

eBUS® Button Panel Decorator-Style Series • Setup Guide

Overview

Extron offers a range of eBUS Button Panels (EBPs) in the decorator-style form factor that can be mounted in walls or furniture in any standard US 1-gang opening. Each panel is a fully customizable AV system control interface for use with Extron IPCP Pro Series control processors. Individual EBPs are easily configured and can be connected with other panels to provide control for large and complex AV systems.

NOTE: These products are only for use with Extron UL Listed IPCP Pro control processors.

Each EBP button panel has two eBUS ports that support power and communications between the IPCP Pro control processor and eBUS devices. Up to eight eBUS devices such as EBP button panels can be connected to the control processor and to each other in various cabling topologies. Cabling topology refers to the physical layout of cabling interconnections between devices in a network such as an eBUS system. eBUS systems can include daisy chain, star, or hybrid (a combination of both) system topologies (see the *eBUS Technology Reference Guide*, available on www.extron.com, for basic diagrams). Every device must have a unique identification address (eBUS ID) within the system.

Setup involves setting eBUS ID DIP switches on the EBPs, then using Extron Global Configurator® Plus and Professional software, the Toolbelt utility, or Global Scriptor® programming software, to configure the control processor. Once configured, the AV system can be controlled from any of its EBPs.

This guide provides basic instructions for an experienced installer to install the EBP decorator-style series button panels. For more details on the EBPs, see the *eBUS Technology Reference Guide*, available on www.extron.com. For details on configuration or programming, see the software help files.

EBP Rear and Side Panel Features

Figure 1 shows the side and rear views of the EBP 105 D and the rear view of the EBP 103 D. The EBP 105 D side features are very similar for all EBP decorator-style models except the EBP 103 D. The EBP 105 D rear features are the same for all EBP decorator-style models except the EBP 103 D.

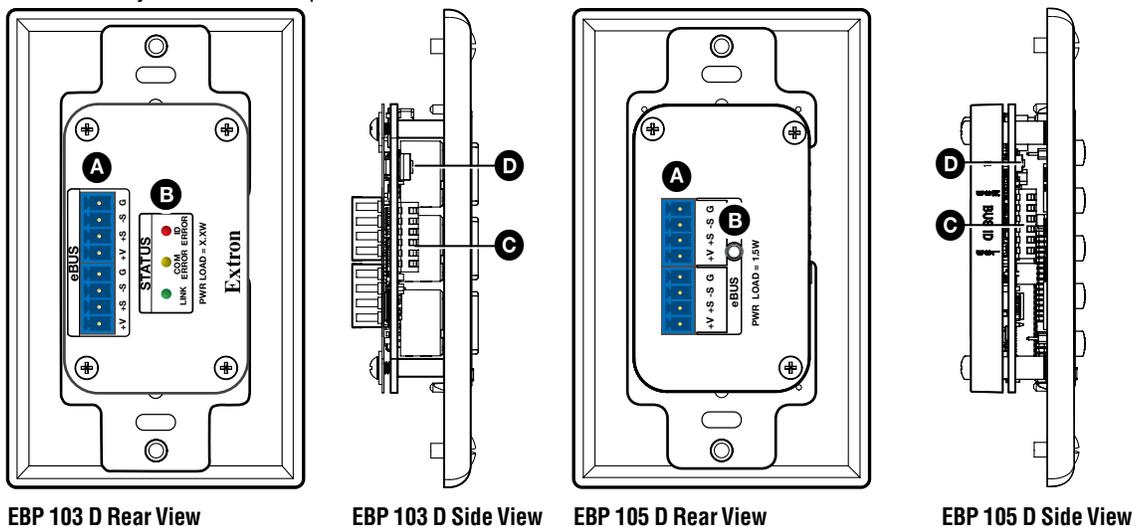


Figure 1. EBP 105 D and EBP 103 D Rear and Side Views.

- A eBUS connectors** (2 ports) — The four-pole captive screw connectors use the Extron eBUS protocol to connect the panel to a controller and to other panels (see [Step 5: Cable All Devices](#) on page 9).
- B Status LEDs** — Provide diagnostic information about the connection, communication, and power status of the panels.
 - The EBP 103 D has amber, red, and green LEDs.
 - All other EBP decorator-style models have a single green LED.

For more information about how the LEDs are used for troubleshooting, see [Step 7: Test and Troubleshoot](#) on page 11.
- C DIP switches** — Up to eight devices can be connected to one control processor. Each device connected to the same control processor must have a unique eBUS ID, which is set using DIP switches (see [Step 4: Set the eBUS ID](#) on page 6).
- D Reset button** — Resets the firmware to the factory installed version (see [To reset the firmware](#) on the next page).

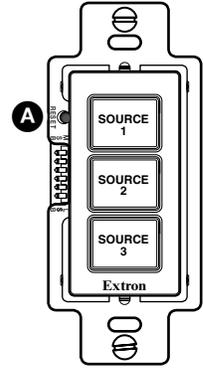
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To reset the firmware

The Reset button (see figure 2, **A**) for the EBP 103 D can only be accessed from the front of the unit, after removing the frame (see [Remove the frame and bezel](#) on page 4).

For all models:

1. Disconnect the eBUS cable that is providing power.
2. While reconnecting power, press and hold down the **Reset** button (see figure 1, **D** or figure 2, **A**).
3. Release the **Reset** button 1 second after reconnecting power. During the reset process, the front panel buttons are not lit. When the eBUS Status LED lights, the reset process is complete, and the EBP is functioning normally. For the EBP 103 D, the green Link LED lights to show that the EBP is functioning normally.



EBP Front Panel Features

All buttons are backlit with LEDs to identify the active button. Inactive buttons can be backlit dimly to help identify them in low ambient lighting.

Figure 2. EBP 103 D with Front Panel Removed

The buttons and encoders must be configured or programmed to carry out their functions. Use Global Configurator Plus and Professional and Toolbelt to configure the EBP buttons and LEDs or use Global Scriptor to program the EBP buttons and LEDs.

