
VRX POWERLED
Users Manual

Welcome

Congratulations on your purchase of this Abstract VRX Powered product. Your new unit offers many exciting features and can work in harmony with all other products in the VRX range, and with other DMX512 products.

Features include:

- Long lifetime LEDs used, no lamps to replace
- Cool running
- Slim casing can be wall or ceiling mounted, or used freestanding
- State of the art drive electronics
- Many colour combinations and exciting patterns
- Units can be stacked 2 high
- Push button menu system and digital display to set options
- System can link to PC for setup and reprogramming
- Upgradable internal software

If you're in a hurry...

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

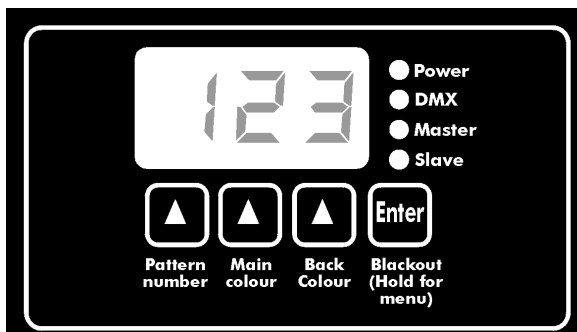
- If you are using a controller with the lights, go to page 6
- If you are running the lights in stand alone mode, go to page 5

Features of the unit

All the units have the same plugs and indicator lights. The main ones are:

DMX connectors (pins 2/3 signal, pin 1 grounded). Other DMX devices can be linked in to the system through these connectors. The unit will auto-sense the polarity of the DMX signal, either pin 2 hot or pin 3 hot. (You can manually override the auto sensing using the DP option).

Control panel: The panel is found on the bottom segment of the unit.



Power light (red). This light should be on whenever the unit is powered up. If it doesn't come on there is either no power to the unit, or some internal problem with the unit.

DMX present light (orange). This light is on constantly when DMX is being received.

Master light (green). This is lit when the unit is Master in stand alone mode. The light will blink off in time to the music.

Slave light (yellow). This light is on when the unit is Slave in stand alone mode.

Digital display. The display shows the DMX channel of the unit, or if in light show mode, the Light Show Group of the unit. The display is also used for setting options.

Enter button. Hold down the Enter button to get into the option menu. If the display shows "LOC" then the control panel has been locked to prevent tampering. See page 15 for lock/unlock instructions.

Option buttons (arrows). The three buttons below the display are used to set the DMX channel and other options on the unit.

Mains power (not shown in picture). Power is supplied to the unit through an IEC connector on the back face of the unit. There is a power supply fuse built into this connector. If this fuse fails you should take the unit to an Abstract dealer for service.

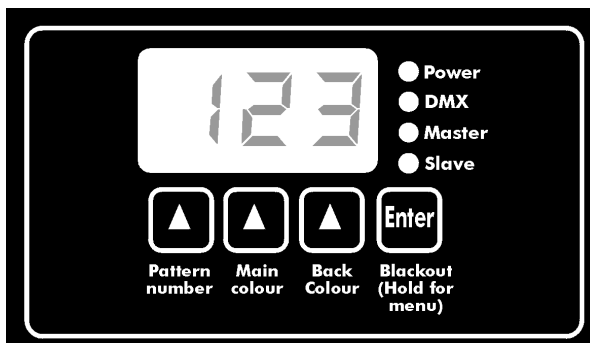
Lamp alignment (not shown in picture). On the rear of the unit there are 3 screws which allow you to adjust the position of the lamp within the reflector to optimise the evenness of the light beam. The alignment is set at the factory and you should not need to change it until you renew the lamp.

Installing the unit

- Make sure that fixings are sufficient to carry the weight of the unit.
- Ensure that you leave room to connect the power and data cables (if used) to the unit.
- The units have a mains "link out" connector which allows you to connect the mains power onto the next unit using an IEC plug to socket cable. You can connect up to 32 units in a chain.

Stand Alone mode

If you don't connect a controller, the unit will automatically switch to stand alone mode. This mode allows you to use the automatic light show, or you can select one of the built-in fixed patterns or colours. If you have more than one unit, you can link the units together using 3-pin DMX cables. Connect the DMX out (the socket) on the first unit to the DMX in (plug) on the second unit. Then continue linking as many other units as you want. The settings you make on the first unit will control the other units.



