

Network Button Panel – US Gang Series • Setup Guide

IMPORTANT:
Go to www.extron.com for the complete user guide, installation instructions, and specifications before connecting the product to the power source.

Overview

The Extron NBP Network Button Panels are fully customizable AV system control interfaces for use with Extron IPCP Pro Series and IPL Pro Series Control Processors, and with Extron meeting space collaboration system products. The NBPs in this guide fit a standard US two-gang or three-gang electrical junction box or mud ring. They have one white and one black faceplate for each NBP, and a two- or three-gang mud ring. Each NBP button panel has a single LAN port, which supports both power and communications between the control processor and button panels.

Use Extron Toolbelt software to discover and manage NBP button panels and assign each one a unique IP address. Then use Extron Global Configurator® (GC) Plus and Professional software, or Global Scripter® programming to configure the control system, including the buttons on NBPs. Once configured, the AV system can be controlled from any of the NBPs.

This guide provides basic instructions for an experienced installer to install an NBP 50, NBP 100, or NBP 200 button panel. For more about the NBPs, see the *Network Button Panels User Guide*, available on www.extron.com. For details on configuration, see the software help files.

Front Panel Features

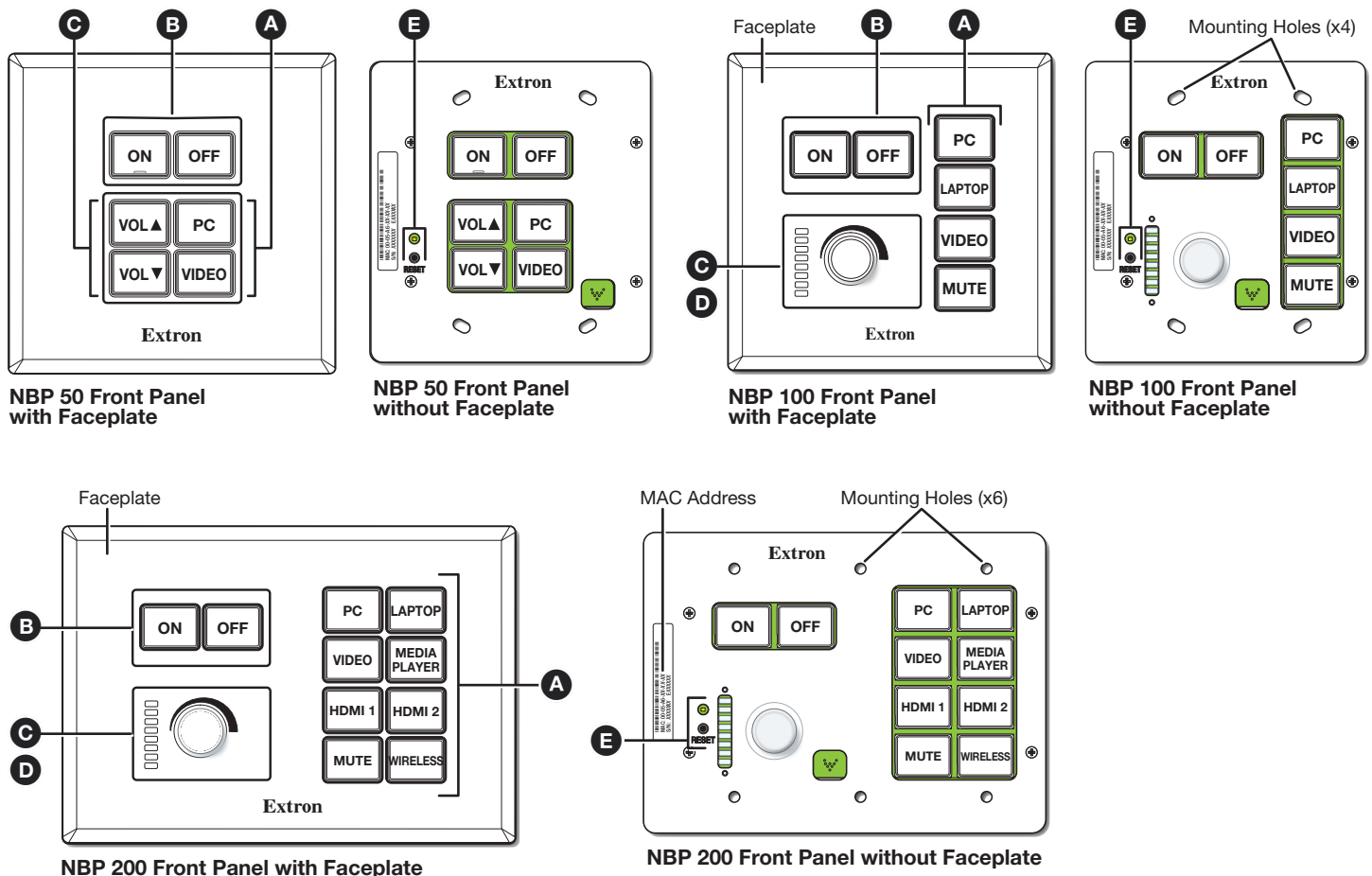


Figure 1. Front Panels With and Without Faceplates

- A Function buttons** — Configure these buttons to light and function as desired.
- B Power buttons** — These buttons are usually used to control the power to the display device. The On button has a nub that can be felt with finger tips.
- C Volume knob or buttons** — Configure the volume knob or buttons to increment or decrement audio volume.
- D Volume LEDs** — Volume LEDs light to act as a meter to indicate the volume level.

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E Reset button and LED — Pressing this recessed button (see [figure 1](#) on the previous page) causes various product settings to be reset to the factory defaults (see [Reset Modes: a Brief Summary](#) on page 7). The LED is normally off except during resets and immediately after boot-up.

All the function buttons, power buttons, and volume knob must be configured or programmed to carry out their functions. The buttons are backlit by LEDs.

- Buttons that are configured or programmed but are inactive are dimly lit.
- Buttons that are not configured are dimly lit.
- The NBP buttons click when pressed.

Rear Panel Features

LAN (Ethernet) and PoE connector and LEDs — Connect the unit to a network via this connector for control and Power over Ethernet. Use the following diagrams as a guide.

