LSP SOUND SYSTEM
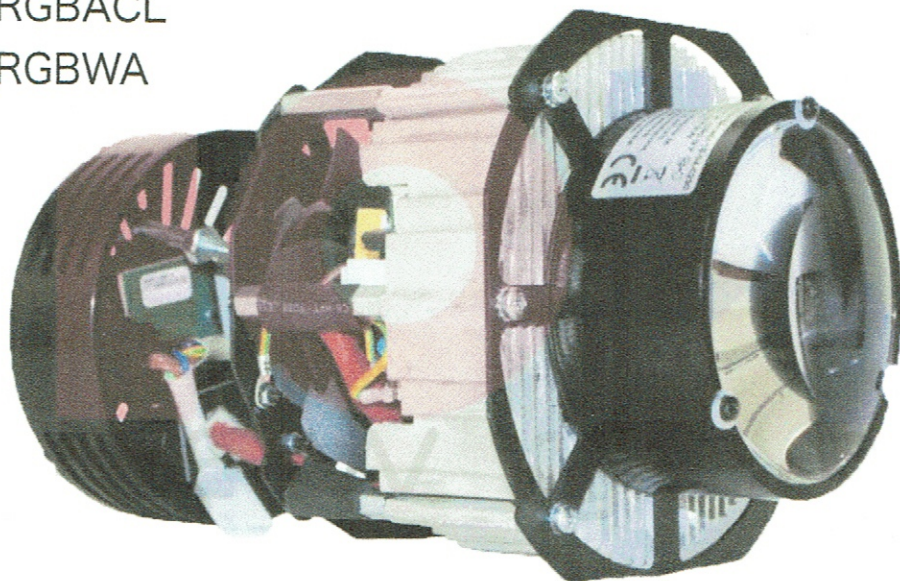
LED RGBACL Engine
Owner's and service manual

この度は、S4 LED エンジン RGBACLをお買い上げ頂き、誠にありがとう御座います。この製品を安全にご使用頂く為、必ずお読み頂きますようお願い申し上げます。本製品はETC Tungsten Source 4のライトエンジンをLEDエンジンと交換してSource FourをLED化する製品です。

全5種類
- ■ Tungsten only 3000°K
- ■ Daylight only 5600°K
- ■ Tuneable white variable from 3000° to 5700°K
- ■ Coloured RGBACL
- ■ Coloured RGBWA

Unpacking

Unpack the carton and gently remove fEEbEE LED Engine from the box. Ensure all parts are included (see below).

In the event of damage, do not attempt to use the engine. Contact both the courier/freight company and your dealer immediately.

Items in the carton consist of:
fEEbEE LED Engine Module
Rear metal cover with input connections
Blue Neutrik PowerCon connector
This owner's manual

⚠ Safety information for the use of the fEEbEE LED Engine and periodic maintenance instruction.

Users must scrupulously comply with information/indications that follows

fEEbEE LED Engine must be installed in original "**ETC Source 4**" fixture only. Any other use will void warranty and will free the manufacturer of any sort of responsibility and liability.

Never utilise fEEbEE LED Engine assembly alone as it must always be housed in original ETC Source 4 barrel.

Minimum distance from any flammable source is of 0.25m.

Minimum throw distance from illuminated surface: 0.5m.

Installation of the unit(s), including external Source 4 body, must be secured with adequate clamps, safety cords, nuts and bolts to bear at least four times the weight of the whole unit(s)

Always Power fEEbEE LED Engine from safety circuit breakers

Install fEEbEE LED Engine in ventilated ambient which temperature must not exceed 35°C

fEEbEE LED Engine is NOT for domestic use. fEEbEE LED Engine can only be used for professional applications

Some outer parts of the ETC Source 4 can reach temperatures of up to 60C° when fEEbEE LED Engine is operated

fEEbEE LED Engine must be fitted with protection shields (Lenses)

On no account, directly or indirectly, LED must be touched as it may impair its use.

Essential and periodic cleaning throughout of the fEEbEE LED Engine is recommended. This practice avoids layers of dust and other impurities building up — jeopardising and reducing the correct operation of the unit. Lenses must be cleaned to remove layers of dust that may impede and or reduce the passage of the light through the lenses. Correct and periodic maintenance will keep fans and vents clean, thus ensuring the fEEbEE LED Engine runs optimally. Never touch, directly or indirectly, the Yellow core of the LED nor use solvents that can damage the LED irremediably. Protection shields if battered/worn, must be replaced with new ones (Lenses)

⚠ Warning from electric shocks

All operations must be accomplished, handled and carried out by qualified personnel only

Warning High voltage hazard, always disconnect Power before handling or servicing the fEEbEE LED Engine

Do not handle fEEbEE LED Engine with humid/wet hands or when near water or any kind of moisture source.

