

Generation 4 MP3 Show Directors

**N2-G4-MP3, N4-G4-MP3, and
uMP3g4 miniDirector
LOR1602Wg3-MP3g4 Show-in-a-Box
with N2-G4-MP3 Director**

User Manual
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V1.02

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Introduction

The Gen 4 MP3 Directors are compact, powerful Light-O-Rama Show Directors with MP3 Players. These Directors can run shows in place of a PC. The LOR1602Wg3-MP3g4 Show-in-a-Box 16 channel lighting controller contains a director. There are three models that control one, two, or four high speed networks of Light-O-Rama (LOR) controllers or DMX fixtures while playing MP3 audio files. The two and four network models have clocks with power-fail backup that can be used to schedule shows. Three to six trigger inputs allow shows to be started by external events, usually momentary switches and/or motion detectors.

The ShowTime Windows software can be used to design and build sequences. Sequences are lighting and servo controller commands that may be choreographed to audio. User created sequences and pre-programmed musical sequences available from LOR and other vendors are then arranged into Shows. These Shows are transferred to an SD card, along with the scheduling and trigger information. The SD card is inserted into the director which then directs the LOR controllers in your display and plays any associated audio.

What's in the Box

Your G4 Director or LOR1602Wg3-MP3g4 Show-in-a-Box includes a USB SD card reader/writer, an SD card and user manuals. These manuals are also available at www.lightorama.com ► Support ► Documentation ► G4-MP3 or LOR1602Wg3 User Manual.

G4-MP3 Built into LOR1602Wg3

The LOR1602Wg3-MP3g4 Show-in-a-Box is a 16 channel, 30 amp lighting controller with an internal N2-G4-MP3 Director. This two network director is mounted on a plate inside the controller. Remove the bottom two screws from the front cover and lift the cover off to expose the G4-MP3. See below:



G4 Directors as Stand-Alone Units

If you have a stand-alone unit, there are three versions:



uMP3g4 miniDirector (1 network, no clock)



N2-G4-MP3 Director (2 networks, clock)



N4-G4-MP3 Director (4 networks, clock)

ShowTime Software Version

If your Hardware Utility has an *LOR MP3* tab on the upper left of the LOR Control window (initial window) you will be able to put a show on an SD card for your director. The recommended minimum version of the Hardware Utility to access most G4-MP3 functions is 2.3.4. To access all features of the G4-MP3, the Hub application in the ShowTime Software Suite version 5.5.10 greater is required.

The version of your PC software appears in the title bar. This version is the same for all programs in a ShowTime software release. If the version you have does not support the features you want to use, then you need a new version. You may have to renew your software license to activate the latest version of the ShowTime software. Software is available here: www.lightorama.com ► Sequencing ► Download Software.

Important Considerations

The director is normally powered by the nearest Light O Rama controller or a USB485B PC adapter. Use a 50' or less Cat5 LAN cable to connect the director to either of these devices. Longer cables may have an unacceptable voltage drop that may cause erratic operation.

The front panel buttons on the metal box directors are only active when there is no SD card inserted.

SD cards can be formatted FAT16 or FAT32. SD cards supplied by LOR will already be formatted and ready for use.

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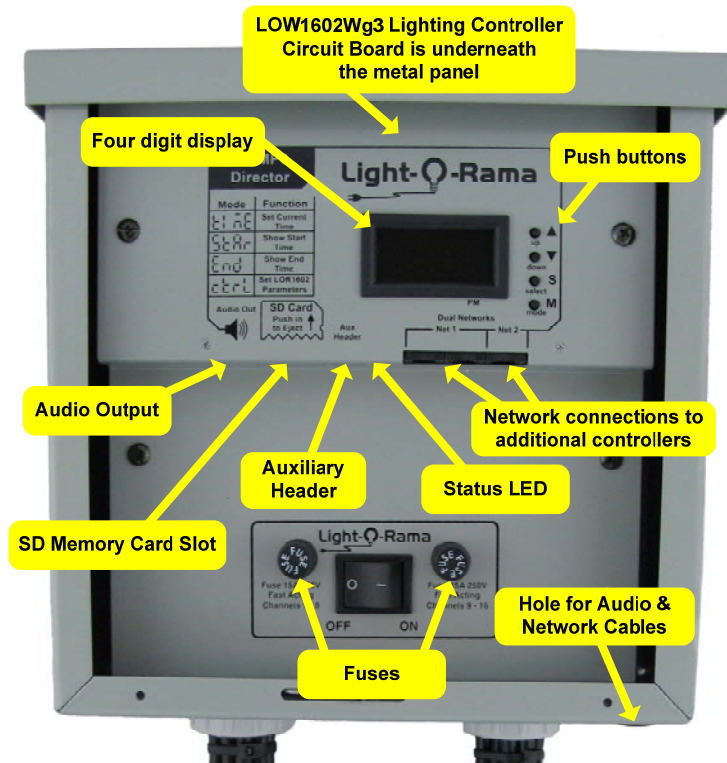
A 500MB SD card can hold approximately four hours of MP3 audio and controller commands.

Songs (audio files) for use with the directors must be encoded as MP3 files. Constant Bit Rate (CBR) at 128K bits/second is best. See www.lightorama.com
► Support ► Documentation ► “Preparing MP3s”

The battery backup power for the directors with a clock should keep the clock going up to 10 years. The clock is needed only for scheduled shows.

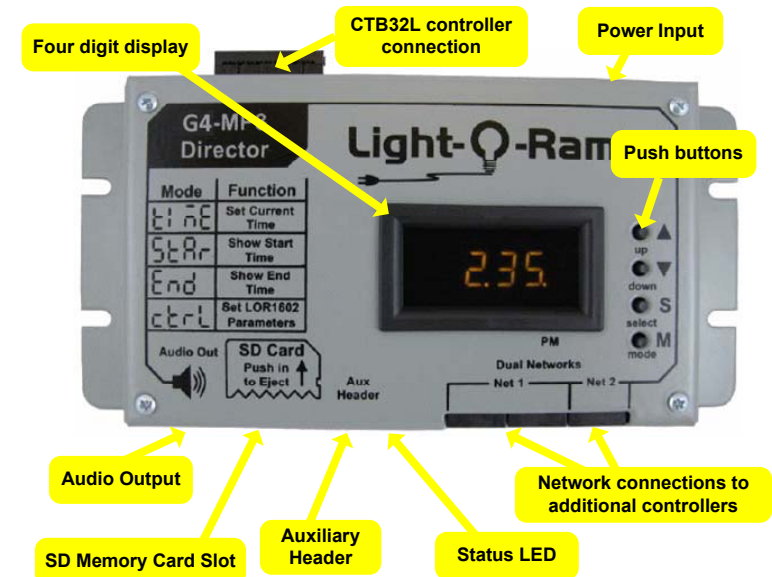
Component Locations

LOR1602Wg3-MP3g4



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G4-MP3 Stand-alone



Audio Output

This is a standard 1/8" stereo mini-jack. It supplies line-level output. You can directly plug headphones or an FM transmitter into this jack. Use an amplifier to drive speakers.

Aux Header - Interactive Inputs

The Aux Header is at the bottom center of the N2-G4-MP3 and N4-G4-MP3 directors, and on the back of the uMP3g4 director. This header can be used to trigger shows with momentary contact switches or motion detectors. See the *Interactive Trigger Connections* section for more info.

Network Connections

These directors support one, two, or four LOR (or DMX) networks. In addition to the older supported network speeds of 19.2Kbps, 57.6Kbps and 115.2Kbps, these directors support 500Kbps and 1000Mbps for displays with large numbers of RGB pixels.

