



high-impact entertainment

With fresh ideas and innovative technical solutions, LOBO started its business more than 30 years ago. Outstanding creative expertise and rock-solid technical implementation from one single source – this philosophy opened new markets beyond discotheques. Since 1996 LOBO has been called a „hidden champion“¹ of its industry by the renowned author Prof. Simon. As a partner of famous agencies, important companies, international institutions and even governments, LOBO implemented spectacular shows and permanent installations of worldwide reputation. Today, LOBO is active in more than 70 countries and can rely on an impressive, modular range of products, built in-house.

The new sparks® series is the dawning of a new era in professional laser display projectors. Ideas deemed impossible, suddenly became reality thanks to this innovative approach, dedicated to highest brightness. The new bliss® series transfers this concept to an attractively priced, cutting-edge diode laser projector. With the new lineup of our LACON® multimedia workstations, the groundbreaking MODULA®-7 real-time controllers and many other innovative solutions, we present to you our new generation of laser and multimedia systems on the following pages: Digital, reliable, fast to install, virtually maintenance-free and easy to operate.

But beyond all technical aspects it is the passion for unique show experiences, which is the foundation of success for the LOBO show design team: For many years now, LOBO by far has held the top position on the all-time ranking list of all winners⁴ honored by the “International Laser Display Association” for exceptional creative achievements with their prestigious ILDA Awards.

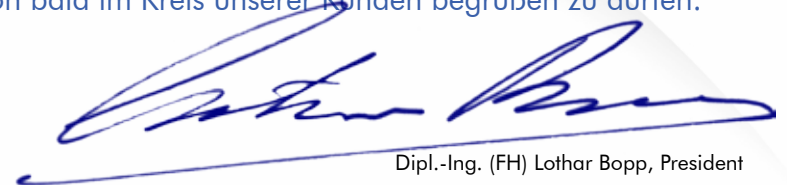
We would be delighted to awaken your interest and soon be able to welcome you to our circle of clientele.

Mit frischen Ideen und innovativer Technik ging LOBO vor über 30 Jahren an den Start. Herausragende kreative Kompetenz und solide technische Realisierung aus einer Hand – diese Philosophie öffnete neue Märkte jenseits der Diskotheken. Schon seit 1996 wird LOBO vom Erfolgsautor Prof. Simon als ein „Marktführer für Lasershows“¹ bezeichnet. Als Partner namhafter Agenturen, bedeutender Unternehmen, internationaler Institutionen und selbst Regierungen, realisierte LOBO spektakuläre Veranstaltungen und Festinstallationen von Weltruf. Heute ist LOBO in über 70 Ländern aktiv und baut auf ein modular aufgebautes Produktsortiment beeindruckender Breite aus eigener Fertigung.

So begründete die sparks®-Serie eine neue Ära im Bereich professioneller Display-Laserprojektoren. Bis dato für unmöglich gehaltene Ideen wurden mit diesen innovativen und auf höchste Helligkeit getrimmten Systemen auf einmal Realität. Die neue bliss®-Serie überträgt dieses Konzept auf einen preislich attraktiven Dioden-Laserprojektor der neuesten Bauart. Mit unserer neuen Produktlinie an LACON® Multimedia Workstations, dem wegweisenden Echtzeit-Controller MODULA®-7 und vielen weiteren innovativen Lösungen, präsentieren wir Ihnen auf den folgenden Seiten unsere neue Generation an Laser- und Multimediasystemen: Digital, zuverlässig, schnell zu installieren, praktisch wartungsfrei und einfach zu bedienen.

Doch abseits aller Technik ist es vor allem die Leidenschaft für einzigartige Shows, die die Grundlage des Erfolgs für das LOBO Show-Designteam bildet: Seit vielen Jahren hält LOBO souverän und mit deutlichem Abstand die Spitzenposition in der Rangliste aller Preisträger⁴, die für herausragende kreative Leistungen von der „International Laser Display Association“ mit dem begehrten ILDA Award geehrt wurden.

Wir würden uns freuen, Sie ein bisschen neugierig gemacht zu haben und Sie schon bald im Kreis unserer Kunden begrüßen zu dürfen.



Dipl.-Ing. (FH) Lothar Bopp, President



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Engineering

Throughout the world LOBO laser systems are famous for their quality and reliability.

In modern research and development laboratories, engineers from various scientific fields focus their know-how on developing innovative solutions and pioneering products. From the tiniest optical module right through to complex multimedia workstations – almost all components which make up a laser system are produced directly at the LOBO facilities. This unusual level of vertical integration is a guarantor for the optimum interaction of all components. Moreover, flexible production enables short delivery times.

Rund um den Globus schätzt man die Qualität und Zuverlässigkeit von LOBO-Lasersystemen.

In modernen Forschungs- und Entwicklungslaboren bündeln Ingenieure der unterschiedlichsten Fachrichtungen ihr Know-how zur Entwicklung innovativer Lösungen und wegweisender Produkte. Vom kleinsten optischen Bauteil bis hin zur komplexen Multimedia workstation entstehen fast alle Komponenten eines Lasersystems direkt bei LOBO. Diese ungewöhnlich große Fertigungstiefe ist Garant für ein optimales Zusammenwirken aller Komponenten und erlaubt kurze Lieferzeiten durch eine flexible Produktion.

Manufacturing, Imagineering and Creative Services under one roof.

Innovation



Imagineering

Spectacular show experiences base on outstanding technical expertise and creative excellence.

Independent analysts, such as Prof. Dr. Dr. Hering and Prof. Dr. Held class LOBO as one of the "global market leaders"² and numerous international awards⁴ confirm a leading position held by LOBO in show design.

The LOBO studios, famous throughout the industry, are the origin of ideas fascinating large audiences all over the world. In perfect harmony between high-tech and creativity, here our experienced team of engineers and designers creates dreams of light one never forgets.

Spektakuläre Shows basieren gleichermaßen auf technischer Kompetenz, wie auch auf herausragender kreativer Leistung.

Unabhängige Analysten, wie z.B. Prof. Dr. Dr. Hering und Prof. Dr. Held bezeichnen LOBO als einen der „Weltmarktführer“² und zahlreiche internationale Auszeichnungen⁴ belegen eine führende Stellung im Showdesign.

Die branchenweit berühmten LOBO-Studios sind Ursprung von Ideen, die überall auf der Welt für Aufsehen sorgen. In perfektem Zusammenspiel von High-Tech und Kreativität schafft hier ein erfahrenes Team von Ingenieuren und Designern Träume aus Licht, die keiner vergisst.





Be it special effects, show elements or complete experiences, LOBO provides its state-of-the-art equipment and its services also on a rental basis.

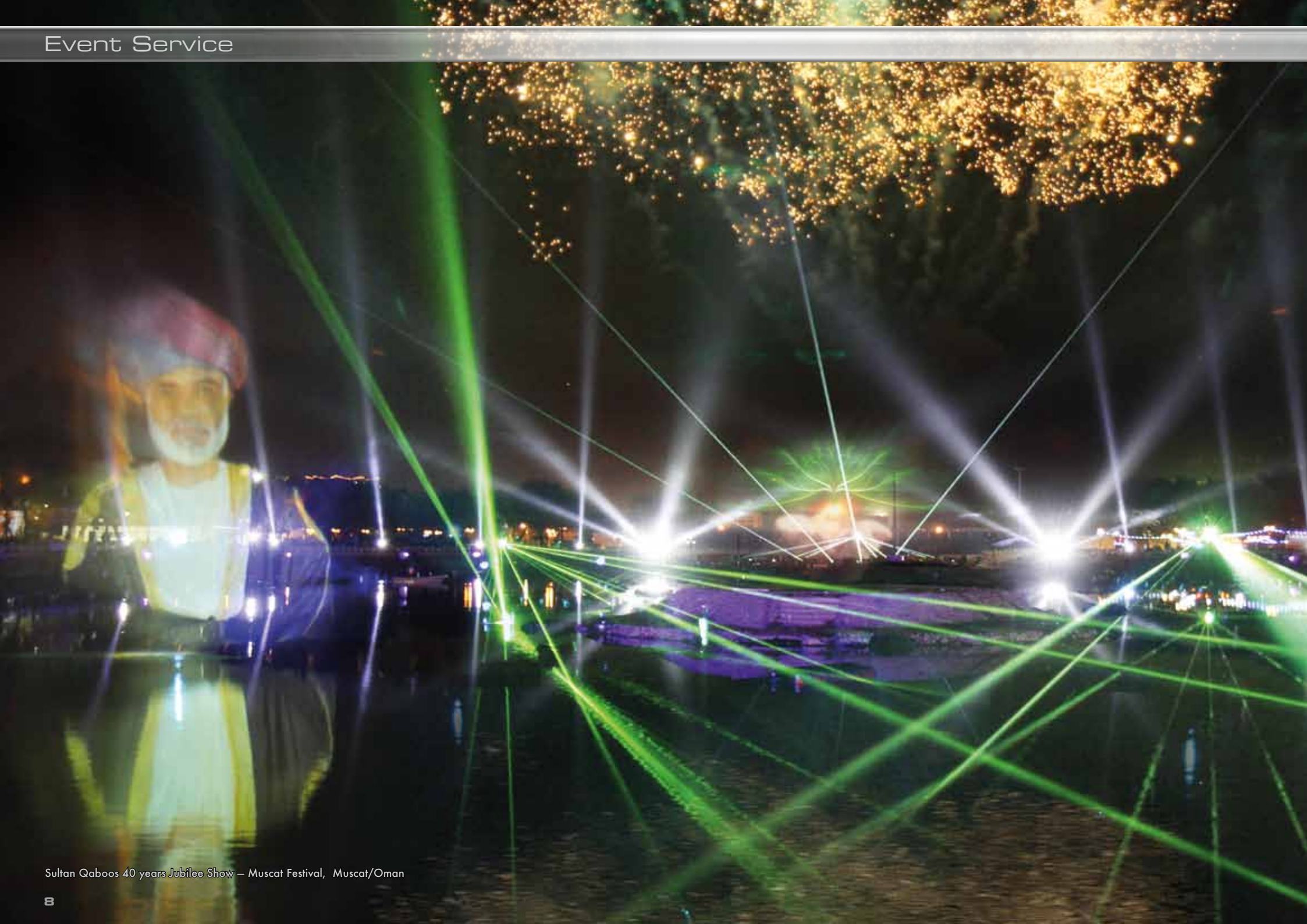
Thanks to individual show production services, convincing technical concepts and a continuously updated rental park, LOBO is a competent and experienced partner to renowned companies and institutions throughout the world.

Yet LOBO is also a trendsetter for an entire branch: for years, LOBO has been receiving more awards than any other company from ILDA, the global umbrella organization of the laser show industry, for exceptional creative achievements.

Sei es für Spezialeffekte, Show Elemente oder Komplettlösungen, LOBO bietet modernstes Equipment und umfassende Dienstleistungen auch auf Mietbasis an.

Dank individueller Showproduktion, überzeugender technischer Konzepte, sowie eines stetig aktualisierten Mietparks ist LOBO ein kompetenter und erfahrener Partner bedeutender Unternehmen und Institutionen weltweit.

Doch LOBO ist auch Trendsetter für eine ganze Branche: Vom Weltdachverband der Lasershow-industrie ILDA erhielt LOBO für herausragende kreative Leistungen über Jahre hinweg mehr Auszeichnungen als jedes andere Unternehmen.





Germany's official Millennium Celebration with 51 TV stations at the Brandenburg Gate in Berlin/Germany



Official New Year's Eve Show, Bucharest/Romania



75 Years Turkey, Ankara



Lasers and fountains at the Muscat Festival, Muscat/Oman



Hungarian National Day with laser beam installations visible over the whole city center, Budapest/Hungary



Medina Festival, Saudi-Arabia



Olympics, Barcelona/Spain





Launch of the world's largest paper machine for corrugated boards, ProGroup Eisenhüttenstadt/Germany



Live concert in front of 400.000 spectators, Olsztyn/Poland



National Day, Liechtenstein



Bazan Show, Bergen/Norway



White Nights, Bucharest/Rom.



