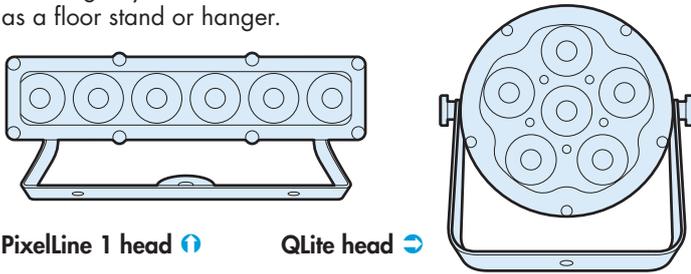


## General set up

- 1 Mount the heads and the controller in the required positions. The integral yoke of each head can act as a floor stand or hanger.



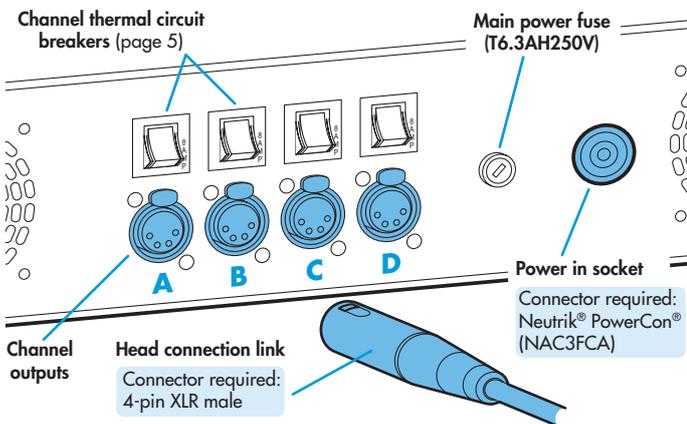
PixelLine 1 head

QLite head

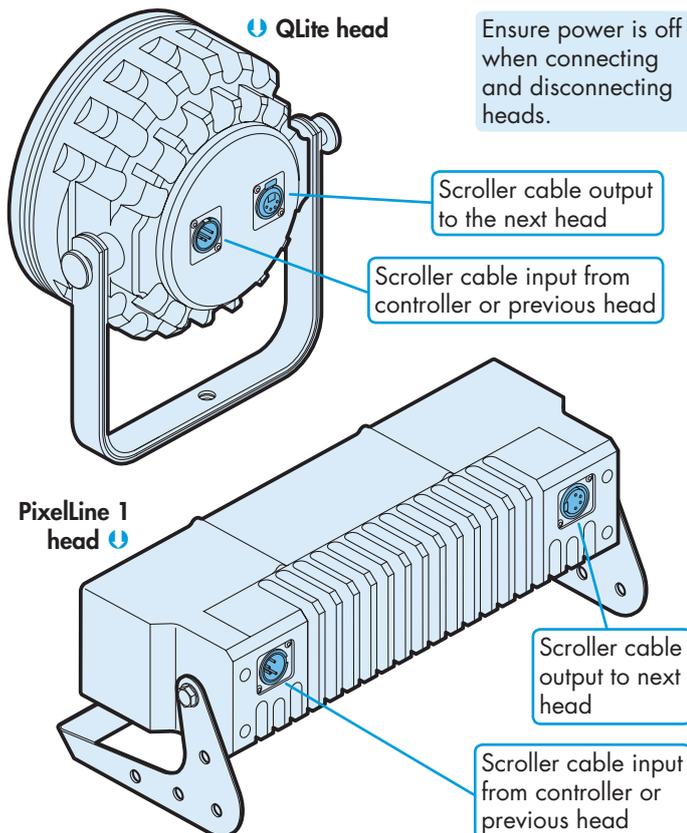
**Important:** When a head is suspended off ground, always use a safety wire rated to a minimum of 15kg (33lbs) around the yoke.

- 2 The controller has four output channels, each of which can control strings of up to 32 x PixelLine1/QLite heads (see page 4).