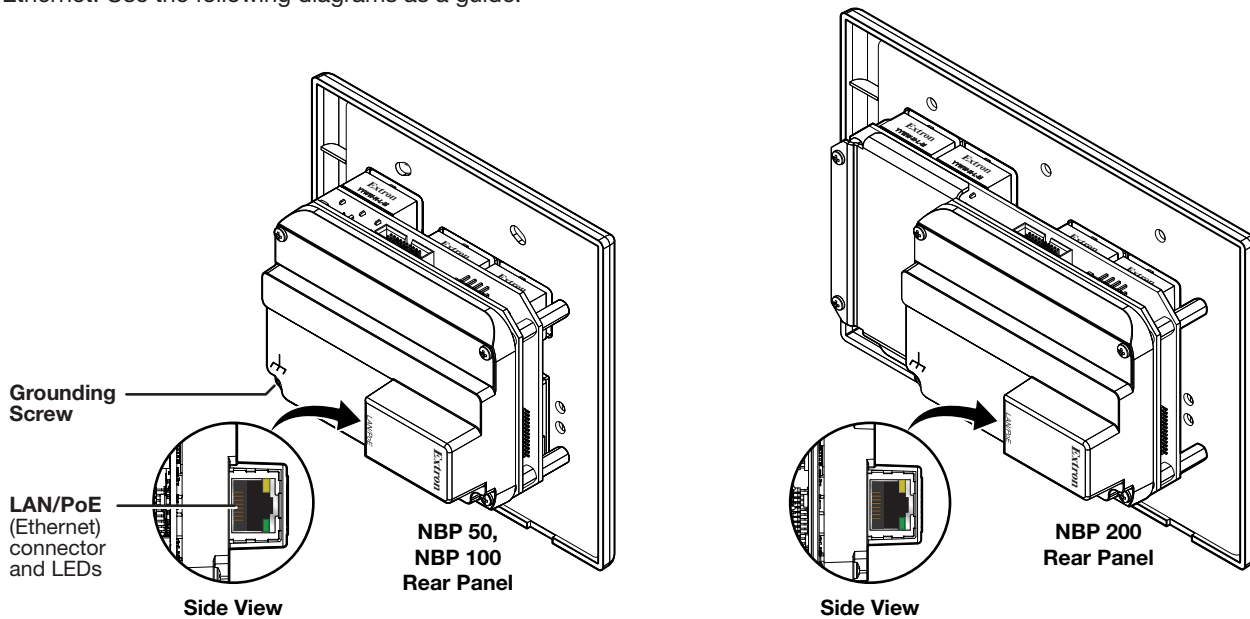


Figure 2. Rear Panel Features

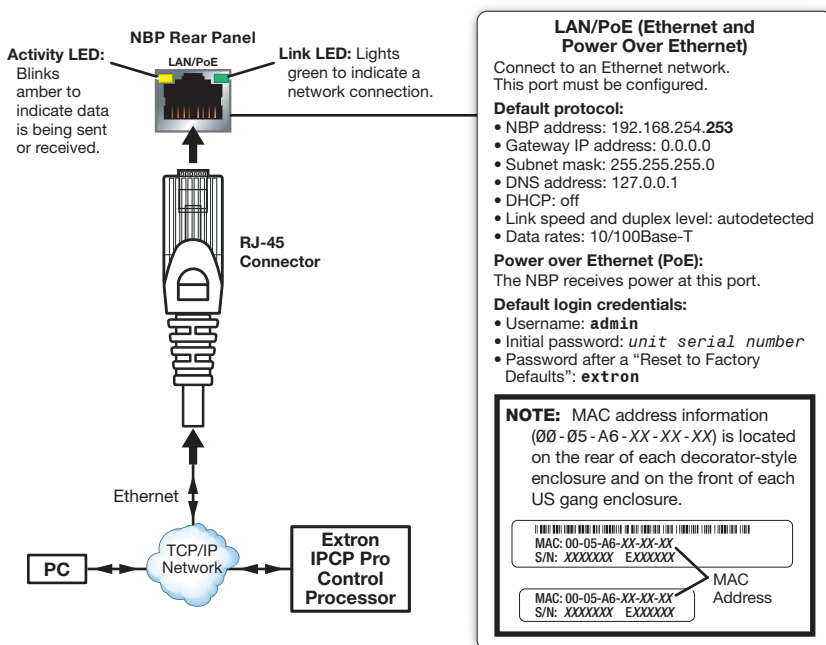


Figure 3. LAN/PoE Port Details

ATTENTION:

- Power over Ethernet (PoE) is intended for indoor use only. It is to be connected only to networks or circuits that are not routed to the outside plant or building.
- L'alimentation via Ethernet (PoE) est destinée à une utilisation en intérieur uniquement. Elle doit être connectée seulement à des réseaux ou des circuits qui ne sont pas routés au réseau ou au bâtiment extérieur.

IMPORTANT NOTES:

- The factory configured password for this device has been set to the device serial number. Passwords are case sensitive. Performing a Reset to Factory Defaults (see [Reset Modes: a Brief Summary](#) on page 7) sets the password to extron.
- DHCP is off by default.

NOTE: See the [grounding instructions](#) on page 5.

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 control processor or HCR receiver to interact with the NBP's and control the connected AV products. See the *IPCP Pro Series User Guide*, *IPL Pro Series User Guide*, or *HC 400 Series User Guide* (available at www.extron.com) for details on software and drivers.
- Obtain network information for the unit from the network administrator. You need the following details for each IP Link Pro device, including the IPCP Pro and each NBP:
 - DHCP setting (on or off)
 - Subnet mask
 - User name
 - Device (NBP) IP address
 - Gateway IP address
 - Passwords

NOTE: If DHCP is on, you do not need the IP addresses and subnet mask.

- Write down the MAC address of each IP Link Pro device (such as the NBP) to be used.
- Obtain model names and setup information for the AV devices to be controlled in the system.