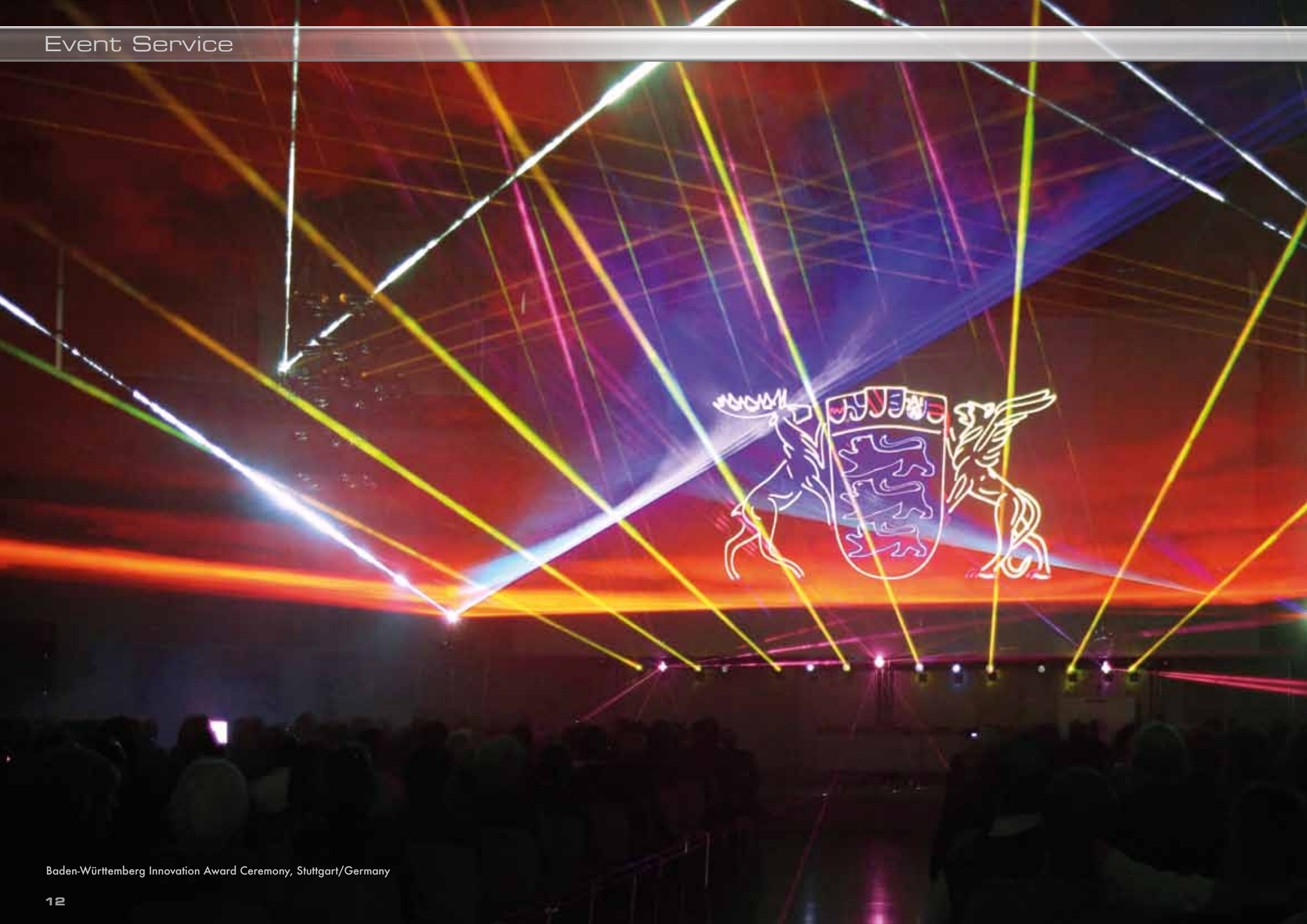
"Power of the Night", 4 years Summer nights, Holiday Park/Germany



Spectacular Effects for 10 years of Halloween Shows at Europa Park/Ger.



The "Parade of Innovations" of the Wirtgen Group with 3500 spectators, Ludwigshafen/Germany





Albabbtain, Riad/Saudi-Arabia



ThyssenKrupp, Wolfsburg/Ger.



Trade Show Spectacle, Messe Frankfurt/Germany



"Fascination Light", Berlin/Ger.



Statoil, Bergen/Norway



ThyssenKrupp "80 Years NIROSTA", Krefeld/Germany



5 x DASA Shows / Germany



EnBW Display, Stuttgart/Ger.



WE Forum, Davos/Switzerland



SciTec Center/Saudi-Arabia



5 x "Offerta" non-stop multimedia shows, Karlsruhe/Germany



Hewlett Packard, Paris/France



BAYER, Monte Carlo/Monaco



Belarus Potash Company Show with Joe Cocker, Vienna/Austria



BMW Display, Germany



3 x Allianz Congresses, Ger.



Premiere of the Mercedes-Benz GL Class, Detroit / USA



Microsoft, Zürich / Switzerland



VOITH, Heidenheim/Germany



Ostwürttemberg Show, Berlin



Singers



UV Artists



Strings Artist on a balloon



Laser Game Show



Aerial Artists



Fire Extravaganza with 13 Fire Artists



The Laser Audience Conductor



Laser Magician



Show Act with Projection Costume, Propapier AG, Eisenhüttenstadt/Germany



Vögele Multimedia Performance, Ludwigshafen/Germany



VR-Bank, Stuttgart/Germany



Launch of the "experimenta" Science Center, Heilbronn/Germany



Lights Festival, Europa Park



Gazprom Transgas Multimedia Show, St. Petersburg/Russia



"Spanish Night" multimedia show on a lake, Bergen/Norway



Tecom Smart City / Malta



DEMAG, BAUMA Munich/Ger.



Post Austria, Brussels/Belgium



Vögele Technology Days, Mannheim/Germany



Galileo Show, Bonn/Germany



Holiday Park, Hassloch/Ger.



Millennium Projection on Table Mountain, Cape Town/South-Africa



Mountain Projection, Koblenz



Wirtgen, Ludwigshafen/Ger.



EnBW, Davos/Switzerland



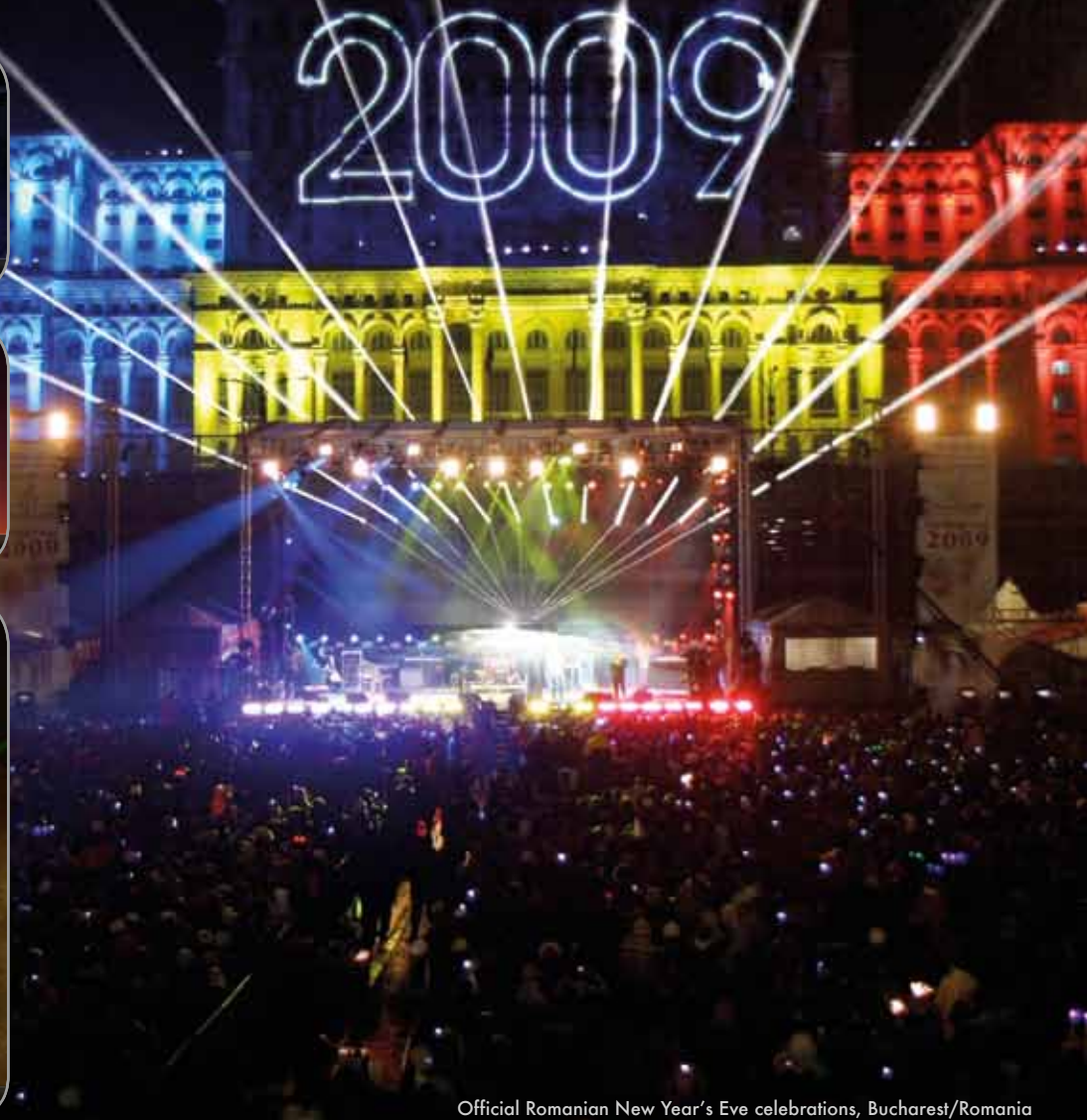
National Day Projection on Castle and Museum, Vaduz/Liechtenstein



Europa Park/Germany



Billboard, Heilbronn/Ger.



Official Romanian New Year's Eve celebrations, Bucharest/Romania



Cultural Delta South, 18 km long laser triangle, Ostwürttemberg/Germany



"Fascination Light", Long-range beams Aalen University/Germany



Statue with long-range beam at "Deutsches Eck", Koblenz/Germany



Beams above Ehrenbreitstein Castle/Germany



Soccer EC, Bregenz/Austria



Asia Games, Dubai



Main Station, Stuttgart/Ger.



University Merger, Stuttgart



Special effects with 9 sparks® laser systems for the world launch of BMW's "i" sub-brand with the presentation of the new BMW i8 and i3, Frankfurt/Germany (photo: BMW Group)



3D Exhibit "1250 Years Fulda", Fulda/Germany



BMW trade show exhibit



Mercedes-Benz SUV launch/USA



Stage Effect with lasers



World Premiere of the "Vision Efficient Dynamics" Full-Runner with sparks® lasers, Leipzig/Germany (photo: BMW)



7-series launch, Hannover/Ger.



Design Annual Frankfurt/Ger.



Rope Dancer on a laser beam



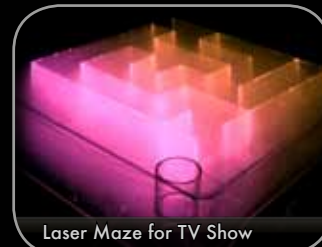
Salt Mine Berchtesgaden/Ger.



BMW laser display on 5-series



Fire Explosions for the "Power of the Night" show, Holiday Park/Ger.



Laser Maze for TV Show



Slide into laser tunnel



Covering secret exhibits at the BMW hall at the IAA Frankfurt/Germany



Advanced bluescreen studio recording facilities



CGI and video production



Casting services



Body make-up artist



Effect Video Recordings



Laser and multimedia production studios



The famous LOBO Studios are the origin of many internationally awarded show productions



"Castillo Mystico" multimedia show with video and superimposed laser



"H2O" multimedia show with amazing underwater recordings + CGI



"Billabong" laser animation



Custom-designed content



"Genesis" hand-animated show



Animated 3D laser countdown



"CREOS" sci-fi adventure with lasers and multi-layered video



"Arabian Dream" 3D laser animation, Scanline and cell animations



Multi-awarded beam shows



"AMACEON" multi-sensual show experience featuring Hollywood-style computer animations, bluescreen-recorded actors and special effects



"Dreamscape" laser show



"Mode of Motion" Abstracts



Europa Park's "HISTORAMA" signature attraction in a revolving theater — one of the world's most complex multimedia attractions, engineered and implemented by LOBO for fully automated turn-key operation, Rust/Germany



Over and over again LOBO has been developing innovations, which have set standards for laser show technology.

Already years ago LOBO pioneered the construction of virtually adjustment- and maintenance-free laser systems, uniting state-of-the-art technologies of electronics, optics and precision mechanics.

All systems are built in a modular way to allow optimal usage and adaption to any situation.

This established laser and multimedia technology from LOBO in many different markets around the world.