The "Pattern number" button lets you select either automatic light show, or one of the fixed patterns.

Number	Pattern
0	Light show (display shows SA or SS)
1	Bargraph
2	Peak Dot
3	Bargraph with top colour
4	Peak Dot with top colour
5	Bargraph centre out mode
6	Peak Dot centre out mode
7	VU meter mode
8	Fixed colour
9	Colour scroll

The "Main colour" and "Back colour" buttons let you select the colours used in patterns 1 to 8. Colours are selected automatically for the Light Show mode and for the Colour Scroll mode.

Number	Colour
0	Black (used for back colour only)
1	White
2	Red
3	Blue
4	Green
5	Yellow
6	Cyan
7	Orange
8	Magenta
9	UV blue

These settings must be made on the "Master" unit and will automatically be matched by the "Slave" units.

Stand alone options (Hold down ENTER to set these options)

Invert the pattern: set the "IN" (invert) option to ON.

Stack the displays two high: to give an extra tall bargraph, on the bottom unit, set the "BOT" option to ON, and on the top unit, set the "TOP" option to ON.

Light show variations: The automatic light show has 4 variations. You can select which of the 4 variations the unit should display using the "LSG" (light show group) option. If you're using the Top and Bottom functions, both units need to be set to the same Light Show Group.

"Bargraph" mode lock: switch the "BAR" option to ON. This locks an individual unit into bargraph mode (i.e. a bar of light rising up from the bottom)

Green/Red meter display lock: switch the "GRN" option to ON. This locks an individual unit into VU meter mode with 3 green segments and 2 top red segments. The height of the bar will vary randomly to give a sound level effect.

DMX controlled mode

DMX controlled mode gives you full control over every function of the unit. Using a suitable DMX controller, you can program the light output just the way you want it. However, it does take a bit more setting up, and a lot more programming time, than the stand alone mode.

Connect your controller to the "DMX in" socket on the first unit, using a 3-pin XLR cable. If you are using a controller with a 5-pin DMX output, you will need to use a 5 to 3 pin adaptor. The unit will normally sense the polarity of the DMX (pin 2 or pin 3 hot); you can also set the polarity manually using the "DP" option.

Connect the next unit, if you have one, to the DMX Link plug.

Setting the addresses on the units

Your DMX controller sends out commands for all the units it is controlling down one cable. You need to tell each unit which commands to respond to by setting the DMX address using the digital display.

Hold down the Enter button until the display shows CHA. Then use the left hand button to set the 100's, the middle button to set the 10's and the right hand button to set the 1's. When the display shows the channel you want, press Enter. The display will show SET. Until you press Enter, the channel setting will not be used or remembered.

Each unit uses 20 DMX channels, so usually the first unit is set to "001", the second to "021", the third to "041" and so on. The highest channel is 490.

Note: if you want two units to behave exactly the same, you can set the DMX address for both units to the same channel.

DMX channel usage

The following table shows you which function of the unit is controlled by each DMX channel. Display segment 1 is the

bottom one, 2 is the next one up, and so on to segment 5 which is the top segment.

Unit type	PowerLED
No of chans	20
1	Segment 1 Red
2	Segment 1 Green
3	Segment 1 Blue
4	Segment 1 dimmer
5	Segment 2 Red
6	Segment 2 Green
7	Segment 2 Blue
8	Segment 2 dimmer
9	Segment 3 Red
10	Segment 3 Green
11	Segment 3 Blue
12	Segment 3 dimmer
13	Segment 4 Red
14	Segment 4 Green
15	Segment 4 Blue
16	Segment 4 dimmer
17	Segment 5 Red
18	Segment 5 Green
19	Segment 5 Blue
20	Segment 5 dimmer

Any colour may be selected by mixing the Red, Green and Blue controls. The "Dimmer" control is provided so you can fade out the selected colour without affecting the colour blend.

DMX condensed mode

If the "CE" option is set to "ON", the unit will only use 4 DMX channels, and all 5 panels will be set to the same colour.