Only connect fEEbEE LED Engine to the mains via safety device switch that cuts power off in case of danger

The fEEbEE LED Engine does NOT and CAN NOT be operated via Phase control dimmer nor connected/operated in NON-DiM mode

fEEbEE LED Engine is rated Class I

Earth connection is mandatory!

CE Approvals

The fEEbEE LED Engine products to which this manual refers to, complies with European directive pursuant to:

2014/35/EU safety of electrical equipment supplied at low voltage (LVD)
2014/30/EU Electromagnetic compatibility (EMC)
2011/65/EU Restriction of the use of certain hazardous substances (RoHS)

Technical specifications

Power Supply 100-240 V~ 50/60Hz
Maximum power consumption 175W
Stand-by power consumption 3W
Minimum ambient temperature -10°C
Maximum ambient temperature 35°C
LED Colour RGBACL: Red; green; blue; amber; cyan; lime
30 coloured presets
10 Preset white between 2.300°K and 10.000°k
LED CRI: minimum CRI : 93> and 98>(depending on the selected white)
10 white presets from 2,300 ° K to 10,000 ° k
LED Life (see Manufacturers ' specifications)
Weight: 2,49 Kg
IP Rating: To be housed in original ETC Source 4 fixture only
Working position: Any
Power connectors: IN & OUT Neutrik PowerCon
Data connectors: IN & OUT XRL5
Data protocols: DMX 512; RDM ready
User interface: 4-digit display and 4 buttons
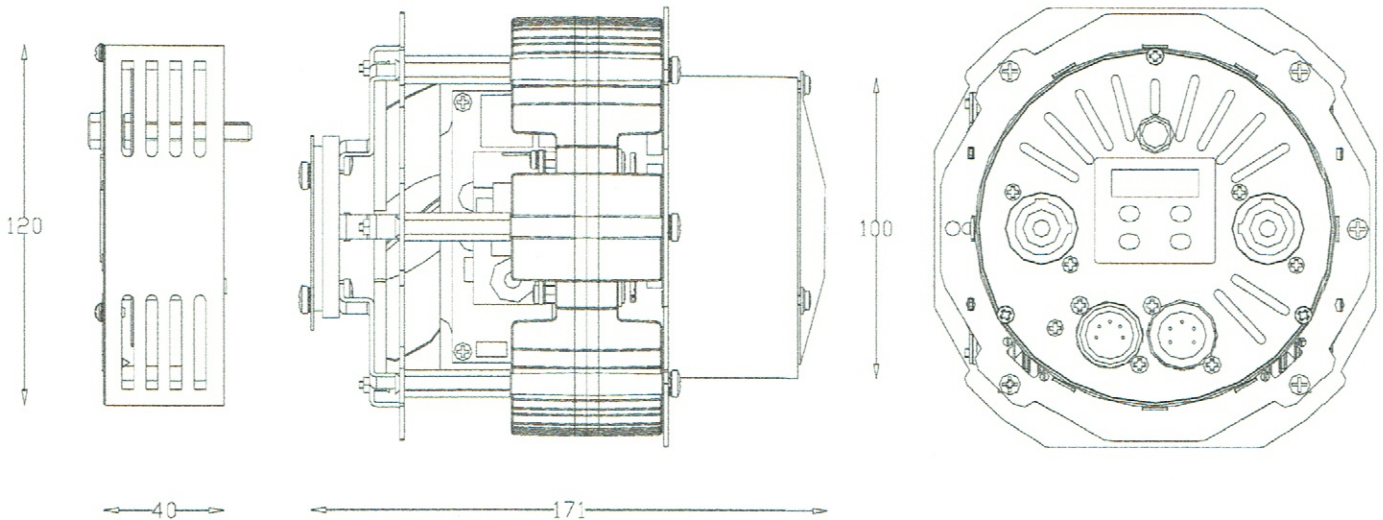Manual operation: Users must operate via buttons provided on the display
Fan control: Fan speed adjustment
Control of LED frequency: Selection of LED frequency refresh
4 Dimming curves control: Selection of four dimming curves control

Compliant: $C \epsilon$
Dimensions (see picture):

fEEbEE LED Engine installation

fEEbEE LED Engine has been designed to be installed in any original "ETC Source 4" fixtures. Some parts of the existing "ETC Source 4" fixture must be removed to fix the module in
Course of actions:

1. **Disconnect any kind of power/source from any item being handled, that could cause electric shock**
2. Loosen the knobs that hold the front lens assembly, remove it and place it aside in a safe place
3. Locate rear section of the Source 4 fixture, then start loosening knob that holds the round plate in place until it is totally separated from the main body. You may either store or scrap this part. **HOWEVER LOCK-WASHER AND THE M4 SCREW USED TO HOLD THE GROUND CORD ON THE ETC SOURCE 4 BODY MUST BE RETAINED AS THEY WILL BE USED FOR THE NEW GROUND CORD PROVIDED WITH THE fEEbEE LED Engine FIXTURE.**
4. **For your own safety, from this point onward, we recommend that you wear protection gloves and eye protection goggles. We advise you to watch the video at this link** How To Remove an ETC Source Four Reflector**. This will help you to disassemble the glass reflector.**
5. Place fEEbEE LED Engine on working bench and start loosening the three M4 screws that hold the metal ring (marked by red arrow in figure 2).
6. Accommodate the fEEbEE LED Engine in the Source 4 body. Ensure the correct inward direction is followed as remarked by the two red circled references. Also make sure to follow the red arrow direction as shown in figure 3. During such operation make sure that the three connecting cables (i.e. power cable, DMX cable and display cable) are not squeezed, while being fed through loop-holes during reassembling of the unit.
7. Remount the metal ring to its former position; tighten now the three provided M4x6 screws to their full extent. Do not exceed tightening.
8. Connect the three cables to the rear metal cover provided, ensure that connectors are inserted correctly. Special attention must be paid to the **flat cable** as it must be handled with extreme care while connecting its ends. (if the flat cable is squeezed or impaired it can cause malfunctioning of the product)
9. Ensure that all cable connections are neatly and clearly set to their positions avoiding any contact, interference, interconnections, interpositions with fans and other interfering components that might collide, squeeze hamper the correct operations and eventually damage the product.
10. Remount the rear metal cover to the Source 4 body using an 11mm spanner; tighten the screw to its full extent. Do not exceed nor force tightening.
11. The lock washer and the M4 screw used for holding the eyelet-cord to ground the fixture as mentioned in point 3, must be used to secure the new eyelet-cord to ground/earth the fixture as shown in fig.6
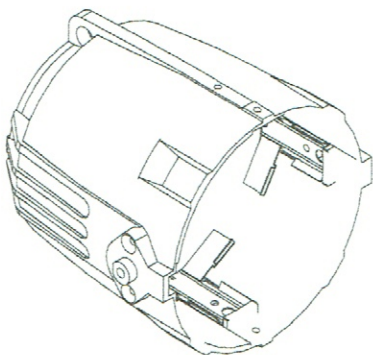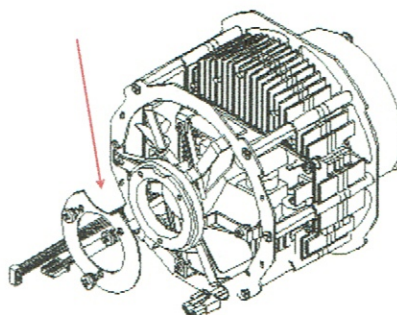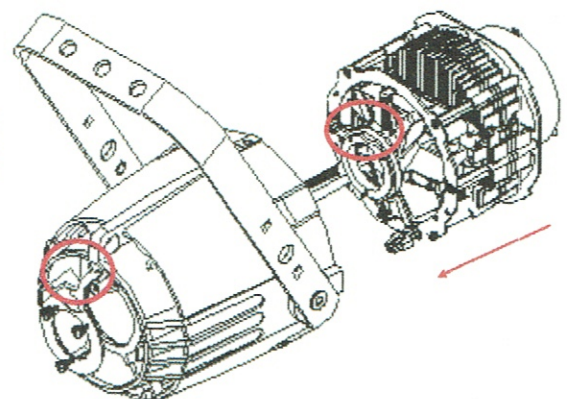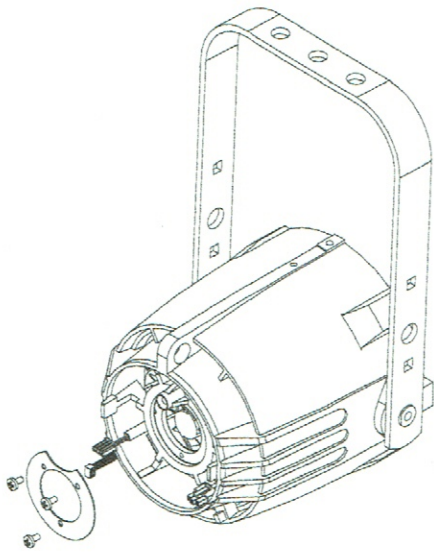

