

Astana -Almaty, 7th ASIAN WINTER GAMES, 2011

KVANT[®]

● CT Laser
GK Photonics

Synchrovision Laser Art ●

● Concept Laser
● Laser Movement

I.S. Tecnoradio ●

Concept & Creation ●

Somtec ●

● Sjappa Arild Instebø Enk
● Filip Lundkvist - Laserboy

● Mediam

● PROLIGHT
● PROTIRA

● Lightco ●

● LS CREATION

● Modiac

● Modiac

● Modiac

● MDH Engineering Co.Ltd

● Digitech Industrial Systems

● Lux Laser Systems
● Orion Art
● Alexander Kharchenko

● Laser Shows SRL
● LUX laser system BG

● Parlatzer Koman
● Parlatzer Koman

● Techno Pro

● Laser TECH
● Thriller SPX

Dynamic Source ●

Tan Huu Tai Co. Ltd

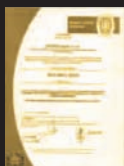
Lumina Visual Productions ●

● ICEAST

Company profile

Kvant Ltd. was founded in 1995 when two small companies (established in 1990 and 1993) joined together due to rising market requirements. Since then KVANT delivers state of the art products that are used by many true professionals as well as large production groups around the world. At this point KVANT Ltd is ranked as one of the leading European developers and manufacturers of high-end laser technologies for professional use in the world.

Here at KVANT we fully understand our customer's expectations and requirements. That's why we use only high quality components from renowned suppliers and cutting edge developing techniques to ensure that only the best is delivered with high value/performance ratio in mind. Besides high quality products we can also offer comprehensive range of services including hire of laser technologies and accessories, complete laser show realization (design, management and production), professional training (with extensive focus on laser safety) and technical consultancy. Our customers are guaranteed with high quality customer services and fast technical support.



Kvant has been
certified by
ISO 9001:2000

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Location in EUROPE



KVANT residence



Meeting room

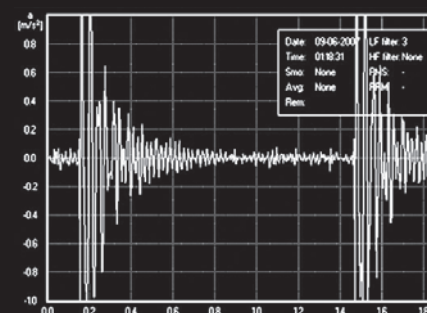
Research & development

Kvant is one of the biggest high-tech laser manufacturers worldwide. Our development has always been aimed at reaching the following targets:

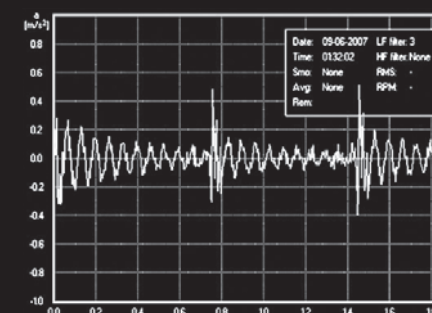
- Ultimate beam parameters (within laser-show display industry)
- High quality of build
- Long lifespan of our machines and parts
- Reliability
- User friendly and maintenance free operation
- Flexibility and adaptability

The quality of our products is based on usage of high-end components. We use lasers provided by renowned suppliers from USA, Japan and Germany. At the same time Kvant has also developed and produced excellent laser modules based on top quality laser diodes. Intellectual property rights of KVANT are protected by several international patents in the areas of beam shaping and modifications of laser light beam parameters.

Our Research & Development department closely cooperates with Slovak Academy of Science, Slovak University of Technology and other technological institutions. One of the main targets of our R&D department is to find, recognize and eliminate hidden sources of failures as well as discover, develop and improve new manufacturing techniques and procedures. To reach these targets modern analytical methods are used.

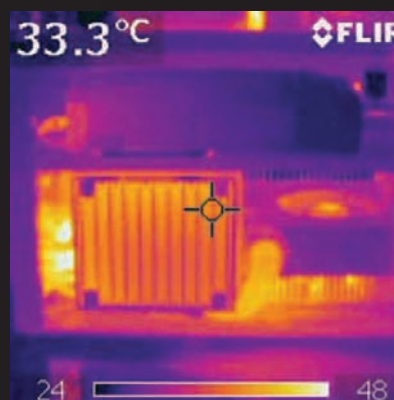


Without silent blocks



With silent blocks

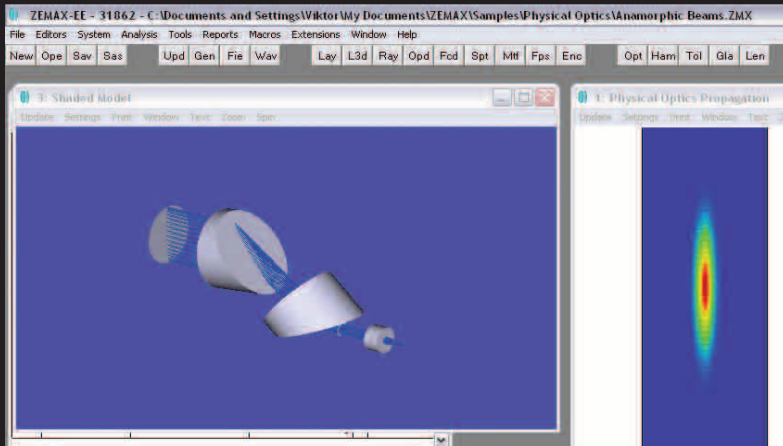
Mechanical bumps, shock and enormous vibrations from audio systems can also cause laser beam misalignment or even serious failures of laser device. Using vibrometric method our R&D department was able to measure the vibrations of base plate and propose corrective design changes. All Spectrum series lasers are equipped with rubber silent blocks located below the maximum deflection points in order to decrease vibration amplitude to minimal values. At pictures below you can see the vibrometric measurement at the device with silent blocks and without silent blocks using same source of vibrations. The amplitude of base plate vibrations is rapidly lower for version with silent blocks.



Evaluation of thermal strain of all components and identification of exceeded values using a thermo vision camera in order to perform corrective measures. We use the thermo vision camera to analyze the real thermal strain. On the picture you can see Maxim series laser thermal view. This system has been optimized and the temperatures after the changes decreased to safe values.

Optimization of the optics

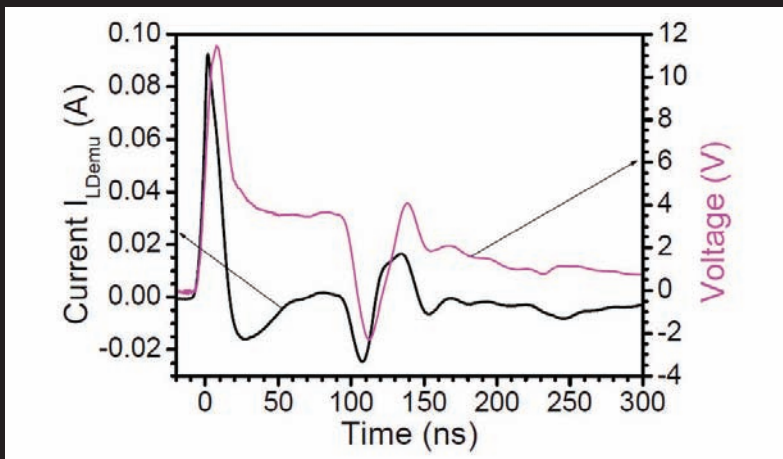
Optimization of the optics is performed by Zemax for each new or custom design. The lens molding machine is used for manufacturing most frequently used lenses.



The figure shows a current through the laser diode during external 100ns long ESD pulse with 2.2A current amplitude. The protection device mounted parallel to each laser diode limits the current through the laser diode down to 90mA to avoid laser damage.

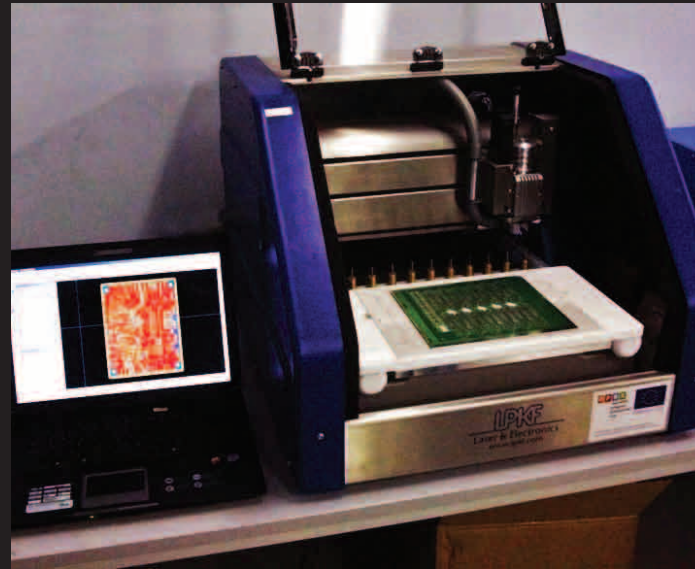
ESD robustness of KVANT laser modules

Here at KVANT, we solved protection of laser modules against ESD



Electronic development

The development of new electronics is with the new machine for PCB prototyping is much faster than ever before. The electronic circuit is designed and assembled within the same day and improvements are implemented without the delay after the testing.



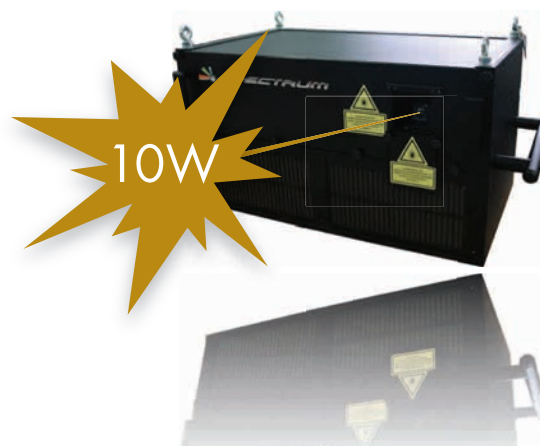
NEW LASER SERIES WITH NEW FEATURES AND HIGH PERFORMANCE

NEW



OUTPUT POWER: 1,6W
Color Balance: 300mW GREEN 532nm
1W BLUE 445nm
300mW RED 650nm

WE ARE MORE **AFFORDABLE**
THAN EVER BEFORE



OUTPUT POWER: 10W
Color Balance: 4W GREEN JENLAS D2.mini
4W BLUE 445nm
3W RED (637nm + 650nm)

WE ARE MORE **BALANCED**
THAN EVER BEFORE



OUTPUT POWER: 29W
Color Balance: 8W GREEN 532nm
10W BLUE 445nm
10.8W RED 637nm + 660nm

WE ARE MORE **POWERFUL**
THAN EVER BEFORE

NEW

NEW LASER MODULES KVANT - FANTASTIC PRICE/PERFORMANCE VALUE



NEW 4W RGB LASER MODULE

- new full **color** laser module
- compact design
- extreme beam stability
- **perfect** color balance



NEW HIGH POWER BLUE SERIES 8,10,20W

- power up to 20W
- very low divergence
- ultra **compact** design



NEW 6.8W RED LASER MODULE

- 6.8W real output power!
- only 0,8 mrad divergence
- **extreme beam** stability
- NEW 637 nm diodes



NEW HIGH POWER RED SERIES 637nm

- low divergence
- beam diameter start from 2.5mm
- **extreme** beam stability





MID - power range full color RGB systems

SPECTRUM is compact full color white-light RGB systems designed for spectacular indoor or small outdoor applications. Great power balance and fast scanning speeds make these great machines for graphic shows. Low weight and small dimensions ensure easy transportation and installation.

