

PRESIDOR™



Wall Station (PWS)

Installation Guide and User Manual

JOHNSON SYSTEMS INC.

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"PROFESSIONAL LIGHT CONTROL PRODUCTS"

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For Technical Assistance

1. Refer to your product user manual. The most current revision is available online: www.johnsonsystems.com/presidor.htm
2. Contact the “point-of-sale” dealer or distributor from which this product was originally purchased, and ask for technical assistance.
3. If neither of the above can provide you with the necessary information, please contact our factory via email (info@johnsonsystems.com) or phone (403-287-8003) during business hours (Monday to Friday, 8:00AM to 5:00PM MST).

*Presidor™ Wall Stations (PWS)**Presidor™ Room Linker/Combiner (PRLC)*

Introduction

DMX Snapshot and Multi-Zone Controls

Presidor™ Wall Stations (PWS) represent the next step in Architainment Lighting Controls. Intuitive operation is coupled with state-of-the-art capacitive touch technology permitting powerful distributed lighting controls for single or multi-room environments. Attractive 1 gang "Patent Pending" design is supported by color-matched adapter plates up to 7 gang and surface mount back boxes. Supporting up to 70 presets on a single universe of DMX512, a PWS can operate as either a DMX console or a DMX snapshot/playback device. Flexible and programmable auxiliary contact input, RS232 input and real-time scheduling allow for a myriad of interface possibilities with Building Management and Show Control systems. Wiring topology is fast, simple and inexpensive with standard Cat5/5e or Cat6 cabling using standard RJ-45 connectors or existing Belden #9773 wiring using standard Phoenix style connectors. Daisy-chain up to 15 stations per room for multi-room environments for up to 25 rooms when using one or more Presidor™ Room Linker/Combiner (PRLC).

Typical applications are wide ranging from theatre house lights, moving lights, LED fixtures, churches, corporate boardrooms, hotel ballrooms, convention facilities, museums, art galleries and other DMX512 or RS232 controlled devices.

Features

- Attractive screw-less design is ergonomic and sealed to dust.
- 70 presets on one universe of DMX512 channels.
- Operates as either a DMX console or a DMX snapshot/playback device.
- State-of-the-art high speed, low power "green" processor and ancillary circuitry with a power consumption < 1/4 Watt.
- RS232 Input.
- Bluetooth ready for remote preset activation via cell phone.
- Dual integrated light pipes allow for both automatic proximity sense and ambient light sense.
- Embedded programming with alphanumeric preset labeling.
- Intuitive navigation allows ease of operation.
- Unique interactive real-time functionality including manually activated digital sliders.
- Password-protected access for customized security.
- Up to 15 daisy-chained stations per room/zone power and data inclusive over Cat5/5e/6 or 3-Pair cable.
- Up to 25 rooms/zones per DMX universe with the use of Presidor™ Room Linker/Combiner (PRLC).
- Small compact size permits installation in standard, readily available single gang electrical back boxes.
- Available in white or black with optional color-matched adapter plates and surface mount back boxes allow for virtually unlimited retrofit possibilities.
- Patent Protected.

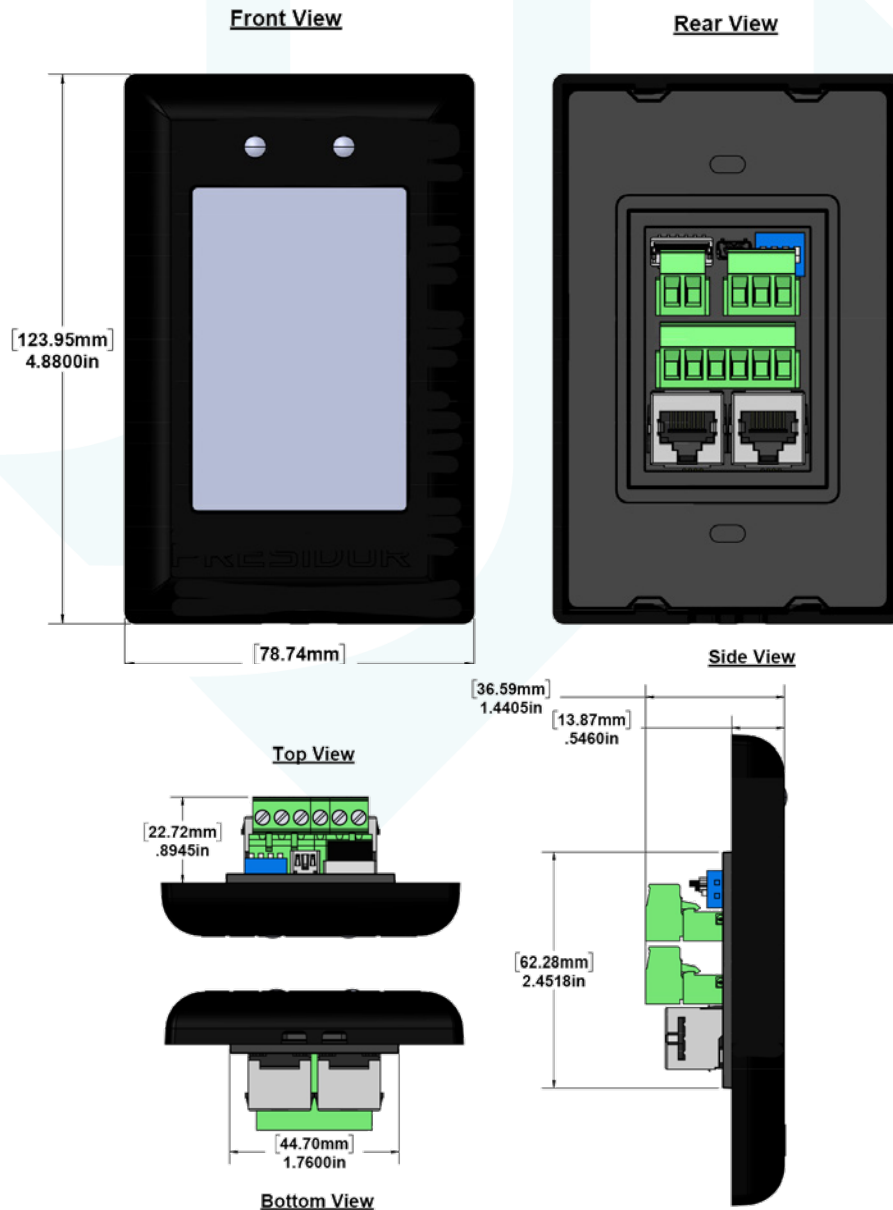


Characteristics

- Voltage: Model #PWS-70P-DMX; 5 - 48VDC operational range. 48VDC when used with PRLC-4 Room Linker/Combiner (48VDC supplied by PRLC-4).
Model #PWS-20P-RETRO; 24 - 48VDC operational range. Must exceed 12VDC at last station.
- Power Consumption: < 1 Watt per station during operation and < 1/4 Watt during standby mode.
- Cabling: Model #PWS-70P-DMX; RS485 Cat5/5e/6 cable (RJ-45) or retrofit into existing Belden #9773 or equivalent (terminal block), 300m max. (1000').
Model #PWS-20P-RETRO; 3 x #22 AWG or larger wires, Typical 1000' or 300m on #18 AWG wiring.
- Operating Conditions: 0°C to 40°C (32°F to 105°F); 10-90% relative humidity, non-condensing.

Drawings & Details

Models: PWS-70P-DMX & PWS-20P-RETRO



Drawings & Details

Model: Room Linker/Combiner (PRLC-4)

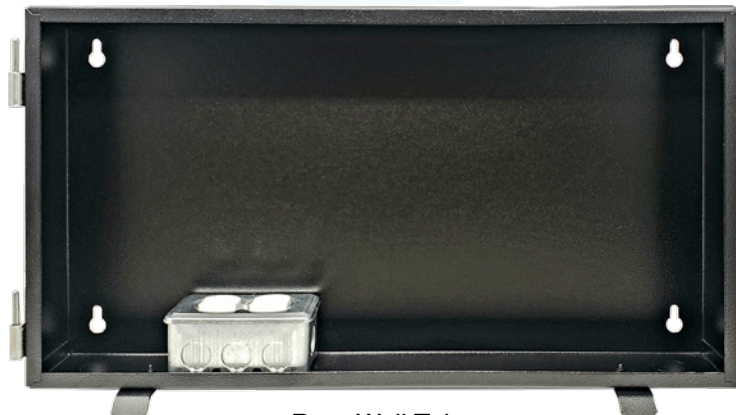


Model: PRLCR-4U

PRLC 19" Wall Rack, 4 rack units. Supports up to 4 x PRLC-4



Hinged Front



Rear Wall Tub

Description of Operation

Presidor™ Wall Stations (PWS) are designed to support up to 15 stations per room/zone wiring in a daisy-chain topology. There must be a Main Station in each wiring LAN (Local Area Network) with one Main PWS per room/zone. Each LAN and Main PWS may have up to 14 Secondary PWS's connected to it. The Main PWS will output DMX data for the room directly to the DMX receiving device or to a DMX input of a Presidor™ Room Linker Combiner (PRLC-4) in a multi-room application.

Status LED's



Settings Screen

1. DMX Channel Setup
2. Aux Switch Input
3. Schedule
4. Audio
5. Date/Time
6. Bluetooth (Future)
7. Motion Detection
8. Info
9. Sync And Lock
10. Password
11. Backlight
12. Preset Enable/Disable

Status LED's

Green – Room Linker Combiner
Blue – Bluetooth (Future)
Flashing Yellow – DMX wiring reversed

Installation

There are two models of PWS, both are available in white or black.

Model# PWS-70P-DMX For use in applications where 2 shielded twisted pair wiring capable of DMX512 protocol exists.

Model# PWS-20P-RETRO For use in legacy installations using analog wiring.

Although both models share the same operation, the station hardware, installation and wiring of each is slightly different due to the different data protocol used.

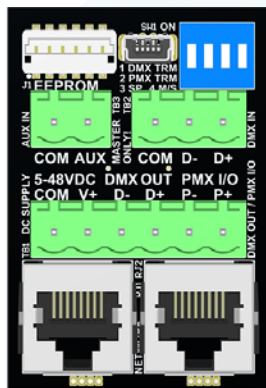
Model PWS-70P-DMX

Model #PWS-70P-DMX is designed for new applications where CAT5/5e or CAT6 can be provided or retrofit applications where existing shielded 2 or 3 twisted pair wiring capable of RS485/DMX512 exists (eg. Belden #9773). Capable of up to 70 presets, this model will accept DMX512 on its input and output DMX512 when configured as a room Main Station. Inter-room communication between multiple PWS will be PMX multiplex (RS485) protocol. Routine "series" or "daisy-chain" RS-485 topology between multiple station and termination practices must be followed.