Fig.1   Fig.2   Fig.3

Fig.4
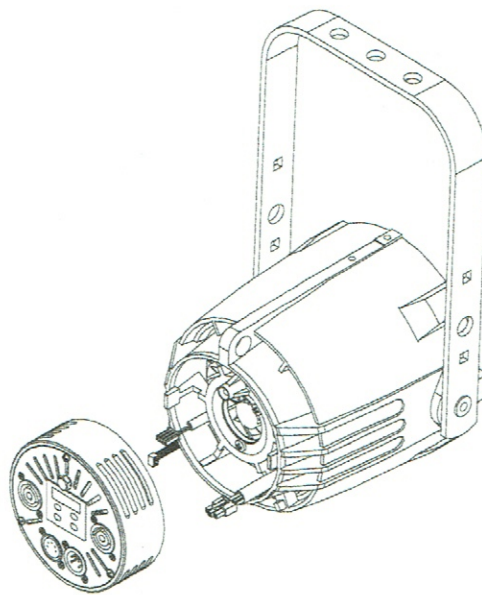
Fig.5
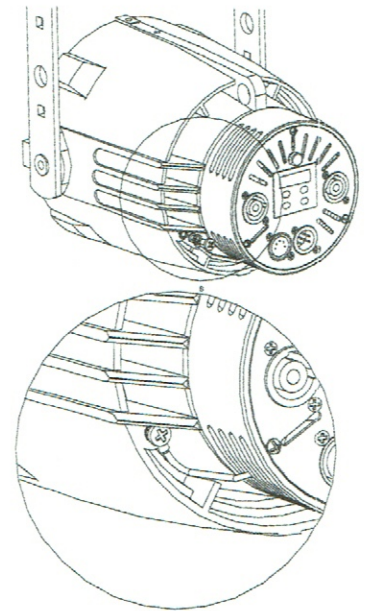
Fig.6

⚠ Connection to mains

WARNING ! Installation must be accomplished, handled and carried out by qualified personnel only and must comply with all norms in force in the installation's country

fEEbEE LED Engine is supplied with a free-Blue Neutrik PowerCon plug that must be wired using a 1.5mm² cable with the following specifications:
Operating Voltage: 300/500V
Test Voltage: 2KV
Operating Temperature: -10°C / +35°C
Connect blue wire to N terminal, brown wire to L terminal and Yellow/Green wire to earth terminal. Ensure the use of safety circuit breaker at all times. Daisy chain of up to 10 units is permitted when connected to 230VAC. Daisy chain of up to 5 units is permitted when connected to 110VAC. Maximum daisy chain length: 20m.

⚠ **WARNING:NEVER CONNECT fEEbEE LED Engine ENGINE TO ANGLE PHASE DIMMER PACK NOR TO NON-DIM MODE**

Fig.7

Fig.8

DMX XLR 5 Pin Assigment	
pin	Description
1	GND
2	DMX-
3	DMX+
4	Not connected
5	Not connected

Signal control connection

fEEbEE LED Engine can be operated via either DMX512A and or RDM ready
Protocols. For Daisy chain DMX line use a-2 lead wire plus shield.
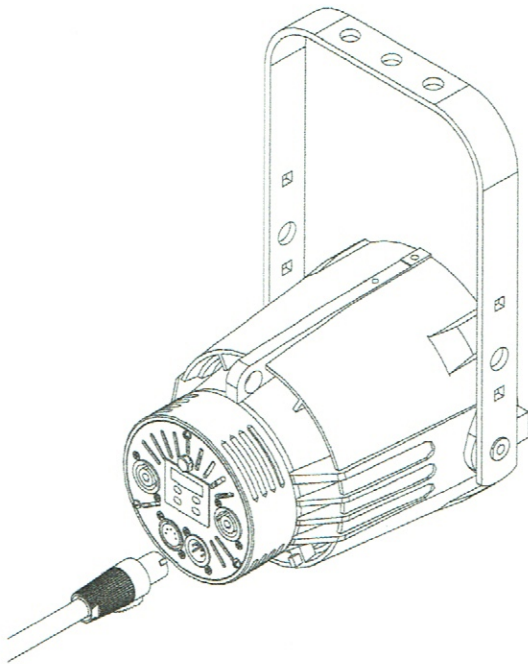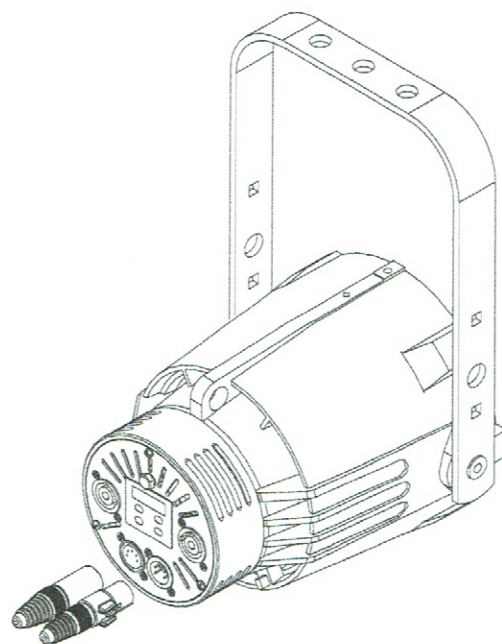Red led blinks when DMX Input is available. DMX off line when led is off