The left two RJ45 network connectors on the N2-G4-MP3 and the N4-G4-Mp3 (both RJ45) are for network 1. They are also used for all Hardware Utility interactions with the directors and/or the underlying CTB32L controller in the case of a LOR1602Wg3-MP3g4. Network 1 is also used for the Director Link feature which allows linking of multiple N2 and N4 directors to run a show.

The right RJ45 jacks are used for the second, third, and fourth networks.

Power Input

Normally, power is supplied by the attached controller in the case of the LOR1602Wg3 or via the network jacks which are connected to LOR controllers. There is also an auxiliary barrel connector on the stand-alone versions of the G4 Directors. It can be used to supply power if

- the director is more than 50' from the nearest controller or the controller does not supply auxiliary power
- the director is to be connected to a PC without using a USB485B powered adapter or an attached lighting controller (I.e. using a USB485 or SC485 adapter)

- the director is to be put on a timer or switch to control it

Use a center-positive 12 VDC 500ma power adapter to supply external power to director if needed. Plugging in a power adapter disconnects the power from the network connectors.

SD Card Slot

The SD card is inserted into the SD card slot with the gold connectors facing down. Press the card into the slot until it “clicks” into place. To remove the card, press the card into the slot and it will spring eject.

When running one or both networks at 500Kbps or 1000Mbps a Class 4 or higher SD card is required.

Status LED

No SD card inserted:

- Flashes twice/second for no communications from PC (no heartbeat seen)
- Steady on for communications from PC detected (heartbeat detected)

SD card inserted:

On if communications falls more than 0.05 seconds behind. (The sequence currently playing wants to send more commands than the communications speed can handle.)

Front Panel Buttons & Display

The following display means the Director is initializing (synchronizing communication with the controllers):



The following display will alternate with the time. It says "Wait" which means a show is waiting for its time to run.



When a show is running, the display will toggle between the current time and x-yy, where x is the current show and yy is the current sequence in that show. Show 1, sequence 1 looks like this:



When no SD card is inserted, the front panel buttons are active. Pressing the mode button will step through the available options:



Press Select to set the time & day. See the section *Clock Set from Front Panel* for more info.



Press Select to set the show start time. See the section *Show Programming (Front Panel Control)* for more info.



Press Select to set the show end time. See the section *Show Programming (Front Panel Control)* for more info.



This mode only appears if a CTB32L controller is connected to the director via the top ribbon cable connector, and the CTB32L controller has firmware version 1.08 or later. This is the case for a LOR1602Wg3-MP3g4 Show-in-a-Box controller.

Pressing Select turns control of the front panel display, ▲, ▼, and Select buttons over to the

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CTB32L controller so that it can be configured. See the *LOR1602Wg3 User Manual* for more info. Pressing the Mode button again returns control to the director.



Press Select to set special options. The Mode button will now step through a sub-menu of additional options and then return to the top menu. The sub menu options are:



Press Select to change one of these options. See the next section for an explanation of the options.

Special Options



When this option has been selected, use the ▲ and ▼ buttons to change the day-of-the-week. Press

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Select again to set it. Complex schedules possible with the Hub and Hardware Utility may require that the director know the day.



When this option has been selected, use the ▲ and ▼ buttons to select the show that will run or ALL to run all shows. Press Select to set your choice.



When this option is selected, use the ▲ and ▼ buttons to select how often a show plays. This option only affects shows that are configured by the Hardware Utility to always run and loop continuously. This option will not override scheduling options set by the Hardware Utility. Options are:

- LOOP – loop continuously
- 10-n – play once every 10 minutes
- 15-n – play once every 15 minutes
- 30-n – play once every 30 minutes
- 60-n – play once every 60 minutes
- OnCE – play one time

Press Select to set your choice.



When this option is selected, use the ▲ and ▼ buttons to select what to do with the lights between shows. This option is only active if the Repeat option was used to select other than 'LOOP.'

- On – lights are on between shows
- OFF – lights are off between shows

Setting the Director's Time & Day

Time & Day Set from Front Panel

This section describes how to set the director's clock using the buttons to the right of the display. The buttons are only active when no SD card is inserted.

Press the Mode button until the following is displayed:



Then press Select. The current time will flash for about 5 seconds. Use the ▲ and ▼ buttons to change the time. PM is indicated by the dot to the right of the minutes. Press Select again to set the time.

To set the day-of-the-week, press the Mode button until the following appears:



Then press Select. Press the mode button until the following appears:



Then press Select. The display will begin flashing the day of the week. Use the ▲ and ▼ buttons to change the day and press Select to again to set the day of the week.

Time & Day Set with Hardware Utility

This section describes how to use the *Hardware Utility* to set the director's clock via the RS485 adapter. You must have the following:

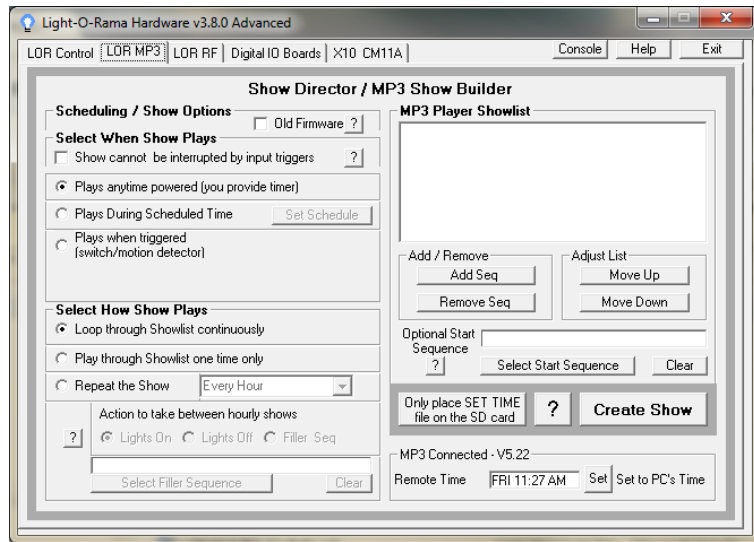
- Hardware Utility version 2.3.4 or later, see the section *Hardware Utility Version*
- **No** SD card in the director
- The director powered (see the *Power Input* section) and Network 1 connected to the PC via one of the RS485 adapters

Start the LightORama Control Panel if it is not running by clicking **start ► All Programs ► LightORama ► Light-O-Rama Control Panel**. The Light-O-Rama light bulb icon will appear in the system tray on the lower right of your screen.

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Start the *Hardware Utility* by right-clicking the Light-O-Rama Control Panel light bulb and selecting *Hardware Utility* from the menu.

Click the *LOR MP3* tab. You will see the following window:



The section at the lower right of the window will say "*MP3 Connected*" and display the MP3 player's current time and day of the week in the *Remote Time* box. Click the **Set** button to set the MP3 Player's time to the PC's time.