Immer wieder aufs neue hat LOBO Innovationen entwickelt, die in der Showlasertechnologie neue Maßstäbe gesetzt haben.

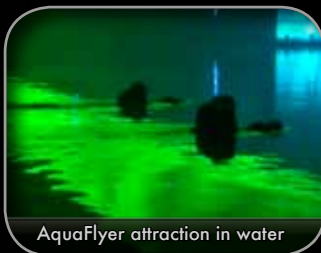
Als Pionier in diesem Bereich bietet LOBO schon seit Jahren annähernd justage- und wartungsfreie Lasersysteme an, die Spitzentechnologien aus den Bereichen Elektronik, Optik und Feinmechanik in sich vereinen.

Die Systeme sind modular aufgebaut, so dass sie sich für alle denkbaren Einsatzbereiche optimieren oder neuen Gegebenheiten anpassen lassen.

Dies hat Laser- und Multimedia-technologie aus dem Hause LOBO rund um den Globus in den unterschiedlichsten Branchen etabliert.



"AMACEON" - one of LOBO's turn-key multimedia attractions, featuring world-class laser effects, custom-made video production with cutting-edge CGI, fountains and lot's of special effects, Holiday Park/Germany



AquaFlyer attraction in water



Dinosaur Park, China



Maya Mare, Germany



Outdoor attraction with lasers and musical fountains, Hamedan/Iran



Badkap water park, Germany



Europa Park "HISTORAMA" attraction in a revolving theater, Germany



Jaya Ancol, Indonesia



Habtoorland, Beirut/Lebanon



Mines Wonderland, Malaysia



Siam Water Park, Tenerife



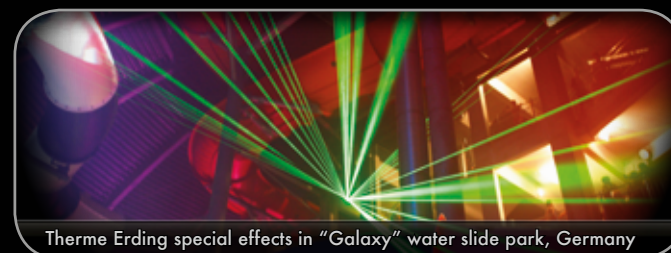
"Time Journey" multimedia attraction, Europa Park, Germany



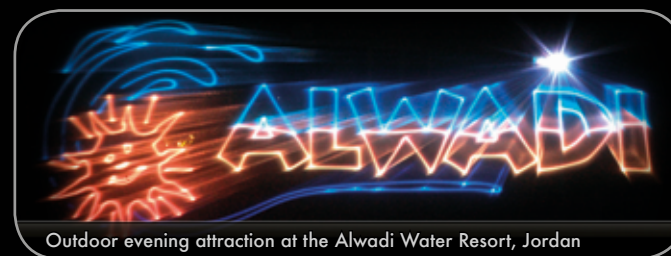
Dark ride, Prater Vienna



Laser effects in Europa Park's "EuroSat" dark ride, Germany



Therme Erding special effects in "Galaxy" water slide park, Germany



Outdoor evening attraction at the Alwadi Water Resort, Jordan



Hansa Park, Germany



FDT Munich, Germany



The successful "Queen Heaven" Show in the Planetarium Munich/Ger.



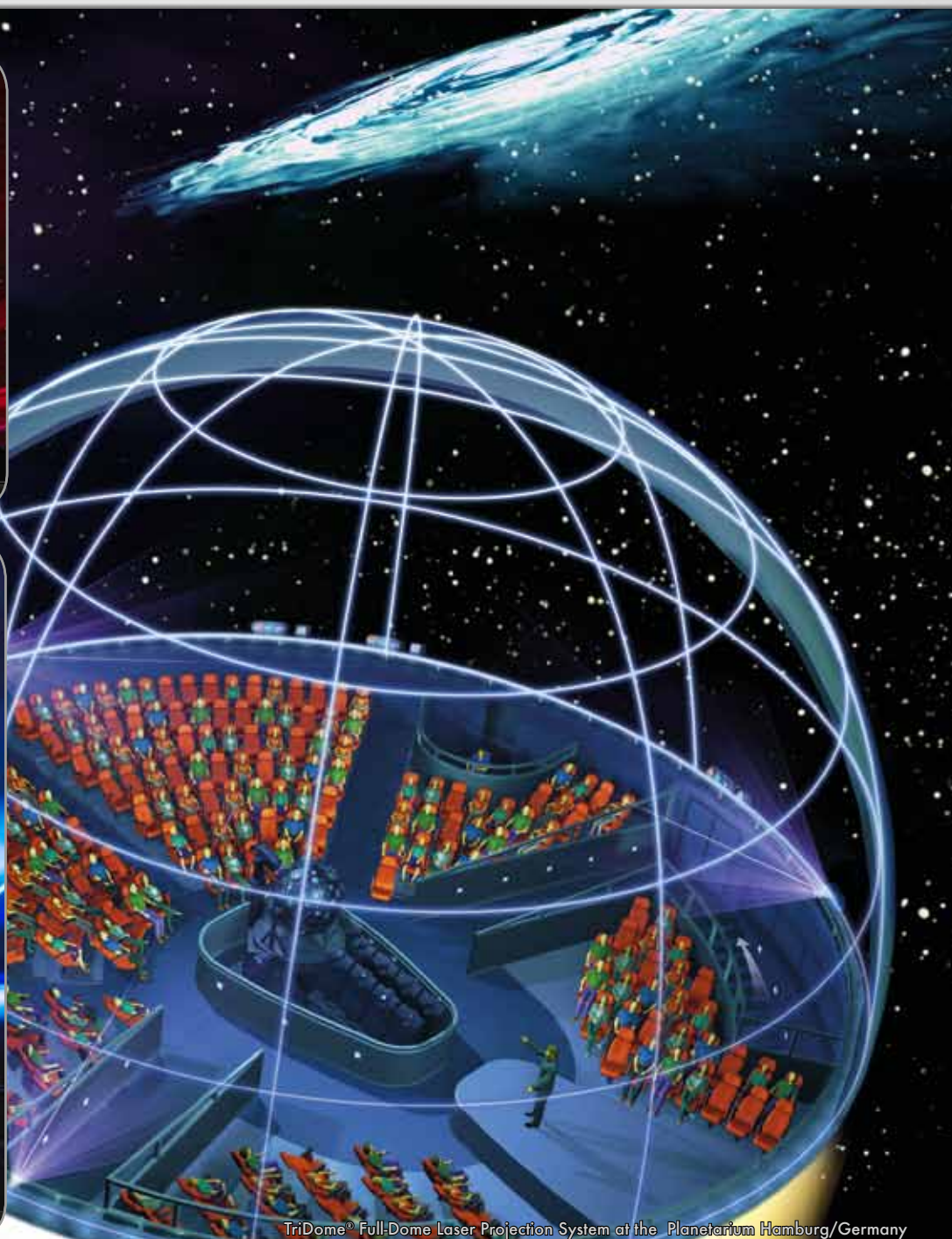
Laser advertisement and atmospherics in Cineplexx Cinemas, Austria



TriDome® system in the Planetarium Hamburg, Germany



Planetarium Stuttgart, Germany



TriDome® Full-Dome Laser Projection System at the Planetarium Hamburg/Germany



Atmospheric laser performance on the pool deck of the "Galaxy"/USA



"Costa Mediterranea"



Lasers on a private yacht



Broadway-style shows on "Costa Fortuna"



Lasers in the "Royal Court Theatre" on Cunard's "Queen Mary 2"



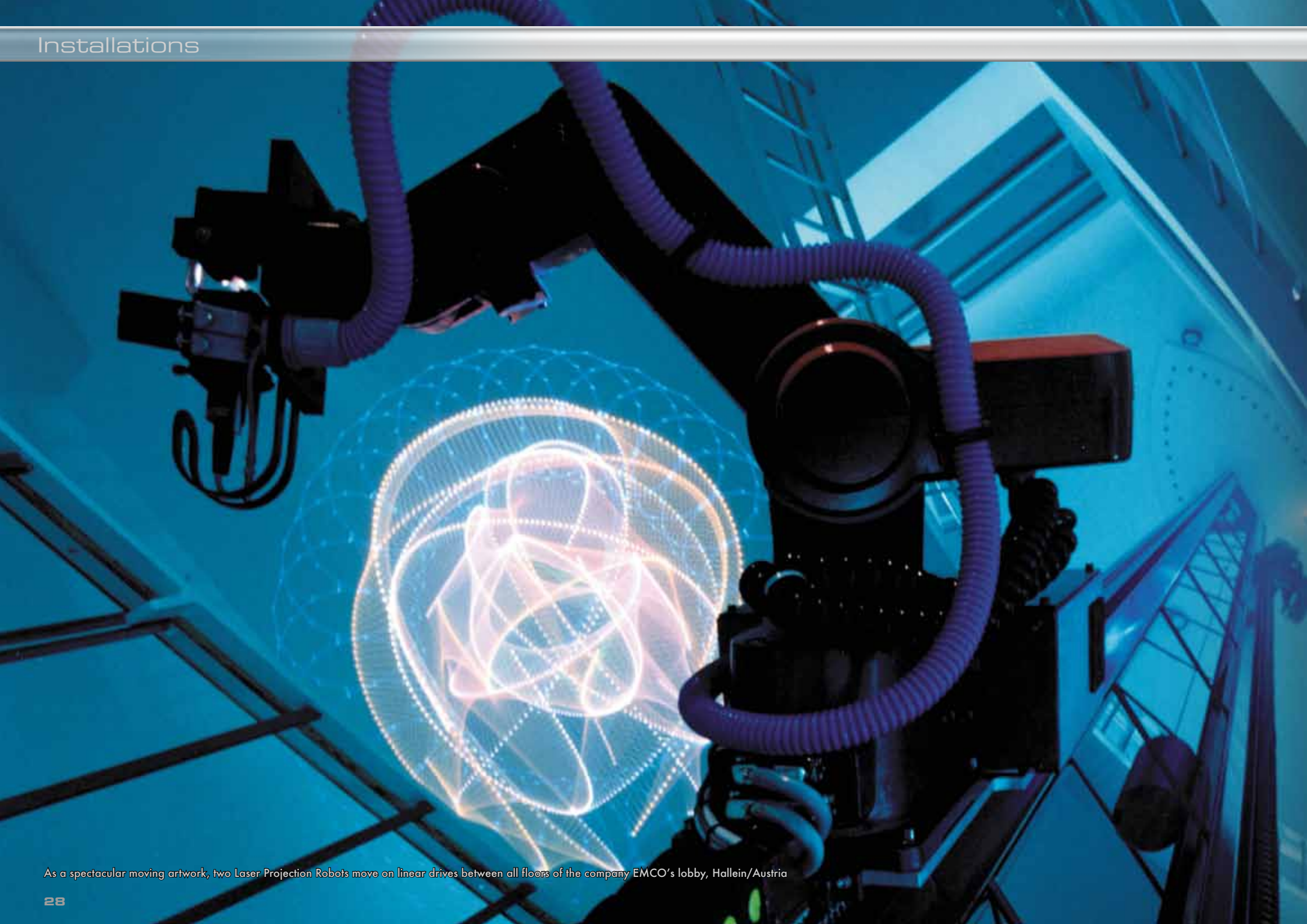
On-board entertainment in the "Century" show lounge



The "Mercury"



"Costa Magica"



As a spectacular moving artwork, two Laser Projection Robots move on linear drives between all floors of the company EMCO's lobby, Hallein/Austria



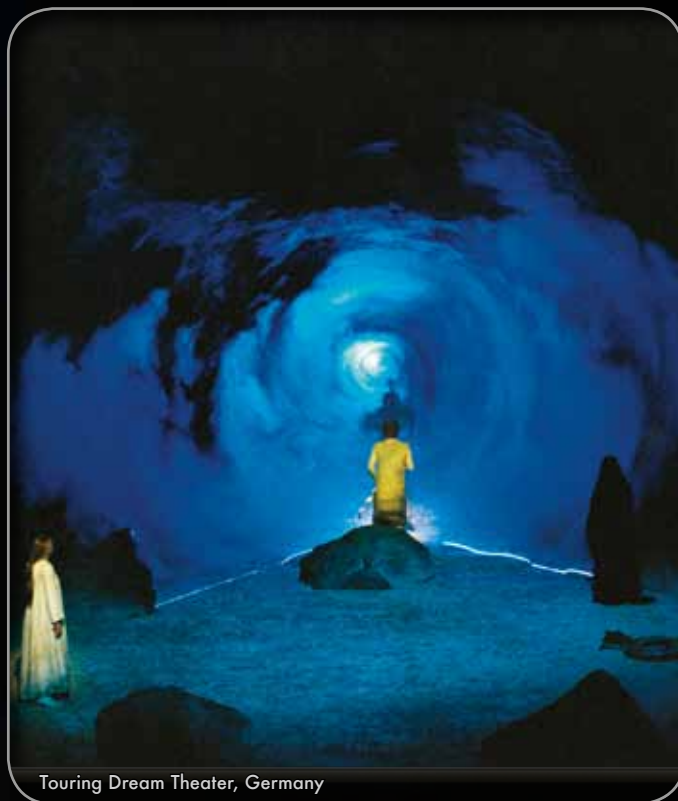
Scenes of laser light in the renowned Wagner Festspielhaus Bayreuth