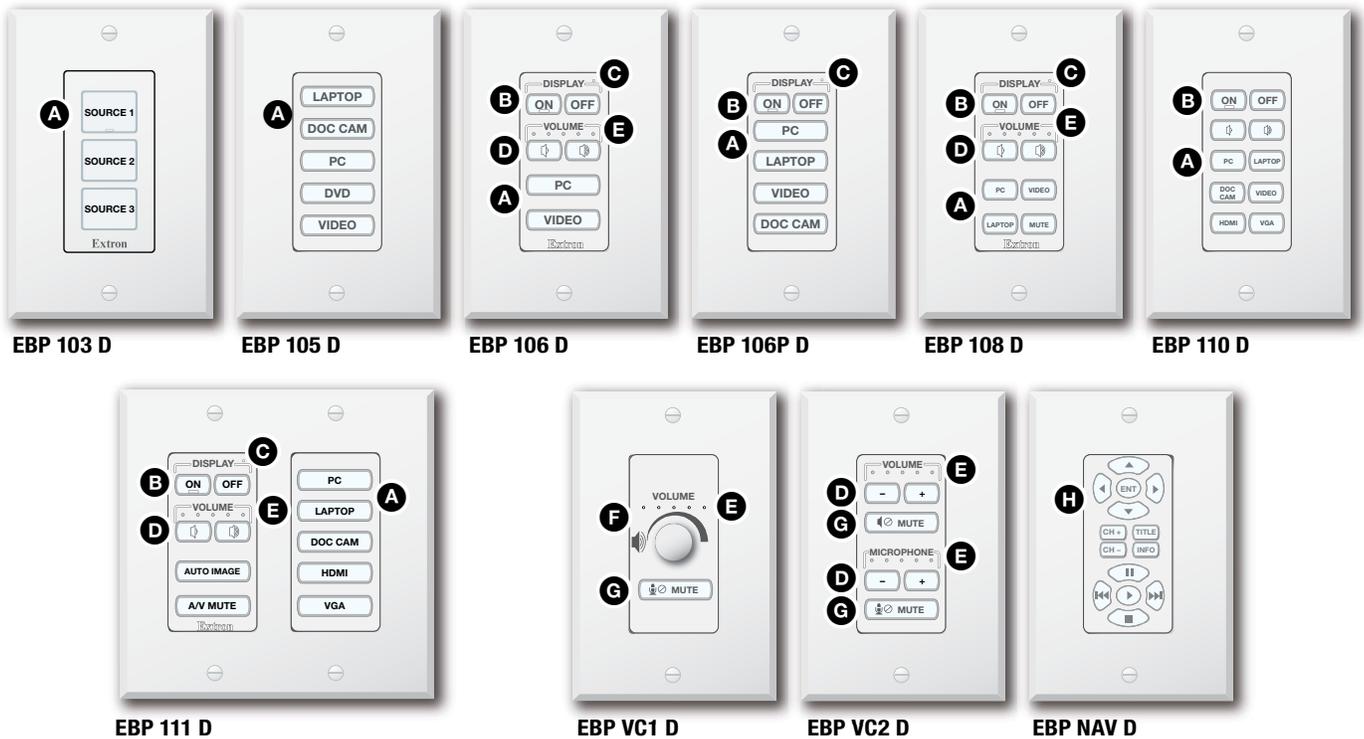


Figure 3. EBP Decorator-style Series Front Panels

- A Function buttons** — The EBP 103 D has three backlit dual-color buttons. The top button has a nub that can be felt with the finger tips. All other panels have backlit soft-touch buttons.
- B Power buttons** — Control the power to the display device. The On button has a nub that can be felt with the finger tips.
- C Transmit LED** — Present on certain models only, the Transmit LED blinks once when any button is pressed.

Volume control

- D Volume buttons** — Present on certain models only, the Volume buttons increment or decrement audio volume.
- E Volume LED meter** — Present on certain models only, the Volume LED meter lights to indicate the volume level.
- F Volume rotary encoder** — Present on certain models only, the volume rotary encoder increments or decrements audio volume.
- G Mute button** — Present on certain models only, the Mute button toggles between audio mute and unmute. You can configure the Mute button so that it is backlit red when muted and white when unmuted for a visual indication of the status.

Video control

- H Transport control buttons** — Used to control a DVD or Blu-ray player.

Planning the System and Installation

When planning to install an eBUS system, consider how many EBP button panels to use, maximum cable distance, cabling topology, and mounting. See the *eBUS Technology Reference Guide* for more information about eBUS topologies.

Installation

Step 1: Get Ready

Use the following check list to prepare for the installation.

- Download and install the latest versions of the software, firmware, and device drivers needed to configure or program the IPCP Pro to control the connected AV products. See the *IPCP Pro Series User Guide* (available at www.extron.com) for details on software and drivers.
- Obtain network information (IP addresses, passwords, DHCP settings, and the like) and the MAC address for the control processor.
- Obtain model names, drivers, and setup information for AV devices.
- Determine which eBUS cabling topologies to use and obtain cables, mounting hardware, and any power supplies or hubs required by that configuration.

Step 2: Prepare the Installation Site

ATTENTION:

- Installation and service must be performed by authorized personnel only.
- L'installation et l'entretien doivent être effectués par le personnel autorisé uniquement.
- Extron recommends installing the EBP into a grounded, UL Listed electrical junction box.
- Extron recommande d'installer le EBP dans un boîtier d'encastrement électrique mis à la terre, listé UL.
- If the EBP will be installed into fine furniture, it is best to hire a licensed, bonded craftsman to cut the access hole and perform the physical installation so the surface will not be damaged.
- S'il est prévu d'installer le EBP dans du beau mobilier, il est préférable de faire appel à un artisan autorisé et qualifié pour couper le trou d'accès et réaliser l'installation de telle façon que la surface ne soit pas endommagée.
- Follow all national and local building and electrical codes that apply to the installation site.
- Respectez tous les codes électriques et du bâtiment, nationaux et locaux, qui s'appliquent au site de l'installation.

NOTE: For the installation to meet UL requirements and to comply with National Electrical Code (NEC), the EBP must be installed in a UL Listed junction box (not included with the EBP). The end user or installer must furnish the junction box.

Americans with Disabilities Act (ADA) compliance

When planning where to install these devices, you may need to consider factors affecting accessibility of the button panel such as height from the floor, distance from obstructions, and how far a user must reach to press the buttons. For guidelines, see sections 307 ("Protruding Objects") and 308 ("Reach Ranges") of the *2010 ADA Standards for Accessible Design* available at <http://www.ada.gov/reg2010/2010ADASTandards/2010ADASTandards.pdf>.

