

XTBA BACKFADE

ISSUE 6 11/07/2011
Software V1.32 ABC11M or later

XTBA

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The **XTBA DMX BACKFADE** is designed to provide a multi universe lighting control back up or show playback system. Backfade is designed to be in line with the main console and can take-over a show in the event of a main desk failure. Backfade will seamlessly cross fade from the existing lighting state and then act as the main control. If the main control becomes available again Backfade can be taken off line and will seamlessly cross fade back to the main console e.g. do a Backfade.

Lighting cues are recorded via the DMX inputs and stored with manually entered fade times. Backfade can also track the show in progress allowing for a quick switch over in the event of a main console problem. Backfade uses an encoder pot with a push switch and a simple three button interface to access all the features via the 20 character, 2 line VFD screen. The VFD (Vacuum Fluorescent Display) provides greater clarity and greater viewing distance than a conventional LCD.

Backfade can also be used as a 'Replay' unit by using the sequence, link and delay system - if enabled. Memory playback can run event/exhibition lighting systems and can (if enabled) auto start on power up.

The standard 1U case can control up to four universes of DMX. Backfade is a modular system so the 1U case can have between 1 to 4 universes fitted. Additional universes can be added using the slave port and slave units. Backfade can also be supplied with a remote control that mimics the front panel and provides remote control via a five wire interface up to 1000m away from the main unit.

Backfade can also be supplied with an input card that allows simple push button panels to be made which interface to the main unit giving simple control to call memories from any or multiple locations (see the Input Card section).

Installation

The incoming DMX lines are terminated and the output is a retransmitted copy of the input. Backfade simply monitors the incoming DMX, it does not reprocess the data or modify it. When playing back the data inputs are ignored and control passes to the unit. In the event of power failure the unit will pass data through unaltered via the relay input override.

Operation

On power up Backfade will look for additional universe cards, the remote control and input card. Following the copyright message any remote or input cards found will be displayed. Certain menu options will not be offered if the remote control or input cards are not found. This keeps the menu structure as simple as possible if the peripherals are not fitted. Following this the Backfade will enter the PLAYBACK menu.

If the unit is set to limited menu only PLAYBACK and RECORD will be available – see page 10.

User controls

To the right of the screen the four input buttons control what the screen will do.
From left to right :

YES	By pushing the encoder knob activates the menu commands
GO	Initiates a fade or completes a fade
RECORD	Records incoming DMX to a memory + other record functions
ESCAPE	Escape back to the main menu

Data LEDs

The data LED(s) on the left of the unit will be lit if valid DMX is found on the input of the relevant universe.

Menu

From the PLAYBACK screen turning the encoder left or right will loop through the functions menu. Pressing the encoder in e.g. YES will enter that menu.

Main Function Key Loop

PLAYBACK → TRACK DMX 1 INPUT → RECORD MEMORY → DELETE MEMORY → SET UP OPTIONS → LINK & DELAY MENU (if enabled) →

PLAYBACK

In this mode pressing the YES key switches the unit to the PLAYBACK screen.
The upper line displays as follows on first entry:

OUT=DMX IN NEXT = 1*
FADE TIME = 1 sec

The left of upper top line shows what DMX is being transmitted. As no memories have been played back this displays DMX IN as DMX is still being passed through the unit. Once a memory has been played back the 'DMX IN' will change to display the memory number being transmitted. The right of the upper line shows the next memory to be played back.

The lower line displays the fade time associated with that memory. On the far right of the display is a star *. Pressing the YES key will toggle the star between the memory line and the time line.

With the star on the memory line the encoder can be used to change the memory number up or down to alter the next memory to be played back. As the memory number changes the time will also change. The memory line will only show memories that have been recorded and will jump to the next or last available memory as the encoder is turned up or down.

Pressing the YES button will put the star on the time line. The encoder can now alter the time of the fade. If you wish to keep this new time press RECORD and the new time will be stored. If not the changed time will be for this fade only and the recorded time will remain the same. During this time the incoming data is still being

passed through the unit. Pressing the GO key will crossfade the incoming data with the Backfade's memory in the fade time selected.