RDM – Remote Device Management

RDM Controller allows for remote standard operations
RDM default options include:
Discovery mode: RDM is engaged when controller incepts this mode, the device reports itself by giving a flash of light (Controller sets the device in a listing to read: settings, DMX address, personality settings, (Read all DMX mode including all DMX channels above)
ON/OFF "Identify": This mode is used to identify the manufacturer's device (10K). It gives a flash of light from the LED
Model information (fEEbEE LED Engine)
Software version information (fEEbEE LED Engine v.x.xx)
Mode to reveal temperatures of the LED and of the driver
Mode to reveal hour-meters of the LED and of the device

Power fEEbEE LED Engine ON

WARNING ! Before powering fEEbEE LED Engine ensure that all installation procedures have been properly set and accomplished.

When fEEbEE LED Engine is powered the setup display will show the software release version. The UP, DOWN, ENTER and ESC buttons will allow the operations of fEEbEE LED Engine menu. UP and DOWN buttons allow to browse through menu options, the ENTER button is to confirm selection. The ESC button is to return to the previous menu or to quit previous setting(s).

POWER OUT
WHITE

POWER IN
BLU

UP   ENTER

DOWN   ESC
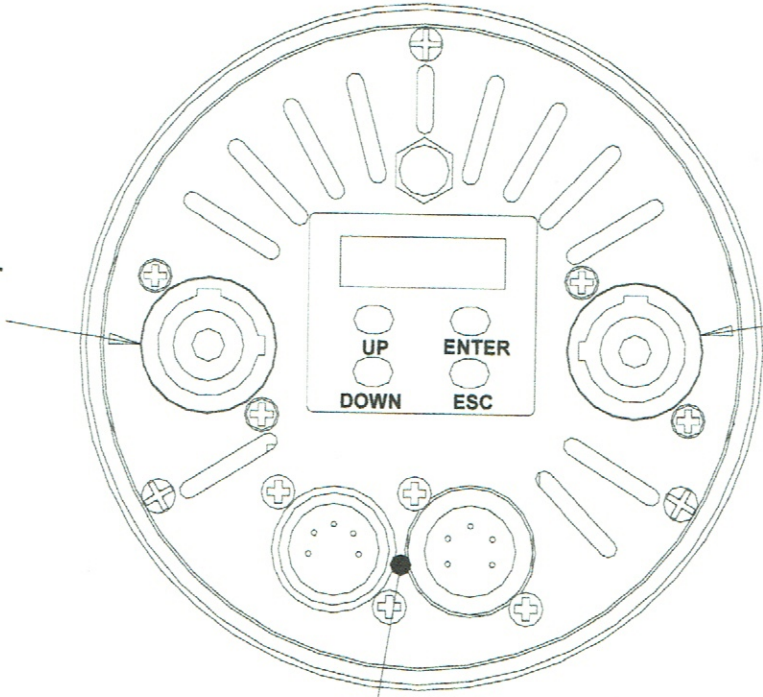
XRL 5 DMX IN-OUT

Menu items

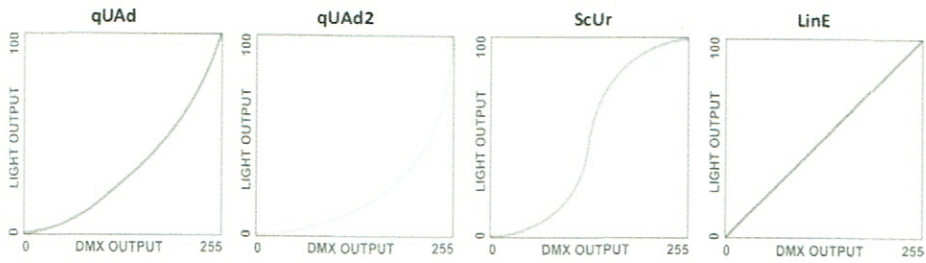| Displayed Message	Allowed or displayed values	Function	
Addr	001..512	Set Up DMX Address	
Auto (Automatic mode)	co01	Preset 1 red	It's possible to select 30 colored presets and 10 fixed white presets, without the aid of the DMX 512 signal. By selecting the value indicated from co01 to ...... co40 you choose the combined color. When you turn off the projector the selected preset will be saved. In each preset you can change the output color level. Select the preset that needs to be to be changed. If you press once the Enter button, the display will show r (red) with the set value, then if you keep pressing Enter, G (green), b (blue), A (amber), c (cyan), L (lime), S (strobe), n (Rainbow), d (dimmer) will be displayed one by one. Use the Up and Down button to adjust the level of the 6 colors + the 3 functions n (raiwbow), S (strobe), d (dimmer), pressing them one by one from 0 to 255, to determine the output color. Always confirm with Enter to save the settings.
	co02	Preset 2 light red	
	co03	Preset 3 orange	
	co04	Preset 4 medium amber	
	co05	Preset 5 amber	
	co06	Preset 6 straw tint	
	co07	Preset 7 pale yellow	
	co08	Preset 8 spring yellow	
	co09	Preset 9 yellow	
	co10	Preset 10 lemon yellow	
	co11	Preset 11 lime	
	co12	Preset 12 lime green	
	co13	Preset 13 green	
	co14	Preset 14 moss green	
	co15	Preset 15 light cyan	
	co16	Preset 16 cyan	
	co17	Preset 17 peacock blue	
	co18	Preset 18 summer blue	
