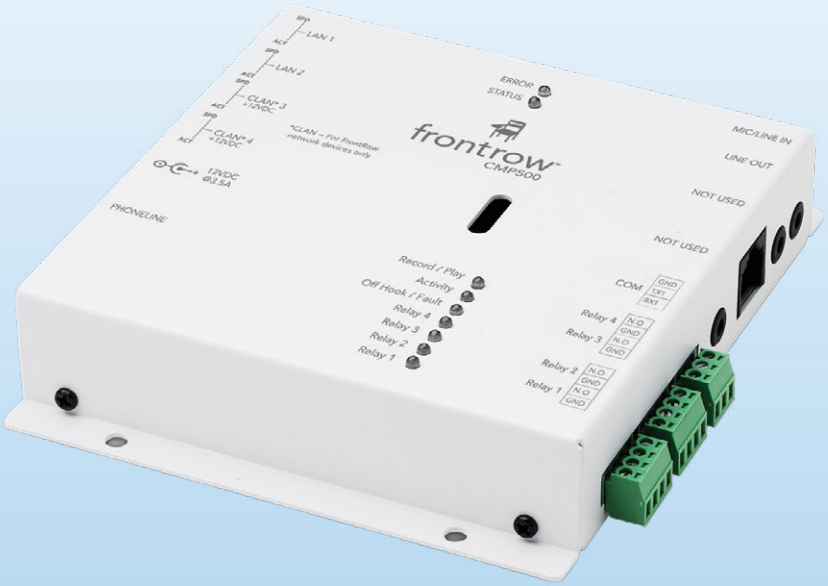
CMP500

Universal Telephone Interface Kit



Configuration Guide

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What is the CMP500?

The CMP500 is a telephone interface kit which is used as an interface between an analog phone system and the FrontRow Conductor system. It can also be used with IP telephone systems through the use of a standard ATA Bridge device.

The CMP500 allows users to call in to a phone number from any mobile phone or land line and make a page to the entire campus, a particular zone, or an individual room. They can also trigger alerts or even shut down projectors using the keypad on the phone.

A caller using the CMP500 could initiate a PA call to all zones by pressing **##**, or call a zone or individual room by dialing a three digit numeric code followed by **#**. Each three digit code corresponds to a trigger script in Conductor which would include the code in the trigger script name.

Alternately, the caller can enter a single digit code (using 0-9 followed by #) to initiate one of 10 built-in events. Events are programmed similar to a FrontRow CM3000 or CB6000 and can consist of network, http, serial, or relay commands, for the purpose of shutting off projectors, triggering alerts, or other control actions.

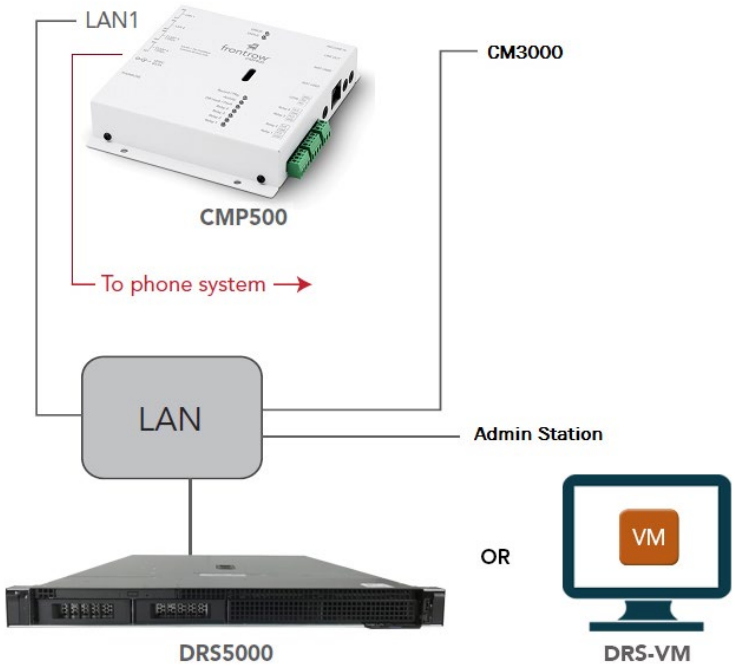
Before programming the CMP500, consider these capabilities then create a plan to address the scenarios the school wants to be able to support. The plan should ideally be logical and easy to remember so that administrators can do what they need to do with the system without having to look at written instructions.

Step 1: Before you begin

Make sure you have everything you need to install your CMP500. By taking the time to prepare, you'll ensure the actual set up is as quick and problem-free as possible.

1. **Visualize your goal**

   Your CMP500 Universal Telephone Interface is a component of a Conductor IP-based paging system. As part of the Conductor paging system with the admin station, the installation might look like this:

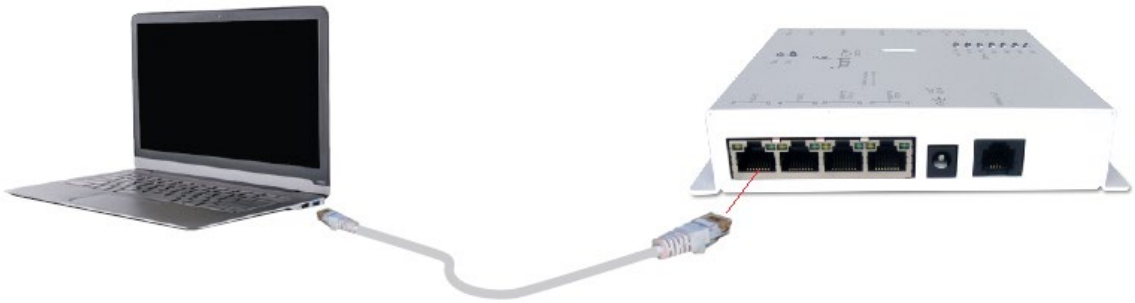


Step 2: CMP500 Configuration

Your CMP500 has several parameters that can be configured to tell it how to communicate with your Conductor installation.

