

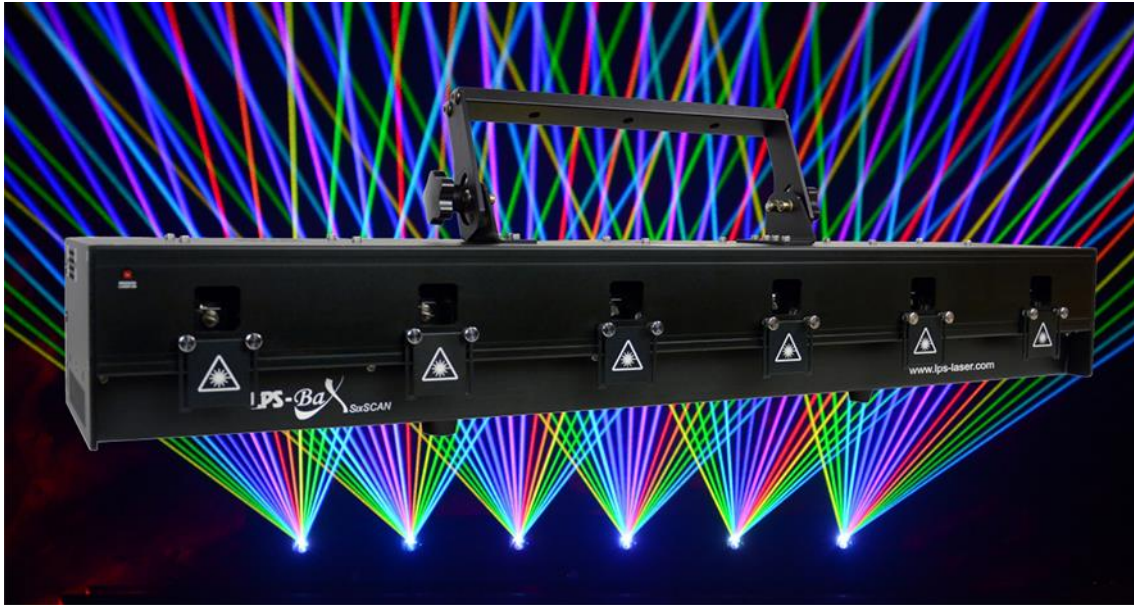
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Multimedia
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Verkauf
Vermietung

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Manual of LPS-BaX SixSCAN

As of May 2022

Foreword

Thank you for purchasing an LPS product.
Before you operate this product the first time, please read this manual carefully.

Our systems are equipped with high sensitive electronics and mechanics.
Strong shocks can cause significant damage to the system.

CAUTION!

Should an error occur due to improper handling or maintenance, there is no warranty.

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1. Commissioning

1.1 Areas of use

This product must be used for laser shows only.

This device is designed for mobile use and for permanent installations.

1.2 Electrical Connection

This product is approved to be operated only with an alternate current of 100 - 240 V.

1.3 Installation

It is required to mount the device only on a fixed truss or base.

1.4 Operation

Operate the device only if you are familiar with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation!

Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

If the device is operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void.

1.5 Unpack and connect

Check the content of the package of its completeness.

The following parts are included:

- LPS-BaX SixSCAN Pro
- Manual
- Power plug (1 piece)
- Key (2)

Plug in the power supply of the laser system.

Make sure that the laser system is mounted stable and cannot fall down.

Please note:

LPS-Lasersysteme cannot be made liable for damages caused by incorrect installations and unskilled operation!

CAUTION!

If you use controls or adjustments or if you perform procedures other than those specified here, this might result in hazardous radiation exposure!

The laser exposure of this Laser system is able to ignite flammable materials.

Improper use of the Laser system might harm people.

There is a high risk of eye injuries if the laser beams are reachable for unqualified people.