Site preparation

All of the EBP decorator-style series models, except the EBP 111 D, fit any standard 1-gang US wall opening. The EBP 111 D fits any standard 2-gang US wall opening. All devices ship with a mud ring of the correct size. In addition, Extron offers an assortment of optional UL Listed in-wall junction boxes, external wall boxes (EWBs), and surface or tabletop mounting boxes that can be used with the eBUS button panels (see www.extron.com).

Step 3: Change the Buttons (Optional)

You can replace any combination of faceplate, buttons, or rotary encoder, depending on the model. You can order replacement or custom buttons using the Custom Button Builder at www.extron.com.

To replace the buttons:

1. If required, remove the rotary encoder knob (EBP VC1 D only) (see [Remove the rotary encoder knob](#) on the next page).
2. Remove the wallplate (all models) (see [To reset the firmware](#) on the previous page).
3. Replace the buttons (all models except the EBP 103 D) (see [Replace buttons for panels except the EBP 103 D](#) on the next page).
4. Replace the button labels (EBP 103 D) (see [Replace button labels for the EBP 103 D](#) on page 5).

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Remove the rotary encoder knob (EBP VC1 only)

The EBP VC1 D has a rotary encoder knob. Before replacing buttons, remove the encoder, as shown here.

1. Turn the rotary encoder knob (figure 4, ①) to expose the hex screw holding the knob in place (②).
2. Insert the provided 0.05 inch Allen wrench and turn the wrench in the direction shown (③) to loosen the screw.
3. Pull the knob straight out to remove it.

Once the encoder knob is removed, the frame and bezel can be removed and the buttons replaced as described in the following sections.

NOTE: To replace the knob, align the ridge on the inside of the knob with the groove in the metal knob assembly underneath. Press the knob straight down so that the magnet in the knob secures it to the unit.

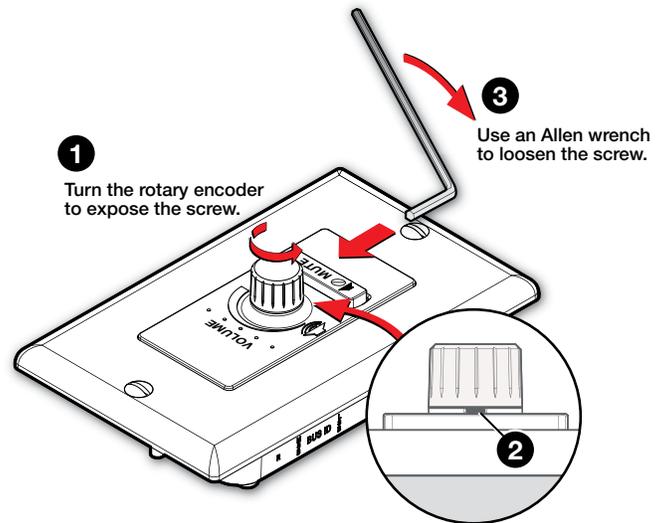


Figure 4. Removing the Rotary Encoder (EBP VC1 D only)

Remove the frame and bezel (All models)

1. To remove the frame, remove the two screws holding the frame to the module (figure 5, ①).
2. To separate the bezel from the module, insert a small flat-bladed screw driver into the notch at the top of the bezel. Release the catch holding the bezel to the module (②).
3. Repeat step 2 to release the catch at the bottom of the bezel.
4. Tilt the top of the bezel forward as you remove it to prevent the buttons falling out.

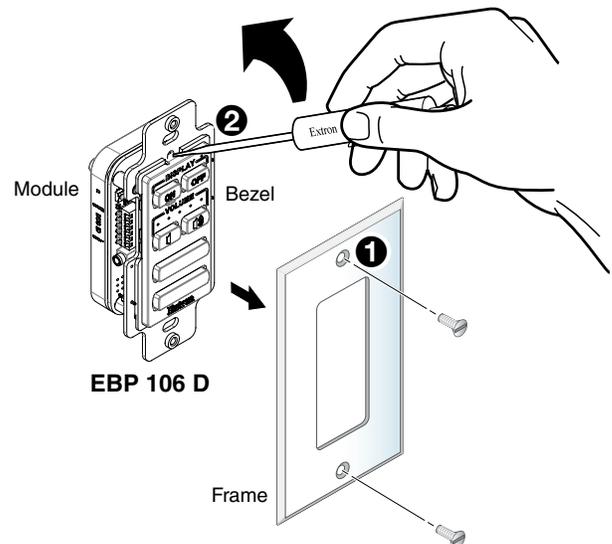


Figure 5. Releasing the Faceplate

Replace buttons for panels except the EBP 103 D

This section applies to all EBP decorator models except the EBP 103 D (see [Replace button labels for the EBP 103 D](#) on the next page).

1. From the front of the bezel, press the button or button pair to be replaced backward through its slots in the faceplate until the membrane containing the button is free.
2. If required, remove all the buttons and replace the bezel.
3. On the back of the bezel, insert the replacement button or button pair into the appropriate slots. Ensure the text is in the correct orientation. Align the two pegs in the button membrane (see figure 6, ①) with the holes located at opposite corners of the empty space in the faceplate.
4. Press the two buttons into the faceplate until the pegs on the membrane are seated in the corresponding holes (②).
5. Repeat steps 1 through 4 for any other buttons that you want to replace.
6. Snap the bezel into place on the module.
7. Reattach the frame, using the two screws removed in step 1 of [Remove the frame and bezel](#), above.
8. **EBP VC1 D only:** Replace the rotary encoder knob by reversing the procedure that was described above in [Remove the rotary encoder knob](#).