Time & Day Set with SD Card

This section describes how to use the *Hub* to set the G4-MP3's real time clock via the SD Card. You must have:

- Software version 2.3.4 or later
- The USB SD card reader/writer plugged into a USB port on your PC with the SD card in it, or

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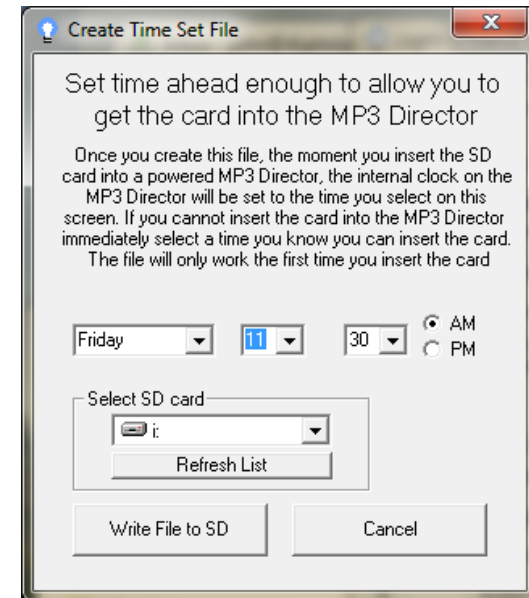
have the SD card in your machine's built in reader/writer

Start the LightORama Control Panel if it is not running by clicking **start ► All Programs ► LightORama ► Light-O-Rama Control Panel**. The Light-O-Rama light bulb icon will appear in the system tray on the lower right of your screen.

Start the *Hardware Utility* by right-clicking the Light-O-Rama Control Panel light bulb and selecting *Hardware Utility* from the menu.

Click the LOR MP3 tab.

Click the *Only place SET TIME file on the SD Card* button. You will see the following window:



Set the time you want to put on the SD card and select the SD card drive from the *Select SD card* drop-down menu. Click the *Write File to SD* button.

Put this card in the director to set the time and day. When the SD card is placed in the director, the display will show time set “tInE” & “Set.” The time and day are only set the first time the SD card is inserted into the director.

Show Programming Overview

This section of the manual is for ShowTime PC Software version 5.5.10 or later which has the Hub application for programming Show Directors. Previous versions of the PC software used the Simple Show Builder or the Hardware Utility. If you are using an older software version or want to use the Hardware Utility, please refer to this section in the **G3-MP3 Director** manual.

Show Programming (Front Panel Control)

To use the front panel scheduling capability of a G4-MP3, you must put your show(s) on the SD card configured to play anytime. See the section *Show Programming using the Hub*. Only a daily start and stop time can be set via the front panel.

If the front panel set Start Time is the same as the End Time, then shows configured to ‘play anytime’ play anytime.

Shows scheduled with the Hub override the front panel start and end times and run when they are scheduled.

The Repeat and Lights options in the Special menu will modify how shows set to run anytime behave. See setting the Final Options for more info.

The director’s time and day must also be set. See the section *Setting the Director’s Time & Day*.

To set the Start time, press the Mode button until you see this:



Press the Select button and then use the ▲ and ▼ buttons to change the time. A dot to the right of the minutes display indicates PM. Press Select to accept the show start time.

To set the show end time, press the mode button until you see this display:



Press the Select button and then use the ▲ and ▼ buttons to change the time. A dot to the right of the minutes display indicates PM. Press Select to accept the show end time.

Show Programming using the Hub

This section describes how to use the Hub application (accessible from the light bulb menu) to set up, schedule, configure, and write your show to SD card(s).

After you select the sequences and options, you will be given a choice between Simple Mode and

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Advanced Mode. Select simple mode if you only have one Show Director and only have one LOR network or one DMX universe connected to it. Select Advanced Mode if you are using multiple networks, or you are using multiple directors.

Multi-Director Shows use a feature called Director Link which is only available on N2 and N4 Show Directors. This feature uses network 1 on all the Directors to sync their networks from the first Director. The first Director plays the audio and lighting commands. The remaining directors drive their lights in sync with the first director. Network 1 can be a wired network, a wireless network, or a combination of both.

How Networks Configured in the ShowTime PC Software are assigned to Director Ports

Ports on the director are assigned LOR and DMX networks configured in your sequences. LOR networks have priority with the Regular Network having highest priority, then AUXA, AUXB, ... Then DMX universes are assigned to ports starting with the lowest numbered universe.

If you need to change the network or speed of a port on the director, you can do this when you are presented with the port to network map window. An example of this window follows. You can click the Protocol and Speed fields to the right of the port number and a box will pop up allowing you to adjust that port's output.

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Step 4 - Select Network(s) for director(s) and Set Parameters

Port	Net/Univ	Protocol	Speed	Comment
1	REG	LOR/ELOR	500K	
2	AUXA	LOR/ELOR	1000K	
3	U:1	DMX	N/A	
4	U:16	DMX	N/A	

For LOR networks, attempt to configure the communications parameters for the listed networks the same as this show computer

< < Previous Next > > Clear All Cancel Create SD Card

Arranging a Show and Setting Options

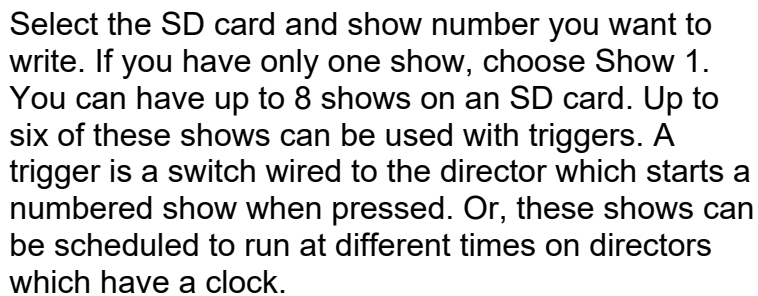
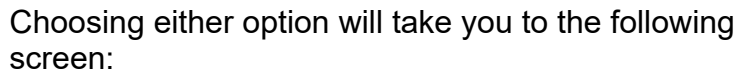
This is done first regardless of whether you will be using Simple Mode, Advanced Mode on a single director, or Advanced Mode with Director Link to write your show to the SD card(s).

Right click the LOR light bulb and select Hub. You will see this screen:



Make sure you have an SD card on which your show will be written connected. Then click the button Create New SD Card Show. You will see the following window which will let you select the type of Show Director(s) being used.

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The screenshot shows a software interface for managing sequences. The main window is titled 'Sequences Available for SD Card Show'. It features a list of sequences on the left and a list of sequences that will be created or updated on the SD card on the right. The 'Change Directory' field is set to 'C:\Users\jghr\Documents\Light-O-Rama\Sequences'. The 'Show that will be created or updated on SD Card' list includes 'music - PC Carol of the Bells, David Foster, 32' and 'music - PC Don Selter Orchestra - Boogie Woogie Santa Claus 32'. The 'Sequences Available for SD Card Show' list includes 'music - PC 32 Winter Wonderland - Johnny Mathis', 'music - PC Amazing Grace', 'music - PC Bandolaprice', 'music - PC Brian Selter Orchestra - Boogie Woogie Santa Claus 16', 'music - PC Brian Selter Orchestra - Boogie Woogie Santa Claus 16a', 'music - PC Brian Selter Orchestra - Boogie Woogie Santa Claus 32', 'music - PC Carol of the Bells with fixed time after loopup', 'music - PC Carol of the Bells, David Foster', 'music - PC Carol of the Bells, David Foster, 16', 'music - PC Carol of the Bells, David Foster, 32', 'music - PC Carol of the Bells, David Foster', 'music - PC Carson Williams vccord', 'music - PC CCR_Stille_Nacht_Mannheim_Steamroller', 'music - PC Christmas Eve (Gargamel), 16', 'music - PC Christmas Eve (Gargamel), 32', 'music - PC Christmas, Time, Go, Punk, 16', 'music - PC Christmas, Time, Go, Punk, 32', and 'music - PC Christmas, Time, Go, Punk, 32'.