Model PWS-70P-DMX Configuration and DIP Switch Settings

Important! Only one station in each LAN (local Area Network) or room must be designated as a Main PWS (switch 4 ON). Only one Main Station per LAN. All Secondary PWS connected to the Main PWS (maximum 14 PWS) must have switch 4 turned OFF.

Important! Communication between Main PWS and Secondary PWS is PMX protocol (Presidor™ Multiplex). This RS485 protocol requires active termination (switch 2 ON) on the first and the last PWS in the LAN for each room/zone.



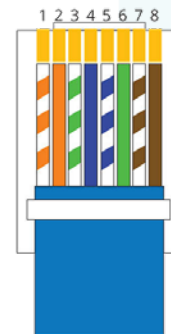
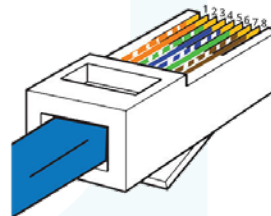
PRESIDOR™ PWS - 70P - DMX INSTALLATION REFERENCE

SW1 SELECTION		UP = ON DOWN = OFF
SW1	DESCRIPTION	FUNCTION
1	DMX TERMINATION ON	MAIN STATION IN ROOM ONLY
2	PMX TERMINATION ON	MAIN AND LAST SECONDARY STATION IN ROOM ONLY
3	PASSWORD RESET	ON TO ENABLE
4	MAIN/SECONDARY PWS SELECT	ON FOR MAIN ONLY

RJ1 AND RJ2 (MULTI-ROOM AND MULTI-STATION CONVENIENCE AND QUICK-CONNECT)

DUPLICATION OF TB1 CONNECTOR ON RJ45 AS PER CAT5 WIRING STANDARD 568B

RJ45 Pinout T-568B



1. White Orange	5. White Blue
2. Orange	6. Green
3. White Green	7. White Brown
4. Blue	8. Brown

1. DMX+	5. VIN+
2. DMX-	6. PMX-
3. PMX+	7. GND
4. VIN+	8. GND

TB1 (DUPLICATED CONNECTIONS IN RJ1 + RJ2)

COM } 5 - 48V_{DC}
V+

D⁻ = DMX DATA OUTPUT (-)
D⁺ = DMX DATA OUTPUT (+)
P⁻ = PMX INPUT/OUTPUT (-)
P⁺ = PMX INPUT/OUTPUT (+)

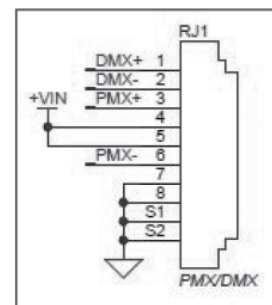
TB2 (DMX INPUT FROM EXTERNAL SOURCE-SNAPSHOT)

COM = DMX COMMON
D⁻ = DMX DATA INPUT (-)
D⁺ = DMX DATA INPUT (+)

TB3 (AUXILIARY CONTACT INPUT)

COM = CONTACT COMMON
AUX = CONTACT INPUT

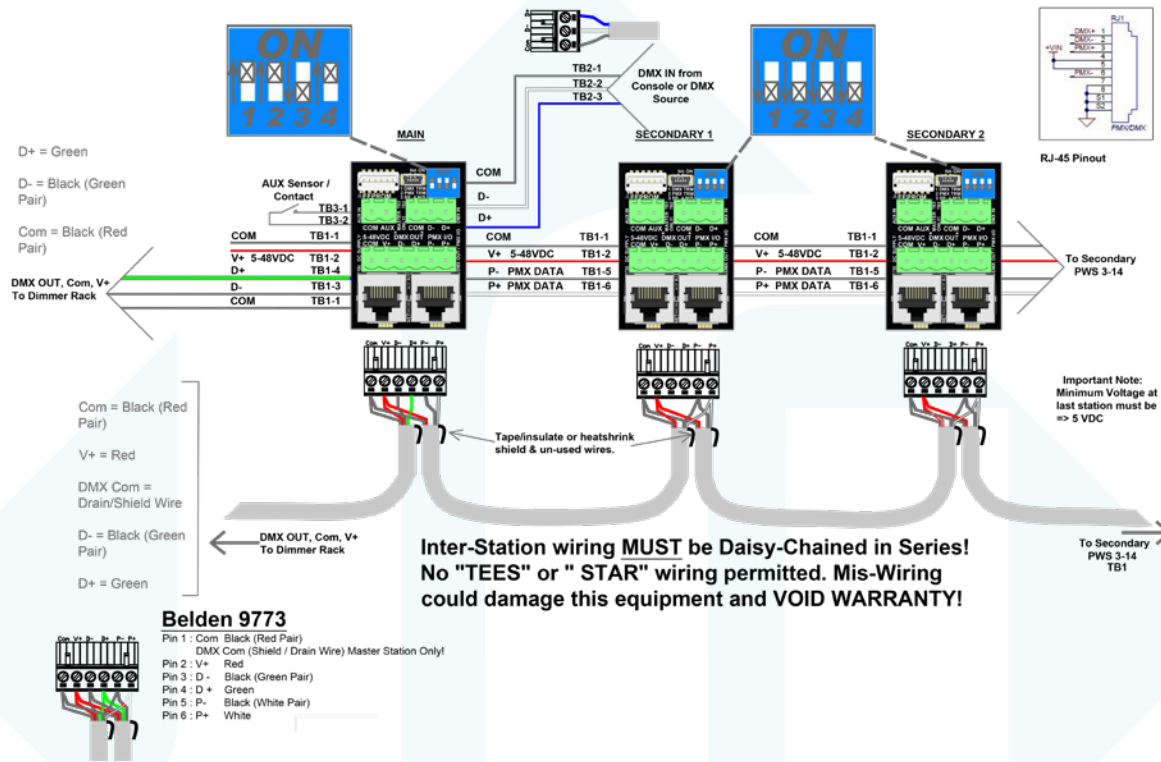
NOTE: IN A MULTIROOM SYSTEM, ONLY THE MAIN STATION SHOULD CONNECT BACK TO THE ROOM LINKER COMBINER (RLC). SECONDARY STATIONS SHOULD BE DAISY-CHAINED TOGETHER AND CONNECTED FROM THE MAIN ONLY!



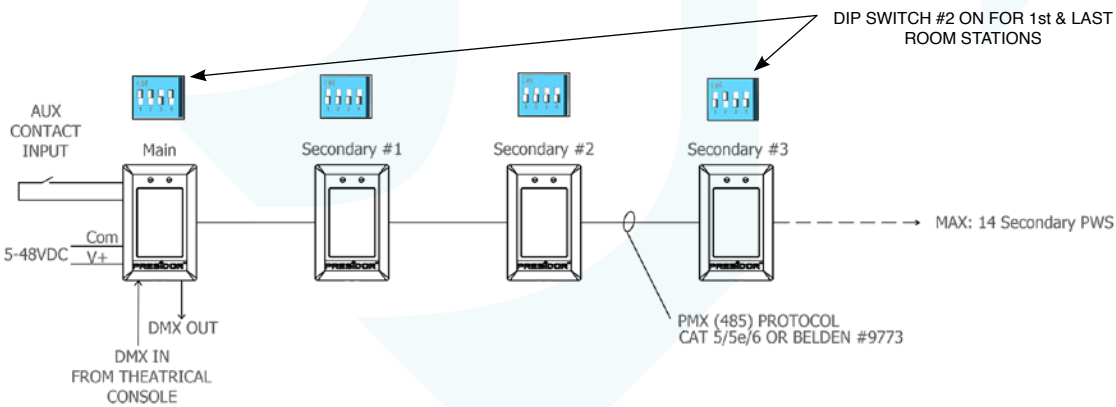
RJ-45 Pinout



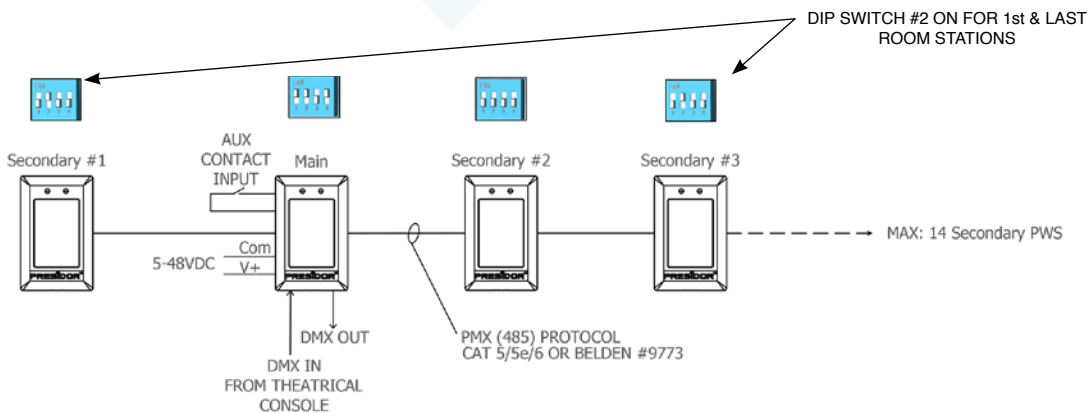
Typical PWS-70P-DMX Wiring and Connection Detail Using Belden #9773