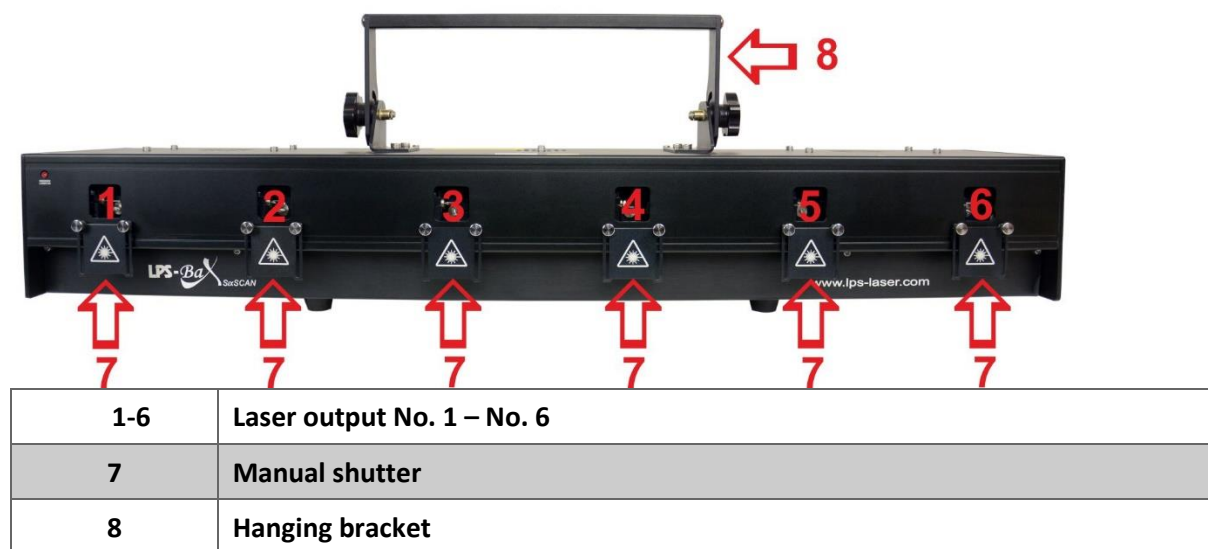
2. Technical Specification

Laser source	Laser diodes (Pure Diode)
Operating voltage	100 V – 240 VAC
Voltage line frequency	50 Hz / 60 Hz
Operating current	2 A
Power consumption	500 W max.
Cooling requirements	air-cooled, optimized airflow
Degree of protection	IP 54
Protection class	1, protection ground
Operating temperature	5° - 40° C
Warm-up time	none
Total laser power	LPS-BaX SixSCAN 12K Pro 2000mW RGB each output Total 12W LPS-BaX SixSCAN 18K Pro 3000mW RGB each output Total 18W
Modulation	analogue modulation

<p>Wavelength and laser power</p>	<p>LPS-BaX SixSCAN 12K Pro Each scanning unit fitted with (x 6): 500mW red@638nm, 500mW green@525nm 1000mW blue@450nm</p> <p>LPS-BaX SixSCAN 18K Pro Each scanning unit fitted with (x 6): 700mW red@638nm, 900mW green@525nm 1400mW blue@450nm</p>
<p>12K and 18K Pro</p>	<p>25kpps Scanning units with 40° angle</p>
<p>Dimension and weight 12K and 18K Pro</p>	<p>Weight: 24,5kg Dimensions (l x w x h) 100 x 20 x 28 cm with brackets</p>

3. Overview

3.1 Housing front 12K Pro and 18K Pro



3.2 Housing rear view 12K Pro and 18K Pro



1	ILDA IN / OUT
2	DMX 5-pin IN / OUT
3	E-Stop XLR 3-pin IN/OUT
4	Ethernet / ArtNet IN/OUT
5	Key-Switch
6	Display and control button
7	Power switch
8	Fuse
9	PowerCon IN / OUT

3.3 Power switch

Use the power switch to turn the laser system on and off.

If the laser system is turned on, the power switch glows.

3.4 ILDA In / Out

This socket is an ILDA compatible D-sub socket. Therefore, any ILDA-compatible laser software can be used for this laser system.

Connect your controller with the ILDA-In by an ILDA-cable.

If you want to link the ILDA signal to another device also, simply use the ILDA-Out socket.

To get the best results of signal transmission, only shielded and twisted-pair cables should be used.

Beware that there is no further DMX control after ILDA IN is plugged.