Next select when the show plays. For mini-directors, there is no clock, so the show can play when the director is powered, or when a trigger is activated. For show directors with a clock (usually in metal cases), you can also schedule the days and time of day when the show plays.

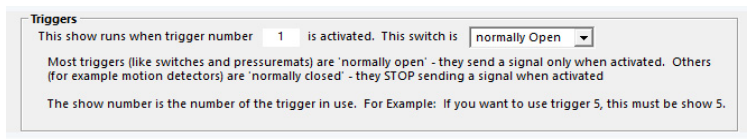
You can choose to have a setup sequence play before the show starts. This plays only when the show first starts. Normally a scheduled show plays during the scheduled time, so if it is shorter than the scheduled time slot it will repeat, but the sequence that you selected to play when the show starts will not be repeated.

Finally, you select how the show plays. Looping during the scheduled time, playing once during the scheduled time, or repeating at a selectable interval.

If the show is to play once, or repeat at intervals, then you will be asked what to do when the show is not playing: lights on, lights off, or running a filler sequence that you have created.

Triggered Shows

In the second pane of the *Sequences in this show...* window, click the *When the shown trigger is activated* radio button. The blank space next to the radio buttons will fill in with the following:



The trigger number for this show will be displayed (for miniDirectors shows 1,2,3, for Show Directors 1,2,3,4,5,6). Choose how the trigger switch works.

Writing the SD Card Overview

After the previous options have been selected, go to one of the following sections next:

Single Director SD Card Write – Simple

For one director and one network

Single Director SD Card Write – Advanced

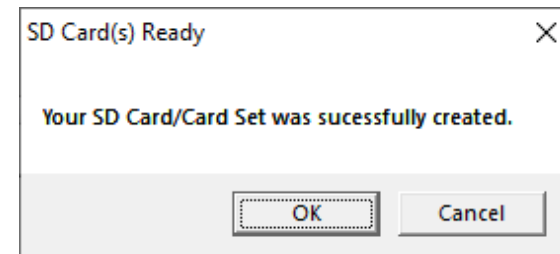
For one director with multiple networks

Multiple Director SD Card Write – Advanced

For multiple directors and networks

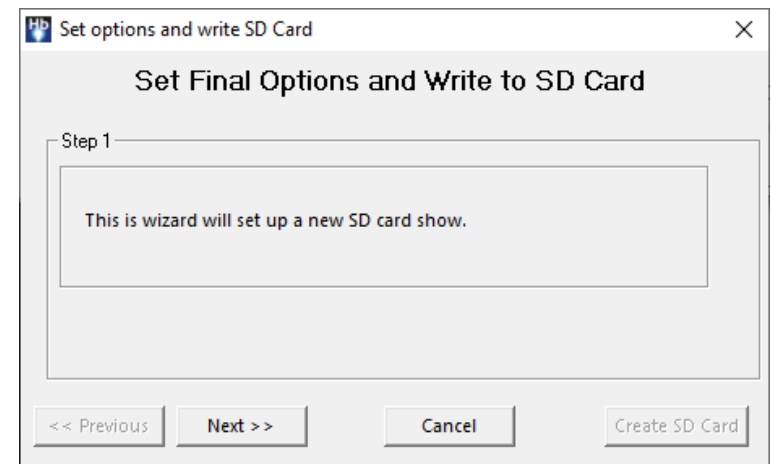
Single Director SD Card Write – Simple

If you have a show which uses one director and one network, click Create/Update SD Card – Simple Mode. The SD card will be written, and you will see the following window – you are done.



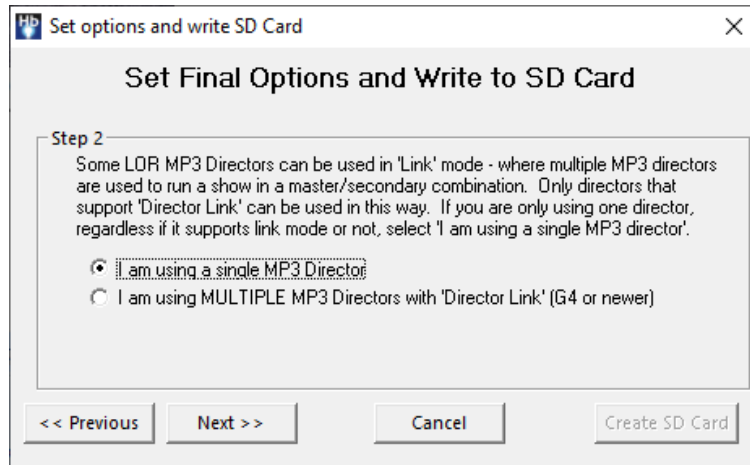
Single Director SD Card Write - Advanced

Click Create/Update SD Card – Advanced. You will see this window:

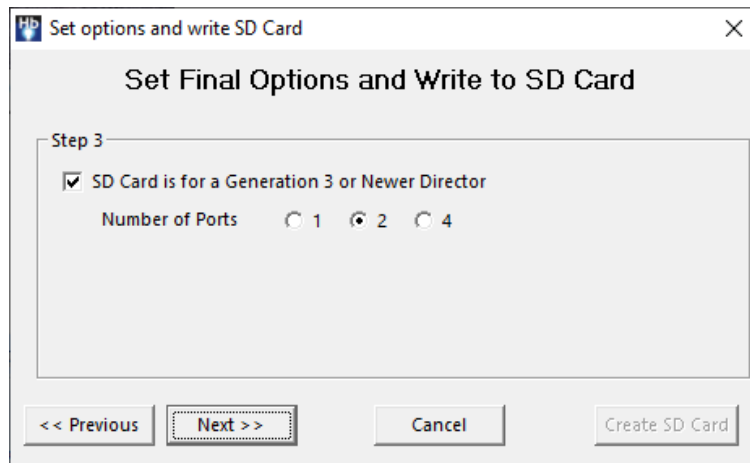


Click Next to proceed, you will see this window:

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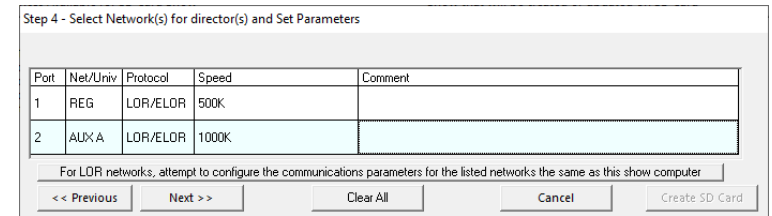


Select "I am using a single MP3 Director" from the previous window and click Next. You will see the following window asking how many ports your director has:

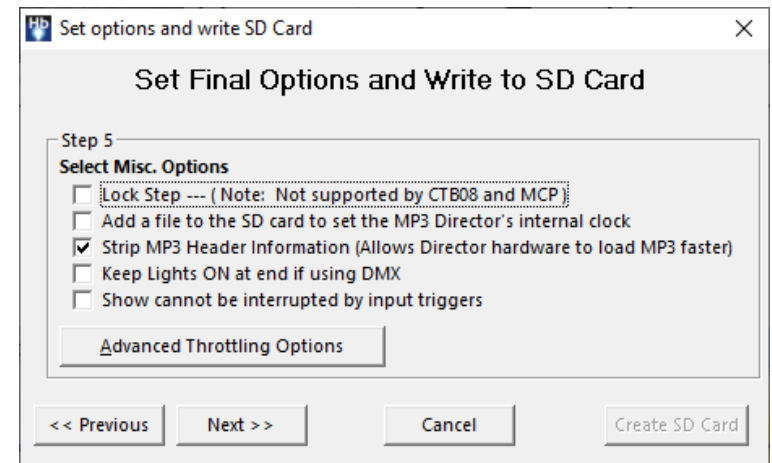


After selecting the number of ports your director has, click Next. You will see the assignments of the networks you have configured in your show to the ports on your director:

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The show configured earlier has two networks in use, they are assigned as shown. If you want to change the Protocol or speed, click either and make your changes in the box that pops up. Then click Next. You will see the Final Options box:



Lock Step is implemented in AC lighting controllers. It causes them to change to the next display state together, as opposed to when they see commands.