Typical PWS-70P-DMX Single Room Wiring Topology #1

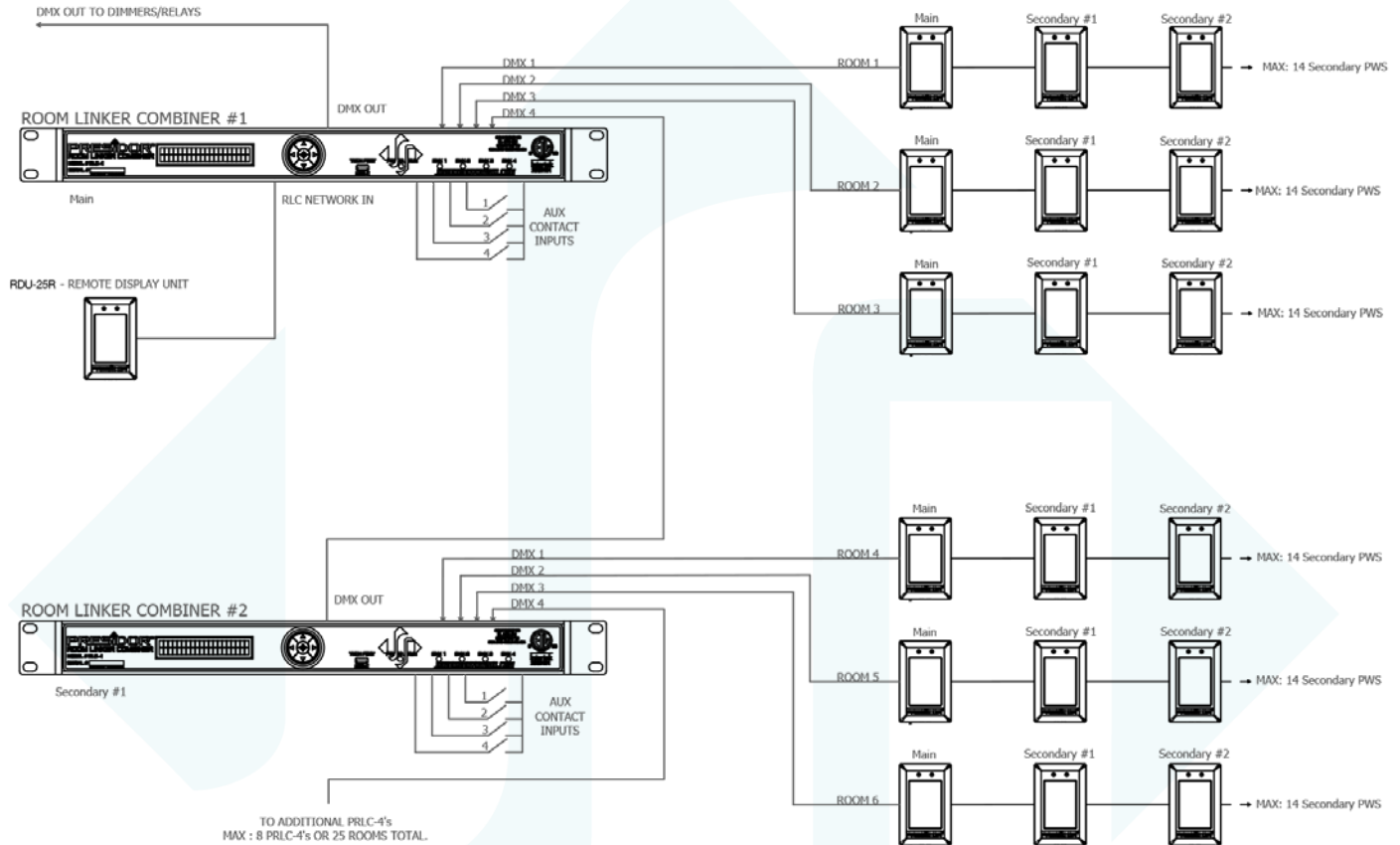


Typical PWS-70P-DMX Single Room Wiring Topology #2



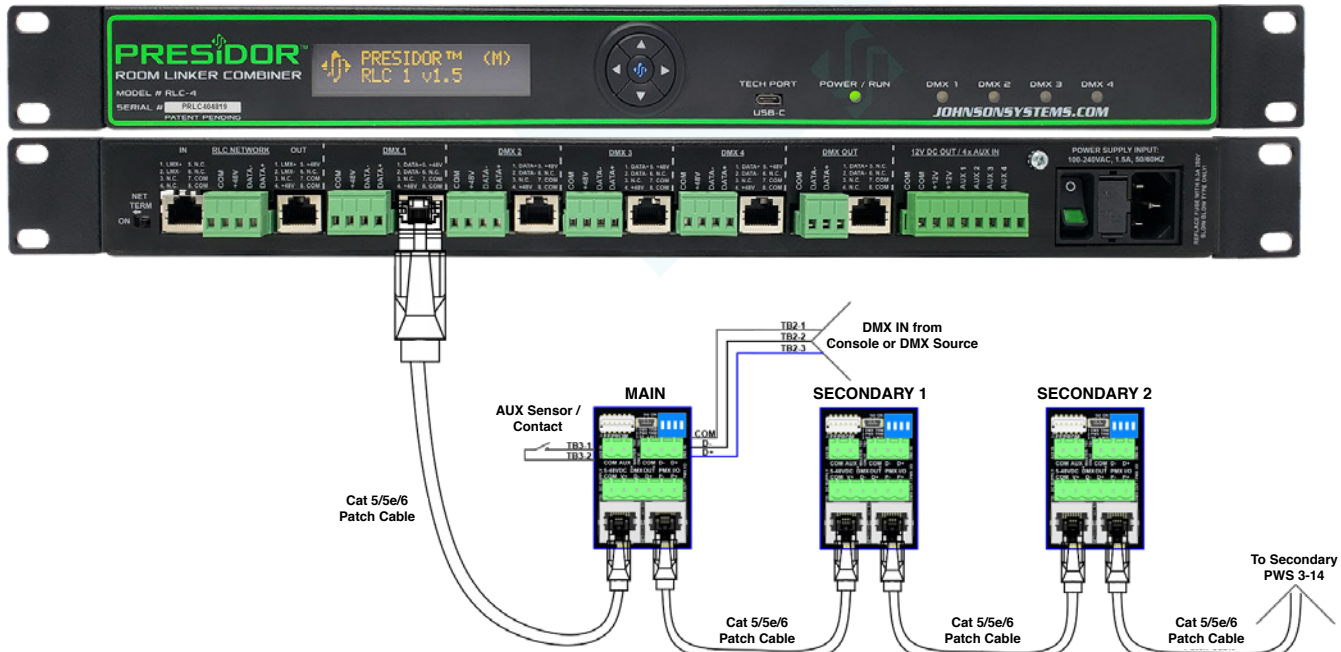


Typical PWS-70P-DMX Multi-room Wiring Topology



PWS-70P-DMX Cat 5/5e/6 Interconnect

PRLC - Room Linker Combiner



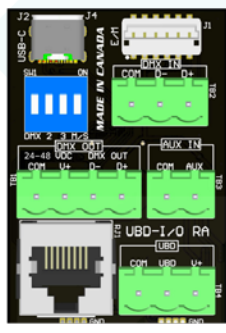
Model PWS-20P-RETRO

Model PWS-20P-RETRO is designed specifically for use in Heritage Buildings using existing wiring (typically analog) not capable of RS485. Communication is performed via a proprietary Unipolar Bi-Directional (UBD) low baud rate protocol. This permits digital control upgrades to facilities that would otherwise be faced with a very expensive wiring replacement cost!

Multiple stations must be series or daisy-chained. Minimum of 3 wires is required. No wiring "tee's" or "starring" is permitted. This will result in hardware damage to one or more stations and void all warranty claims! Where a "tee" or "star" must be used, 6 wires to each location shall be required permitting a continuous data and power daisy-chain between all room stations. **No "Tees" or "Star Wiring" permitted!** Maximum distance dependent on wire type and gauge. Typical 1000' or 300m on #18 AWG wiring.

Model PWS-20P-RETRO Configuration and DIP Switch Settings

Important! One station in each wiring LAN must be designated as a Main PWS (switch 4 ON). Only one Main Station per LAN. All Secondary PWS connected to the Main PWS (maximum 14 PWS) must have switch 4 turned OFF.



PRESIDOR™
PWS - 20P - RETRO
INSTALLATION REFERENCE

SW1 SELECTION	DESCRIPTION	UP = ON DOWN = OFF FUNCTION
1	DMX TERMINATION ON	MAIN STATION ONLY
2	NOT USED	NOT USED
3	PASSWORD RESET	ON TO ENABLE
4	MAIN/SECONDARY PWS SELECT	ON FOR MAIN ONLY

TB1 (DUPLICATED CONNECTIONS IN RJ1)

COM } 24 - 48V_{DC}
V+ }
D⁻ = DMX DATA OUTPUT (-)
D⁺ = DMX DATA OUTPUT (+)

TB2 (DMX INPUT FROM EXTERNAL SOURCE-SNAPSHOT)

COM = DMX COMMON
D⁻ = DMX DATA INPUT (-)
D⁺ = DMX DATA INPUT (+)

TB3 (AUXILIARY CONTACT INPUT)

COM = CONTACT COMMON
AUX = CONTACT INPUT

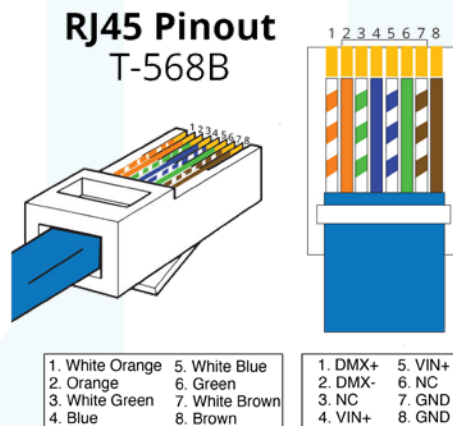
TB4 (UNIPOLAR BI-DIRECTIONAL DATA)

COM } 24 - 48V_{DC}
V+ }
UBD = UBD DATA

RJ1 (CONVENIENT CONNECTION BETWEEN THE MAIN PWS AND PRLC-4 ROOM LINKER/COMBINER) FOR MODEL#PWS-20P-RETRO ONLY!