Option list

These are the options on the PowerLED, in order of appearance. The default setting (how the unit is set when new, or after OPC) is shown.

display	default	option name/function
CHR	001	Set DMX channel
IN	OFF	Invert the panels
CE	OFF	Abstract CE compatibility mode (Reduces DMX to 4 channels)
dbl	OFF	Display blanking mode (turn off after 20 sec)
LSC	1	Light show group number
LSE	ON	Light show enable
SLO	OFF	Light show slow mode
SEF	ON	Light show strobe enable
SOU	ON	Light show sound enable
SS	OFF	Enhanced light show
bRF	OFF	Unit is locked in bargraph mode
GRN	OFF	Unit is locked in green/red VU meter mode
dP	AUt	DMX input polarity, Auto, pin2 hot or pin3 hot
PC	-	Start PC link mode
rSt	-	Soft-reset (reinitialise motors)
OPC	-	Option Clear (reset options to defaults)
tSt	-	Self test mode
S-N		Displays unit serial number (00-00-00-00)
Lt		Displays lamp timer (hours)
Ut		Displays unit on timer (hours)
UC		Displays unit operation counter
tFi	-	Starts trim mode*

*options have no effect on this unit

Setting options from the panel

Hold the "Enter" button for 3 seconds to enter the option menu. Press Enter briefly to step through the options. Use the 3 arrow buttons to change an option. Hold down the Enter button to go back to normal.

All options can also be set from a PC when the unit is linked up in PC mode using the optional programming interface.

Locking the keypad

If the unit is located in a position where people could tamper with the settings, you can lock the keypad. Hold down the Enter button while turning the power on. The display will show LOC. If you press any of the buttons the display will show LOC and the button will not have any effect.

The keypad will remain locked until you unlock it by holding down the Enter button while turning the power on. The display will then show UNL (unlock).

Control options

CHA - set DMX address: See page 9 for details

IN - Inverts the panels so that panel 1 is at the top.

CE - Abstract CE compatibility mode: puts the unit into a 4-channel mode which is compatible with Abstract CE products and controllers.

DBL - display blanking: turns off the digital display after 20 seconds of inactivity. Any keypress turns the display back on.

LSG - Light show group 1-4

LSE - Light Show Master enable

SLO - Light show Slow mode

STR - Light show Strobe mode

SOU - Light show sound trigger enable

SS - Enhanced light show mode

BAR - Fix unit into bargraph mode

GRN - Fix unit into green/red VU meter mode

DP - DMX input polarity: The unit can accept DMX wired with either pin 2 hot or pin 3 hot (AUT=auto detect mode). Sometimes the unit can't tell which way the DMX is wired, in this case you can set the DMX polarity manually, either P2=pin 2 hot or P3=pin 3 hot. The DP option does not affect the DMX loop-through.

Functions

PC - set PC link mode: Allows you to set up the unit from a PC (used with optional programming interface). Press any button to exit PC mode, or feed DMX to the unit.

RST - soft reset: Reinitialises the motor positions. Hold down the middle button to activate the reset. Useful if a motor is knocked out of position.

OPC - option clear: Sets all control options back to factory settings (see page 14). Hold down the middle button to activate the clear.

TST - self test: Not implemented on this unit.

Information

S-N - serial number: Displays the unique serial number held inside the unit. Shown as 4 groups of numbers, so S-N 00 08 11 A1 is unit number 00-08-11-A1.

LT - Lamp timer: Shows how many hours the lamp has been running for (since timer last reset). The time is shown as 2 groups of numbers, so 001 20L is 00120 Lamp hours. To reset the timer, hold down one of the arrow buttons while turning on the unit - the display should show RST.

UT - Unit timer: Shows how many hours the unit has been running for since manufacture. The time is shown as 2 groups of numbers as for the Lamp timer. The unit timer cannot be reset.

UC - Unit Counter: Shows how many times the unit has been turned on since manufacture. The count is shown as 2 groups of numbers as for the lamp timer.

Maintenance of the unit

The unit is not fan cooled and should be virtually maintenance-free. You should clean the display panels with a soft damp cloth periodically. Do not use abrasive cleaners or solvents to clean the unit.

Do not attempt to open the case to clean inside the unit as electrical hazards are present inside, and you risk damaging delicate internal parts.

Use the unit timer functions (see page 13) to determine how much use the unit has had.



WARNING

The unit contains dangerous voltages. Do not open the casing. No user serviceable parts inside.

Specifications

Light source: High brightness Light Emitting Diode

Colours: 16.7 million colours possible

DMX control: 20 channels used

Receive on 1-506

Transmit on 1-16 (stand alone mode - non-standard DMX)

Audio: Internal Electret mic with AGC

Power consumption: 50 Watts approx

Internal fuse: Auto resetting trip. Remove power to reset.

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