Compact controller

PC control

Using the optional VRX reprogrammer interface, you can link the controller to your PC for backing up of your programs. You can also upgrade the controller's operating software to the latest version.

To start PC link mode, hold down the Blackout button until the blackout light flashes. When in PC link mode, the unit is controlled by the PC and the buttons on the controller do not work. The controller stops outputting DMX while it is in PC link mode, so the lights will go into stand alone mode (if you have not disabled the LSE option on them).

Contents

Welcome

Congratulations on your purchase of the VRX Compact Controller. Your new unit offers many exciting features and can work in harmony with all other products in the range, and with other DMX512 products, to produce an amazing light show.

Features include:

- Simple to use

- Control of up to 8 units independently, or more if combined

- Up to 128 memories, each with unlimited steps (until memory of unit is full)

- MIDI control of all functions

- Integrated VRX light show

- Audio trigger by internal microphone or line in socket

- System can link to PC for setup and reprogramming

- Upgradable internal software (using VRX reprogramming interface)

If you are in a hurry…

If you don't want all the details, and you just want to get it working in a hurry…

Memory backup using MIDI system exclusive

You can save or reload the controller's memory using System Exclusive commands. You will need a sequencer to receive the data, either a PC program or a stand-alone unit. There are some freeware System Exclusive utilities available on the internet such as Dumpster.

Connect the sequencer's MIDI OUT lead to the MIDI IN on the controller, and connect the sequencer's MIDI IN lead to the MIDI THRU/OUT on the controller.

Important: You must ensure that the sequencer is not echoing MIDI (i.e. set MIDI thru to OFF on the sequencer), otherwise an endless loop may be created which will lock up the controller and the sequencer.

To trigger the data transfer you need to send a "note on" command for note 105 (A8). The controller will prepare to send all memory, and will flash all front panel lights.

Prepare your sequencer to receive the System Exclusive data, then press any button on the controller to start the data transfer. The sequencer should receive 65548 bytes. While data is being transferred the 1-8 buttons will light in sequence.

To restore the data, send the system exclusive dump back to the controller. The 1-8 buttons will light in sequence while the data is being received.

Setting the MIDI receive channel

Hold down the Save button and press the Page button. The page light should flash. One of the number buttons will light up to show you the current MIDI channel. If the top Page light is lit, then the buttons represent MIDI channels 1-8, if the bottom light is lit then they represent channels 9-16. Press the Page button to swap between 1-8 and 9-16. Press a number button to change the MIDI channel.

You can also set the MIDI receive channel from the PC.

105	A8	Start system exclusive dump

NB: Note 36 is called "C2" by some MIDI equipment manufacturers, rather than "C3".

Features of the unit

The front panel of the unit is where it all happens:
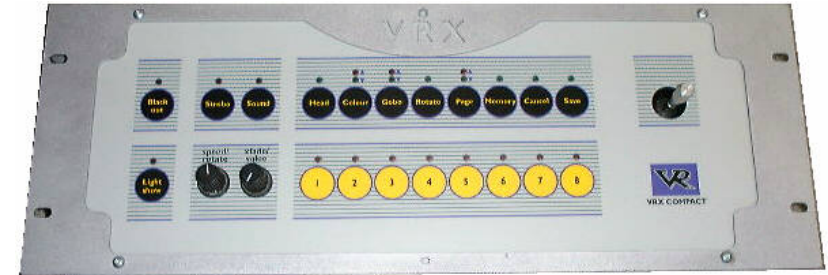
Panel controls: The membrane panel of the controller contains the main controls. All buttons have a light above them to show when they are active.

Speed/rotate and Xfade/value controls: These two controls are used when running memories to set speed and crossfade, and when programming to set some of the head functions.

Joystick: The joystick is used when programming to position the pan/tilt mirror on heads.

