC-8X delivers a powerful and secure platform for touchpanel control with integrated PC capabilities. Programmatic control erases the lines between control system and PC, allowing programmers to customize each application's behavior within the touchpanel environment to create a truly powerful and user-friendly interface.

**Wireless Video**—For entertainment or surveillance, the TPMC-8X makes it easy to view security cameras, movies, and other video sources right on the touchscreen. In addition to the wide range of formats supported by its embedded media player applications, the TPMC-8X also features native support for viewing streaming video from Axis Network Video cameras and servers.

**Audio Features**—Its built-in microphones, stereo speakers, and headphone output support clear voice communications for VoIP and conferencing applications, or just listening to online music and videos. Customized WAV files can be loaded on the touchpanel to add dimension to the

> continued

### TPMC-8X Isys i/O™ 8.4" WiFi Touchpanel (continued)

touchscreen graphics with personalized sounds, button feedback, and voice prompts.

**Li-Ion Rechargeable Batteries**—A field-replaceable Lithium Ion battery pack onboard the TPMC-8X provides fast-charging, long-lasting wireless operation without the "memory" issues typical of other rechargeable batteries. An external "booster" battery pack is also available, providing up to 20 hours of typical use between charges. The optional external battery pack clips neatly to the rear of the touchpanel without tools, adding 0.75 inch depth and non-slip rubber feet resulting in a fixed tilt angle of 7 degrees.

**Docking Station Options**—Optional desktop or wall mount docking stations afford a choice of convenient charging solutions, adding 10/100 Ethernet for direct connection to a wired LAN, plus two USB ports for mouse and keyboard. The desktop dock allows the touchpanel to be operated upright at a 37 degree angle, while the wall mount model provides a secure, flush look.

- ▶ Stylish and compact ergonomic design
- ▶ 8.4" active matrix display | 800 x 600 resolution
- ▶ 16-bit Isys i/O™ graphics | Synapse™ image rendering algorithm
- ▶ 802.11a/b/g Wi-Fi 2-way wireless communications
- ▶ Windows XP® Embedded operating system
- ▶ Onboard PC applications for Web browsing, streaming media, conferencing, VoIP, and remote desktop
- ▶ Wireless video from network cameras and servers
- ▶ Built-in microphone and stereo speakers
- ▶ 5-way thumbpad and 4 "Softkey" buttons
- ▶ Includes stylus with onboard storage slot
- ▶ Built-in biometric fingerprint scanner
- ▶ Built-in Bluetooth® technology
- ▶ Internal Li-Ion battery pack included
- ▶ External "booster" battery pack available
- ▶ Optional desktop and wall mount docking stations

## SPECIFICATIONS

### Touchscreen Display

**Display Type:** TFT Active matrix color LCD  
**Size:** 8.4 inch (21.3 cm) diagonal  
**Aspect Ratio:** 4:3 SVGA  
**Resolution:** 800 x 600 pixels  
**Brightness:** 200 nits (cd/m<sup>2</sup>)  
**Contrast:** 500:1  
**Color Depth:** 18-bit, 262k colors

**Illumination:** Backlit fluorescent

**Viewing Angle:** ±65° horizontal, +65°/-45° vertical

**Touchscreen:** Resistive membrane

### Buttons & Controls

**Softkeys:** (4) programmable "softkey" buttons below touchscreen

**Thumbpad:** (1) programmable 5-way thumbpad (4-way navigation plus center "ENTER" button)

**Arrows:** (2) programmable up/down pushbuttons

**Power:** (1) pushbutton, initiates "Power On" and "Power Down"

**Biometric Scanner:** Identifies user by fingerprint

**Battery:** (1) Recessed slide switch, shuts off battery for long-term storage

### LED Indicators

**Power:** (1) Green LED, indicates touchpanel power status

**Battery:** (1) Green/yellow dual-color LED, indicates battery condition and charging status

**WiFi:** (1) Green LED, indicates wireless network connection status

### Memory

**DDR SDRAM:** 512 MB

**Flash:** 1 GB

**Compact Flash:** Accepts up to 4GB Type II CF+ (not included)

**Maximum Project Size:** 190 MB

### Operating System

Microsoft® Windows® XP Embedded

### Graphic Engine

Isys i/O engine, 16-bit non-palette graphics; 65,536 colors; Synapse image rendering algorithm; multi-mode objects; dynamic menu objects; dynamic graphics; PNG translucency; 24 fps animation; transition effects

### Embedded PC Applications<sup>1</sup>

Microsoft Internet Explorer w/Macromedia® Flash® plug-in, Windows Media® Player, RealPlayer®, Axis® Media Control, Crestron MediaMarker™, Remote Desktop, NetMeeting®, Skype™, Java™ Runtime, DirectX®, Yahoo! Widgets, Adobe® Acrobat® Reader, and viewers for MS Word, Excel, and PowerPoint®

### Wireless<sup>1</sup>

**RF Transceiver:** IEEE 802.11a/b/g Wi-Fi, 5 or 2.4 GHz 2-way RF, static IP or dynamic IP via DHCP, 64 and 128-bit WEP encryption, requires third-party 802.11a/b/g wireless access point and Ethernet-enabled Crestron 2-Series control system

**Range:** 30 feet (10m) @54Mbps; range and speed vary based upon environmental conditions

**Bluetooth:** Bluetooth® V1.2 Class 1 built in

### Video

**Streaming/File Formats:** MPEG4 & MJPEG via Axis Media Control plus all formats supported by the embedded media player applications<sup>1</sup>