The incoming DMX is turned off but the data LEDs will still be lit if valid data is being received. The display will change to show the fade's progress. At the end of the fade the memory number will increment to the next available memory. So if we started with memory 1 the screen should look as follows:

OUT= MEM 1 NEXT = 2*
FADE TIME = 1 sec

During the fade pressing the GO button again will override the fade time and finish the fade in two seconds. Pressing the YES button will hold the fade until the GO button is pressed or the ESCAPE button is pressed which will backfade the unit so the main console will have now control.

Backfade

During playback to escape back to the main menu screen press the ESCAPE key. If a fade has run the unit will then have control of the DMX line. Pressing ESCAPE key will 'backfade' the unit in 2 seconds e.g. the incoming main console DMX will cross fade with units DMX and at the end of the fade give control back to the main console. This allows seamless switch over between the main console and the Backfade unit when entering a fade or when giving control back to the main console.

If there is no data being received on input 1 Backfade will warn you are about to fade to a blackout.

NO DMX ON INPUT 1
ESC=BACKFADE YES=ESC

Pressing ESCAPE will fade to blackout, pressing YES will return to the playback screen. Backfade only monitors input 1 so there might be valid data on any other universes fitted.

TRACK DMX 1 INPUT

Pressing YES when TRACK DMX 1 INPUT is displayed in the main menu will enter the tracking screen. Backfade can track incoming DMX only on input 1. It compares its memory with the incoming DMX and if it finds a match will display the memory number and fade time. During a fade the input levels are changing so no comparison can be made until the end of the fade. Pressing Yes will enter the tracking screen:

TRACKING MEMORY 1
FADE TIME = 1 sec

The upper line shows the memory being tracked the lower line shows the fade time for that memory. If multiple memories are found (e.g. more than one memory is

identical to the incoming DMX) the display will cycle through the available memories. If the unit can not identify a memory it will hold at the last memory it recognised.

LAST MEMORY TRACKED **MEMORY 1 TIME 1sec**

If data is lost on input 1 the screen will alternate between the number of the last memory tracked and 'NO DMX TO TRACK ON INPUT 1'.

Pressing the GO button from the tracking screen will crossfade between the incoming DMX and the memory displayed. At the end of the fade the unit will return to the PLAYBACK screen as the unit now has control over the DMX rather than the main console. Backfade will now operate as in normal playback.

Pressing ESCAPE when in the tracking screen changes the display to the PLAYBACK screen allowing any memory to be played back. Pressing ESCAPE again will take you back to the main menu.

Note on Tracking

Backfade will only track on input one. So for tracking to work correctly each memory should be different from any other in universe one. The difference need only be 1 bit (or 1% desk level) in any of the 512 channels. So in shows with a number of identical memories a channel needs to be set differently in each even if it is only by 1%.

RECORD

With RECORD MEMORY on the main menu screen pressing YES will enter the record memory screen and the record button LED will light. If no DMX is being received on input one Backfade will warn you before you can record a memory as this will give a blank memory with a fade time so the screen will change to:

NO DMX ON INPUT 1 **YES = RECORD or ESC**

If valid DMX is being received on input 1 the screen will change to:

RECORD MEMORY 1 * **RECORD TIME 1 sec**

As with playback the upper line displays the memory number to record to. The lower line displays the fade time associated with that memory. On the far right of the display is a star *. Pressing the YES key will toggle the star between the record memory line and the time line.

With the star on the memory line the encoder can be used to alter the memory number up or down. As the memory number changes any memory that has been already been recorded will have 'ovr' next to the memory number. This warns you

that you are about to over write a previously recorded memory. Pressing the YES button will put the star on the time line. The encoder can now alter the recorded time of the fade.

Pressing the RECORD button will display a screen prompt for you to confirm the recording of the memory and the record button LED will flash. Pressing the RECORD button again will store the incoming data to the memory number indicated and the memory number will increment. In this way memories can be quickly recorded. Pressing the ESCAPE button will return to the main function loop.

DELETE MEMORY

With DELETE MEMORY on the main menu screen pressing YES will enter the delete memory screen and the record button LED will be lit.

DELETE MEMORY 1 RECORD to DELETE

The memory to be deleted can be altered by using the encoder up or down. Pressing the record button will prompt a second push to delete and the red record LED will flash. Pressing record again will delete that memory. The screen will then return to the DELETE MEMORY screen. Pressing YES will then allow further memories to be deleted. Turning the encoder will then scroll through the main menu options.