"Laser Phantasies", Stuttgart



"The Neverending Story" in the Nationaltheater Weimar, Germany



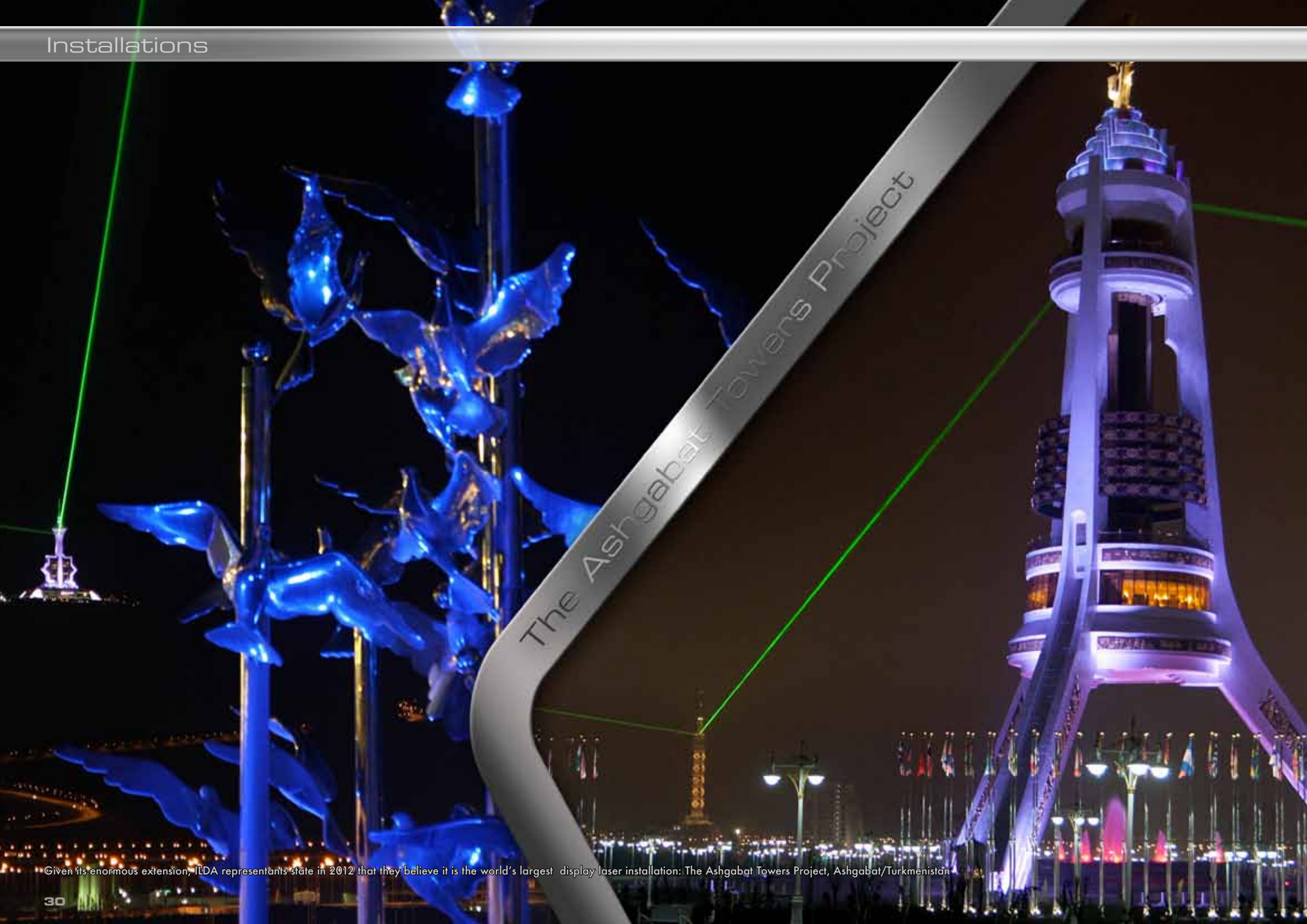
Touring Dream Theater, Germany



Karl-May Festival, Germany



Royal Palace, Kirrwiller/France



The Ashgabat Towers Project

Given its enormous extension, ILDA representants state in 2012 that they believe it is the world's largest display laser installation: The Ashgabat Towers Project, Ashgabat/Turkmenistan



Anayasa Tower, Turkmenistan



Lasers at the "Image Mill", Québec/Canada



WEP Laser Display, Hückelhoven/Germany



The Ashgabat Towers Project - beams above the city with building projections, Ashgabat/Turkmenistan



The Ashgabat Towers Project – TV Kule, Ashgabat/Turkmenistan



Laser Billboard, Bahrain



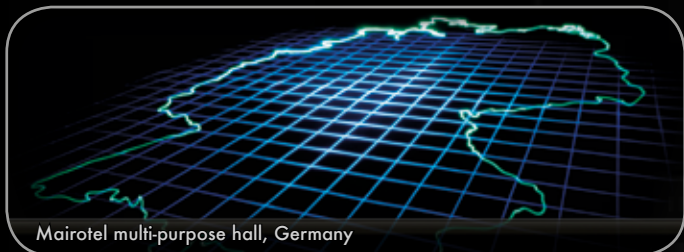
Visitor Center, Germany



Leitz Visitor Center, Germany



Dah Chong Hong, Hong Kong



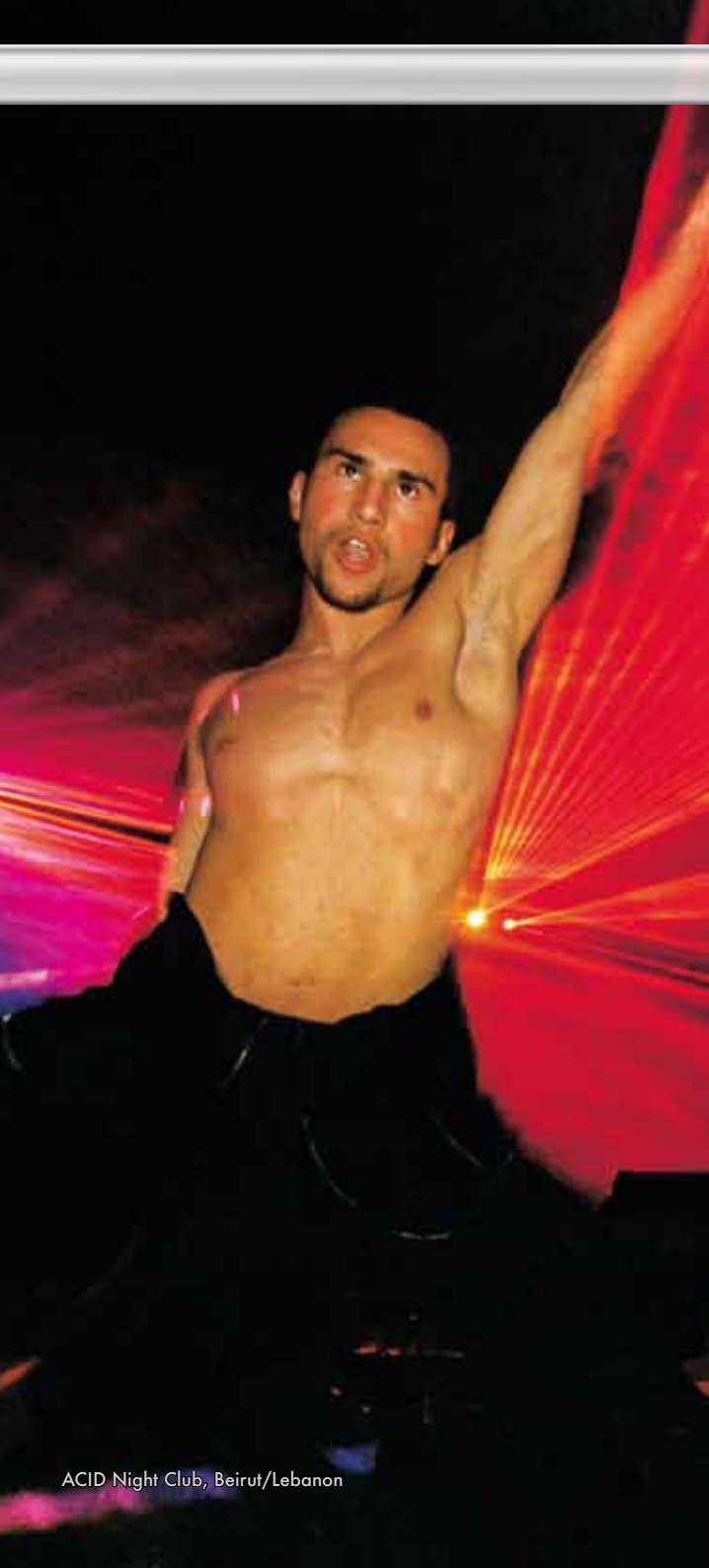
Mairotel multi-purpose hall, Germany



Information Display, BMW Museum Munich/Germany



POS laser billboard, Optima Shopping Center, Košice/Slovakia



ACID Night Club, Beirut/Lebanon



"New Queen Bee Club", Vietnam



"Tattingers", Rabat/Malta



"By Pass", Bariloche, Argentina



"Hollywood", Seoul/Korea



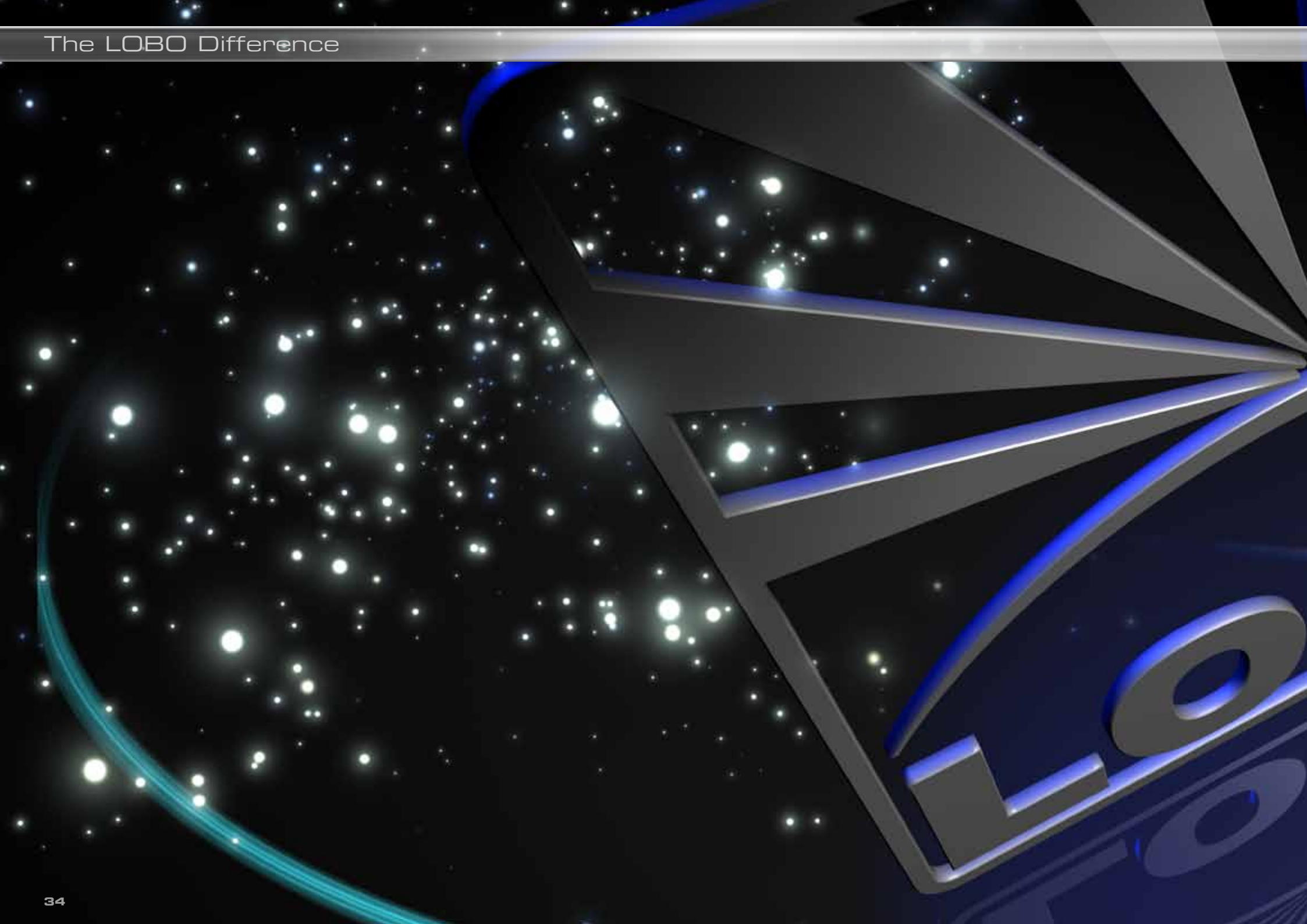
"Alex", Kiev/Ukraine



"Excalibur", Santiago/Chile



"Palladio", Helden/Netherlands





More than 30 years of experience, including many challenging projects in rental and sales, as well as the special synergy of cutting-edge technical innovations and outstanding creative capabilities, make a clear difference anyone recognizes at once, when watching a LOBO show.

