IQ-512-M

12 Channel DMX Memory
Lighting Controller

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:Description & Features

\\The IQ512 is a memory lighting control console designed for television studios, houses of worship, theatres, and nightclubs. The console may be used with up to 512 dimmers. It stores an unlimited number of cues and shows on standard MMC and SD cards. Also it stores a distinct look on each of its sliders through a full proportional softpatch. Smooth fades from one look to another are executed through standard theatrical split crossfade controls. A hypertext menu on a backlit L4CD display guides the user through all operations. Memory cues and the softpatch are saved automatically and held indefinitely. Shows may be edited offline on any personal computer. The IQ512 can also serve as a Remote Focus Unit, easily allowing control of any of 512 dimmers. Finally, it can pass through and capture a look from another console making it easy to use as a backup.

:Setup

\\As soon as you have received your equipment, open the boxes and examine the contents. If the equipment in the carton does not agree with your order or the packing slip, contact the factory immediately and we will be happy to help you. If any damage is noted, contact the carrier immediately to file a claim for damages. You can be sure that when the equipment left the factory it was in good condition, thoroughly tested, and properly packed.

Proper connection of electronic lighting control equipment is very important. The IQ512 has been designed to make it as simple as possible. The IQ512 console sends a low voltage digital signal called DMX-512 to one or more devices called dimmer packs. Plug the male end of the control cable into the female connector on the IQ512. Plug the female end of the control cable into the dimmer pack.

:Start Up

Slide the left sliders (GM, X, and Y) all the way up. Slide the right sliders (channels 1 through 12) all the way down. Connect the supplied power supply ("wall wart") to the IQ512 and an electrical outlet. The display on the IQ512 should say:

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IQ512 VXXXXXX
(where "XXXXXX" is a 6 digit version #)

Slide each of the channel sliders up and down to verify that they are controlling dimmers 1 through 12. Press each of the bump buttons below the the channel sliders. The appropriate lights on the dimmers should flash to full. If they do not, try restoring the default patch (see below).

NOTE

If the IQ512 has not been powered up for an extended period of time, it will forget the patch table. To restore the default patch table, do the following:

1. Press both right and left arrow keys.
2. Press the down arrow key twice.
3. If the unit asks for a password, key in "911" using the channel bump buttons.
4. Hit the down arrow key until the display says "Load 1:1 patch in table 0?"
5. Press the right arrow key. The display should say "1:1 patch loaded in table 0"
6. Press the left arrow key to return to the normal display.

:Manual Operation & Crossfades

The grandmaster and X and Y crossfaders should be all the way up to make the channel faders live. Set the first scene with the channel faders. To set the next scene, press the hold button. The hold button lights and the display says:
New scene

Then:
Crossfaders down
Don't move the crossfaders yet! Adjust the channel faders to the settings for the next scene. The lights on stage will not change. When it is time to move to the next scene, move the X and Y crossfaders all the way down, fading into the new scene. The X scene is always the "old" held scene, while the Y scene is the scene you are bringing up. With this in mind, it's possible to delay the fade out of the old scene or to delay the fade in of the new scene (perhaps even doing a fade to black betweenscenes) by delaying the motion of the X or Y crossfader. Once the crossfaders have been moved to the down position, the hold button goes out and the display returns to the normal IQ512 display. At this point, the channel sliders are once again "live." To set up a new scene, hit hold again, set the new look, then move the crossfaders up.

The general sequence is:

hit hold,
set up scene,
move crossfaders down,
hit hold,
set up scene,
move crossfaders up.
Repeat as necessary.

:Blackout Button & Grandmaster

Press the blackout button to plunge the stage into darkness immediately. The LED on the blackout button lights up in red. The display says:
Blackout Enabled
You can press the blackout button again to return to the previous stage look immediately, or set new channel levels while in blackout that will come up immediately when the blackout button is pressed again, or set new channel levels while in blackout and slowly fade up.

Here's how:

1. Press the blackout button. The stage goes dark.
2. Run the grandmaster down.
3. Press the blackout button again.
4. Set new channel levels.
5. Run the grandmaster up. The lights get bright again.
The grandmaster slider is a proportional control over the channel faders. If channel 1 is at 75% and the grandmaster is at 50%, the dimmer comes on at 37% (75% X 50%). When the grandmaster slider is down, the red LED on the blackout button flashes rapidly and the display says:

Grand Master = 0

When the IQ512 is used as a stage manager's remote, the blackout button and grandmaster slider also affect the incoming DMX stream from the external controller. The incoming channels are scaled in proportion to the grandmaster level. The blackout button plunges the stage into darkness.