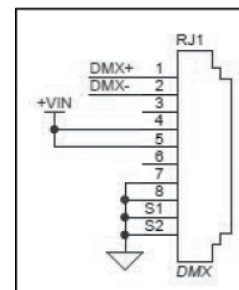
DUPLICATION OF TB1 CONNECTOR ON RJ45 AS PER CAT5 WIRING STANDARD 568B

RJ45 Pinout T-568B



1. White Orange	5. White Blue	1. DMX+	5. VIN+
2. Orange	6. Green	2. DMX-	6. NC
3. White Green	7. White Brown	3. NC	7. GND
4. Blue	8. Brown	4. VIN+	8. GND

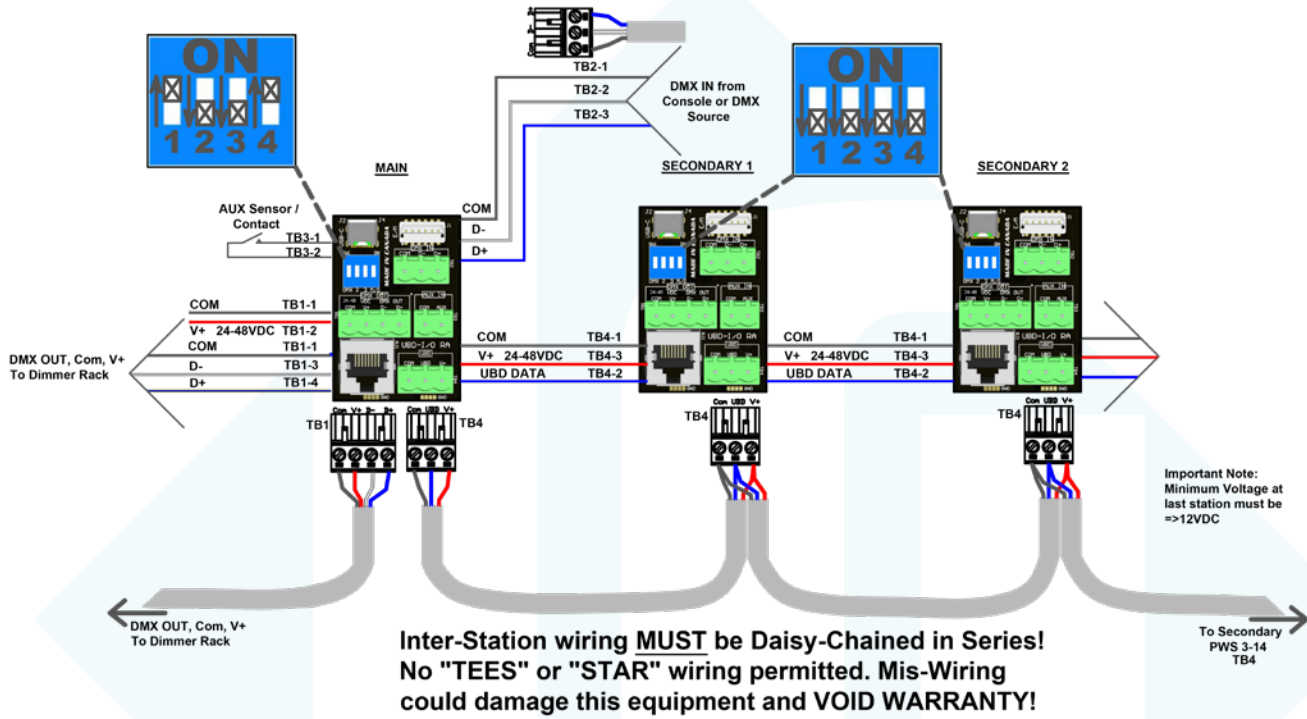
NOTE: IN A MULTIROOM SYSTEM, ONLY THE MAIN STATION SHOULD CONNECT BACK TO THE ROOM LINKER COMBINER (RLC). SECONDARY STATIONS SHOULD BE DAISY-CHAINED TOGETHER VIA CONNECTOR TB4 AND CONNECTED FROM THE MAIN ONLY!



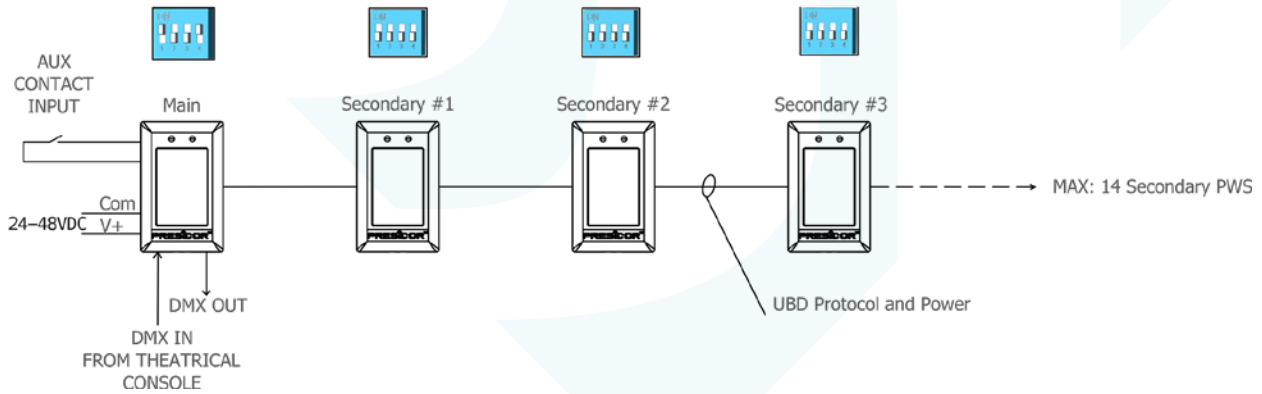
RJ-45 Pinout



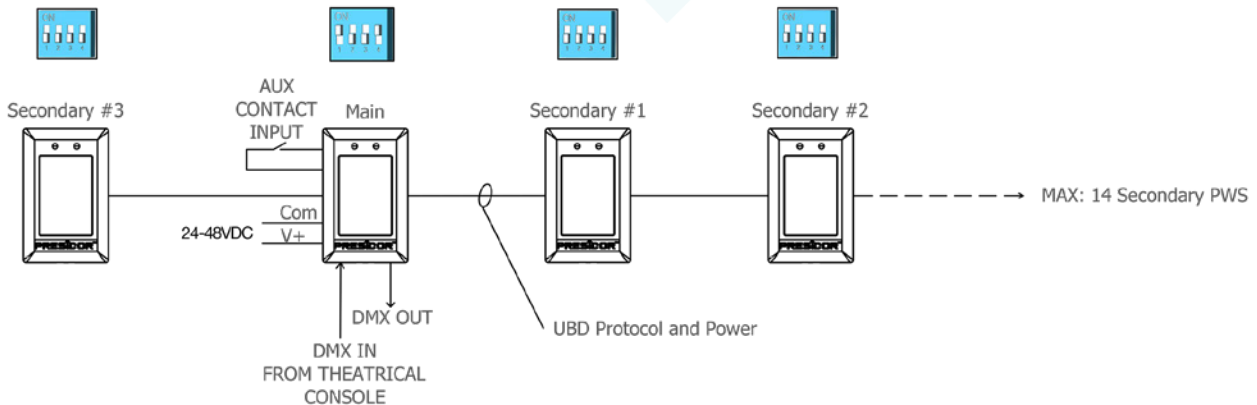
Typical PWS-20P-RETRO Wiring and Connection Detail