Mains in / output
Audio line in
DMX

Mains fuse   MIDI in MIDI out/thru
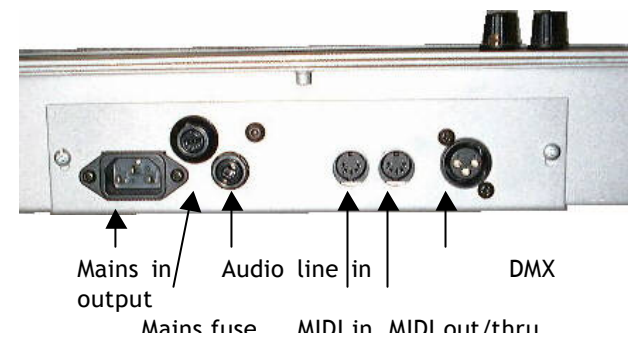
The rear panel of the unit contains various connectors.

DMX output. This is the main control signal output to the VRX units. It is wired Pin 2 hot. The output is protected against overvoltage and incorrect connections.

MIDI in and thru/out. Used for controlling the unit by MIDI. The VRX reprogrammer interface is also connected through these sockets.

Audio line in. The unit can be audio triggered through this socket.

Mains input. EU mains power at 220-240V 50Hz is supplied through this socket. The unit cannot be used directly on 110V or 60Hz supplies.

Installing the unit

The unit may be used on a desk or table, or may be permanently installed in a standard 19" rack (4U of rack space is required).

It is not advisable to rack mount the unit in a vertical rack as this makes programming extremely difficult, however the unit will operate in this orientation if required.

The connections panel may be reversed if the unit is going to be rack mounted (so that the connections face downwards). To reverse the panel, turn off the power then remove the 4 screws which hold the panel to the unit. Reverse the panel and refit it to the unit ensuring that no internal cabling is trapped.

MIDI note	Note name	Function
36	C3	Memory 1 in current page
37	C#3	Memory 2 in current page
38	D3	Memory 3 in current page
39	D#3	Memory 4 in current page
40	E3	Memory 5 in current page
41	F3	Memory 6 in current page
42	F#3	Memory 7 in current page
43	G3	Memory 8 in current page
48	C4	Page 1
49	C#4	Page 2
50	D4	Page 3
51	D#4	Page 4
52	E4	Page 5
53	F4	Page 6
54	F#4	Page 7
55	G4	Page 8
56	G#4	Page 9
57	A4	Page 10
58	A#4	Page 11
59	B4	Page 12
60	C5	Page 13
61	C#5	Page 14
62	D5	Page 15
63	D#5	Page 16
72	C6	Light show on (use All Off to turn off)
73	C#6	All off
74	D6	Set speed (from note velocity)
75	D#6	Set xfade (from note velocity)
76	E6	Sound mode On
77	F6	Sound mode Off
78	F#6	Blackout On
79	G6	Blackout Off

MIDI control

You can turn memories on and off, set speed and crossfade, turn light show on and off and set Blackout using MIDI commands. This allows you to pre-program a light show to match a sequenced backing track. You cannot perform live head control or programming functions by MIDI.

The controller will only respond to MIDI commands on the MIDI channel which it is set to (see next page for details of how to set the MIDI channel).

All MIDI control is performed using Note On commands. All other MIDI instructions are ignored. To turn off a memory, send the memory note a second time, or send the All Off note.

When programming a MIDI controlled sequence, you should always start by sending a Page command, as you don't know what the current page setting will be on the controller.

When you recall a memory by MIDI, the memory will run at its programmed speed, fade and sound activation settings. If you want to change the speed, fade and sound activation by MIDI command you need to do this *after* you have started the memory. The speed, fade and sound settings which you set by MIDI will not be remembered as part of the chase.

Connecting VRX units

All units are connected to the controller by linking with 3-pin DMX cabling. The DMX address of the units must then be set to correspond to the controller. You can connect the units together in any order.