- Each NBP button panel comes with a factory-installed Secure Sockets Layer (SSL) security certificate. If you intend to install a different SSL certificate, contact your IT department to obtain the certificate or for instructions on how to obtain one. See "Secure Sockets Layer (SSL) Certificates" in the *Network Button Panels User Guide* for requirements and guidelines regarding SSL certificates. IEEE 802.1X authentication is also supported once enabled (see "IEEE 802.1X Certificates" in the *Network Button Panels User Guide* for details).

Step 2: Prepare the Installation Site

ATTENTION:
<ul style="list-style-type: none">• Installation and service must be performed by authorized personnel only.• L'installation et l'entretien doivent être effectués par le personnel autorisé uniquement.
<ul style="list-style-type: none">• Extron recommends installing the NBP into a grounded, UL Listed electrical junction box.• Extron recommande d'installer le NBP dans une boîte de dérivation électrique mis à la terre, certifiée UL.
<ul style="list-style-type: none">• If the NBP will be installed into fine furniture, it is best to hire a licenced, 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 NBP 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.
<ul style="list-style-type: none">• 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.
<ul style="list-style-type: none">• For the installation to meet UL requirements and to comply with National Electrical Code (NEC), the NBP must be installed in a UL Listed junction box. The end user or installer must furnish the junction box. It is not included with the unit.• Pour que l'installation respecte les exigences UL et soit conforme au National Electrical Code (NEC) américain, le NBP doit être installé dans une boîte de dérivation certifiée UL. Il incombe à l'utilisateur final ou à l'installateur de fournir la boîte de dérivation. Cet équipement n'est pas inclus avec l'unité.