# ISYS I/O WIFI & HANDHELD REMOTES

## ► Isys i/O WiFi Touchpanels

### Isys i/O™ 8.4" WiFi Touchpanel **TPMC-8X**

#### Audio

**Hardware Features:** Dual onboard microphones, built-in stereo speakers, stereo headphone output

**Streaming/File Formats:** As supported by the embedded media player applications

**Audio Feedback (WAV):** 8 & 16 bit PCM, mono & stereo, 8 – 44.1 kHz sampling rates

**Amplification:** Stereo, 1.1 Watts per channel

#### Connectors

**HEADPHONES:** (1) 3.5 mm TRS mini phone jack

Stereo headphone output, 12mW per channel

Minimum Impedance: 32 ohms

**USB:** (1) USB Type A female

USB 2.0 port for keyboard, mouse, and computer console<sup>1</sup>

**MEMORY CARD:** (1) Type II CF+ Card slot<sup>1</sup>

**12V 3.5A:** (1) DC power jack (power supply included)

**BATTERY:** (1) Slide switch inside battery compartment

Turns battery off for long-term storage or shipment

#### Battery

**Internal Battery:** Lithium Ion, 7.4 Volt, 2000 mAh

Crestron model TPMC-8X-BTP included

**Usage per Charge:** ~1.5 hours continuous, 9+ hours under normal use with standby/powerdown activated<sup>2</sup>

**Charging Time:** ~2 hours (~2.5 to 3 hours when in use)

#### Power Requirements

**Touchpanel:** 42 Watts (3.5 Amps) @ 12 Volts DC

**Universal Power Supply/Charger (included):** 100~240V AC  
50/60Hz

#### Environmental

**Operating Temperature:** 32° to 104°F (0° to 40°C)

**Storage Temperature:** 14° to 140°F (-10° to 60°C)

**Humidity:** 10% to 90% RH (non-condensing)

#### Enclosure

**Construction:** Magnesium alloy case with plastic buttons, stylus storage slot (stylus included), integral docking station port

#### Dimensions

**Height:** 8.21 in (20.85 cm)

**Width:** 9.69 in (24.61 cm)

**Depth:** 0.92 in (2.32 cm)

#### Weight

1.98 lbs (0.90 kg)

<sup>1</sup> See Website or contact Crestron for a current list of compatible devices and embedded applications. To ensure reliable performance, new device drivers and applications are available only from Crestron through firmware updates.

<sup>2</sup> External battery pack allows ~3.5 hours continuous, 20+ hours under normal use.

TPMC-8X shown with optional docking station



wifi & handheld remotes

## AVAILABLE ACCESSORIES

- |   |  |  |   |
|---|--|--|---|
| ► TPMC-8X-DS<br>Desktop Docking Station/Charger | ► TPMC-8X-DSW<br>Wall Mount Docking<br>Station/Charger | ► TPMC-8X-BTP<br>Internal Battery Pack | ► TPMC-8X-BTPE<br>External Battery Pack |
|---|--|--|---|

# ISYS I/O WIFI & HANDHELD REMOTES

## ► Isys i/O WiFi Touchpanels

### TPMC-4X Isys i/O™ Handheld WiFi Touchpanel



The TPMC-4X Handheld WiFi Touchpanel puts a high-performance 2-way wireless video touchpanel in a sleek, stylish handheld package, delivering a whole new level of control in the palm of your hand. Featuring Wi-Fi wireless communications, the TPMC-4X lends itself to a host of applications throughout any connected home, office, or university campus.

**Handheld Touchpanel Control**—Far more than a mere universal remote, the TPMC-4X is ingeniously designed to provide a powerful wireless control solution that's easy to hold and intuitive to use. True Crestron touchpanel versatility is afforded through a 3.5" active-matrix color touchscreen display, producing stunning 16-bit graphics with 3D effects, high-res images, dynamic graphics and text, PNG translucency and animation. A stylus is even included for use with the on-screen keyboard, conveniently stowed in its own storage slot.

**Wi-Fi Wireless**—Integrated 802.11b Wi-Fi technology delivers secure, high-speed 2-way wireless performance, communicating with Crestron control systems, computers, and media servers via a wireless Ethernet access point. Fully bidirectional behavior means the TPMC-4X is perfect for searching through tracks and titles on your music server complete with the dynamic display of cover art graphics. Of course, true-feedback is afforded for every connected device be it audio, video, satellite radio, lighting, security, or climate control.

**Wireless Video**—Viewing security cameras and other video sources is possible right on the touchscreen. The TPMC-4X includes built-in support for wireless streaming video from a variety of 3rd-party Web cameras and servers using the motion-JPEG format.

**Backlit Hard Buttons**—To complement its touchpanel with tactile pushbutton control, the TPMC-4X includes a 5-way thumbpad controller, side-mounted toggle wheel, and 13 additional pushbuttons. Every button is fully programmable to support quick access to functions ranging from simple volume adjustment and channel selection to on-screen menu navigation or even pan/tilt camera control. Adjustable button backlighting provides a striking appearance while facilitating operation in a darkened home theater or boardroom.

**Li-ion Rechargeable Batteries**—A fast-charging Lithium Ion battery pack provides long-lasting wireless operation without the "memory" issues typical of other rechargeable batteries. Adjustable standby helps preserve battery life, and the included docking station provides charging convenience with an elegant appearance.

- ▶ Stylish and ergonomic handheld design
- ▶ 3.5" active matrix touchscreen display | 240 x 320 resolution
- ▶ 16-bit Isys i/O™ graphics | Synapse™ image rendering algorithm
- ▶ Microsoft® Windows® CE .NET operating system
- ▶ 802.11b Wi-Fi 2-way wireless communications
- ▶ Motion-JPEG wireless video support
- ▶ Backlit hard buttons, thumbpad, and toggle wheel
- ▶ Includes stylus with onboard storage slot
- ▶ Includes docking station and Li-Ion battery pack

## SPECIFICATIONS

### Touchscreen Display

**Display Type:** Transflective TFT active matrix color LCD

**Size:** 3.5 inch (8.89 cm) diagonal

**Aspect Ratio:** 3:4 QVGA (portrait orientation)

**Resolution:** 240 x 320 pixels

**Brightness:** 100 nits (cd/m<sup>2</sup>)

**Contrast:** 80:1 typical, 55:1 minimum

**Color Depth:** 16-bit, 64k colors

**Response Time:** 15ms

**Viewing Angle:** ±60° horizontal, ±60° vertical

**Touchscreen:** Resistive membrane

### Buttons & Controls

**Softkeys:** (4) programmable "softkey" buttons below touchscreen

**Thumbpad:** (1) programmable 5-way thumbpad (4-way navigation plus center "OK" button)

**Functions:** (8) programmable pushbuttons labeled for volume, mute, channel, return, and transport controls

**Home:** (1) programmable side button

**On/Off:** (1) recessed slide switch, turns unit on or off

**Reset:** (1) recessed miniature button, reboots the touchpanel

# ISYS I/O WIFI & HANDHELD REMOTES

## ► Isys i/O WiFi Touchpanels

### Isys i/O™ Handheld WiFi Touchpanel **TPMC-4X**

**Backlight:** (1) side button, manually turns backlight on/off or enters standby when held

**Toggle Wheel:** (1) programmable 3-way toggle wheel (up/down and center-press)

#### **LED Indicators**

(1) Blue LED, indicates battery is charged

#### **Processor**

Samsung 203MHz Processor

#### **Memory**

**SDRAM:** 64 MB

**Flash:** 32 MB

**Maximum Project Size:** 12 MB

#### **Operating System**

Microsoft® Windows® CE .NET 4.2

#### **Graphic Engine**

16-bit non-palette graphics; 65,536 colors; Synapse image rendering algorithm; PNG translucency; multi-mode objects; animations; dynamic graphics

