30W RGB Animation Laser Light Manual

◆**Notice**

Do not exposure the human eye direct to laser beam！！！

◆**Parameter：**

Laser color: 30W RGB

Light source matching power: Red:8W@638nm, Green:10W@520nm, Blue:12W@450nm

Power supply voltage: 110-250V;50/60 Hz

Power consumption：400W

Divergence angle: ＜ **1.5mrad**

Modulation mode: Analog modulation/TTL modulation

Beam angle: Max60 °

Galvo speed: 40K

Laser show: Text/Pattern/Animation/Beam/LOGO/
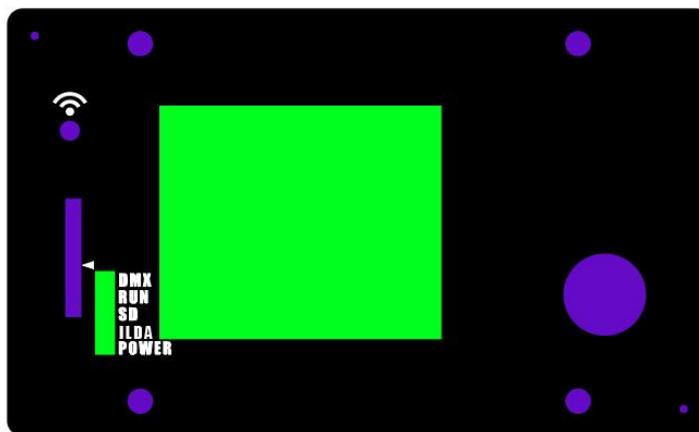
Heat dissipation mode: Air cooling

Work Environment: -30°C --45°C

Lens reflectivity: ＞ **99%**

Control options: ILDA standard/Voice control/Self-propelled/DMX512/Master slave

Applicable for Disco, Clubs, KTV, Pub, Bar, Family party, etc.

Gross weight: 20kg

V1.3.2-S5

Built in multiple operation modes, when offline, there are: self walking, voice control, SD list, storage list.

DMX512 can be used to connect online, with a variety of commonly used laser light channels built in.Almost all functions and effects available offline can be called through DMX512.

SD card list mode can read all standard ILDA files, and can be called through DMX512 to achieve single frame or cyclic playback.

The memory list corresponds to a chip with a built-in capacity of 16M, which can store more than 1W frames of simplified ILDA animation (depending on the complex graph).

SD card and storage factory preset a large number of effects, of which SD has about 400M ILDA files.

All materials support customer customization and self replacement, and support SD card update program.

It supports receiving external signals through the DB25 pin interface, and can realize manual or automatic switching with the menu.

It supports laser single point protection, and can set the protection action value (it needs to detect the feedback signal of the galvanometer), and supports the shutter signal.

During voice control, you can select the trigger threshold and frequency range of voice control.

1. Menu description:

Display and operating instructions:
"Yellow box": indicates the current position item.
"Red background": indicates the current work or the last selected item.
Rotary knob: change the current position or edit value.
Press the knob to enter the editing status or enter the submenu.
The initial interface is as follows: 4 lines and 2 columns, English menu before "/" and Chinese menu after "/". Press the Enter key to enter the corresponding main menu.

Auto/self-propelled	SD List
Sound	ExFlash/storage list
DMX: x	Setting
Slave	Device/Device Parameters