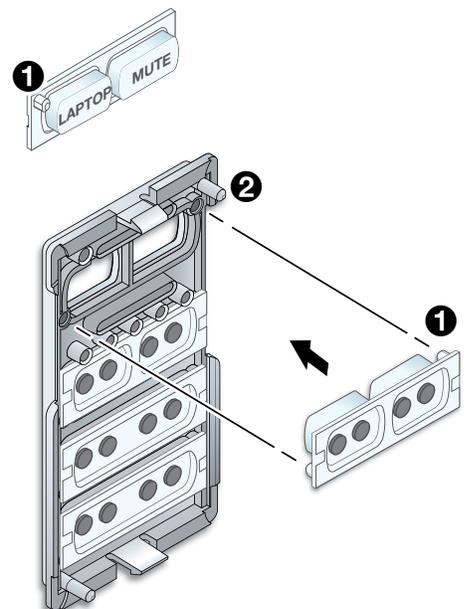


Figure 6. Replacing the Buttons

Replace button labels for the EBP 103 D

You can replace one or more of the labels within the buttons. Some button labels ship with the unit. You can create and print your own customized labels using Extron Button Label Generator software.

To change a label, follow these instructions.

1. **Remove the frame and bezel** (see the previous page).
2. Gently separate the button cap from its white diffuser: insert the end of the provided Extron removal tool into the corner notch and gently twist the tool (see figure 7, ①).
3. Remove the label insert from the button cap.

TIP: If the insert does not come out easily, use a piece of sticky tape to pull it out of the button cap.

4. Select one of the button labels from the printed label sheets included with the unit. Remove the label from its backing and remove the clear, protective film from the label.
5. Insert the button label into the button cap (②).
6. Align the cap with the white diffuser and press the clear cap into place on the button.
7. Reattach the frame and bezel to the EBP by reversing the process described in **Remove the frame and bezel** on the previous page.

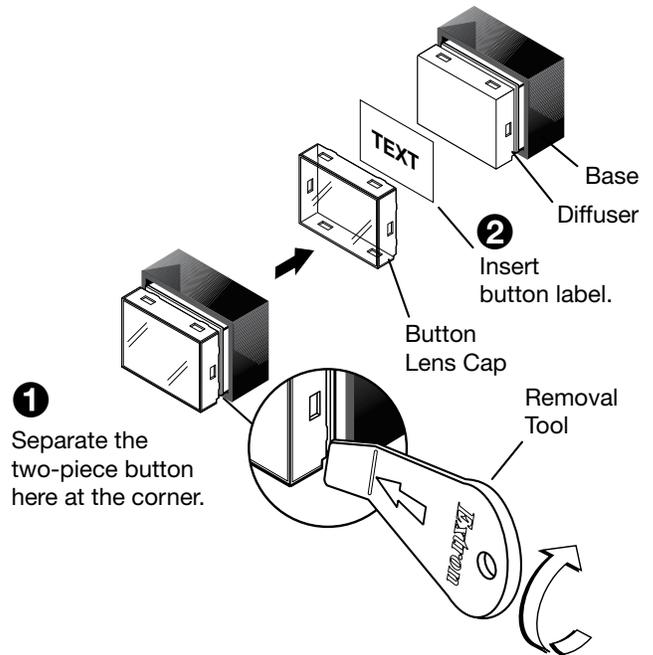


Figure 7. Replacing Button Labels on the EBP 103 D

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Step 4: Set the eBUS ID

Up to eight devices can be connected to one control processor. In order for the control processor to be successfully configured, each device connected to the same control processor must have a unique six-bit, eBUS ID, which is set with the DIP switch assembly on the side panel of the EBP (figure 8, ①). If two or more modules have the same eBUS ID, address conflicts may cause one or more of the panels to not be recognized by the IPCP Pro control processor.

Various combinations of the six DIP switches being set to On or Off, provide 64 addresses: 0 is a reserved eBUS ID and the configurable eBUS ID range is 1 through 63 (see the table on the two following pages). The section below shows an example of binary to decimal conversion.

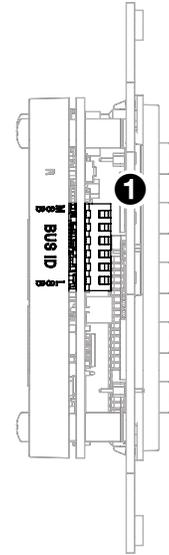


Figure 8. Decorator-style eBUS Panel DIP Switches

eBUS ID Setup



Figure 9. eBUS ID Setup

Add the decimal numbers for each of the DIP switches that are set to On to obtain the address of the device. In figure 9, only DIP switch 5 is on and the rest are off, which means the address for the device in figure 9 is $0+0+0+0+2+0 = 2$.

NOTES:

- Any address can be used except address 0 (binary: 000000), which is reserved (as the address of the controller) and may not be used.
- Switch 1 (on the left) is the highest value (32, the most significant bit) and is labelled MSB.
- Switch 6 (on the right) is the lowest value (1, the least significant bit) and is labelled LSB.
- **Up** = on = 1, **Down** = off = 0

The following table shows the factory default eBUS IDs and the corresponding addresses for the decorator-style models. These IDs can be changed to any valid value.

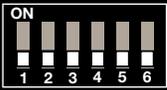
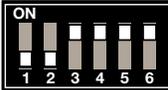
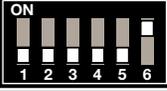
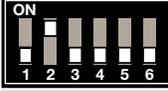
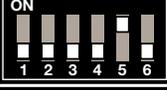
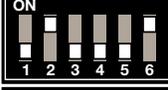
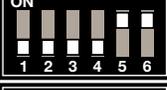
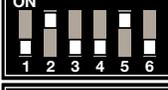
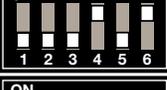
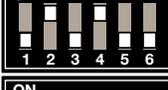
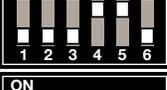
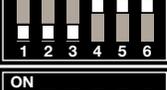
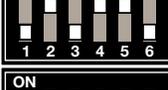
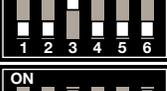
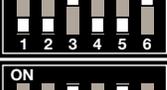
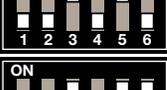
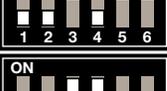
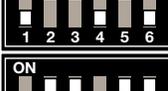
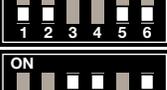
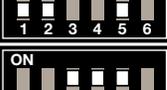
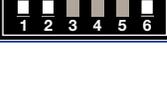
Model	Address	eBUS ID
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EBP 105 D	2	000010
EBP 106 D	1	000001
EBP 106P D	13	001101
EBP 108 D	7	000111
EBP 110 D	8	001000
EBP 111 D	9	001001
EBP NAV D	18	010010
EBP VC1 D	17	010001
EBP VC2 D	15	001111

The table on the following two pages shows the DIP switch settings for all 64 possible addresses.