Typical PWS-20P-RETRO Single Room Wiring Topology # 1

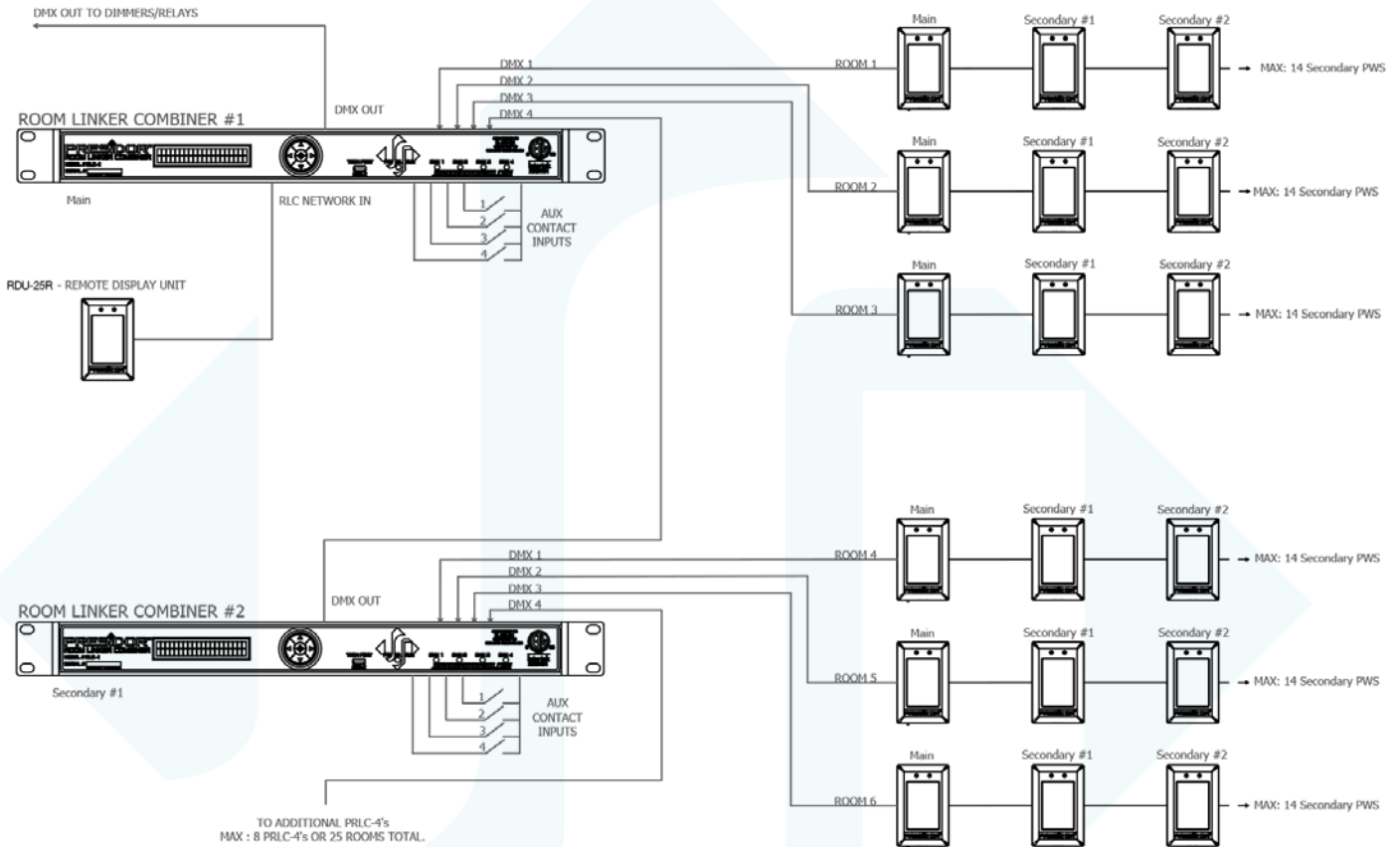


Typical PWS-20P-RETRO Single Room Wiring Topology # 2



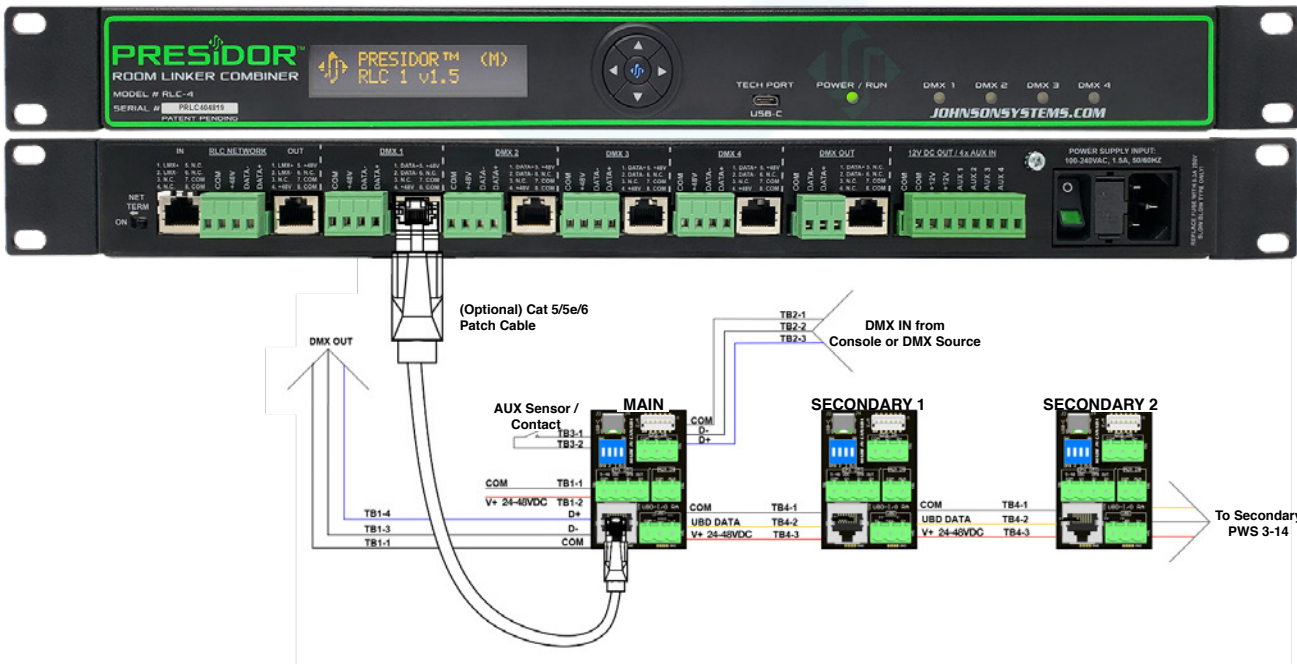


Typical PWS-20P-RETRO Multi-Room Wiring Topology



PWS-20P-RETRO Multi Room Interconnect

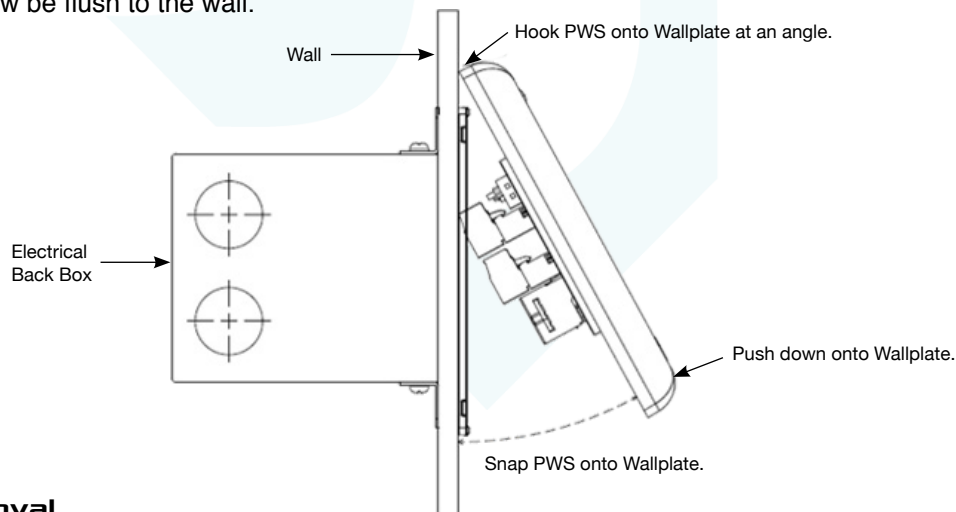
PRLC - Room Linker Combiner



Installation Procedure

Each PWS comes complete with a pre-assembled main sub-assembly, wall mounting plate and 6-32 mounting hardware. PWS is designed for installation into standard grounded single gang electrical backboxes.

1. Ensure the electrical back box is grounded to earth ground via dedicated grounding wiring or through conduit where electrical code permits. An un-grounded box may lead to damage from static electricity and void warranty.
2. Clean back box of all debris including metal filings, dust, drywall or any other debris that could affect electrical performance. Compressed air is best for this.
3. Check the back box 6-32" mount threads before attempting to install the wall mounting plate. This can be easily done by spinning one of the supplied mounting screws clockwise with your fingers into each of the two mounting holes. They should install easily with your fingers. If they do not, it is recommended to run a 6-32" drill tap through the hole with a small reversible drill to "clean out" any bad threading.
4. Install the wall mounting plate flush to the wall and tighten with the supplied mounting screws snugly as to not deform the plastic but provide a tight fit to the wall. Use a small level to ensure a plumb level installation of the plate. **DO NOT** overtighten the mounting screws. Hand tightening is recommended over any power assist tool. **Important: DO NOT** exceed 1.5 in. - lbf. for drywall and 5.0 in. - lbf. for Presidor™ Surface Boxes (PSB).
5. Label all wiring as "to or from" for future identification. Dress out all the wiring and terminate to the appropriate connectors based on installation and PWS model type. Leave at least an 8-12" service loop if possible. Ensure all wire is stripped back far enough to ensure full plug insertion without insulation. Plug all the terminated wiring connectors to their final location on the PWS I/O PCB. Tape off or heat-shrink any exposed shield wiring or unused conductors that could touch the rear of the station and cause a short circuit.
6. Set the dip switches as required for Main/Secondary PWS, end-of-line termination. See chart on page 7 for model# PWS-70P-DMX and page 10 for model# PWS-20P-RETRO.
7. Hook the PWS sub-assembly on to the top of the wall plate with the face panel light pipes facing upward. Gently push to lower the PWS sub-assembly until contact is made with the wall plate. Apply firm pressure against the bottom of the PWS sub-assembly until an audible "snap" is heard or felt. The PWS sub-assembly should now be flush to the wall.



PWS Removal

Power OFF the PWS if possible.
















To remove an installed PWS, a flat head screwdriver with a slot width of 3/16" to 1/4" will be required. Insert the screwdriver into one of the two extraction holes on the bottom of the face panel sub-assembly. Gently and slowly twist the screwdriver until the face panel "pops" away from the wall mount plate. It may be possible that procedure is required for both extraction holes. Unhook the top of the subassembly from the top of the wall plate and gently remove the station from the wall.

Replacement Plastic Kits

- PWS-MOUNT-W Replacement PWS Mounting Kit. 4 Piece Set, White.
PWS-MOUNT-B Replacement PWS Mounting Kit. 4 Piece Set, Black.

Presidor™ Adaptor Plates

For installation where oversize back boxes exist, Presidor™ Adaptor Plates are engineered for exact fit with Presidor™ Wall Stations (PWS). These rugged plates permit installation of PWS in a variety of gang wall boxes up to 7 gang. Cut from 18-gauge steel and powder coated in white or black finish, these adaptor plates make installation of PWS in existing back boxes a breeze!

Model		Description
PA-2A1-White		2 gang to 1 gang Adaptor Plate, White
PA-2A1-Black		2 gang to 1 gang Adaptor Plate, Black
PA-2A1-DMX-White		2 gang to 1 gang Adaptor Plate, White c/w 5 pin XLR DMX Input
PA-2A1-DMX-Black		2 gang to 1 gang Adaptor Plate, Black c/w 5 pin XLR DMX Input
PA-3A1-White		3 gang to 1 gang Adaptor Plate, White
PA-3A1-Black		3 gang to 1 gang Adaptor Plate, Black
PA-4A1-White		4 gang to 1 gang Adaptor Plate, White
PA-4A1-Black		4 gang to 1 gang Adaptor Plate, Black
PA-4A1-Black		4 gang to 1 gang Adaptor Plate, Black
PA-5A1-White		5 gang to 1 gang Adapter Plate, White
PA-5A1-Black		5 gang to 1 gang Adapter Plate, Black
PA-6A1-White		6 gang to 1 gang Adapter Plate, White
PA-6A1-Black		6 gang to 1 gang Adapter Plate, Black
PA-7A1-White		7 gang to 1 gang Adapter Plate, White
PA-7A1-Black		7 gang to 1 gang Adapter Plate, Black

Presidor™ Surface Boxes

For installations where surface mount backboxes are required we offer high quality options. Designed specifically for Presidor™ Wall Stations (PWS), these rugged 18-gauge steel boxes feature welded seams, pre-tapped 6-32 holes for precise station mounting and 5 laser cut conduit entry options. These boxes allow for precision alignment of an installed PWS with no over-hang or sharp edges. Available in white or black powder coat finish in single or two gang sizes.

- PSB-1-White 1 gang Surface Box, White.
PSB-1-Black 1 gang Surface Box, Black.
PSB-2-White 2 gang Surface Box, White.
PSB-2-Black 2 gang Surface Box, Black.

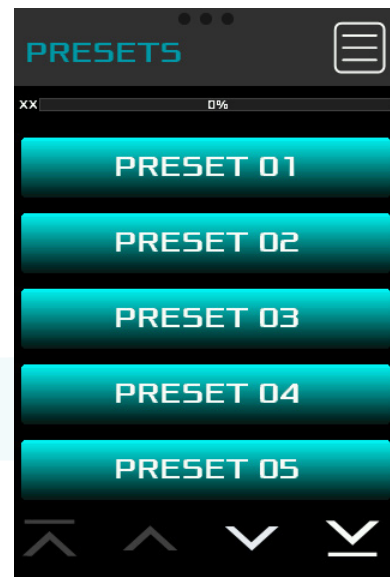


For more information please go to https://www.johnsonsystems.com/presidor_surface_boxes.htm

Initial Set Up and Station Configuration

• POWER UP

- Upon power up, the PWS will briefly display the Presidor™ logo and will then default to the preset page that was last active before power down. In the case of a new station it is shipped from the factory defaulted with the first 10 presets only and displayed on two pages of five presets each in the color of teal.