4.0 LCD function menu

Menu	Secondary Menu	Third Level Menu	
Operation Mode	DMX-512		
	Auto TRG		
	Music TRG		
	Test Mode		
DMX Address	DMX-512 000-512		
Auto Trigger	1-25 Auto effect		
Music Trigger	1-25 Music effect		
Test Mode	Test pattern 1-4		
	No.1 emitting		
	No.2 emitting		
	No.3 emitting		
	No.4 emitting		
	No.5 emitting		
	No.6 emitting		
Advanced Setup	Brightness 000-255		
	Master Size 000-255		
	No.1 Setup		Invert X <input checked="" type="checkbox"/> /✓
			Invert Y <input checked="" type="checkbox"/> /✓
			X Scale 000-255
			Y Scale 000-255
			Red 000-255
			Green 000-255
			Blue 000-255
	No.2 Setup		Invert X <input checked="" type="checkbox"/> /✓
			Invert Y <input checked="" type="checkbox"/> /✓
			X Scale 000-255
			Y Scale 000-255
			Red 000-255
			Green 000-255
			Blue 000-255
	No.3 Setup		Invert X <input checked="" type="checkbox"/> /✓
			Invert Y <input checked="" type="checkbox"/> /✓
			X Scale 000-255
			Y Scale 000-255
			Red 000-255
		Green 000-255	

	No.4 Setup	Blue 000-255
		Invert X * / ✓
		Invert Y * / ✓
		X Scale 000-255
		Y Scale 000-255
		Red 000-255
		Green 000-255
	Blue 000-255	
	No.5 Setup	Invert X * / ✓
		Invert Y * / ✓
		X Scale 000-255
		Y Scale 000-255
		Red 000-255
		Green 000-255
	No.6 Setup	Blue 000-255
		Invert X * / ✓
		Invert Y * / ✓
		X Scale 000-255
Y Scale 000-255		
Red 000-255		
System Config	Green 000-255	
	Blue 000-255	
	Channel 27CH / 121CH / 157CH	
	Master/slave * / ✓	Master ✓ / slave *
	Scan safety * / ✓	
	Laser Color RGB / I	
	Sound Sense	000-100
Device Info	Easy ILDA * / ✓	
	System Reset * / ✓	
	DMX 512 address	
	Display current address	
	EFFECT LFE01 effect version	
	5010.X.X.X Program version	

4.1 DMX 512 Channel Introduction

1. CH1 – CH27 (CH27 Easy Channels)

If CH1= 32-61 (Manual control),

CH2 – CH27 Valid

If CH1= 63-91(Auto Play) or 92-128 (Music trigger),

CH6 Valid

2. CH1+6* (CH2-CH21) (CH121 Standard Channels)

If CH1= 32-61 (Manual control),

CH2 – CH121 Valid

3. CH1+6* (CH2-CH27) (CH157 Extended Channels)

If CH1= 32-61 (Manual control),

CH2 – CH157 Valid

4. All modes: If CH1= 63-91(Auto Play) or 92-128 (Music trigger),

CH6 Valid

27CH / 121CH / 157CH mode has following channels for the different outputs (No. 1 – 6)

Beware that in 127CH and 157CH mode, CH1 is set for all outputs.