Add a file to the SD card to set the MP3 Director's internal Clock. [Not currently implemented]

Strip MP3 header. There can be a significant amount of meta data on the front of music files. Using this option strips it out before transferring the MP3 files to the director. This saves time at the start of sequences because the director does not have to

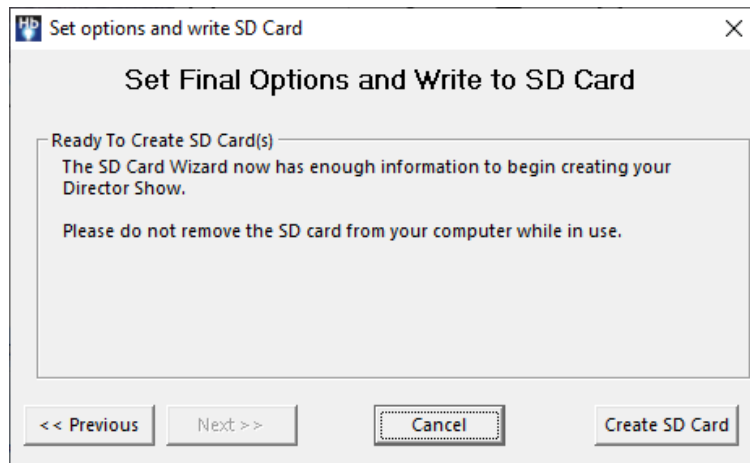
spin through the header data before getting to the music.

Keeps lights on at end if using DMX. Any DMX networks will send full on intensities instead of zero intensity when no show is running.

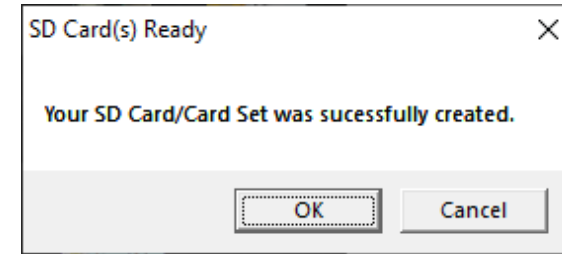
Show cannot be interrupted by input triggers disables the processing of triggers.

Changing the Advanced Throttling Options is normally unnecessary. See the section *Advanced Throttling Options* for more information.

Click Next to get to the final window before writing the SD Card. You will see:

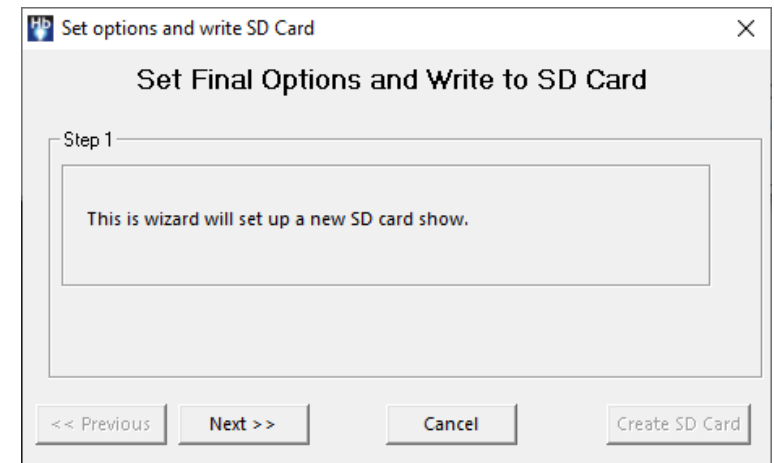


Click Create SD Card to write the show to the SD card. You may see some informational windows pop up which you can click away. Finally, you will see the following window when the SD card has been written:



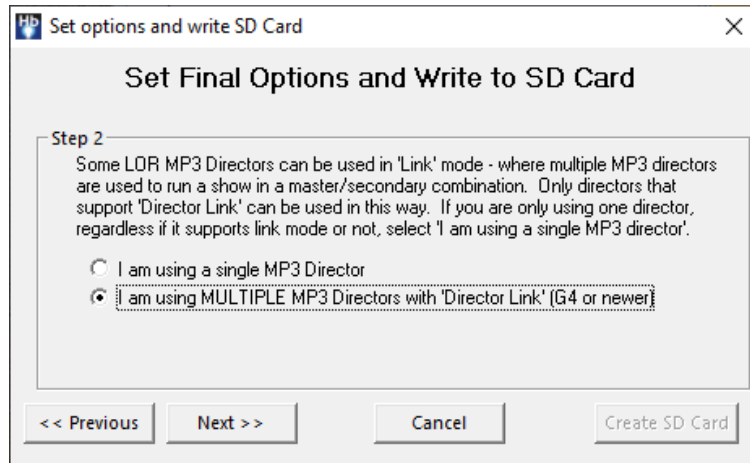
Multiple Director SD Card Write - Advanced

Click Create/Update SD Card – Advanced. You will see this window:



Click Next to proceed, you will see this window:

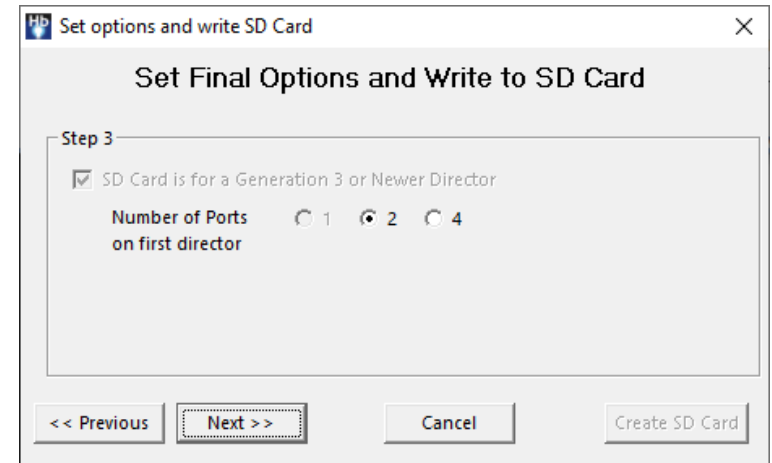
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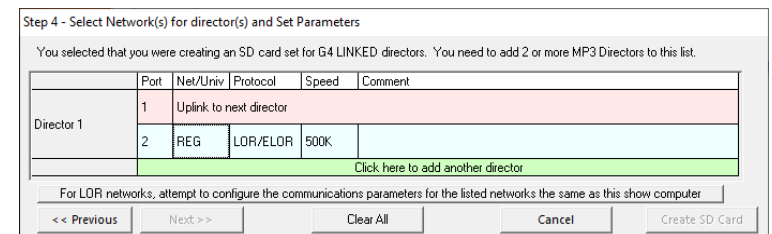
Select I am using a MULTIPLE MP3 Directors with 'Director Link' from the previous window. This feature allows using multiple directors where the first director controls the scheduling and keeps all the others in sync. Audio comes from the first director only. The rest of the directors play their lighting sequences in sync with the first director. Network 1 on all directors is used for syncing the directors. This mode is only possible with the N2 and N4 G4 directors.