DMX: x of x represents the current address code

English menu at the top, Chinese menu at the bottom

Main Menu	Secondary menu	Project	Range	Default	Function	Explain
Auto Menu [Self walking]		**Auto Menu** [Self walking]			Title	Click the title to return to the previous menu
		Show program	Maximum 25	0 default	Built in program effect selection	After entering the editing status, the actual serial number value will be displayed in the title bar
		Display the name of the built-in program	{Default "}, {" Northern Lights "}, {" Triangle 1 "}, {" Triangle 2 "}, {" Linear "} {" Circle 1 "}, {" Circle 2 "}, {" Rectangle 1 "}, {" Rectangle 2 "}, {" Curve "}, {" Raster 1 "}, {" Raster 2 "}, {" Raster 3 "}, {" Mixed "}, {" Custom 1 "},				
		Step S/N	128 max	Cycle loop	Select the serial number of the corresponding	Cycle: play circularly, and the specific number corresponds to the corresponding effect step

				program	
		SN Value: Group Value: Item Value	Step corresponding to S/N value The group value and subscript item value represent the subscripts corresponding to the built-in data. These effect data can be edited and modified later through software.		
		Rate speed	1-49	5	Playback speed	Set self walking playback speed
Sound Menu [Voice control]		**Sound Menu** [Voice control]			Title	Click the title to return to the previous menu Voice controlled strobe block logo on the right
		Show program	Maximum 25	0 default	Built in program effect selection	After entering the editing status, the actual serial number value will be displayed in the title bar
		Display the name of the built-in program	{Default "}, {" Northern Lights "}, {" Dotting "}, {" Triangle 1 "}, {" Triangle 2 "}, {" Linear "} {" Circle 1 "}, {" Circle 2 "}, {" Rectangle 1 "}, {" Rectangle 2 "}, {" Curve "}, {" Raster 1 "}, {" Raster 2 "}, {" Raster 3 "}, {" Mixed "}, {" Custom 1 "},			
		Step S/N	128 max	Cycle loop	Select the serial number of the corresponding program	Cycle: play circularly, and the specific number corresponds to the corresponding effect step
		SN Value: Group Value: Item Value	Step corresponding to S/N value The group value and subscript item value represent the subscripts corresponding to the built-in data. These effect data can be edited and modified later through software.		
		Sensitivity sensitivity	1-25	5	Voice control sensitivity	The higher the value, the greater the action effect amplitude, and vice versa.
		Clear Clear noise		Clear noise	It will be automatically cleared once when the machine is turned on. Please keep quiet before clearing Clear the voice control noise about 1 second after pressing the key. If the voice control appears like self walking, please press this key once
DMX Menu [DMX address]		**DMX Menu/[DMX Address]**			Title	Click the title to return to the previous menu DMX signal stroboscopic bar mark on the right Voice controlled strobe block logo on the right
		Type type	1-9	6 26ch	DMX Channel Options	Currently, there are 9 DMX programs as follows: "1 12ch": easy to use "2 16ch": suitable for the previous touch screen board "3 17ch": balanced "4 18ch": add dimming channels on the basis of 17 channels "5 20ch" "6 23ch" "7 25ch": full function "8 26ch": add dimming channels on the basis of 25ch "9 27ch": add boundary channel on the basis of

					26ch
		Start add Address code	1-512	1	Address code setting	DMX Start Address
Slave Menu [Slave mode]		**Slave Menu**			Title	Click the title to return to the previous menu
		Slave mode Slave		Slave	The host must be in a non slave, Dmx, SD state.To disconnect the dmx console, there can only be one master, and the others are slaves
SD Program [SD List]	**Only those with SD card have this menu**	**SD Program/[SD List]**			Title	Click the title to return to the previous menu
		Show program	Maximum 10	Cycle loop	Play programs	Cycle: play all program lists in a cycle, (0-10) play corresponding programs Each program contains multiple files Specific programs can be found in ILDA_Open play/play.list in user software to view
		Show program name			It is actually a file name with the extension ". csv" in the play folder
		File file	Maximum 83	Cycle loop	Play File	Cycle: play all files in a cycle, (0-129) play the corresponding files
		Display file name			Actual ilda file name
		Mode pattern	Auto/sound Self walking/voi ce control	Auto go one's own way	Indicates whether voice control is triggered or automatically played.	
		Rate rate	1-50	1	Play rate: 1 is the fastest and 50 is the slowest.	The current file is played in cycles at the set speed. The higher the value, the faster the playback speed. default: Play at the frame rate set in the SD card This is not the scanning speed of galvanometer.
ExF List Menu		**ExF List Menu**			title	Click the title to return to the previous menu
		Show Document volume	Maximum 5	Cycle loop	Play programs	Cycle: play all the lists in a loop Can be accessed at ILDA_Open the following file in user software to view updata/ ex_Play. list: contains gobo, carton, animal, beam, custom updata/ ex_play_Cn.list: including patterns, cartoons, animations, beams, customization
		Show program name			It is actually a file name with the extension ". csv" in the updata folder
		File file	Maximum 25	Cycle loop	Play File	Cycle: play all files in a loop
		Display file name			Actual ilda file name
		Mode pattern	Auto/sound Self walking/voi ce control	Auto go one's own way	Indicates whether voice control is triggered or automatically played.	
		Rate	1-50	1	Play rate: 1 is	The current file is played circularly at the set