Connect an approved scroller cable to one of the four channel outputs at the rear of the controller:



- 3 Connect the other end of the scroller cable to the first head:

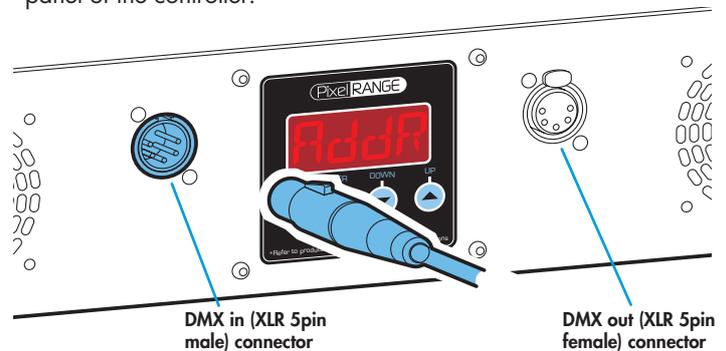


- 4 Use another scroller cable to make a link from the first head to the next head and so on.

### Important

- The controller provides sufficient power for the first four heads on each channel. After the fourth head in a string, an intermediate power supply must be placed in line to provide power for the next four heads, and so on. Please see page 4 for further details.
- For head connections, use only approved scroller cables that have specific data and power cores.

- 5 If required, the controller (and all of the connected heads) can be controlled from an external source via DMX input. Connect a DMX input lead (XLR 5-pin female) to the input socket on the front panel of the controller:



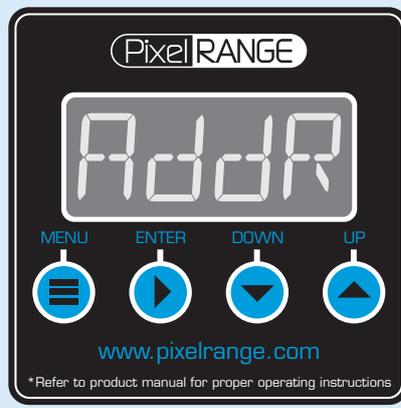
- 6 If other fixtures/controllers are to be used in the same DMX daisy-chain, connect a DMX lead (XLR 5-pin male) to the output socket on the front panel of the controller and link this to the next device.
- 7 Once all heads are linked, connect power to the controller using a Neutrik® PowerCon® connector. Insert the connector and twist it clockwise until it clicks into place.
- 8 Use the control panel to access the internal menu and configure the number of heads attached to each output channel. Using the menu you can also choose the appropriate operation mode and related settings (see over).

### Factory reset (perform this prior to new use)

To clear previous settings: At the rear panel, press the middle two buttons (▶ and ◀) for two seconds while the current address and mode are being displayed. The four digit display will show **F A C T** then **S E T** to indicate that the fixture has been returned to its default condition. This is useful to remove any settings that might cause confusion in a new configuration (e.g. master intensity settings).

## General notes

- Ensure that only one DMX device in the chain is set as master (e.g. the lighting desk). This fixture is usually set to slave mode.
- This fixture is shipped with the DMX address set to 001.
- The four digit display can be set to switch off when not in use. To restore, press **⏏**. To alter this mode use: **PER5 > dISP**.



## Using the menu

- When not in the menu, the four digit display scrolls the current DMX address and mode. The display's right hand decimal point (data dot) is used to indicate status (see below).
- Press **⏏** to enter the menu. The four digit display will show **Addr**.
- Use **⬇** and **⬆** to move between menu options (or to change a value within an option).
- Press **⬆** to enter an option (or to fix a changed value within an option and return to the previous option level). *Note: If you do not press **⬆** to fix a value, operation will revert to the previously set mode at the next power on.*
- Press **⏏** to exit from a menu option (and eventually exit the menu completely).

## Chase effects

This section describes each of the internal chase effects that are selectable either via the control menu (**PRoG > C 1/C2 > EFEC**) or using DMX values sent from an external source. To use the internal effects, set the **ModE** option either to **EF M** (for internal menu control) or **4+E** or **12B+** (for external DMX control).