	co19	Preset 19 bright blue	
	co20	Preset 20 light steel blue	
	co21	Preset 21 light blue	
	co22	Preset 22 slate blue	
	co23	Preset 23 blue	
	co24	Preset 24 deep lavender	
	co25	Preset 25 lavender	
	co26	Preset 26 magenta	
	co27	Preset 27 rose pink	
	co28	Preset 28 dark pink	
	co29	Preset 29 bright pink	
	co30	Preset 30 Rainbow	
	co31	Preset 31 white 2300°k	
	co32	Preset 32 white 2700°k	
	co33	Preset 33 white 3200°k	
	co34	Preset 34 white 4000°k	
	co35	Preset 35 white 5600°k	
	co36	Preset 36 white 6500°k	
	co37	Preset 37 white 7000°k	
	co38	Preset 38 white 8000°k	
	co39	Preset 39 white 9000°k	
	co40	Preset 40 white 10000°k	
	Pr01	Program 1: auto	Automatic mode without DMX 512 Protocol signal. Program selections run between Pr01 through Pr 04. Both programs can be modified. To change program select Enter then view (Scn0...Scn6; max scenes of each program). Clicking on enter once more it shows P.00.0 (time) followed by F.00.0 (speed) and ultimately the last view shows 1c.01... though c40 (colour to be assigned to each scene) The use of UP/Down keys allow for setting values. When selections are completed press enter to confirm.
	Pr02	Program 2: auto	
	Pr03	Program 3: auto	
	Pr04	Program 4: auto	

MASL	Master Mode	The Master Mode uses the same settings as the Auto Menu. The only exception is that when all fixtures are connected to DMX 001 in daisy-chain, they perform the same presets and or the same presets selected on the Master fixture. The slave projectors must be set in 9ch mode.
ModE	12 ch (D)	RGBACL 12 ch (default)	
	2 ch	2 ch	
	16 ch	RGBACL 16 ch (16 bit)	
	6 ch	RGBACL 6 ch	Dmx mode (view next page)
	RGB	RGB 6 ch	
	HSI	Stubio HSI 6 ch	
	9ch	9 ch	
drUt	..°C	Shows driver operating temperature
LEdt	..°C	Shows leds operating temperature
PUM	0..100%	Shows current led power (0-100%)
SMoo	FAST MED SLOW	DMX data Speed adjustment
GAMM	qUAd SCUr qUAd2 LInE	 Dimming curves available
FrEq	1K 2K 3K 4K 5K 6K 7K 8K 9K 10K	LED operation frequence
booS	Off on	When OFF, LED max flux : 90% When ON, LED max flux : 100%
FAn	Aut MEDH MEDL LOW	4 fan operating modes i.e atuomatic, medium fast, medium slow, slow speed. Fan speed adjujstments (fan-sound) reflect on self-correct output LED brightness and other factors as room-temperature, number of engaged channels
PoS	AA VV	Display orientation selection: AA = normal VV = inverted

StbY	Off on	Standby display activity: off = display always switched on = display switched off after few seconds of buttons inactivity (only the right side dot will be lighted to indicate DMX availability)
dEF	SUrE	ON Will restore the default factory values
SoFt		Shows Software version

DMX Operating Modes (Mode)

Selecting 1 of the 7 available modes it enables the number of channels required, and its relevant modes, needed to operate fEEbEE LED Engine

mode 12 ch RGBACL (default)

