

TeachLogic CPS-120, firmware version 20201222 Release Notes, rev 2021.06.02

This is the functional description of CPS-120/CPR-125 operation after upgrade and how that differs from prior versions.

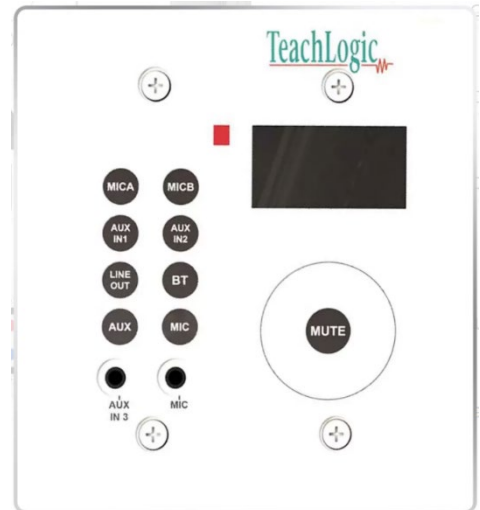
Standby and Power On

Most IMA-120 amplifiers have a standby (or sleep) energy saving mode that causes the amplifier to enter a standby mode after two hours without audio activity. At this point, the CPS-120 control panel display will go dark. The panel is still powered, however, and will respond to the following command to change the amplifier power mode to On (or wake the amplifier):

Long-press the MUTE key 3-4 seconds

The same long-press will switch the amplifier into Off mode from the On mode. And it will switch the amplifier from Off mode to the On mode.

The amplifier's front panel power LED is Blue when On, Red when Off, and Amber when in Standby.



Reminder on Control Panel Button Response


All button presses require that the control panel be first prompted into its “active” state by pressing any button. If the panel display is dim and thus non-active, then this activating key press is required. For example, if the control panel buttons have not been touched for minutes prior, the screen will be dim because the panel went into an “inactive” state. Touch any key, and the screen will brighten. Then touch the intended key(s) for a long or short press. In this example, long-press the MUTE key and the amplifier will enter its Off mode (turn off). Thereupon, the control panel will go dark (not just dim) and remain dark until the amplifier is powered On by a long-press of the control panel Mute button, or by a press of the amplifier’s own power button.


Bluetooth Connections

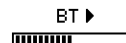
We use the term “pair” to mean the exchange of information and mutual validation between two devices (e.g., the control panel and a portable Bluetooth device). We use the term “connect” to mean the active and current wireless linking of the control panel’s Bluetooth receiver and a device with which it has paired. Devices must be paired before they can connect. For more general background, read <https://www.sony.com/electronics/support/articles/00196698>.


1. When powered on, the Bluetooth receiver (the “BTR”) in the control panel will search for and try to connect to the most recently paired device (normally, this is the teacher’s device).
2. No new devices may pair with the BTR unless the panel BT button is first pressed for 3-5 seconds. With this button press, the BTR is put into pairing mode and devices within range will see its *Teachlogic* name advertised and may pair with the BTR. Once paired, the devices will connect.
3. When the system and BTR are turned on and no device is connected: A) non-paired devices may not connect or pair with BTR; B) the BTR will actively try to connect with the last connected device; and C) any previously paired device(s) may connect with BTR by initiating the connection.

DISPLAY SCREEN INDICATORS

 (STOP) symbol means not connected to any device. No non-paired devices can pair unless panel is put into pairing mode by long-pressing the BT button.


 (PAUSE) symbol displays after a paired device connects (e.g., a teacher returns to a room with a previously paired device and selects **Teachlogic-#####** control panel on their phone's Bluetooth control). The ##### will be the serial number (e.g., 00000051) readable on the control panel screen. This allows a user to identify the control panel they desire for pairing or connection.

 (PLAY) symbol displays after device starts to send audio and continues for 12 seconds after audio is stopped; then, after 12 seconds, the display reverts to PAUSE symbol, and the device remains actively connected.

 (STOP) symbol is displayed after a connected device disconnects with a disconnect command from the device. Note, however, that there is no disconnection command received by the BTR if the connected device is powered off, moves out of range (as much as 150'), or has its Bluetooth feature turned off or connected to a different device. In those cases, the BTR remains in a connected state, displaying the PAUSE symbol.