DMX value	EFEC value	Chase effect description
0-3	00	Off
4-7	01	Rainbow forward chase
8-11	02	Rainbow reverse chase
12-15	03	Cool white forward chase
16-19	04	Cool white reverse chase
20-23	05	Cool white outer/inner/outer chase
24-27	06	50/50 duty cycle cool white strobe
28-31	07	50/50 duty cycle red strobe
32-35	08	50/50 duty cycle purple strobe
36-39	09	50/50 duty cycle yellow strobe
40-43	10	50/50 duty cycle green strobe
44-47	11	Pulse white strobe
48-51	12	Pulse light blue strobe
52-55	13	Pulse rainbow strobe
56-59	14	Pulse red/green/blue strobe
60-63	15	Rainbow forward strobe
64-67	16	Rainbow reverse strobe
68-71	17	Pink/blue strobe (cells together)
72-75	18	Rainbow chase
76-79	19	Pink/blue chase
80-83	20	Red/blue chase
84-87	21	Red/yellow chase
88-91	22	RGB forward chase
92-95	23	Rainbow forward chase
96-99	24	RGB reverse chase
100-103	25	Static salmon pink
104-107	26	Static yellow
108-111	27	Static light blue
112-115	28	Static purple
116-119	29	Static red
120-123	30	Static green
124-127	31	Static cool white
128-131	32	Random colours - all emitters on
132-135	33	Random white - few emitters on
136-255	34	RGBW spread forward chase

## Master/slave/data indication

The right hand decimal point (data dot) of the display is used to indicate the master/slave settings and also the presence of a DMX input signal, as shown below:



Data dot ON	Master mode
Data dot FLASHING	Slave mode (DMX data input present)
Data dot OFF	Slave mode (no DMX data present)

Notes:

- Ensure that only one DMX device in the chain is set as master (e.g. the desk).
- Use **PER5 > dATA** to change between master and slave modes.
- When set to master mode, the fixture will scroll **MASTER** in place of a DMX address (when not within the menu).
- If the display has been set to auto off (**dISP > Aoff**), the data dot will remain active but at a lower brightness.

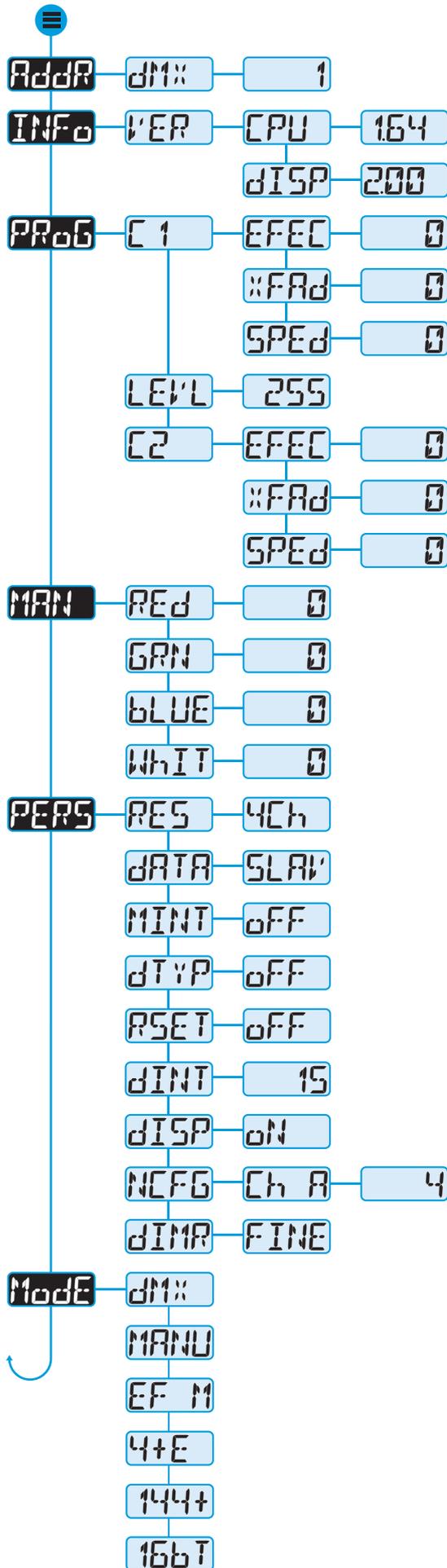
## Operation modes

The controller provides a range of operation modes. These are selected using the **ModE** section of the control menu:

- dMx** Allows RGBW control via DMX input. Internal chase effects are not available within this mode.
- MANU** Provides RGBW colour mixing independently of any external control. Use the internal control menu (**MAN** section) to select the required colour values.
- EF M** Allows the display of the dual internal chase effects, independently of any external control. Use the internal control menu (**PRoG** section) to select the required chase effects, speeds and cross fades.
- 144+** Provides control of individual emitter RGBW mixing and selection of the dual internal chase effects via DMX input. Requires 152 DMX channels.
- 4+E** Provides control of RGBW mixing and selection of the dual internal chase effects via DMX input. Requires 11 DMX channels.
- 16bT** Allows RGBW control via DMX input, using two 8bit channels per colour. Internal chase effects are not available within this mode.

Pixelline personalities are available for a variety of control desks. Please see [www.pixelrange.com](http://www.pixelrange.com) for details.

## Control menu contents



Sets the base DMX address from which the control channels will begin.

Shows the main processor software revision. No changes are possible within this option. Press while viewing this option to see the software sub-revision.

Shows the display controller software revision. No changes are possible within this option.

Selects the primary internal chase effect. See Chase effects for descriptions. Select *ModE* > *EF M* to show the selected chase.

Selects the cross fade speed between the steps of the selected *C 1* chase effect.

Selects the speed of the selected *C 1* chase effect.

Selects the master intensity level of chase effects *C 1* and *C 2*.

Selects the secondary internal chase effect. See Chase effects for descriptions. Select *ModE* > *EF M* to show the selected chase.

Selects the cross fade speed between the steps of the selected *C 2* chase effect.

Selects the speed of the selected *C 2* chase effect.

Sets the red intensity. Select *ModE* > *MANU* (manual) to show the result.

Sets the green intensity. Select *ModE* > *MANU* (manual) to show the result.

Sets the blue intensity. Select *ModE* > *MANU* (manual) to show the result.

Sets the white intensity. Select *ModE* > *MANU* (manual) to show the result.

Selects number of channels required to control all emitters. Options are *1Ch*, *4Ch* and *144C*. Emitters are grouped together accordingly.

Determines whether this fixture will act as a master controlling others. When controlled via DMX this fixture must be set to *SLAV*.

*DMX* and *16bT* modes only. When set to *ON*, enables a 16-bit master intensity control for all heads.

*DMX* mode only. When set *ON*, allows you to determine the dimmer type via DMX. This channel is always the final DMX channel. See 'Changing dimmer curve via DMX'.

When set *ON*, this option scrolls through the primary colours at power on to demonstrate correct operation of the emitters.

Determines the intensity of the four digit control panel display. Values range from 0 (dimmiest) to 15 (brightest).

When set to *FlOFF*, the control panel display will blank out 60 seconds after the menu is exited. The data dot indicator will remain active.

Determines the number of heads connected to each of the four channels. This option (together with the *MINT* setting) directly affects the allocation of DMX channels.

Provides a choice of two dimmer curves (*FINE* or *TUNG*) to suit particular circumstances. See next page for descriptions of each option.

RGBW control using an external DMX control input. *PERS* > *MINT* set to *ON* provides a master intensity in *DMX* and *16bT* modes. No chase effects are selectable.

Displays the resulting RGBW levels that are set via the *MAN* section of the internal menu. External DMX control is not possible in this mode.

Displays the chase effect(s) determined within the *PRoG* section. External DMX control is not possible in this mode.

DMX Ch1 to 4: RGBW colour mixing, Ch5 to 7: *C 1* Effect, Speed & Xfade, Ch8 to 10: *C 2* Effect, Speed & Xfade, Ch11 to 12: Master intensity (16 bit).

DMX Ch1 to 144: RGBW colour mixing, Ch145 to 147: *C 1* Effect, Speed & Xfade, Ch148 to 150: *C 2* Effect, Speed & Xfade, Ch151 to 152: Master intensity (16 bit).

16bit RGBW control using 2x the number of DMX channels determined by *PERS*>*RES*. *PERS*>*MINT* set to *ON* provides a master intensity. No chase effects are selectable.