Americans with Disabilities Act (ADA) compliance

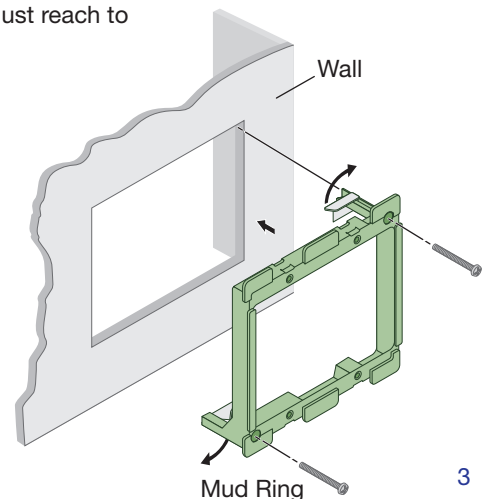
When planning where to install the NBP button panels, you may need to consider factors affecting accessibility of the button panels such as height from the floor, distance from obstructions, and how far a user must reach to press the buttons. For guidelines, see sections 307 ("Protruding Objects") and 308 ("Reach Ranges") of the *2010 ADA Standards for Accessible Design* available at <http://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.pdf>.

Site preparation

Each unit ships with a mud ring. Optional UL Listed in-wall junction boxes, external wall boxes (EWBs), and surface or tabletop mounting boxes are available for use with the button panels. Read any installation instructions and UL guidelines that come with the mounting devices, then follow the instructions to install the box or mud ring in the opening at the installation site.

Model	US Gang Size
NBP 50, NBP 100	2
NBP 200	3

When you run cables to the mounting location, leave enough slack for device installation. Secure the cables with a clamp for strain relief and so they do not slip back down into the wall or furniture.



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Step 3: Change a Faceplate, Button Labels, or Knob (Optional)

The faceplate, button labels, and knob can easily be changed at any time. Some button labels ship with the unit. You can create and print your own customized labels using Extron Button Label Generator software.

Replacing a faceplate

To replace a faceplate:

1. Remove the faceplate by holding the body of the unit with one hand, gripping the sides of the faceplate with the other hand, and pulling the faceplate away from the unit.
2. Align the openings of the new faceplate with the buttons and knob and with the LEDs, and place the faceplate against the unit. The magnetic catches fasten the faceplate onto the unit.

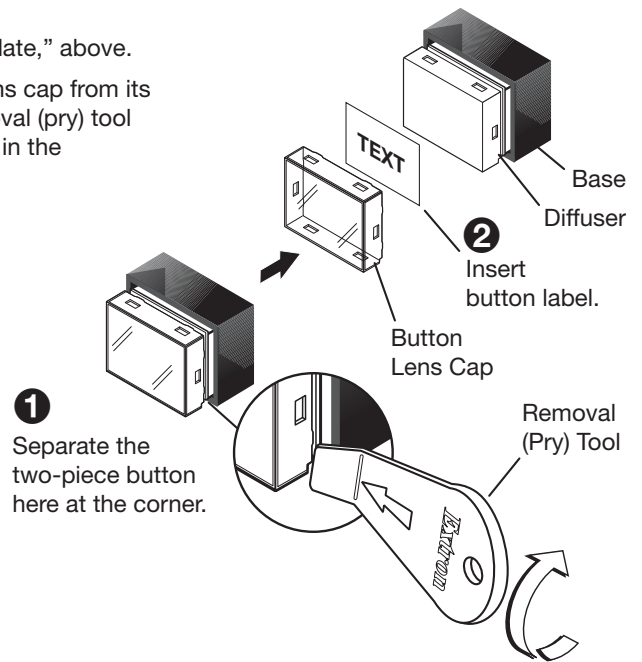
Replacing button labels

To change a button label:

1. Remove the faceplate as described in step 1 of “Replacing a faceplate,” above.
2. For each button label to be replaced, gently separate the button lens cap from its white diffuser. To do this, insert the end of the provided Extron removal (pry) tool into the corner notch and gently twist the tool (see 1 in the image at right).
3. Remove the label insert from the translucent 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.

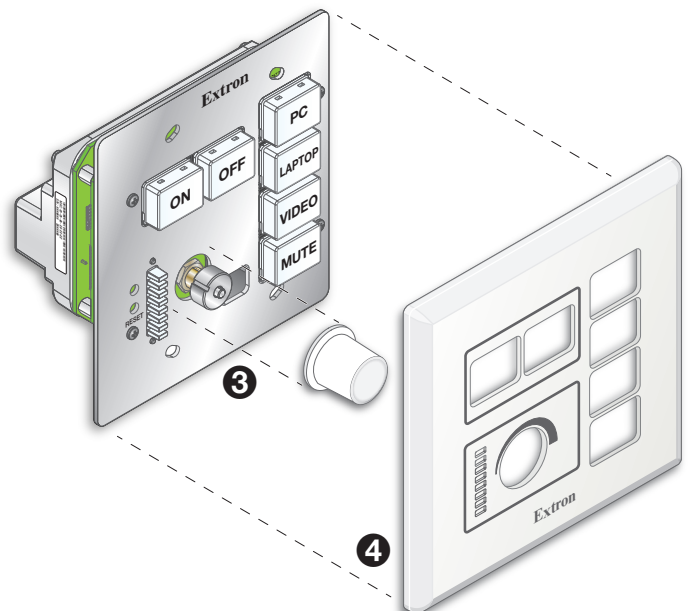
4. Select one of the button labels from the printed label sheets included with the unit. Remove the label from its backing and remove the clear, protective film from the front of the label.
5. Insert the button label into the button cap (see 2 at right). Check for correct label orientation.
6. Align the cap with the white diffuser and the panel opening, and press the clear cap into place on the button.
7. Reattach the faceplate to the unit (see step 2 in “Replacing a faceplate”).