Each detail clearly shows that LOBO's worldwide success is founded on perfection in every respect.

Convincing technical solutions, spectacular show concepts and client-oriented support set LOBO apart from the average market standard.

Über 30 Jahre an Erfahrung mit einer Unzahl fordernder Miet- und Installationsprojekte, sowie die besondere Synergie zwischen wegbereitenden technischen Innovationen und herausragenden kreativen Fähigkeiten machen einen klaren Unterschied, der bei jeder LOBO-Show sofort erkennbar ist.

An jedem Detail erkennt man, dass LOBOs weltweiter Erfolg auf Perfektion aufbaut.

Überzeugende technische Lösungen, spektakuläre Showkonzepte und ein kundenorientierter Support heben LOBO deutlich vom durchschnittlichen Marktstandard ab.

Next-Generation Equipment

Typically laser systems consist of many independent devices from various manufacturers. But with the new generation of the ILDA-awarded DDL®-system, LOBO provides a set of perfectly harmonized units which act together as one:

They communicate via an optical high-speed data bus which includes probably the most sophisticated laser safety logic on the market. Error detection and the configuration of all components can be effected by the laser controller. The digital DDL-2® bus can also transmit almost any kind of signal (e.g. audio, DMX, RS-232,...) without any further cabling over almost any distance.

Typische Lasersysteme bestehen aus einer Vielzahl unabhängiger Geräte verschiedener Hersteller. Mit der neuen Generation des von der ILDA preisgekrönten DDL®-Systems bietet LOBO dagegen ein Sortiment perfekt aufeinander abgestimmter Geräte, die wie eine Einheit zusammenwirken:

Sie kommunizieren über einen optischen Hochgeschwindigkeits-Datenbus, der die wohl anspruchsvollste Laser-Sicherheitslogik auf dem Markt beinhaltet. Die Detektion von Funktionsstörungen sowie die Konfiguration aller Komponenten kann am Laser-Controller erfolgen. Der digitale DDL-2®-Bus kann darüber hinaus auch nahezu alle Arten von Signalen (z.B. Audio, DMX, RS-232,...) ohne weitere Kabel über nahezu jede Distanz übertragen.



Innovation

LOBO is known as an innovation motor in laser display technology. It was LOBO for example, developing the first production-stage color mixing unit, the first laser safety measurement system or the first digital data transmission system. Thus, LOBO clients can be sure belonging to those, being steps ahead of the typical market standard and of investing in long-lasting solutions which maintain a high value over many years.

Innovation

LOBO gilt als ein Innovationsmotor in der Laser-Displaytechnologie. Es waren z.B. LOBO-Ingenieure, die die erste serienreife Farbmischeinheit, das erste Sicherheitsmesssystem für Lasershow oder das erste digitale Signalübertragungssystem entwickelt haben. LOBO-Kunden können damit sicher sein, zu denen zu gehören, die der Marktentwicklung weit voraus sind und in Lösungen mit hoher Wertbeständigkeit investieren.



Modularized Product Range

LOBO is a real full-liner in laser systems. From the controller to the projector almost all components are developed and manufactured in-house. This ensures an extraordinary level of quality and compatibility among all devices. Thanks to a uncompromising modular system design, laser systems can be tailored to the specific needs of any application.

Modularisiertes Produktsortiment

LOBO ist ein echter Komplettanbieter von Lasersystemen. Vom Controller bis zum Projektor stammen fast alle Komponenten aus eigener Entwicklung und Fertigung. Dies ist Garant für höchste Qualität und optimales Zusammenspiel aller Geräte. Dank eines modularen Systemaufbaus, kann ein System an alle Anforderungen angepasst werden.



Maintenance-free Design

LOBO clients do not know service contracts, as a reliable operation under continuous duty is the primary goal of LOBO developments. This results in the use of long-term tested, high-quality components, of most reliable software solutions and in the use of digital solutions instead of mechanical effect units (e.g. beam tables). Any adjustments are done at the controller after installation.

Wartungsfreier Systemaufbau

LOBO-Kunden kennen keine Serviceverträge, da eine zuverlässige Dauerfunktion die oberste Priorität von Entwicklungen im Hause LOBO ist. Dies resultiert im Einsatz langzeitgetesteter und qualitativ hochwertiger Komponenten, von zuverlässigen Softwarelösungen und modernster Digitaltechnik statt mechanischer Effektgruppen („optische Bänke“). Einstellarbeiten werden nach der Installation nur am Controller durchgeführt.

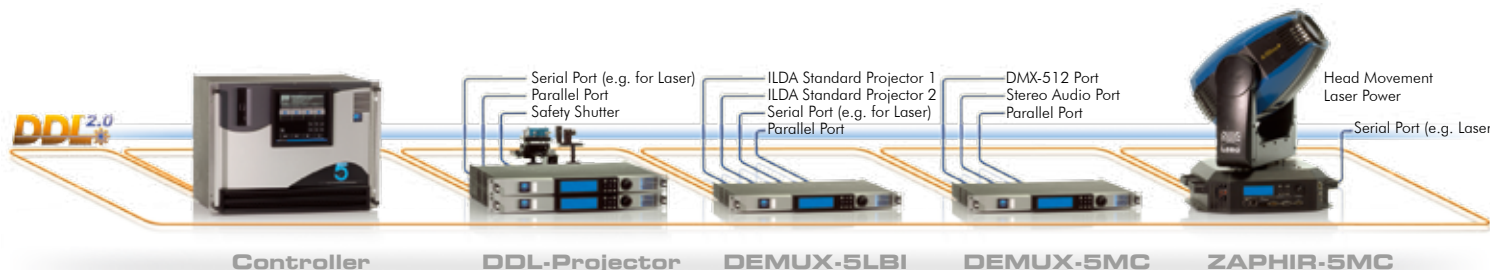


Digital Data Link DDL-2®

The ILDA-awarded DDL® system for the digital transmission of control signals revolutionized the use of laser show equipment. Multiple projectors can be controlled by one single optical connection over large distances, irrespective of weather or electromagnetic interference. Each DDL® device includes a safety monitoring system which can initiate an emergency shutdown in less than 0.005 s in the case of a safety-critical error.

Digital Data Link DDL-2®

Das ILDA-prämierte DDL®-System zur digitalen Übertragung von Steuerdaten hat den Umgang mit Lasershowtechnik revolutioniert. Mehrere Projektoren können mit einem einzigen optischen Kabel über große Distanzen unabhängig von Wetter und elektromagnetischer Einstrahlung gesteuert werden. DDL®-Geräte enthalten Sicherheitsüberwachungssysteme, die im Fehlerfall in weniger als 0,005 s eine Notabschaltung auslösen.



The new DDL-2® protocol allows the remote administration of all devices by the controller. Error retrieval, the detection of cabling problems and last-minute configuration changes are a matter of a few mouse clicks. DDL-2® converters provide remote ports to distribute control signals anywhere. Having to deal with just one optical cable even for multimedia shows, shortens setup times and increases the overall reliability.

Das neue DDL-2®-Protokoll erlaubt die Fernwartung aller Geräte vom Controller. Fehlerbeseitigung, das Aufspüren von Verkabelungsproblemen und Umkonfigurationen in letzter Minute sind so eine Sache weniger Mausklicks. DDL-2® Konverter mit verschiedenen Schnittstellen übertragen Steuersignale an jeden Ort. Selbst komplexe Multimediashows brauchen nur ein optisches Kabel. Das spart Aufbauzeit und erhöht die Zuverlässigkeit.



What really counts: Brightness

When it comes to video projectors, no one really cares about the wattage of the lamp, but about the brightness of a projector. To date, many people still believe that a laser with lots of Watts has to be especially bright, although the beam parameters of a laser have sometimes a much higher impact on the effective brightness of a system.

This was the reason for LOBO to introduce the comparative parameter ELB for lasers as an equivalent to "Lumens" for video projectors, which measures the power per square meter on a given distance (typ. 200 m) in W/m². Consequently, LOBO designs its systems for highest brightness. For this purpose, LOBO developed for example an optical system, called PCS, increasing the effective brightness virtually 9 times!

Was wirklich zählt: Helligkeit

Bei Videoprojektoren interessiert sich niemand für die Wattzahl der Lampe, sondern allein für die Helligkeit des Projektors. Bis heute meinen jedoch viele Leute, dass ein Laser möglichst hoher Wattzahl auch besonders hell sein müsse, obwohl vor allem die Strahlenden eines Lasers in oft viel stärkerem Maße Einfluss auf die effektive Helligkeit eines Systems haben.

Deshalb hat LOBO als Äquivalent zu „Lumen“ bei Videoprojektoren den Vergleichswert ELB für Laser eingeführt, der die Flächenleistung eines Lasers in einer bestimmten Distanz (typ. 200 m) in W/m² angibt. Gleichzeitig trimmt LOBO alle seine Systeme konsequent auf höchste Helligkeit. So entwickelte LOBO z.B. ein optisches System namens PCS, das die effektive Helligkeit praktisch verneunfacht!

Creative Leadership

Over many years LOBO has continuously been receiving more ILDA Awards for outstanding creative achievements than any other company in the world. In total, LOBO has been granted more than 130 of those "Laser Oscars" by the "International Laser Display Association". This makes LOBO the unchallenged creative leader in the laser industry.

Führend in punkto Kreativität

LOBO erhält nunmehr über viele Jahre in Folge mehr ILDA Awards für herausragende kreative Leistungen als jedes andere Unternehmen in der Welt. Insgesamt wurden LOBO weit über 130 der renommierten „Laser Oscars“ von der „International Laser Display Association“ verliehen. Dies macht LOBO im kreativen Bereich führend.



Multimedia Imagineering

LOBO is an established provider of world-class turn-key multimedia experiences incorporating not only lasers, but also lighting, video, audio, screens, water, fireworks, trussing, special effects and media control.

The LOBO studios, world-famous throughout the whole industry, are equipped with the latest in media technology, making it possible to demonstrate, pre-program and rehearse even major shows under realistic conditions.



Multimedia Imagineering

LOBO ist ein etablierter Komplettanbieter für Multimediaspektakel von Weltruf, die nicht nur Laser, sondern auch Licht, Video, Audio, Leinwände, Wasser, Feuerwerk, Traversen, Spezialeffekte und Mediensteuerung umfassen.

Die in der Branche weltberühmten LOBO-Studios sind mit modernster Medientechnologie ausgestattet, die es erlaubt, selbst größte Shows unter realistischen Bedingungen zu demonstrieren, vorzuprogrammieren oder zu proben.



Free Personalized Training

If you purchase a LOBO product, you will always get free personalized training regarding its function and operation at the LOBO facilities. This ensures the best possible usability of the respective product in your specific application.

Persönliche Schulung

Erwirbt man ein LOBO-Produkt, ist im Kaufpreis eine persönliche Einweisung in die Funktion und Handhabung der Produkte im Hause LOBO enthalten. Dies stellt eine bestmögliche Nutzbarkeit des Produkts im konkreten Anwendungsfall sicher.