## Head connection and configuration

Each of the four controller channels (A to D) can support up to 32 x Pixelline1 and/ or QLite heads with the aid of multiple Pixelline Intermediate Power Supplies. There is no electrical distinction between the two head styles and they can be mixed in any order within the installation.

As stated above, the controller (plus intermediate power supplies) can support up to four strings of 32 heads - a total of 128. However, the maximum number of uniquely addressable heads is 36. The 37<sup>th</sup> head will automatically be addressed in the same way as the first. The 38<sup>th</sup> will coincide with the second, and so on. Head addresses are assigned automatically according to the channel (A to D) and also the position within each string.

If you have a requirement for heads to use particular addresses, it is well worth taking the time to plan the best order in which to connect the heads. This is especially important where more than 36 heads are being used, requiring multiple heads to share addresses.

Once all heads have been connected, you need to declare to the controller how many are located on each channel so that DMX channels can be allocated accordingly. Please see Channel allocations below.

### Head connection rules

When planning and connecting heads to the controller, it is important that you adhere to the following rules to avoid any possibility of overloading:

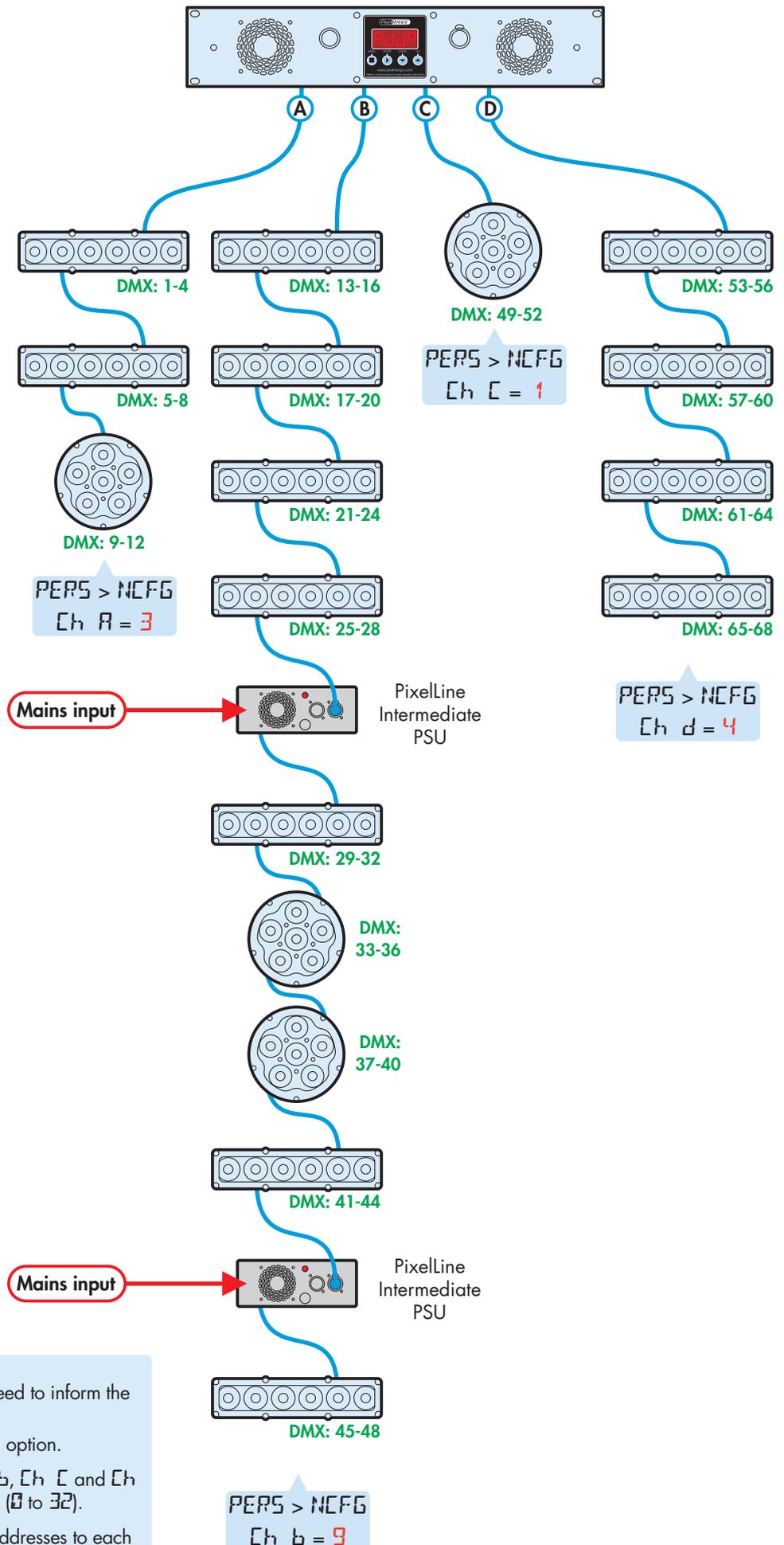
- **IMPORTANT:** The controller provides sufficient power only for the first **four** heads on each channel. After the fourth head in a string, a Pixelline Intermediate Power Supply must be placed in line to provide power for the next four heads, and so on.
- Ensure that power to the controller is switched off before connecting or disconnecting heads.
- Use only approved scroller cables that have specific data and power cores.
- The maximum total length from the main controller to the furthest head in a chain must not exceed 30 metres (98 feet).
- The maximum number of heads in any chain is 32.