Changing a knob

To change a knob:

1. Remove the faceplate as described in step 1 of “Replacing a faceplate.”
2. Firmly grasp the knob and pull it away from the NBP.
3. Align the ridge inside the new knob with the channel on the knob control and allow the magnet in the knob to snap into place (see 3 at right).
4. Reattach the faceplate to the unit (see step 2 in “Replacing a faceplate” and see 4 at right).



Step 4: Cable All Devices

1. If the button panel is not mounted to a grounded metal junction box or a grounded metal equipment rack, Extron recommends connecting the unit to an earth ground to protect the unit from electrostatic discharge.

To ground the unit:

- a. Securely terminate a grounding cable with a ring terminal.
 - b. Remove the grounding screw in the lower left corner of the rear panel, insert the grounding cable, replace and securely fasten the screw (see figure 4 at right). Do not over-tighten the screw. Maximum torque is 2 inch-pounds (0.2 Newton-meter).
 - c. Connect the other end of the grounding cable to an earth ground.
2. Connect the NBP to the network (see [Rear Panel Features](#) on page 2), and cable devices to the control processor or HCR receiver (see the user guide for the appropriate device).
 3. Connect power cords and power on the control processor or receiver and other devices.

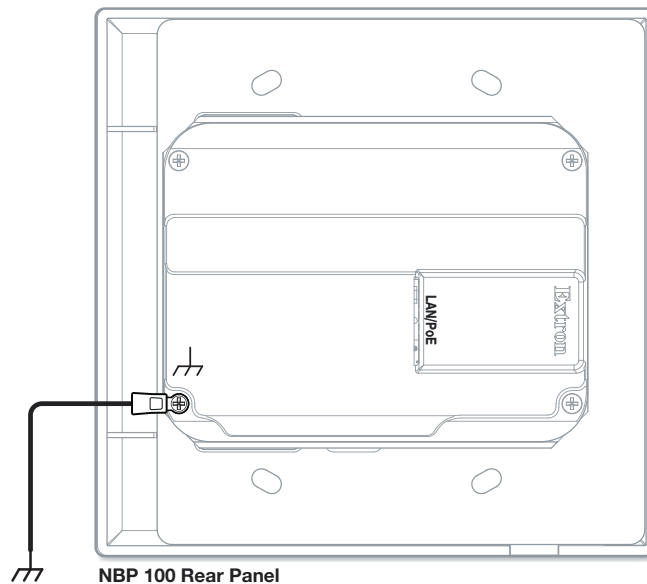


Figure 4. Connecting a Grounding Wire to the NBP

Step 5: Set Up the NBP for Network Communication

1. Ensure that the PC that you will use for setup and the NBP button panel are connected to the same Ethernet subnetwork.
2. Start Toolbelt and use it to set the DHCP status or to set the IP address, subnet, gateway IP address, DHCP status, and related settings. Use the flowchart at right as a guide to setting up the unit for network use.

NOTE: If using a host name instead of an IP address, the user must enter a qualified host name (*Username.HostName.Domain*). For example: *somename.somedomain.com*.

If using 802.1X security, see the *Extron 802.1X Technology Reference Guide* and the *Toolbelt Help* file for additional details on system setup.