Click Next and you will see this window:

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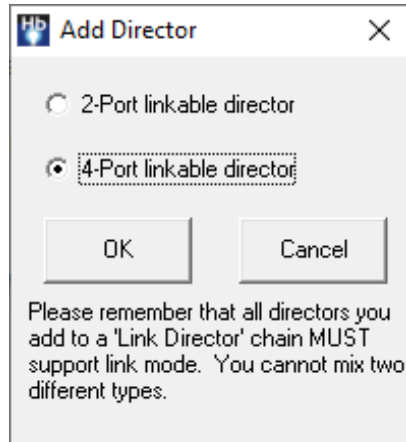


Select the number of ports on your first director and click Next. You will see the following window:

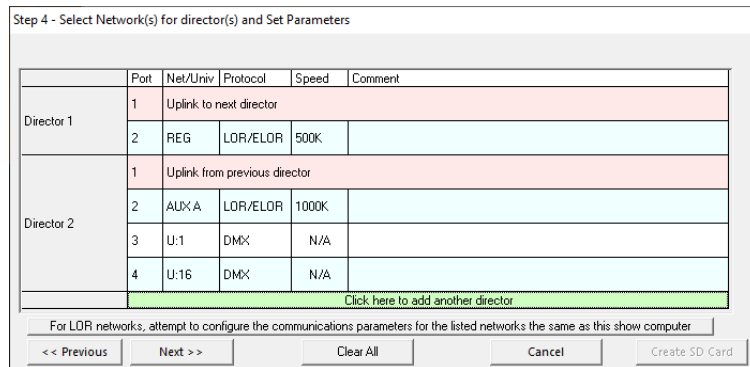


Because this is a multi-director configuration, you can change all parameters to the right of Port 2. You could put any of your networks on Port 2. Because there are more networks that need homes, you must click the yellow bar to add another director. You will see this window allowing you to select the next director:

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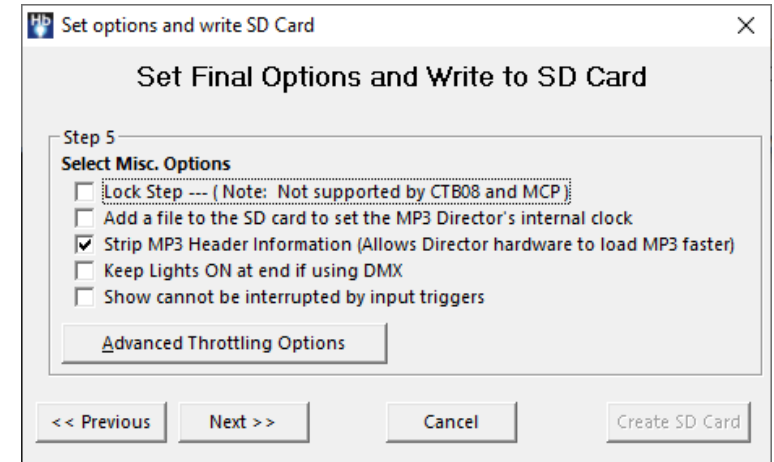


I have selected a 4 port director to handle the other three networks in my show. This network window is adjusted:



Now all networks in the show have homes on the ports of the two directors and Next can be clicked to proceed. You will see the Final Options window:

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Lock Step is implemented in AC lighting controllers. It causes them to change to the next display state together, as opposed to when they see commands.

Add a file to the SD card to set the MP3 Director's internal Clock. [Not currently implemented]

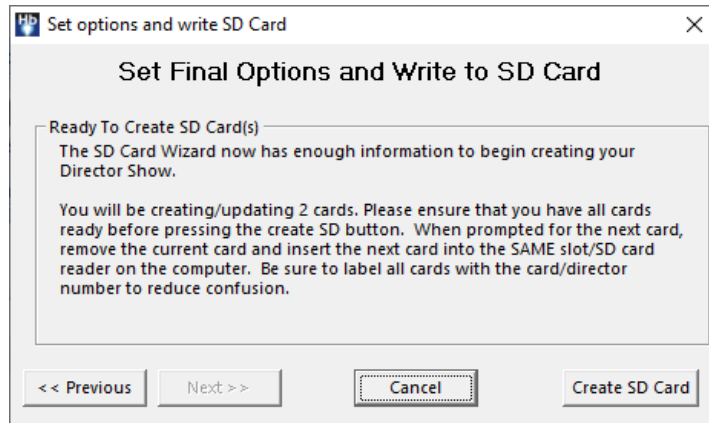
Strip MP3 header. There can be a significant amount of meta data on the front of music files. Using this option strips it out before transferring the MP3 files to the director. This saves time at the start of sequences.

Keeps lights on at end if using DMX. Any DMX networks will send full on intensities instead of zero intensity when no show is running.

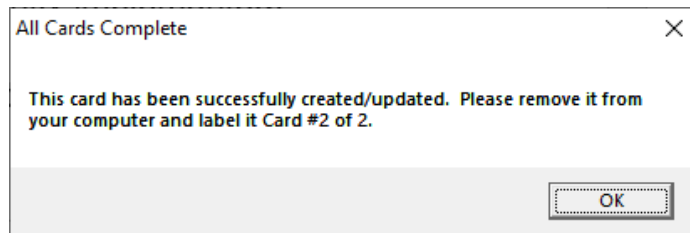
Show cannot be interrupted by input triggers disables the processing of triggers.

Changing the Advanced Throttling Options is normally unnecessary. See the section *Advanced Throttling Options* for more information.

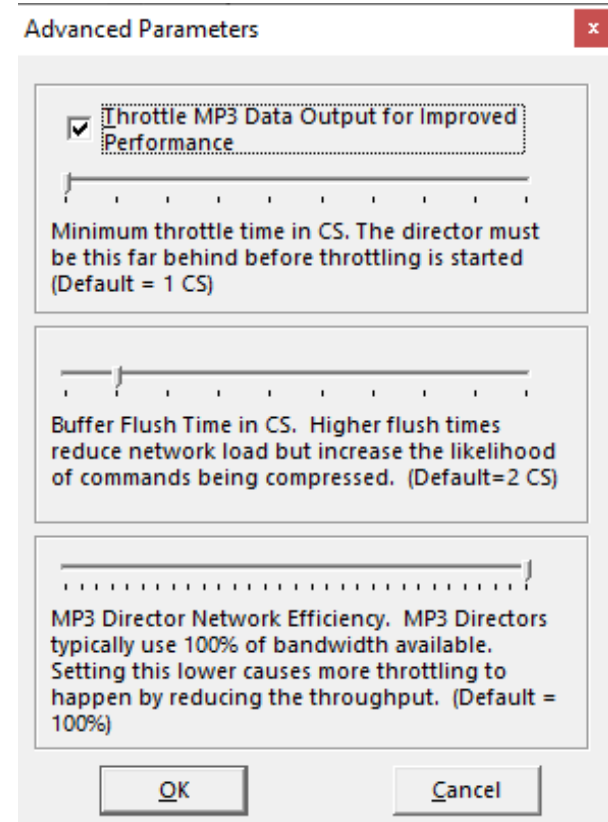
Click Next to get to the final window before writing the SD Card. You will see:



Click Create SD Card to write the first Show Director's SD card. You will get a Card Complete message which will prompt you to remove the current SD card and put in the SD card for the 2nd, 3rd, ... show director(s). When the last SD card is written, you will see this window and the process is nearly done (one more window to click away):



Advanced Throttling Options



These parameters affect the PC's rendering of LOR sequence commands into controller commands to be stored on the SD card. 'MP3' in this window means the MP3 Show Director, not the music file(s). 'CS' means centi-seconds, which are 0.01 seconds. Improperly set parameters produce a choppy look.