:Introduction To Memory Control

Note: Memory control functions require use of a MMC or SD card, sold separately . The IQ512 supports 128MB, 256MB, 512MB, and 1GB devices. 2GB and 4GB cards may work but will be formatted to 1GB. See "Format MMC/SD Card" later in this manual.
First the show must be created (see "Create New Show"), then edited in rehearsals (see "Edit Show"), then loaded prior to a performance (see "Load Show").

A show may be created by manually adjusting the channel faders for each scene, by writing a show file on an external computer (see "Application Note: IQ512 File Format"), or by capturing scenes sent by an external controller (see "Capturing DMX Input"). Most of the time, most users will write shows by adjusting the channel faders. If the show is created on an external computer, it must be edited there as well. It cannot be edited on the IQ512, only played back. A show created on an external controller must be edited there as well. It can only be played back on the IQ512.

:Using The Menu

The menu system in the IQ512 is modeled after the Lynx web browser. The right arrow key "follows a link" or takes you further into a menu selection. The left arrow backs you out of the current menu. The up and down arrows scroll through menu selections. To enter the menu, simultaneously hold the right and left arrow keys. The display says: Load Show?
Press the down arrow key. The display says:
Remote Focus
Unit mode?
Press the down arrow key again. The display says:
Enter Password
***
The password prevents unauthorized users from accidentally overwriting patch and cue information. The default password is "123". Simply press the bump buttons under the first, second, and third channel slide pots to enter the password. See "Change Password" to make another selection. When the password has been entered, the other menu items can be accessed.

:Menu Tree

The menus in the IQ512 have a tree structure. The up and down (arrow) keys take you up and down the tree, while the right key takes you into a menu selection and the left key backs you out of a menu selection. The menu is organized as shown below.

Load Show?
Load show?
SHOW1.TXT
Loaded SHOW1.TXT
1.0
Remote Focus
Unit mode?
Chan Increment =
1?
RFU Mode - Chans
1 thru 12
Enter Password
***
Change password?
New password then
right key ***
New password
saved.
Select Patch
Table?
Using pTable 0
up/dn changes

Load wrap patch
in table 0?
WrapPatch loaded
in table 0
Load 1:1 patch
in table 0?
1:1 patch loaded
in table 0
Clear patch
table 0?
Patch table 0
Cleared
Load Patch From
MMC/SD
Load Patch
FileName.TXT
FileName.txt
To PatchTable 0?
Save Patch to
MMC/SD?
Copy Patch table
0 to MMC/ SD?

:Menu Tree Continued

Edit dimmer
@channel@level?
dimmr@chan@level
Edit channel
@dimmer@level?
chan@dimmr@level
Capture DMX
to channel?
Press bump to
capture DMX to
Saved Rx DMX to
channel 1
Capture Rx Dmx
to new show?
New SHOW1.TXT
Save Rx as Q1?
New SHOW1.TXT
Saving Q1
Edit show?
Edit show?
SHOW1.TXT
Edit SHOW1.TXT
Save as Q1.0

Create new show?
dn001 00 up001
Save as Q1.0?
Dn001 000 up001
Saving Cue 1.0
Dn001 000 up001
Cue 1.0 Saved!
Delete show?
Delete show?
SHOW1.TXT
Confirm Delete?
SHOW1.TXT
Deleting
SHOW1.TXT
SHOW1.TXT
Deleted!!
Format MMC/SD?
Confirm Format?
Deletes all data
Formatting card
32M card
Formatting card
....

:Loading And Running A Show

Shows are stored on MMC/SD cards as text files. To play an existing show, press the right and left arrow keys simultaneously to enter the system menu. The display will say "Load Show?" Press the right arrow to select Load Show. Press the up and down arrows to scroll through the shows saved on the card. When the desired show is visible, press the right arrow to select it. The top line of the display will show which show was loaded. The bottom line shows the next cue (which is the first one). Move both crossfaders down to make the next cue live. The first cue number will move to the top line of the display, indicating it is live, and the next cue will show on the second line. Slide the crossfaders back to bring up the next cue. When the crossfaders hit the other end of their travel, the now live cue number will move to the top of the display, and the next cue will show on the bottom line of the display. If the show was edited off line, it may include cue descriptions along with cue numbers. If the show was created and edited on the IQ512M, only cue numbers (of the form Q1.0) will be shown.