Pressing ESCAPE when in DELETE MEMORIES will return to the playback screen in the event you changed your mind.

LINK & DELAY MENU – if enabled in setup

Pressing YES when Link & Delay is display will enter the menu. This screen allows links to be added so memories can be missed out (if only it was like that in life) or linked back to the start and delays added to automatically run the next cue following a delay time at the end of the last fade.

***MEM 1 LINK TO = AUTO DELAY TIME = HOLD**

The default settings for all memories are AUTO for the LINK and HOLD for the DELAY. So if no changes are made with this screen Backfade will work as normal.

On the left of the display is a *. Pressing the YES key will move the * to the top right of the screen. Pressing YES again will move it to the bottom right. Pressing YES again will put it back next to MEM. With the * next to MEM turning the encoder will scroll through the memory numbers. With the * top right of the screen turning the encoder will alter the LINK value and lower right will alter the DELAY time.

Links can be set between 1 to 99 and AUTO. Between 99 and 1 there is an AUTO position. If set to AUTO Backfade will automatically find the next available recorded memory.

Delay times can be set between 0 to 98 seconds and HOLD. Between 98 and 1 there is a HOLD position. If HOLD is displayed Backfade will stop at the end of the fade for you to push the GO button. A zero delay will advance to the next memory at the end of the last fade - e.g. automatically press the GO button. With any other delay time Backfade will countdown the delay time and then execute the next memory and the end of that time.

Delay times are calculated from the end of the previous fade and the delay time is recorded in the previous memory. For example if memory one has a 5 second delay time recorded in the Link & Delay screen, at the end of memory one's fade Backfade will wait 5 seconds before running memory two.

Recording Link & Delays

Pressing the RECORD button will give a screen prompt and the red LED will flash. Pressing RECORD again will store the link & delay information to memory.

When in the Link & Delay screen all the information is held in RAM and only transferred to stored memory by the RECORD process. So you can either press RECORD after every change (to be safe) or press RECORD before exiting the Link & Delay screen (to be quick) to store the data. Just remember to press RECORD before exiting the menu or all changes will be lost.

Pressing ESCAPE will put you back to the PLAYBACK menu screen.

During a Delay time when in Playback pressing escape will override the delay time and execute the next memory. Pressing ESCAPE again will Backfade the unit – as in escape from playback.

If a memory has been deleted the Link & Delay information is ignored and Backfade will go to the next recorded memory.

It's all a lot simpler than it sounds!

Set Up Options

Pressing YES when SET UP OPTIONS is displayed in the main menu loop will enter the options menu. The number of options will depend on any additional cards found on power up.

Set up Options Loop

LINK DEL SEQ MENU → TIMEOUT SCREEN ON/OFF → INPUT CARD ENABLE / DISABLE (if i/o cards found) → EDIT MEMORY → CLEAR MEMORY → FADE ON DMX LOSS → HOLD LAST FRAME → ESCAPE TO MAIN MENU →

Link Del Seq Menu

Pressing the YES key when Link Del Seq Menu is displayed will enter the sub menu. This controls the Link & Delay, Sequence and Sequence on power up.

Link Del Seq Loop

LINK & DELAY ON/OFF → CUE SEQUENCING ON/OFF → CLEAR LINK & DEL DATA → SEQUENCE START →

Link & Delay On/Off

If set to On the link and delay menu will be available in the main menu loop. This on/off is provided as you might never wish to link or delay and it might get in your way, if so turn it off. Pressing the yes key will toggle the link & delay menu enable.

Cue Sequencing On/Off

Pressing the yes key will toggle this function. When set to On - Cue Sequencing will automatically fade to the next available cue at the end of the last fade e.g. the unit presses the Go button for you at the end of the fade. If no links or delays are found it will simply run through all recorded memories in their recorded time (with a zero delay time, in sequence) and at the last recorded memory it will loop back to the start and carry on. If a delay time or link is found Backfade will follow that instructions. Any HOLD instructions programmed into the delay time (from the Link & Delay screen – if enabled) will be ignored.