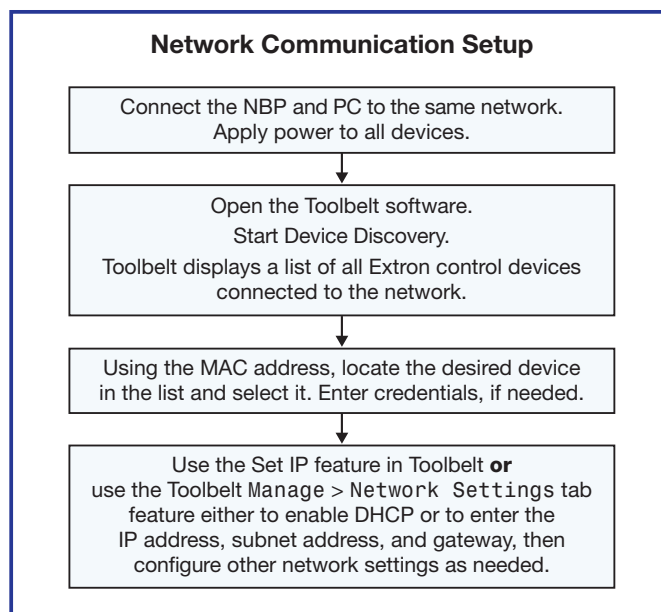


Figure 5. Network Setup

Step 6: Configure the System

Use Global Configurator (GC Plus or GC Professional) to configure the IPCP Pro control processor, IPL Pro control processor, or HCR receiver. Alternatively, use Global Scriptor to program the control processor. That configuration sets the control and monitoring behavior for all the AV devices and control accessories (such as the NBP button panels) in the system. An outline of the main configuration and programming steps is included in the user guide for the control device.

NOTE: See the *Toolbelt Help File*, *Global Configurator Help File*, and *Global Scriptor Help File* as needed for step-by-step instructions and detailed information. The help file for GC includes an introduction to the software, and how to start a project and configuration.

When configuration or programming is completed, save the project or program script, then build and upload the system configuration to the control processor or receiver.

Step 7: Test and Troubleshoot

1. Test the system. See the *IPCP Pro Series User Guide*, *IPL Pro Series User Guide*, or *HC 400 Series User Guide* for an outline of the system testing and troubleshooting procedure.
2. Make adjustments to wiring or configuration as needed. Remember that the rear panel port on the button panel is not accessible after the NBP is mounted.

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Step 8: Complete the Physical Installation

Mount the unit to a wall or furniture (see “Mounting”, below).

Mounting

Mount the NBP as follows:

1. Insert the cabled NBP into the mud ring or junction box within the wall or furniture, aligning the mounting holes in the NBP with those in the box or mud ring.
2. Secure the NBP to the junction box, wall or surface mounting box, or mud ring as follows (see figures 6 and 7):

- a. Insert the included screws through the mounting holes at the top and bottom of the unit, through the plastic spacer (if not using a mud ring), and into the corresponding threaded holes in the box or mud ring.

NOTE: If the unit is not installed in a mud ring, you must install the plastic spacer. The spacer positions the unit to allow the magnetic faceplate to attach properly and securely.

- b. Using a Phillips screwdriver, lightly tighten the screws until snug.

ATTENTION:

- Do **not** overtighten the screws.
- Veuillez à **ne pas** trop serrer les vis.