Free Laser Safety Certification

Professional laser systems need to be operated in accordance with established safety standards. In addition to multi-redundant technical safety mechanisms in each system and the development of laser safety meters, LOBO tries to reach a maximum safety standard by including free laser safety training with a certification according to BGV 2 (VBG 93) for the operators of each complete system sold.

Zertifizierung zum Laserschutzbeauftragten

Professionelle Lasersysteme müssen in Übereinstimmung mit etablierten Sicherheitsstandards betrieben werden. In Ergänzung zu mehrfach redundanten Sicherheitsmechanismen in jedem System und der Entwicklung von Sicherheitsmesssystemen ist bei LOBO im Kaufpreis eines Komplettsystems die üblicherweise teure Schulung und Zertifizierung des Bedienpersonals zum Laserschutzbeauftragten nach BGV 2 (VGB 93) enthalten.



Premium Lifetime Support

LOBO clients receive unlimited lifetime support by phone and e-mail on products sold by LOBO.

Using LOBO's new HelpLink function, LACON-5® clients can even enable remote access to their system by LOBO service engineers.

This allows quick and targeted support – almost like having a specialist right next to you.

Premium Support auf Lebenszeit

LOBO-Kunden erhalten eine zeitlich unbeschränkte Unterstützung per Telefon und E-Mail für Produkte, die von LOBO erworben worden sind.

Mittels der neuartigen HelpLink-Funktion können LACON-5®-Nutzer sogar LOBO-Serviceingenieuren Fernzugriff auf das System gewähren.

Dies erlaubt einen fast so raschen und zielgerichteten Support als säße der Spezialist direkt daneben.



24h Emergency Hotline

In case of severe technical problems or malfunctions, qualified LOBO engineers are at your assistance 24 hours a day, 7 days a week, 365 days a year on LOBO's emergency hotline.

24 h Notfall-Rufnummer

Im Falle schwerwiegender technischer Probleme oder Fehlfunktionen, stehen qualifizierte LOBO-Ingenieure 24 Stunden am Tag, 7 Tage die Woche und 365 Tage im Jahr über LOBOs Notfall-Hotline zur Verfügung.



24h Reaction Time Guarantee

LOBO guarantees a 24h maximum reaction time on service requests.

As LOBO holds all typically required spare parts in stock, LOBO clients can rely on the fast and effective solving of any kind of technical problem.

24 h Reaktionszeit garantiert

LOBO garantiert eine maximale Reaktionszeit von 24 Stunden auf Serviceanfragen.

Da LOBO alle typischerweise benötigten Ersatzteile am Lager hält, können LOBO-Kunden auf eine schnelle und effektive Lösung von technischen Problemen vertrauen.



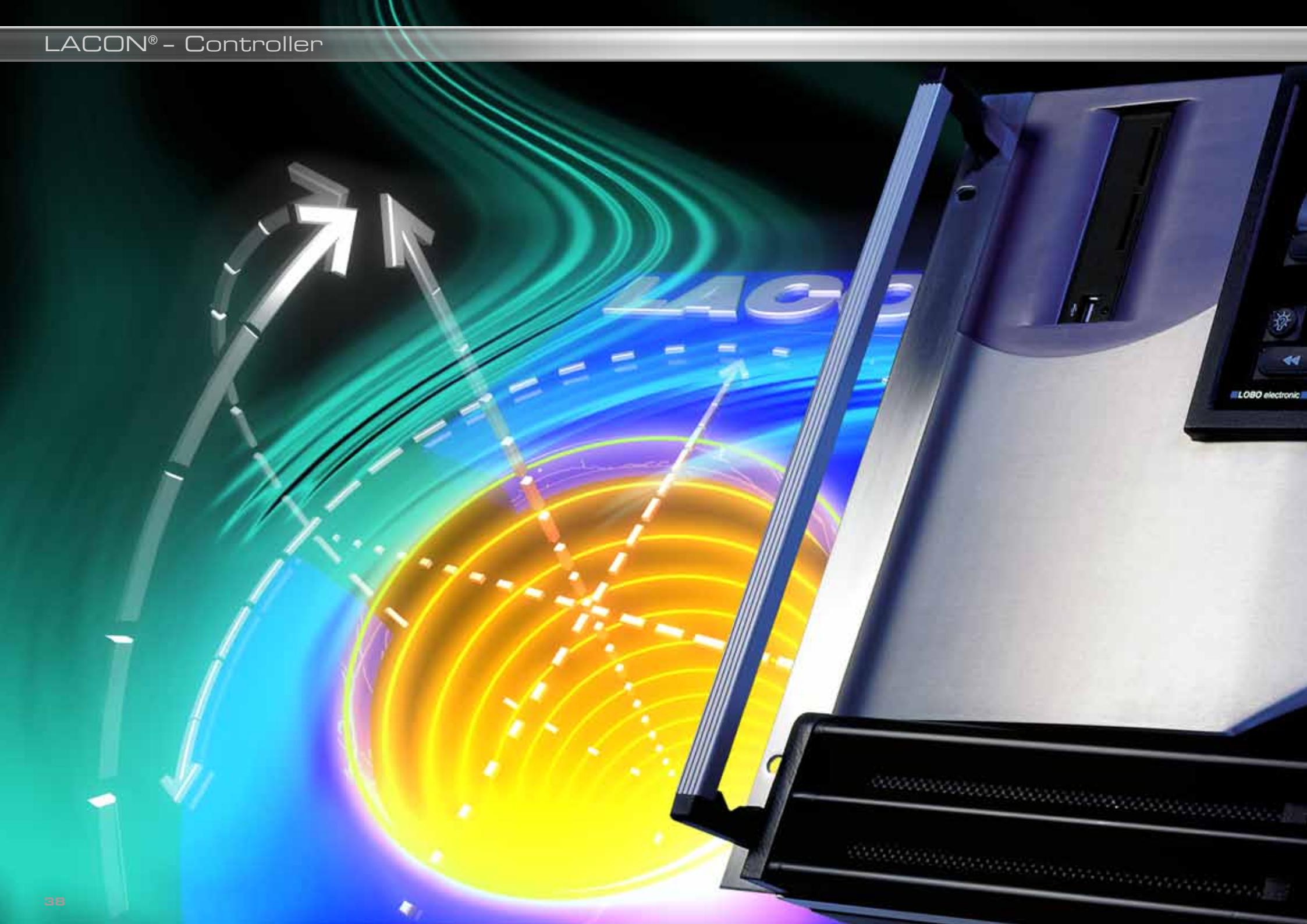
Next-Generation Service

LOBO strives for a long-lasting professional partnership with their clients. Thus, LOBO clients receive individual support right from the start and a comprehensive after-sales service package which makes sure that LOBO solutions quickly reach and maintain their maximum potential.

It starts with competent consulting and planning services, continues with an extensive training program including a laser safety certification, and accompanies you throughout the whole lifetime of the system with qualified support.

LOBO strebt mit seinen Kunden eine lang währende professionelle Partnerschaft an. Folglich erhalten LOBO-Kunden von Anfang an individuelle Unterstützung inklusive eines umfassenden Servicepakets, das nach dem Kauf sicherstellt, dass Lösungen aus dem Hause LOBO schnellstmöglich ihr maximales Potential erreichen und erhalten.

Dies beginnt mit fachkundigen Consulting-Dienstleistungen und Planungsservice, setzt sich fort mit einem umfassenden Schulungsprogramm inklusive Zertifizierung zum Laserschutzbeauftragten und begleitet den Nutzer mit qualifizierter Unterstützung über die gesamte Lebenszeit eines Systems.





LACON-5® is regarded as the most advanced realtime laser workstation on the market. It is designed for demanding multi-projector setups and mixed-media applications.

Its sophisticated hardware layout, its unmatched expansion capabilities, its supreme performance and its powerful user interface make LACON-5® the logical choice for professional users.

As the only one of its kind, the LACON® series has received the innovation award of the State Ministry, the TiLE Award, the ILDA Award as well as the Golden Eye Award for its innovative features.

LACON-5® gilt als die leistungsfähigste Echtzeit Laserworkstation auf dem Markt. Sie wurde für anspruchsvolle Einsätze mit mehreren unabhängigen Projektoren und für Multimedia-Anwendungen geschaffen.

Dank des ausgefeilten Hardware-Layouts mit fast unbegrenzten Erweiterungsmöglichkeiten, überlegender Performance und einer leistungsfähigen Benutzerschnittstelle ist LACON-5® für professionelle Anwender das Mittel der Wahl.

Als einzige ihrer Art wurde die LACON®-Serie für innovative Features mit dem Innovationspreis des Staatsministeriums, dem TiLE Award, dem ILDA Award sowie mit dem Golden Eye Multimedia Award ausgezeichnet.

Product Features

LACON-5® bundles more about 30 years of experience in a highly efficient tool for the creation of laser and multimedia spectacles. It has been developed as part of an intense 7-year cooperation between LOBO's engineers, clients and the renowned LOBO design group.

LACON-5® not only allows the programming of top-quality three-dimensional laser animations in real-time: it also allows the integration of almost any kind of media systems and peripheral devices. In addition, the industry's most-awarded⁴ laser show library, consisting of hundreds of premium-quality performances, is available to LACON® users.

LACON-5® bündelt rund 30 Jahre an Erfahrung in einem höchst effizient nutzbaren Werkzeug zur Erstellung von Laser- und Multimedialektakeln. Es ist das Ergebnis einer siebenjährigen Entwicklung in enger Abstimmung von LOBO Ingenieuren mit Kunden und dem renommierten LOBO-Design-Team.

LACON-5® erlaubt nicht nur die Programmierung von 3D-Laseranimationen unübertroffener Qualität in Echtzeit, sondern auch die Einbindung von Multimediasystemen und Peripheriegeräten. Zusätzlich steht LACON-Nutzern die am meisten ausgezeichnete⁴ Lasershowbibliothek mit hunderten, hochwertigen Shows zur Verfügung.



Modular System Architecture

LACON-5® is based on a new hardware approach, as you find it in professional high-end controllers and routing systems. In contrast to conventional PCs, this solution is open to almost unlimited expansion, thus allowing an easy scaling of the system without bottlenecks. LACON-5® thus adapts and grows in accordance with its requirements.



Realtime-UNIX OS

LACON-5® works with a realtime-optimized UNIX-system with micro kernel structure, as it is frequently used in safety-critical applications, such as cash dispensers or space craft control systems. "Blue Screens" and unpredictable drops in the system performance familiar from conventional PCs are a thing of the past.



Powerful Realtime-Rendering Subsystems

Thanks to the cutting-edge performance of LACON®'s rendering subsystems, you can easily solve such tasks as full-resolution masking with clipping, high-resolution scanline video output, automated hidden line removal, bitmap overlays, complex geometrical distortion corrections and much more, with ease.



Up to 128 independent projectors

Both, software and hardware of LACON-5® are made to handle extreme numbers of laser projectors. As an inexpensive alternative to fully featured output modules with superior point rates and rendering power, LACON-5® and LACON-5® compact also allow to integrate output extensions at lower point rates for typical market standard output.



Digital Data Link DDL-2®

LOBO's new generation of the ILDA-awarded optical data transmission system provides a system-inherent safety logic and extensive remote-configuration functions for DDL-2® devices. By means of the devices of the DEMUX® series, DDL-2® can also be used to transport other control signals and audio data to any place within the DDL® network.



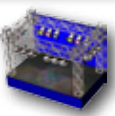
Integrated Audio Hard Disk Recorder

An integrated hard disk recorder with balanced analog and digital ports (S/PDIF, AES/EBU) gives you the freedom to arrange the soundtrack directly in your show creation environment supported by a waveform display. Simply add sound effects in perfect sync with your show or change the timing of audio at any point of the production process.



Connectivity

Thanks to its UNIX operating system, LACON-5® comes with platform-independent connectivity via Ethernet. With their standard Ethernet ports, LACON-5® workstations easily share data with any other computer platform.



Multimedia Control

LACON-5® has also been designed as a media control center providing expansion modules, an open driver structure and a user interface which allows the programming of systems controllable by DMX, MIDI, RS-232, digital channels or time code. Hence, for most applications, LACON-5® has everything you need to run multimedia shows.



TriDome® Full Dome Laser Projections

For planetariums and domes, LOBO's TriDome® technology creates stunning full-dome 3D animations as well as three-dimensional beam sculptures in the audience. Combining multiple projectors, this new approach completely covers spherical surfaces with crisp and bright laser images at projection angles up to 360° x 270°.

Modulare Systemarchitektur

LACON-5® basiert auf einem neuen Hardwareansatz, wie er auch in Hochleistungscontrollern und Routingsystemen zum Einsatz kommt. Im Gegensatz zu marktüblichen PCs bietet diese Lösung fast unbegrenzte Erweiterungsmöglichkeiten und mit wachsenden Anforderungen eine freie Skalierung des Systems ohne Leistungseinbußen.