### Channel allocations

Once you have connected all of the heads, you need to inform the controller how many are linked to each channel:

- 1 Access the menu and enter the *PERS > NCFG* option.
- 2 In turn, visit each channel setting (*Ch A*, *Ch B*, *Ch C* and *Ch d*), and declare the number of attached heads (0 to 32).

The controller will then allocate unique DMX addresses to each head in turn, starting with the first head on channel A and ending with the last head on channel D. *Note: After head 36, following heads are mapped back onto the first head addresses.*





## Channel layouts for 16-bit mode

When using 16-bit mode, the manner in which LED emitters are assigned to DMX channels is directly determined by the *PER5 > RES* option. The 16-bit mode does not use chase effects. The first channel of the fixture occurs at the DMX address selected using *AddrP* and successive channels for the heads follow from there.

*Note: When using the PER5 > RES = 144 setting, up to 36 heads can be uniquely addressed. If your installation exceeds 36 heads, then the DMX addressing will start again from 1 for the 37th head onwards.*

Channel	16-bit (RES=1)	16-bit (RES=4)	16-bit (RES=144)
1	All emitters (c)	All Red (c)	[Head 1] Red (c)
2	All emitters (f)	All Red (f)	[Head 1] Red (f)
3	Mast. int. (c)*	All Green (c)	[Head 1] Green (c)
4	Mast. Int. (f)*	All Green (f)	[Head 1] Green (f)
5		All Blue (c)	[Head 1] Blue (c)
6	Dimmer select** is chan. 3 if Mast. int. is OFF or chan. 5 if Mast. int. is ON	All Blue (f)	[Head 1] Blue (f)
7		All White (c)	[Head 1] White (c)
8		All White (f)	[Head 1] White (f)
9		Mast. int. (c)*	[Head 2] Red (c)
10		Mast. int. (f)*	[Head 2] Red (f)
.			.
281		Dimmer select** is chan. 9 if Mast. int. is OFF or chan. 11 if Mast. int. is ON	[Head 36] Red (c)
282			[Head 36] Red (f)
283			[Head 36] Green (c)
284			[Head 36] Green (f)
285			[Head 36] Blue (c)
286			[Head 36] Blue (f)
287			[Head 36] White (c)
288			[Head 36] White (f)
289			Mast. int. (c)*
290			Mast. int. (f)*
1			[Head 37] Red (c)
2			[Head 37] Red (f)
3			[Head 37] Green (c)
.			.
		Dimmer select** is chan. 289 if Mast. int. is OFF or chan. 291 if Mast. int. is ON	

## Channel layouts for remote effects modes

The table below shows how colour mixing, chase effects, master intensity and dimmer select controls are mapped to DMX channels for the 4+E and 144+ modes. In all modes, the first channel of the fixture occurs at the DMX address selected using *AddrP* and successive channels for the heads follow from there.