1. **Connect to your CMP500**

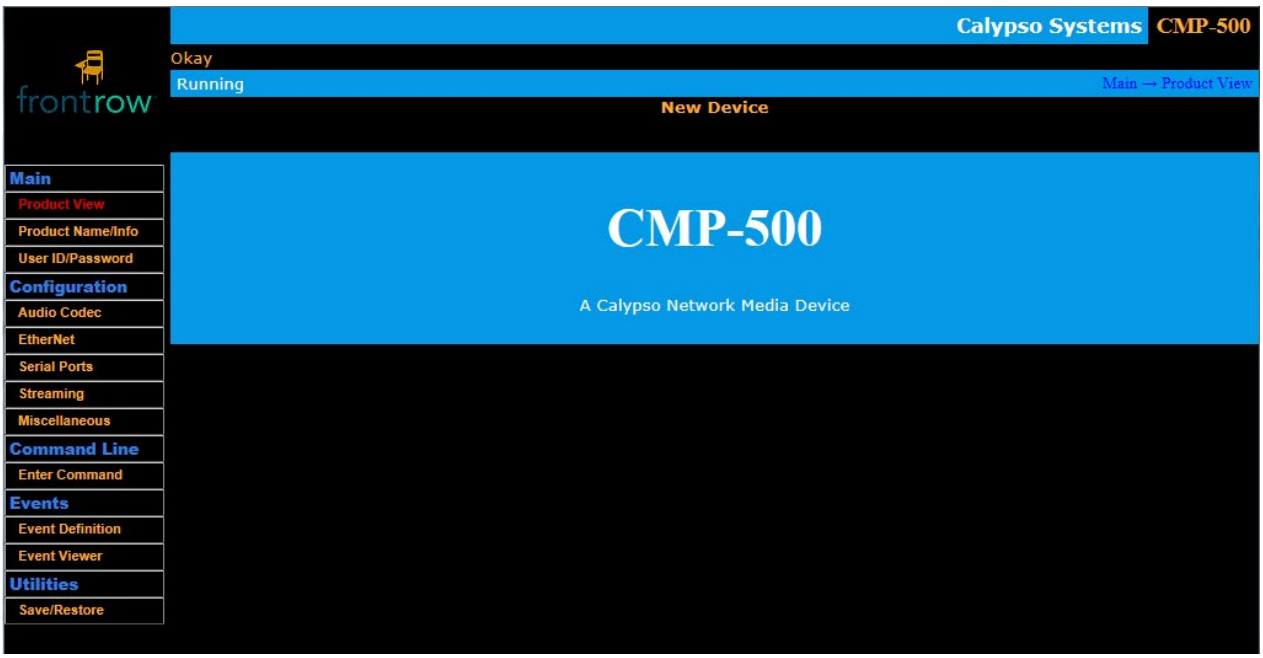
   Connect your laptop's LAN port to the CMP500's LAN 1 port with an Ethernet cable.



Change the IPv4 address on your laptop to static address 192.168.1.100. See Appendix A for instructions.

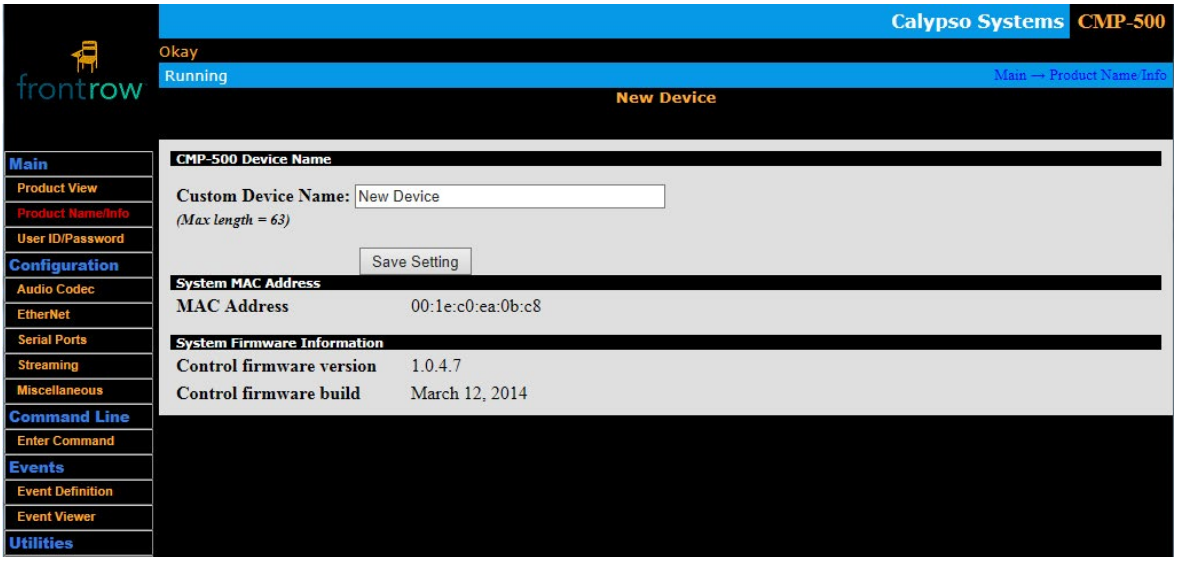
Open a web browser on your laptop and in the URL field type the IPv4 address 192.168.1.103 and press enter. This is the default static IP address of the CMP500 and will likely be changed when you configure it per the school's IP addressing scheme.

You will be connected to your CMP500 and see a screen like this:



2. Name your CMP500

The name you choose should contain meaningful information so that a person accessing the device remotely will have appropriate context. Also on this screen you can see the device MAC address and firmware version. Ensure the **Save Setting** button is clicked to save the name.

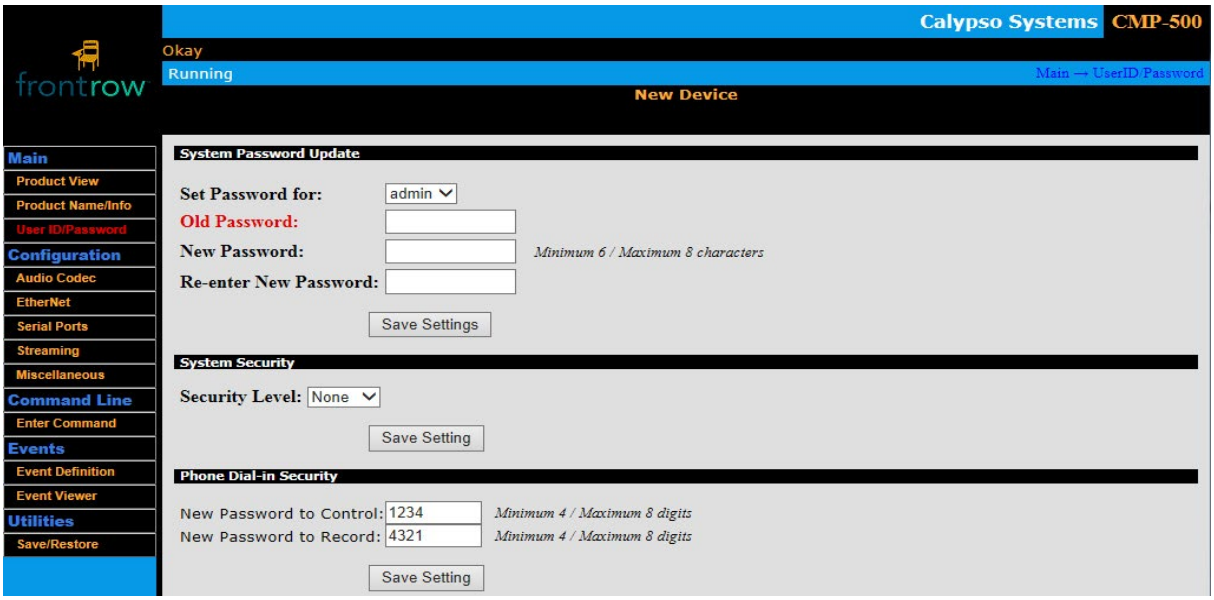


3. Secure your CMP500

System Security: If the project requires security, you can password-protect the CMP500 web pages by setting the **Security Level** to *Admin* after which a person can access the configuration screens only by entering the password. No password is required if **Security Level** is set to *None*. Be sure to click the **Save Setting** button if a change is made.

The default password is *calypso*. A new password can be configured under **System Password Update**. Be sure to click Save Setting after each change.

Phone Dial-in Security: There are two passwords that are requested when calling in to the CMP500 – the Control password to use when issuing a page and the Record password to use when recording messages heard when dialing in. The Phone Dial-in Security can be disabled on the Miscellaneous page (see below), though messages can only be recorded when the password is enabled. Click the Save Setting button if a change is made.

