



creamsource **bender**

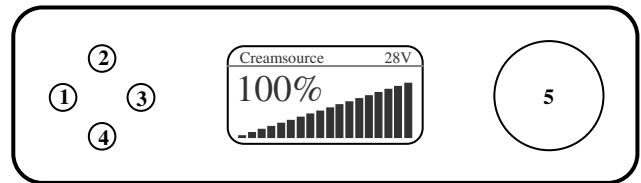
bi-colour

[quick start guide]

The Creamsource Bender is a bi-colour LED fixture which allows smooth colour mixing from 2700K up to 6500K. It also has flicker free dimming from 0 – 100% and built in effects such as strobe, lightning and dual level flash.

CONTROLS

The rotary wheel (5) controls the intensity or colour temperature of the light output. It is speed sensitive, so it can be turned slowly for fine adjustments, or quickly for rapid changes. It also is used to change other settings such as strobe frequency or dual flash level when using these modes.



Normal Operation

Under normal operation the buttons have dedicated functions:

- 1 MENU** - press to enter menu system
- 2 NEXT** - press to select next setting to adjust (then use wheel to change)
- hold for 1 second to lock/unlock the wheel, to prevent accidental use
- 3 ON/OFF** - press to turn light on and off
- 4 FLASH** - flashes light on or off when held down

Menu System

When in the menu, the buttons have the following functions:

- 1 ← Back** - press to go back a menu level. Hold to return to main screen
- 2 ↑ Up** - press to scroll up, or increase setting value. Hold to scroll quickly
- 3 → Select** - press to accept current menu item or setting
- 4 ↓ Down** - press to scroll down, or decrease setting value. Hold to scroll quickly

CHANGING COLOUR TEMPERATURE

The colour can be changed by pressing the NEXT button until the COLOUR heading is displayed. The wheel can then be used to smoothly change through the available colour temperature from around 2700K to 6500K. The display indicates approximate colour temperature, in Kelvin. NOTE THIS READING IS NOT CALIBRATED AND SHOULD BE USED AS A GUIDE ONLY.

There are two modes for colour mixing:

- Normal** - As the colour mix is altered, brightness remains constant
- Boost Brightness** - Allows for maximum brightness, however output level will not remain constant when changing colour mix

Boost Brightness mode can be enabled by selected it in the Main Menu screen.

MODES

Different lighting modes and effects are available under MENU->MODES. These modes are:

- Normal** - Normal operation of light
- Dual Level** - Flashes between two light levels when the FLASH button is pressed. Both levels can be adjusted
- Strobe** - Light strobos on and off. Frequency and Duty Cycle can be adjusted
- Random** - Random flashes. Frequency and length of flashes can be adjusted. Great for lightning effects
- Timed Flash** - Operates light like a studio strobe, where flash duration can be set from 1/5000th Sec to 1/30th Second. A modelling light level can be set also. Triggered by pressing the FLASH button, or also can be operated from external trigger source when 'External Trigger' is enabled in Triggering menu.
- Calibrate Sync** - Used to set correct phase when using external sync

Use the NEXT button to switch between settings that can be adjusted, and then the wheel to adjust that setting. The ON/OFF and FLASH buttons can also be used as normal to switch the effect on/off or to create 'bursts'.

The Mode is remembered when the unit is switched off.

LCD DISPLAY

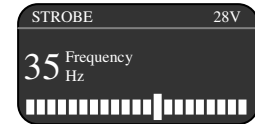
General Info Display

This is the normal display mode of the Creamsource. The current intensity level is displayed, along with additional information in the status area at the top of the screen:



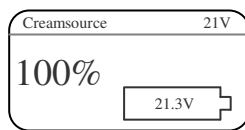
- When a DMX signal is detected, the text "DMX" appears
- When the rotary wheel is locked, a lock icon is shown
- The current input voltage is always displayed in upper right
- When an external sync signal is present, the frame rate is displayed upper right

When using special modes such as Strobe and Random, the display will change to show other settings when the NEXT button is pressed.