Channel	4+E	144+
1	All Red	[Head 1] Red
2	All Green	[Head 1] Green
3	All Blue	[Head 1] Blue
4	All White	[Head 1] White
5	[1] Effect	[Head 2] Red
6	[1] Speed	[Head 2] Green
7	[1] Xfade	[Head 2] Blue
8	[2] Effect	[Head 2] White
9	[2] Speed	[Head 3] Red
10	[2] Xfade	[Head 3] Green
11	Master int.(c)	[Head 3] Blue
12	Master int.(f)	[Head 3] White
13	Dimmer select**	[Head 4] Red
.		.
143		[Head 36] Blue
144		[Head 36] White
145		[1] Effect
146		[1] Speed
147		[1] Xfade
148		[2] Effect
149		[2] Speed
150		[2] Xfade
151		Master int.(c)
152		Master int.(f)
153		Dimmer select**

\* The 16-bit master intensity channels are enabled only when the *PER5 > MINT* option is set to *ON*. For 8-bit master intensity control, use the high (coarse) intensity channel.

\*\* The dimmer select channel is enabled only when the *PER5 > DTP* option is set to *ON*. Values 0 to 85 select FINE dimmer response; values 86 to 255 select TUNGSTEN dimmer response. See 'Changing the dimmer curve via DMX'.

(c) = Coarse or high channel, (f) = Fine or low channel

## DMX links and termination

This section provides useful advice for gaining reliable operation from your DMX installation:

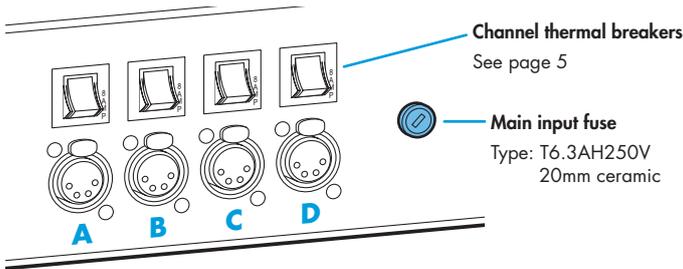
- Use good quality flexible twisted pair cable that has a nominal characteristic impedance of 120 ohms. Microphone cables have a lower impedance and a higher capacitance, which can lead to data errors.
- Use a daisychain arrangement to link fixtures together, so that the output of one fixture is connected to the input of the next.
- Connect no more than 32 devices to a single DMX run. If further fixtures are needed, then use a DMX booster to allow up to 32 more fixtures to be attached.
- Never split a DMX cable to form two branches (a Y-split). If separate branches are required, use a powered DMX splitter.
- Ensure that the devices at each end of the daisychain are both terminated using a 120 ohm resistor (usually contained within a separate XLR connector that has no cable - the resistor forms a link between pins 2 and 3). Control desks are usually internally terminated.

It is possible to get away with breaking some of the above rules, particularly on smaller installations that have short cable runs and few fixtures. However, results can be unpredictable and problems will inevitably hit you at the very worst time: During your show.

Please see the 'Troubleshooting' section for useful fault finding tips.

## Fuse access

There are five fuses located on the rear panel of the controller. Use a small flat blade screw driver to twist the fuse holder anti-clockwise until the carrier can be extracted to reveal the fuse.



## Troubleshooting

- **Display panel is blank:** Press a control panel button, if the display still does not show, check the input power and fuse.
- **No response during DMX control:** Check whether a master intensity input is required. 4+E and 4+4+ modes always requires a master intensity input. dM+ and 1EbT have an optional master intensity, depending on the setting of PER5 > MINT. If the MINT setting is off then no output will occur until a level greater than zero is applied to the master intensity channel(s). See pages 5 and 6 for details.