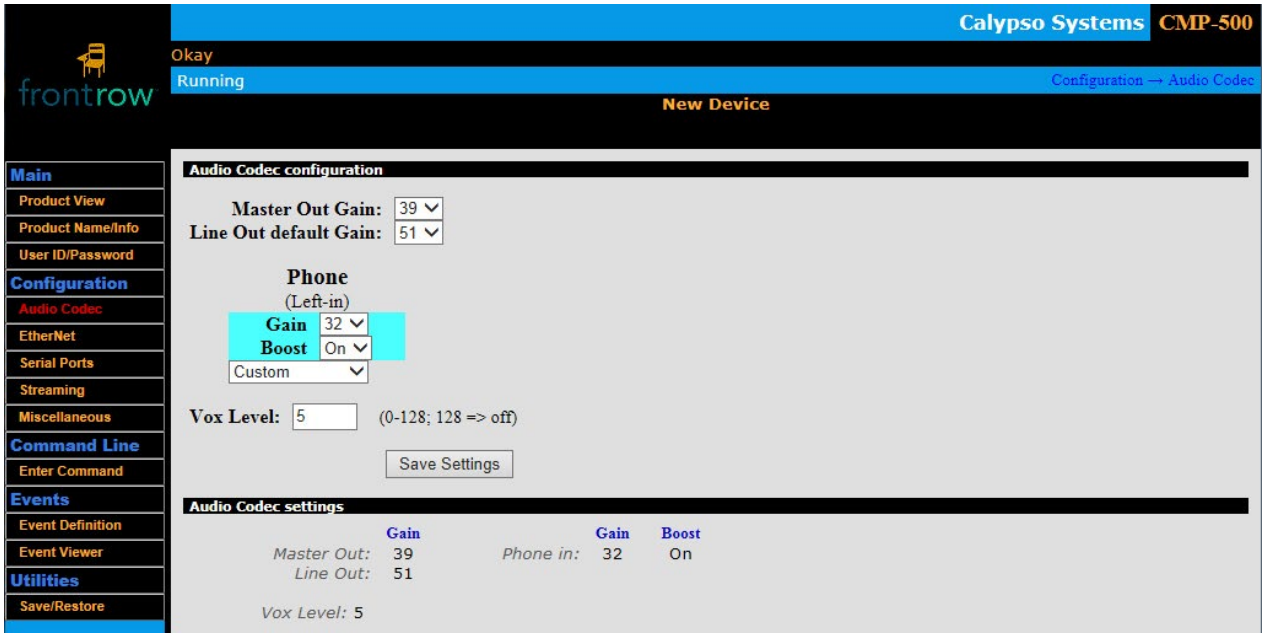


4. Set Audio Codec Parameters

The Audio Codec page is used for setting parameters associated with how audio is handled.

- **Master Out Gain** – used primarily to control the audio levels heard by someone dialing into the CMP500 (message prompts and tones)
- **Line Out default Gain** – controlling the audio line out (monitor) volume level
- **Phone Gain and Boost** - setting the gain and boost levels for input audio from the Phone
- **Vox Level** – The CMP500 automatically streams your voice when speaking, as determined by the Vox level (the audio level threshold to consider as **voice**). At the default level of 5 a normal person speaking will cross the threshold. Setting this level to 0 or 128 (off) will automatically stream all audio.

NOTE: The current Audio Codec settings are displayed at the bottom of the page.

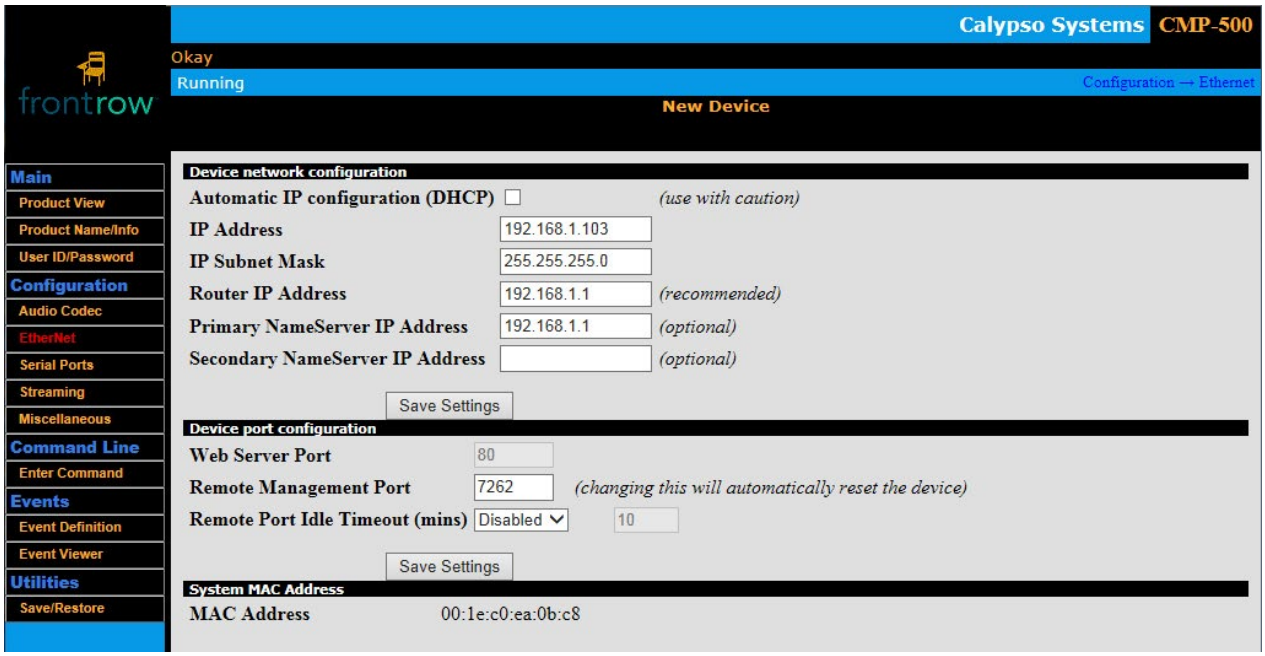


5. Set Ethernet Parameters

Device network configuration

- **Automatic IP configuration** (DHCP) causes the CMP500 to request an IP address from a DHCP server. This should be enabled only if the IT department has a DHCP server online and has set up static (fixed) IP address reservations for CMP500 devices. Otherwise, manually enter the IP address reserved for the device in the IP Address field.
- The **IP Address** field is the IP address for the device. The default address for a CMP500 is **192.168.1.103** which can be changed to ensure that each device has a unique address.
- The **IP Subnet Mask** must be **255.255.255.0** if the CMP500 is used as part of a Conductor system.
- The **Router IP Address** is required when the CMP500 needs to be able to access -- or be accessed from -- network devices outside its own subnet. If needed, this would be provided by the IT department.
- The **Primary and Secondary NameServer IP Address** fields are optional and would be provided by the IT department.
- **Save Settings** will save any changes made in the **Device network configuration** section.

Device port configuration should remain with default settings.