#### **Wireless**

**RF Transceiver:** IEEE 802.11b Wi-Fi, 2.4 GHz 2-way RF, static IP or dynamic IP via DHCP, 64 and 128-bit WEP encryption; requires a dedicated 802.11b wireless access point and Ethernet-enabled Crestron 2-Series control system

**Range:** 30 feet (10m) @11Mbps, range and speed vary based upon environmental conditions, roaming not supported

#### **Video**

**Streaming Format:** MJPEG

#### **Connectors**

**USB:** (1) Mini Type B female

USB 1.1 computer console port, cable included

#### **Battery**

**Battery Type:** Lithium Ion, 3.6 Volt, 1300 mAh (included)

**Usage per Charge:** 3 hours continuous at full brightness

**Charging Time:** 1 hour (8 hours when in use)

#### **Power Requirements**

**TPMC-4X-DS Docking Station/Charger (included):** 0.6 Amps @ 5 Volts DC

**Power Supply (included):** 0.3 Amps @ 100-240 Volts AC, 60Hz

#### **Environmental**

**Temperature:** 30° to 113°F (-5° to 45°C)

**Humidity:** 10% to 90% RH (non-condensing)

#### **Enclosure**

**Construction:** High impact injection-molded case, silver; stylus storage slot (stylus included); integral docking station port

#### **Dimensions**

**Height:** 1.17 in (2.96 cm)

**Width:** 3.08 in (7.81 cm)

**Depth:** 7.39 in (18.76 cm)

#### **Weight**

0.46 lbs (0.21 kg)

### **INTERNATIONAL VERSION (230 VAC)**

#### **TPMCI-4X**

All the features and specifications of the TPMC-4X except:

#### **Power Requirements**

**TPMCI-4X-DS Docking Station/Charger (included):**

0.6 Amps @ 5 Volts DC

**Power Supply (included):** 0.3 Amps @ 100-240 Volts AC, 50Hz

### **INCLUDED ACCESSORIES**

#### **TPMC(I)-4X-DS**

Docking Station/Charger

### MT-1000C MiniTouch 1000 Handheld Wireless Touchpanel



Crestron control system via the CNRFGWA-418 gateway (sold separately). The MT-1000C is also ideal for use with Crestron's MC2W Integrated Wireless Control System. IR communication is facilitated using a C2N-IRGW IR Gateway or CNXRMIRD IR Receiver (each sold separately) along with a compatible control system or room solution box.

**Li-Ion Rechargeable Batteries**—A fast-charging Lithium Ion battery pack provides long-lasting wireless operation without the "memory" issues typical of other rechargeable batteries. Adjustable auto-shutoff preserves the battery for up to a week without recharging. The included docking station simplifies recharging while simultaneously providing operating power when the battery is low.

**Pick-up Sensor**—An integral movement sensor can be set to automatically wake the touchpanel and turn on the backlight whenever the unit is picked up, readying the complete unit for use without having to wait after touching the touchscreen or buttons.

The MT-1000C MiniTouch is a compact wireless touchpanel combining an eye-catching color touchscreen with a streamlined array of backlit hard buttons in one sleek, stylish handheld package. Its lightweight, ergonomic design affords comfortable and intuitive handheld or tabletop use with a perfect combination of tactile pushbutton control and touchpanel versatility. Stunning 16-bit color graphics and WAV file audio feedback make the MiniTouch 1000 both highly functional and fun to use for a host of AV control and automation applications.

**Color Touchpanel**—Isys® graphics and a brilliant 3.8" active matrix display combine to deliver much of the performance of Crestron's larger touchpanels in an incredibly portable size. Like all Crestron touchpanels, the MT-1000C is fully programmable using Crestron's VisionTools® Pro-e GUI design software, supporting 64K colors and Synapse™ image rendering for crisp, sharp anti-aliased objects and text, high-res images, and 3D effects.

**Backlit "Hard" Buttons**—The MT-1000C also includes 16 tactile pushbuttons designated for quick access to the most commonly used audio and video control functions. The 5-way thumbpad is optimized for easy onscreen menu navigation, and all buttons include backlighting to facilitate operation in a darkened home theater or boardroom.

**Audio Feedback**—Providing an additional dimension to the control experience, the MT-1000C can be loaded with fully-customizable WAV files to provide audible feedback, button clicks, and personalized voice prompts.

**RF and IR Wireless**—Crestron's proven RF wireless technology affords an operational range of up to 100 feet with complete freedom of movement. Long-range 418 MHz 1-way RF communication enables compatibility with any

- ▶ Stylish and ergonomic handheld design
- ▶ 3.8" active-matrix color touchscreen
- ▶ 320 x 240 resolution | 16-Bit Isys® graphics
- ▶ Synapse™ Image Rendering Algorithm
- ▶ Backlit pushbuttons and 5-way thumbpad
- ▶ WAV file audio feedback
- ▶ Auto-shutoff and pick-up sensor
- ▶ 1-way RF or IR wireless communication
- ▶ Programmable using Crestron VPro-e software
- ▶ Includes docking station and Li-Ion battery pack

## SPECIFICATIONS

### Touchscreen Display

**Display Type:** Transflective TFT active matrix color LCD

**Display Type:** TFT active matrix color LCD

**Size:** 3.8 inch (9.65 cm) diagonal

**Aspect Ratio:** 4:3 QVGA

**Resolution:** 320 x 240 pixels

**Color Depth:** 16-bit, 64k colors

**Illumination:** Backlit fluorescent with movement sensor

**Touchscreen:** Resistive membrane

### Buttons

**VOL, CH:** (2) programmable up/down toggle function buttons

**MUTE, INFO, MENU, EXIT:** (4) programmable function buttons

**Thumbpad:** 5-way programmable for onscreen menu navigation (Up/Down, Left/Right, and Select)

**— —:** (2) buttons, step forward or backward through touchpanel page list, or programmable



# ISYS I/O WIFI & HANDHELD REMOTES

## ▶ Handheld Remotes

### MiniTouch 1000 Handheld Wireless Touchpanel **MT-1000C**

**MAIN:** (1) button, reverts to first touchpanel page, or programmable  
All buttons backlit

#### **Wireless**

**RF Transmitter:** 418 MHz 1-way RF  
Range: 50 – 100 feet (typical)  
CNRFGWA-418 or MC2W RF Gateway required  
(maximum 15 touchpanels per gateway)