When the light output is turned off, the display changes to negative mode (white text on black background).

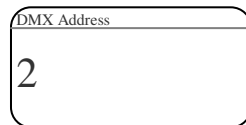
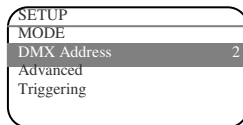
Low Battery Warning



If the input voltages falls to a level that will cause the light output to drop, a flashing battery icon is displayed at the bottom of the screen. The unit can still be operated - however you will not be getting 100% brightness, and may also damage the batteries if run too low.

Menu System Display

This display is shown when in the menu system, allowing the user to change settings. The status area now shows the current menu level, or setting to be changed. Use the \uparrow and \downarrow buttons to scroll up and down, and \rightarrow to select setting to change. Use \uparrow and \downarrow to adjust value up and down. Press \leftarrow to go back a level (hold to exit menu system)

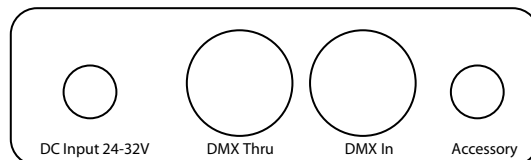


POWER SUPPLY

The Creamsource should only be used with the supplied power supply. The input is auto-ranging from 90-250V AC, 50/60Hz so can be used world wide. Care must be taken not to block cooling slots on the unit to prevent overheating. To extend the life of the power supply and connectors **plug the Creamsource into the power supply before plugging the power supply into the mains.**

The unit can also be run off 24V - 32V battery packs, providing they have the required current capability (15A/h minimum). The same power connector is used for battery operation (Amphenol Ecomate connector, 4 pin). Pins E and 1 are -ve, and pins 2 and 3 are +ve. The Creamsource has polarity protection built in, so incorrect wiring will not harm the unit.

Connectors Panel



ACCESSORIES INPUT

This 7 pin socket allows a wide range of accessories to be connected, including Remote Dimmer and Flashbandit unit. This is also the port used for firmware upgrades. See section on External Triggering for information on connector pinout.

DMX512

The Creamsource is fully controllable via the 5 pin DMX port on the back of the unit. There is also a DMX thru connector, for daisy chaining several units. When a valid DMX signal is present, the manual controls for the light are disabled. These are restored one second after loss of DMX signal.

The DMX address can be set through the menu system, with each unit requiring 2 address slots. The first address will control intensity, and the next adjacent address controls colour temperature.

For example, if the DMX address is set as 10, then channel 10 will control intensity and channel 11 will control colour temperature.

As with all DMX installations, the last unit in the chain should be terminated. This can be done through the menu system, by selecting *MENU->Advanced->DMX Terminated*.

AUTO SLAVING MULTIPLE UNITS

Multiple Creamsources can be connected together to operate in unison, without the requirement of an external DMX controller. Simply connect together with standard DMX cable between the DMX IN and DMX THRU sockets, and all units become automatically synchronised. A change on one unit (intensity, strobe etc) will be reflected on all other units. This allows for a bank of Creamsources to be operated as if they were one large source.

RIGGING

The recommended rigging position of the Creamsource is with the cooling fins in a vertical orientation, as this allows for the best natural cooling of the unit. It can be mounted in other positions; however care must be taken not to smother the cooling fins on the back of the unit to prevent overheating.

The yoke arm accepts a 5/8 inch spigot, so is compatible with a large range of stands and other rigging equipment.

If rigging the unit above people, from vehicles, moving platforms, or hanging from any rigging, be sure to secure the unit through the safety-chain holes located at each end of the Creamsource using approved and correctly rated safety wires, chains or carabiners. This is essential to ensure safety to all people and property on set, and is a precaution that should be taken in addition to other normal safe rigging procedures.

DIFFUSION AND GELS

Up to two gel frames can be dropped into the slots provided on the front of the unit.