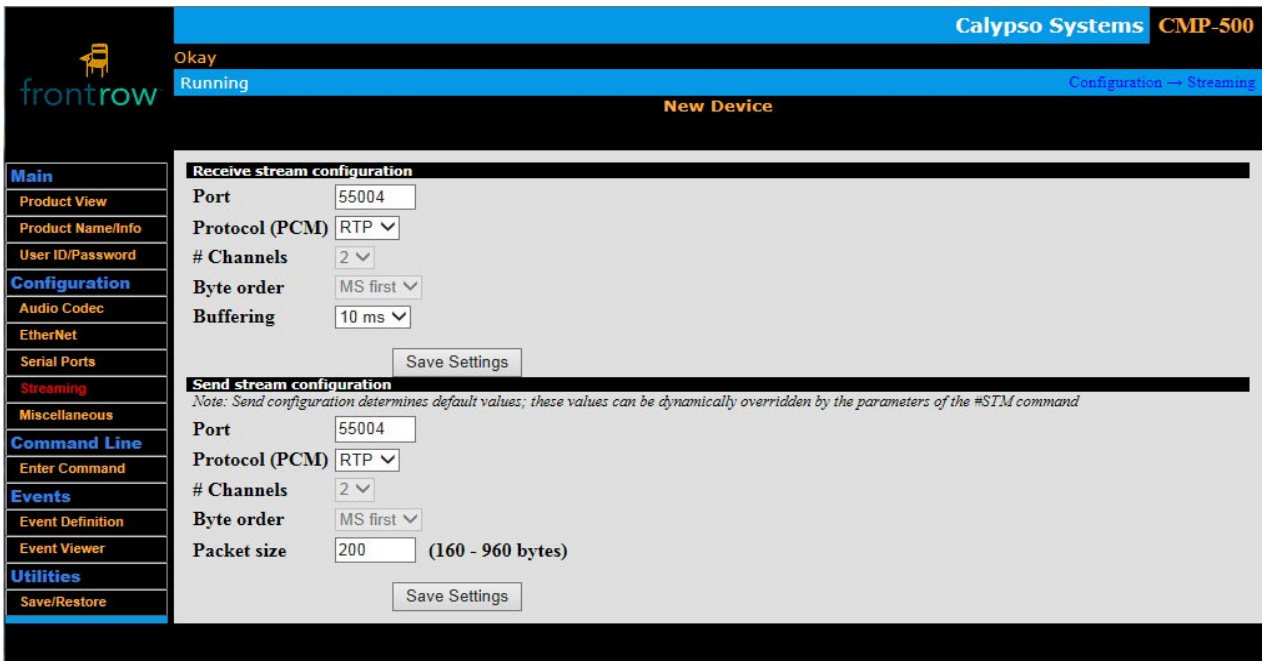


6. Serial Ports

The serial port on the CMP500 is not typically used. If a device is connected to the serial port, the parameters such as baud rate are set on this page.

7. Streaming

The settings on the Streaming page should be left with default values.



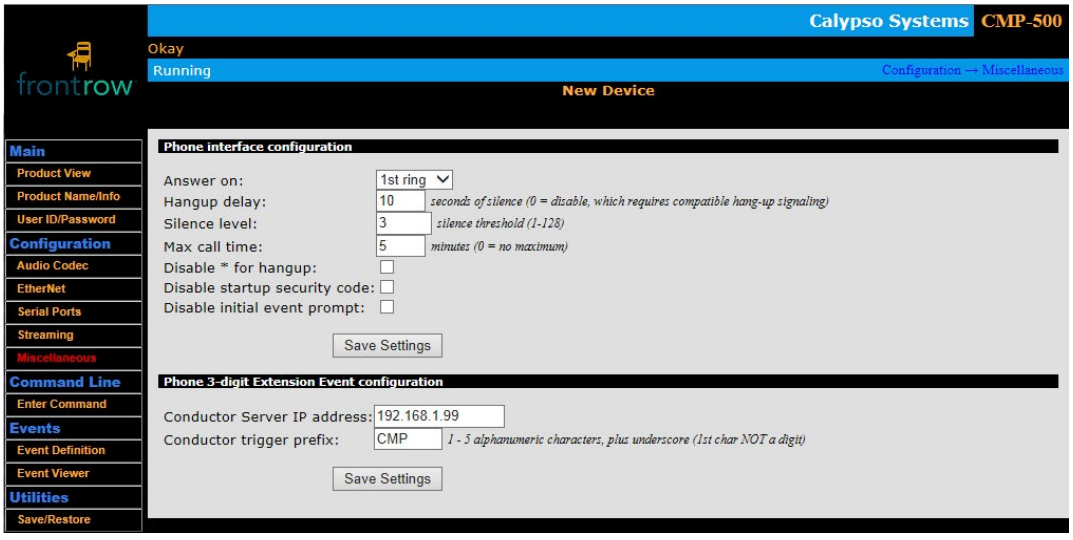
8. Miscellaneous

Phone Interface Configuration

- **Answer on** specifies the number of rings at which the CMP500 will answer the incoming call. This can be set from 1 to 9 rings.
- **Hangup delay** sets the number of seconds of silence to wait before for the CMP500 disconnects the call.
- **Silence level** is a value from 1 to 128, with a default of 3; **Silence** is basically the background noise on the line. The goal is to use this setting in combination with the Vox level and Hangup delay to have the system automatically hangup when it detects silence for a certain amount of time. The silence level should never be higher than the Vox level on the Audio Codec page. In most cases the defaults are fine, but if you find that the system is hanging up on you unexpectedly, or never hanging up, you may need to adjust these settings.
- **Max call time** terminates the call after the number of minutes specified regardless of the current audio state.
- **Disable * for hangup** if checked will prevent pressing ***** (star) from disconnecting when in a call.
- **Disable startup security code** if checked will disable the request to enter the numeric password when calling in to the CMP500. Checking this option will also prevent recording because the Record password must be entered to record new messages.
- **Disable initial event prompt** if checked will prevent the playing of the Control message. A CMP500 event or Conductor trigger code can be entered immediately when calling in, either after entering the password or after the call is answered if the password is disabled.
- **Save Settings** must be clicked to save changes.

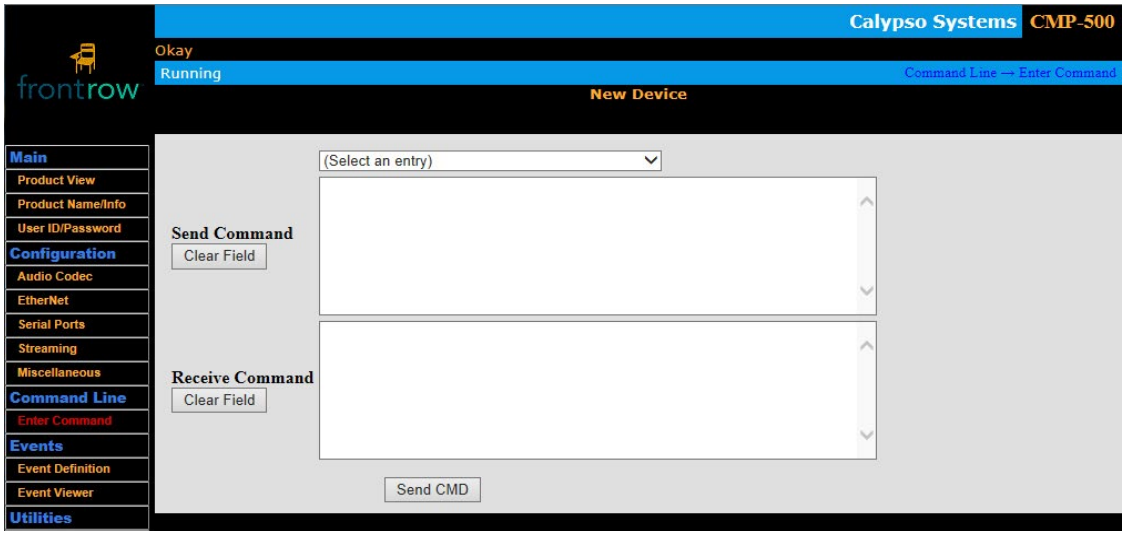
Phone 3-digit Extension Event Configuration