Use the up and down arrows to change which cue will run next. These can be used to skip a cue or step back in the show. At the end of the show, "End of show!" will display on the bottom line of the display. Use the left arrow key to exit the show at this time or any time.

The channel sliders are active when pausing back memorized cues and can be used to bring up lights that are not in the saved cue, such as a "pile on". The grandmaster slider and blackout button are active also.

Running A Show with Timed Crossfades

Timed crossfades allow some automation of the show playback. Load the show using the same method as when running the show manually (described above). Then, instead of using the crossfaders to move from one cue to the next, hit the right arrow key (the GO button) to start the fade in to the next cue. The display will show the progress of the crossfade. When the crossfade is complete, the "live" cue will be on the first line of the display and the next cue on the second line. Timed crossfades allow individual control of the fade out time of the current cue, the delay before the fade in of the next cue, and the fade in time of the next cue. See Create New Show for more information on programming timed crossfades.

:Remote Focus Unit Mode

Remote Focus Unit or RFU mode allows the user to run up individual dimmer channels very quickly. This is handy when hanging and focusing lights for an upcoming production.
Use the up and down keys to go through the menu until the display says:

>   Remote Focus
>   Unit mode?

Press the right key to enter this mode. You then have the choice of a channel increment of 12 or 1. When in remote focus mode, you may use the up and down keys to quickly scroll through dimmers. Set the increment to 12 or 1 to scroll up 12 dimmers per keystroke or one dimmer per keystroke. Once the channel increment is set, hit the right key. The display says:

>   RFU Mode - Chans
>   1 thru 12

This indicates slider 1 is controlling DMX channel 1 while slider 12 is controlling DMX channel 12. Press the up key to go up 1 or 12 DMX channels (depending on how you set the increment), or the down key to go down 1 or 12 DMX channels. Finally, you may set the start channel by keying it in as a three digit number using the bump buttons (one through nine and zero). For example, keying in 034 causes the first slider to control DMX channel 34 and the last to control DMX channel 45. Always key in the desired channel as a three digit number. The IQ512M looks at the last three digits keyed in to determine the starting channel. As always, the left key is used to exit this mode.

Enter Password

The password prevents unauthorized users from accidentally overwriting patch and cue information. The default password is "123". Simply press the bump buttons under the first, second, and third channel slide pots to enter the password. If the password has been changed, a 3 digit number will need to be keyed in using the bump buttons (1 through 9 and 0). The system evaluates the last three keys entered. If these match the password, entry is allowed. If they do not, the system continues to ask for the password. The emergency password, which will always allow entry into the system, even if the default has been changed, is "911". As always, the left key exits the password dialog.

:Change Password

To set a password, press the up or down key until the display says "Change password?" Press the right key to enter this menu option. The display will say:

> New passwrd then
> right key ***

Key in a 3 digit number using bump buttons 0 through 9. When the desired 3 digit password is visible, press the [enter] or right key to save the new password. The display will indicate the password has been saved. A password of 000 allows entry into the menu system without use of a password. This feature should be used with caution.

Select Patch Table

The IQ512M features an overlapping, proportional softpatch. Any channel slider can control many dimmers (up to 512), all at different levels. Any dimmer can be controlled by many sliders. In effect, a complete stage look can be stored on any slider. Dimmer to channel patch assignments are stored in a section of memory called a "patch table". The IQ512M can store up to seven patch tables, numbered 0 through 6. The default patch table is number 0. "Select Patch Table" allows the user to change the active table. Press the right arrow key to select this menu item. The display says:

> Using pTable 0
> up/dn changes

Press the up or down arrow keys to change the patch table from 0 to 6. The IQ512M stores patch assignments in internal memory, not on the MMC or SD card, and "remembers" which patch table was last used. Patch tables can be copied to an MMC or SD card, though that is not required.