**IR Transmitter:** 38 kHz IR  
Format: RC5  
Range: 15 to 25 feet (typical)  
C2N-IRGW IR Gateway or CNXRMIRD IR Receiver required

#### **Processor**

206MHz RISC Microprocessor

#### **Memory**

16 MB user RAM

#### **Graphic Engine**

16-bit non-palette graphics; 65,536 colors; Synapse image rendering algorithm

#### **Audio**

WAV File: 8 & 16 bit PCM, mono & stereo, 8 – 22 kHz sampling rates

#### **Connectors**

**Programming Port:** (1) USB port (programming cable included)  
Connects to PC for loading screen files

#### **Battery**

**Model/Type:** MT-1000C-BTP Lithium Ion rechargeable battery pack (included)

**Usage per Charge:** Approximately 4 hours with display and backlight on full continuous; up to 7 days inactive

#### **Power Requirements**

**Docking Station/Charger (MT-1000C-DS included):** 2 Amps @ 5 Volts DC

**Power Supply (included):** 0.3 Amps @ 100-250 Volts AC 50/60Hz

#### **Environmental**

**Temperature:** 41° to 104°F (5° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

#### **Enclosure**

**Construction:** High impact black/silver injection-molded case

#### **Dimensions**

**Height:** 1.23 in (3.12 cm)

**Width:** 7.15 in (18.16 cm)

**Depth:** 4.74 in (12.04 cm)

#### **Weight**

10.4 oz (0.3 kg) including battery pack

### **INCLUDED ACCESSORIES**

(See individual product specifications for complete information)

#### **MT-1000C-DS**

Docking Station/Charger

#### **MT-1000-BTP**

Battery Pack

### **AVAILABLE ACCESSORIES**

- ▶ **CNRFGWA-418**  
1-way RF Gateway
- ▶ **C2N-IRGW-1G**  
IR Gateway, Wall Mount
- ▶ **C2N-IRGW-F**  
IR Gateway, Flush Mount
- ▶ **CNXRMIRD**  
IR Receiver
- ▶ **MC2W**  
Integrated Wireless Control System

### ML-600 MiniLCD Handheld Remote



The ML-600 MiniLCD is a handheld wireless remote that features a customizable LCD display, a 5-way thumb pad controller, and an intuitive array of pushbuttons designated for a variety of common AV functions. But Crestron designed the ML-600 to go beyond conventional home theater and AV system control, extending domain over lighting, climate, security, and more as part of a complete Crestron system. Its compact size and ergonomic design offer easy one-handed operation.

**Clear Display**—The large, easy-to-read LCD screen supports the creation of numerous pages of custom functions and favorites, all executable using a set of ten corresponding “soft” buttons. Three additional buttons are included for fast menu page selection. Any of the ten functions, or “Groups” provided on the Main menu page can be assigned to access up to four additional Option pages. Additionally, up to 5 pages of Favorites can be configured.

Adjustable LCD contrast and switchable electroluminescent blue backlighting ensure optimal visibility in a range of lighting environments. While drawing very little power, the menu commands remain active and ready on the screen at all times. When battery levels are low, a “Low Battery” message is displayed when pressing the Power button allowing for timely replacement of batteries. Non-volatile memory ensures that programming is retained when batteries are low.

**Tactile Response**—The buttons on the ML-600 feature a glossy, domed, firm rubber treatment with a sleek

translucent appearance and secure tactile response. Backlighting of every button facilitates control in a darkened room. An optimized button layout enables easy access to every system function, with 27 programmable buttons labeled for power, volume, mute, channel selection, transport control, and numeric entry.

The ML-600's intuitive 5-way thumb pad with discrete center select button affords effortless cursor control for navigation of onscreen menus and other functions.

**RF and IR Wireless**—Crestron's proven RF wireless technology affords an operational range of up to 200 feet with complete freedom of movement. Long-range 418 MHz 1-way RF communication enables compatibility with any Crestron control system via the CNRFGWA-418 gateway (sold separately). The ML-600 is also ideal for use with Crestron's MC2W Integrated Wireless Control System. IR communication is facilitated using the C2N-IRGW IR Gateway or CNXRMIRD IR Receiver (each sold separately) along with a compatible control system or room solution box.

- ▶ Ergonomic handheld design
- ▶ Large programmable LCD screen flanked by 10 “soft” buttons
- ▶ 3 LCD menu navigation buttons
- ▶ 27 programmable function buttons
- ▶ 2 programmable power buttons
- ▶ 5-way thumb pad for OSM navigation
- ▶ EL backlighting of LCD screen and buttons
- ▶ 1-way RF or IR wireless communication
- ▶ Operates on 4 AAA alkaline batteries

## SPECIFICATIONS

### LCD Screen

**Size:** 2.1 x 1.4 in (5.33 x 3.56 cm)

### Buttons and Controls

**ON/OFF:** (2) programmable power function buttons

**“Soft” Buttons:** (10) buttons actuate LCD menu commands

**PAGE, FAV, MAIN:** (3) buttons select LCD menu pages

**Device Control:** (27) programmable function buttons labeled for volume, mute, channel, onscreen menus, transport control, and numeric entry

**Thumb Pad:** (1) 5-way thumb pad (4-way cursor control plus discrete center select pushbutton) for onscreen menu navigation

**LIGHT:** (1) button on right side turns backlighting on/off

### Backlight

Switchable electroluminescent backlighting for LCD screen and pushbuttons, automatic shutoff after 15 seconds

# ISYS I/O WIFI & HANDHELD REMOTES

## ► Handheld Remotes

### MiniLCD Handheld Remote **ML-600**

#### **Wireless**

**RF Transmitter:** 418 MHz 1-way RF

Bandwidth: ±100KHz

Range: Up to 200 feet (typical)

CNRFGWA-418 or MC2W RF Gateway required

**IR Transmitter:** 38 kHz IR

Format: RC5

Range: 15 to 25 feet (typical)

C2N-IRGW IR Gateway or CNXRMIRD IR Receiver required

#### **Connectors**

1 (1) 3.5mm TRS mini phone jack female

RS-232 serial connection to PC for loading program

Programming cable included, 3.5 mm TRS mini phone plug to

DB9 female

#### **Battery**

Four (4) disposable 1.5V AAA alkaline batteries (included)