Product is certified by CE,ISO 9001:2000

Laser Technology

- RGB semiconductor laser
- air cooled laser with internal electronic system
- colormixing by precision filters

Applications

- discotheques and clubs
- theaters and concerts
- techno parties
- presentations
- weddings and birthday parties
- advertising

Main features

- temperature stabilized
- maximal beam brightness setting for each color
- hermetically separated sectors of laser (clean closed sector, air cooled sector)
- active warming up time 15 sec.
- beam direction and alignment setting
- inverted axis projection
- low weight

Operation

- easy maintenance
- easy access to adjusting items
- low power consumption

Power supply

- power supply 230V/50Hz or 110V/60Hz on request

Color balance

- excellent color spectrum up to 16 mil. colors
- easy to make cold white "discharge lamp" colors

Cooling

- air cooled laser
- Peltier TEC cooling and heating system

Scanning system

- scanning system x,y speed up to 60kpps
- drawing area 80° for both axes

Safety protections

- electronic and fuse protection of scanners
- adjustable safety card on request
- beam shutter on request
- safety key

System Spectrum	RGB-1,6W-D	RGB-1,6W	RGB-2W	RGB-2,5W	RGB-3W	RGB-5W
Output power	1,6W-D	1,6W	2W	2,5W	3W	5W
Wavelength	300mW /532nm NEW KVANT DPSS laser 300mW /650nm Diode 1W /445nm Diode	300mW/532nm NEW KVANT DPSS laser 300mW/640nm red diode 1W/445nm blue diode	500mW /532nm NEW KVANT DPSS laser 600mW /640nm Diode 1W /445nm Diode	500mW /532nm NEW KVANT DPSS laser 1,2W /640nm Diode 1W /445nm Diode	1W /532nm NEW KVANT DPSS laser 1,2W /640nm Diode 1 W /445nm Diode	1,2W /532nm NEW KVANT DPSS laser 2.1W /640nm Diode 2W /445nm Diode
Input power voltage	230VAC /50Hz (+/-5%) 110VAC /50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz
Modulation/blanking	0-5V analog, up to 50khz TTL	0-5V analog, up to 50 kHz TTL	0-5V analog, up to 50 kHz TTL	0-5V analog, up to 50 kHz TTL	0-5V analog, up to 50 kHz TTL	0-5V analog, up to 50 kHz TTL
Beam divergence	<1mRad	<1 mrad	<1 mrad	<1 mrad	<1 mrad	<1.1 mRad
Beam diameter	3mm	3mm	3mm	3,5mm	3,5mm	4mm
Power consumption	max 250VA	max 250VA	max 300VA	max 350VA	max 350VA	max 500VA
Weight / dimensions	6kg/ 287x380x120mm	11kg/ 265x200x200mm	16kg/ 365x240x250mm	16kg/ 365x240x250mm	16kg/ 365x240x250mm	20kg/ 500x270x280mm
Input / output connection	1x input ILDA DB25 male	1x input ILDA DB25 male 1x output ILDA DB25 female	1x input ILDA DB25 male 1x output ILDA DB25 female	1x input ILDA DB25 male 1x output ILDA DB25 female	1x input ILDA DB25 male 1x output ILDA DB25 female	1x input ILDA DB25 male 1x output ILDA DB25 female
Operating temperature	10 to 35°C	10 to 35°C	10 to 35°C	10 to 35°C	10 to 35°C	10 to 35°C / 0 to 50°C
Safety features	Key switch, Interlock loop, Scan fail safety					
Scanning system	LM scanners; CT 6215H scanners; temperature stabilized; mirror reflectivity 90%, dielectric mirror coating					
Maximal angle	80° for both axes (LM, CT 6215H)					
Scanratet	40kpps/CT6215H	25kpps/LM	60kpps/CT6215 with HP drivers on request			





High-power range full color laser systems

SPECTRUM is ideal for large indoor arenas or outdoor shows. High quality components ensures long lasting utilisation in multi-laser applications. These laser projectors comes in robust and well padded flight case with 25m ILDA cable as standard.

Product is certified by CE.ISO 9001:2000

Laser Technology

- top level air cooled semiconductor laser
- high-precision technology

Applications

- special outdoor events
- opening ceremonies
- national festivals and celebrations
- advertising displays
- discotheques

Main features

- maximal beam brightness setting
- hermetically separated sectors of laser (clean closed sector, air cooled sector)
- active warming up time 45 sec.
- beam direction and alignment setting
- inverted axis projection
- low weight

Operation

- low consumption
- no special requirements for maintenance
- very easy handling

Power supply

- power supply 230V/50Hz
- 110V/60Hz on request

Color balance

- excellent color spectrum up to 16 mil. colors
- easy to make cold white "discharge lamp" colors

Cooling

- air cooled laser
- Peltier cooling and heating system

Scanning system

- scanning system x,y speed up to 60kpps
- drawing area 80° for both axes

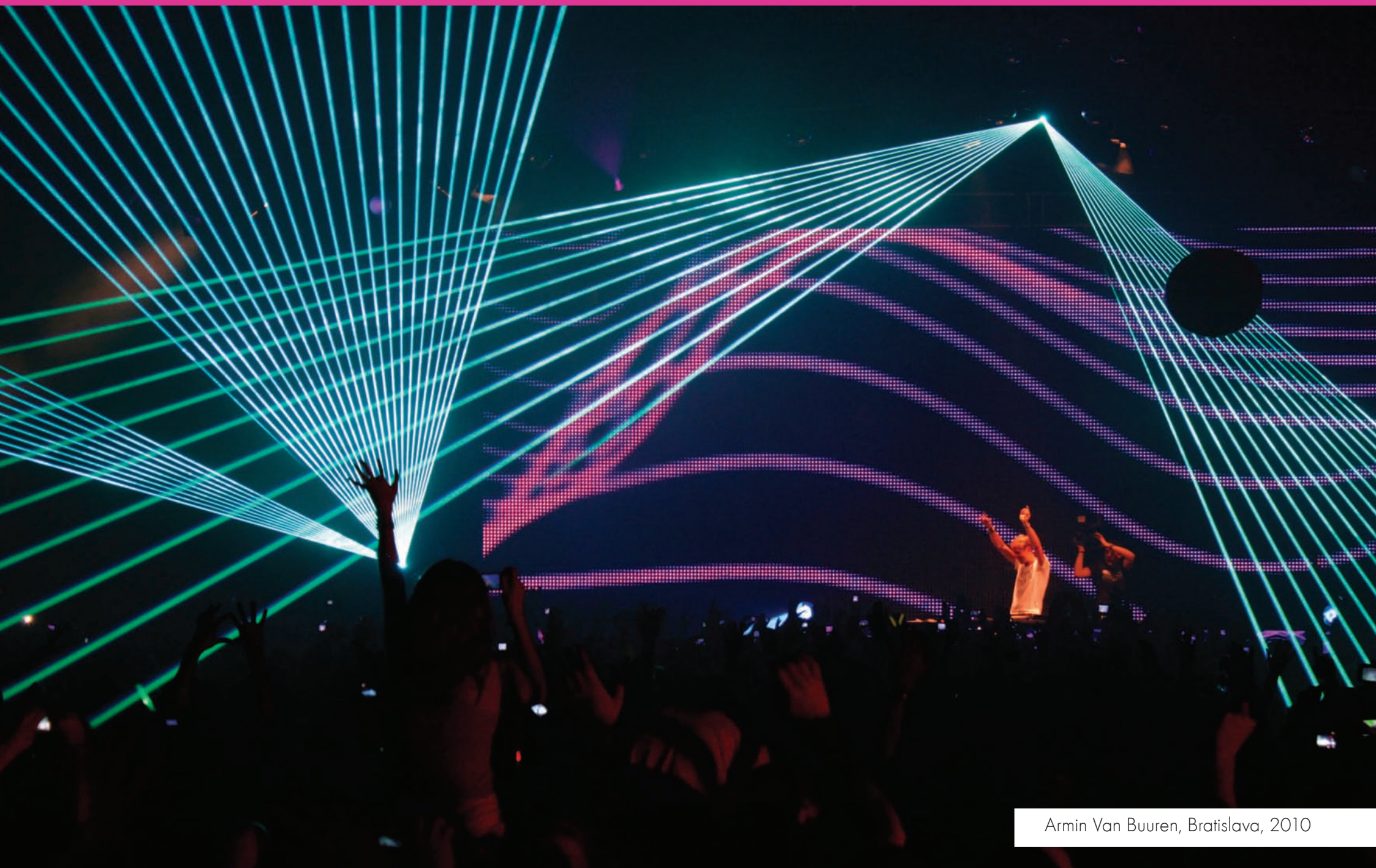
Optical elements

- high precision Thorlabs optical components adjustable mounts

Safety protections

- electronic and fuse protection of scanners
- adjustable safety card on request
- beam shutter on request
- safety key

[illegible]