Address=001   Address=007
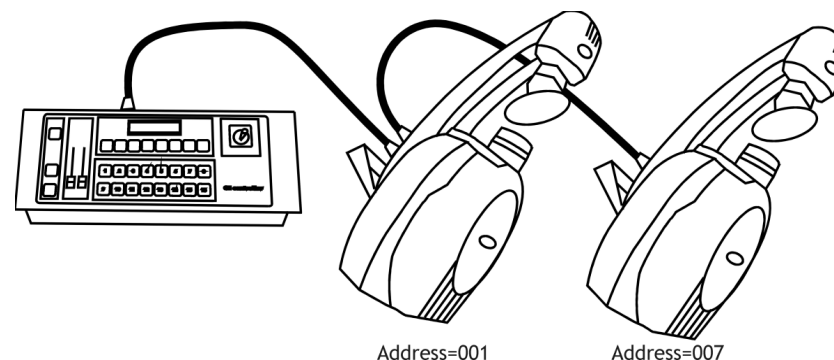
Make sure that the CE option is set to "OFF" on all units, then use the following DMX settings. If you want to control more than 8 heads you will need to pair some of them together by setting the DMX address the same.

Head no.	1	2	3	4	5	6	7	8
Scan, Gladiator, Star	001	007	013	019	025	031	037	043
Colour Changer	003	009	015	021	027	033	039	045

It is possible to use the VRX Compact controller with other types of lighting unit. The controller outputs six channels of DMX for each head: 1=Pan 2=Tilt 3=Colour 4=Gobo 5=Gobo Rotate 6=Shutter. You may need to adjust the DMX address of the head for best match with the control channels.

Controlling heads

You can individually control the "live" position, colour, gobo, shutter and rotation functions of up to 8 heads. You can then save all these settings in a memory, which is described in the next section.

Selecting which heads to control

- ▶ Press Head
- ▶ Press one or more of the 1-8 buttons.
- ▶ When the button is lit, you have control of the head.

You will see each head turn on and go to a central position when you select it.

When the button is lit, you can control that head using the joystick and control knobs. To stop controlling a head, press the number button again so the button light goes out. If you have changed the head settings, it will stay in the position you left it; but if you have not changed the head at all, then it will go back to its zero position.

You can control multiple heads at once. To select multiple heads, either press each button in turn, or at the same time press the buttons at the start and end of the range (e.g. to select heads 2 to 6, press buttons 2 and 6 together).

Setting position and drum rotation

Move the joystick to set the mirror position of heads which are selected. When the Head button is lit you can also use the Speed/Rotate knob to set the drum rotation speed and the Xfade/Value knob to set the Swivel function on Gladiator units.

Light show

The controller has the full VRX light show built in. You can start the light show simply by pressing the Light Show button.

When it is set to sound activation, the light show controls its own speed and xfade settings based on the music beat. If you turn off sound activation then you can set the light show speed and xfade using the controls as you would for a normal memory. These settings are remembered for next time you use light show.

You can manually override heads as you can with a normal memory.

The controller does not have the "Group Control" options of the VRX head lightshow, and does not use some of the more advanced light show options. If you want these facilities you can switch the heads into stand alone mode from the controller, see below.

Using stand alone mode on the heads

You can switch the heads to stand-alone mode by holding down the Blackout button on the controller (the button flashes). This switches the controller to PC-link mode, which disables the DMX output. The heads will then run in stand alone mode (if you have not disabled the LSE option on them).

Press any button on the controller to regain control (the controller will restart).

This can be useful for temporarily using a head as a follow spot or special effect. Any head function you don't change will continue to be controlled by the memory (so if you want full control, you need to set a colour, gobo and shutter value). When you deselect the head, it will go back to being controlled by the memory.

Locking the controller to prevent changes

➤ Hold down Save and press Cancel

➤ The Cancel light will flash and 1-4 buttons will light up

➤ Enter a 4-number lock code of your choice

➤ To unlock, repeat the above

You can lock the controller to prevent users from changing the memories in the controller. In locked mode, users can select any program or the light show mode, and can take live control of heads, but cannot save, add to or erase memories. Changes in memory speed, crossfade and sound activation only affect the memory as it runs and are not remembered.