This function allows loops (for exhibition/display work) to be simply programmed without the need to use the link & delay screen. Or if using the Link and Delay screen it is not necessary to alter any HOLD instructions in the Delay section as they will be ignored. Other Delay times (0 to 98 seconds) will be as recorded.

Sequence Start

Pressing the YES key will toggle this function. When set to On - following power up and the copyright message Backfade will display: SEQUENCE SET STARTING PLAYBACK. Backfade will switch directly into the playback screen and start running cues provided that Cue Sequencing is also on.

This function allows exhibition/displays to be run without the need of an operator to start the unit going, other than to turn it on. Might be handy, you never know ?

Pressing escape in any of the Link Del Seq sub menus will take you back to ESCAPE TO MAIN MENU. The settings are only stored on exit of this menu back to PLAYBACK.

If Cue Sequencing is enabled the Time Out Screen (if set) will be ignored.

Clear Memory

Pressing the yes key when CLEAR MEMORY is displayed will enter the Clear memory menu and prompt 'Are You Sure?'. Pressing the YES key again will enter the next screen which will ask for a PIN code. The PIN code is set for 215. (512 backwards)

Setting the code via the encoder to 215 and then pressing the YES key will clear the memory. Wrong numbers will put the unit back to the PLAYBACK screen. There is also a quick over ride press the FADE key and then press the RECORD key.

Load Default Memories

Following Clear Memory the unit can be loaded with a default memory by pressing the YES key. The default sets channel 1 @ full in memory 1, 2 @ 2 etc. The default time can also be set using the encoder. This can be useful in testing or commissioning the system. In multi universe systems channel 1 on card two will be set to full etc.

Input card Enable / Disable – if available. See Input card section

TIMEOUT SCREEN

Enabling the timeout screen in the options menu will clear the VFD screen 5 minutes after the unit was last used. The screen will then display a dot in each corner to show the system is still on line. Pressing any button will turn the screen back on but will not alter any functions until the next button press or encoder use. If the remote is fitted the remote screen will copy the main screen and timeout at the same time. Note timeout screen menu is not available if an input card is detected.

EDIT MEMORY

Note this function can only create or edit memories on the first universe.

Pressing Yes will enter the edit screen and display the memory to be edited. Turning the encoder will change the memory number (1 to 99). Pressing Yes will enter the channel/memory edit screen. Received DMX is turned off and Backfade will load the memory and start transmitting DMX so levels can be edited visually. The screen will change to:

MEM 1 CHAN 001 @ FF%
ALTERING CHANNEL

This shows which memory you are editing (or creating) the channel number selected and that channels level, if any. Turning the encoder will alter the channel you wish to view. Pressing Yes will switch to channel mode and the encoder can then be used to alter that level.

MEM 1 CHAN 001 @ FF%
ALTERING LEVEL

By toggling between channel and level using the Yes key memories can be created or modified.

RECORDING EDITED MEMORIES

Pressing the Record key will store the revised channel levels into stored memory and the screen will return to the EDIT MEMORY screen.

Pressing escape when in this screen will take you back to the main memory loop and turn off DMX transmission.

If the memory has not been used before following pressing the Record key the screen will change to :

NEW MEM 1 TIME = 1
Press REC to store

All memories must have a time between 1 and 99 seconds and as this is a new memory it has no recorded time. Turning the encoder will alter the time and pressing the Record key will store the channel levels and time into stored memory and return to the edit memory screen.

When in the channel/level screen all the information is held in RAM and only transferred to stored memory by the RECORD process. So you can either press RECORD after every change (to be safe) or press RECORD before exiting the this screen (to be quick) to store the data. Just remember to press RECORD before exiting the channel/level screen or all changes will be lost.

This is not the quickest method in the world for editing or creating memories, but with only four buttons and an encoder to play with it should do.

FADE ON DMX LOSS

Enabling Fade on DMX loss in the set up menu allows the Backfade to automatically fade to a selected memory in the recorded fade time if DMX data on input one is lost.

To use this function select PLAYBACK from the main menu screen and press YES. If there is no DMX on input one the unit will automatically go and fade memory one. If there is data the unit will monitor the incoming DMX and will cross fade to the memory selected on the playback screen if data is lost. The PLAYBACK screen can now be used as normal.