Ch	Function	Dmx levels	
1	red	0..255	From 0 to max 255
2	green	0..255	From 0 to max 255
3	blue	0..255	From 0 to max 255
4	amber	0..255	From 0 to max 255
5	cyan	0..255	From 0 to max 255
6	lime	0..255	From 0 to max 255
7	strobe	0...15	Strobo disingaged
		16...255	Strobo from slow (16) to fast (255)
8	Rainbow	0..15	Rainbow disingaged
		16..255	Rainbow from slow (16) to fast (255)
9	dimmer	0..255	From 0 to max 255
10 (priority on channel 11)	White selection	0...15	Deserted whites
		16...17	2300°k cri 93
		18...38	from 2300°k to 2700°k
		39...40	2700°k cri 97
		41...61	from 2700°k to 3200°k
		62...63	3200°k cri 98
		64...84	from 3200°k to 4000°k
		85...86	4000°k cri 95
		87...107	from 4000°k to 5600°k
		108...109	5600°k cri 98
		110...130	from 5600°k to 6500°k
		131...132	6500°k cri 95
		133...153	from 6500°k to 7000°k
		154...155	7000°k cri 93
		156...176	from 7000°k to 8000°k
		177...178	8000°k cri 96
		179...199	from 8000°k to 9000°k
		200...201	9000°k cri 93
		202...222	from 9000°k to 10000°k
		223...225	10000°k cri 95
	3200 ° k halogen lamp operation	226...255	halogen lamp dimming simulation
		0...15	No color
		16..23	red
		24...31	light red
		32...39	orange
		40...47	medium amber

11	**Color selection**	48...55	amber
		56...63	straw tint
		64...71	pale yellow
		72...79	spring yellow
		80...87	yellow
		88...95	lemon yellow
		96...103	lime
		104...111	lime green
		112...119	green
		120...127	moss green
		128...135	light cyan
		136...143	cyan
		144...152	peacock blue
		153...159	summer blue
		160...167	bright blue
		168...175	light steel blue
		176...183	light blue
		184...191	slate blue
		192...199	blue
		200...207	deep lavender
		208...215	lavender
		216...223	magenta
		224...231	rose pink
		232...239	dark pink
		240...247	bright pink
		248...255	FULL RGBACL
12	**Fan speed**	0..25	**Auto speed or set from menu**
		26..255	**Fan speed from slow to fast**

mode 2 ch

1	Color selection	0...15	No color
		16...20	red
		21...25	light red
		26...30	orange
		31...35	medium amber
		36...40	amber
		41...45	straw tint
		46...50	pale yellow
		51...55	spring yellow
		56...60	yellow
		61...65	lemon yellow
		66...70	lime
		71...75	lime green
		76...80	green
		81...85	moss green
		86...90	light cyan
		91...95	cyan
		96...100	peacock blue
		101...105	summer blue
		106...110	bright blue
		111...115	light steel blue
		116...120	light blue
		121...125	slate blue
		126...130	blue
		131...135	deep lavender
		136...140	lavender
		141...145	magenta
		146...150	rose pink
		151...155	dark pink
		156...160	bright pink
		161...165	Full RGBACL
	White selection	166...170	white 2300°k
		171...175	white 2700°k
		176...180	white 3200°k

	White selection		
		181...185	white 4000°k
		186...190	white 5600°k
		191...195	white 6500°k
		196...200	white 7000°k
		201...205	white 8000°k
		206...210	white 9000°k
		211...215	white 10000°k
	Rainbow	216...225	Rainbow from slow (191) to fast(229) Sequence rainbow R-G-B-A-C-L
	3200 ° k halogen lamp operation	226...255	halogen lamp dimming simulation
2	dimmer	0..255	From 0 to max 255

mode 16 ch RGBACL 16 bit

Ch	Function	dmx levels	
1	red	0..255	From 0 to max 255
2	Red fine	0..255	Red fine tune adjustment
3	green	0..255	From 0 to max 255
4	Green fine	0..255	Green fine tune adjustment
5	blue	0..255	From 0 to max 255
6	Blue fine	0..255	Blue fine tune adjustment
7	amber	0..255	From 0 to max 255
8	amber fine	0..255	amber fine tune adjustment
9	cyan	0..255	From 0 to max 255
10	cyan fine	0..255	cyan fine tune adjustment
11	lime	0..255	From 0 to max 255
12	lime fine	0..255	lime fine tune adjustment
13	strobe	0...15	Strobe disingaged
		16...255	Strobo from slow (16) to fast (255)
14	dimmer	0..255	From 0 to max 255
15	Dimmer fine	0..255	Adjustment of global fine light intensity
16	Fan speed	0..25	Auto speed or set from menu
		26..255	Fan speed from slow to fast

mode 6. ch RGBACL

Ch	Function	dmx levels	
1	red	0..255	From 0 to max 255
2	green	0..255	From 0 to max 255
3	blue	0..255	From 0 to max 255
4	amber	0..255	From 0 to max 255
5	cyan	0..255	From 0 to max 255
6	lime	0..255	From 0 to max 255

mode 6.RGB 6 ch

1	Red	0..255	From 0 to max 255
2	Green	0..255	From 0 to max 255
3	Blue	0..255	From 0 to max 255
4	Dimmer	0..255	From 0 to max 255
5	strobe	0...15	Strobe disingaged