Armin Van Buuren, Bratislava, 2010

RECOMMENDED APPLICATIONS

DISCO|CLUBS|ENTERTAINMENT

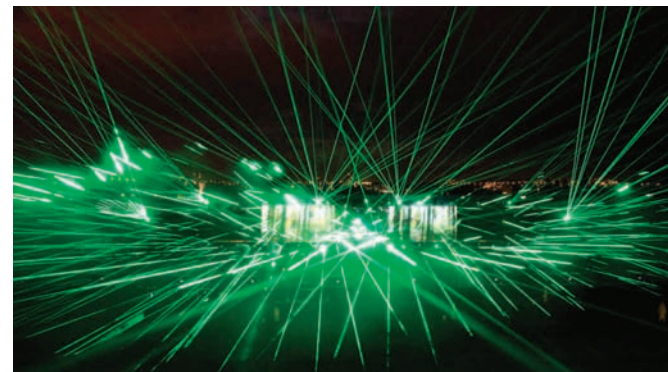


TOP HILL BUDVA



CLUB MINISTRY OF FUN SLOVAKIA

OUTDOOR EVENTS



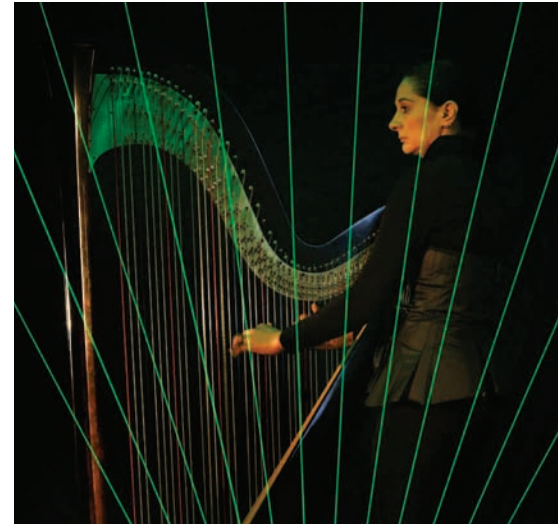
1000 ANNIVERSARY OF HANOI

RECOMMENDED APPLICATIONS

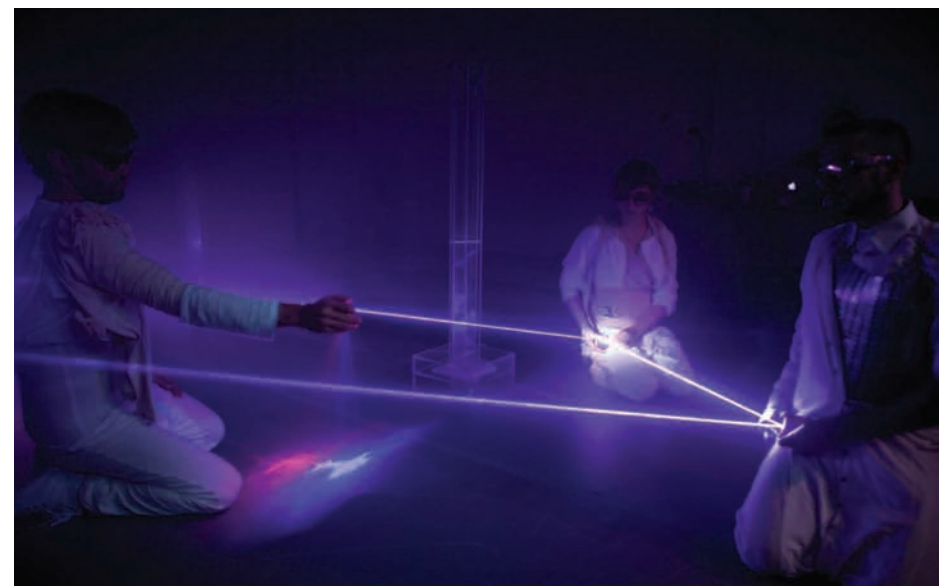
LASER BILLBOARD - LOGO|TEXT|ADVERTISEMENT



SPECIAL APPLICATIONS



AKROPOLIS THEATRE

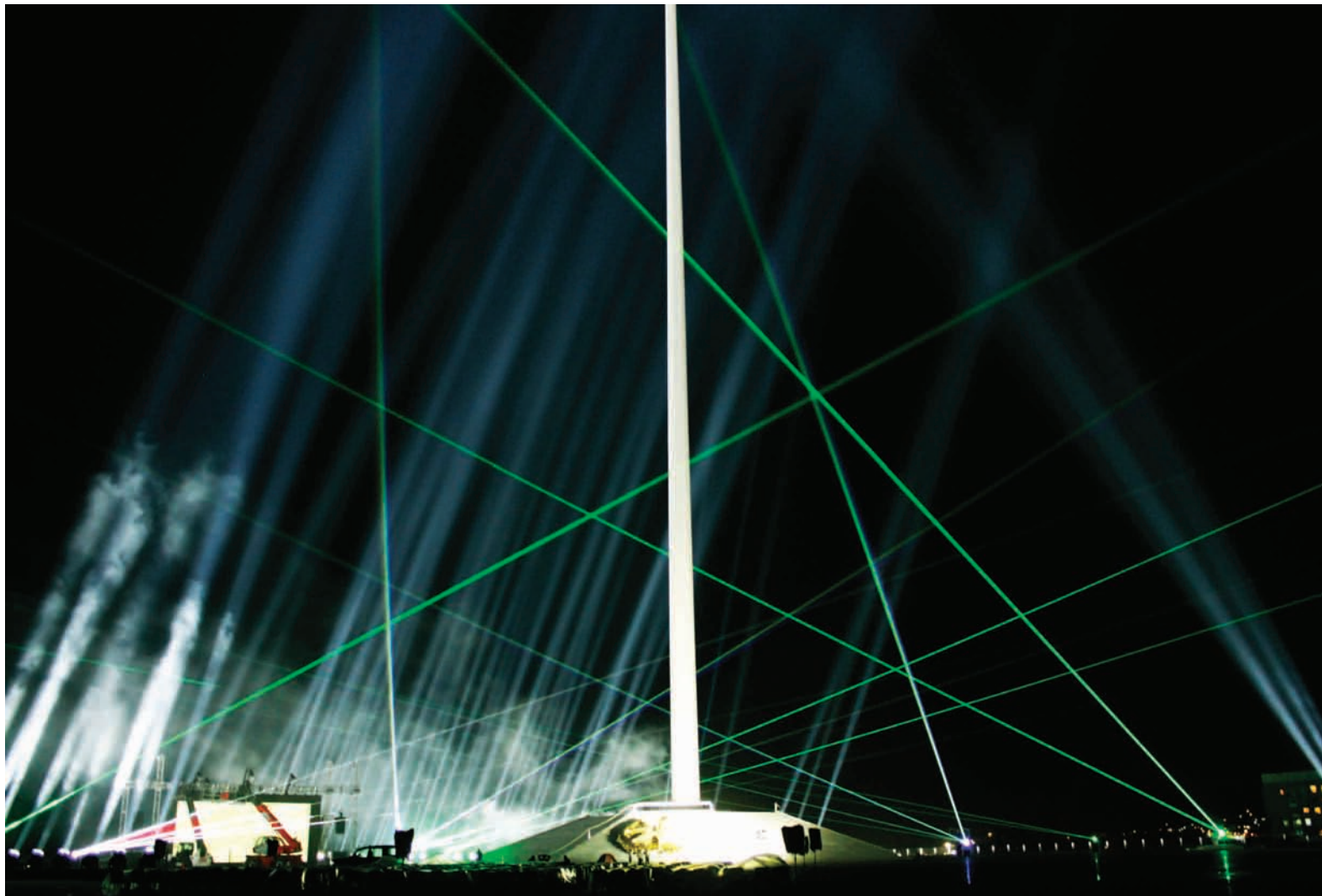






from 0.5W up to 20W

The most popular GREEN laser system MAXIM is ideal for wide range of applications



Laser Technology

- diode-pumped thin-disk laser (JenLas)
- optically pumped semiconductor CW laser diode (Coherent)

Applications

- discotheques and clubs
- theaters and concerts
- techno parties
- presentations
- opening ceremonies
- advertising

Main features

- air cooled
- no water requirement
- hermetically separated sectors of laser (clean closed sector, air cooled sector)
- thermal stabilization
- maximal beam brightness setting
- active warming up time 45 sec.
- inverted axis projection
- ILDA input/output
- low weight
- focusable internal collimator

Operation

- easy access to optical parts for maintenance
- low power consumption
- temperature stability in extreme conditions

Internal electronic system

- power supply 230V/50Hz or 110V/60Hz on request
- regulated current supply with current limiter

Optical elements

- antireflect surface of collimator lenses decrease the power losses
- external optional collimator with variable ratio for excellent divergence and better beam visibility
- using ext. collimator for visibility up to 10km

Safety protections

- electronic and fuse protection of scanners
- acoustic signalization of overheating
- emergency Stop button
- AC voltage drop-out protection
- Key switch
- Interlock loop
- Scan fail safety

Baku - Azerbaijan, 2010

MAXIM laser system with high speed scanning system – professional laser projector in extremely small housing. Product is certified to 9001:2000

System Maxim	MX-0.5W/MX-1W/MX-2W	MX-3W	MX-5W	MX-8W	MX-10W	MX-15W (outdoor) MX-15W (duo)	MX-20W (outdoor)
Output power	0.5W, 1W or 2W	3W	5W	8W	10W	15W	20W
Wavelength	532nm green DPSS	JENLAS 532nm green DPSS COHERENT 532nm green OPSL	JENLAS 532nm green DPSS COHERENT 532nm green OPSL	JENLAS 532nm green DPSS COHERENT 532nm green OPSL	COHERENT 532nm green OPSL	JENLAS 532nm green DPSS COHERENT 532nm green OPSL	COHERENT 532nm green OPSL
Input power voltage	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz	230VAC / 50Hz (+/- 5%) 110VAC / 50Hz
Modulation/ blanking	analog 0-5V up to 50kHz TTL	< analog 0-5V up to 50kHz 1.5 mrad	analog 0-5V up to 50kHz TTL	analog 0-5V up to 50kHz TTL	analog 0-5V up to 50kHz TTL	analog 0-5V up to 50kHz TTL	analog 0-5V up to 50kHz TTL
Beam divergence	<1 mrad	<1.5 mrad	JENLAS <1.5mrad COHERENT <1.3mrad	JENLAS <1.5 mrad COHERENT <1,5 mrad	COHERENT <1,5 mrad	JENLAS <1,3 mrad COHERENT <1,3 mrad	COHERENT <1,3 mrad
Beam diameter	2.5mm	JENLAS 3mm COHERENT 2.3mm	JENLAS 3mm COHERENT 2.3mm	JENLAS 4mm Coherent 2.5mm	JENLAS 4mm Coherent 2.5mm	JENLAS <5mm COHERENT <5mm	COHERENT <5mm
Power consumption	max 220VA	max 400VA	max 400VA	max 400VA	max 500VA	max 800VA	max 800VA
Weight / dimensions	13kg/ 420x215x245mm m420x215x245mm	15kg/ 420x215x245mm	15kg/ 420x215x245mm	21kg/ 495x215x245mm 15kg/ 420x215x245mm (Coherent)	15kg/ 420x215x245mm (Coherent)	44kg/470x520x230mm (duo) 45kg/ 510x390x290 mm (outdoor)	45kg/ 510x390x290 mm (outdoor)
Input / output connection	ILDA DB25 input male 1x ILDA DB25 input female 1x	ILDA DB25 input male 1x ILDA DB25 input female 1x	ILDA DB25 input male 1x ILDA DB25 input female 1x	ILDA DB25 input male 1x ILDA DB25 input female 1x	ILDA DB25 input male 1x ILDA DB25 input female 1x	ILDA DB25 input male 1x ILDA DB25 input female 1x	ILDA DB25 input male 1x ILDA DB25 input female 1x
Operating / storage temperature	10 to 35°C / 0 to 50°C	10 to 35°C / 0 to 50°C	10 to 35°C / 10 to 50°C	10 to 35°C / 10 to 50°C	10 to 35°C / 10 to 50°C	10 to 35°C / 10 to 50°C	10 to 35°C / 10 to 50°C
Scanning system	LM scanners; CT 6215H scanners; mirror reflectivity 98%, dielectric mirror coating						
Maximal angle	80° for both axes (CT 6215H,LM)						
Scanrate	40kpps/CT6215H (3mm), 30kpps/CT6215H (5mm), 25kpps/LM						