Pick a code you can remember easily, as there is no way to unlock the controller if you forget the code. When the controller is locked, the unit will flash the Save light if the user attempts to use a locked function.

Setting colour

➤ Select some heads to control

➤ Press Colour

➤ Select a colour with the 1-8 buttons, or turn the Xfade/Value knob

➤ To select colours 9-16, press Colour again so the bottom light is on

The controller has 16 colour values programmed into it, but because there are only 8 buttons, you need to select the "upper" 8 colours and the "lower" 8 colours by pressing the Colour button so that the upper light or lower light are lit.

VRX units only have to 10 colours, but "lower" colours 6, 7 and 8 give continuous scrolling of colours.

The colours for VRX units are (DMX output values given in brackets):

	1	2	3	4	5	6	7	8
Upper	White (0)	Red (26)	Blue (43)	Green (59)	Yellow (75)	Cyan (91)	Orange (108)	Pink (124)
Lower	Magenta (140)	Uvblue (156)	- (172)	- (188)	- (205)	Slow scroll (221)	Med Scroll (237)	Fast scroll (253)

You can set any value for the colour function by turning the Xfade/Value control while the Colour button is lit. You can set half colours by pressing 2 adjacent number buttons.

Setting gobo

- ▶ Select some heads to control

- ▶ Press Gobo

- ▶ Select a gobo with the 1-8 buttons, or turn the Xfade/Value knob

- ▶ To control gobo rotation, turn the Speed/Rotate knob

- ▶ To select gobos 9-16, press Gobo again so the bottom light is on

As with colour, the controller has 16 gobo values programmed into it, which you select by pressing the Gobo button so that the upper light or lower light are lit (the VRX units only have 8 gobos but the lower 8 values may be used with other types of head).

The standard gobos for VRX units are (DMX output values given in brackets):

	1	2	3	4	5	6	7	8
Upper	Open (24)	Spokes (40)	Flat line (56)	Tunnel (72)	Starburst (88)	Dotline (104)	Triangle (120)	Dash circle (136)
Lower	- (152)	- (168)	- (184)	- (200)	- (216)	- (226)	- (246)	- (254)

You can set any value for the Gobo function by using the Xfade/Value knob while the Gobo button is lit.

You can control the rotation of rotating gobos using the Speed/Rotate knob while the Gobo button is lit. When the Rotate control is central, the gobo will be static. As you turn the control left or right, the gobo will rotate with increasing speed. The full left and full right control positions are also "stop".

This is useful if you accidentally save a step to a memory that you don't want, or if you save a step incorrectly. If the memory only has one step this will have the same effect as erasing the memory.

Automatically turning on memories

- ▶ Select the memory Page you want to use

- ▶ Press the Auto Select button

The controller will turn on each memory in the page for a few minutes, then move on to the next memory. If you change the page, the controller will start immediately with the first memory in the new page.

When you turn off Auto Select mode, the active memory will turn off as well.

Setting memories to fade in and fade out (using VRX heads)

When no memories are on and you turn on a memory, the heads will snap to the first position in the memory. If you want the heads to "fade in" from black, you can program a second memory which is the same as the first position in the first memory, but with the shutters set to blackout. The easiest way to do this is to turn on the memory then set the speed and fade controls to minimum; while the memory is on the first step, save the output to a new memory. Then turn on the new memory, select the heads you want in blackout and set the shutters to blackout. Then you can pre-position the heads using the "blackout" memory, and when you turn on the original memory the heads will fade in. You can also fade out a memory using this idea.

Using live head control with a memory

- ▶ Turn on the memory

- ▶ Press Head

- ▶ Press the 1-8 buttons to select the head(s) you want to control

- ▶ Use the controls to "live" control the head(s)

- ▶ Deselect the heads using the 1-8 buttons to go back to the memory

Changing the memory page

- Press Page

- One of the 1-8 buttons will light up to show the current page

- Press a 1-8 button to select the new page

- To select pages 9-16, press Page again so the lower light is lit

- Then button 1 = Page 9, 2=Page 10 etc

You can change page while in the middle of saving or recalling memories, for example pressing Save - Page - 2 - 5 will save memory 5 on Page 2.

