focus BRAIN XL

512 channel intelligent wireless DMX riggers remote

Users Manual

Software version: 3.0

ELC

Version: 0404

focus BRAIN XL

System description

focus BRAIN is the enhanced version of the success full focus HAND. Where the focus hand was mainly meant as a third hand for focusing lighting fixtures, replacing the person behind the lighting desk and the intercom. The focus BRAIN has more possibility's.

- Intelligent wireless remote control for DMX-512
- 512 Channels selectable from ranges 1-512 or 513-1024
- Connected between console and dimmers
- Merging remote- and console DMX in HTP
- 51 memory's
- 50 groups
- X-Fade possibility, x-fadetime can be programmed to each memory
- Focus and Scene mode
- Direct memory mode, including Go button
- 2 Contact closure inputs, as Go or emergency scene
- 2 Contact closure outputs, to be controlled by the remote
- Remote (de-)activation
- Hardware bypass via a relay in case of power failure

The focus BRAIN can store and recall up to 51 memories. These memories can be created on the remote unit's and / or capture of the DMX input from the lighting desk. Memories can be called up directly or with a x-fade time up to 10 sec. The x-fadetime can be programmed for each memory individually. A default memory can be created to be automatically recalled at power on.

The DMX input from the lighting desk can be merged with the DMX created inside, so that 1 person can focus the fixtures while the other is programming the lighting desk.

This means focus BRAIN is a versatile controller for the lighting This product may only be used for controlling dimmers and moving lights. Using the product out of these specifications will remove all responsibility from the supplier

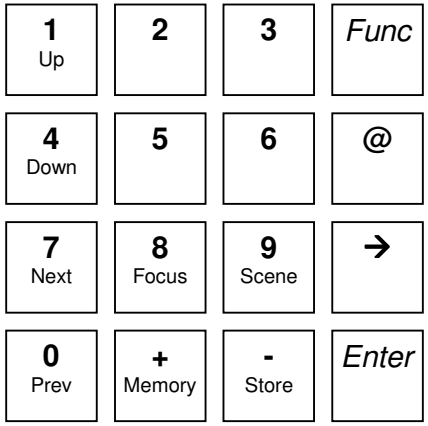
Getting Started

The focus BRAIN XL system consists of 3 parts, the remote, antenna and 19”-unit.

The remote unit
The remote has 16 keys and 1 slide switch. The slide switch is for power on. However the power consumption is minimal, so battery life is not really shortened, because depressing a key activates the unit. The switch is mainly used as a safety against unwanted key presses when the unit is in the pocket.

Battery replacement
Because of the often rough circumstances in which the unit can be used, the battery compartment is closed with normal M3 screws instead of clips. To replace the battery, remove the two screws at the bottom, replace it with a fresh one and close the lid with the same (4mm) screws. Be sure not to throw the old battery in the normal dustbin, but remove it adequately. Using alkaline batteries is recommended.

Keypad layout



Key illumination

The keys on the unit are illuminated. While a key is pressed the unit is transmitting, indicated by bright illumination of the keys. When releasing the key the illumination stays on for a period of time. The time(out) can be programmed on the remote unit following these steps:

1) switch off the remote unit (slide switch on top)
2) press and hold FUNC, @, → or ENTER
3) switch on the remote unit (slide switch)
4) wait until keys are blinking (± 5 sec)
5) release the key

The time is now programmed to:

Key	*Time*
FUNC	5 seconds
@	12 seconds
→	25 seconds
ENTER	never turn off

Active antenna
However the range indoors is specified up to 70m, steel tubing (trusses/pipes) and building skeletons can influence this. To overcome this problem the active antenna is separate from the receiver unit. The connection in between is standard microphone cable, up to 100m. The best position for the antenna is in the middle above the front of the stage.

Main 19" unit

The receiver has 4 connections plus a mains input. The mains input voltage can be selected 110V(115V) or 220V(230V) on the back. Connections are the DMX input and DMX output on 5 pin XLR.

DMX connection

Pin	*Description*
1	Ground/Screen
2	Data -
3	Data +
4	loop thru to other XLR5 pin 4
5	loop thru to other XLR5 pin 5

When the power is off or the unit is not activated the DMX input is directly connected to the DMX output by a relay.

RS-232 connection (SUB D9 female) for software updates.

Pin	*Description*
1	-
2	TX
3	RX
4	-
5	Ground
6	-
7	Reserved
8	Reserved
9	-

3 pin XLR connection is for the active antenna.

Pin	*Description*
1	Ground/Screen
2	Signal
3	+8V supply

The LED's on the front indicate power on, active, receive and DMX input.