ATO: Throttle MP3 Data Output

Based on the communications speed of the network being rendered, the PC determines whether the commands necessary in the current Buffer Flush

Time (BFT) interval can be sent in that amount of time. If the display will fall behind by this amount, the PC will throttle the rendering rate such that intermediate commands may be skipped.

E.g., if you are fading with great precision, the resolution will be lowered so that fewer commands are required, meaning the change in intensity done by a command will be larger. Normally you want to allow some fall behind before throttling because subsequent, less busy intervals, will allow catch-up.

ATO: Buffer Flush Time

This can be thought of as the resolution of the changes to the display. The larger the BFT interval, the lower the data rate will be on the network. If the BFT interval is too small, then too much command data may be generated in the BFT interval to send at the network speed.

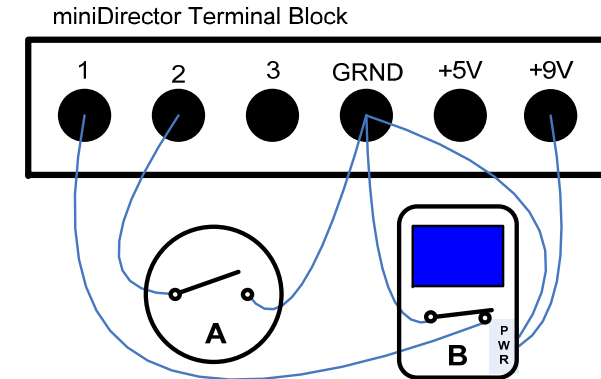
E.g. if you have fades that could progress through many intensities and you choose a high resolution, meaning short a BFT interval, too many commands may be generated which will not fit in the network bandwidth, so the rendering will have to throttle.

ATO: MP3 Director Network Efficiency

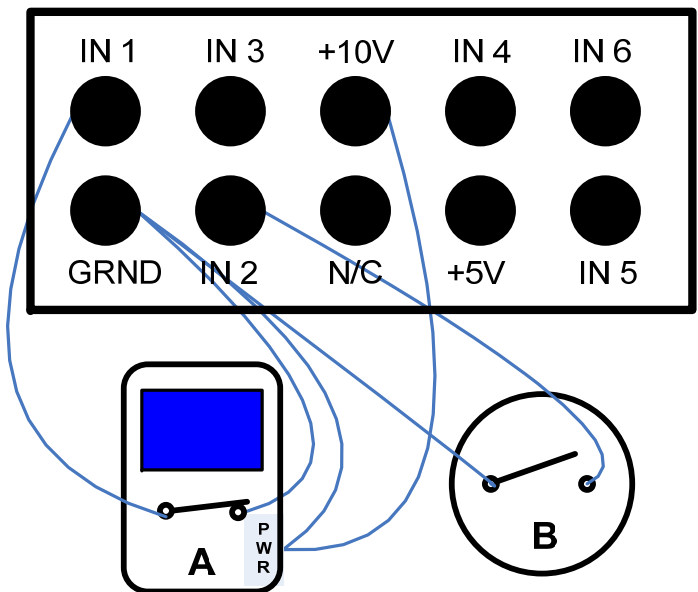
The PC rendering attempts to use the entire bandwidth of the network. This is never the communications rate because of overhead in the firmware and hardware required to start and terminate transfers. Your show could pose problems where this computed virtual bandwidth is higher than the actual bandwidth on the director. This parameter allows you to adjust the virtual bandwidth downward. Or/also the other ATO parameters may be adjusted to better render your show.

Interactive Trigger Connections

The following diagrams show the connection of a normally-open momentary contact switch ('B' trigger 2) and a normally-closed motion detector switch ('A' trigger 1):



G4-MP3 Terminal Block



The input pins ('1' through '6') are pulled to +5v with an on-board resistor. One or more of these input pins is connected to the GRND pin through your trigger switches.

These inputs can be configured by the Hardware Utility for normally open switches (NO,) meaning that the switch closes the circuit when activated or normally closed switches (NC,) meaning the switch opens the circuit when activated. Most motion detectors contain NC switches.

Both +10 volts DC and +5 volts DC are provided at this connector to power external devices. Maximum total current draw is 500ma.

The preceding diagram shows both trigger switches in their 'off' (untriggered) position.

The Hub or Hardware Utility would be used to configure Show1 for the motion detector ('A') as follows:

- *Plays when triggered* selected
- *Select Switch Number* would have radio button '1' selected
- *Trigger Switch Type* would have radio button *Norm Closed* selected.

Show2 for the momentary push button ('B') would be configured as follows:

- *Plays when triggered* selected
- *Select Switch Number* would have radio button '2' selected
- *Trigger Switch Type* would have radio button *Norm Open* selected.

Firmware Update: Director

This section describes how to update the director's firmware for both the stand-alone units and the unit built into the LOR1602Wg3-MP3g4.

You must have:

- Hardware Utility version 2.3.4 or later, see the section *Hardware Utility Version*
- **No** SD card in the director
- Directors with clocks should be displaying the time
- The director powered (see the *Power Input* section) and connected to the PC via Net 1. Use a USB or serial adapter to connect the director to the PC. Do not use wireless.

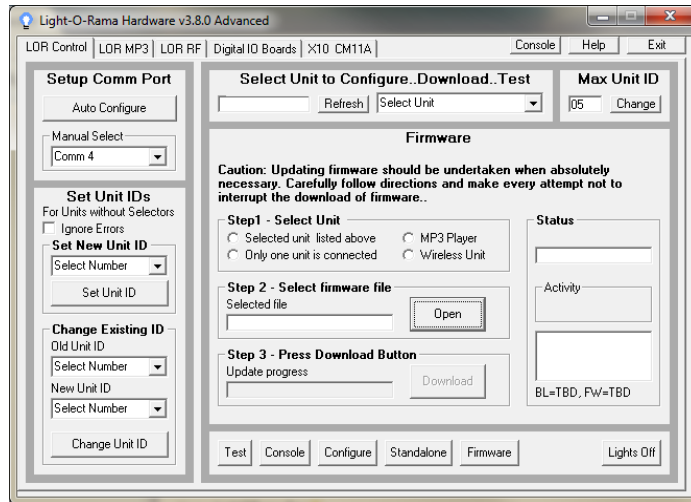
Get the latest firmware. www.lightorama.com ► *Support* ► *Firmware*. Note the name of the firmware file, G4-MP3-Vn_mm (n_mm is the version number) and save it on your PC in *My Documents\Light-O-Rama\Firmware*.

Start the LightORama Control Panel if it is not running by clicking **start ► All Programs ► LightORama ► Light-O-Rama Control Panel**. The Light-O-Rama light bulb icon will appear in the system tray on the lower right of your screen.

Start the *Hardware Utility* by right-clicking the Light-O-Rama Control Panel light bulb and selecting *Hardware Utility* from the menu.