*Note: It is good practice to perform a factory reset before these fixtures are used on any new installation. This will ensure that settings like the MINT option are set to off and do not create the potential for confusion. See page 1 for details of how to perform a factory reset.*

- **No response during DMX control:** If live DMX is connected, the right hand decimal point on the display should flash - if not, check the DMX cable(s) and the desk output.
- **Erratic operation during DMX control:** Check the cabling for damage. Also check that all cables used are 120 ohm data cables and not microphone cables. Microphone cables have a lower impedance and higher capacitance which can adversely affect data transmission, particularly on longer runs with numerous fixtures.
- **Erratic operation during DMX control:** Check that the selected Mode matches the personality being used on the control desk.
- **Erratic operation during DMX control:** Ensure that only one DMX device in the daisy chain is set as master.
- **Rapid colour/intensity changes not occurring:** Check whether the tungsten dimmer mode is selected (PER5 > dIMP > TUNG). This would slow the reaction times of the emitters and could mean that rapid changes are blended into each other. Choose FINE for a faster reacting dimmer mode.
- **Standalone chase effects not working:** Check that a chase has been programmed using PR0B > C 1 and/or PR0B > C 2 and also that Mode > EF 1 is selected. Check also that PR0B > LEVEL is not set at zero.
- **Standalone RGBW mixing not working:** Check that one or more colour values have been set within MAN section and also that the Mode > MANU is selected.

## Firmware upgrades

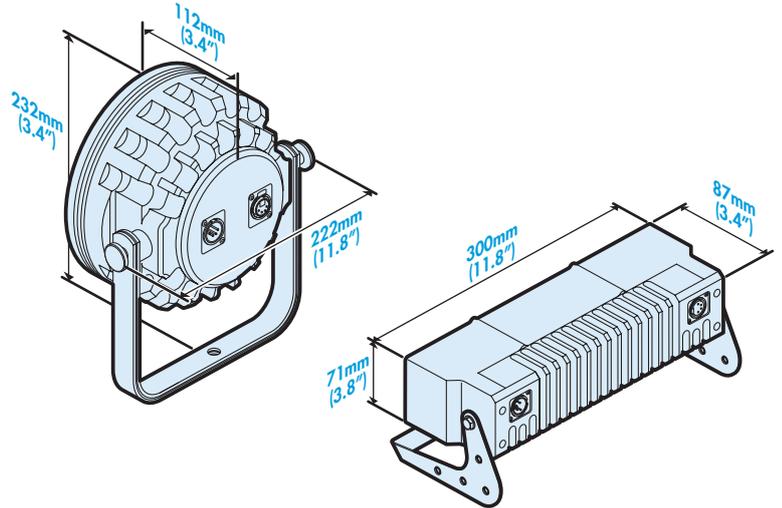
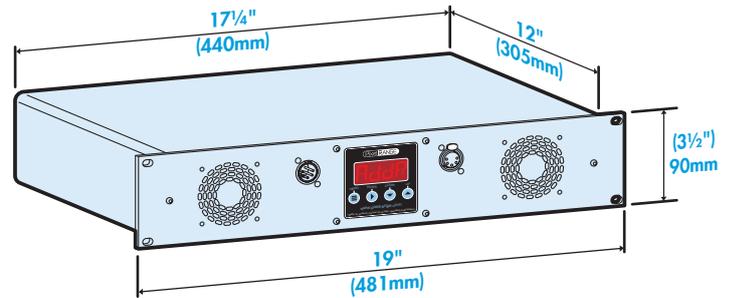
Firmware upgrades are released from time to time in order to provide new operational features. The PixelLine has been designed to allow straightforward firmware upgrading via its DMX interface, a PixelU2D USB device and a computer.

Please contact PixelRange technical support for details.

Documentation by Corporate Text & Design ([www.ctxd.com](http://www.ctxd.com))  
Release 1.64b

## Specifications

### Dimensions



### Weight

PixelLine 1 head and yoke:	2.9kg (6.1 lbs)
QLite head and yoke:	3.16kg (6.9 lbs)

### Power

Input voltage:	100 to 240V AC, 47 to 63Hz autosensing	
Connectors:	Supplied with cable only: live, neutral & earth	
Power requirements: (per head)	@ 230V/50Hz	@ 115V/60Hz
Standby	3 watts	3 watts
Maximum (const.)	55 watts	55 watts

### Approvals



### Miscellaneous

Head IP rating:	IP20 (not protected against moisture ingress)
Controller IP rating:	IP20 (not protected against moisture ingress)
Control input:	USITT DMX512 (input connector pin-out below)

