

# This is CS4 Help

CS4 Version 1.0.4

## Getting Started

To access the CS4 system, you may use virtually any Wi-Fi enabled device with an Internet Browser.

Use Wi-Fi settings on your device to connect to the same network as the CS4. If you are not on the same network, you cannot connect to the CS4 (unless the system administrator has set up that feature).

It is HIGHLY recommended that you use the Chrome browser for the CS4.

To connect to the CS4, open your browser and go to: **system IP address:3000**.

For example, the default system address is 192.168.2.10 so you would type **192.168.2.10:3000** in the browser address bar. You should now be connected to the CS4 Home screen.

If an additional T4 Transmitter is setup as a router and connected to Zigbee Port 2, you will be able to monitor the entire system by seeing the same information as the R4 Receivers.

If connected to the internet, the CS4 can send an email every time the system is started.

## Home Page

This screen allows you to view the system log and current events.

The EVENT LOG shows all system events (input and output signals since you opened the page).

To display the log history, you may use the **1000 Entries** button to retrieve the last 1000 entries or obtain the entire log by using the **Full Log** button (maximum of 25,000 entries)

The Event Log screen can be cleared using the **Clear** button.

If operating in a darkened room, the **BkGnd** button, can be used to change the page to more subdued colors.

# Scrolling Page

This is an observational screen only. It shows all system events on a vertical scrolling time line. Input events are on the left side while output events are on the right side. The time line starts when you open the page, therefore no previous time events will appear. This screen is useful for checking on system operation in real time.

# Info Page

This screen will give you a quick overview of the CS4 status, including:

1. Time and date of the last 25 system restarts;
2. How long the system has been running since it was last restarted;
3. Total number of restarts;
4. Number of cues in the cue file;
5. Number of entries in the log file. (The maximum is 25,000. After 25,000 the oldest entry will be replaced with new data).

# Timing Page

This screen is used to time the show. Since it will actually control the show, it is password protected. The password is **qwerty**. After entering the correct password, you will be shown the screen. If no password is entered or the password entry box is cancelled, you will be taken back to the home screen.

If you are starting a timing for a NEW show, select the **Delete Current Cue File** button. You will be prompted to ensure you really want to delete the existing cue file. A backup of the existing cue file will be automatically created.

You may toggle the background if desired by using the **BkGnd** button.

## NOTE:

When timing, up to three timings may done at the same time on the same browser. Alternately, timings may be made from more than one client machine at the same time.

Additional timings may be made at any time. Existing timings will not be interrupted while the show is running and the new timing will be sent to users in real time.

To start timing, please enter the correct Show Name in the text box of the timing you are performing (1, 2, or 3). This **MUST** be the same name as used when setting up the R4 receivers for the show. Select the type of timing you are performing in the Output radio button selection (R4 Slides or R4 Audio). If the R4 receivers you are using have the Directory feature, enable then enter the proper directory for this timing; otherwise it **MUST** be left blank!

Then, just wait for the first incoming cue and press the **GO** button at the desired time to insert the outgoing cue. That's all that's needed for a timing. The CS4 automatically saves each cue as it is entered. When finished with the timing, just leave the timing screen.

# Settings Page

The main purpose of the settings screen is to test the CS4 System and the R4 Receivers. Additionally, it is used to set up the Startup Parameters such as: DMX channels (3) to monitor, email address(s) for messages, Zigbee channel 2 monitor and Input Source ignore.

You may toggle the background if desired by using the **BkGnd** button.

## Functions:

### Startup Parameters

In order to access these settings, press the **Show Startup Parameters** button above the Event Log.

#### Name of System

This is the name that is used to identify the system when that system sends an email.

#### Ignore Input Source

This allows the source of the input to be ignored. For example, if the input source is ignored, a Midi input may be on any channel to trigger an event. If not ignored, the input MUST be on the channel the original timing used. To set, just select the desired radio button.

#### Enable Zigbee Monitor

This will display or not display Zigbee channel 2 monitoring data. If enabled, the Event Log will show the same data that the R4 receivers receive. It is the perfect way to ensure the entire system is working. It is recommended that the monitor be disabled except for testing purposes. To set, select the desired radio button.

#### Self Test Start Time

Select the approximate start time for the self test of the system to begin. Time is in 24 hour format.

#### Email Address for Messages

This is a text box for entering the email address that will be sent messages when the CS4 system starts (if connected to the internet). Several address may entered if separated by a comma.

#### DMX Channel Monitor

The CS4 will monitor up to three DMX channels for changes. To select which channels to monitor, just enter the channel number in the appropriate text box. If you need to monitor less than three channels, just leave the channels blank; do not use 0.

When all of the Startup Parameters have been selected, press the **Save Startup Parameters** button to save your changes.

To hide the Startup Parameters panel, press the **Close Startup Parameters** button.