:Load Wrap Patch

A pre-configured patch table available in the IQ512M is the "Wrap Around" patch. This patch table assigns control channel 1 to DMX dimmers 1, 13, 25, ect., while assigning control 2 to DMX 2, 14, 26, ect. The 12 controls are assigned to the first 12 DMX dimmers, then repeat until all 512 DMX dimmers are used. To upload the wrap around patch, press the up or down arrow until "loaded wrap patch in table 0?" appears on the LCD. Press the right arrow key to select this patch table. The display says:

> WrapPatch loaded
> In table 0

Load 1:1 Patch

Another preconfigured patch table available in the IQ512M is the "1:1" patch. The 12 controls are assigned to the first 12 DMX dimmers only. This patch table assigns control 1 to DMX dimmer 1, control 2 to DMX dimmer 2, etc. To load the 1:1 patch, press the up or down arrow until "Load 1:1 patch in table 0?" appears on the LCD. Press the right arrow key to select this patch table. The display says:

> 1:1 patch loaded
> in table 0

Clear Patch

Sometimes it is helpful to remove all patch assignments from the active patch table in order to build a show from scratch. IMPORTANT - when the patch table is cleared, NO channel slider controls ANY dimmer. New patch assignments should be made immediately.
To clear the active patch table, press the up or down arrow until "Clear patch table 0?" appears on the LCD. Press the right arrow key to select this option. The display says:

> Patch table 0
> Cleared

:Save Patch To MMC/SD card

The IQ512M allows saving of internal patch tables to an MMC or SD card for backup, offline editing, or other purposes. Patch tables are saved as simple text files that can easily be edited on any computer. To save an existing patch able to an MC or SD card, use the up and down arrow keys to make the display say "Save Patch to MMC/SD?" Press the right arrow key to select this function.
The display then says "Copy patch table 0 to MMC/SD?" Use the up and down arrows to select which of the IQ512M internal patch tables you would like to save. Press the right arrow to accept this selection. The display will show the progress of the writing of the patch table, then show the name of the patch file that was created. Patch tables are given a file name of PATCTn.TXT where n is a number from 1 on up. The IQ512M uses a number that is one higher than the highest existing patch table file number. Patch tables can be given a more friendly name on an external computer. They can also have any extension, though it is suggested the TXT extension be kept so external computers associate the file with a text editor for simple offline editing.

:Softpatch Dimmers & Channels

Any dimmer can be assigned to one or more channels at a different proportion for each channel. Any channel can have more than one dimmer assigned to it, all at different proportions. Thus it is possible to build a complete stage look for each control channel. For example, channel 1 can control dimmer 4 at 50% and dimmer 6 at 75%, while channel 2 controls dimmer 4 at 75% and dimmer 8 at 35%. When making patch assignments, it is usually easiest to think of which dimmers you want on a particular channel, make those assignments, and then go on to the next channel. The IQ512M allows this. In addition, the user is allowed to approach assignments from the opposite direction, which channel sliders will control each dimmer. Use the up and down arrow keys to scroll through the menu until the display says:

> Edit dimmer
> @channel@level?

Or

> Edit channel
> @dimmer@level?

Most users will select the first option.

:Softpatch Dimmers & Channels Continued

Press the right arrow key to select the desired option. The display will say:

dimmr@chan@level

Or

chan@dimmr@level

Run up the channel slider to which you are making dimmer assignments. This allows you to see the effect live on stage as you build the look. Key in a patch table using a series of numbers separated by @ signs. The @ sign can be found underneath channel slider 11. After each patch entry is completed, the <Enter> key (under slider 12) is hit prior to starting the next patch table entry. "0" is under slider 10. For instance:

1 @ 1 @ 50 <Enter>
2 @ 1 @ 75 <Enter>

assigns dimmer 1 to channel 1 at 50% and dimmer 2 to channel 1 at 75%. If the channel slider #1 is up to full, you will see the light on dimmer 1 shining at 50% and the light on dimmer 2 shining at 75%. When a dimmer is assigned to a channel without setting a level, for instance1@1<Enter>, the dimmer is assigned to the channel at 100%. To clear that assignment, press 1@1@0<Enter>. Now channel 1 does not control dimmer 1.

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:Capturing DMX Input

The IQ512M can capture levels sent to it from an external controller and save them either as a patch assignment for a channel in the active patch table or to create a new set of memory cues. Use the up and down arrow keys to scroll through the menu until the display says:

Capture DMX
to channel?

Or

Capture Rx DMX
to new show?