Echtzeit UNIX-Betriebssystem

LACON-5® arbeitet mit einem für Echtzeitanwendungen optimierten UNIX-Betriebssystem, das auch in sicherheitskritischen Anwendungen, wie zum Beispiel bei Geldautomaten oder in Weltraumfahrzeugen Anwendung findet. "Blue Screens" und unvorhersehbare Performance-Einbrüche handelsüblicher PCs gehören der Vergangenheit an.

Leistungsfähige Echtzeit-Rendering Subsysteme

Um rechenintensive Aufgaben, wie z.B. das Maskieren in voller Auflösung, die Ausgabe hochauflösender Scanline® Laser Videos, das automatische Entfernen verdeckter Linien, Bitmap Overlays, geometrische Entzerrungen und weit mehr realisieren zu können, verfügt LACON-5® über wegweisende Rendering-Subsysteme.

Bis zu 128 unabhängige Projektoren

Sowohl Software, wie auch Hardware von LACON-5® können große Projektorzahlen souverän handhaben. Als preiswerte Alternative zu voll ausgestatteten Ausgabemodulen mit höchster Punktrate und Rechenleistung, unterstützen LACON-5® und LACON-5® compact Ausgabe-Erweiterungen mit Punktraten üblichen Marktstandards.

Digital Data Link DDL-2®

LOBOs neue Generation des ILDA-prämierten optischen Datenübertragungssystems bietet neben einer System-inhärenten Sicherheitslogik auch die komplette Fernkonfiguration aller angeschlossenen DDL-2®-Komponenten. Mittels Geräten der DEMUX®-Serie können über DDL-2® auch andere Steuersignale und Audiodaten übertragen werden.

Integrierter Audio Harddisk Recorder

Ein integrierter Harddisk-Recorder mit Analog- und Digitalanschlüssen (S/PDIF, AES/EBU) gibt die Freiheit den Soundtrack anhand einer Wellenformanzeige direkt in der Showentwicklungsumgebung zusammenzustellen. So können Soundeffekte perfekt synchron in Shows eingefügt oder jederzeit das Timing von Audiopassagen geändert werden.

Konnektivität

Aufgrund des UNIX-Betriebssystems bietet LACON-5® plattformunabhängige Vernetzungsmöglichkeiten über Ethernet. Mit ihren serienmäßigen Ethernet-Ports tauschen LACON-5® Workstations auf einfache Weise Daten mit Computern anderer Betriebssysteme aus.

Multimediateuerung

LACON-5® kann mit Erweiterungsmodulen, einer offenen Treiberstruktur sowie einer Benutzerschnittstelle aufwarten, die die volle Kontrolle über Systeme bieten, die per DMX, MIDI, RS-232, Digitalkanäle oder Timecode gesteuert werden können. Somit bietet LACON-5® alles, was für die Steuerung der meisten Multimediashows benötigt wird.

TriDome® Full Dome Laserprojektionen

In Planetarien und Kuppeln erzeugt LOBOs TriDome®-Technologie beeindruckende, kuppelfüllende 3D-Animationen und gleichzeitig räumliche Strahleneffekte ins Publikum. Durch die Kombination mehrerer Projektoren erfasst dieser neuartige Ansatz sphärisch gekrümmte Projektionsflächen mit einem Projektionswinkel von bis zu 360° x 270°.



Album

All data necessary for laser and multimedia shows, such as graphics, sound files, bitmaps, setup information and much more are saved in so-called albums. As most people work in fundamentally different ways, the graphical user interface of the album and all editors can be customized with settings according to your personal working style.

Graphics Editor

The integrated graphics editor is the perfect environment for creating 3-D laser objects in a time-saving vector format. Bitmaps can be used as a background, to color graphics or to sculpt 3D objects. In addition to laser-optimized fonts, you can also use standard TrueType fonts to create text.



Import

Import filters for the most commonly used laser show file formats allow you to use laser graphics from foreign platforms. The included Windows™-based LACON® File Converter transforms standard vector graphics on your PC into LACON® laser graphics. The optional 3-D Converter even transforms conventional 3-D animations into laser.

Show Editor

A new hierarchical Timeline Editor for thousands of tracks and a laser preview allows efficient programming with an optimal overview, even in complex shows for many projects. Underneath the audio waveform display you place laser animations, Scanline® videos, beam and mirror effects as well as commands for media and periphery control.

Open Plug-in Effect Library

LACON-5® comes with a large plug-in library of realtime special effects which can be added to your animations just by drag & drop. An easy-to-use interface allows you to modify existing effects or to create completely new effects within just a few minutes.



Live Play

The embedded Live Play software has been designed to create perfectly-synchronized atmospheric beam effects as well as screen projections to any given music on a high level of quality. Live Play can be automated thanks to its sophisticated audio processor. Live Play can also be operated by two MIDI keyboards using the optional MIDI/Live module.

Premium Support

LACON-5® users receive dedicated support right from the start: comprehensive individual training at the LOBO facilities, detailed printed documentation as well as telephone support by our developers ensure the best possible use of the system. With LOBO's HelpLink, our specialists even assist you directly in your own LACON-5® environment.



Scanline® Laser Video

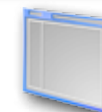
LOBO's awarded Scanline® Laser Video function allows you to project video-like images and MPEG videos with your conventional laser projector in unsurpassed resolution. It is thus possible for the first time to display perfect solid text over the full projection angle.

LACON® Show Library

No other laser company has received as many awards⁴ in recent years for its shows as LOBO. With LACON-5®, you get access to the most awarded library⁴ within the industry. In the form of LOBO's software contract, you receive 12 shows per year on a subscription basis at a very attractive price.

Album

Sämtliche für Laser- und Multimediashows benötigte Daten, wie zum Beispiel Grafiken, Sound, Bilder, Voreinstellungen und vieles mehr werden in sogenannten Alben verwaltet. Jeder arbeitet auf seine individuelle Weise. Deshalb kann der Aufbau der Benutzeroberfläche, des Albums und aller Editoren persönlichen Vorlieben angepasst werden.



Grafikeditor

Der integrierte Grafikeditor bietet die perfekte Arbeitsumgebung, um in kurzer Zeit 3D Laserobjekte zu erstellen. Bitmaps können als Hintergrund, zum Einfärben von Grafiken oder zum Modellieren von 3D-Objekten eingesetzt werden. Neben laseroptimierten Zeichensätzen kann Text auch mit Standard-TrueType Fonts erzeugt werden.



Import

Importfilter für die verbreitetsten Lasershow-Dateiformate erlauben Lasergrafiken von Fremdplattformen zu übernehmen. Mit dem mitgelieferten Windows™-basierten LACON® File Converter können Vektorgrafiken, mit dem optionalen 3D Converter sogar gängige 3D-Animationen in Laseranimationen umgewandelt werden.



Showeditor

Ein neuartiger, hierarchischer Timeline-Editor für Tausende von Tracks erlaubt eine effiziente Programmierung mit optimaler Übersichtlichkeit selbst bei komplexen Shows. Unter die Audio-Waveform-Anzeige können Lasergrafiken, Scanline® Videos, Strahlen- und Spiegeleffekte sowie Befehle zur Medien- und Peripheriesteuerung platziert werden.



Offene Effektbibliothek

LACON-5® wird mit einer großen Bibliothek an Echtzeit-Effekten ausgeliefert, die per "drag & drop" zu Animationen hinzugefügt werden können. Mit einer einfach zu handhabenden Benutzeroberfläche lassen sich bestehende Effekte verändern oder innerhalb weniger Minuten völlig neue Effekte erzeugen.



Live Play

Das integrierte Live Play-System dient dazu, live und zu jeder Musik perfekt synchrone räumliche Strahleneffekte und Leinwandprojektionen zu erzeugen. Live Play kann dank seines aufwändigen Audio-Prozessors auch voll automatisiert betrieben werden. In Verbindung mit dem MIDI/Live-Modul erfolgt die Steuerung mit zwei MIDI Keyboards.



Premium Support

LACON-5®-Nutzer erhalten gezielte Unterstützung vom ersten Tag an: Eine umfassende individuelle Schulung im Hause LOBO, eine detaillierte gedruckte Dokumentation sowie der Telefonsupport stellen eine optimale Nutzung des Systems sicher. Mit LOBO's HelpLink unterstützen Spezialisten den Nutzer sogar am eigenen System.



Scanline® Laser Video

LOBOs preisgekrönte Scanline® Laser Video Technologie erlaubt, flächige, videoähnliche Projektionen von Standbildern und MPEG-Videos mit konventionellen Laserprojektoren in unübertroffen hoher Auflösung darzustellen. Erstmals wird es so z.B. möglich, perfekt flächigen Text über praktisch den gesamten Projektionsbereich darzustellen.



LACON® Showbibliothek

Kein anderes Laserunternehmen erhielt über die letzten Jahre derart viele Auszeichnungen⁴ für seine Shows wie LOBO. LACON-5®-Nutzer erhalten Zugriff auf die am meisten international ausgezeichnete Showbibliothek⁴ der Branche. LOBOs Softwarevertrag beinhaltet die Lieferung von 12 Shows pro Jahr im preislich attraktiven Abonnement.



Product Overview

LACON-5® is more than just a laser controller: it is a complex multimedia machine providing everything you need to control a large variety of equipment from just one control unit and with just one user interface.

So, ideas quickly become reality and reliability is significantly increased since, in most cases, externally-synchronized media controllers are no longer required.

Thanks to its modular hardware approach, each LACON-5® is as individual as its owner. LACON-5® will always exactly suit your specific requirements and will also adapt in the future to your changing needs with a minimum of investments.

LACON-5® ist mehr als nur ein Lasercontroller: Es ist eine komplexe Multimediamaaschine, die von einer einzigen Benutzeroberfläche aus eine Vielzahl verschiedener Geräte steuern kann.

Ideen werden so einfacher und schneller Realität, ebenso wird die Betriebssicherheit signifikant erhöht, da die externe Anbindung weiterer Mediensteuerungen in den meisten Fällen entfallen kann.

Dank des modularen Systemaufbaus ist jedes LACON-5® so individuell wie das Projekt. Es wird immer exakt spezifischen Anforderungen gerecht und lässt sich mit minimalem Investitionsaufwand veränderten Anforderungen anpassen.



LACON-5® Workstation

- Hybrid multiprocessor laser and multimedia workstation for one projector with dedicated real-time rendering sub-systems ensuring supreme results of rendering-intensive tasks
- Allows the direct control of up to 128 independent laser projectors
- DDL-2® with system-inherent safety logic and remote-access to all attached DDL-2® devices
- Integrated audio-harddisk recorder with stereo audio input and output (XLR analog/balanced, digital AES/EBU, optical S/PDIF)
- Control panel with LC display and soft keys for stand-alone operation
- Includes robust CE-housing (19", 8 HU) with attractive aluminum front, SD/USB slots, ethernet connection, hard drive, keyboard, mouse and monitor

LACON-5 Laser / Multimedia Workstation



LACON-5® compact

- Hybrid multiprocessor laser and multimedia workstation for one projector with dedicated real-time rendering sub-systems ensuring supreme results of rendering-intensive tasks
- Allows the direct control of up to 32 independent laser projectors
- DDL-2® with system-inherent safety logic and remote-access to all attached DDL-2® devices
- Integrated audio-harddisk recorder with stereo audio input and output (XLR analog/balanced, optical S/PDIF)
- Integrated control panel for stand-alone operation
- Includes robust CE-housing (19", 4 HU) with attractive aluminum front, SD/USB slots, ethernet connection, hard drive, keyboard, mouse and monitor

LACON-5 compact Laser / Multimedia Workstation



Output Extension

- Extension for LACON-5® to control one additional, independent projector with dedicated and powerful real-time rendering sub-systems
- Supports all DDL® and DDL-2® devices including all DDL-2® remote-administration features
- Inexpensive extensions available at market-standard output speeds available (with limited support of rendering-intensive tasks and advanced features)

L5-D1 Output Extension
L5-D2 Output Extension (standard)



MIDI / Live Module

- Expansion module for LACON-5® to create live laser shows to any given music by means of two MIDI devices
- Allows the manual and automated creation of animated graphics, mirror effects and atmospheric 3D effects
- Includes industry-grade MIDI card with 3 configurable MIDI-ports and a live effect library