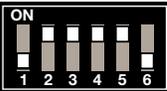
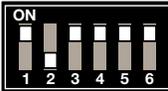
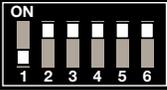
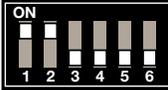
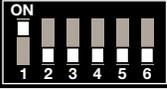
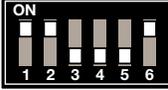
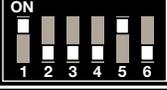
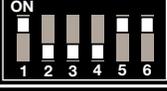
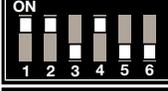
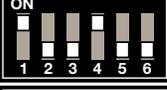
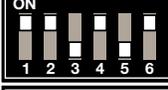
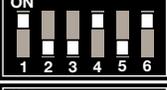
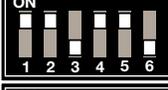
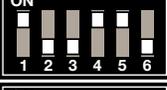
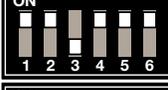
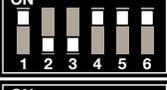
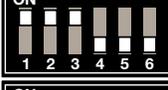
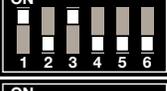
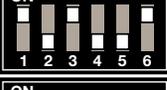
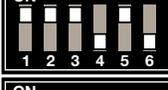
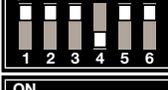
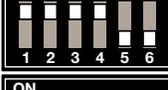
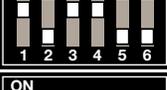
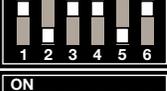
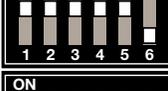
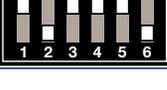
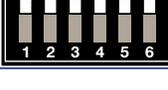
Setting eBUS ID Numbers

In the table below, a DIP switch setting shown as 0 is equivalent to Off. A DIP switch setting shown as 1 is equivalent to On.

NOTE: The ID number 0 (switch setting 000000) is reserved for the control processor and cannot be used by an eBUS device.

		DIP Switch Setting						Decimal Value			DIP Switch Setting						Decimal Value		
		1	2	3	4	5	6				1	2	3	4	5	6			
MSB		LSB	0	0	0	0	0	0	0	MSB		LSB	0	0	1	1	1	1	15
				1	16														
		2	17																
		3	18																
		4	19																
		5	20																
		6	21																
		7	22																
		8	23																
		9	24																
		10	25																
		11	26																
		12	27																
		13	28																
		14	29																

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		DIP Switch Setting						Decimal Value			DIP Switch Setting						Decimal Value		
		1	2	3	4	5	6				1	2	3	4	5	6			
MSB		LSB	0	1	1	1	1	0	30	MSB		LSB	1	0	1	1	1	1	47
			0	1	1	1	1	1	31				1	1	0	0	0	0	48
MSB		LSB	1	0	0	0	0	0	32	MSB		LSB	1	1	0	0	0	1	49
			1	0	0	0	0	1	33				1	1	0	0	1	0	50
MSB		LSB	1	0	0	0	1	0	34	MSB		LSB	1	1	0	0	1	1	51
			1	0	0	0	1	1	35				1	1	0	1	0	0	52
MSB		LSB	1	0	0	1	0	0	36	MSB		LSB	1	1	0	1	0	1	53
			1	0	0	1	0	1	37				1	1	0	1	1	0	54
MSB		LSB	1	0	0	1	1	0	38	MSB		LSB	1	1	0	1	1	1	55
			1	0	0	1	1	1	39				1	1	1	0	0	0	56
MSB		LSB	1	0	1	0	0	0	40	MSB		LSB	1	1	1	0	0	1	57
			1	0	1	0	0	1	41				1	1	1	0	1	0	58
MSB		LSB	1	0	1	0	1	0	42	MSB		LSB	1	1	1	0	1	1	59
			1	0	1	0	1	1	43				1	1	1	1	0	0	60
MSB		LSB	1	0	1	1	0	0	44	MSB		LSB	1	1	1	1	0	1	61
			1	0	1	1	0	1	45				1	1	1	1	1	0	62
MSB		LSB	1	0	1	1	1	0	46	MSB		LSB	1	1	1	1	1	1	63

Step 5: Cable All Devices

Attach cables using the diagrams in this section as a guide. Connect a 4-pole captive screw connector to each end of the cable, wiring both ends as shown in figure 7. In most cases the EBPs are powered by the IPCP Pro control processor that provides the eBUS signal. Power is carried on the V+ pin of each eBUS connection.

The four connectors are:

- **+V** — carries 12 VDC power from the controller, active hub, or power supply
- **+S** — carries the positive data signal
- **-S** — carries the negative data signal
- **G** — ground

Extron STP20-2/1000 or STP20-2P/1000 cable is recommended for eBUS connections.

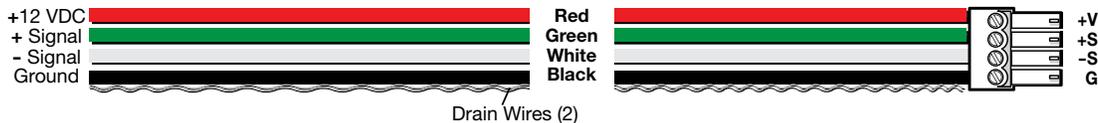


Figure 10. Basic eBUS Connector Wiring and Cable Color Code

NOTES:

- The two eBUS ports are interchangeable: either port can be used to connect the device to a controller or EBDB distribution hub and either can be used to daisy-chain the device to another EBP.
- Connect up to eight eBUS devices for each IPCP Pro control processor.
- Wire the connectors in the same way at both ends.
- Do NOT power an EBP from more than one power source.
- Do not exceed a total of 1000 feet (305 meters) of cable for connections between the IPCP Pro and all the EBP panels.
- Power is provided by the IPCP Pro. If additional power is required, use a PS 1220EB power supply and distribution hub, or an Extron PS series desktop power supply. If more than one power source is used in a system, make sure that the devices powered by the first source are isolated from the devices powered by the second source by disconnecting the +V pin appropriately (see [figure 11](#) on the following page).