- **Conductor Server IP address** is the address of the DRS5000 or DRS-VM server where the Conductor information is stored. This is needed so that, when issuing a code for a Conductor trigger, the server can be accessed to execute the trigger. The default IP address is the DRS5000 or DRS-VM default and should be updated with your server's IP address.
- **Conductor trigger prefix** are the characters to be used as the prefix when creating a trigger in Conductor to be executed using the CMP500. The default is **CMP** but can be 1 to 5 alphanumeric characters. All triggers created in Conductor that are to be accessed by calling in to the CMP500, need to have this prefix followed by three numeric digits. (See Step 4 for more information on creating Conductor triggers.) **NOTE:** You are also able to invoke Conductor triggers using the CMP500 events like you would with other FrontRow connected devices (i.e. CB6000, CB2000). Doing so would use one of the ten built-in event slots so you may need to prioritize which events need to be invoked this way.
- **Save Settings** must be clicked to save changes.



9. Enter Command

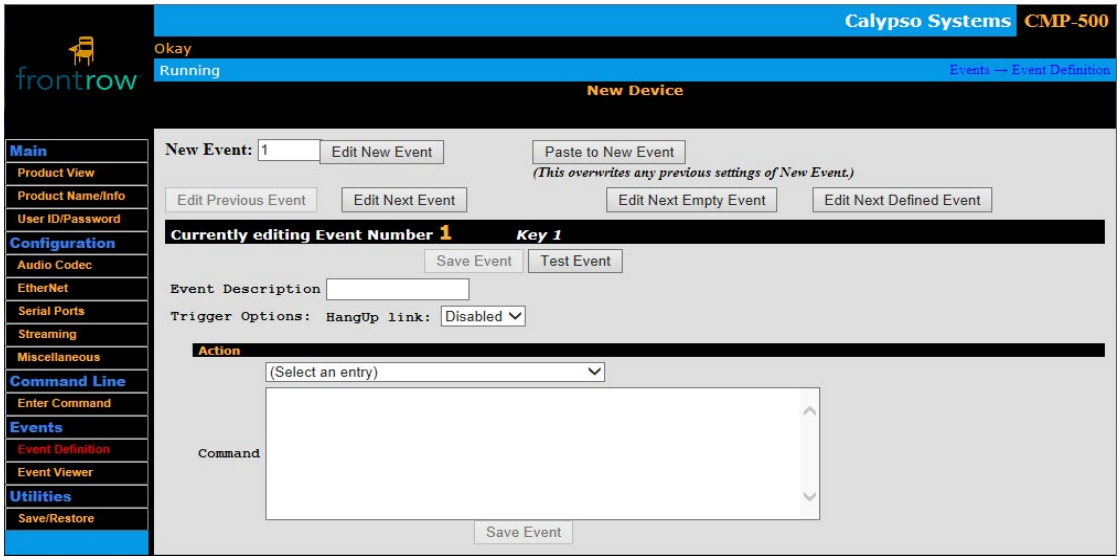
Commands can be manually executed on this page by selecting a command from the dropdown list (and editing) or entering it in the Send Command box. The **Send CMD** button is clicked to execute the command. Typically this is used for troubleshooting or to test new commands.



10. Event Definition

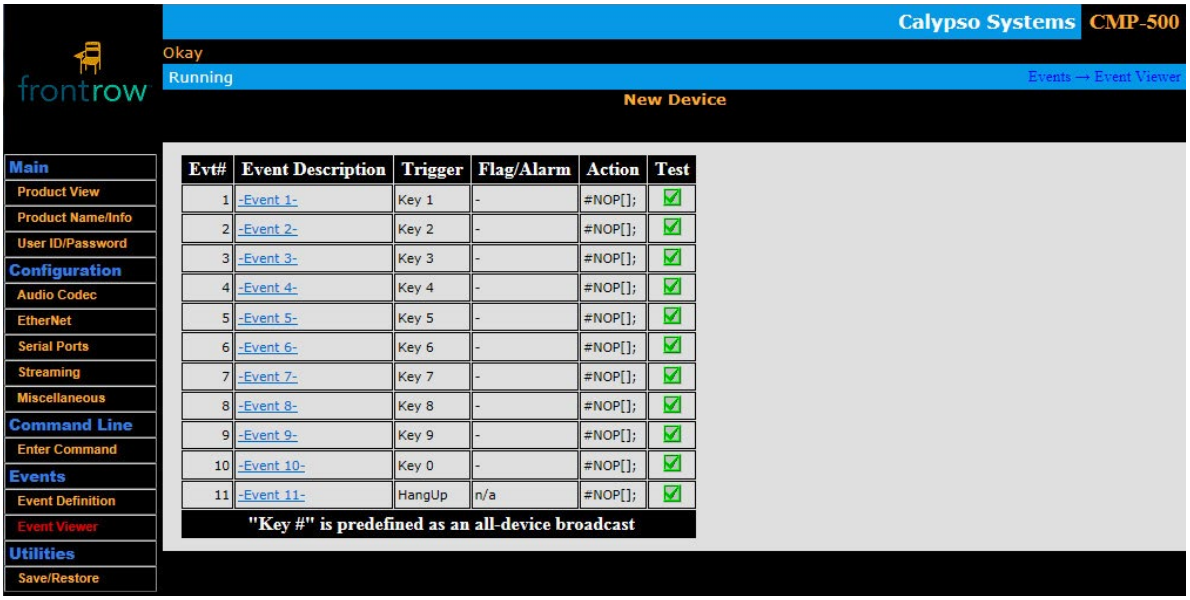
New events are created on this page. To ensure you are editing a new event, first click the **Edit Next Empty Event** button. The number in the **New Event** field will initially be the event you are editing; the current event is also shown in the **Currently editing** header

- **Event Description** will contain the name of the event being created.
- **Trigger Options:** when enabled on Events 1 through 10, the **HangUp** event (Event 11) will be triggered at the end of a call where this event was activated. A call is most reliably ended by pressing the ***** (star) key, though on some systems simply hanging up will be sufficient. This option can be set to **Disabled** (default) or **Enabled**.
- **Action** contains the Command box where the command to be executed is entered. The dropdown list contains commonly used commands that will be placed in the Command box and can be edited there.
- **Save Event** must be clicked to save the new event.
- **Test Event** will become active after the event has been saved. Click this button to test the new event.