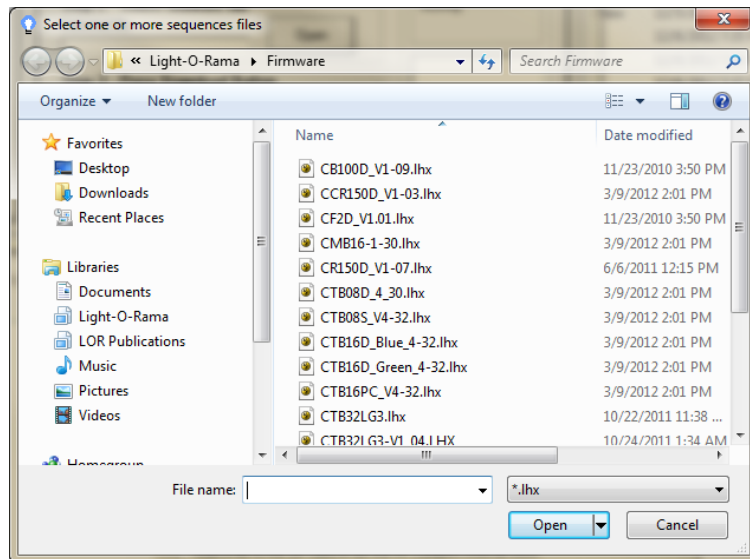
Click the *Firmware* button in the *LOR Control* tab and you will see this window:

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In **Step 1 – Select Unit**, choose the *MP3 Player* radio button.

In **Step 2 – Select firmware file**, click the **Open** button. The window will look like this:



Browse to the firmware file and click **Open**.

Gen 4 MP3 Directors

In **Step 3 – Press Download Button**, click the **Download** button. The firmware download will start automatically.

The *Update progress* bar will fill from left to right. When the new firmware is loaded, the *Status* will change to “Successful” and the G4-MP3 will reboot.

Firmware Update: LOR1602Wg3-MP3g4

This section describes how to update 16 channel lighting controller that is part of the LOR1602Wg3-MP3g4 Show-in-a-Box..

You must have:

- Hardware Utility version 2.3.4 or later, see the section *Hardware Utility Version*
- **No** SD card in the director
- Directors with clocks should be displaying the time
- The LOR1602Wg3-MP3g4 connected to the PC via Net 1. Use a USB or serial adapter to connect the director to the PC. Do not use wireless.

Get the latest firmware. www.lightorama.com ► **Support** ► **Firmware**. Note the name of the firmware file, CTB32LG3-Vn_mm (n_mm is the version number) and save it on your PC in *My Documents\Light-O-Rama\Firmware*.

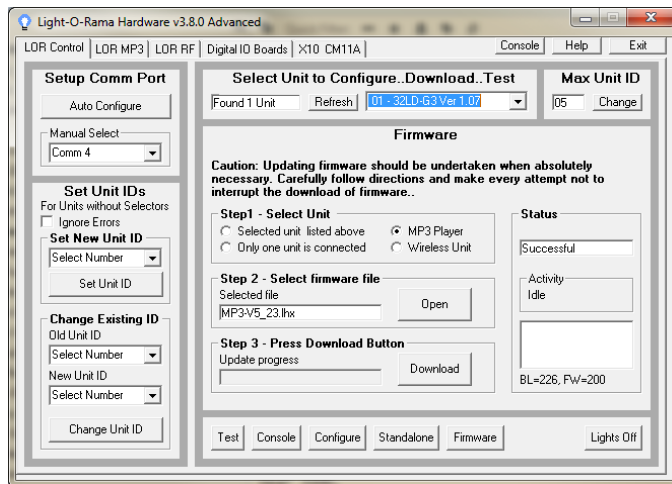
Start the LightORama Control Panel if it is not running by clicking **start** ► **All Programs** ► **LightORama** ► **Light-O-Rama Control Panel**. The

Gen 4 MP3 Directors

Light-O-Rama light bulb icon will appear in the system tray on the lower right of your screen.

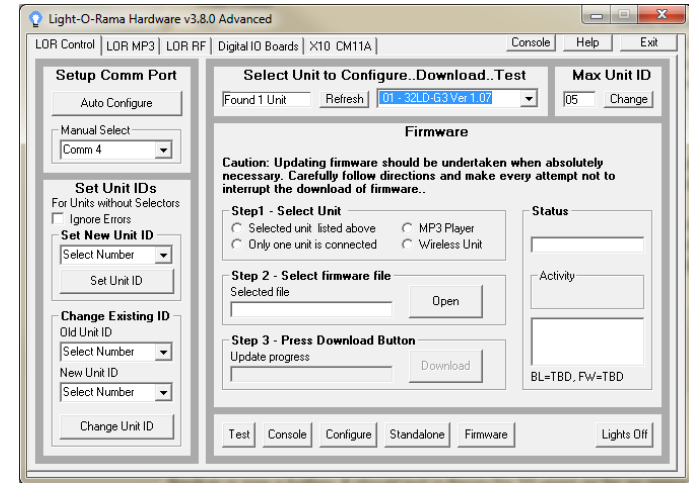
Start the *Hardware Utility* by right-clicking the Light-O-Rama Control Panel light bulb and selecting *Hardware Utility* from the menu.

Click the Refresh button to find the controllers. Select the controller you want to update from the drop-down menu next to the refresh button. The window will look like this:



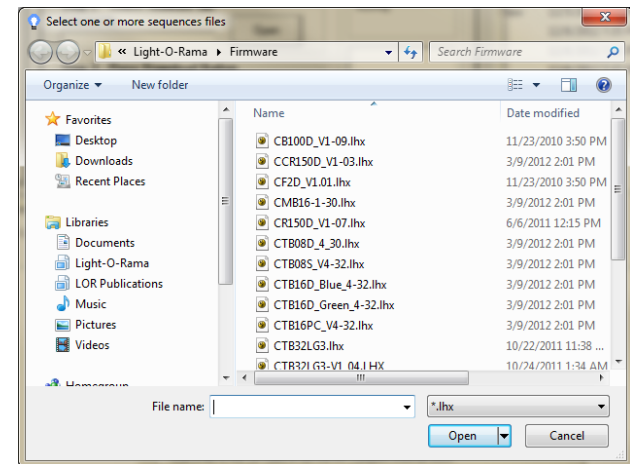
Click the *Firmware* button in the *LOR Control* tab and you will see this window:

Gen 4 MP3 Directors



In **Step 1 – Select Unit**, choose the *Selected Unit listed above* radio button.

In **Step 2 – Select firmware file**, click the *Open* button. The window will look like this:



Browse to the firmware file and click *Open*.

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In **Step 3 – Press Download Button**, click the *Download* button. The firmware download will start automatically.

The *Update progress* bar will fill from left to right. When the new firmware is loaded, the *Status* will change to “Successful” and the controller will reboot.

Specifications

Dimensions uMP3g4 Nx-G4-MP3	5 3/8"W x 3/4"H x 3 "D 7 7/8"W x 1 1/4"H x 4 "D
Display Nx-G4-MP3	LED four digit numeric
Storage	Up to 32 GB SD card
Audio Format	MP3
Networks uMP3g4 N2-G4-MP3 N4-G4-MP3	19.2K to 1000Mbps (and/or DMX) 1 2 4
Power input	100 milliamps, 9-12 volts DC <ul style="list-style-type: none">• Center-positive power barrel DC adapter• LOR network connection to controller(s)• Ribbon cable to CTB32L controller
Trigger inputs uMP3g4 Nx-G4-MP3	Normally Open or Normally Closed switches 3 6
Power output	Input header +5 volts +9/10 volts Maximum total draw 500ma

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