		16...255	Strobo from slow (16) to fast (255)
6	Fan speed	0..24	Auto speed or set from menu
		25..255	Fan speed from slow to fast

mode 9 ch

Ch	Function	dmx levels	
1	red	0...255	From 0 to max 255
2	green	0...255	From 0 to max 255
3	blue	0...255	From 0 to max 255
4	amber	0...255	From 0 to max 255
5	cyan	0...255	From 0 to max 255
6	lime	0...255	From 0 to max 255
7	strobe	0...15	Strobo disingaged
		16...255	Strobo from slow (16) to fast (255)
8	Rainbow	0...15	Rainbow disingaged
		16...255	Rainbow from slow (16) to fast (255)
9	dimmer	0...255	From 0 to max 255

mode 6.HSI STUDIO 6 ch

Ch	Function	dmx levels	
1	Hue	0..255	Hue selection, following levels R, R+L, R+G+L, G+L,G, G+C,G+B+C, B+C, B B+A, R+B+A, R+A, R
2	Saturation	0..255	Color saturation with set color in the Hue channel
3	Dimmer	0..255	From 0 to max 255
4	strobo	0...15	Strobe disingaged
		16...255	Strobo from slow (16) to fast (255)
5 (priority on channel 1)	Selection whites	0...15	Whites off
		16...18	2300°k cri 93
		19...41	from 2300°k to 2700°k
		42...44	2700°k cri 97
		45...67	from 2700°k to 3200°k
		68...70	3200°k cri 98
		71...93	from 3200°k to 4000°k
		94...96	4000°k cri 95
		97...119	from 4000°k to 5600°k
		120...122	5600°k cri 98
		123...145	from 5600°k to 6500°k
		146...148	6500°k cri 95
		149...171	from 6500°k to 7000°k
		172...174	7000°k cri 93

		175...197	from 7000°k to 8000°k
		198...200	8000°k cri 96
		201...223	from 8000°k to 9000°k
		224...226	9000°k cri 93
		227...249	from 9000°k to 10000°k
		250...255	10000°k cri 95
6	Fan speed	0..24	Auto speed or set from menu
		25..255	Fan speed from slow to fast

Error messages

In case of malfunction, the following messages can be shown:
Led sensor error: the sensor on the led is faulty.
Over temperature LED: the temperature on the LED exceeds the allowed limit, check if the fan is working.
Micro over temperature: the temperature on the driver board exceeds the allowed limits, check if the fan is working.
Micro sensor error: the sensor on the driver board is faulty.
If these malfunctions occur, the LED turns off.
Avoid using the fEEbEE LED Engine and promptly contact a authorised service centre.

Periodical maintenance

To ensure the correct fEEbEE LED Engine operation, we suggest the following periodical maintenance operations:
Remove dust from fans and loop-holes, this operation ensures the correct air flow
Remove dust from lenses using a clean cloth. This will ensure the maximum light efficiency
Replace damaged protection screen and lenses when necessary.
Do not touch nor clean the LEDs nor the surrounding area with solvent

Device disposal information

At the end of its life, the fEEbEE LED Engine must be disposed of at an appropriate electrical and electronic
equipment waste collection centre. Eco-friendly disposal, helps to avoid possible negative impact on the
environment and human health and promotes the reuse and/or recycling of the materials making up the
product. Illegal disposal involves administrative sanctions provided by laws enacted.

Note

Manufacturer declines any sort of personal/corporate responsibility/liability for damages caused by persons that are not
scrupulously following indications given in this manual. Not complying with security norms/periodical maintenance and
all information contained and expressed in the owner's/service manual will also totally free personal/corporate
responsibility/liability.Text,, drawings, specifications, modifications and other changes of this manual may apply anytime
without notice. The specifications are not binding.

fEEbEE LED Engine 22/03/2020 rev.00

全てのLEDエンジンはEUで製造および組み立て、信頼性の高い高品質のコンポーネントを使用しています。
Tungsten Source 4をLEDシリーズに変更し、新しいご活躍の場をご提供いたします。

LEDエンジンは全5種類のシリーズがございます。
- ■ Tungsten only 3000°K
- ■ Daylight only 5600°K
- ■ Tuneable white variable from 3000° to 5700°K
- ■ Coloured RGBACL
- ■ Coloured RGBWA

ご興味のある方は是非お問い合わせ下さい。
DEMO品も御座います。
お問い合わせをお待ちしております。

価格や仕様は予告なく変更する場合がございます。この商品は税抜き価格です。

備考

お問い合わせ

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