DMX Remote Interface for the 3032 Controller

## users guide

INTRODUCTION

The DMX Remote Interface allows you to remote-control the Martin Professional 3032 Controller with a DMX signal from any standard DMX console. Using up to Sixteen channels you can select and activate any previously saved cues, as well as pre-setting future cues underneath current active ones. The Interface also allows you to take an over-riding control of the dimmers on all units that are fitted with dimmers, and adjust
their intensity, either in separate sub-groups or as a whole setting. You are advised to use 3032 software version 1.22 or higher.
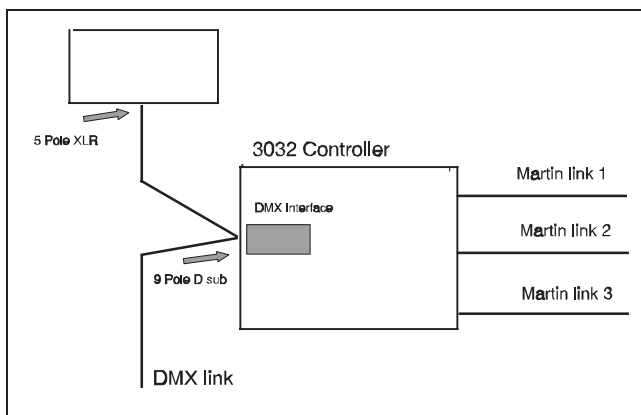
The interface connects to a standard 5 pin XLR link, using the special interface cable supplied with the package. In this way the interface acts like any other receiving device on the DMX link.

INSTALLING THE HARDWARE

Your DMX Remote Interface package will contain the following items:

- DMX Remote interface Card.
- Connector cable with 2 x 5-pin XLR and 9 pin D-SUB.

CAUTION

Some of the components on the interface card and in your computer are subject to damage from static electricity. Whenever possible, handle the card by the metal bracket attached to the back of the card, and avoid touching components and the connector pins at the bottom of the card. To prevent damage from static discharge, touch the computer's metal chassis before handling the card.


When installing the interface card you may choose any empty slot in your computer, whether it has an ISA (8 bit) connector, an EISA (16 bit) connector or either of these types in conjunction with a VL-Bus connector or PCI connector.

Before installing the card IRQ and I/O addresses must be set on the card itself. You may want to note down the settings on a piece of paper for later reference.

Setting the I/O Address.
There are a limited number of possible I/O addresses available on the card and since only one device can use each I/O address setting you must ensure that no other devices such as transmitter cards, SMPTE interfaces or CD-ROM interfaces use the same I/O address. Note that if a 3032 transmitter card is installed in the system I/O 310H is not available. Also note that on most PC systems I/O 200H will be used by the game (joystick) port. If you are running low on available I/O addresses you may want to consider disabling the game port, please refer to your PC documentation.

Set the I/O Address by means of the two jumpers located on the PL04 connector on the PCB.
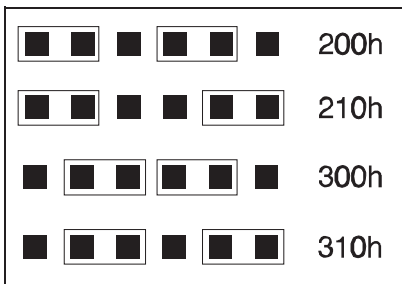
Possible I/O Address
settings (PL04)

For the technically minded note that the card uses all 16 I/O addresses from the offset.

Setting the IRQ.
As with the I/O address there are a limited number of IRQ settings on the card and it can not share this IRQ with other devices.
Note that the PC normally uses IRQ3 in connection with the serial ports COM2 and COM4, so if you plan to use serial devices connected to any of these ports (eg. the 2532 Direct Access that connects to COM2) - you should avoid using IRQ 3.
The IRQ is set with one jumper on connector PL05.
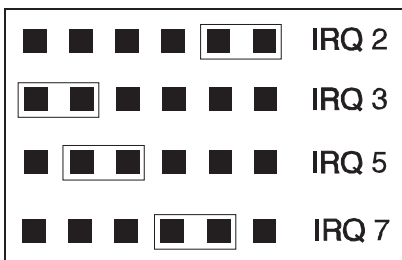
Possible IRQ settings
(PL05)