To save levels sent from an external controller as patch assignments, select the first option. The display says:

Press bump to
capture DMX to

First set the look on the external controller then press the bump button beneath the desired slider. The display says:

Saved Rx DMX to
channel 1

To store a set of memory cues using an external controller, select the second option. (Be sure to insert and format a MMC or SD card first!) The display says:

New SHOW1.TXT(or SHOW2.TXT, etc, the highest number on the card)
Save Rx as Q1?

Press the right arrow key to save the levels input from the external controller as the first stage look in the series of cues. Set new levels on the external controller, then press the right arrow again to save the levels as the second cue. Continue to write as many cues as desired, then press the left arrow key to exit this menu item. Memory cues are written to the MMC or SD card automatically. Up to 512 dimmer levels are written for each cue allowing the IQ512M to run a very large show.

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:Edit Show

Note - If a show is created on an external computer or console, it must be edited on an external computer. It cannot be edited on the IQ512M, only played back or deleted (see "Delete Show").
To edit cues created on the IQ512M, scroll through the menu items until "Edit show?" appears. Press the right arrow key to select this option. (Be sure to insert a MMC or SD card first!)
The display says:

> Edit show?
> SHOW1.TXT

Press the up or down arrow keys to scroll through the list of shows available. Press the right arrow key to select the desired show.
The display says:

> Dn001 000 up001
> Save as Q1.0?

Press the up or down arrow keys to scroll through the cue numbers. The numbers on the top line of the display represent the fade down time of the previous cue, the delay before fading into the new cue, and the fade up time of the new cue. These values are used for timed crossfades. They are not used for manual crossfades. A delay of 000 means the old cue starts fading out and the new cue starts fading in at the same time. A positive delay (for example 010) causes the fade in of the new cue to start after the start of the fade out of the old cue (for example, 10 seconds after the fade out starts). A negative delay (such as -010) causes the fade out of the old cue to start after the fade in of the new cue has started. You can change fade times by keying in a nine digit number where the first three digits are the fade down time, the next three are the delay, and the last three are the fade up time. The sign of the delay can be toggled by hitting the @ key. Set new levels on the IQ512M, then press the right arrow key to overwrite the existing cue. If, instead, you want to delete an existing cue, press the blackout button when the cue to be deleted is shown. If you'd like to insert a cue, choose a cue number between existing cues, the press the right arrow key to insert the cue. For example to insert a cue between 2.0 and 3.0, set the system to save at Q2.5, the press the right arrow key. The new levels are saved on the card automatically. To edit or create a show using a simple text editor on an external computer, see "Application Note: IQ512M File Format" at the end of this manual. If the computer does not have a MMC/SD card reader, low cost readers that plug into a USB port are available from most computer retailers.

:Create New Show

Channel levels set on the IQ512M can be saved as cues on a MMC or SD card then played back one by one in a performance. Note that patch assignments are not saved to the SD card, only to internal memory. If a show is written with particular patch assignments in mind, that patch table must be active (see "Select Patch Table") for the stage to look right. To create and save memory cues, first insert and format a card (see "Format MMC/SD Card") then scroll through the menu list until "Create new show?" appears. Press the right arrow key.
The display says:

> Dn001 000 up001
> Save as Q1.0?

Shows are saved with the names SHOW1.TXT, SHOW2.TXT, etc. The new show name will be one higher than the highest show number existing on the card. Show files created or edited on an external computer can have any name such as "lighting.cue" consisting of a filename of up to eight characters and an extension of up to three characters. It is suggested, however, that file names use the "TXT" extension so the computer associates a text editor with the file. Set the control sliders to the desired levels. If timed crossfades are going to be used, set them by keying in a nine digit number where the first thee digits are the fade down time of the previous cue (in seconds), the second three numbers are the delay between the start of the fade down and the start of the fade up, and the third three numbers are the fade up time. The sign of the delay time can be changed by pressing the @ key. A positive delay starts the fade up after the fade down starts. A negative delay starts the fade down after the fade up starts. Once the levels and times (if desired) for this cue have been set, press the right arrow key. The display briefly says:

> Dn001 000 up001
> Saving Cue 1.0

(fade times will be whatever you set) then

> Dn001 000 up001
> Cue 1.0 Saved!

Set the control sliders to the levels (and fade times, if desired) for the next look then press the right arrow key to save cues 2.0, 3.0, etc. Press the left arrow key to end the process. The memory cues are saved to the card automatically.