20W GREEN MAXIM - visibility more than 11km



Extremely powerful GREEN laser ultimate laser cannon when you want to be seen far away!

Laser Technology

- optically pumped semiconductor CW laser diode (Coherent)
- outdoor air cooled laser with internal electronic system

Applications

- big opening ceremonies
- special outdoor events
- building installation
- static beam projection
- advertising

Main features

- connection 230V/16A, 50Hz (single phase)
- thermal stabilization
- maximal master brightness setting
- brightness potentiometers for each laser module
- active warming up time 1 min.
- beam direction and alignment setting
- compact design style
- minimal operating costs
- high beam quality
- temperature stability in extreme conditions

Operation

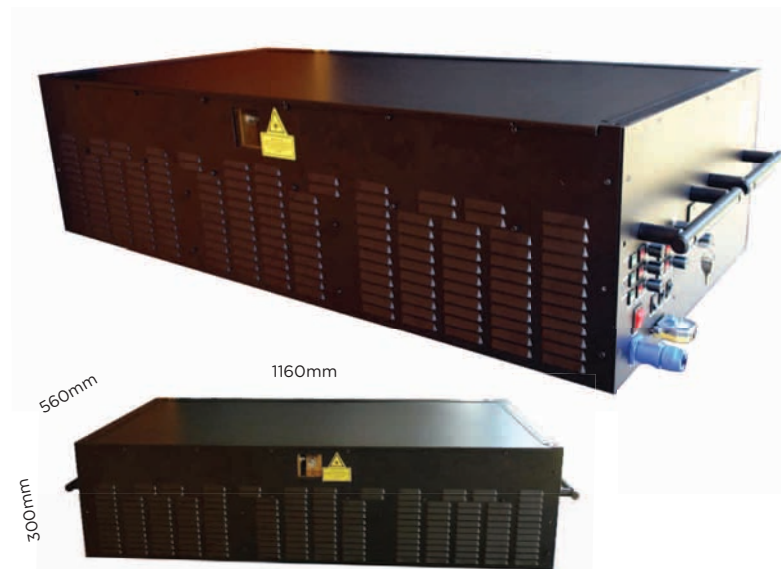
- considerably lower operating and maintenance cost
- no more external cooling water supply
- high efficiency
- long lifetime

Internal electronic system

- power supply 230V/50Hz or 110V/60Hz on request
- regulated current supply with current limiter

Optical elements

- antireflect surface of collimator lenses decrease the power losses
- high precision Thorlabs optical components adjustable mounts



MAXIM 50W – air cooled, portable and reasonably light ultimate GREEN laser machine for extreme laser applications. Inside you would find 6 Coherent OPSP 532nm modules combined together into one super-powerful beam. Due to extremely low divergence and wider beam diameter it can be visible from many kilometres distance.

Product is certified to CE, ISO 9001:2000

Dimensions	116x30x56cm
Weight	120kg
Power consumption	230V/16A
Divergence	<1.0mRad
Beam diameter	<12mm
Scanning system	CT6220H
Scanrate	20kpps
Scanning angle	80 degrees





Kvant laser modules

Diode Laser Modules

KVANT's blue, red and red-blue laser modules are equipped with top-quality laser diodes designed by prestigious laser diode manufacturers. All modules are temperature controlled (TEC) to yield maximum lifetime and optimal performance. Thanks to the analog blanking input (0-5V) the output power can be modulated continuously up to 30 kHz. The maintenance is simple: just turn the power on.

RED series I

Model Nr.	RLM-150N	RLM-300N	RLM-600N	RLM-900N	RLM-1200N	RLM-1800N	RLM-2100N	RLM-2400N	RLM-3200N	RLM-4100N	RLM-5000N
Optical power (mW)	150	300	600	900	1200	1800	2100	2400	3200	4100	5000
Center wavelength (nm)	642	642	642	642	642	642	642	642	642	642	642
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam size (FWHM, mm) (horizontal*vertical)	1.4x2.5	2.5x2.5	2.5x3.5	3.5x3.5	2.5x3.5	3.5x3.5	4x3.5	4x3.5	4x5	5x5	5.5x5
Beam divergence (half angle, mrad)	0.2	0.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Linear polarization	Y	N	Y	Y	N	N	N	N	N	N	N
M2 (horizontal/vertical)	1/2	2/2	5/7	5/7	5/7	7/7	8/7	8/7	8/10	10/10	11/10
Modulation freq. (kHz)	30	30	30	30	30	30	30	30	30	30	30
Peak power consumption	12V/2A	12V/2A	12V/4A	12V/4A	12V/6A	12V/6A	24V/0.8A 12V/4A	24V/2A 12V/10A	24V/2.5A 12V/10A	24V/2.5A 12V/10A	24V/3A 12V/10A
Dimensions (LxWxH,mm)	67x60x45	67x60x45	107x77x51	107x77x51	141x107x51	141x107x51	141x107x51	211x141x66	211x141x66	211x141x66	211x141x66




RED series II

Model Nr.	RLM-170L	RLM-340L	RLM-680L	RLM-1000L	RLM-1300L	RLM-2000L	RLM-2400L	RLM-3000L	RLM-3900L	RLM-4800L	RLM-5800L	RLM-6800L
Optical power (mW)	170	340	680	1000	1300	2000	2400	3000	3900	4800	5800	6800
Center wavelength (nm)	637	637	637	637	637	637	637	637	637	637	637	637
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam size (FWHM, mm) (horizontal*vertical)	1.4X2.5	2.5x2.5	2.5x3.5	3.5x3.5	2.5x3.5	3.5x3.5	4X3.5	5X3.5	4X5	5X5	5.5X5	6X5
Beam divergence (half angle, mrad)	0.2	0.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Linear polarization	Y	N	Y	Y	N	N	N	N	N	N	N	N
M2 (horizontal/vertical)	1/2	2/2	5/7	5/7	5/7	7/7	8/7	9/7	8/10	10/10	11/10	11/10
Modulation freq. (kHz)	30	30	30	30	30	30	30	30	30	30	30	30
Peak power consumption	12V / 2A	12V / 2A	12V / 4A	12V / 4A	12V / 6A	12V / 6A	24V/0.8A 12V/4A	24V/2A 12V/10A	24V/2.5A 12V/10A	24V/2.5A 12V/10A	24V/3A 12V/10A	24V/3A 12V/10A
Dimensions (LxWxH,mm)	67x60x45	67x60x45	107x77x51	107x77x51	141x107x51	141x107x51	141X107X51	211X141X66	211X141X66	211X141X66	211X141X66	211X141X66
Picture												

RED series III


Model Nr.	RLM-130D	RLM-250D	RLM-500D	RLM-750D	RLM-1000D	RLM-1500D	RLM-1800D	RLM-2000D	RLM-2800D	RLM-3500D	RLM-4300D
Optical power (mW)	130	250	500	750	1000	1500	1800	2000	2800	3500	4300
Center wavelength (nm)	660	660	660	660	660	660	660	660	660	660	660
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam size (FWHM, mm) (horizontal*vertical)	1.4x2.5	2.5x2.5	2.5x3.5	3.5x3.5	2.5x3.5	3.5x3.5	4x3.5	4x3.5	4x5	5x5	5.5x5
Beam divergence (half angle, mrad)	0.2	0.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Linear polarization	Y	N	Y	Y	N	N	N	N	N	N	N
M2 (horizontal/vertical)	1/2	2/2	5/7	5/7	5/7	7/7	8/7	8/7	8/10	10/10	11/10
Modulation freq. (kHz)	30	30	30	30	30	30	30	30	30	30	30
Peak power consumption	12V/2A	12V/2A	12V/4A	12V/4A	12V/6A	12V/6A	24V/0.8A 12V/4A	24V/2A 12V/10A	24V/2.5A 12V/10A	24V/2.5A 12V/10A	24V/3A 12V/10A
Dimensions (LxWxH,mm)	67x60x45	67x60x45	107x77x51	107x77x51	141x107x51	141x107x51	141x107x51	211x141x66	211x141x66	211x141x66	211x141x66
Picture											

BLUE series


Model Nr.	BLM-150LD	BLM-500LD	BLM-150B	BLM-500B	BLM-1000B	BLM-2000B	BLM-3000B	BLM-4000B	BLM-5000B	BLM-6000B	BLM-8000B	BLM-12kB	BLM-10kB	BLM-20kB
Optical power (mW)	150	500	150	500	1000	2000	3000	4000	5000	6000	8000	12 W	10 W	20 W
Center wavelength (nm)	445	445	445	445	445	445	445	445	445	445	445	445	445	445
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5	± 5
Beam size (FWHM, mm) (horizontal*vertical)	1 x 4	1.3 x 4.5	2 x 4.5	2 x 4.5	2 x 4.5	2 x 4.5	4 x 4.5	4 x 4.5	5.5 x 4.5	5.5 x 4.5	6 x 5	8 x 5	11 x 5	11 x 10
Beam divergence (half angle, horizontal/vertical, mrad)	0.2 / 0.2	0.8 / 0.2	0.9 / 0.2	0.9 / 0.2	0.9 / 0.2	0.9 / 0.2	0.9 / 0.2	0.9 / 0.2	0.9 / 0.2	0.9 / 0.2	0.9 / 0.4	0.9 / 0.4	0.9 / 0.2	0.9 / 0.2
Linear polarization	Y	Y	Y	Y	Y	Y/N	N	N	N	N	N	N	N	N
M2 (horizontal/vertical)	1 / 4	5 / 3	6 / 3	6 / 3	6 / 3	6 / 3	12 / 3	12 / 3	16 / 3	16 / 3	17 / 6	24 / 6	35 / 3	35 / 7
Modulation freq. (kHz)	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Peak power consumption	12V / 2A	12V / 4A	12V / 2A	12V / 4A	12V / 4A	12V / 5A	12V / 8A	12V / 12A	12V / 15A	12V / 15A	12V / 16A	12V / 18A	12V / 22A	24V / 6A
Dimensions (LxWxH,mm)	67x60x45	67x60x45	67x60x45	67x60x45	67x60x45	107x77x51	107x77x51	141x107x51	141x107x51	141x107x51	141x107x51	141x207x51	211x141x66	211x141x66
Picture														

The red-blue module series is becoming more and more popular. The combination of red and blue laser in a single housing saves the space in your system.