CH27	CH121						CH157					
NO. 1-6	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
CH1	CH1						CH1					
CH2	CH2	CH22	CH42	CH62	CH82	CH102	CH2	CH28	CH54	CH80	CH106	CH132
CH3	CH3	CH23	CH43	CH63	CH83	CH103	CH3	CH29	CH55	CH81	CH107	CH133
CH4	CH4	CH24	CH44	CH64	CH84	CH104	CH4	CH30	CH56	CH82	CH108	CH134
CH5	CH5	CH25	CH45	CH65	CH85	CH105	CH5	CH31	CH57	CH83	CH109	CH135
CH6	CH6	CH26	CH46	CH66	CH86	CH106	CH6	CH32	CH58	CH84	CH110	CH136
CH7	CH7	CH27	CH47	CH67	CH87	CH107	CH7	CH33	CH59	CH85	CH111	CH137
CH8	CH8	CH28	CH48	CH68	CH88	CH108	CH8	CH34	CH60	CH86	CH112	CH138
CH9	CH9	CH29	CH49	CH69	CH89	CH109	CH9	CH35	CH61	CH87	CH113	CH139
CH10	CH10	CH30	CH50	CH70	CH90	CH110	CH10	CH36	CH62	CH88	CH114	CH140
CH11	CH11	CH31	CH51	CH71	CH91	CH111	CH11	CH37	CH63	CH89	CH115	CH141
CH12	CH12	CH32	CH52	CH72	CH92	CH112	CH12	CH38	CH64	CH90	CH116	CH142
CH13	CH13	CH33	CH53	CH73	CH93	CH113	CH13	CH39	CH65	CH91	CH117	CH143
CH14	CH14	CH34	CH54	CH74	CH94	CH114	CH14	CH40	CH66	CH92	CH118	CH144
CH15	CH15	CH35	CH55	CH75	CH95	CH115	CH15	CH41	CH67	CH93	CH119	CH145
CH16	CH16	CH36	CH56	CH76	CH96	CH116	CH16	CH42	CH68	CH94	CH120	CH146
CH17	CH17	CH37	CH57	CH77	CH97	CH117	CH17	CH43	CH69	CH95	CH121	CH147
CH18	CH18	CH38	CH58	CH78	CH98	CH118	CH18	CH44	CH70	CH96	CH122	CH148
CH19	CH19	CH39	CH59	CH79	CH99	CH119	CH19	CH45	CH71	CH97	CH123	CH149
CH20	CH20	CH40	CH60	CH80	CH100	CH120	CH20	CH46	CH72	CH98	CH124	CH150
CH21	CH21	CH41	CH61	CH81	CH101	CH121	CH21	CH47	CH73	CH99	CH125	CH151
CH22							CH22	CH48	CH74	CH100	CH126	CH152
CH23							CH23	CH49	CH75	CH101	CH127	CH153
CH24							CH24	CH50	CH76	CH102	CH128	CH154
CH25							CH25	CH51	CH77	CH103	CH129	CH155
CH26							CH26	CH52	CH78	CH104	CH130	CH156
CH27							CH27	CH53	CH79	CH105	CH131	CH157

4.2 DMX 512 Parameters

Channel	Function	DMX Value	Description
CH1	Play Mode	0 – 31	Laser off
		32 – 61	Manual control
		62 -91	Auto play (macro)
		92 – 128	Music trigger (macro)
		128 – 255	Invalid
CH2		0 - 255	Laser brightness 0% - 100%
CH3	Red	0 - 255	Red brightness 0% - 100%
CH4	Green	0 - 255	Green brightness 0% - 100%
CH5	Blue	0 - 255	Blue brightness 0% - 100%
CH6	Page	0 - 255	Each 32 values is one page, total of 8 (CH1 = 32 – 61 is valid)
		0 - 255	Each 10 values is another macro, total of 25 (CH1 = 62 – 128)
CH7	Cue	0 – 15	Laser off
		16 - 255	Each 12 values is one cue, total of 20
CH8	X	0 - 255	From left to right (128 is center)
CH9	X fine	0 - 255	
CH10	Y	0 - 255	From bottom to top (128 is center)
CH11	Y fine	0 - 255	
CH12	(Z) Rotation	0 - 255	Clockwise (0° - 360°)
CH13	(Z) Rotation fine	0 - 255	
CH14	Zoom	0 - 255	From 100% to 0%
CH15	X flip	0 - 255	(From left to right)
CH16	Y flip	0 - 255	(From bottom to top)
CH17	Color	0 – 7	Default color
		8 – 15	White
		16 – 23	Red
		24 – 31	Orange
		32 – 39	Green
		40 – 47	Cyan
		48 – 55	Blue
		56 -63	Purple
		64 – 127	Each 8 values is one effect, total of 8
		128 – 143	Macro function 1
		144 – 159	Macro function 2
		160 – 175	Macro function 3
		176 – 191	Macro function 4
		192 – 207	Macro function 5
208 – 223	Macro function 6		