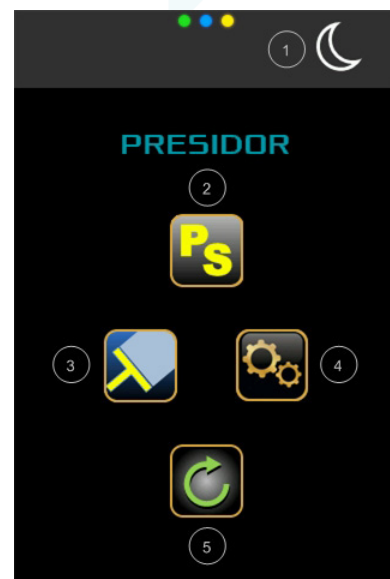
Info Screen

1. Room Number
2. Model Number
3. Firmware Version
4. Serial Number
5. System Voltage
6. Factory Default. Only for Admin Users

• MAIN MENU

- Pressing the MENU function icon in the upper right of the display screen will pull up the following screen:

1.  LOW POWER SLEEP MODE - Activates PWS ultra low power mode for energy saving and displays graphic logo image from memory. Two minutes of inactivity on the station will automatically initiate the SLEEP MODE. Two levels of illumination are programmable for this setting. The station will automatically exit this mode and wake up to PRESET MODE if the display is touched or if any motion is detected by the proximity sensor within the range it is programmed for (maximum 3 meters or 10 feet).
2.  PRESETS - Normal Run mode for any PWS. Allows access to all selected PRESETS for that PWS. Push any PRESET for playback. Last action will always override the previous action.
3.  CLEAN SCREEN - Permits the temporary disabling of the capacitive touch interface/keypad to allow for cleaning of the glass without affecting room lighting. A white screen with 30 second countdown timer will display when activated. Note there is no exit from this menu, you must wait for the 30 second timeout.
4.  SETTINGS - Direct access to all the PWS Set up and Configuration SETTINGS.
5.  RESET PWS. Permits a soft reboot of the PWS without affecting stored data or room lighting levels. RESET will only show for ADMIN Users.



Main Screen

1. Low Power Sleep Mode
2. Presets
3. Clean Screen
4. Settings
5. Reset Device

• INITIAL SETUP AND CONFIGURATION



Pressing the SETTINGS icon (4 above) right of the screen will access the SETTINGS menu where configuration and customization of each PWS can be performed.

Each icon will access a screen menu page permitting customization of each PWS. It is recommended that the PWS be programmed in the following order:

Essential Configuration



1. **PASSWORD** - Security enable various PWS functions through two levels of password permission access. See PASSWORD in the manual for factory default codes and instructions to change.



2. **DMX CHANNEL SETUP** - Permits the selection (unmasking) of specific DMX channels that the PWS will output. **PWS are shipped from the factory fully masked with no channels selected.** Each channel can be assigned as a dimmer (DIM), non-dim (ND) or task light (TASK).



3. **PRESET ENABLE/DISABLE** - PWS are shipped defaulted with the first 10 presets enabled. Up to 70 presets are available in 7 different colors. Enable the desired number of presets.



4. **DATE/TIME** - Set the date and time in various display formats.



5. **SYNC AND LOCK** - Synchronize any Secondary PWS connected to the room Main PWS. Relevant data will be shared from the Main to the Secondary PWS (maximum 14 Secondary PWS per room).

Optional Configuration



6. **AUX SWITCH INPUT** - Select the type of contact input and the preset choice(s) upon input activation and/or disable.



7. **SCHEDULE** - Selection of up to 70 presets for automatic activation via the onboard Real Time Clock (RTC). One minute increments 24/7/365.



8. **AUDIO** - Selection of audio type and volume.



9. **MOTION DETECTION** - Sensitivity selection of the proximity sensor for auto recognition.



10. **BACKLIGHT** - Sensitivity selection of the ambient light sensor for desired level of station illumination.



11. **BLUETOOTH (FUTURE)** - Available 1Q 2022.



12. **INFO** - Critical system information as displayed on next page (top right).

Status LED's



Settings Screen

1. DMX Channel Setup
2. Aux Switch Input
3. Schedule
4. Audio
5. Date/Time
6. Bluetooth (Future)
7. Motion Detection
8. Info
9. Sync And Lock
10. Password
11. Backlight
12. Preset Enable/Disable

Status LED's

Green – Room Linker Combiner
Blue – Bluetooth (Future)
Yellow – DMX In

1. PASSWORD / SECURITY LOCK

Each PWS requires a valid Password entry to access certain functions. Access via the Security Lock icon, the lock symbol will display red when locked and no lock symbol when unlocked. Each PWS will default to a "locked" state with access to only select functions for protection of programming and restriction of use. A small red lock will appear in the upper left of the display when in the locked state. Only preset playback and minor edits of preset levels are permitted in the secure "locked" state.

Each PWS has two passwords to permit controlled access to specific menu functions:

USER: Factory default "12345" - allows limited access to screens.

ADMIN: Factory default "98765" - allows full access to all screens.

Passwords must always be a 5 digit number. The password is stored in the removable external EEPROM plug in module on the rear of the PWS. Passwords are entered at the room Main PWS only and then shared with the room Secondary PWS via the SYNC command.

Important! On SYNC Main/Secondary, all Secondary PWS will have the same password as the room/zone Main PWS. The user will not be able to change the password on a Secondary either manually or with the DIPSW. This function and option is reserved to the Main Station for the room only.

Password privileges for the PWS are shown below:

Screen	Password Level
MainScreen	ADMIN
PSEnableScreen	ADMIN
InfoScreen	ADMIN
DateTimeScreen	USER
DMXSetupScreen	ADMIN
ScheduleScreen	ADMIN
AUXScreen	ADMIN
SyncScreen	ADMIN
BLEScreen	ADMIN
PresetEditScreen	*ADMIN / USER

The PASSWORD entry screen is shown at right:

Enter the PASSWORD and press [OK]. If the PASSWORD is *correct*, the PASSWORD screen will close and take you back to the main screen.

The screens will lock again if:

- PWS goes to sleep (no keys for 5 minutes).
- Enter the PASSWORD screen and press [c] and exit without pressing OK.
- For the PRESET Edit screen, upon exiting the PRESET Edit mode (USER only).

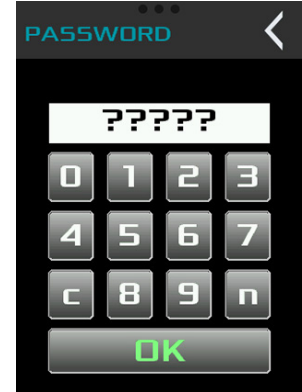
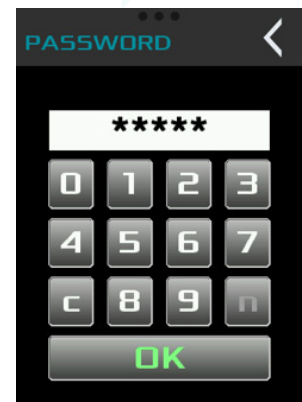
If the PASSWORD is *incorrect*, the screen will show (at right):



Info Screen

- Room Number
- Model Number
- Firmware Version
- Serial Number
- System Voltage

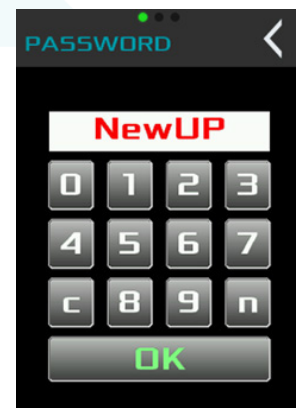
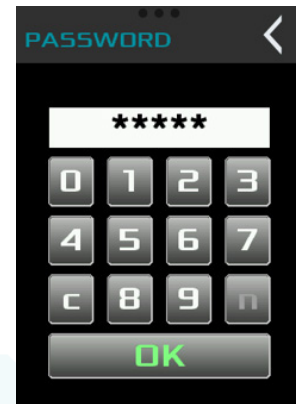
Important! Do not access FACTORY DEFAULT unless intentional. An ADMIN could accidentally overwrite all programmed data.



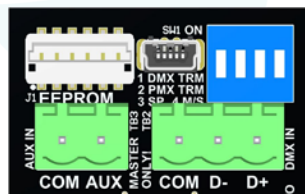
NEW USER PASSWORD

A new USER PASSWORD may be entered in two ways:

- a) Enter the old PASSWORD, press [OK]. If you return to the PASSWORD screen before a sleep timeout, the [n] key will now be active. Pressing the [n] key will show "NewUP". A New USER PASSWORD entry will always be displayed in red to distinguish it from the normal password entry mode. Enter a new 5 digit User PASSWORD and press OK. Remember your New USER PASSWORD or document it somewhere for future reference.

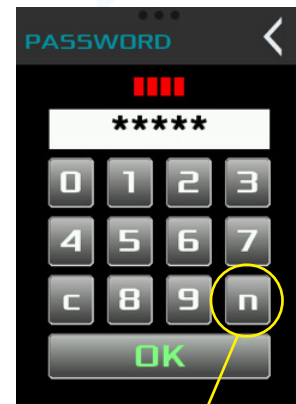


- b) If the user forgets their password, setting DIPSW 3 ON will allow the user to enter a new password. This procedure will involve the temporary removal of the Main PWS from the wall, please see page 13. This must be done carefully with the power remaining ON.



PWS Rear Panel View

When DIPSW 3 is on, 4 Red bars are shown on the password screen and the [n] key is now active.



Enter a new 5 digit User PASSWORD and press OK. Remember your New User Password or document it somewhere for future reference. Switch DIPSW 3 back to the OFF position and re-install the PWS Main Station back into the wall. A USER may only reset the USER PASSWORD.

NEW ADMIN PASSWORD

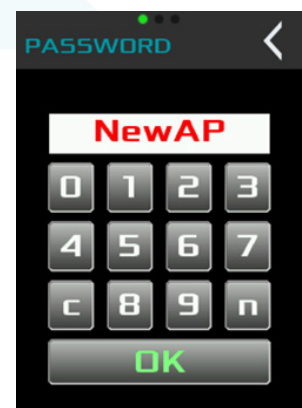
A System Administrator can reset both the ADMIN and USER PASSWORD's and access all programming features of the PWS.

Pressing the [n] key will toggle between the following two screens, or an ADMIN USER can reset both.

This allows either the ADMIN or USER password to be reset depending on which is selected. Screens that require a PASSWORD to access will show a small red lock symbol at the top left side of the screen (see right).

Once unlocked with a valid PASSWORD entry, the screen will allow access to additional functions on the screen (see the tool/wrench that now appears below). This allows additional set menus for an ADMIN level person and is covered in more detail further in this manual.

Important! Security timeout. After 2 minutes of inactivity, the PWS ADMIN level access will automatically time out to prevent unauthorized access to the Master PWS configuration set up and data.