## Midi Send

The radio buttons let you select one of four types of midi to send:

1. Light Cue will send the light cue number that is in the adjacent text box. You may enter any valid cue number;
2. Note On will send the note on command listed;
3. Note Off will send the note off command listed;
4. HEX will send the midi command represented by the hex string in the adjacent text box. You may enter any valid midi hex string. NOTE: do not use any spaces in the hex string.

Press the **Send Midi 1** or **Send Midi 2** to send it out via the desired channel.

### Automatic Feature

An additional function is provided that will automatically send midi light cues. The contents of the Next Cue text box is the beginning cue number to send and the Delay is the time between cues in seconds. The automatic feature is initiated by pressing the **Send Midi 1** Auto button. The button will turn red to let you know it is in automatic mode. To stop sending, press the button again. Automatic sending will only send via the Midi 1 port.

## Send To R4

This will send a cue to all of the R4 receivers connected. Enter the appropriate Show Name in the text box. Select to send either R4 Slides or R4 Audio with the radio button. If the R4 has the Directory mode enabled, enter the appropriate directory; otherwise it must be left blank. Pressing the **Send Cue** button will immediately send the cue listed in the Next Cue text box.

### Automatic Feature

The **Send Cue Auto** button will send and increment the cues with a Delay as listed in the text box (in seconds). The **Send Cue Auto** button will turn red when in auto mode. To stop, press the button again.

## Date & Time

To read the date and time of the CS4 system, press the **Get CS4 Time** button. Time will be returned to the Event Log at the top of the page. To update the CS4 time to your time, press the **Update CS4 Time to My Time** button. Additionally, you may change the time zone of the CS4 by using the drop down box.

## Relay Control

The 4 relays on the CS4 may be turned on or off using the appropriate button. They are clearly marked as to their function.

## CS4 Input Status

To read current input values, press the desired button. Results will be returned to the Event Log at the top of the page. **ADC 1** and **ADC 2** (Analog to Digital Converters 1 and 2) as well as **Closure 1** and **Closure 2** (Contact Closures 1 and 2) are available with the appropriate button press. Pressing **DMX** will display the values of the three previously selected DMX channels.

## Serial Ports

This allows you to send a message (either ASCII or HEX) to any of the three serial ports.

First select either ASCII or HEX for your message. Then use the drop down boxes to select the desired serial port. Select the desired BUAD rate, and the desired parity option. Enter your message in the Message text box. NOTE: if using HEX, enter as one string with no spaces.

To send the message press the **Send** button.

## DAC

Send out the desired voltage via the DAC or DAC 2 (Digital to Analog Converter 1 and 2). Enter the desired voltage in the appropriate text box. NOTE: the voltages are in Millivolts, e.g. to output 1.5 Volts, enter 1500.

## SMPTE Output

This will turn the SMPTE output channel on or off. If the SMPTE output is connected to one of the SMPTE inputs, the incoming results will appear in the Event Log at the top of the page.

## DMX Channel Select

The CS4 will monitor up to 3 DMX channels for changes. To select which channels to monitor, just enter the channel number in the appropriate text box. If you need to monitor less than three channels, just leave the channels blank; do not use 0.

Once the selected channels are entered, just press the **Update DMX Channel Watch** button.

## Data Base Files

All databases on the CS4 are stored as one collection of files. When backing up and restoring files, all of the databases are copied or restored.

To use a USB memory stick, insert the USB device in the front panel USB connector, then select either the **Copy Data TO USB** or **Copy Data From USB**, whichever function is appropriate. The Event Log will display the status of the operation. Database files may also be copied and stored internally in the CS4. There are five different locations so you may keep successive backups. Use the drop down to select the desired location, then either **Backup Data TO Internal** or **Restore Data From Internal** as needed.

# Editing Cue Files Page

Editing cue files will directly affect system operation. Use caution when editing files. The editor has many critical functions and requires a mouse to use all of the functions. In order to access the editing module, open your browser and go to: `system IP address:3000/CS4Edit`.

For example, the default system address is 192.168.2.10 so you would type `192.168.2.10:3000/CS4Edit`.

The status bar at the top of the screen will show 'CONNECTED'.

The top graph shows the entire show; all input cues and outputs for the entire length of the show. Only every fifth cue is labeled. Moving the mouse pointer will display the identity of the selected cue in the window that pops up in the upper left corner.

The bottom graph is a zoom window and will only display the data that is within the highlighted area of the top graph. To change the zoomed area location, place the mouse pointer in the highlighted area, press the left mouse button and drag to the desired location. Alternately, left clicking on a non highlighted area will select that area or you may drag the `Place` slider to the desired location. One last method is to move the mouse pointer to the bottom graph and use the mouse wheel.

To change the zoom level (amount of zoom), move the mouse pointer to the top graph and use the mouse wheel to change the amount of zoom or drag the `Zoom` slider.