Once the fade has run 'the fade on DMX loss' is temporally disabled to prevent multiple fades if data is dropping in and out. To reset the system press ESCAPE which will backfade the unit to the main PLAYBACK menu screen.

If the i/o card is detected and enabled press escape following the backfade to re-enter the main PLAYBACK menu screen.

HOLD LAST FRAME

If hold last frame is set Backfade will retain the last frame of DMX it received before data loss and continuously retransmit it until new DMX is received or the unit is set to fade. **Note:** The DMX it last received might be corrupt (and/or have a drink and drugs problem or be running for public office) as the desk fails or the XLR is disconnected as there is no error checking in DMX512.

ESCAPE TO MAIN MENU

Pressing the ESCAPE key in any of the set up sub menus will take you directly to ESCAPE TO MAIN MENU screen. Pressing the encoder YES will then store any changes in the set up to memory and return to the PLAYBACK screen. Alternatively turn the SET UP options encoder until ESCAPE TO MAIN MENU appears then press the encoder YES.

LIMITED MENU

On power up if the fade button is pressed Backfade will toggle the limited menu option. If set on only PLAYBACK and RECORD are available. This keeps the operation simple in day to day use. Powering the unit off and on again holding down the fade button will restore the unit to the full menu.

Screen Brightness

The brightness of the VFD display can be altered to 1 of 4 levels. This is not a menu option but is entered during power up. Once the unit is powered up pressing and holding the ESCAPE key during the copyright message will enter the screen brightness menu. With the ESCAPE button still held down pressing the RECORD button will cycle through the four levels of brightness. Releasing the ESCAPE button will set and store the screen brightness.

Input Card

Backfade can be supplied with an Input card that allows memories to be faded from remote positions via simple cable connections. In addition the buttons can have a LED fitted to show the memory in use driven from the same button control line. The Input card can have up to eight buttons that (via the button patch) can fade the unit to any of the eight memories selected. Button nine is the backfade button that will return the DMX control back to the main console.

On power up Backfade will detect the Input card if available and switch directly into the playback screen, tracking is also automatically disabled.

The inputs are only available when the playback screen is in operation and the Input card is enabled.

So if the unit is set from the front panel to another screen the Input card is ignored. When the Input card is detected an additional function is added into the SET UP menu.

Input Card Enable/Disable

Pressing the YES button will toggle the Input card on or off. This on/off state is stored in memory and is retained when power is turned off. Pressing the ENTER button will take you to:

PLAYBACK MENU DISPLAY

In the PLAYBACK enter display if an Input card is detected and is enabled the second line will show 'INPUT CARD ONLINE'. Pressing the YES key will enter playback and allow the input card to take control.

Fades can be controlled from either the main unit or the Input card or the Remote.

The Input card is only active when a fade is not running. During a fade the Input card is ignored. So pressing another button or the backfade button on the Input card will have no effect during a fade as the command is ignored.

POWER SUPPLY

The mains input to the transformer is via a 2A a/s fuse. A spare fuse is provided in the input connector block. The Backfade is fitted with switch mode PSU which will auto select 100 - 135VAC or 210 -250VAC.

19" RACK MOUNTING

The XTBA Backfade is provided with a pair of 'ears' for fitting into a 19" rack frame. The ears are fitted to the unit by removing the two screws on either side at the front of the unit. The stick on rubber feet (used when the unit is free standing) will need to be removed from the underside of the unit.

Technical Specifications 19" Rack.

Memories	99 memories. Full 512 channels
Memories Store	Non Volatile Flash EEPROM
Dimensions	230/270mm inc. front handles x 40mm
Weight	4.0 Kg
Power	110 to 250V – auto switch Nominal 1A@ 230V AC
Receive Data	DMX512 1986/1990
Transmit Data	DMX1990 – 100us BRK, 12us MAB, 44 updates p/sec
Pin Configuration	Pin 1 Common, Pin 2 minus data, Pin 3 plus data. Pins 4 and 5 are not looped through.

General Information

This product may only be used for controlling dimmers and moving lights. It must not be used in DMX512 applications for stage machinery or pyrotechnics. Using the product out of these specifications will remove all responsibility from the supplier.

CE Declaration of conformity

XTBA declares that the following equipment meets the requirements of the EMC Directive 89/366/EEC.



WEE/FC2753ZS