		rate			the fastest and 50 is the slowest.	speed. The higher the value, the faster the playback speed. default: Play at the frame rate set in the memory chip This is not the scanning speed of galvanometer.	
Setting Menu Settings	Scan-speed [Scan Parameters]	Test pattern Test chart	Circle Direction circle				
			TOP				
			Color Color circle				
			Rect square				
		Linkage linkage	Yes/no Yes/No	Yes yes	Scan parameter linkage or not (default linkage)	Yes: scan rate, prelight, blinking changes depending on scan speed/galvanometer scanning speed. No: each scanning parameter of galvanometer is independent and not affected by scanning speed.	
		Scan Speed scanning speed	"42K7" "39K1" "36K1" "33K5" "31K3" "29K3" "26K1" "20K4" "15K2" "10K"	33K5	Galvanometer scanning speed	The actual product may fix or limit the galvo scanning speed, When testing galvanometer scanning speed, please set (the linkage is no, and the Scan rate is set to the maximum.)	
		-Scan rate Scan frame rate	5-50	45	Frame rate of galvanometer scanning	The difference from the scanning speed is that it is affected by the number of points in the current graph.Prevent simple graphics from playing out beyond the normal frame rate at the current scanning speed to protect the service life of the galvanometer.	
		-prelight: Pen break delay	1-50	5	Pre lighting delay	Pre lighting delay, the time when the laser waits for the galvo to reach the designated position before lighting up, and this parameter may need to be adjusted to control the strict off-line dotting effect	Because the switching speed of the laser is faster than that of the galvanometer, it is related to the minimum step response time of the galvanometer and the signal output speed of the control board
		-Blanking: Broken pen	1-50	2	Blanking time	Blanking time, action time of laser reared	

		adjustment			galvo	
	DB25-ILDA XY [External ILDA-XY]	X Mirror X mirror	Yes/no Yes/No	No no	X mirror	
		Y Mirror Y mirror	Yes/no Yes/No	No no	Y mirror	
		ildaSwitch Switching mode	Off/on/ auto Off/On/Aut o	Auto automa tic	Ilda switch setting	Off: switch to built-in effect On: switch to the DB25 interface ILDA Auto: When connecting to DB25, play the ILDA of DB25 interface; when disconnecting DB25, play the built-in effect
	XY [Internal XY]	XY Size XY size	0-100	100	Total size	X and Y will be changed at the same time
		X Size X size	0-100	100	X size	
		Y Size Y size	0-100	100	Y size	
		X Position X position	0-100	50	X offset position	
		Y Position Y position	0-100	50	Y offset position	
		X Mirror X mirror	yes, no Yes/No	No no	X mirror	
		Y Mirror Y mirror	yes, no Yes/No	No no	Y mirror	
		XY Swap XY exchange	yes, no Yes/No	No no	XY exchange	
	Color [Color]	Color colour	Single/Mon ochrome, RtoG,RtoB , GtoR, GtoB, BtoR, BtoG, RGB/Full Color	RGB	Color Type	RtoG,RtoB, GtoR, GtoB, BtoR, BtoG, It is suitable for the situation where there are only two lasers. The light of the corresponding laser is transferred to the laser of another color.For example, after using RtoG, the original Red will be superimposed on Green.
		Type type	"Light off" Normal All on			All on: no broken pen
		Laser laser	Analog " TTL"			During simulation, the range of ALL, Red, Green and Blue is 0-100 In TTL, the range of ALL, Red, Green and Blue is 0-1
		ALL Total brightness	0-100	100	Total brightness	Red, Green and Blue will be changed at the same time
		Red	0-100	100	Red	