3

Terminating the Link.
The PCB used for the interface is designed as a multi-purpose PCB, capable of transmitting and receiving various formats of serial data. For this reason it is equipped with an internal terminating resistor used to balance the serial link. When used as a receiving device you may want to use this feature ONLY if the receiver is the last (physical) device on the link. Note that if the termination is enabled, the card terminates with a value of 110 Ohm which may not be a suitable value for your console. Alternatively you may disable the termination and use a normal DMX link terminating plug. Also note that some consoles have no internal resistor at all in which case the termination should be disabled. Please refer to your console documentation.

The terminating resistor is enabled by setting the jumper on PL06 as shown below, and disabled by removing the jumper. The default from the factory is that the terminating resistor will be disabled.
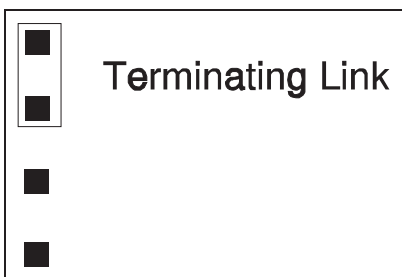
Link Termination (PL06)

CONFIGURING THE 3032 SOFTWARE

After having installed the card, start up the 3032 software as usual.
Enter the **SETUP** menu and select **SYSTEM HARDWARE SETUP**.

Enable the **DMX REMOTE** button (inverts with a green background when enabled) and click on the **SETUP** button to the right of the **DMX REMOTE** button.

Once into the setup page click on the **IRQ** and **I/O** buttons that correspond with the settings of the card. Then click the **TEST** button. If the proper hardware connection is made a small OK notice will pop up. If the connection fails one of two error messages will show; *DMX REMOTE NOT DETECTED AT 0XXX H*, where 0XXX H is the I/O configured for the card. This means that the software could not find the card at that address. Check again to see if the right I/O is selected, and if it is this indicates a conflict with another device installed into the system, so you have to try another I/O setting on the card and in the software. The error message *DETECTION ERROR, CARD DOES NOT RESPOND AT IRQ X*, indicates that the software could not get the card to react with that IRQ. Again, check if the right IRQ is selected and if so this probably indicates a conflict with another device so you have to re-configure the card and software. Finally - even if the system reports a good connection there still could be a conflict in hardware settings - if the system does not react as expected try to alter the I/O and IRQ settings.

After pressing the **TEST** button the system is enabled for DMX input. If you have a console connected the button will turn into an indicator showing the update rate of the DMX signal as logged by the interface. This may not be the actual update rate for your console, but any value above 10 Hz should be OK. The 16 channel bars in the bottom of the screen will now turn into indicators showing the actual level received on the 16 channels logged and how it is scaled by the 3032 (ON/OFF is 0 and 1, or with a 2-8 bit resolution). You may use the **-** and **+** buttons to the right of the **ADR:** button to set the first DMX address to be logged, the system will then log this and the next 15 DMX addresses. Note that the fist selectable address is 1 although it will be indicated as channel 0 on the bottom indicator (this makes it easier to calculate the effective DMX address, eg. start address is 1 + 0 = 1).

After setting the DMX start address you may assign a function and a resolution to each of the 16 channels.

None
By selecting this function the chosen channel will have no function within the system.

Cue Select
By selecting the above feature the chosen channel will be assigned a value for use when selecting cues to be activated. The system works on a binary system with each channel having only two useable values, 0 or 1 (Off or On) - the resolution is automatically set to ON/OFF. The first channel that is assigned this feature will be given a value of 1. All subsequent channels will be given increasing values in the following denominations ; 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, etc.. By using a combination of the different channels and adding up their values you are able to select any cue number that has previously been saved. Consequently, you will only need to assign enough channels as 'Cue Select' as you have cues to access.

Typically these cue calls will be stored in console memory together with memories to control other kinds of lights thus centralizing the 'live' lighting action to just the console.