#### **Enclosure**

High impact rubberized plastic

#### **Environmental**

**Temperature:** 50° to 113° F (10° to 45° C)

**Humidity:** 10% to 90% RH (non condensing)

#### **Dimensions**

**Height:** 9.05 in (22.99 cm)

**Width:** 3.07 in (7.80 cm)

**Depth:** 1.40 in (3.56 cm)

#### **Weight**

8 oz (0.23 kg) with batteries

## AVAILABLE ACCESSORIES

- |  |  |  |                                  |
|--|--|--|----------------------------------|
| ► <b>CNRFGWA-418</b><br>1-way RF Gateway | ► <b>MC2W</b><br>Integrated Wireless<br>Control System | ► <b>C2N-IRGW-1G</b><br>IR Gateway, Wall Mount | ► <b>CNXRMIRD</b><br>IR Receiver |
|  |  | ► <b>C2N-IRGW-F</b><br>IR Gateway, Flush Mount |                                  |

# ISYS I/O WIFI & HANDHELD REMOTES

## ► Handheld Remotes

### WPR-48 Waterproof Handheld Remote



The WPR-48 is the industry's first waterproof wireless remote. Perfect for controlling music, television, lighting and more, Crestron's "remote on a rope" is safe to use in the shower or hot tub. The ruggedized, immersible case is easy to grip and won't slip from moist hands.

Configurable for 9, 18, 27, or 48 functions, the WPR-48 features a total of nine multi-function pushbuttons that can be toggled left or right, or pressed in the center for up to 3 functions per button. Large customizable labels with electroluminescent backlighting facilitate use under any lighting condition.

The WPR-48 can communicate via RF or IR with any Crestron control system! Compatible with CNRFGWA, CNRFGWA-418, and MC2W 1-way RF gateways; the CNXRMIRD IR receiver or C2N-IRGW IR gateway, and the CN-TVAV control module, the WPR-48 fits easily into any control system design. Long-life lithium ion rechargeable batteries afford several weeks of wireless use on a single charge, and are easily recharged when the remote is placed in the docking station (included).

- Water handheld remote
- Configurable for 9, 18, 27, or 48 pushbutton functions
- Multi-function buttons allow single-press, 2-position or 3-position rocker action
- Customizable labeling
- Electroluminescent backlighting
- 1-way RF or IR wireless communication
- Long-life lithium ion rechargeable batteries
- Includes docking station/charger and lanyard

## SPECIFICATIONS

### Buttons

**Function:** (9) 3-position programmable function buttons

**Shift:** The bottom function button may be used as a left/right shift button, selecting between 2 "pages" of commands

**Configurations:** 9 functions, 18 functions (9x left/right), 27 functions (9x left/center/right), or 48 functions (2 pages of 8x left/ center/right)

### Backlight

(2) Electroluminescent backlit label strips

### Wireless

**RF Transmitter:** 434 or 418 MHz 1-way RF

Bandwidth:  $\pm 100$  KHz

RF Range: Up to 300 feet (typical)

CNRFGWA, CNRFGWA-418, or MC2W RF Gateway required

**IR Transmitter:** 38 or 455 kHz IR

Formats: RC5 (38 kHz), Crestron (455 kHz)

IR Range: Up to 15 feet (typical)

CNXRMIRD IR Receiver, C2N-IRGW IR Gateway, or

CN-TVAV required

### LED Indicators

**T:** (red) Indicates WPR-48 is transmitting

**B:** (red) Indicates battery is charging

**▲ / ▼ :** (2x red) Indicates 'page' selection in 48-function mode

### Battery

**Type:** Li-Ion, 3.6 Volts DC, 750mah

**Usage per Charge:** Up to 5 hours (backlight on continuous), up to 4 weeks (typical home use)

**Charging Time:** 1.5 hours (maximum)

### Power Requirements

**Docking Station/Charger (WPR-DS included):** 6 Watts

(0.5 Amps) @ 12 Volts DC

**Power Supply (PW-1210RU included):** 120 Volts AC @ 60 Hz

### Enclosure

High impact rubberized blue plastic, watertight (at a depth of 10 feet for 10 minutes), includes optional lanyard and "foot" for angled tabletop operation

### Environmental

**Temperature:** 32° to 140° F (0° to 60° C)

**Humidity:** 0% to 100% RH (non condensing)

### Dimensions

**Height:** 5.26 in (13.36 cm)

**Width:** 2.79 in (7.09 cm)

**Depth:** 1.16 in (2.95 cm) with lanyard foot installed; 0.82 in (2.08 cm) with blank foot

### Weight

4.8 oz (0.14 kg)

#### INTERNATIONAL VERSION (230 VAC)

##### WPRI-48

All the features and specifications of the WPR-48 except:

##### **Power Requirements**

##### **WPRI-DS Docking Station/Charger (included):**

6 Watts (0.5 Amps) @ 12 Volts DC

##### **Power Supply (PW-1210RU included):**

0.3 Amps @ 100-240 Volts AC, 50Hz

#### INCLUDED ACCESSORIES

(See individual product specifications for complete information)

##### **WPR(I)-DS**

Docking Station/Charger

#### AVAILABLE ACCESSORIES

- |   |  |  |   |
|---|--|--|---|
| ▶ <b>CNRFGWA or<br/>CNRFGWA-418</b><br>1-way RF Gateway | ▶ <b>MC2W</b><br>Integrated Wireless<br>Control System | ▶ <b>CNXRMIRD</b><br>IR Receiver             | ▶ <b>ST-PK</b><br>Programming Cable Kit |
| ▶ <b>C2N-IRGW-1G</b><br>IR Gateway, Wall Mount          | ▶ <b>C2N-IRGW-F</b><br>IR Gateway, Flush Mount         | ▶ <b>CN-TVAV</b><br>Cresnet TV/AV Controller |   |

### CNRFHT RF Wireless Handheld Remotes



The CNRFHT wireless handheld remotes communicate via 1-way RF with any Crestron control system using the CNRFGWA RF gateway, or the RF gateway built into the MC2W wireless control system. Two models are available, the CNRFHT-30A and the CNRFHT-15A.

The CNRFHT-30A employs a variable layout of up to 30 pushbuttons while the CNRFHT-15A is limited to 15 pushbuttons. Both models provide 30 positions, any of which may be populated with a pushbutton or left blank. Button caps are available in a variety of colors and sizes, allowing for intermixing of different colored buttons on a single remote. Custom engraving of the front panel overlay is included. The overlay is replaceable, and is available in a variety of colors.