All editing is done from the zoom graph. To change the time of an outgoing cue, highlight the cue with the mouse pointer then LEFT click and drag the cue to the desired position. The upper left window will indicate the amount of time the cue is moved. If you need to undo a move, just press the `Undo Last Edit` button. If you would like to start over with all editing, just press the `Load Cue File` button and the original cue file will be reloaded. Incoming cues (cues in the bottom half of the graph) cannot be moved for obvious reasons.

To REMOVE an incoming or outgoing cue, select the cue with the mouse pointer and RIGHT click it, then follow the popup dialog that will appear at the top of the screen.

To add additional cues, press the `Add Cues` button and additional selections will pop up at the bottom of the screen. To insert, select the parameters of the new cue then press the `Insert` button for that cue type. Move the mouse cursor (now crosshairs) to the desired location and press the LEFT mouse button. If the cursor is not showing crosshairs, the cue cannot be inserted. Move to a proper location.

Once all of your edits are finished, press the `Save Cue File` button and follow the prompts in the popup dialog box.



# CS4 Setup Notes

## Zigbee

The Zigbee module connected to Zigbee Port 1 is the system coordinator. The BAUD rate of the coordinator is 115200. This is a change from the CS3.

The Zigbee module connected to Zigbee Port 2 is a system repeater. The BAUD rate of the repeater is 115200.

## Start Up Self Test

The System Ready Light will come on within about 45 seconds of power up. At power up, the system will do a complete test of itself and external Zigbee modules. If the test is passed, the System Ready Light will be on continuously. If the system test fails, the light will BLINK. If the system does not have a second Zigbee installed, it will always fail the test, but the system probably is working fine. The results of the test will be emailed to the email address(es) entered in the Startup Settings.

Additionally the System Test is repeated every day at the time requested in the Startup Settings. Thus, the system tests itself every day that it is left powered on. Additionally, it tests itself at power up.

## USB

When using a USB memory stick with this system, it must be formatted with the FAT32 file system and have no name (volume label). Otherwise, it will not be recognized by the CS4.

## LED's on the Front Panel

All LED's have a series resistor with a value between 250 and 390 Ohms. If there is no series resistor, the control module may be destroyed.

### Power Light

It is connected between pin 4 (+) and pin 6 (gnd). It will light as soon as power is applied to the system.

### Ready Light

It is connected between pin 7 (+) and pin 9 (gnd). It will light as soon as the system is ready. It is usually less than 45 seconds to become ready. If the LED is on steady, it means the system has passed the entire loop back test and everything is in proper working order, including the radios. If it is blinking, it failed the loop back test, the most probable cause is the radio coordinator or the radio repeater. Access the system via a web browser and with the Settings screen options you will easily be able to determine the cause of the failure.

### **Input Light**

This will flash every time any input is recognized by the CS4.

### **Output Light**

This will flash every time the system sends commands to the R4 receivers.

## **Jumpers on CS4 IO Board**

### **Power Switch**

Switch is connected to P501. One side of the switch is connected to pins 1 and 3, the other side of the switch is connected to pins 2 and 4. A factory jumper is connected across pins 3 and 4 so no switch is needed for testing. To use the front panel power switch, this jumper must be removed.

### **Internal USB Jumpers**

Jumpers are connected on P901 between pins 7 and 9, also between pins 1 and 2. This provides for proper operation of the control module.

## **Connections to the Control Board**

### **USB and Power Link**

This is provided by one USB Mini to USB A cable. The USB Mini end plugs into the CS4 I/O board conn 901, the other end connects to the TOP USB connector on the CS4 Control module.

### **Ethernet**

The Ethernet rear panel connector connects to the Ethernet connector on the board.

### **USB Front Panel**

The USB front panel connector plugs into the BOTTOM USB connector.

### **LED's**

See LED'S on the Front Panel above.

## **SD Card**

The SD card is provided with the system and contains all of the system program files and all of the system data files. It is easily replaced with a new card from the factory, should the need arise. Before replacing the card, please copy all of your files to an external USB memory stick, using the Settings page options.

# CS4 I/O Board Overview

## Control Inputs

Quantity	Type
4	MIDI
1	RS-232 or RS-485
1	DMX
2	SMPTE
2	Contact Closure
2	Analog Input (0 - 5 Volt)

## Misc

4	Midi Thru
4	Midi input indicator LED's
2	SMPTE input indicator LED's
7	LED's for each power regulator
1	Main power switch
1	Main power fuse

## Control Outputs

1	MIDI
3	RS-232 or RS-485
1	Analog (0 - 5 Volt)
4	Relay Closure

## Testing Outputs

Quantity	Type
1	MIDI
1	SMPTE
1	Analog

## System Inputs & Outputs

Quantity	Type
2	Zigbee (probably RS-485)
1	Display module with switches
1	Connection to main controller (some type of high speed serial)

## Main Controller Inputs & Outputs

Quantity	Type
1	Connection to I/O board
2	USB for flash drive
1	SD card interface