11. Event Viewer

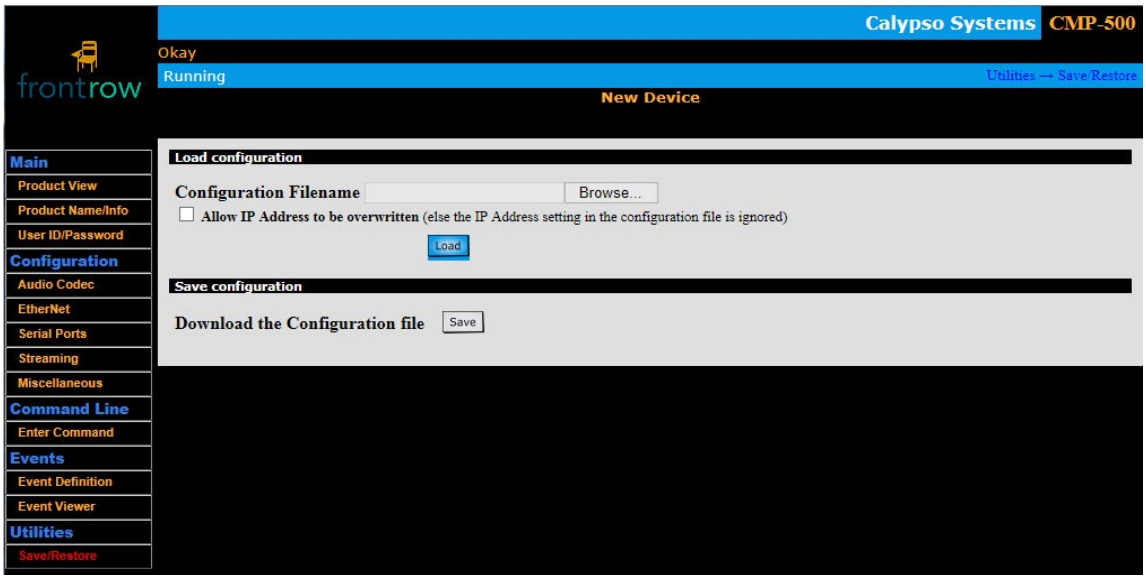
The Event Viewer page contains rows for each of the 11 events in the CMP500. Events 1 through 10 can be edited by clicking the event link in the **Event Description** column. Event 11 is reserved for the hang-up event which is triggered in specific end-of-call circumstances (see note on **Trigger Options** above). Clicking the green check icon in the **Test** column will execute the event for testing. The CMP500 events are executed when calling in by pressing the event number in the **Evt#** column, except for Evt# 10 which is executed by pressing 0.



12. Save/Restore

The Save/Restore page allows uploading of a configuration file and saving the existing configuration.

- **Load Configuration** – Click the button next to the **Configuration Filename** field to select the configuration file to load into the CMP500 (this is often called **Browse** or **Choose File** depending on the browser). The **Allow IP address to be overwritten** checkbox should ONLY be checked if you wish the CMP500's IP address to be changed when the configuration file is loaded. Click the **Load** button to load the new configuration file.
- **Save Configuration** – This is used to save the current CMP500 configuration (for later loading). When the **Save** button is clicked, on some browsers a dialog will be displayed asking for the name and location of the configuration file. The current configuration will then be saved as the file specified.

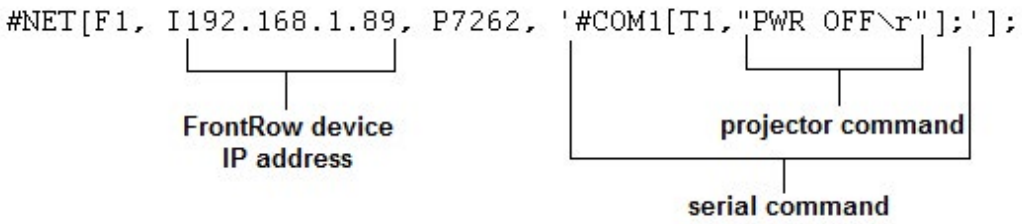


Event Examples

Events are used to execute commands that might control a device such as a projector or execute a trigger in Conductor or Maestro. Note that a trigger in Conductor, specifically for starting a page, is usually executed with the 3-digit code when calling in, not with a CMP500 event. There are 10 CMP500 events available whereas there are 1,000 Conductor triggers possible. When calling in the event is executed by pressing the event number following by #. Following are two examples.

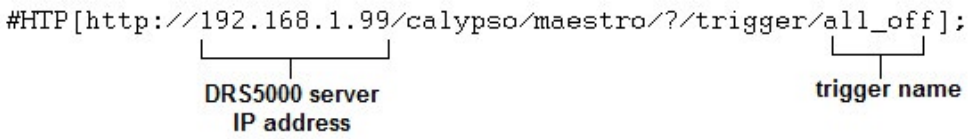
1. **Control a projector**

   A #NET command can be sent directly to the FrontRow device to which a projector is connected on the serial port. The command must contain the IP address of the FrontRow device where the command is being sent and the command to send to control the projector, such as turning it off.



2. **Execute a Maestro trigger**

   It is possible to set up a Maestro trigger which turns all projectors off or on. The trigger can then be executed by calling in to the CMP500, which allows projectors to be turned off or on remotely. See the Maestro User Guide for setting up a Trigger and Action which executes a driver command that will affect all projectors. To create a CMP500 event that executes the trigger, the command would specify the IP address of the server and name of the trigger.

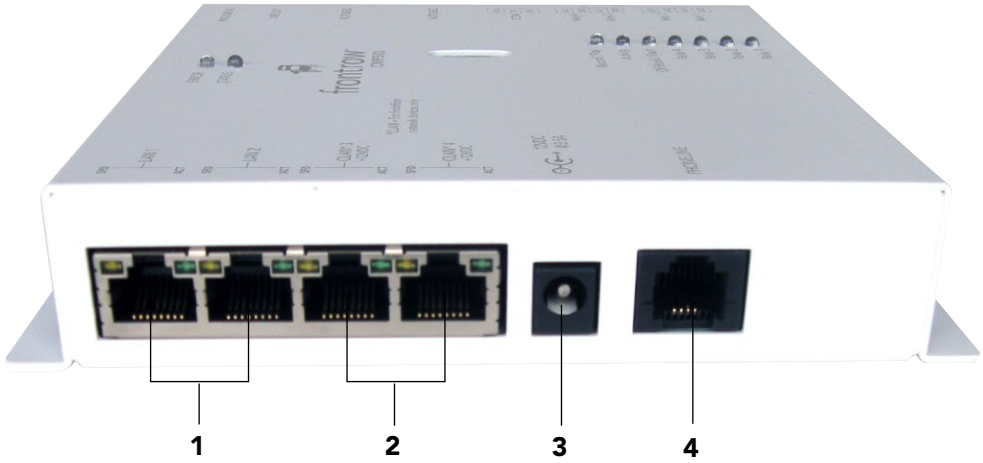


NOTE: If API Security is enabled in Maestro with a password, the password would be inserted where the **?** is in the command with a **:** (colon) in front. If the password was **password**, the command would have **:password** inserted where the **?** is. Refer to Maestro documentation for details.

Step 3: Connect Your CMP500 to the Network

1. Connect to your CMP500

Left Side



- Connect the CMP500 to the network with an Ethernet cable in the **LAN 1** port. (**1**)
- Connect the RJ-11 telephone cord to the **PHONELINE** port. (**4**)
- Connect the power supply to the **12VDC** port. (**3**)

  NOTE: If the **Off Hook / Fault** light is flashing, power cycle the CMP500. It checks the status of the phone line at power up.