#### AVAILABLE MODELS

##### **CNRFHT-30A**

30-Button RF Wireless Handheld Remote

##### **CNRFHT-15A**

15-Button RF Wireless Handheld Remote

#### SPECIFICATIONS

##### **Buttons**

(1-30 or 1-15 variable) momentary keypad pushbuttons, programmable

##### **Wireless**

**RF Transmitter:** 433.92 (434) MHz 1-way RF

**Range:** Up to 300 feet

CNRFGWA or MC2W RF Gateway required

##### **LED Indicators**

(1) Red LED indicates unit is transmitting while any button is pressed

##### **Battery**

One (1) disposable 9 Volt alkaline battery (included)

##### **Enclosure**

Molded black plastic, handheld

##### **Environmental**

**Temperature:** 50° to 113° F (10° to 45° C)

**Humidity:** 10% to 90% RH (non-condensing)

##### **Dimensions**

**Height:** 6.50 in (16.5 cm)

**Width:** 2.75 in (6.85 cm)

**Depth:** 0.80 in (2.03 cm)

##### **Weight**

0.27 lb (0.12 kg) without batteries

#### AVAILABLE COLORS

**Buttons:** Black, White, Red, Light Grey, Yellow, or Green

**Faceplate:** Black, White, Gold, Silver, Grey, Blue, or Green

#### AVAILABLE ACCESSORIES

► **CNRFGWA**

1-way RF Gateway

► **MC2W**

Integrated Wireless  
Control System

### DOCKING STATIONS & BATTERY PACKS

#### TPMC-8X-DS Docking Station for TPMC-8X

The TPMC-8X-DS is an optional desktop docking station and battery charger for the TPMC-8X Isys i/O™ WiFi Touchpanel. Its design allows the touchpanel to be operated upright at a 37 degree angle while charging. A 10/100 Ethernet port enables wired LAN connectivity for the touchpanel while docked, and two additional USB ports are included to support a wired mouse and keyboard (not included). Power to the docking station is provided by the DC power pack furnished with the TPMC-8X.

#### SPECIFICATIONS

##### Connectors

**+12V:** DC Power input jack  
(power supply furnished with touchpanel)

**LAN:** (1) 8-wire RJ45 with 2 LED indicators  
10BaseT/100BaseTX Ethernet port  
Green LED indicates link status  
Yellow LED indicates Ethernet activity

**USB:** (2) USB Type A female  
USB 2.0 ports for keyboard/mouse

##### Power Requirements

12 Volts DC

##### Environmental

**Temperature:** 32° to 104°F (0° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

##### Enclosure

Injection-molded plastic

##### Dimensions

**Height:** 6.46 in (16.40 cm)

**Width:** 7.78 in (19.75 cm)

**Depth:** 2.95 in (7.49 cm)

##### Weight

1.3 lb (0.59 kg)



Rear View

### DOCKING STATIONS & BATTERY PACKS

#### TPMC-8X-DSW Wall Mount Docking Station for TPMC-8X

The TPMC-8X-DSW Wall Mount Docking Station facilitates charging of the TPMC-8X WiFi Touchpanel while simultaneously enabling fully wired touchpanel operation.

**Secure Wall Mount Dock**—While docked, the touchpanel is secured in place by an electronic latch. The touch-panel lays flush within the docking station providing a refined appearance while prohibiting prying fingers or an accidental bump from dislodging it. When released, the mechanism gently extends the touchpanel outward, ready to be disengaged for wireless use.

For secure applications, a choice of fingerprint recognition or pass code entry on the touchpanel can be used to prevent unauthorized removal. All functions of the docking station can also be controlled programmatically from the control system via Ethernet, and through Crestron's RoomView® Remote Management Software. A hardware key is provided to release the touchpanel from the docking station in the case of a power failure.

**High-Speed Connectivity**—On the rear of the TPMC-8X-DSW, a 10/100 Ethernet port provides for direct connection to a wired LAN, allowing fully wired operation of the touchpanel while docked. Two (2) USB ports are included to support a wired mouse and keyboard (not included). A professional balanced stereo audio output provides a means of amplifying or redistributing streaming audio from the touchpanel's embedded media player applications.

**Multi-Battery Charger**—The TPMC-8X-DSW not only charges the touchpanel's internal battery, it can charge an optional external battery pack as well. In fact, it can charge one external battery pack attached to the touchpanel while simultaneously charging a second spare external battery pack placed in its own charging slot within the docking bay. The spare battery pack can even be left in place to charge while the touchpanel is removed, keeping one battery pack charging at all times.

Note: TPMC-8X WiFi Touchpanel and all battery packs sold separately. USB mouse/keyboard not included.

#### SPECIFICATIONS

##### Ethernet

10/100BaseT, auto-negotiating, full/half duplex, static IP or DHCP/DNS



(touchpanel not included)

##### Connectors

**24VDC:** (1) 2-pin 7.62mm detachable terminal block  
24 Volt DC power input  
Wire Size: 12 AWG maximum

**LAN:** (1) 8-wire RJ45 with 2 LED indicators  
10BaseT/100BaseTX Ethernet port  
Green LED indicates link status  
Yellow LED indicates Ethernet activity

**USB:** (2) USB Type A female  
USB 2.0 ports for keyboard/mouse

**AUDIO OUT:** (1) 5-pin 3.5mm detachable terminal block  
Balanced/unbalanced stereo line-level audio output

##### Buttons

**POWER/SUSPEND:** (1) Pushbutton, activates the POWER/SUSPEND function on the TPMC-8X touchpanel.

##### Power Requirements

50 Watts (2 Amps) @ 24 Volts DC  
May be powered by Cresnet or dedicated power supply PW-2420RU or larger power supply sold separately

##### Environmental

**Temperature:** 32° to 104°F (0° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

##### Enclosure

**Chassis:** Metal, flush-mountable

**Faceplate:** Injection-molded plastic, color-matched to touchpanel

**Back Box (sold separately):** Steel electrical box with conduit knockouts, for pre-construction drywall installation



## DOCKING STATIONS & BATTERY PACKS

### **TPMC-8X-BTP Battery Pack for TPMC-8X**

The TPMC-8X-BTP is a replacement Lithium Ion rechargeable battery pack for the TPMC-8X WiFi Touchpanel. One (1) TPMC-8X-BTP is included with each TPMC-8X. Installation of the TPMC-8X-BTP battery pack requires tools and should be performed by a qualified technician.