CUE ENABLE
By selecting the above feature the chosen channel will work on a simple two value system, as with the 'Cue Select' feature, allowing you to preset a new cue using the 'Cue Select' channels while a separate cue is still being run from the controller and then by simply enabling this function the new cue will automatically replace the previous one. Only one channel should be assigned to this function.

DIMMER GROUP
By selecting the above feature the chosen channel will control the dimmers of all units within the group that you specify on the screen. To configure the units into the relevant groups you must use the 'Link Configurations' page of the controller. The resolution will automatically be set to 5 bit though you may wish to reset it to 8 bits to get the full resolution and a smoother dimming - note that not all fixtures supports the full resolution on their mechanical dimmers.

DIMMER MASTER
By selecting the above feature the chosen channel will act as a master over all of the 'Dimmer Group' channels that have been selected. Please note however, that it is not necessary to assign a 'Dimmer Master' it is merely an added feature for your own convenience when using multiple 'Dimmer Group' channels and wish to have just one master channel.

PRESET B/O
Assigning a channel to this function gives remote control over the BLACK OUT button. This has the advantage of being able to blackout fixtures that are not equipped with dimmers and are thus not controllable from dimmer groups.

PREV CUE, NEXT CUE, RELOAD CUE
These functions are for those who do not wish to allocate too many channels on their console or do not have the console memory to store a complete show, or simply, a fast way of creating a sequential execution of cues. The explanation of each function is given in the next section. Note that there will be a conflict between this function and the direct cue selection if both functions are used.

Default All
By clicking on this box all channels will automatically be given a default setting that gives each channel the following values :

Channel	Feature	Resolution
0	Cue Select (1)	On/Off
1	Cue Select (2)	On/Off
2	Cue Select (4)	On/Off
3	Cue Select (8)	On/Off
4	Cue Select (16)	On/Off
5	Cue Select (32)	On/Off
6	Cue Select (64)	On/Off
7	Cue Select (128)	On/Off
8	Cue Select (256)	On/Off
9	Cue Select (512)	On/Off

10	Cue Enable
11	None
12	None
13	None
14	None
15	None

The above configuration will allow you to call up to 1023 different cues and also to preset future cues whilst outputting a present cue, however, no Dimmer Groups and no Dimmer Master are configured.

View All
By clicking on this box the screen display will change to show all channel values and attributes in a table format. To clear this screen simply click any of the mouse buttons anywhere on the screen, the screen will then return to its former state.

Quit
By clicking on this box the settings that you have given will automatically be saved to the hard disk and you will be returned to the previous menu. All of the settings that are saved to the Hard Disk will automatically be resumed when you next turn on the controller.

OPERATING THE CONTROLLER FROM A CONSOLE

The Interface is used when the Martin 3032 controller is in the 'Cue' mode.

The 'Remote' Button on the Cue Page
Towards the bottom right hand corner of the screen in the 'Cue' mode of the 3032 controller you will see a box marked 'Remote' which displays either the current output Cue number or, when used, the preset Cue number using the 'Cue Enable' channel. This box can be either enabled or disabled by clicking the mouse on the box, however when disabled the 3032 controller will receive no information from the DMX console.
To enable this box automatically when starting your controller you should enter the 'System Software Set Up' menu and press the box marked 'Remote On' so that it is highlighted in Green. You will only need to set this once as the software will remember this selection for future start ups of the controller. You can disable this feature at any time by clicking the box so that it is not highlighted.

The remote box displays information about Cues that are currently being output by the controller or about preset cues that will be sent out by the controller.

Selecting Cues
For this function you will need to use the channels that were assigned the function 'Cue Select'. Each channel has a value and, when combined, enabling these channels will give access to all cues that have been saved within the 3032 controller. When you save a cue within the 3032 controller it is automatically given a number, this number can be seen if you click the 'Load Cue' box within the 'Cue' mode of the controller, and it is this number that is used to activate the cue from the DMX console.
The channel becomes active when the value is 1 (for ON/OFF channels that is 50% or 128

digital). It is recommended that you use only two positions for the Cue Select channels, 0% and 100%, thus ensuring the status of the channel as either active or non-active.