RED-BLUE series

Model Nr.	RBLM-1300	RBLM-1700	RBLM-2000	RBLM-2300	RBLM-3300
Optical power (mW)	1300	1700	2000	2300	3300
Center wavelength (nm)	445 (1W) and 637 (340mW)	445 (1W) and 637 (680mW)	445 (1W) and 637 (1W)	445 (1W) and 637 (1.3W)	445 (2W) and 637 (1.3W)
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5	± 5
Beam size (mm) (horizontal*vertical)	2.5 x 4	2.5 x 4.5	3.5x4.5	2.5x4.5	4x4.5
Beam divergence (half angle, horiz./vert., mrad)	0.9 / 0.2	0.9 / 0.8	0.9 / 0.8	0.9 / 0.8	0.9 / 0.8
Linear polarization	N	Y	N	N	N
Modulation freq. (kHz)	30	30	30	30	30
Peak power consumption	12V/5A	12V/6A	12V/6A	12V/8A	12V/10A
Dimensions (LxWxH,mm)	107x77x51	107x77x51	107x77x51	141x107x51	141x107x51
Picture					


UV and Violet series

Model Nr.	BLM-20UV	BLM-120UV	BLM-200V	BLM - 100V
Optical power (mW)	20	120	200	100
Center wavelength (nm)	375	395	405	405
Center wavelength tolerance (nm)	± 5	± 5	± 5	± 5
Beam size (FWHM, mm) (horizontal*vertical)	1.5 x 4	1.5 x 4	1 x 4	1 x 4
Beam divergence (half angle, horizontal/vertical, mrad)	0.2 / 0.2	0.2 / 0.2	0.2 / 0.2	0.2 / 0.2
Linear polarization	Y	Y	Y/N	Y
M2 (horizontal/vertical)	1 / 4	1 / 4	1 / 4	1 / 4
Modulation freq.(kHz)	30	30	30	30
Peak power consumption	12V / 2A	12V / 2A	12V / 2A	12V / 2A
Dimensions (LxWxH,mm)	67x60x45	67x60x45	67x60x45	67x60x45
Picture				


DPSS and OPSL lasers

KVANT Ltd introduces the first KVANT green DPSS laser modules. The two models with TEC stabilization and output power 300 and 600 mW are available.

GREEN series

Model Nr.	GLM-300	GLM-600
Optical power (mW)	300	600
Center wavelength (nm)	532	532
Center wavelength tolerance (nm)	± 5	± 5
Beam size (FWHM, mm) (horizontal*vertical)	Ø 2.7	Ø 2.7
Beam divergence (half angle, horizont./vertical, mrad)	0.4	0.4
Linear polarization	Y	N
M2 (horizontal/vertical)	3	3
Modulation freq.(kHz)	30	30
Peak power consumption	5V / 5A	12V / 8A
Dimensions (LxWxH,mm)	87x60x45	107x77x51
Picture		

COHERENT

Series	Blue	Cyan II	Cyan I	Green	Yellow	Orange	Red
Optical power (mW)	1000, 2000	1000, 2000*, 4000*	3000*, 5000*	3000, 5000, 8000, 10000*	3000, 5000, 6000*	1250*	1000, 1500*, 2000*, 2500*
Center wavelength (nm)	460	480	488	530	577	607	639
Center wavelength tolerance (nm)	± 3	± 3	± 3	± 3	± 3	± 3	± 1
Spectral width (nm)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Beam size (FWHM, mm)	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 2.3	Ø 1
Beam divergence (mrad)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Linear polarization	100:1	100:1	100:1	100:1	100:1	100:1	100:1
M2 (horizontal/vertical)	6 / 4	6 / 4	6 / 4	6 / 4	6 / 4	6 / 4	1.5 / 1.5
Modulation freq.(kHz)	50	50	50	50	50	50	50
Peak power consumption	2.2V / 32A	2.2V / 32A	2.2V / 40A	2.2V / 40A	2.2V / 40A	2.2V / 32A	2.2V / 32A
Dimensions of head only (LxWxH,mm)	134x44x65	134x44x65	134x44x65	134x44x65	134x44x65	134x44x65	256x49x71
Picture (head only) *preliminary data							

KVANT Ltd is official distributor of COHERENT Genesis Taipan OPSSL laser systems and JENOPTIK DPSS laser systems. The high power, reliability, beam quality, linearity and long lifetime are the main features of these laser heads.

JENOPTIK

Series	Green				Red
Optical power (mW)	2500	3000	5000	8000	1200
Center wavelength (nm)	532	532	532	532	671
Center wavelength tolerance (nm)	± 1	± 1	± 1	± 1	± 1
Beam size (FWHM, mm)	Ø 1.5	Ø 2	Ø 2	Ø 2	Ø 2
Beam divergence (mrad)	2	< 3	< 3	< 4	< 3
Linear polarization	Y	Y	Y	Y	Y
M2	4	5	5	6	5
Modulation freq.(kHz)	20	20	20	20	20
Peak power consumption	2V/18A	2V/23A	2V/23A	2V/32A	2V/28A
Dimensions (LxWxH,mm) (head only)	150x55x40	200x70x40	200x70x40	225x110x55	225x110x55
Picture (head only)					

Beside the OEM driver we offer a table-top version of the driver with an external and internal current control which is suitable for R&D application.



ACCESSORIES

SCANNER SETS

SCANNER SETS STANDARD equipment contains:

- X,Y scanner
- scanner drivers
- scanner aluminum mount
- scanner power PCB
- set of scanner cables
- user manual

LM - supports aperture of 4mm



CT 6215H
- supports aperture of 3mm and 5mm beam



Technical specifications

Mechanical

Angle	40°
Rotor Inertia	0.028gm*cm2
Max. rotor temperat.	100°C

Electric/mechanical driver

Coil resistvance	2.53 Ohms, +/-10%
Coil inductance	94 µH, +/-10%
RMS current	4,1 Amperes at Tcase of 50°C,Max
Peak current	8 Amperes, Max

Position detector

Linearity	99.9% Min., over 15° 99.5%Typical,over 30°
Scale drift	50 PPM/°C, Max
Zero drift	15 µrad/°C, Max

Driver

Input	+/- 10V
Operating temperature	0-50°C
Power supply requir.	+/-15 to +/-28VDC +/-4.5ADC Max

Technical specifications

Mechanical

Angle	40°
Rotor Inertia	0.020gm*cm2
Max. rotor temperat.	100°C

Electric/mechanical driver

Coil resistvance	4.1 Ohms, +/-10%
Coil inductance	96 µH, +/-10%
RMS current	1.5 Amperes at Tcase of 50°C,Max
Peak current	5 Amperes, Max

Position detector

Linearity	95% Min., over 20° 90% Typical, over 40°
Scale drift	100 PPM/°C, Max
Zero drift	50 µrad/°C, Max

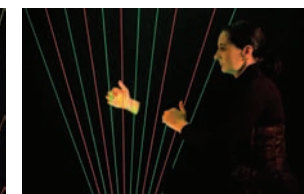
Driver

Input	+/- 10V
Operating temperature	0-50°C
Power supply requir.	+/-15 to +/-28VDC +/-3ADC Max

LASER HARP CONTROLLER



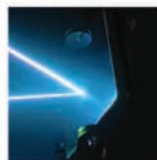
PROLIGHT LASER HARP CONTROLLER



Prolight Laser Harp Controller is **the latest and greatest product** from Prolight that will turn your laser projector into a powerful frameless laser harp. It creates a one-of-a-kind, virtual light harp of impressive size that employs multi-colored laser beams **instead of strings**. Just like a real instrument, when you play it, by blocking laser beams, **it makes sounds**.

- The option of 8, 9, 10 or 12 beam laser harp
- The option of switching tone orientation left to right
- The option of red, green, blue, green-red, or rainbow colored beams (if RGB laser projector is used)

MIRRORS



REFLECTION

Reflection mirror
STANDARD
with mount
dimensions 150x150mm

Reflection mirror
ADJUSTABLE
with mount, fine adjusting
dimensions 150x150mm

Detail of fine
adjustment
screws

Example of
REFLECTION
mirror use



DIFFRACTION

Diffraction mirror
ADJUSTABLE
with mount, fine adjusting
dimensions 150x150mm

Diffraction mirror
STANDARD
with mount
dimensions 150x150mm

Detail of fine
adjustment
screws

Example of
DIFFRACTION
mirror use



LASER CONTROLLERS & SCREENS

Phoenix 3.0 - Showcontroller

PHOENIX 3.0[®] is the most recent generation of professional laser / show controller software systems on the market. Developed by and for laser show professionals since 1995! Unlimited and interactive effect alternatives suitable for every situation. Beside a professional laser control for up to 10 independent lasers, PHOENIX 3.0[®] also offers a perfect implementation of lighting effects that can be activated by DMX and/or Midi. In addition, video files of any resolution can be integrated in the timeline, exactly matched to a frame and can be displayed by a beamer in real time(!), synchronous to a laser show. In contradiction to many other controls, PHOENIX 3.0[®] calculates the output of the signals in real time. In this way the user sees the effect of his effect programming in real time and without a rendering time. A lot of functions, like the SMS-4-Laser, the scrolling text generator, LIVE-control via the Midi keyboard, Joysticks, Touch screen etc. are only a few of the functions of PHOENIX 3.0[®]. Personal logos and pictures can be drawn in 2D/3D in PHOENIX-PicEdit. A BMP-Converter helps you quickly converting a Bitmap into a laser picture. The PHOENIX 3.0[®] - package is delivered with a Showplayer-System for fixed installations / exhibition stands that allows you to play pre-defined shows according to a time schedule. An arbitrary number of shows can be preprogrammed in a show calendar years in advance. The software already contains more than 100 beautiful shows, which are synchronous to the music and are ready for immediate use. An extensive video help system is included in the delivery.