DMX 2. DMX SETUP

Main PWS DMX set up. ADMIN security access only. This menu is used to set up the DMX mask for each room, configure the operation of room specific (unmasked) channels, and set the external DMX source input priority in conjunction with the PWS Main station DMX output.

Pressing the DMX icon in the SETTINGS menu will allow access to the DMX SETUP page.

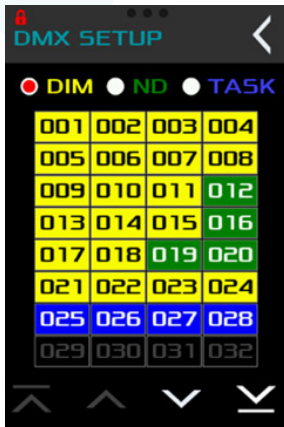
DIM = Yellow = Dimmer assignment to that specific DMX output channel permitting a full range of DMX control output from 0-100% from the Main PWS.

ND = Green = Non-Dim assignment to that specific channel permitting toggle between 0% and 100% DMX control output with a trigger point of approximately 3% DMX.

TASK = Blue = Non-Dim of specific channels for operation within any preset or independent operation outside of the active preset between multiple Secondary (entrance) PWS stations (room within a room operation). TASK assignment to a specific DMX channel or group of channels permits toggle (Non-Dim control) between 0% and 100% DMX control output with a trigger point of approximately 3% DMX. "Room within a room" operation is limited to presets 61-70. Task lights assigned in presets 1- 60 will operate as Non-Dims only on preset execution.

Example: TASK circuit assignment. Several grid blue (safety) light circuits that require control from multiple entrance (Secondary PWS) locations. The need for all entrance (Secondary PWS) stations to mimic the active TASK light preset and operate as a "room within a room" without affecting the underlying active preset 1-60 that the room Main PWS is outputting in DMX.

Below is an example of a 28 DMX channel room configuration where:



- channels 1-11, 13-15, 17,18, 21-24 are set as Dimmers (DIM).
- channels 12, 16, 19 & 20 are set as Non-Dims (ND).
- channels 25- 28 are set as Non-Dim TASK lights (TASK).

Menu down arrow above will access DMX output channels in groups of 32 channels per page up to 512 channels.

EXTERNAL DMX SOURCE CONFIGURATION

ADMIN PASSWORD required to access. Pressing the wrench icon in the screen below will access a page for DMX input priority set up of the Main PWS. One of the following three modes of operation can be selected:

DMX IN PRIORITY - Locks out PWS DMX Output and passes external DMX Input (Control Console) to the PWS DMX Output in real time.

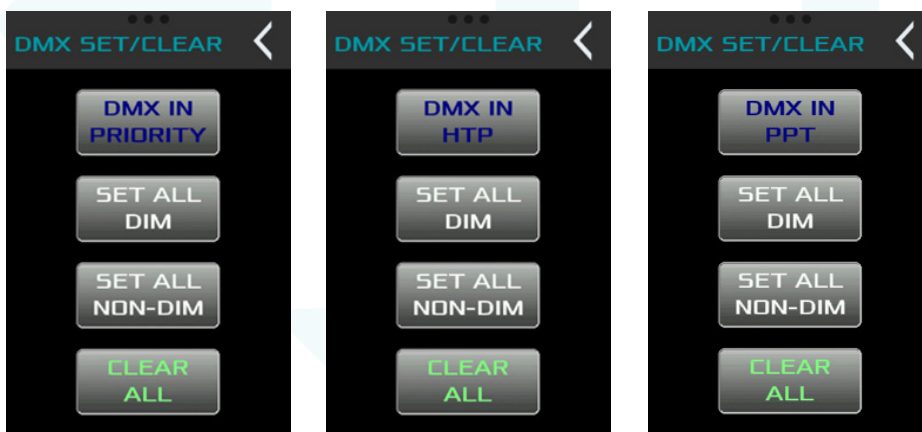
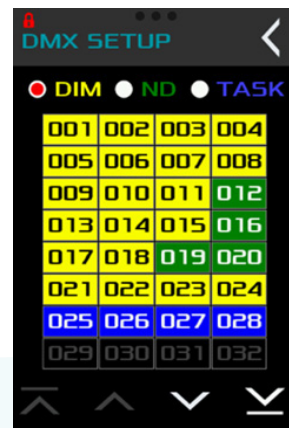
DMX IN HTP (MERGE) - Highest Takes Precedence Mode Merges incoming DMX on the PWS Input with the DMX programming output (active Preset) of the PWS.

Push to toggle between modes. Exit when desired mode is displayed.

To access DMX IN PPT press and hold for 5 seconds.

DMX IN PPT - Preset Pass Through Mode allows for two Main PWS to operate on the same wiring LAN. Each Main PWS may have independent Secondary PWS connected to it (Maximum 15 PWS per LAN). The output of the upstream Main PWS must be hardwired to the input of the downstream Main PWS.

Important! External DMX sources can NOT be used to record "snapshots" for Presets in this mode.



DMX SET/CLEAR - Quick set up buttons are also provided for fast default programming in the above menu pages.

SET ALL DIM - Activates all 512 DMX output channels (no mask) and configures them as Dimmers.

SET ALL NON-DIM - Activates all 512 DMX output channels (no mask) and configures them as NON-DIM. Trigger threshold at approximately 3% on any presets assigned with a fade time.

CLEAR ALL - Disables all 512 DMX output channels (complete mask). Shipped from the factory this way requiring DMX channel enabling by the customer.

All the above menus will show the following safety prompt before allowing data to overwrite.





3. PRESET ENABLE/DISABLE

Permits selection of the number of presets required.

A Main PWS is capable of up to 70 presets (Model# PWS-70P-DMX) or 20 presets (Model# PWS-20P-RETRO). Both versions are shipped from the factory with only the first 10 presets enabled. To enable more or less presets and select color choices:

- a) Enter your ADMIN PASSWORD.
- b) Select the PRESET ENABLE icon in the settings menu.
- c) A different color has been factory set for each group of 10 presets.
- d) Touching the preset will enable it and touching again will DISABLE it. ENABLE the number of presets desired for the room.
- e) After the Main PWS presets have been synchronized with any Secondary PWS connected to the room Main PWS, the above process can be repeated at each Secondary PWS as desired. Secondary PWS can only access the presets available in their room Main PWS and cannot exceed the number of presets available at their respective room Main PWS. However, Secondary PWS's can be limited to as few as one single large button preset permitting customization of Secondary PWS's within any given room/zone. Selection of 4 or fewer presets at a PWS will increase the physical pad size of the preset and increase the contact surface area of preset activation.

 **4. DATE/TIME** - Set the date and time and permit choice of display in various formats. USER and ADMIN PASSWORD access permitted.

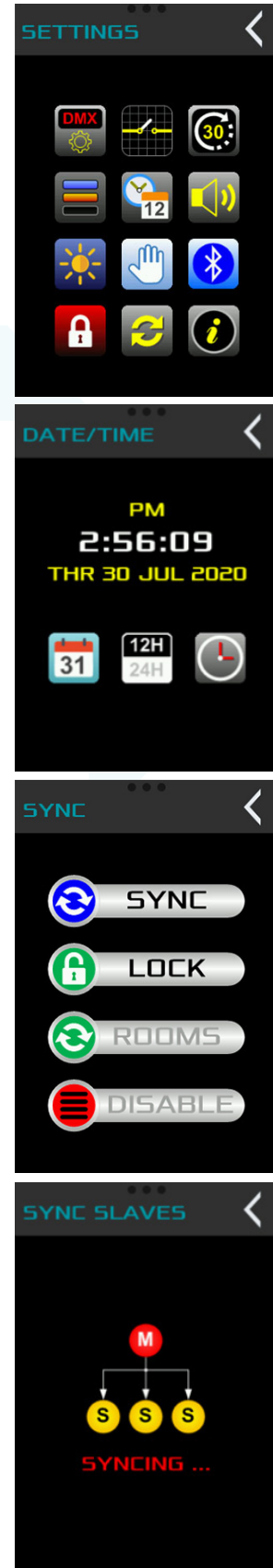
 **5. SYNC AND LOCK** - Synchronize all Secondary PWS connected to the room Main PWS. Relevant data will be shared from the Main to the Secondary PWS (maximum 14 Secondary PWS per room). ADMIN PASSWORD required to access.

SYNCing the Secondary PWS, shares all the required data to them in a single button push. The following pop screen displays for approximately 2 seconds during the data transfer from the Main PWS to the Secondary PWS.

Secondary PWS stations can also be locked out in this menu by pushing the Lock button. When locked the icon will change from green to red.

Secondary PWS within a room can also be locked out for safety at the Main PWS. Pressing the LOCK icon will toggle between a LOCK and UNLOCKED state.

In a multi-room environment where the PRESETs and LABELS are the same in several rooms, the programmed data from one Main PWS can be "shared" to other room Main PWS by pushing the "ROOMS" sync button. This can save a lot of time during an initial commissioning. This feature is still in development and will require a Presidor™ PRLC-4 (Room Linker Combiner).



6. **AUX SWITCH INPUT** - Assigns external contact to the Main PWS Auxiliary Input. Contact can be assigned as maintained, momentary, normally open or normally closed to activate one or two presets. Very popular gallery automation feature for museums and art galleries. The preset numbers can be changed.



7. **SCHEDULE** - Permits selection of up to 70 presets for automatic activation via the onboard Real Time Clock (RTC). One-minute increments 24/7/365.

SCHEDULE SELECT - Scroll up/down to select the SCHEDULE # which you would like to assign and push a SCHEDULE #.



EDIT SCHEDULE - Selecting a SCHEDULE # will pull up the EDIT SCHEDULE screen.

SCHEDULE TIME - Set the time for SCHEDULE activation.



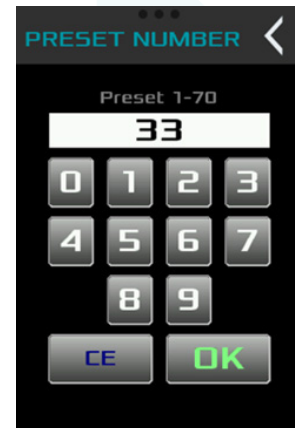
Press the back arrow to return to EDIT SCHEDULE.

DAY OF WEEK - Set the day(s) of week.



Press the back arrow to return to EDIT SCHEDULE.

PRESET NUMBER - Select the PRESET you wish to activate at the previously selected time and days.




Press the back arrow to return to EDIT SCHEDULE.

REPEAT/ONCE - Select frequency of automatic PRESET activation from the RTC.