		Red light			brightness	
		Green Green light	0-100	100	Green brightness	
		Blue Blue light	0-100	100	Blue light brightness	
	FFT/Sound [Voice control]	Clear Clear noise			Clear noise	It will be automatically cleared once when the machine is turned on. Please keep quiet before clearing Clear the voice control noise about 1 second after pressing the key
		Run times Action time	5-30	5	Voice control compliance	The greater the flexibility, the smaller the voice control, the better the sense of movement.
		black delay Silent and light closed	1-50	10	Silent light closing time	0.1 to 5 seconds
		Threshold Action threshold	0-100	22	Sound action threshold	The threshold value of voice control action. When the voice exceeds this threshold value, the Voice Control Event will be sent out, which is indicated by a red line
		Start Freq Start frequency	0-31	6	Action start frequency	The ruler should be placed before the frequency of the rhythmic sound, and the interval color is yellow
		end Freq Termination frequency	0-31	26	Action end frequency	The ruler measurement should be placed after the frequency of the rhythmic sound, and the interval color is yellow
	SD [SD card]	Max point Maximum points	100-1300	1300	Maximum number of points per frame	More than this number of points will be discarded or played continuously by the frame_Split decision The maximum value of this board is 1300, and different boards have different maximum values.Try to consider this when selecting an ilda file. The number of points should not exceed this value.It will increase to more than 2000 in the future.
		Frame_split Frame separation	yes, no	no	Frame splitting function	No: Discard the following points Yes: The following points continue to play in a single frame, but the graphics will flash slightly. Reserved function
	DMX [DMX]	Dmx speed Progressive	0-150	15	Dmx action same interval	0: Fully real-time response, which works with the dmx step.The larger the value is, the more

		interval				times it can tolerate the same value from the dmx, so as to achieve better motion flexibility Dmx speed will be automatically modified when dmx step is modified, Dmx speed=dmx cross * 3. If you want to set Dmx speed independently, please do not set dmx step after setting.
		Dmx step Compliance value	0-50	5	Dmx action gradual entry	0: Fully real-time response. The larger the value is, the more flexible the action will be without jitter, but the more real-time delay will be
	Capture DMX [catch DMX]	Capture DMX Catch DMX	0-512		Reserved function	The number of DMX channels that need to be captured, which is a reserved function, is generally not used.
	Safe THR Protective threshold		off,1-100	off	Protective threshold	Off: No protection. The larger the (1-100) value, the larger the protection range.
	shutter use Enable Shutter			off		After enabling: All possible unsafe conditions will send low-level signals to the shutter. Not enabled by default
	Interpolate Enable Interpolation		yes, no	yes	Selection of interpolation effect	At slow speed, it can adapt to interpolation, and at fast speed, it can adapt to no interpolation.It is determined by human visual effect.
Device Detail Equipment Parameters	Language language		Chinese/En			The language will change only when you switch to another menu.
	closed time Light off delay		no 30 seconds 1 minute 3 minutes 5 minutes 10 minutes 30 Minutes 1 hour	5 minutes		The time when the LCD screen turns off after the last operation.Turn the knob, and the screen will light up again No: indicates it is always on.
	RESET parameter Reset ----- Restart				The reset parameter value is the initial value	After reset, it will restart.
	REV edition		V1.3.2		Version number of the device	
					Chip and memory information	
					Memory usage information	History: This record: Currently used
					Store information	

T: X+Date		Data/Date		Program generation time	Date in English
		T:x		The following x indicates the number of operations saved	

2. Channel description:

This instruction applies to V1.3.3 and above

27 channel program (with SD card): (add a boundary channel<ch-24>on the basis of the original 26 channels, and change the light output part of the first channel to analog brightness adjustable)

The first six channels can be used as simple DMX channel programs.