Laser Matrix

Laser projectors are becoming more available. And mostly professional users have to face the question how to control such a large number of lasers. It has always been a problem, because most of programs used nowadays are limited by number of output devices or because the way of creating laser shows for such a large number of lasers is very time-consuming.

LaserMatrix is a device that receives 4 ILDA signals in the input and in the output it has 8 ILDA outputs. But it is not only an ordinary splitter, because there is a great possibility to connect any output with any input and also it is possible to set output size, position and brightness in each output.

Controllability by the DMX signal makes it very flexible. LaserMatrix is not restricted only to our products' use, it can be used with any software for creating laser shows.



FIESTA lasershow controller

Fiesta! is a new generation lasershow software for creating various kind of laser presentation. Its powerful features allow you making amazing live shows or shows for music with unlimited number of laser projectors. Fiesta! uses USB interface to control laser, so finally you can create outstanding shows using your notebook!

DEVICE TECHNOLOGY
 -powered by USB port from
 PC usable for notebooks
 -signal converter PC-LASER



PANGOLIN FLASHBACK 3

unique multifunction laser controller



The Flashback 3 is the smallest, easiest and most economical multifunctional laser controller. This can play laser up to 432 graphics, beams and even complete Pangolin-quality shows. No extra computer hardware is needed – the tiny Flashback 3 has everything you need to control your laser projector.

3 functions in 1 device

- 1 - Standard USB controller for laser
- 2 - DMX controlled laser controller
- 3 - Stand alone player of pangolin shows stored on SD/XD card (no PC needed)
- 4 - NOW also available in **WIFI** !

PANGOLIN QM2000.NET



The QM2000.NET provides for a very simple and truly plug-and-play operation of Pangolin QM2000 board. Just locate the QM2000.NET system close to (or installed within) your laser projector, connect it to a computer via Ethernet cable, and use any software within the LD2000 suite. If you want to expand the number of projectors controlled, or create large-scales shows using numerous laser projectors, this is no problem with the QM2000.NET, since you only need to connect them together with standard 10/100 Ethernet cables.

QM2000.NET is available as:

- OEM version (NET board only)
- Compact housing ready to use (include profi alu housing, power supply, LD 2000 board, Net board)

CUBOX



CUBOX is a device able to play laser shows and animations stored on one SD card, which may contain 256 positions. Each position could be a single picture, an animation with up to 256 frames or a complete laser show. Show duration is limited only with card size. Cubox is supplied with software packages DMX Fill and Quazar 2.

You can use Cubox for live lasershow with controlling by DMX console in real time. You just need to plug a SmartMedia card and choose requested animation or show. In the live mode following parameters can be controlled: drawing position X,Y (16bit), dimmer (brightness settings), position selection, speed of animation and speed of drawing (300 to 40000 pps), color...by value of corresponding channel

WATER SCREEN - SHIELD

- Half circle shaped water screen
- Dimensions approx. 10m high x 27m width
- B-Connector connection
- Water/pressure requirements
- 1500 l / minute @ 10 bar
- Suitable for exterior use
- Possibility of water floating version
- Easy manipulation



WATER SCREEN - CURTAIN

- Highly transparent water screen
- Highlite effect for laser projections
- Dimensions according customer request
- Available with 1 or 3 nozzles lines
- Supplied with water pump on request



SCREEN

- Transparent screen material with special coating to reduce hotspot effects.
- Flame resistant according DIN 4102 B1
- Recommended for front projection
- Dimensions according customers request
- Possibility of installing into electric winding screen

SMD Transparent Curtain Series:

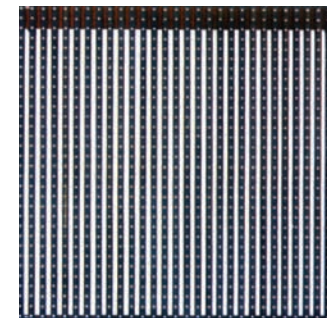
Specification	PH16	PH18.75	PH20	PH25	PH31.25	PH37.5
LED Lights	3 in 1	3 in 1	3 in 1	3 in 1	3 in 1	3 in 1
Pixel Pitch	16mm	18.75mm	20mm	25mm	31.25mm	37.5mm
Pixel Resolution	3906 dots/m2	2844 dots/m2	2500 dots/m2	1600 dots/m2	1024 dots/m2	711 dots/m2
Pixel Composing	1R1G1B	1R1G1B	1R1G1B	1R1G1B	1R1G1B	1R1G1B
Module Dimension (WxH)	12.6mmX512mm	12.6mmX600mm	12.6mmX640mm	12.6mmX800mm	12.6mmX1000mm	12.6mmX600mm
Module Graphic Definition	1x32	1x32	1x32	1x32	1x32	1x16
Cabinet Dimension	512x512x56mm	600x600x56mm	640x640x56mm	800x800x56mm	500x1000x56mm	600x600x56mm
Cabinet Graphic Definition	32x32	32x32	32x32	32x32	16x32	16x16
Single Cabinet Weight	20kg/m2	25kg/m2	26kg/m2	28kg/m2	30kg/m2	25kg/m2
Best Viewing Angle	15 -300m	15 -300m	15 - 300m	20 - 300m	25 -300m	25 -300m
Horizontal Viewing Angle	120 °	120 °	120 °	120 °	120 °	120 °
Vertical Viewing Angle	100 ° - 120 °	100 ° - 120 °	100 ° - 120 °	100 ° - 120 °	100 ° - 120 °	100 ° - 120 °
Average Power Consumption	150 - 600W/m2	150 - 600W/m2	150 - 500W/m2	150 - 300W/m2	150 - 200W/m2	150 - 200W/m2
Maximum Power Consumption	≤1000W/m2	≤800W/m2	≤700W/m2	≤480W/m2	≤300W/m2	≤260W/m2
Graphic Card	DVI	DVI	DVI	DVI	DVI	DVI
Control Method	synchronization	synchronization	synchronization	synchronization	synchronization	synchronization
LED Driver	constant current	constant current	constant current	constant current	constant current	constant current
Scan Mode	static	static	static	static	static	static
Frame Changing Frequency	≥60Hz	≥60Hz	≥60Hz	≥60Hz	≥60Hz	≥60Hz
Refresh Rate	≥1800Hz	≥1800Hz	≥1800Hz	≥1800Hz	≥1800Hz	≥1800Hz
Brightness	≥3000cd/m2	≥3000cd/m2	≥3000cd/m2	≥2600cd/m2	≥1500cd/m2	≥1200cd/m2
Ingress Protection (Front/Rear)	IP65/IP54					
Operation Temperature	-20C° - 50C°					
Operation Humidity	10% - 95%					
Input Voltage	AC220V/110V+/-15% 47-64Hz					
Gray Scale	4096					
Brightness Adjustment	256 level					
System Operating Platform	WINXP, WIN2000M WIN98etc					
Support Mode	DVI, VGA, S-VIDEO, RGBHV, COMPOSITION etc					
Control System	DVI graphic card (gigabyte), +optical fibre transmission (option)					
NTBF	≥10000 hours					
Life Time	50000 hours					

LED displays - the most effective indoor and outdoor displays



LED Strip Video Screen

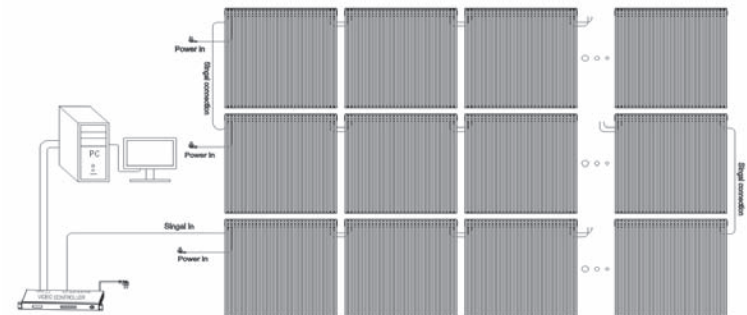
The LED strip - shaped full color screen is derived with stable direct current and can display video both synchronously and asynchronously with 16.7 million colors. It is advantaged in handiness, super - thinness, transparency, rainproof, super large area application, been pieced and fit together on option and easy installation and disassembly. It is suitable for the stage background of grand performance both indoor and outdoor, advertising media display and so on.



SPECIFICATION

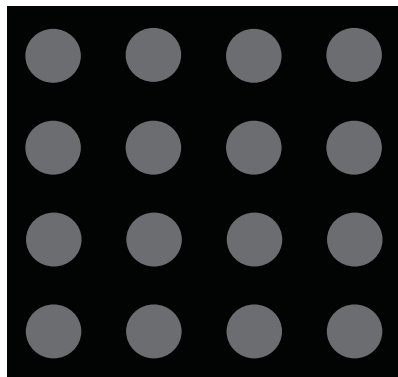
Working Voltage	AC90V-260V, 50-60Hz
Consumption	<200W / PCS
Colors	16.7 M
Working Temperature	-35 C - 55 C
Protection Level	IP 64
Brightness	5000cd/sqm (adjustable)
Tenure Life	> 50,000 hours
Pixel Pitch	25 mm
Weight / Unit	7.5 kg / Unit
Standard Unit Size	800 x 800 x 85 mm

Wiring and cable connection chart





Pope in Brno - Czech republic, 2010



LED DotMatrix series - indoor Full-color LED display

Characteristic

- o High brightness
- o Uniform color, reliable, long life span
- o Wide indoor applications
- o Good consistency, excellent visual effect

Classification

- o Indoor dot matrix LED screen
- o Outdoor dot matrix LED screen
- o Color: Single color, dual color, tri - color, full color