Once disconnected, other previously paired devices may then connect. But as stated above, no other devices can pair unless panel is put into pairing mode by pressing BT button.

HOW TO PAIR

To pair a device, press BT button on the control panel to display . Once this STOP symbol is displayed, press BT button for 3-4 seconds until the STOP block blinks once. Release BT button as panel is in pairing mode. Any Bluetooth device can pair at this point, and it will proceed to connect. Once the connection is made, the PAUSE symbol will display.

Once the panel is put into pairing mode, it will remain in this mode until the amplifier until enters Standby or Off mode, or until the panel is connected to a Bluetooth device. This means it will continuously advertise its name to all Bluetooth devices within range until connected, so long as the power state is On. Therefore, if you put it into pairing mode, then proceed to pair and connect your device, or alternatively, power cycle the amplifier. Otherwise, it will remain open to pairing and connecting and may pair with unintended parties.

PREVIOUSLY PAIRED DEVICES

If an Android device was connected and subsequently another paired device becomes connected, then after the second device disconnects, the Android device, if present, will be invited by the control panel to reconnect. Only if it declines to connect will the pairing information in the Android device be erased. Otherwise, it will retain an ability to connect again anytime the panel is on and does not have a Bluetooth connection.

If an Apple device was previously paired, and subsequently another device pairs and connects, then after the second device disconnects, the Apple device will not reconnect. The user needs to put the panel in BT pairing mode to re-connect to the Apple iOS device.

To Disconnect a Device from the Panel: If a device is connected, press the BT button for 3 seconds (until the BT Stop icon blinks once) and it will: 1) disconnect the connected device and 2) allow pairing and/or connection by other devices (including the one disconnected). The first one to connect will lock out others while connected.

When an Android or an Apple device is turned off or goes out of range (as much as 150'), the control panel maintains a "connected" state; the display shows the Pause icon as if connected, and no other devices may connect. If the original device is powered back on, it may connect, but other devices may not. Only if that original device is made to forget the control panel does it properly disconnect and leave the panel connectable by other paired devices. Of course, the panel can be manually put into pairing mode and then will be connectable to any prior paired device and will offer pairing to new devices (until such time that it is connected to a device).

CLASSROOM STRATEGY FOR SECURING BLUETOOTH CONNECTIONS

The rather complex interactions described above can leave one challenged to prevent the connection to the audio system by parties not intended to use it, namely students acting contrary to a teacher's wishes.

To prevent this, here are TeachLogic's recommendations.

1. Maintain control of access to the control panel. If anyone can press the BT button, they can pair their smartphone or other Bluetooth device to it.
2. Once you put the panel into pairing mode, immediately connect (or pair and connect) your (teacher's) Bluetooth device. This will keep it from being available to any previously paired device. If you do not pair, then power cycle the system using a long press of Mute button to power off, then another long press of it to power back on. Then the system will not be in pairing mode, advertising its Bluetooth identity. (Note that previously paired devices still may connect if nothing else is connected to it.)
3. If more than one teacher uses a room and connects using Bluetooth, and if you have a choice of which type of device you will use, you will find reconnecting to an Android device will be more automatic and require relatively fewer keypad interactions to connect or re-pair (as compared to an Apple device).
4. If you identify an unauthorized, undesired party that has paired with the audio system, try to have them make their device "forget" the TeachLogic system Bluetooth pairing identity. And please note that the BTR will remember the most recently connected device and try to connect with it, so pair and connect your (teacher's) device. Having a device forget the BTR may be as simple as clicking on "forget device" on an unauthorized Apple device. With Android systems, the owner must first "forget device" then "rescan" to clear the pairing information from memory. If this was the last device connected, the BTR will actively try to reestablish connection and the unauthorized owner will need to decline to connect when prompted in order to have the Android device forget the pairing.
4. Finally, when you are not using the system to play audio from any Bluetooth connected device, just keep that input channel muted. To do this, press the BT button, then the Mute button. This will keep the Bluetooth audio signal level at zero so if anyone else is connected, they may not send any sounds to the classroom speakers. Do this also if you ever hear audio from your classroom speakers that is from a device you do not intend have connected.