  NOTE: The ports on the right side of the CMP500 are not commonly used.

Step 4: Conductor Triggers

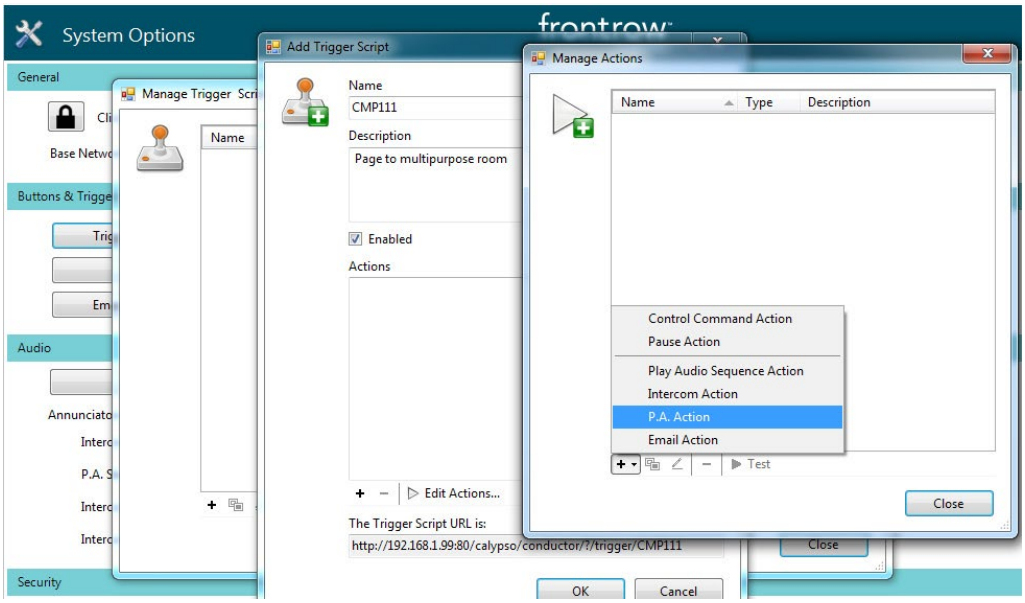
Triggers in Conductor, typically used to send P.A.'s when calling in with the CMP500, are executed by entering the 3 numeric digits in the trigger name. The triggers are configured with the prefix specified in the CMP500's **Miscellaneous** page (defaults to **CMP**). Since the trigger codes are numeric it is important to enter a helpful description, such as **Page to the cafeteria**. You may also invoke Conductor triggers through the built-in CMP500 events like you would with other FrontRow connected devices (i.e. CB6000, CB2000, etc). Define a '#HTP' or '#NET' action and assign it to one of the ten CMP500 events.

1. Add the CMP500 in Conductor Devices

- Go to Devices in Conductor and click the + (plus) to go to the **Add Device** screen
- Enter a name for the CMP500 in **Device Name**
- Enter a **Location** if needed
- Enter the **IP address**
- Select a **Zone** (can create a new one)
- Click **OK** to save
- Click **Refresh** at the bottom of the **Devices** page and confirm the CMP500 is seen as a Master

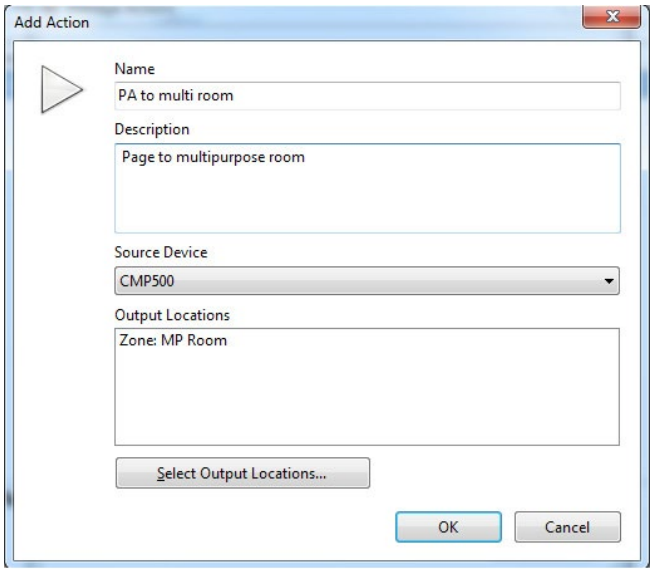
2. Create Conductor Actions and Triggers

- Go to **System Options > Trigger Scripts & Actions**
- Click **+** to add a trigger in the **Manage Trigger Scripts** dialog
- Enter a name that begins with the trigger prefix entered on the CMP500 **Miscellaneous page** (defaults to **CMP**) followed by three numeric digits (e.g. CMP111); the 3 digits will be entered to execute the trigger when calling in to the CMP500
- Enter a helpful description in the **Description** field, such as **Page to multipurpose room**
- Click **Edit Actions**
- Click the **+** and choose **P.A. Action** from the list



3. **Add the New Action**

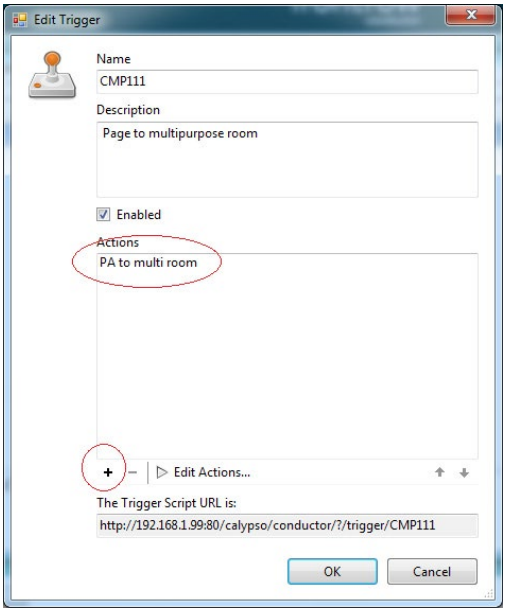
- **Name** – Enter a descriptive name for the Action
- **Description** – Enter a description if needed
- **Source Device** – Select the CMP500 from the Source Device list
- **Output Locations** – Click the **Select Output Locations** button and choose the Zone(s) or Device(s) to page with this action
- Click **OK** to save



NOTE: If Test is clicked in the **Manage Actions** dialog, the activity generated must be stopped in the Activity page.

4. **Add Action to the Trigger**

- On the **Add Trigger Script** dialog, click the **+** under Actions and select the Action for this trigger to execute
- Click **OK** to save the trigger



Step 5: Paging with the CMP500

1. **Calling the CMP500**

   Call into the CMP500 using the assigned number and extension (if it isn't a direct line). The Welcome message will be played which asks to enter the password code. If the **Disable startup security code** is checked on the CMP500's Miscellaneous page, this will not be heard. If the startup security code is enabled, enter the password (defaults to **1**,**2**,**3**,**4**).

2. **Making an "All Call"**

   An **All Call** on the CMP500 sends a page to all connected FrontRow devices, such as CM3000's and Juno Connect systems. Conductor is not needed to make an **All Call**. After the tone, press **#** (the pound or hash key on the phone) twice. A beep will then be played to indicate the call is successful. You can then speak into the phone and it will be heard on all connected FrontRow audio devices.