Overwriting a memory

- Set up the head positions you want in the memory

- Hold down Save (rather than just pressing it)

- Press the memory number

The existing memory will be overwritten. If you just press Save rather than holding it down, the head positions will be added as a step in the sequence.

Erasing a memory

- Hold down Memory

- Press the memory number.

The memory will be erased (you will see the light on the button go out).

Erasing the last step of a memory

- Hold down Save

- Hold down Memory as well

- Press the memory number

Setting Shutter positions

- Select some heads to control

- Press Shutter

- Select a shutter value with the 1-8 buttons, or turn the Xfade/Value knob

- Select a strobing speed, or no strobing, using the Speed/Rotate knob

The shutter settings for VRX units are:

	1	2	3	4	5	6	7	8
Shutter	Black (0)	25% (32)	50% (64)	75% (80)	Full on (128)	Slow strobe (226)	Med strobe (242)	Fast strobe (255)

The VRX shutter does not provide a true dimmer function but is useful to fade the effect in and out.

You can set any value for the Shutter function by using the Value control while the Shutter button is lit.

You can also control the strobe speed using the Speed control while the Shutter button is lit. Turn the control fully to the left (or press one of the 1-5 buttons) to turn off strobing.

Clearing head positions

- Press Head

- Hold down the head number button you want to clear

This clears any "live" changes you have made to the head. You will see the head go out and return to zero position.

You can clear multiple heads like you would select multiple heads, e.g. to clear heads 2 to 6, hold down buttons 2 and 6 for a couple of seconds.

You can clear all live head positions, and turn off all memories, by holding down the Cancel button for a couple of seconds (this does not affect the programming of any memories).

Saving memories

The controller can remember up to 128 memories. Each memory can hold a static position or a sequence of positions, which can be played back with different speed and fade settings.

The memories are stored in 16 pages of 8 memories. You choose the page for the memory using the Page button.

Saving a static position in a memory

- ► Set the heads into a position you want to save

- ► Press Save

- ► The 1-8 buttons will light up if they already have something saved in them

- ► Press a 1-8 button which is not lit up

- ► The position is saved into that button.

The memory will save the current output state of the controller, so you can "live" position heads, or turn on a memory to save a position which is programmed into a memory, or combine the two by turning on a memory and overriding some head functions.

Recalling a memory

- ► Press Memory

- ► The 1-8 buttons which contain memories will light up

- ► Press one of the lit buttons

- ► The saved positions will be recalled

- ► Press the number button again to turn off the saved position, or press another number to go to another position.

You can also turn off the memory and leave Memory mode by pressing Cancel.

You can change the fade rate for the memory (how fast the lights move to their programmed position when you turn the memory on) using the Xfade and Speed knobs. For the longest fade, turn Speed to minimum and Xfade to maximum; for a "snap" to position, turn Speed to maximum and Xfade to minimum. The fade only works when you change from one memory to another - if you turn the memory on when no other memories are on, it will always "snap" to the position. To test the fade, you will need to change to a different memory and then back to the current memory. The controller will remember the fade rate and use it the next time the memory is turned on.

Saving a sequence in a memory

- ► Save the first sequence position as on previous page

- ► Set the heads into the position for the second step

- ► Press Save

- ► Press the same 1-8 button again

- ► The second step will be added after the first step

- ► Repeat for as many steps as you need

You can repeat this as many times as you want, until the controller's memory is full, in which case the Save light will flash. The controller can hold about 650 steps.

Setting speed, crossfade and sound activation for a sequence

- ► Turn on the memory

- ► Use the Speed/Rotate knob to set the sequence speed (the time between steps in the sequence)

- ► Use the Xfade/value knob to set the amount of crossfade (fully left is "snap", fully right is continuous movement)

- ► Press the Sound button to turn sound activation on or off

The controller will remember the speed, fade and sound settings for the memory and will use them the next time you run the memory.