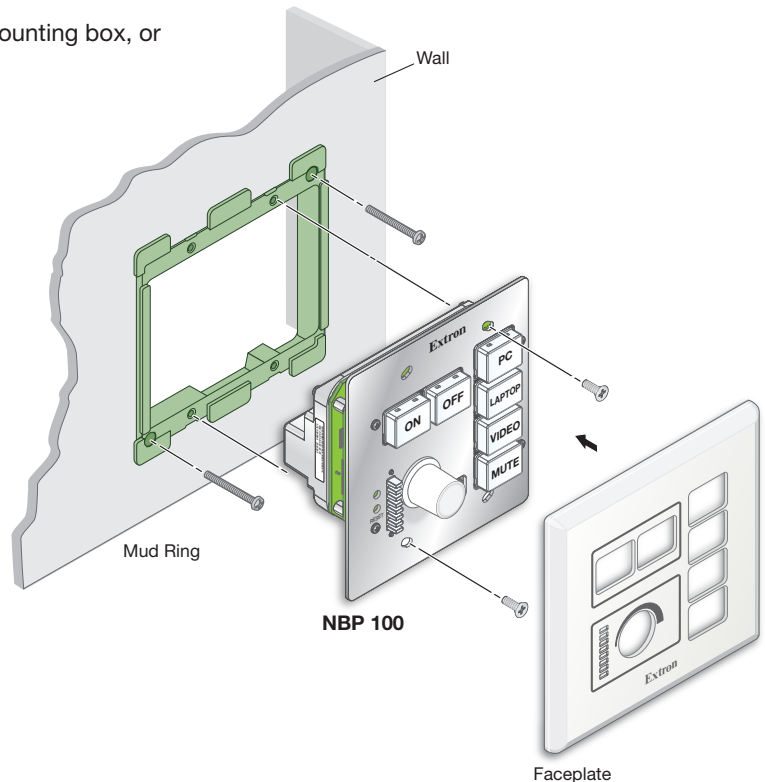


Figure 6. Installing the NBP in a Mud Ring

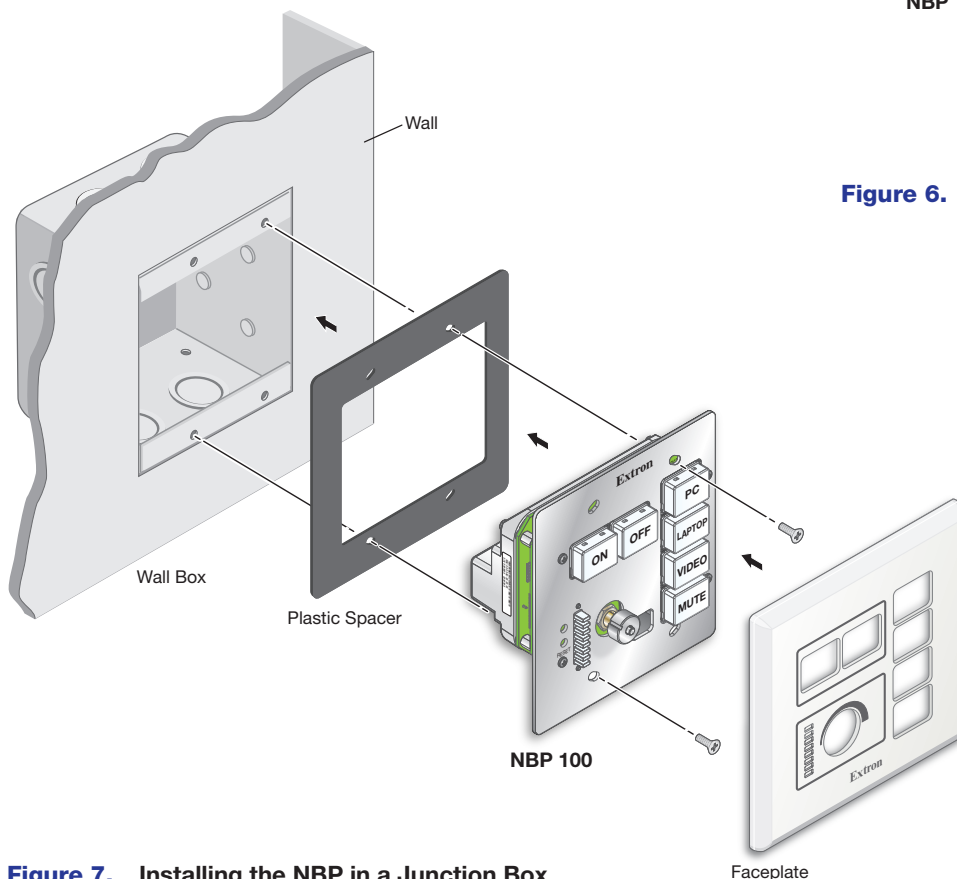


Figure 7. Installing the NBP in a Junction Box

NOTE: Extron recommends taking precautions to avoid electrostatic discharge issues during installation.

3. Attach the wallplate to the NBP: align the faceplate openings with the buttons, knob, and LEDs, and place the faceplate against the unit (see figures 6 and 7). The magnetic catches fasten the faceplate onto the front of the unit.

Reset Modes: a Brief Summary

The NBP Series button panels offer the following reset modes:

- **Use Factory Firmware:** Press and hold the **Reset** button while applying power to the unit. Keep holding the button down until the Reset LED blinks twice, or for 6 seconds, then release the button. The unit enters factory firmware mode. Use this mode to revert to factory firmware in the event of a firmware failure.
Do not continue to operate the unit using the factory firmware version. If you want to use the factory default firmware version, you must upload that version again.
- **Toggle DHCP Client:** Press the **Reset** button five times (consecutively). Release the button. Do not press the button within 3 seconds following the fifth press. Use this mode to enable or disable the DHCP client for the LAN port.
 - The Reset LED blinks 6 times if the DHCP client is enabled.
 - The Reset LED blinks 3 times if the DHCP client is disabled.

NOTES:

- By default DHCP is off and the unit uses a static IP address.
- When you disable the DHCP client, the unit reverts to using the previously-set static IP address.

- **Reset All IP Settings:** Press and hold the **Reset** button for 6 seconds. After the Reset LED blinks twice, release and momentarily press the **Reset** button. Use this mode to reset all network settings to factory default values without affecting user-loaded files.
- **Reset to Factory Defaults:** Press and hold the **Reset** button for 9 seconds. After the Reset LED blinks three times, release and momentarily press the **Reset** button within 1 second. Use this mode to return the unit to factory default settings (including security and IP settings) and remove any user-loaded files (including certificates)

For detailed information on each mode and its use, see the *Network Button Panels User Guide* at www.extron.com.

Resources

Obtaining Instructions, Information, and Assistance

If you have questions during installation and setup, call the [Extron S3 Sales & Technical Support Hotline](tel:18006339877) or the Extron S3 Control Systems Support Hotline (1.800.633.9877).