ATTENTION:

- Always use a power supply supplied or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the end product.
- Utilisez toujours une source d'alimentation fournie ou recommandée par Extron. L'utilisation d'une source d'alimentation non autorisée annule toute conformité réglementaire et peut endommager la source d'alimentation ainsi que le produit final.
- If not provided with a power supply, this product is intended to be supplied by a UL Listed power source marked "Class 2" or "LPS" and rated output 12 VDC, minimum 1.0 A.
- Si le produit n'est pas fourni avec une source d'alimentation, il doit être alimenté par une source d'alimentation certifiée UL de classe 2 ou LPS, avec une tension nominale 12 Vcc, 0,5 A minimum.
- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities.
- Sauf mention contraire, les adaptateurs CA/CC ne conviennent pas à une utilisation dans les espaces d'aération ou dans les cavités murales.
- The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 725 and the Canadian Electrical Code part 1, section 16. The power supply shall not be permanently fixed to building structure or similar structure.
- Cette installation doit toujours être conforme aux dispositions applicables du Code américain de l'électricité (National Electrical Code) ANSI/NFPA 70, article 725, et du Code canadien de l'électricité, partie 1, section 16. La source d'alimentation ne devra pas être fixée de façon permanente à la structure de bâtiment ou à d'autres structures similaires.

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EBPs that are relatively far from the control processor (see the *eBUS Technology Reference Guide* on www.extron.com for details) can be connected to an optional Extron PS 1220EB eBUS power supply and distribution hub, or an Extron PS series desktop power supply as shown in the following diagrams.

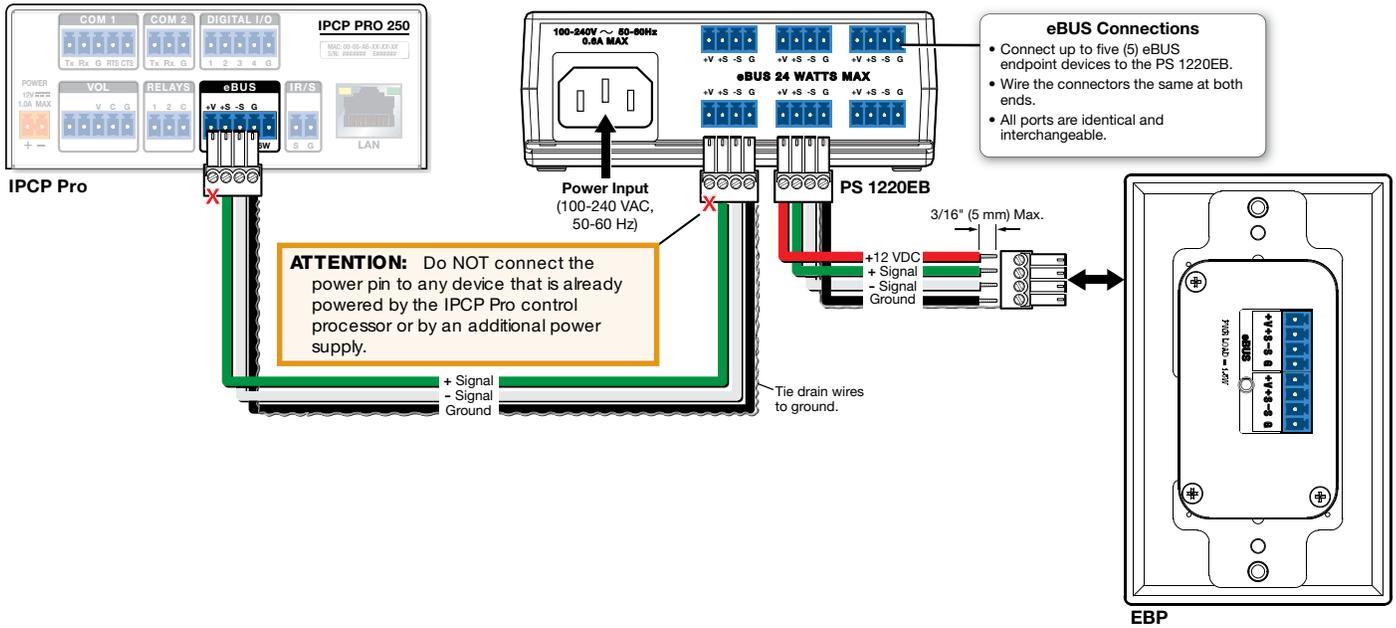


Figure 11. Cabling an eBUS System with an PS 1220EB Power Supply and Distribution Hub