EXTERNAL TRIGGERING

There are 2 ways of using an external trigger with the Creamsource.

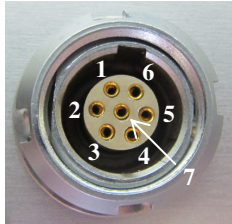
1. Effects Triggering

This allows an external pulse to trigger any effects including Timed Flash and Dual Level Flash. It is essentially a way of remotely accessing the FLASH button, and performs the same function as pressing and releasing this button.

This form of triggering can be enabled by selecting menu item *Advanced->Triggering->External Trigger*

- The Rising pulse edge triggers the effect, and is the same as pressing the FLASH button in.
- The Falling pulse edge is the same as releasing the FLASH button.

An input voltage from 5V – 12V can be used for trigger.



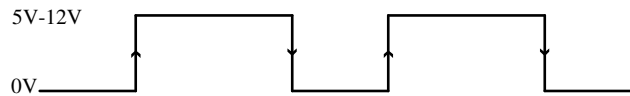
Front view of connector

Accessories Port Details

Connector Type: LEMO 1B Socket 7 Pin

Mating Plug: LEMO 1B Plug 7 Pin FGG .1B.307

Pin	Description	Notes
1	TRIGGER Input +Ve	5-12V Input, referenced to GND
2	DMX A	
3	DMX B	
4	RS232 RX	
5	RS232 TX	
6	GND	Ground Reference
7	+5V Output	Can supply up to 200mA. Can also use to drive Trigger Input, via camera switch or camera hot shoe



External Trigger Signal operates on Rising and Falling edges

Triggering using External Flashbandit sync box



There is a 3.5mm Phono Jack available on the Flashbandit Sync box, which can also be used for triggering the device. It can take 5V – 32V and has an input impedance of 180KΩ.

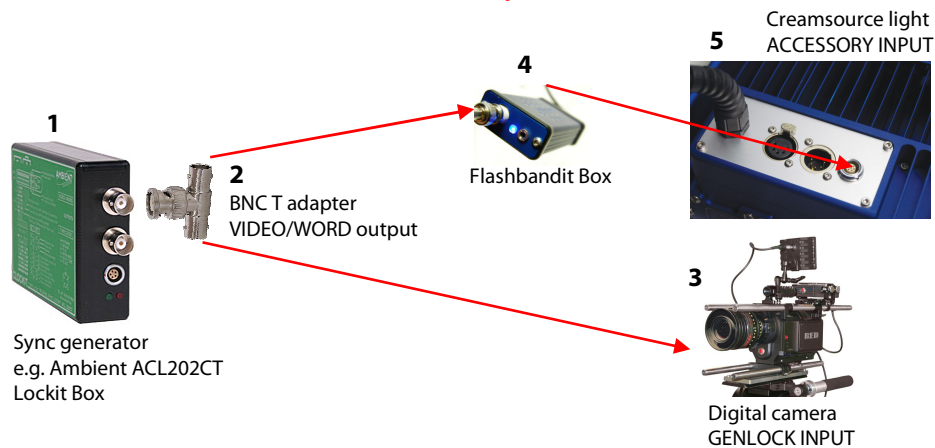
BARREL: GND

TIP: Trigger Input +Ve

2. Shutter Synchronisation

The Creamsource can be locked to an external source, such as a sync generator box (e.g. Ambient ACL202CT Lockit box), to ensure that it is synchronised with the camera shutter. This can be used to solve the frame tearing / flash banding problem most digital CMOS (and in fact some CCD/ film) cameras can have with *any* flashing or strobing light source.

It is not necessary to use sync unless using strobing or flashing effects. Used as a solid light source the Creamsource is flicker free to over 2,000 frames per second.