Locating Software and Firmware on the Extron Website

There are three main ways to find software and firmware within www.extron.com:

- Via links from the web page for the specific product
- Via the **Download** page (Click on the **Download** tab at the top of any page within the website.)
- Via links from search results

NOTES:

- For some software you have the option to click the **Download Now** button to begin downloading the software file. For other software there is a link for contacting an Extron support representative who can provide you access to the latest version.
- To obtain Extron control product software, you must have an Extron Insider account. Extron provides training to our customers on how to use the software. Access to the full features of Global Configurator Professional is available to those who successfully complete Extron Control Professional Certification.

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Overall Configuration Procedure

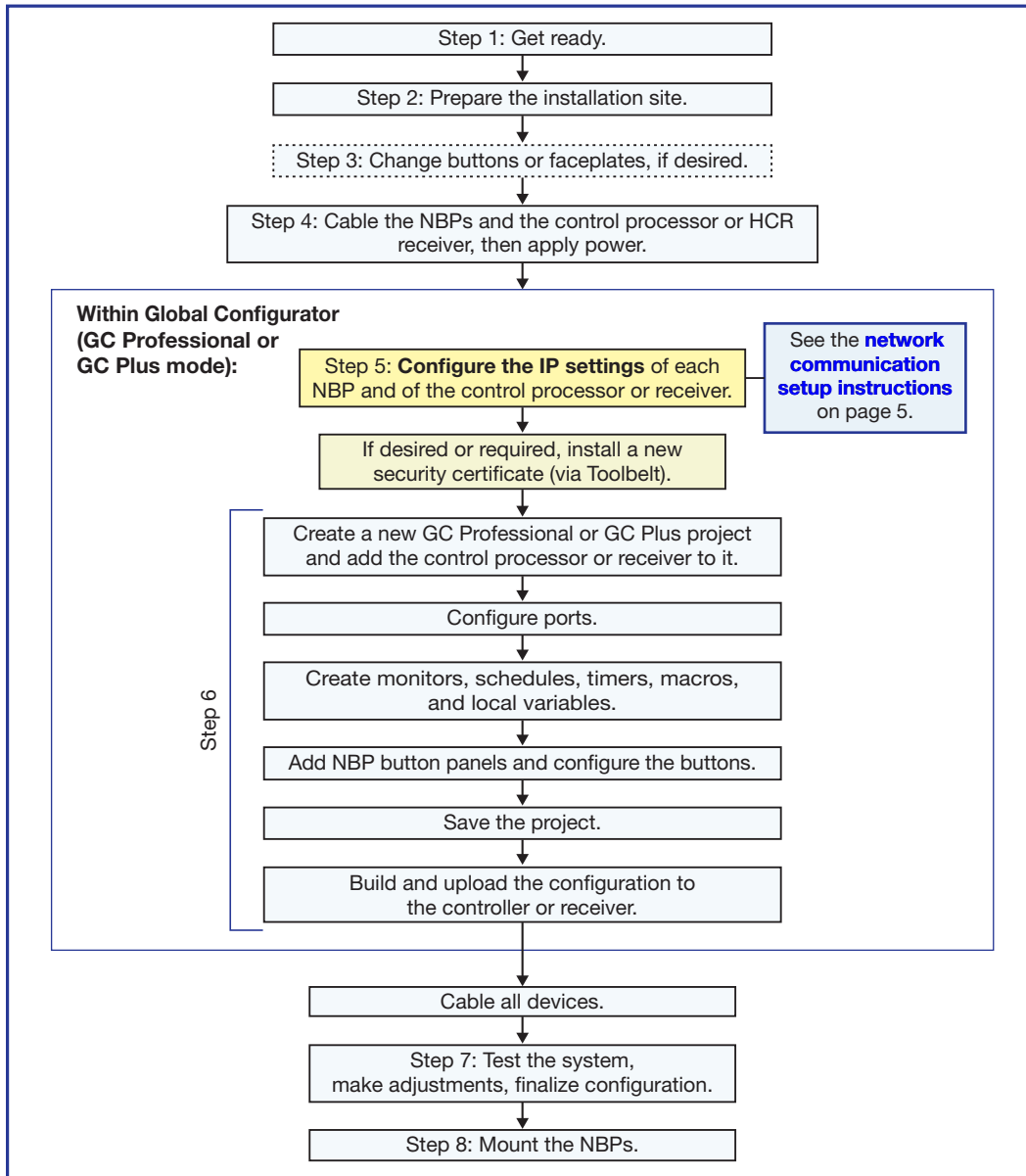


Figure 8. Overall Configuration Steps

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the [Extron Safety and Regulatory Compliance Guide](#) on the Extron website.