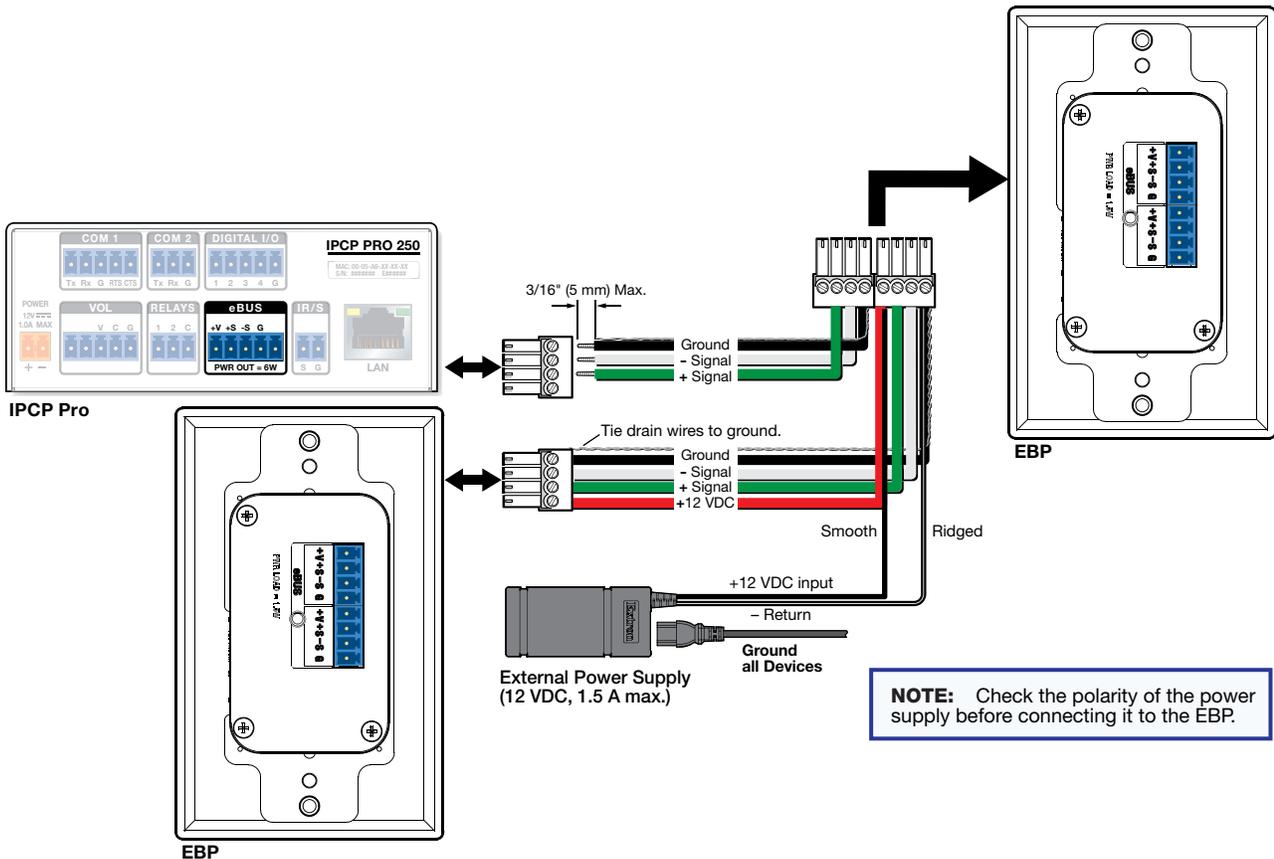


Figure 12. Cabling EBP Panels with an Extron PS Series Desktop Power Supply

NOTE: Although the rear panel for the EBP 103 D is different from the rear panel shown in figures 11 and 12, power and eBUS cables are connected in exactly the same way.

Step 6: Configure the System

EBPs are shipped with pre-labelled buttons in place but these buttons do not have any functions associated with them until they are configured with Global Configurator or programmed with Global Scripter. See the *Global Configurator Help File* or the *Global Scripter Help File* for step-by-step instructions and detailed information.

Step 7: Test and Troubleshoot

1. Verify that the DIP switches on the EBPs are set to the desired address on each device and that there are no eBUS ID conflicts in the system (see [Step 4: Set the eBUS ID](#) on page 6).

2. The eBUS status LEDs (see [figure 1, B](#), on page 1) provide information about power and communication status and eBUS ID address conflicts.

The EBP 103 D has three LEDs:

- **Off** — If all three LEDs are off, the device is not receiving power.
- **Amber LED**— Lights solidly when the device is receiving power but communication with the control processor is not confirmed.
- **Red LED**— Lights solidly when there is an eBUS ID address conflict.
- **Green LED** — Lights solidly when power and communication are both confirmed.

All other decorator-style panels have a single green LED that provides information as follows:

- **Off** — The device is not receiving power.
- **Slow blink** (1 blink per second)— The device is receiving power but communication with the control processor is not confirmed.
- **Fast blink** (2 blinks per second) — There is an eBUS ID address conflict.
- **Lights solidly** — Power and communication are both confirmed.

3. Verify that cables to and from the EBPs are wired the same at each end (pin 1 to pin 1, pin 2 to pin 2, and so forth).

4. Test the system.

- Press buttons on the EBPs and ensure the buttons light as desired and that the appropriate control commands or functions are triggered.
- Ensure that the audio output responds correctly to the volume knob or button. Also ensure that the volume LEDs light correctly as you increase or decrease the audio gain.

5. Make adjustments to wiring, eBUS ID address, or system configuration as needed. Remember that the rear panel ports and DIP switches will not be accessible after the EBP is mounted. If needed, upload a revised configuration to the control processor.

If you have questions during installation and setup, call the [Extron S3 Sales & Technical Support Hotline](#) or the Extron S3 Control Systems Support Hotline (1.800.633.9877).

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Step 8: Mount the EBPs

EBP panels can be installed directly into the wall using a 1-gang or 2-gang (EBP 111D) wall mounting bracket (mud ring) or a UL Listed junction box. Figures 13 (below) and 14 (on the next page) show how to mount a 1-gang EBP. Use the same procedure to mount the two-gang EBP 111 D.

ATTENTION:

- All electrical installation should be performed by qualified personnel in accordance with local and national building codes, fire and safety codes, and local and national electrical codes.
- Toute installation électrique devrait être effectuée par un personnel qualifié, conformément aux codes du bâtiment, aux codes incendie et sécurité, et aux codes électriques locaux et nationaux.

Before mounting:

1. Decide where to locate the panel. Take into consideration the position of wall studs and windows that could obstruct cable runs.

NOTES:

- For 1-gang products the hole is 3.61 inches (92 mm) H x 2.13 inches (54 mm) W.
- For the EBP 111 D (2-gang) the hole is 3.61 inches (92 mm) H x 3.97 inches (100 mm) W.
- EBP products ship with a wall mounting bracket (mud ring). Electrical junction boxes must be purchased separately. Ensure the junction box is the correct size for the EBP.
- The EBP VC1 D is deeper than other decorator-style panels and has a front panel rotary encoder that protrudes from the wall more than the buttons of the other models.
 - Allow at least 1.44 inches (37 mm) depth in the wall or furniture for cables.
 - The EBP VC1 D front panel, including the rotary encoder, extends 0.77 inches (20 mm) from the wall.

2. If required, install an electrical junction box by following the instructions provided by the manufacturer. To install a wall mounting bracket, see steps 1-3 of “Mounting with a wall mounting bracket,” below.
3. Disconnect power from all devices at the source and run the cables through the wall or furniture.
4. Connect the cables to the EBP rear panel (see [EBP Rear and Side Panel Features](#) on page 1).
5. If you have not already done so, set the DIP switches to give the panel a unique eBUS ID (see [Step 4: Set the eBUS ID](#) on page 6).