The galvanometer will stop working when most lights are turned off to reduce consumption, save energy and extend the service life of galvanometer

Passageway	Function	Numerical value	Function				
ch-1	Dim/Dimming	0-10	Completely closed light		0-10 is the darkest, and 255 is the standard brightness.It is equivalent to the alpha channel in the color.It can be understood as transparency.		
		11-255	brightness				
ch-2	Model/Mode	0-63	64-127	128-191	192-255		
		Close light	Self walking effect (the first 6 channels work)	SD	storage	Inclusion relationship	Inclusion relationship
ch-3	Gobo /frame Graphics/Frame	0-249	Interval value: 2	Interval value: 2	Interval value: 2	One File/scene contains multiple Graphics/Frame	One Group/Program Contains multiple File/Scene
		250-255	Cycle ch-4 to specify the effect	Cycle ch-4 to specify the effect	Cycle ch-4 to specify the effect Exception: No cycle at Ch-5:0-19		
ch-4	Gobo list/ file Drawing list/file	0-249	Interval value: 10	Interval value: 10	Interval value: 10		
		250-255	Cycle All	Cycle ch-5 to specify the effect	Cycle ch-5 to specify the effect Exception: No cycle at Ch-5:0-19		
ch-5	File list/show File List/Program	0-249	No effect	Interval value: 20	Interval value: 20		
		250-255		Cycle All	Cycle All		
ch-6	Control	0-4	go one's own way	Default speed			
		5-127		Each interval of 5 corresponds to a speed, from slow to fast			
		128-132	Voice control	Default Sensitivity			

		133-255				Each interval 5 corresponds to one sensitivity, from low to high sensitivity		
ch-7	In Color Inner color	0-3	Fixed color					
		4-6	adopt Color Drawing Discoloration	Overall discolo ration		Color, In Color and Out Color channels are pushed here, and overall color change can be achieved through Color Drawing channel		
		7-9				Solid color, In Color and Out Color channels are pushed here, and the overall solid color change can be achieved through the Color Drawing channel		
		10-127			Fade in and out	Color palette	See the description document of color mixing section	
		128-191				Solid color	simulation	Color matching table 64 Color
							TTL	Refer to the following color table for TTL: 7 segments of solid color
		192-255				colour	simulation	Color matching table 64 Color
							TTL	Refer to the following color table for TTL: 7-segment color
ch-8	Color Drawing Color Transfer	0-63	Manual		Fade out	The fade color is determined by the In Color channel The fade out color is determined by the Out Color channel		
		64-127			Gradual entry			
		128-159	automatic		Fade out			
		160-191			Gradual entry			
		192-223			Gradual out and gradual in cycle			
		224-255			Gradual out and gradual in connection			
ch-9	Out Color Outer color	0-3	Fixed color					
		4-6	Adopt Color Drawing Discoloration	Overall discolo ration		Color, In Color and Out Color channels are pushed here, and overall color change can be achieved through Color Drawing channel		
		7-9				Solid color, In Color and Out Color channels are pushed here, and the overall solid color change can be achieved through the Color Drawing channel		
		10-127			Fade in and out	Color palette	See the description document of color mixing section	
		128-191				Solid color	simulation	Color matching table 64 Color
							TTL	Refer to the following color table for TTL: 7 segments of solid color
		192-255				colour	simulation	Color matching table 64 Color
							TTL	Refer to the following color table for TTL: 7-segment color
ch-10	Move X X manual	0	X manual movement		Default middle position	Same as channel 127/position		