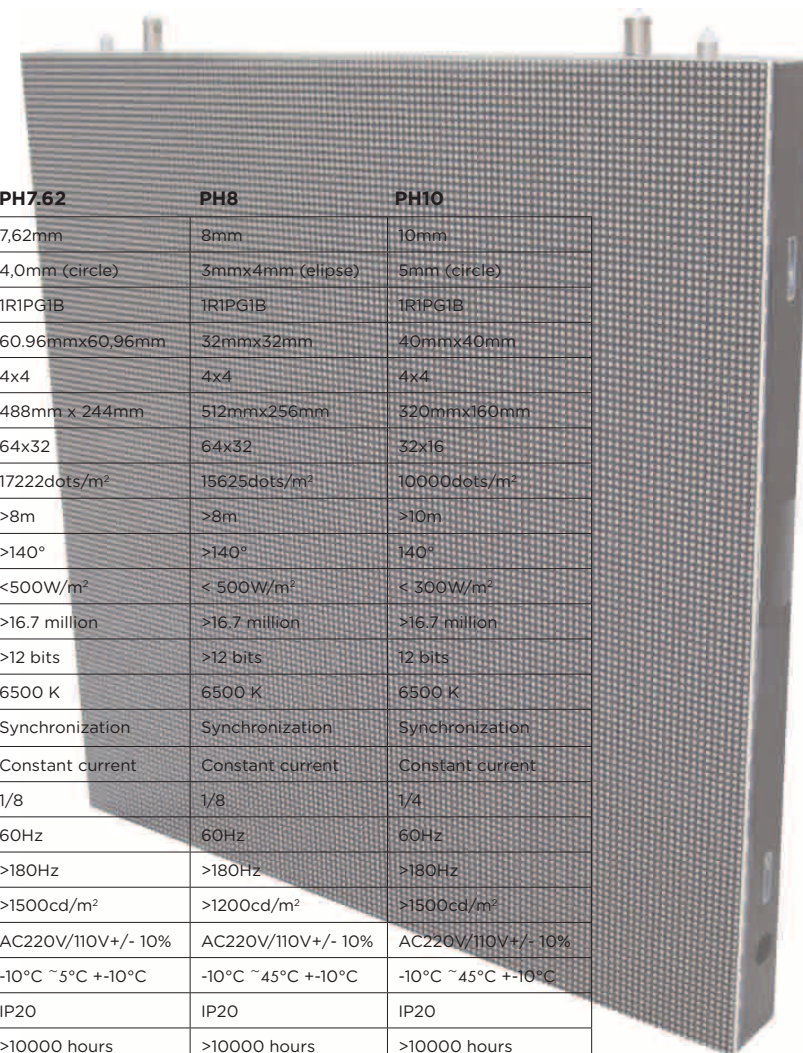
Serial patent product

- o Elliptical hole design to enhance the contrast grade
- o Large visual angle and high brightness suitable for semi - outdoor and superbright environment

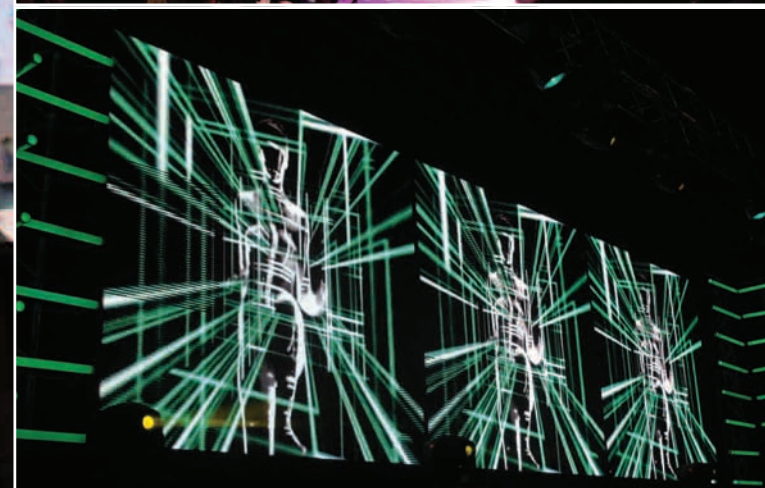
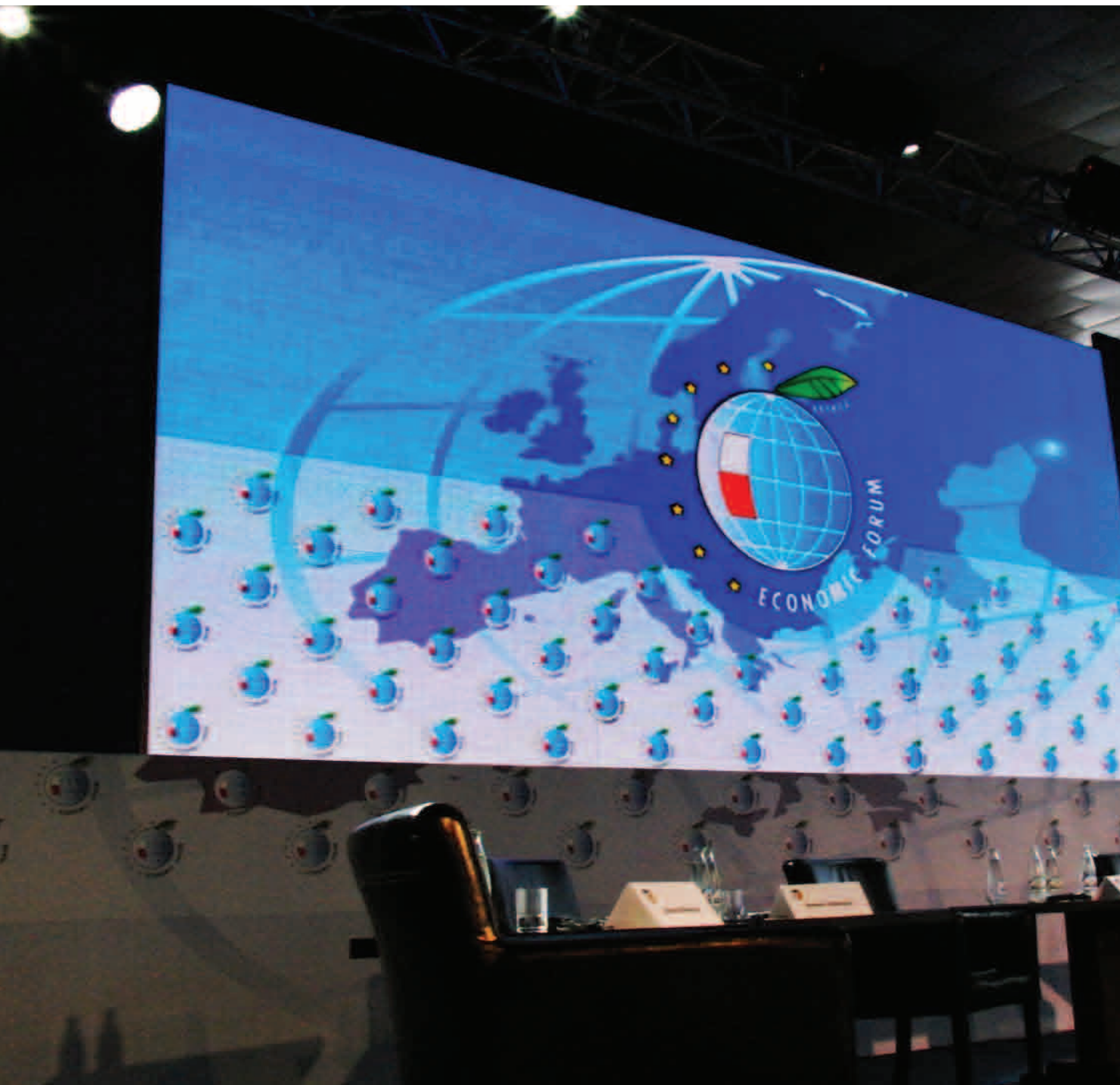
Indoor Integrated 3 in 1 full color Series

Unit Module	ITEM	PH4	PH5	PH6
	Pixel Pitch	4mm	5mm	6mm
	Size of pixel	3,0mm (circle)	3,75mm (circle)	4,8mm (circle)
	Pixel configuration	1R1PG1B	1R1PG1B	1R1PG1B
	size of block module	32mmx32mm	40mmx40mm	48mmx48mm
	Pixel of block module	8x8	8x8	8x8
	Size of module	256mmx128mm	320mmx160mm	192mmx192mm
	resolution of module	64x32	64x32	32x32
	density	62500dots/m ²	40000dots/m ²	27777dots/m ²
Main parameter	best viewing distance	>4m	>5m	>6m
	best viewing angle	>140°	>140°	>140°
	Max. power consumption	< 950W/m ²	< 600W/m ²	< 850W/m ²
	colors	>16.7 million	>16.7 million	>16.7 million
	Grayscale	>12 bits	>12 bits	14 bits
	Color temperature	6500 K	6500 K	6500 K
	control method	Synchronization	Synchronization	Synchronization
	Driving device	Constant current	Constant current	Constant current
	Driving method	1/16 scanning	1/16 scanning	1/8 scanning
	Frame frequency	60Hz	60Hz	60Hz
	Refresh frequency	>180Hz	>180Hz	>180Hz
	Brightness	>1800cd/m ²	>1500cd/m ²	>1800cd/m ²
	Working voltage	AC220V/110V+/- 10%	AC220V/110V+/- 10%	AC220V/110V+/- 10%
	Working temperature	-10°C ~5°C +10%	-10°C ~45°C +10°C	-10°C ~45°C +10°C
	IP grade	IP20	IP20	IP20
	MTBF	>10000 hours	>10000 hours	>10000 hours
	Life span	100,000 hours	100,000 hours	100,000 hours

Unit Module	ITEM	PH7.62	PH8	PH10
	Pixel Pitch	7,62mm	8mm	10mm
	Size of pixel	4,0mm (circle)	3mmx4mm (ellipse)	5mm (circle)
	Pixel configuration	1R1PG1B	1R1PG1B	1R1PG1B
	size of block module	60.96mmx60.96mm	32mmx32mm	40mmx40mm
	Pixel of block module	4x4	4x4	4x4
	Size of module	488mm x 244mm	512mmx256mm	320mmx160mm
	resolution of module	64x32	64x32	32x16
	density	17222dots/m ²	15625dots/m ²	10000dots/m ²
Main parameter	best viewing distance	>8m	>8m	>10m
	best viewing angle	>140°	>140°	140°
	Max. power consumption	<500W/m ²	< 500W/m ²	< 300W/m ²
	colors	>16.7 million	>16.7 million	>16.7 million
	Grayscale	>12 bits	>12 bits	12 bits
	Color temperature	6500 K	6500 K	6500 K
	control method	Synchronization	Synchronization	Synchronization
	Driving device	Constant current	Constant current	Constant current
	Driving method	1/8	1/8	1/4
	Frame frequency	60Hz	60Hz	60Hz
	Refresh frequency	>180Hz	>180Hz	>180Hz
	Brightness	>1500cd/m ²	>1200cd/m ²	>1500cd/m ²
	Working voltage	AC220V/110V+/- 10%	AC220V/110V+/- 10%	AC220V/110V+/- 10%
	Working temperature	-10°C ~5°C +10°C	-10°C ~45°C +10°C	-10°C ~45°C +10°C
	IP grade	IP20	IP20	IP20
	MTBF	>10000 hours	>10000 hours	>10000 hours
	Life span	100,000 hours	100,000 hours	100,000 hours