ENABLE/DISABLE - Turn the SCHEDULE ON or OFF for different seasons and lighting demands.



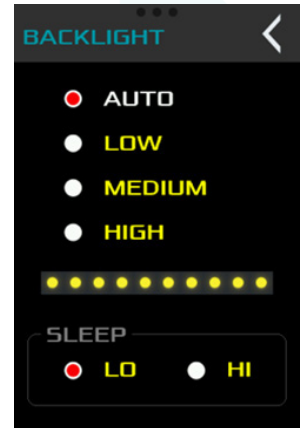
 **8. AUDIO** - Selection of audio type and volume.



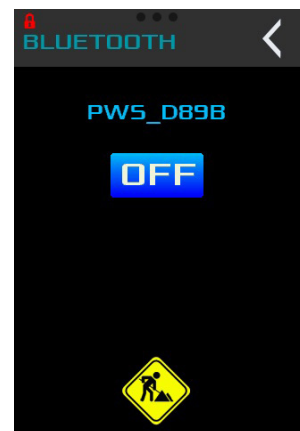
9. PROXIMITY - Motion detection. Sensitivity selection of the proximity sensor for auto recognition. PWS will automatically "wake up" from its Low Power/Energy Saving "SLEEP MODE" when it detects a user within range of it. Maximum Infrared detection distance approx. 6' or 1.5m.



10. BACKLIGHT - Sensitivity selection of the ambient light sensor for desired level of station illumination during operation. SLEEP MODE illumination select.



11. BLUETOOTH (FUTURE) - Coming for 2022.



RECORDING A PRESET

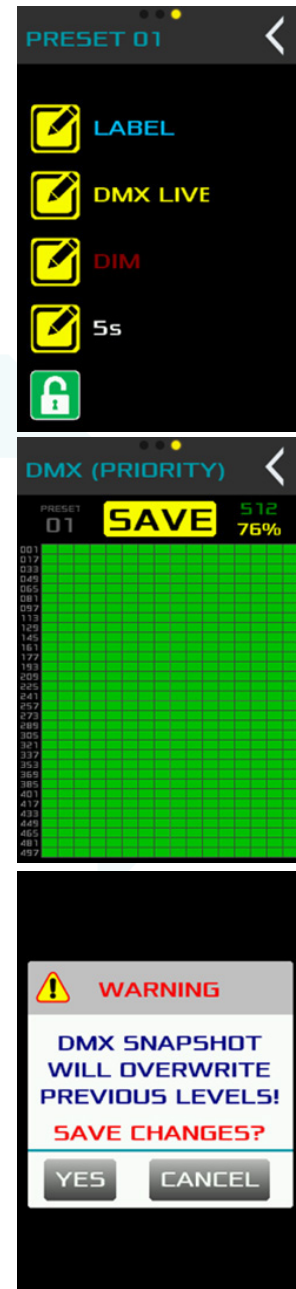
Press and hold a preset will take you to the following. There are two ways to record a PRESET:

1. **DMX SNAPSHOT** - This method of PRESET recoding requires an external source of DMX512 (control console or similar) and is commonly used in theatrical and large architectural applications. This method can only be done at the Main PWS in each room and requires an ADMIN level PASSWORD. Steps 1-5 in the SET UP and Configuration of the manual must be done prior to PRESET Recording.
 - With valid DMX512 on the Main PWS DMX Input, select the PRESET you wish to record the "live" DMX scene into by pushing and holding that particular PRESET. Eg. PRESET 01.

The PRESET EDIT Mode will now display with DMX LIVE indicated. Pushing the DMX LIVE button will display the incoming DMX levels on a proprietary "grid display".

The entire DMX universe of incoming 512 channels is displayed with each channel individually represented in the grid. The vertical numbering along the left side indicates the first DMX channel on that row and runs consecutively across in groups of 16 channels. DMX level data is visually displayed in real time where the higher the DMX level the brighter the LED in that channel of the grid. Other information at top of the screen includes DMX Priority, Yellow LED indication of DMX being received, total number of DMX channels being received, DMX level data in percent, last action, and the PRESET number.

Pushing the SAVE button will save the incoming data as a DMX Snapshot into Preset 01 with safety intercept below.



LABEL EDITOR - Pushing the LABEL button in this menu allow for a customized labeling of the PRESET through the alphanumeric keypad. Enter the desired preset name and press the OK button. This can be done for each PRESET as required.



DIM - This button allows you to quickly select the entire PRESET to operate as a Dimmer or a Non-Dim. If set as Non-Dim, a vertical bar on the right side of PRESET is visible and this PRESET becomes a toggle switch.



FADE TIME - This allow each PRESET to have a customized fade time. Maximum FADE TIME is 1 hour.



2. PROGRAM A PRESET FROM THE PWS - This method of PRESET recoding can be done at any MAIN PWS without a DMX source. An ADMIN level PASSWORD is required. Steps 1-5 in the SET UP and Configuration of the manual must be done prior to PRESET Recording.

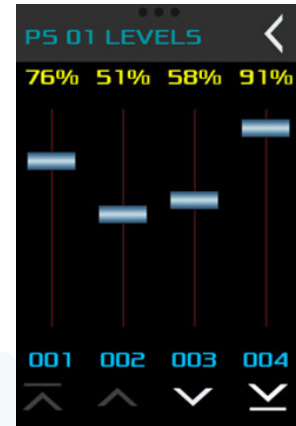
- Select the PRESET you wish to program by pushing and holding that particular PRESET.
- A pop-up menu similar to the one shown below will display. Eg. PRESET 22.

NOTE: The virtual Master Slider is the only item that a user can access and will permit user EDIT of the previously recorded PRESET \pm 50%. Escaping out of this PRESET will not overwrite previously recorded levels.

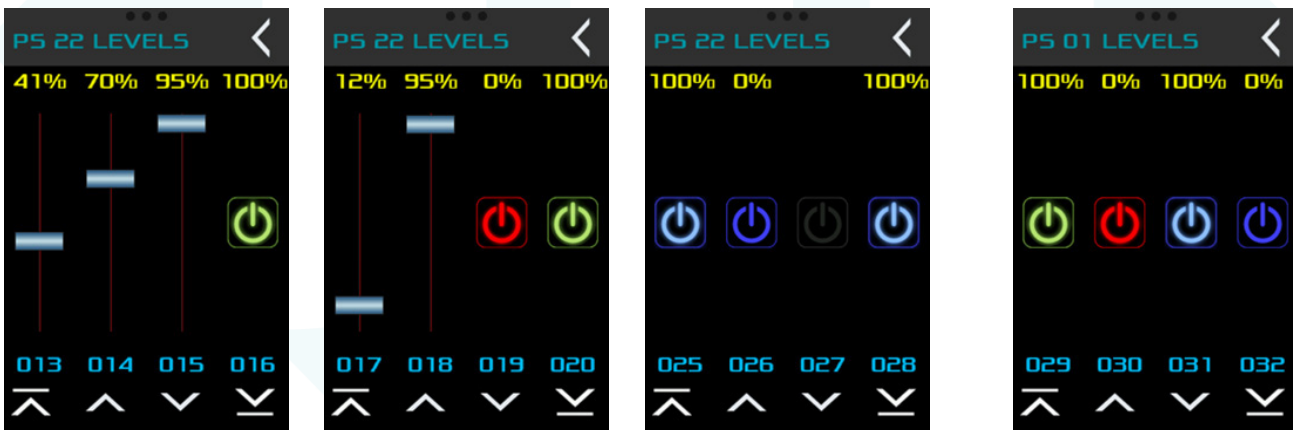


Only an ADMIN can record.

- With a valid ADMIN PASSWORD entered, access to all buttons and features are available to record your custom PRESET. All buttons remain the same as previously detailed in recording a "DMX Snapshot" above with the exception of the LEVELS button. Pushing this button opens access to all the DMX channels that were previously set for this Main PWS in the DMX SETUP. Eg. PRESET 01.
- Virtual sliders are provided for each channel in the PRESET configured as dimmers. These provide real time DMX Output for the Main PWS so that a PRESET can be customized for recording. Menu down to advance through the assigned channels in groups of 4. DMX channels are displayed below the bottom of each slider.
- Non-Dim channels will be displayed as ON/OFF symbols where ON is Green and OFF is Red. Grey when disabled. Push to toggle.
- TASK Lights will be displayed as ON/OFF symbols where ON is Light Blue and OFF is Dark Blue. Grey when disabled. Push to toggle.



More examples below:



In the examples above:

1. The PRESET number (22 Of 70 possible) is displayed at the top left.
2. Navigation across the PRESET is provided by the bottom arrows.
3. DMX channels assigned to this PRESET are displayed in blue across the bottom of each display.
4. Channel output intensity in percentage is displayed across the top in yellow.
5. Channel type is assigned mid-screen where virtual slider represent dimmers and the international ON/OFF power symbol represents NON-DIM and TASK Channels with color represents their current state where:

- NON-DIM ON = Yellow
- NON-DIM OFF = Red
- NON-DIM Disable = Grey
- TASK ON = Light Blue
- TASK OFF = Dark Blue
- TASK Disable = Grey

PRESET PLAYBACK

Navigate to the desired preset and tap the preset. Positive preset activation will be indicated visually by the preset becoming a solid color and audibly if the audio feature has been selected and set. The gray bar at the top of the display will fade across matching the FADE TIME programmed and the PRESET output level will display the real-time DMX fading from 0-100%. The last fade preset with dimmers assigned will display to the left of the fade in progress bar.

SPECIAL CASE - PRESET EDIT SCREEN

Upon exit of the PRESET EDIT menu:

ADMIN

- If the ADMIN has changed any of the settings, the ADMIN will be allowed to save the changes.
- Re-entry of the PRESET EDIT screen will not require re-entry of the password.

USER

A USER will only be allowed access to the LEVELS screen and the Master Slider. The Master Slider will permit adjustment of all live channels programmed into the active Preset \pm 50% from the previously recorded level.

Upon exit of the PRESET edit menu:

- If the USER has made any changes to the settings, no prompt to SAVE changes will be displayed. The new settings will be active for the current PRESET but not saved.
- Re-entry of the Preset edit screen will require re-entry of the password.

FIRMWARE UPGRADES

- PWS ship with an imbedded Bootloader that allows for field upgrades with a standard PC laptop and USB cable. This application and new firmware will be available at no charge for bug fixes and or product deficiencies on demand for the 2 year warranty period of the PWS. Enhanced system capabilities and features may require a small fee to offset development cost. Please inquire via email to info@johnsonsystems.com.





PRESIDOR™

User Manual

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