Mounting with a wall mounting bracket (mud ring)

1. Mark the position of the hole on the wall in the desired location. Use a level to ensure hole is marked at the correct angle.
2. Use a drywall saw to cut a hole (1).
3. Insert the mounting bracket into the hole. Use a screwdriver to turn and tighten the locking arms until they clamp the mud ring to the mounting surface (2). Do not overtighten.
4. Use the two provided Phillips head screws to secure the module to the mounting bracket (3).
5. Use the two screws provided to secure the frame to the module (4).

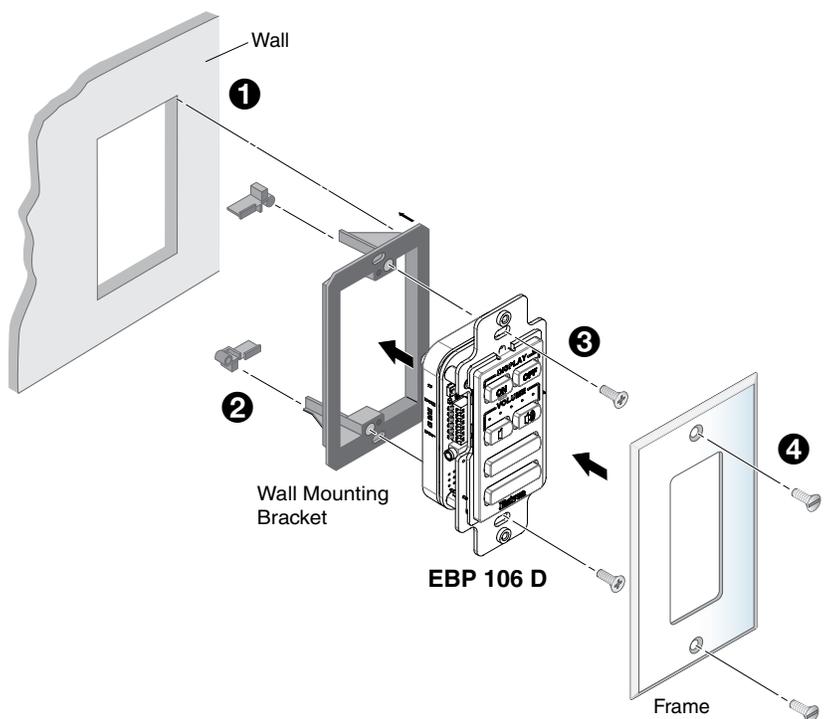


Figure 13. Mounting with a Wall Mounting Bracket

Mounting with a UL Listed Electrical Junction Box

1. Install the junction box by following the instructions provided by the manufacturer.
2. Use the two provided Phillips head screws to secure the module to the junction box (3).
3. Use the two screws provided to secure the frame to the module (4).

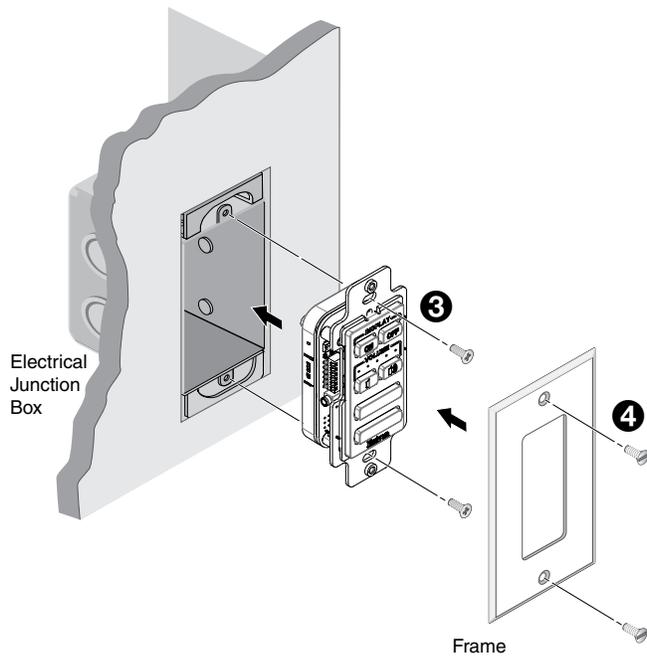


Figure 14. Mounting with a UL Listed Electrical Junction Box

Removing Decorator-Style EBPs

If you need to remove a decorator-style EBP from where it has been mounted, follow these steps:

1. Remove the two screws holding the frame to the module (see figure 13, 1).
2. Remove the two screws holding the module to the junction box or wall mounting bracket (2).
3. Remove the unit from the wall (3) and remove the eBUS cables from the rear panel connectors.

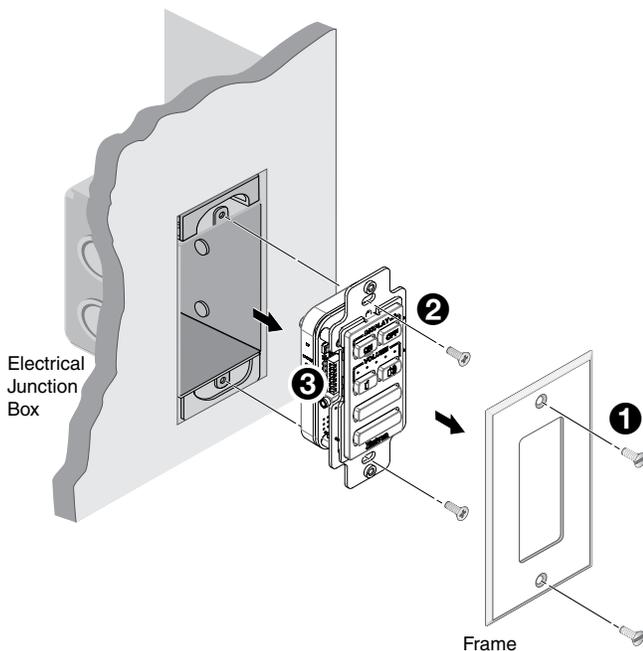


Figure 15. Removing the EBP 106 D