LED	*Meaning*
On	Power is on and internal processor is working
Active	DMX control is taken over from the lighting desk
Receive	Signal is received from the remote
DMX	DMX input ok

On the back of the 19"-receiver unit there are 4 switches for option selection.

Switch	*Off*	*On*
1	Default focus mode	Default scene mode
2	DMX-A (channel 1-512)	DMX-B (channel 513-1024)
3	Fast level selection	Precise level selection
4	Normal operation	Direct Memory

If all 4 dipswitches are down (On) the focus brain is in special showstore mode. Look in the showtore manual for details.

Contact closure connection (SUB D9 female)

Pin	*Description*
1	Shield
2	Output 1+
3	Output 2+
4	Input 1+
5	Input 2+
6	Output 1-
7	Output 2-
8	Input 1-
9	Input 2-

Operation

Activation / deactivation

The focus BRAIN must be activated in order to control the dimmers. On activation the output DMX is sent from the FB and can be the result of merging the DMX from the console (DMX input) and the internally created DMX channels on a HTP basis. On deactivation the DMX input is looped through the FB.

To activate the unit, with merging enabled, press:
+ + Enter

To activate the unit, with merging disabled, press:
+ + 0 Enter

To switch on / off merging use + + Enter to enable merging, + + 0 Enter to disable merging.

To deactivate the unit press:
- - Enter

Dimmer selection

For dimmer selections there are 2 modes: Focus and Scene. The Focus mode is intended for quickly selecting a single dimmer or a group of dimmers and clearing the rest of the stage. Each time a new set of dimmers is selected, all the other channels are cleared. The Scene mode is intended for easily creating a scene. When selecting a new set of dimmers the other channels remain the same.
The default mode the FB comes up in is depended upon dipswitch 1

Select a single dimmer at Full (100%)

1 Enter	dimmer 1 at 100%

Selecting multiple dimmers at Full

2+5 Enter	dimmers 2 and 5 at 100%
2→5 Enter	dimmers 2 through 5 at 100%
2→5+9 Enter	dimmers 2 through 5 and 9 at 100%
2→5–4 Enter	dimmers 2,3 and 5 at 100%

Adding channels

To add channels in Scene Mode just use sequences described above. In Focus Mode its necessary to “add” channels by using + before your selection, other wise it will clear all previously selected channels.

+5 Enter	add channel 5 at 100%

Removing channels from the selection

To remove channels use –:

-6 Enter	remove channel 6
-3→6 Enter	remove channel 3 to 6

Remove all channels / Clear Stage

0 Enter	clear all channels

Toggle / Undo

With Enter its possible to toggle between 2 settings. Each change will make a new setting, so its possible to change to the previous setting and back again.

1 Enter	channel 1 at Full
3 Enter	channel 3 at Full channel 1 clear (Focus)
Enter	channel 1 at Full channel 3 clear
Enter	channel 3 at Full channel 1 clear

Selecting the Channel level

The channel level can be set in two ways, quick and precise, selectable by dipswitch 3. The quick mode uses only 2 key presses. The precise uses 3 or 4 key presses.

Quick level Mode (dipswitch 3 is OFF)

To set a level in Quick level Mode press @ followed by 0 to 9 or Enter. 0 will clear the dimmer, 1 to 9 will give levels from 10% to 90% and Enter will give a level of 100%

… @ 0..9,Enter

1 @ 5	this will bring up dimmer 1 at 50%
34 @ 0	this will clear dimmer 34

Precise level Mode (dipswitch 3 is ON)

To set a level in Precise level mode press @ followed by 1 or 2 digits and Enter. When entering 1 digit, this will set the level in 10%-steps. Using 2 digits it's possible to set the level in 1% steps. Pressing Enter directly after @, the level becomes 100%.

… @ [0..9] [0..9] Enter

1 @ 5 Enter	dimmer 1 at 50%
1 @ 05 Enter	dimmer 1 at 5%
3 @ 25 Enter	dimmer 3 at 25%

Function Keys

With the Function key (Func) it is possible to call up the secondary function of a key.

Adjusting level and stepping through channels

To step thru channels and adjust the level press Func, then use *Up*, *Down*, *Next* and *Prev*. When finished press Enter. The function of *Up*. *Down*, *Next* and *Prev* depends on the mode.

Focus Mode:

Up:	Increase level of currently selected channels
Down:	Decrease level of currently selected channels
Next:	Shift up the selected channels
Prev:	Shift down the selected channels

Scene Mode:

Up:	Increase level of currently selected channels
Down:	Decrease level of currently selected channels
Next:	Shift up the selection of the channels
Prev:	Shift down the selection of the channels

Selecting Focus or Scene Mode

With dipswitch 1 it's possible to select the power up mode focus/scene. This can be changed online by pressing:

Func *Focus*	select focus mode
Func *Scene*	select scene mode

Working with Groups

A group is a selection of 1 or more channels. The → key is used for groups. 50 groups (1 – 50) can be used.