### **TPMC-8X-BTPE External Battery Pack for TPMC-8X**

The TPMC-8X-BTPE is an external “booster” battery pack for the TPMC-8X WiFi Touchpanel designed to extend the duration of wireless operation between charges. It clips neatly to the rear of the touchpanel without tools, adding 0.75 inch depth and non-slip rubber feet resulting in a fixed tilt angle of 7 degrees.

### DOCKING STATIONS & BATTERY PACKS

#### TPMC-4X-DS Docking Station for TPMC-4X

The TPMC-4X-DS is a docking station and battery charger designed specifically for use with the TPMC-4X Isys i/O™ Handheld WiFi Touchpanel. One (1) TPMC-4X-DS is included with each TPMC-4X. The TPMC-4X-DS is not sold separately.

#### SPECIFICATIONS

##### Power Requirements

**Docking Station/Charger:** 0.6 Amps @ 5 Volts DC  
**Power Supply (included):** 0.3 Amps @ 100-240 Volts AC, 60Hz

##### Environmental

**Temperature:** 30° to 113°F (-5° to 45°C)  
**Humidity:** 10% to 90% RH (non-condensing)

##### Enclosure

High impact injection-molded plastic

##### Dimensions

**Height:** 2.12 in (5.37 cm)  
**Width:** 3.63 in (9.20 cm)  
**Depth:** 6.27 in (15.93 cm)  
Total height of touchpanel and docking station when docked is ~3.25 in (~8.25 cm)

#### INTERNATIONAL VERSION (50 Hz)

##### TPMCI-4X-DS

All the features and specifications of the TPMC-4X-DS except:

##### Power Requirements

**Docking Station/Charger (included):** 0.6 Amps @ 5 Volts DC  
**Power Supply (included):** 0.3 Amps @ 100-240 Volts AC, 50Hz

## DOCKING STATIONS & BATTERY PACKS

### MT-1000C-DS Docking Station for MT-1000C

The MT-1000C-DS is a docking station and battery charger designed specifically for use with the MT-1000C MiniTouch Wireless Handheld Touchpanel. One (1) MT-1000C-DS is included with each MT-1000C.

#### SPECIFICATIONS

##### Connectors

**DC 5V:** (1) DC power jack (power supply included)

##### LED Indicators

**POWER:** (1) Red LED indicates power to unit

**STATUS:** (1) Dual-color LED – red when charging, blue when fully charged

##### Power Requirements

**Docking Station/Charger:** 2 Amps @ 5 Volts DC

**Power Supply (included):** 0.3 Amps @ 100-250 Volts AC  
50/60Hz

##### Environmental

**Temperature:** 41° to 104°F (5° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

##### Enclosure

High impact black injection-molded case

##### Dimensions

**Height:** 1.21 in (3.07 cm)

**Width:** 5.16 in (13.09 cm)

**Depth:** 5.25 in (13.33 cm)

##### Weight

5.6 oz (0.16 kg)

### MT-1000C-BTP Battery Pack for MT-1000C

The MT-1000C-BTP is a Lithium Ion rechargeable battery pack for the MT-1000C MiniTouch Wireless Handheld Touchpanel. The battery pack is easily installed and removed from the bottom panel of the touchpanel. One (1) MT-1000C-BTP is included with each MT-1000C.

### DOCKING STATIONS & BATTERY PACKS

#### WPR-DS Docking Station for WPR-48

The WPR-DS is a docking station and battery charger designed specifically for use with the WPR-48 Waterproof Handheld Remote. One (1) WPR-DS is included with each WPR-48.

#### SPECIFICATIONS

##### Connectors

**PC:** (1) 6-pin RJ-11 female  
RS-232 serial connection for PC configuration

**12VDC:** (1) 2.5mm barrel DC power jack  
12 Volt DC power jack (power supply included)

##### LED Indicators

**Power (Logo):** (green) Indicates 12 Volts DC from power supply

**CHG:** (red) Indicates battery charging status

**RDY:** (green) Indicates battery is fully charged

##### Power Requirements

**Docking Station/Charger:** 6 Watts (0.5 Amps)  
@ 12 Volts DC

**Power Supply (PW-1205 included):** 120 Volts AC @ 60 Hz

##### Environmental

**Temperature:** 32° to 140° F (0° to 60° C)

**Humidity:** 0% to 100% RH (non condensing)

##### Enclosure

High impact blue injection-molded case

##### Dimensions

**Height:** 1.27 in (3.23 cm)

**Width:** 3.29 in (8.36 cm)

**Depth:** 5.08 in (12.90 cm)

##### Weight

8.3 oz (0.23 kg)

#### INTERNATIONAL VERSION (230 VAC)

##### WPRI-DS

All the features and specifications of the WPR-DS except:

##### Power Requirements

**Docking Station/Charger:** 6 Watts (0.5 Amps)  
@ 12 Volts DC

**Power Supply (PW-1210RU included):** 230 Volts AC  
@ 50 Hz



### RF GATEWAYS

#### CNRFGWA 1-Way RF Gateways

The CNRFGWA is an RF receiver that allows Crestron 1-way RF wireless touchpanels and handheld remotes to communicate with the control system via the Cresnet network. Each CNRFGWA affords a range of approximately 300 feet. Extended range can be achieved by distributing multiple gateways throughout a structure. Each gateway behaves as a Cresnet slave device requiring just one Cresnet wire to each gateway location.

Two CNRFGWA models are available, the CNRFGWA and the CNRFGWA-418. The CNRFGWA is compatible with Crestron devices that transmit 1-way RF at 434 MHz only. For 418 MHz 1-way devices, use the CNRFGWA-418. For installations employing both 434 MHz and 418 MHz devices, both gateway models must be installed.

Note: CNRFGWA gateways are only compatible with Crestron 1-way RF devices.