:Delete Show

IMPORTANT- Once deleted, a file containing cue information is gone forever!

To prevent hours of work recreating an accidentally deleted show, consider archiving it under a familiar name such as spring_fundraiser_lighting_cues.txt on an external computer. After a show has closed it may be desirable to delete the file containing the memory cues for that show. Insert a card in the slot. Scroll through the menu items until "Delete show?" appears. Press the right arrow key. The display says:

> **Delete show?**
> SHOW1.TXT

Use the up and down arrow keys to scroll through the show files to reach the one containing the old cues. Press the right arrow key when the appropriate file is shown. The display says:

> **Confirm Delete?**
> SHOW1.TXT

Press the right arrow key to confirm that you want to delete the file. The display briefly says:

> **Deleting**
> SHOW1.TXT

Then:

> SHOW1.TXT
> **Deleted!!**

:Format MMC/SD Card

IMPORTANT- Formatting a MMC or SD card will permanently erase any information previously stored on it using other devices such as cameras, portable music players, PDAs, and cell phones. For best results do not share cards between these devices.
Any new card purchased for the IQ512M should be formatted with it to guarantee reliability. Use the up and down arrow keys to scroll through the menu items until "Format MMC/SD?" is reached. First insert a card the press the right arrow key to select this option. The display says:

> **Confirm Format?**
> **Deletes all data**

Press the right arrow key to confirm. Formatting the card takes a few moments. The display briefly says:

> **Formatting card**
> **32MB card(depends on the size of the card)**

Then

> **Formatting card**
> ....

Questions & Comments
We look forward to hearing your comments and questions on the IQ512M. The best way to learn more about the IQ512M and to make your comments known is to visit the discussion area of the Dove Systems website at www.dovesystems.com. You can also email comments to dove@dovesystems.com or contact us using information on the front cover of this manual.

:Troubleshooting & Service

There are a few possibilities to check before a trip to the factory for repairs. The most common problem is outdated and / or confusing softpatch information. Remove power from the controller. Slide the grandmaster and crossfader sliders all the way up. Slide the channel sliders all the way down. Restore power to the controller. Load the default 1:1 patch into the active table (see "Load 1:1 Patch"). Then slowly run the channel sliders up and down.

If lights don't come on:
1. Check the power to the console. There should be a message in the LCD display at all times.
2. Examine the control cables. Check that they are continuous, undamaged, and wired correctly. The male end of the cable goes into the female XLR connector on the console. The female end of the cable goes into the male XLR connector on the dimmers.
3. Check the power to the dimmers, including the power input breaker and any fuses or breakers protecting the output circuits.
4. Check the dimmer status LED to see if it indicates a valid control input. Check the starting channel select switch and any test switches.
5. Check that the fixtures are plugged in and are working properly.
6. Check the output circuit wiring. Plug a test load directly into the dimmer.

If they do anything else:
1. Set the DMX termination switch or put a termination plug into the last dimmer in the chain. Try using a DMX512 inline optical isolator such as the one sold by Doug Fleenor Design (http://www.dfd.com) to eliminate possible ground loop or long control run problems. Try moving the console to the dimmer and connecting the two with a short DMX cable.
2. Swap cables and circuit cards one by one to see if the problem follows the part.
3. Examine the console for signs of abuse or damage, particularly the sliders. Sliders that feel gritty are responsible for flickering on that channel.
4. Dimmers with lights stuck at full usually have shorted triacs or solid state relays. The dimmer will have to come in to have the part replaced.

Dove Systems technicians are generally available between 8AM and 4PM Pacific time for phone support at (805)541-8292. Please have a specific description of the problem, preferably from personnel who were onsite at the time. If at all possible, bring the telephone into the theatre and have the equipment at hand.
Do not open the unit for examination. Dove Systems cannot provide phone support, replacement parts, or schematics for component-level testing. The IQ512M is a microcontroller based product running proprietary software. Unauthorized repair on this product shall void the warranty, and the buyer may be charged for subsequent factory repair, even if the product is defective. If it is necessary to send the unit to the factory, please ship it freight prepaid, with a note describing the specific complaint. Include the shipping address, a daytime telephone number, and the date the unit is required back. Call the factory or visit the website to fill out a repair form.
VERY IMPORTANT:PLEASE ENCLOSE A REPAIR FORM DESCRIBING THE PROBLEM--EVEN IF YOU HAVE CONTACTED THE FACTORY BY PHONE.