To create a group, create a scene with all the channel you want in the group at a level greater than 90%. This can also be done by using the console connected on the DMX input.

To store the Group:

- Press Func
- Press → (Thru)
- Type in the group number
- Press Enter

Using groups

Groups can be used during channel selection. The → key is used as GROUP.

Example

→ 1 Enter
will set all the channels in group 1 to full

→ 2 – 4 Enter
will set all the channels in group 2 except channel 4 to full
→ 2 → 4 Enter
will set all the channels in group 2 and 4 to full
1 → 10 - → 5 Enter
will set channels 1 thru 10 except the channels in group 5 to full

Memories

The Focus Brain can store up to 51 memories of all 512 channels. Recalling a memory will create a new setting. The setting can be changed and saved as a different memory. Storing a memory will store the full DMX output being a merged combination of internal DMX and DMX input from the console.

Memory Recall
To recall a memory press

Func *Mem* 1 Enter This will recall memory 1.

It is also possible to recall a memory with a fade time. The fade time can be from 1 to 10 (digit 0 is 10) seconds. To select recalling with fade time press @ [digit] instead of Enter after the memory selection.
Func *Mem* 12 @ 5 This will recall memory 12 with a fade time of 5 seconds

Memory Store
When storing a memory, the full DMX output including the DMX input is stored if merging is enabled. To store a memory press:

Func *Store* 1 Enter store memory 1
Func *Store* 23 Enter store memory 23

Storing a memory with a fade time is done by typing @ .. instead of Enter:
Func Store 1 @ 1 store memory 1 with a fadetime of 1 second
Func Store 10 @ 0 store memory 10 with a fadetime of 10 secondes (digit 0 → 10)

Direct memory mode

In direct memory mode (dipswitch setting), the focus mode is replaced by a memory selection mode. To recall a memory type in the number and press enter.
10 Enter → Recalls memory 10
10 @ 5 → Recalls memory 10 in 5 sec fade
Pressing Enter will call up the next memory with it's programmed fade time, acting like a GO.

You can switch between memory selection and scene mode by: Func Scene
Or back by: Func Focus

Memory 0: power on memory

If memory 0 is stored with at least 1 level higher then 0%, then on power up the 19"-unit will be automatically activated and memory 0 recalled with a fade time of 1 sec.
To store memory 0 press: Func Store 0 Enter

Contact Closure Inputs
The 2 contact closure inputs have the following functions, when pulsed.
- Input1: recall memory 1, with it's programmed fade time
- Input2: recall the next memory, with it's fadetime

Contact Closure Outputs
The 2 contact closure outputs can be controlled by the remote
Func 2 + → activate output 1
Func 2 - → deactivate output 1
Func 3 + → activate output 2
Func 3 - → deactivate output 2
Press enter to go back to the main (selection) menu.

General Information

CE – Product
The Focus Brain System permits to the CE requirements set-up by the European Community. This can be recognized by this label on the outside of the product.

CE

FCC NOTES (914,5MHz US version):

NOTE:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTE:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

In order to maintain compliance with FCC regulation shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio & television reception.

CAUTION:
Changes or modifications not expressly approved by ELC lighting and Leprecon LLC may void the users authority to operate this equipment.

R&TTE regulations (433,92MHz EU version):

The HF modules used are designed and manufactured by Radiometrix (UK) and approved to ETS 300-220-1.
The transmitter is approved according R&TTE guideline 1999/5/EC and carries the declaration CE0889!
The unit is approved for use in the following countries in Europe:
A,B,DK,FIN,F, D,EL,IRL,I,L,NL,P,E,S,UK,IS,NO,CH

Technical Specifications

Remote Unit:

Output:	UHF 433.92 MHz, 10mw maximum
Antenna:	Helical
Working range:	75 meter indoor, 200 meter in free field
Power:	9 Volt 6F22 battery
Keys:	16 keys
Size / Weight:	115 x 65 x 20 mm (excl. antenna) 280 gram

Active antenna:

Connector:	3 pin male XLR
Cable:	1 meter, extendable up to 100 meter
Size:	100 x 50 x 25 mm

Main 19” unit:

Output:	DMX 512 (1990) on 5 pin female XLR
Input:	DMX 512 (1990) on 5 pin male XLR
Signalization:	4 Leds
Power:	115V / 230V selectable at the back, 6VA max
Dimensions	19” 1HE rack unit 483 x 44 x 150 mm

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