#### AVAILABLE MODELS

##### CNRFGWA

434 MHz 1-Way RF Gateway

##### CNRFGWA-418

418 MHz 1-Way RF Gateway

#### SPECIFICATIONS

##### Wireless

**RF Receiver:** 433.92 (434) or 418 MHz 1-way RF, crystal locked

**Range:** Up to 300 feet

Maximum 15 touchpanels or 240 handheld remotes per gateway;

Minimum distance allowed between gateways is 50 feet

##### Connectors

**NET:** (1) 4-pin 5mm detachable terminal block  
Cresnet slave port, connects to Cresnet control network

**ANTENNA:** (1) BNC female  
Impedance: 50 ohms (antenna included)

##### Controls

**ID CODE:** (2) Rotary DIP Switches  
Used for setting the unit's Cresnet ID



##### LED Indicators

**SIGNAL:** (red) Indicates reception of a valid RF signal

**I.D. SELECT:** (red) Indicates communication established with control system

**NET PWR:** (green) Indicates 24 Volts DC power supplied from Cresnet control network

##### Power Requirements

**Cresnet Power Usage:** 3 Watts (0.125 Amps @ 24 Volts DC)

##### Environmental

**Temperature:** 41° to 113°F (5° to 45°C)

**Humidity:** 10% to 90% RH (non-condensing)

##### Enclosure

Black metal, freestanding

##### Dimensions

**Height:** 7.28 in (18.49 cm) without antenna

**Height:** 15.20 in (38.61 cm) with antenna

**Width:** 3.25 in (8.25 cm)

**Depth:** 1.35 in (3.44 cm)

##### Weight

1.1 lbs (0.5 kg)

#### AVAILABLE ACCESSORIES

##### CNANT

High-performance extension antenna

### RF GATEWAY ACCESSORIES

#### CNANT High-Performance Extension Antenna

The CNANT is a high performance indoor antenna designed to surpass the performance of the standard antenna supplied with Crestron 1-way RF gateways such as the CNRFGWA, CNRFGWA-418, and MC2W. Its ground plane design and omni-directional reception pattern afford extended range in all directions. The CNANT may be mounted anywhere indoors within fifteen feet of the gateway, or up to fifty feet using a longer cable (not included).

#### SPECIFICATIONS

##### RF Performance

**Frequency Range:** 400 – 440 MHz

**Gain:** Unity

**Reception Pattern:** Omnidirectional

##### Connectors

**Antenna:** (1) BNC female, 15 ft (4.57 m) BNC cable included  
**Impedance:** 50 ohms

##### Dimensions

**Height:** 21.5 in (54.61 cm)

**Width:** 13.5 in (34.29 cm)

**Depth:** 13.5 in (34.29 cm)

##### Weight

0.51 lb (1.12 kg) without cable



### IR GATEWAYS

#### **C2N-IRGW-1G IR Gateway, Wall Mount**

The C2N-IRGW-1G IR Gateway is a 1-way infrared receiver for Crestron IR wireless handheld remotes and touchpanels. It is also compatible with any third-party IR remote utilizing the RC5 command set.

The C2N-IRGW-1G is designed to fit in a 1-gang electrical box using a Decora® style faceplate (not included). Its entire visible face consists of a smoked plastic lens providing a neutral appearance suitable for use with any color scheme. The C2N-IRGW-1G is a Cresnet device compatible with any 2-Series control system.



#### **SPECIFICATIONS**

##### **IR Wireless**

**IR Frequency:** 36 to 38 kHz IR

**Formats:** Crestron format, RC5

**Range:** Up to 50 ft line of sight (typical), dependent upon angle, obstructions, IR interference, and IR remote signal strength

##### **Connectors**

**NET:** 4-pin 3.5mm detachable terminal block  
Cresnet slave port, connects to Cresnet control network

##### **LED Indicators**

(1 red) Indicates IR signal reception, Cresnet network communication, and setup/update functions

##### **Controls**

(1) Recessed miniature pushbutton for setup

##### **Power Requirements**

**Cresnet Power Usage:** 1 Watt (0.042 Amps @ 24 Volts DC)

##### **Environmental**

**Temperature:** 41° to 104°F (5° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

##### **Enclosure**

Injection-molded plastic with smoked plastic face, 1-gang mountable in an electrical box using Decora® faceplate (not included)

##### **Dimensions** (Without Faceplate)

**Height:** 4.13 in (10.48 cm)

**Width:** 1.75 in (4.45 cm)

**Depth:** 1.37 in (3.45 cm)

##### **Weight**

2.4 oz (68.0 g)

### IR GATEWAYS

#### C2N-IRGW-F IR Gateway, Flush Mount

The C2N-IRGW-F IR Gateway is a 1-way infrared receiver for Crestron IR wireless handheld remotes and touchpanels. It is also compatible with any third-party IR remote utilizing the RC5 command set.

The C2N-IRGW-F is designed to install flush into any drywall or ceiling tile surface. Its visible face consists of a smoked plastic lens measuring 1-1/2 inch diameter. The C2N-IRGW-F is a Cresnet device compatible with any 2-Series control system.



#### SPECIFICATIONS

##### IR Wireless

**IR Frequency:** 36 to 38 kHz IR

**Formats:** Crestron format, RC5

**Range:** Up to 50 ft line of sight (typical), dependent upon angle, obstructions, IR interference, and IR remote signal strength

##### Connections

~10 inch (~25 cm) 4-wire pigtail

Connects to Cresnet control network

##### LED Indicators

(1 red) Indicates IR signal reception, Cresnet network communication, and setup/update functions

##### Controls

(1) Recessed miniature pushbutton for setup

##### Power Requirements

**Cresnet Power Usage:** 1 Watt (0.04 Amps @ 24 Volts DC)

##### Environmental

**Temperature:** 41° to 104°F (5° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

##### Enclosure

Cylindrical plastic, drywall or ceiling tile mountable in a 1 inch (2.54 cm) diameter round hole

##### Dimensions

**Diameter:** 1.50 in (3.81 cm)

**Depth:** 2.19 in (5.54 cm)

##### Weight

0.9 oz (25.52 g)



### IR RECEIVER

#### CNXRMIRD IR Receiver

The CNXRMIRD is an optional infrared (IR) receiver designed for use with a control system or room solution box that includes an IR input port. The CNXRMIRD affords cost-effective control from any Crestron or third-party universal IR remote transmitting RC5 commands at 38 kHz.

#### SPECIFICATIONS

##### IR Wireless

**IR Frequency:** 38 kHz IR

**Format:** RC5

**Range:** Up to 50 ft line of sight (typical), dependent upon angle, obstructions, IR interference, and IR remote signal strength

##### Connectors

(1) Attached 6 ft (1.83 m) long cable with 3.5 mm mini phone plug (male) for connection to a Crestron IR IN port, extendable up to 500 feet;  
(Not compatible with ST-SPL or ST-MB)

##### Environmental

**Temperature:** 41° to 104°F (5° to 40°C)

**Humidity:** 10% to 90% RH (non-condensing)

##### Enclosure

Black plastic cube

##### Dimensions

**Height:** 1.0 in (2.54 cm)

**Width:** 1.0 in (2.54 cm)

**Depth:** 1.0 in (2.54 cm)

##### Weight

2.4 oz (68.0 g) without cable



# Notes

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