Setup

1. Make sure menu item *Advanced->Triggering->External Trigger* is DISABLED to use sync functionality
2. Set correct framerate and format on Lockit box [1] (see instruction manual for device). This should match the frame rate and format you intend to shoot at
3. Plug a BNC T adapter [2] into the VIDEO/WORD output of the Lockit box
4. Connect camera GENLOCK input [3] to Lockit box [2] with coaxial cable. Follow camera instructions to enable external genlock input, and make sure camera is receiving genlock signal (if shooting on RED camera, see instructions on next page)
5. Plug Flashbandit adapter [4] into Accessories input on Creamsource [5]
6. Connect Flashbandit to Lockit Box using coaxial cable – blue light on Flashbandit should flash indicating valid signal
7. Check correct framerate is shown on Creamsource display

Calibration

Before the shoot it is necessary to calibrate the Creamsource with the camera. This simple step insures that the camera shutter and Creamsource are in phase.

1. Setup as above
2. Point camera directly at Creamsource light
3. Select *MENU->MODES->Calibrate Sync* on Creamsource. It will start to flash at the locked framerate
4. Use wheel to adjust phase on Creamsource. As you change the phase, a dark band should appear to move up and down on the camera monitor. Adjust until the dark band fills the monitor completely. Shooting with wide shutter angles and at higher speeds reduces the size of the dark band, making calibration more difficult.
5. The Creamsource is now calibrated. It can be now be set to desired mode (Normal, Strobe etc) e.g. Select *MENU->MODES->Normal*

Shooting

Once the Creamsource has been calibrated, any of the modes may be used without the possibility of causing torn frames. The remote dimmer unit or DMX control can also be used safely.

If the framerate, shutter angle or the phase of the camera shutter is adjusted, then you will need to re-calibrate.

SETUP OF RED-ONE™ CAMERA FOR EXTERNAL GENLOCK

The following setup information is taken from the RED ONE™ OPERATION GUIDE BUILD 21.4.1.

GENLOCK

References Shutter scan start time (phase) to an external Tri-Level Sync genlock signal. For 3D and multicamera, permits scan time and scan phase of all cameras to be matched.

To select: Use joystick to highlight GENLOCK checkbox. Push in or down on joystick to place checkmark in GENLOCK checkbox.



GENLOCK ICON

When GENLOCK is checked, a PADLOCK icon will be displayed at the top of the EVF, LCD and all external monitors. An external GENLOCK signal generator will need to be connected to the GENLOCK connector to allow full use of this feature (refer to GENLOCK INPUT under APPENDIX D: INPUT/OUTPUT CONNECTORS



APPENDIX D: GENLOCK INPUT

A single DIN 1.0/2.3 coaxial connector accepts a Tri-Level Sync signal for video genlocking.

When operating at 23.98, 24.00, 25.00 or 29.97 Project Time Bases, set the genlock signal generator to SMPTE 274 progressive scan format, at the same frame rate as the project TIME BASE. Do not use PsF or interlaced signals.

Using an Ambient ACL202CT, set dip switches as follows: D = down, U = up, R = right, L = left

NOTE: After changing any of the above dip switch settings, power cycle the Ambient ACL202CT Lockit Box timecode unit.

Frame Rate	Dip Switch Settings
23.98 fps	1D, 2U, 3D, 4D, 5U, 6U, 7U, AR, BR
24.00 fps	1D, 2U, 3U, 4D, 5U, 6U, 7U, AR, BR
25.00 fps	1U, 2U, 3U, 4D, 5U, 6U, 7U, AR, BR
29.97 fps	1D, 2D, 3U, 4D, 5U, 6U, 7U, AR, BR

When operating at 50.00 or 59.94 Project Time Bases, set the genlock signal generator to SMPTE 296 progressive scan format, at the same frame rate as the project TIME BASE.

Using an Ambient ACL202CT, set dip switches as follows:

D = Down, U = up, R = right, L = left

Frame Rate	Dip Switch Settings
50.00 fps	- settings not verified at this time -
59.94 fps	1D, 2D, 3U, 4D, 5U, 6D, 7U, AR, BR

Connect the camera Genlock input to the ACL202CT VIDEO/WORD output using a BNC cable.