		224 – 239	Macro function 7
		240 – 255	Macro function 8
CH18	Draw In	0 - 255	Visible point 100% - 0%
CH19	Deformation macro	0 – 15	Invalid
		16 - 31	Macro function 1 (used together with CH14 / CH25)
		32 -47	Macro function 2 (used together with CH14 / CH25)
		48 – 63	Macro function 3 (used together with CH14 / CH25)
		64 – 79	Macro function 4 (used together with CH14 / CH25)
		80 – 95	Macro function 5 (used together with CH14 / CH25)
		96 – 111	Macro function 6 (used together with CH14 / CH25)
		112 – 127	Macro function 7 (used together with CH14 / CH25)
		128 – 143	Macro function 8 (used together with CH14 / CH25)
		144 – 159	Macro function 9 (used together with CH14 / CH25)
		160 – 175	Macro function 10 (used together with CH14 / CH25)
		176 – 191	Macro function 11 (used together with CH14 / CH25)
		192 – 207	Macro function 12 (used together with CH14 / CH25)
		208 – 223	Macro function 13 (used together with CH14 / CH25)
		224 – 255	Default
CH20	Wave macro	0	Invalid
		1 – 39	Macro function 1
		40 – 79	Macro function 2
		80 – 119	Macro function 3
		120 – 159	Macro function 4
		160 – 199	Macro function 5
		200 – 255	Macro function 6
CH21	Draw In (macro)	0	Invalid
		1 – 42	Macro function 1
		43 – 84	Macro function 2
		85 – 126	Macro function 3
	Strobe	127 - 255	Strobe from slow to fast
CH22	X position (macro)	0	Invalid
		1 – 32	Macro function 1
		33 – 64	Macro function 2
		65 – 96	Macro function 3
		97 – 128	Macro function 4
		129 – 160	Macro function 5
		161 – 192	Macro function 6
		193 – 224	Macro function 7
225 - 255	Macro function 8		
CH23	Y position (macro)	0	Invalid
		1 – 32	Macro function 1
		33 – 64	Macro function 2
		65 – 96	Macro function 3

		97 – 128	Macro function 4
		129 – 160	Macro function 5
		161 – 192	Macro function 6
		193 – 224	Macro function 7
		225 - 255	Macro function 8
CH24	(Z) Rotation (macro)	0	Invalid
		1 – 32	Macro function 1
		33 – 64	Macro function 2
		65 – 96	Macro function 3
		97 – 128	Macro function 4
		129 – 160	Macro function 5
		161 – 192	Macro function 6
		193 – 224	Macro function 7
		225 - 255	Macro function 8
CH25	Zoom (macro)	0	Invalid
		1 – 32	Macro function 1
		33 – 64	Macro function 2
		65 – 96	Macro function 3
		97 – 128	Macro function 4
		129 – 160	Macro function 5
		161 – 192	Macro function 6
		193 – 224	Macro function 7
		225 - 255	Macro function 8
CH26	X flip (macro)	0	Invalid
		1 – 32	Macro function 1
		33 – 64	Macro function 2
		65 – 96	Macro function 3
		97 – 128	Macro function 4
		129 – 160	Macro function 5
		161 – 192	Macro function 6
		193 – 224	Macro function 7
		225 - 255	Macro function 8
CH27	Y flip (macro)	0	Invalid
		1 – 32	Macro function 1
		33 – 64	Macro function 2
		65 – 96	Macro function 3
		97 – 128	Macro function 4
		129 – 160	Macro function 5
		161 – 192	Macro function 6
		193 – 224	Macro function 7
		225 - 255	Macro function 8

4.3 Frame list

DMX CH6	1	2	3	4	5	6	7	8
DMX CH7								
0-15								
16-27								a u O <
28-41								b v P >
42-53								c w Q ?
54-63								d x R +
64-75								e y S -
76-87								f z T :
88-99								g A U ,
100-111								h B V -
112-123								i C W ,
124-135								j D X "
136-147								k E Y 1

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148-159		I F Z 2
160-171		m G ! 3
173-184		n H @ 4
185-195		o l # 5
196-207		p j \$ 6
208-219		q k % 7
220-231		r l * 8
232-243		s m (9
244-255		t n) 0

5 Maintenance

Dust, fog fluid, etc. cause deposits on mirrors, which might evoke a substantial decrease in laser power.

Therefore a professional and periodic cleaning is essential!

LPS-Lasersysteme recommends a regular service, which should be implemented at least once a year.

Benefits:

- A complete professional check of the system by an expert can prevent minimum technical errors and / or attrition with large consequences.
- Due to inadequate cleaning of the fan and the heatsink, overheating and electronic defects may occur.
- By its completely closed optical area, a pollution is hardly possible, but still not excluded. Therefore, it should be checked during the regular cleaning of the electronics sector, whether and how dirty the optical area is.
- For cleaning the electronic area, please remove the front and the back plate of the laser system and remove all dust particles.
- For cleaning the optical and the laser area, please remove the top and the front of the laser system.
- For cleaning, only manufacturer's recommended products should be used, because wrong cleaning supplies can damage the components and warranty voids.