The Martin 3032 controller is constantly receiving signals from the DMX console so as soon as the status of a channel is changed, the controller and its relevant output will be updated. When no channels are active the controller will automatically enter into a Blackout state, this will be displayed in the 'Remote' box and also by the 'DBO' box in the bottom Left hand corner of the screen becoming Red in background colour.

Please note that if you select a Cue number that has had no lighting information saved with it the background of the 'Remote' box will change colour to Red to indicate that an empty cue has been selected. The output however, will remain with the previous cue until a new, valid cue number has been selected.

Using Cue Enable

This channel gives you the option of being able to preset a new cue whilst another is still running using the Cue Select channel. The function is represented on the 3032 display screen in the box marked 'Remote', when the channel is enabled the number displayed within the Remote box will be Red in colour indicating that any changes with the Cue Select channel will NOT be output. As soon as the channel is dropped, and so releasing the lock on the cue, the cue will become active and the number displayed within the remote box will return to white indicating that any changes with the Cue Select channel WILL be output.

The Cue Enable has two possible values, a value of 0 giving a non-active state and so meaning that the channel has no function and any changes with the Cue Select channel will immediately be updated by the 3032 controller. The second value is above 0 giving an active state and meaning that any changes with the Cue Select channel will not be updated until Cue Enable has been disabled. It is recommended that you use only two positions for the Cue Enable channel, 0% and 100%, thus ensuring the status of the channel as either active or non-active.

Using The Dimmer Groups and Dimmer Master

By assigning individual units to up to Sixteen different groups within the 3032 controller you can have an over-riding control of the dimmers of the units within those groups. After configuring the channels to the relevant groups they will have a constant effect over the dimmers of those units. This means that these channels will need to have a value above 0 to obtain any output from those units within the cues that are called up. When the channels are given a value of 100%, full output from the Cue will be achieved.

The 'Dimmer Master' channel, if one has been assigned, has full control over the 'Dimmer Group' channels and acts in the same way as a Grand Master fader would on a conventional lighting control console. Again, this means that the channel will need to be active before any output is achieved from the Dimmer Groups, the more value that this channel has will affect the intensity output from the 3032 controller. These features allow you to dim down or dim up any Lighting Cue that has been saved within the controller in a 'Real-Time' environment. Please note however, that a previously saved Lighting Cue cannot have its intensity increased any more than was previously saved by these channels. This means that if you saved a Lighting Cue with the Dimmers set at 80% the dimmer group channels will dim the units down or up but only to a maximum of 80% of the units possible output.

PREV CUE, NEXT CUE

IMPORTANT : To use these functions the 'LOAD CUE' window must remain open all the time, also the very first cue selected must be activated by normal means (clicking with the mouse or using F1-F10).

8

The previous cue and next cue functions are used in connection with the cues as they appear in the 'LOAD CUE' window. Any time a cue is active it will appear highlighted in red in the window. Prev and Next cue simply selects the previous or next cue relative to the currently active cue. By selecting the option 'SORT BY NAME' in the SOFTWARE SETUP Page and then by using a clever way of naming your cues it is possible to create a list of cues and even insert or delete cues into this order.

For Instance, using the first 4 or 5 characters in the cue name is sufficient, e.g. naming the first cue in the first 'song' 0110 FIRST SONG-PART ONE, the second, 0120 FIRST SONG-PART 2, and then the first cue in the second 'song' 0210 SECOND SONG-PART 1 etc.. As the controller will sort the Cues into an alphabetical order, the cues will appear in the order shown above, as the sorting also includes numerical sorting from 0 up to 9, (9 being the highest value before the letter A). If you then need to insert an extra cue into the first song you could name it 0115 FIRST SONG-EXTRA CUE, and it will appear between the Two existing cues, note that with this example the names of the cues can be anything you like as it is the numbers which are denoting the order. This option gives you up to 9999 cues, enough for most shows, but if you are feeling a little bit more creative than usual just add an extra digit, and this will give you an extra 90,000 options.

RELOAD CUE

This function re-loads the current cue and resets the sequences to scene one. This function is especially handy if you have cues that contain non-looping sequences with several steps.