LED SCREENS for rental



LED SCREENS for club installations



AMNESIA CLUB IBIZA



TOP HILL MONTENEGRO - BUDVA



VANILLA CLUB SWITZERLAND

LED DotMatrix series - outdoor Full-color LED display

Features and Advantages

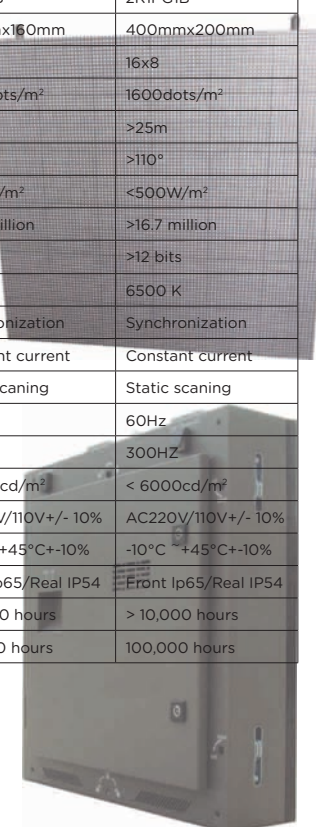
1. In order to ensure that images and texts are clear, vivid and consistent, all the chips for the entire RGB LED screens for outdoor screens within 100 square meters are at the same grade such as the same brightness (plus, minus 10%) and the same wavelength (plus, minus 2.5nm)
2. In order to ensure screen background can become matt, completely absorb LED refractive light and eliminate shadow and ghosting, we adopt imported glue to varnish module surface. The glue thickness for each module is not more than 0.1mm. So the color is consistent and uniform.
3. To ensure product reliability, operability and long life, we select the best chips for all outdoor displays.
4. Modular design. Arbitrary combination of sizes, convenient to assembly, exquisite box.
5. Easy to maintain and achieve single-pixel and single-lamp maintenance.
6. High quality at competitive prices.
7. Wide applications including stadiums, advertisements, banks, securities exchange, stations, terminals, shopping malls, postal offices, telecommunications, schools, monitoring, restaurants, entertainment, enterprises and so on.

Outdoor Integrated 3 in 1 full color Series

Unit Module	ITEM	PH8	PH10	PH16
	Pixel Pitch	8mm	10mm	16mm
	Size of pixel	4,0mm(circle)	4,0mm(circle)	4,5mm(circle)
	Pixel configuration	1R1PG1B	1R1PG1B	1R1PG1B
Main parameter	Size of block module	28mmx28mm	35,5mmx35,5mm	23mmx23mm
	Pixel of block module	4x4	4x4	2x2
	Size of module	256mmx128mm	160mmx160mm	256mmx128mm
	Resolution of module	32x16	16x16	16x8
	Density	15256dots/m ²	10000dots/m ²	3906dots/m ²
	best viewing distance	>8m	>10m	>16m
	best viewing angle	>140°	>140°	>140°
	Max. power consumption	<1200W/m ²	<1000W/m ²	<1000W/m ²
	colors	>16.7 million	>16.7 million	>16.7 million
	Grayscale	>12 bits	>12bits	>12 bits
	Color temperature	6500 K	6500 K	6500 K
	control method	Synchronization	Synchronization	Synchronization
	Driving device	Constant current	Constant current	Constant current
	Driving method	1/4 scanning	1/2 scanning	Static scanning
	Frame frequency	60Hz	60Hz	60Hz
	Refresh frequency	300HZ	300HZ	300HZ
	Brightness	< 5000cd/m ²	< 6000cd/m ²	< 6000cd/m ²
	Working voltage	AC220V/110V+/- 10%	AC220V/110V+/- 10%	AC220V/110V+/- 10%
	Working temperature	-10°C ~+45°C+/-10%	-10°C ~+45°C+/-10%	-10°C ~+45°C+/-10%
	IP grade	Front Ip65/Real IP54	Front Ip65/Real IP54	Front Ip65/Real IP54
	MTBF	> 10,000 hours	> 10,000 hours	> 10,000 hours
	Life span	100,000 hours	100,000 hours	100,000 hours

Outdoor LED lamp full color display

Unit Module	ITEM	PH10	PH12	PH16	PH20	PH25
	Pixel Pitch	10mm	12mm	16mm	20mm	25mm
	Pixel configuration	1R1PG1B	1R1PG1B	1R1PG1B	1R1PG1B	2R1PG1B
	size of module	160mmx160mm	192mmx192mm	256mmx256mm	320mmx160mm	400mmx200mm
Main parameter	Resolution of module	16x16	16x16	16x16	16x8	16x8
	Density	10000dots/m ²	6944dots/m ²	3906dots/m ²	2500dots/m ²	1600dots/m ²
	best viewing distance	>10m	>12m	>15m	>20m	>25m
	best viewing angle	>110°	>110°	>110°	>110°	>110°
	Max. power consumption	<650W/m ²	<450W/m ²	<750W/m ²	<550W/m ²	<500W/m ²
	colors	>16.7 million	>16.7 million	>16.7 million	>16.7 million	>16.7 million
	Grayscale	>12 bits	>12 bits	>12 bits	>12 bits	>12 bits
	Color temperature	6500 K	6500 K	6500 K	6500 K	6500 K
	control method	Synchronization	Synchronization	Synchronization	Synchronization	Synchronization
	Driving device	Constant current	Constant current	Constant current	Constant current	Constant current
	Driving method	1/4 scanning	1/4 scanning	Static scanning	Static scanning	Static scanning
	Frame frequency	60Hz	60Hz	60Hz	60Hz	60Hz
	Refresh frequency	300HZ	300HZ	300HZ	300HZ	300HZ
	Brightness	< 6500cd/m ²	< 6000cd/m ²	< 7000cd/m ²	< 6000cd/m ²	< 6000cd/m ²
	Working voltage	AC220V/110V+/- 10%	AC220V/110V+/- 10%	AC220V/110V+/- 10%	AC220V/110V+/- 10%	AC220V/110V+/- 10%
	Working temperature	-10°C ~+45°C+/-10%	-10°C ~+45°C+/-10%	-10°C ~+45°C+/-10%	-10°C ~+45°C+/-10%	-10°C ~+45°C+/-10%
	IP grade	Front Ip65/Real IP54	Front Ip65/Real IP54	Front Ip65/Real IP54	Front Ip65/Real IP54	Front Ip65/Real IP54
	MTBF	> 10,000 hours	> 10,000 hours	> 10,000 hours	> 10,000 hours	> 10,000 hours
	Life span	100,000 hours	100,000 hours	100,000 hours	100,000 hours	100,000 hours





Kvant hire services

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+ Rental of LED screens for interior and exterior

Indoor LED display

delivers images with true color, superb contrast levels and color uniformity. The indoor LED display offers the perfect solution for generating the ultimate picture in all bright indoor environment. With its sleek, sturdy design, indoor LED modules allow the build up of big size display. Its flexible module structure and user-friendly processor allow you to have your display installed and calibrated easily.

For its excellent picture quality and easy installation, indoor LED display is ideally suited for indoor advertising and events such as major trade shows, product launches, fashion shows, music tours and film and much more ...

Outdoor LED display

Thanks to the development of new True Color, Ultra-bright LED Technology, LED screen are now capable of performing like a real outdoor TV, even under direct sunlight.

Whether it's used as video display or for still images, what else other than an attractive, animated outdoor advertising screen can grab people's attention on a busy street, whether pedestrians or inside a car or bus, stuck in traffic jams.



+ Wide range of Green and RGB lasers for variety of applications from 0.5W to 50W

WE OFFER:

- Rental of lasers
- Laser show production
- Graphic and beam shows design
- Sale ready ILDA shows
- Accessories rental service
- Rental of LED screens for interior and exterior
- ... and more







WE ARE ABLE TO SUPPLY **LARGE QUANTITIES** OF **LASER PROJECTORS** AT THE SAME TIME

+ FOUNTAINS



+ ACCESSORIES

Bounce mirrors			
Water screen			

+ Projectors

Type	LCD Projectors
Display Technology	TFT Active Matrix
Image Brightness	15000 ANSI lumens
Contrast Ratio	2000:1
Platform	PC • Mac
Form Factor	Stationary

Image

Native Resolution	1024 x 768
Max Resolution (Interpolated)	1600 x 1200 (UXGA)
Image Size (Diagonal)	40 in. - 600 in.
Image Aspect Ratio	4:3 (Standard)
HDTV Formats	480i • 720p • 1080i • 575i •
Synchronization Range Horizontal	15 - 120 kHz
Synchronization Range Vertical	48 - 120 Hz

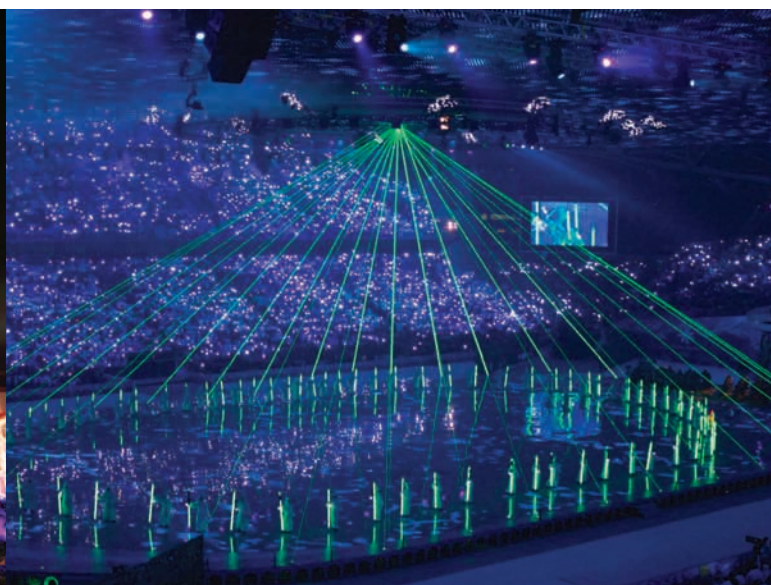




laos, 2010



Mardan Palace - Turkey, 2010



Astana - Kazachstan, 2010



Bratislava - Slovakia, 2010