ch	Function	Value	Mode	Effect	Description
	movement	1-255		Positioning position	127/Middle, graphics at both ends are inverted
ch-11	Auto Move X X Auto Move	0-84	X Auto Move	Forward	The higher the value, the faster the speed (up or down is related to the direction set by the system)
		85-169		Reverse	
		170-255		Up and down circulation	
ch-12	Move Y Y manual movement	0	Y manual movement	Default middle position	Same as channel 127/position
		1-255		Positioning position	127/Middle, graphics at both ends are inverted
ch-13	Auto Move Y Y Auto Move	0-84	Y Auto Move	Forward	The higher the value, the faster the speed (up or down is related to the direction set by the system)
		85-169		Reverse	
		170-255		Up and down circulation	
ch-14	Scale zoom	0-127	Manual	Size	Default 0/Max
		128-169	Automatic	Enlarge	The higher the value, the faster the speed
		170-211		Narrow	
		212-255		Cycle Zoom	
ch-15	Center rotate Center rotation	0-127	Manual	Rotate	
		128-191	Automatic	Counter clock rotation	The higher the value, the faster the speed
		192-255		Clockwise rotation	
ch-16	Rotate X X Flip	0-127	Manual	X Flip	
		128-191	Automatic	X Flip	The higher the value, the faster the speed
		192-255		X deformation flip	
ch-17	Rotate Y Y flip	0-127	Manual	Y flip	
		128-191	Automatic	Y flip	The higher the value, the faster the speed
		192-255		Y deformation flip	
ch-18	Wave X X Wave	0-127	Manual	X Wave	Wave period and amplitude are determined by Wave ref Channel setting
		128-191	Automatic	X positive wave	
		192-255		X Reverse wave	
ch-19	Wave Y Y wave	0-127	Manual	Y wave	Wave period and amplitude are determined by Wave ref Channel setting
		128-191	Automatic	Y positive wave	
		192-255		Y Reverse wave	
ch-20	Wave ref Wave parameters: period and amplitude	0-63	Period parameter	1 cycle	The larger the value is, the smaller the amplitude is. In the case of small amplitude automatic waves, more interesting water ripple effects can be achieved.
		64-127		2 cycles	
		128-191		3 cycles	
		192-255		4 cycles	
ch-21	Show Point Explicit point	0-9	Nothing		
		10-129	Line scan	Number of display points: 30-4	Small value, more points, lower brightness The higher the value, the fewer points, the higher the brightness
		130-191	Point scan	Display point 16, evenly distributed	The higher the value, the higher the brightness
		192-255		Explicit point 8, evenly	

			distributed		
ch-22	Color Stroboscopic	0-2	Always bright		
		3-255	Stroboscopic	The closer the value is to 255, the slower the strobe will be. Every three values correspond to one strobe speed.	
ch-23	Array array	0	Array	Nothing	The X or Y movement may be affected (channels 9-12), depending on the array position, and the multi graph array will speed up the original movement.
		1-63		1 figure 8 positions	
		64-127		2 figures 4 positions	
		128-175		3 figures 3 positions	
		176-255		4 figures and 2 positions	
ch-24	Border out	0-63	Out of bounds reversal	Soft action with interpolation	Under single frame condition: The flexibility function works on all manual functions to make the action smoother and cleaner Interpolation mainly solves the gap problem caused by slow motion.
		64-127		Real time action, no interpolation	
		128-191	Out of bounds closed light	Soft action with interpolation	
		192-255		Real time action, no interpolation	
ch-25	Red	0-255	Red light from the brightest to the extinguished		
ch-26	Green light	0-255	Green light from the brightest to the extinguished		
ch-27	Blue	0-255	Blue light from the brightest to the extinguished		