Send to:

Dove Systems Attn: Repair Dept.
3563 Sueldo Street, Suite E
San Luis Obispo, California, 93401
(805)541-8292

:IQ512M File Format

The IQ512M saves shows as a simple ASCII text file. This document describes the file format to aid users in editing these files.

-FAT16
The IQ512M saves shows as text files in the root directory (shows cannot be in subdirectories or folders) of an MMC or SD card using the FAT16 file format. The IQ512M can format 32M to 1G cards in this format.

-Show File Names
The IQ512M creates show files with the name SHOWnnn.TXT where nnn is a number starting with 1 (the first file to be created will be SHOW1.TXT). The IQ512M will read files with any name as long as the name is 8 characters or less followed by an extension of 3 characters or less (long filenames are not supported).

-Patch File Names
The IQ512M creates patch files with the name PATCHnnn.TXT where nnn is a number starting with 1 (the first file to be created will be PATCH1.TXT). The IQ512M will read files with any name as long as the name is 8 characters or less followed by an extension of 3 characters or less (long filenames are not supported).

-File Records
Cues are stored in a "pipe delimited" text file. Each cue ends with a carriage return and line feed. On cue playback, the carriage return is ignored, and the line feed is interpreted as the end of record marker. This allows show files to be created and edited with text editors under a variety of operating systems. Pipe character (|) is used as a field delimiter since it is a visible character.

-Show File Field Types
Each record contains several fields. The field types are:
· Cue Number
· Cue Description
· Fade Down Time (seconds)
· Delay Time (second)
· Fade Up Time (seconds)
· Level Type
· Level
Each record is required to have each of these fields except the the times and the Level Type.
(zero x) are assumed to be hexadecimal. Numbers that end with a percent sign are assumed to be percentages.
Patch File Field Types

The Cue Number field starts with the letter 'q' and is followed by the cue number. Cue numbers are ASCII decimal digits with a suppressed decimal point. Cue 1.0 is saved as "q10." Cue 1.5 is saved as "q15". Cue numbers are for identification only. Cues are played back in the order they are in the file. They are not played back in numerical order unless they are recorded in numerical order (which they will be if they are recorded on the IQ512M).

The Cue Description is displayed on the IQ512M during cue playback. The first character must be a letter. The Cue Description should be 10 characters or less so it can fit on the 16 character display line along with the Cue Number.

The fade out time is preceeded by the letter 't' (for ouT). It is the number of seconds over which the old scene will be smoothly faded down. It is an integer between t000 and t999 (inclusive).

The delay time is the number of seconds between the start of the fade down of the old scene and the start of the fade up of the new scene. If this number is positive, the new scene starts fading up after the old scene starts fading down. If it is negative, the new scene starts fading up before the old scene starts fading down. If it is zero, the old scene starts fading down at the same time the new scene starts fading up. The delay time is preceded by the letter 'y' (for delaY). It is an integer between y-999 and y999 (inclusive).

The fade in time is preceded by the letter 'n' (for iN). It is the number of seconds over which the new scene will be smoothly faded up. It is an integer between n000 and n999 (inclusive).

The Level Type is an optional field. If the Level Type is not specified, the IQ512M assumes the next Level field is control channel 1. Control channels are run through the patch table to yield dimmer values, which are sent to the dimmers. The Level Type consists of either the letter 'c' (for control channel) or 'd' (for dimmer) followed by a number indicating the control channel or dimmer number the next level represents. For example, "c6" would cause the next level field to be interpreted as control channel 6. "d500" would cause the next field to be interpreted as dimmer number 500. A single record may include multiple Level Type fields as required.

The Level field determines the control or dimmer level to be used for this channel for this cue. The decision as to whether the level is a control or dimmer level is based on the last Level Type field. The level is assumed to be a control channel level (which is passed through the patch table) if there is no Level Type field prior to this Level field. Successive Level fields are assigned to successive control channels or dimmers.