3. **Executing an Event or Conductor Trigger**

   To execute an event configured on the CMP500 or a trigger set up in Conductor, call in to the CMP500, enter the Control password (if enabled), and then the appropriate code. For a CMP500 event, press the single-digit event number followed by the **#** key (0 through 9, with 0 representing event 10). Or, for a Conductor trigger, press the 3 digit code. A beep will be heard to indicate the event or trigger has been executed. At this point, in the case of a Conductor PA (page) trigger, you can begin talking and you will be heard over the devices defined in the trigger.

   See Step 2, section 10 for information on setting up events and Step 4 for information on setting up triggers.

4. **Completing the Call**

   To complete the call, hanging up the phone should end the page and disconnect the call. With some phone systems (where CPC signalling is not recognized) the hang up will not be detected so a ***** (star key) can be pressed before hanging up to end the page (if this feature has not been disabled on the **Miscellaneous** page). The call can also be ended by either the **Hangup delay**, which specifies the seconds of silence before disconnecting the call, or the **Max call time** setting, which sets the maximum call time to the specified number of minutes (silence is not needed). These are both set on the CMP500's **Miscellaneous** page.

Step 6: Recording CMP500 Messages

1. Messages

There are four messages that can be customized by calling into the CMP500 to record over the default message.

#1: Event message - 15 sec
Default message: "After the tone, press the # key twice for all call, or for an event enter 0 thru 9, followed by the # key."

#2: Announcement message - 4 sec
Default message: "Hello. Please enter the code followed by the pound key."

#3: Try-Again message - 2 sec
Default message: "Invalid. Try again."

#4: Record message - 15 sec
Default message: "To record a new action event message, press 1; to record a new announcement message, press 2; to record a new try-again message, press 3; to replace this message, press 4."

2. Recording

Recording custom messages can easily be accomplished by calling in to the CMP500, entering the Record password, and entering the number of the message you would like to record. Following are the needed steps.

Call into the CMP500 and enter the Record password (default "4,3,2,1").
NOTE: The option **Disable startup security code** on the Miscellaneous page cannot be checked for recording to occur. If the **Announcement** message doesn't play when calling in, uncheck this option and save.

After listening to the entire **Record** message, which is followed by a tone, press the number of the message you'd like to record.

Immediately upon hearing the beep, begin speaking the new message, keeping track of the number of seconds allocated for the message being recorded (see above).

At the end of the allocated seconds, the recorded message will play back. If the message is not to your satisfaction, press the same number again and rerecord the message.

To record additional messages, press the number associated with the message. It is not necessary to hang up and dial in again to record another message.

APPENDIX A: Configure your computer's static IP address

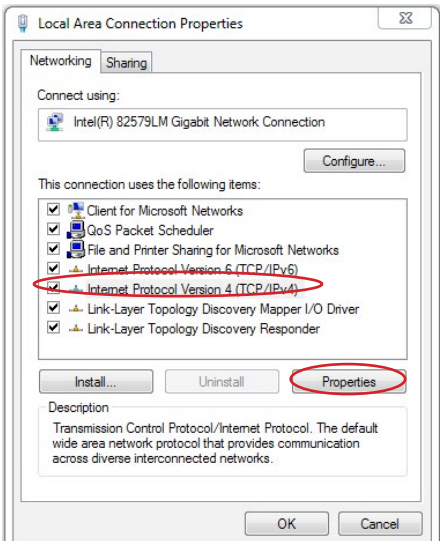
For the duration of the configuration, your computer needs to have a specific IP address. Here's how to change your computer's wired network adapter from automatic (DHCP) to fixed (static):

a. Windows 10

1. Right-click the Windows start icon in the lower left of the screen then click **Network Connections**.
2. Click on **Change adapter options**.
3. If you have a wireless internet connection active, right-click on the icon and temporarily disable this connection for best results.
4. Double-click your active LAN (Ethernet) connection then select **Properties**. This opens the Local Area Connections Properties window.

b. Local Area Connections Properties (Windows)

1. In the Networking tab, highlight the **Internet Protocol Version 4 (TCP/IPv4)** or **Internet Protocol (TCP/IP)** item, and click **Properties**.



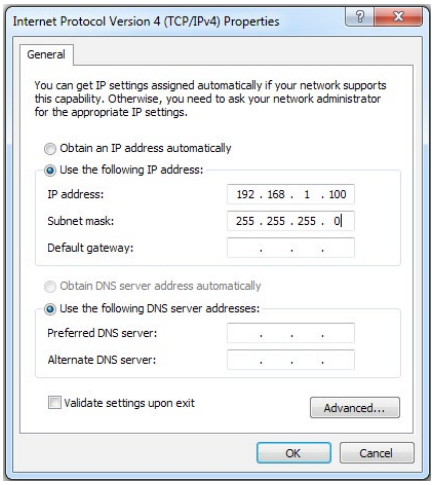
   This opens the Internet Protocol (TCP/IP) Properties window.

2. In the General tab, click **Use the following IP address**, and enter:
   - IP address: 192.168.1.100
   - Subnet mask: 255.255.255.0
   - Default gateway: Leave blank

   NOTE: We recommend 192.168.1.100 as the standard IP address; however, you may need to use a different address if you are using a local switch already using this address

3. Leave the **Use the following DNS server addresses** fields blank

4 . Click **OK**.



5 . Click **OK** to close each window . If there is no OK button, click on the Close box (X) to close the windows.

NOTE: to change your computer back to DHCP follow the same process but select "Obtain an IP address automatically" from the General network page.

c. Mac OS X

1 . Click the **Apple** icon in the upper left hand corner of your screen.

2 . Click the **System Preferences** option.

3 . In the **Internet & Network** section click the **Network** icon.

4 . Select the network connection you use to connect to the internet — the one that has a green dot in front of it. The green dot means the connection is active.

5 . Click the **Configure** button which is close to the bottom of the screen.

6 . Click the **Configure IPv4** drop down box and select the **Manually** option.

7 . Enter:

- IP address: 192.168.1.100
- Subnet mask: 255.255.255.0
- Router: Leave blank

NOTE: We recommend 192.168.1.100 as the standard IP address; however, you may need to use a different address if you are using a local switch already using this address.

8 . Click **Apply Now**.

APPENDIX B: CMP500 LED Lights

Phone in use (Yellow LED) – This indicator will be turned on when the telephone line is off hook (inbound or outbound). In addition, this indicator will flash on/off every .5s if the telephone line is disconnected or dead. The line is checked at power-up and during outbound calls. An answered call will clear this error if set.

Ring, DTMF, Audio streaming, activity (Red LED) –

1 . On incoming ring cadence this LED will flash

2 . With every touchtone dialed out or received this LED will flash once

3 . When streaming audio this LED will also flash

NOTE: the flash rate is slightly different for each activity.

Record and playback (Blue LED) – This indicator will flash during playback of a recorded message and during the recording period this LED will be on solid.

Run Status (Green LED) – This indicator will flash on/off at a rate of .5s on/off when the CMP500 is operating.

Error Status (Yellow LED) – This indicator remains off during normal operation and will be turned on solid if an internal error is detected. The specific error is displayed at the top of the web page.

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1550-00017/Rev B 0220