The Level field contains a number representing the level to be sent to that control channel or dimmer. The level may be a number between 0 and 255 (decimal value of the DMX slot), 0x00 to 0xff (hexadecimal value of the DMX slot), or 0% to 100% (percentage value that is converted to an 8 bit value of 0x00 to 0xff for transmission on the DMX line). Numbers without a '%' or 'x' character are assumed to be a DMX level of 0 to 255. Numbers that start with 0x (zero x) are assumed to to be hexadecimal. Numbers that end with a percent sign are assumed to be percentages.

Patch File Types

Every line of a patch file must start with pn where n is a number between 1 and 12, inclusive. This number represents the control channel (slider) this patch record is associated with. This is followed by a pipe delimiter (|) and the first dimmer level for this proportional patch. The first dimmer level is followed by up to 511 more dimmer levels (up to 512 dimmers may be patched to a control channel). Dimmers that are not patched to a control channel should have values of zero in the appropriate field. Dimmer levels may be decimal (0 to 255), hexadecimal (0x00 to 0xff), or percent (0% to 100%). If a large number of dimmers are to be skipped (perhaps control channel 12 drives the houselights on dimmer 512), the dimmer the next level is associated with may be specified. A few examples follow:

p1|255|0x80|25%

The above line patches control channel 1 to dimmer 1 at full (DMX level 255), to dimmer 2 at half (DMX level 0x80), and to dimmer 3 at 25%.Running slider 1 to full will cause the fixtures to light at these levels.

p2|d500|100%|100%|100%|100%|100%

The above line patches control channel 2 to dimmers 500 through 504 at 100%.

NOTE that each line of a patch file must begin with p and a number, and end with CRLF, LFCR, or LF (allowing for DOS and Unix text file formats).

Shows Captured by the IQ512M
The IQ512M can capture a cue from its DMX input. The cue record shows dimmer levels from dimmer one through the last dimmer that has a non-zero level. A sample captured cue is below:

q00030| |d1|000|000|255

This is cue 3.0. The cue description is blank. The Level Type is "d1" indicating the following levels are dimmer levels (not control channel levels) starting with dimmer

1. The level fields indicate dimmers 1 and 2 are at zero level, while dimmer 3 is full. Since captured cues are of variable length, they are not at fixed positions. Because they are not at fixed positions, they cannot be edited on the IQ512M. If editing is required, it must be done offline on a computer. The IQ512M checks for the letter 'q' in file position 640. If not found, it is assumed that the file has cue records that are not in fixed positions, and cue editing and deletion are disabled.

Offline Show Editing

Shows may be created or edited offline on any computer using a text editor. Shows created or edited offline cannot later be edited on the IQ512M itself. The start of a simple show file is below:

q10|Houselights|t1|y0|n1|d512|100%
q20|Blackout|t1|y0|n1|0
q30|Act1 Scn1|t1|y0|n1|50%|100%|10%|75%|100%|0|10%

Note that cue 1.0 sets dimmer 512 to 100% for the houselights. As the operator crossfades into cue 2.0, the houselights fade down until all lights are out. As the operator crossfades into cue 3.0, the lights are brought up for Act 1 Scene 1. Control channel levels are here specified in percent. Each cue has a fade out time and fade in time of one second and a delay time of zero seconds. These are also the default timed crossfade times. If a cue does not include crossfade timing information, these default values are used.

:Warranty Information

The manufacturer agrees that the IQ512M shall be free from defects in material or workmanship from date of shipment over a period of one year. Said warranty will not apply if equipment is used under conditions of service for which it is not specifically intended. The manufacturer is not responsible for damage to its apparatus through improper installation, physical damage, or poor operating practice.

If any device is found unsatisfactory under the warranty, the buyer should notify the manufacturer, and after receipt of shipping advice, buyer may return it directly to Dove Systems, San Luis Obispo, CA, shipping prepaid. Such equipment will be replaced or put in proper operating condition, free of all charges except transportation.

Manufacturer is not responsible for any freight charges. The correction of any defects by repair or replacement by the manufacturer shall constitute fulfillment of all obligations to the purchaser. Manufacturer does not assume responsibility for unauthorized repairs to its apparatus, even though defective.

Manufacturer shall not be liable for any consequential damage in case of any failure to meet the conditions of any warranty of shipping schedule, nor will claims for labor, loss of profits, repairs, or other expenses incidental to replacement be allowed.

No other representations, guarantees or warranties, expressed or implied, are made by the manufacturer in connection with the manufacture and sale of its equipment. This warranty is non-transferable and applies to the original buyer Only.

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