L5-L MIDI / Live Module



DMX Module

- Expansion module for LACON-5® providing a DMX in and a DMX out port to control any kind of standard DMX devices, such as moving lights, conventional lights, the laser moving head ZAPHIR® or DMX-controlled peripheral equipment
- Thanks to the open driver structure of LACON-5® almost any kind of DMX device can be directly programmed within a show
- The DMX-in port can also be used to remote-control system functions of LACON-5®

L5-DMX DMX Module



Serial I/O Module

- Expansion module for LACON-5® providing two RS-232 ports to control serial devices, such as lasers, video players, video projectors, slide projectors or laser projection robots
- Thanks to the open driver structure of LACON-5®, almost any kind of serial device can be directly programmed within a show
- The serial ports can also be used to remote-control system functions of LACON-5®

L5-SIO Serial I/O Module



LACON-5® intro

- Entry-level laser and multimedia workstation for 1 projector
- DDL-2® with system-inherent safety logic and remote-access to all attached DDL-2® devices
- Integrated audio-harddisk recorder with stereo audio input and output (XLR analog/balanced, optical S/PDIF)
- Integrated control panel for stand-alone operation
- Includes robust CE-housing (19", 4 HU) with attractive aluminum front, SD/USB drive, ethernet connection, hard drive, keyboard, mouse and monitor

LACON-5 intro Laser / Multimedia Workstation



Basic / ProLine Software Package

- Real-time UNIX operating system
- Show-development environment with all basic functions for programming simple laser shows (Basic Software Package)
- Show creation suite with advanced functions for programming sophisticated laser and multimedia spectacles (ProLine Software Package)
- Full support of all available expansion modules (ProLine Software Package)
- Windows™-based LACON® File Converter to import vector graphics into laser shows (ProLine Software Package)

L5-SWB
L5-SWP

Basic Software Package
ProLine Software Package



PC Remote-Control

- Software for Windows™-based PCs and notebook computers to remote control LACON-5® via Ethernet or wireless connection
- Provides a window or a full-screen display of the LACON-5® user interface
- Allows the complete remote administration of LACON-5® from any Windows™-based PC

L5-SWR

PC Remote Control Software



Software Update Contract

- Includes the continuous delivery of new releases of the show creation suite for LACON-5® workstations as soon they are available.
- Delivery is effected at least once per year
- Includes written update documentation

L5-SWU

Software Update Contract



Parallel I/O Module

- Expansion module for LACON-5® providing two configurable parallel ports, each with 10 digital in-/output channels to control devices, such as beam tables, fog machines or SICON® signal converters
- Thanks to the open driver structure of LACON-5®, almost any kind of switchable systems can be directly programmed within a show
- The parallel ports can also be used to remote control system functions of LACON-5®

L5-PIO

Parallel I/O Module



Timecode Module

- Expansion module for LACON-5® providing a timecode-in and a timecode-out port to synchronize LACON-5® with external media systems
- Supports SMPTE/EBU-standardized LTC time-code of all commonly used formats

L5-S

SMPTE Timecode Module



GPS Module

- Expansion module for LACON-5® to exactly synchronize media systems over any distance using the GPS satellite system
- Includes an external antenna with a 15 m connection cord

L5-GPS

GPS Module



GSM Module

- Expansion module for LACON-5® with an integrated multiband GSM receiver to display short text messages (SMS) and images of multimedia messages (MMS) sent from GSM cell phones
- Incoming messages can be integrated in pre-programmed animation sequences
- Includes SIM card slot and antenna

L5-GSM

GSM Module

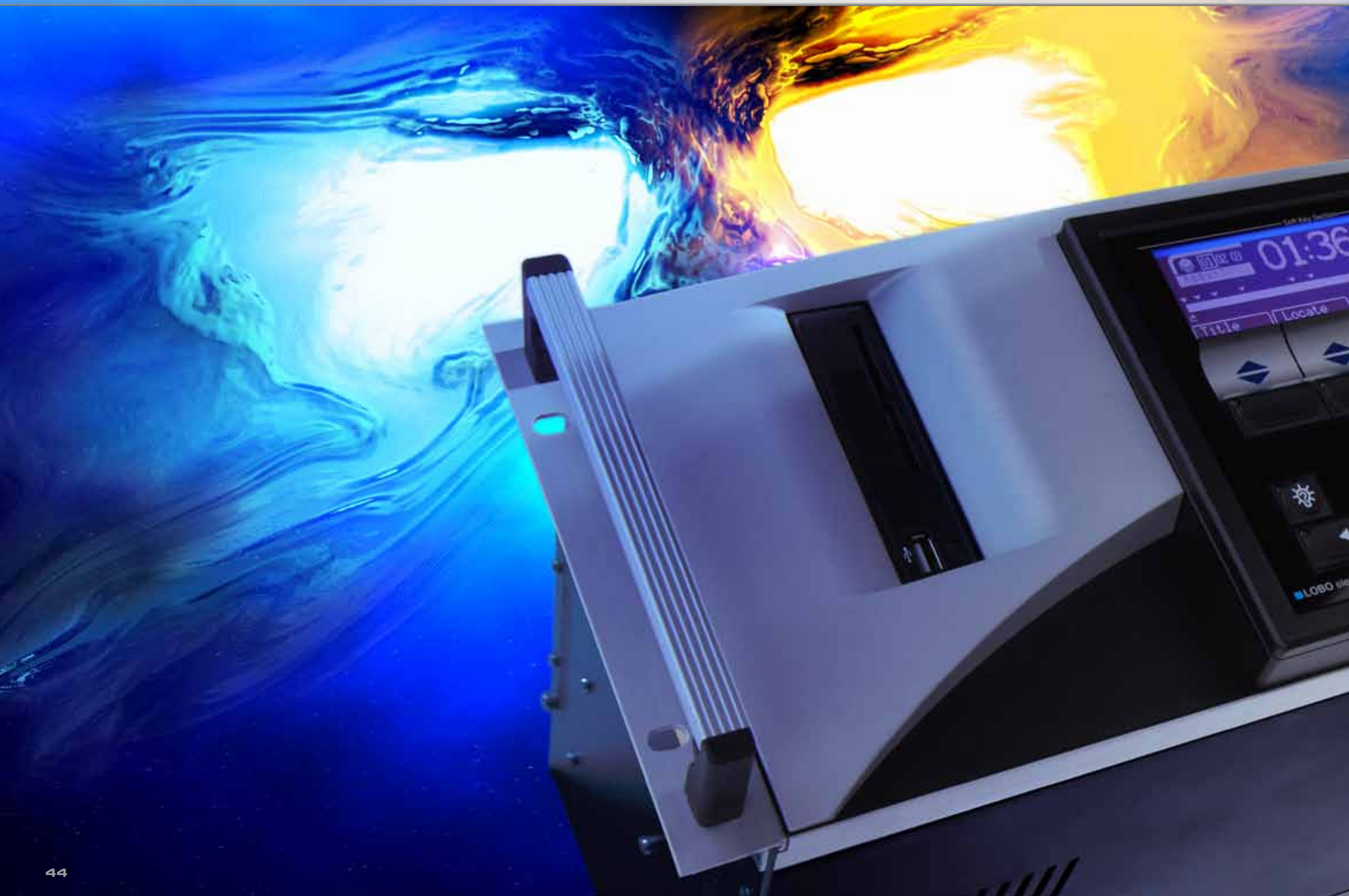


Show Contract

- Includes the delivery of 12 atmospheric beam shows per year on the basis of a low-priced subscription contract (running time at least 24 months)
- All shows include optimized versions for single or dual projector display

L5-SC

Show Contract





MODULA® stands for compact and easy-to-use laser playback controllers, ideal for use in clubs, museums, theaters, mobile applications and advertisement. Thanks to an intuitive user interface on the front panel, you can operate a laser system and all necessary peripherals as easily and reliably as an MP3 player.

While MODULA-5® systems play pre-recorded data streams for up to 2 projectors, the new MODULA-7® calculates and displays show content in real-time for up to 4 independent projectors. Many features are now available to this rather inexpensive platform, so far only known by LACON-5® systems.

MODULA® steht für kompakte und leicht zu bedienende Laser-Playback-Controller, die sich perfekt für Clubs, Museen, Theater, mobile Anwendungen und für Werbedisplays eignen. Dank intuitiver Benutzerführung auf dem integrierten Bedienpanel lässt sich ein Lasersystem inklusive aller Peripherie so einfach und zuverlässig bedienen wie ein MP3-Spieler.

Während MODULA-5®-Systeme aufgezeichnete Datenströme für bis zu 2 Projektoren wiedergeben, gibt MODULA-7® in Echtzeit berechnete Inhalte für bis zu 4 Projektoren aus. Viele Features, die bislang LACON-5® vorbehalten waren, sind nun auf dieser relativ preisgünstigen Plattform verfügbar.

Product Overview

In spite of its easy operation, MODULA-7® makes no compromises when it comes to quality and versatility.

Whether you are looking for an automated laser player, a universal laser show recorder, a DMX-programmable system, the perfect solution for live applications or a laser controller embedded into a multimedia environment, MODULA-7® is always the right choice thanks to its outstanding expansion capacity.

To ensure a perfect look of any kind of laser show, you just need a few minutes after installation to define, via the controller, the positions of the screen, of the audience and of external effect mirrors.

Trotz einfacher Bedienung, macht MODULA-7® keinerlei Kompromisse in Qualität und Flexibilität.

Egal ob nur ein komplett automatisierter Laser-Abspieler, ein universeller Lasershow-Recorder, ein DMX-programmierbares Lasersystem, die perfekte Lösung für den Live-Einsatz oder ein Laser Controller innerhalb eines Medienverbunds gefordert ist, MODULA-7® ist aufgrund herausragender Erweiterungsmöglichkeiten in jedem Fall die richtige Wahl.

Für eine optimale Darbietung von Lasershows benötigt man nach der Installation nur ein paar Minuten, um am Controller die Position der Leinwand, des Publikums und externer Effektspiegel zu definieren.



Modular System Architecture

MODULA® is based on a new hardware approach, as you find it in professional high-end controllers and routing systems. In contrast to conventional PCs, this solution is open to almost unlimited expansion allowing an easy scaling of the system without bottlenecks. Thus, MODULA® adapts and grows in accordance with requirements.



Realtime-UNIX OS

MODULA® works with a realtime-optimized UNIX-system with micro kernel structure, as is frequently used in safety-critical applications, such as cash dispensers or space craft control systems. "Blue Screens" and unpredictable drops in the system performance familiar from conventional PCs are a thing of the past.



Digital Data Link DDL®

LOBO's ILDA-awarded optical data transmission system with system-inherent safety logic is available as an option for MODULA-5® systems. Hence, MODULA® can control all projectors equipped with DDL® or DDL-2®. MODULA-7® natively supports DDL-2® with all remote administration and monitoring features.



Premium Support

MODULA® users receive targeted support right from the start: extensive individual training in the LOBO facilities, printed documentation as well as telephone support by our developers ensure the best possible use of the system.

Modulare Systemarchitektur

MODULA® basiert auf einem neuen Hardwareansatz, wie er auch in Hochleistungscontrollern und Routingssystemen zum Einsatz kommt. Im Gegensatz zu marktüblichen PCs bietet diese Lösung fast unbegrenzte Erweiterungsmöglichkeiten und eine freie Skalierbarkeit des Systems ohne Leistungseinbußen.

Echtzeit UNIX-Betriebssystem

MODULA® arbeitet mit einem für Echtzeitanwendungen optimierten UNIX-Betriebssystem, das auch in sicherheitskritischen Anwendungen, wie zum Beispiel bei Geldautomaten oder in Weltraumfahrzeugen Anwendung findet. "Blue Screens" und unvorhersehbare Performance-Einbrüche handelsüblicher PCs gehören der Vergangenheit an.

Digital Data Link DDL®

LOBO's ILDA-prämiertes optisches Datenübertragungssystem mit system-inhärenter Sicherheitslogik ist für MODULA-5®-Systeme als Option verfügbar. Somit können alle Projektoren angesteuert werden, die mit DDL® oder DDL-2® ausgestattet sind. MODULA-7® unterstützt DDL-2® und sämtliche Fernwartungs- und Überwachungsfunktionen.

Premium Support

MODULA®-Nutzer erhalten gezielte Unterstützung vom ersten Tag an: eine ausführliche individuelle Schulung im Hause LOBO, eine gedruckte Dokumentation sowie der Telefonsupport durch die Entwickler stellen eine optimale Nutzung des Systems sicher.



MODULA-7® Controller

- Digital real-time laser player based on an industry-grade computer with one digital DDL-2® output module for one projector
- Stereo audio outputs (XLR analog/balanced)

Software Packages

- Available with Basic Software for the playback on one projector or ProLine Software with extended functions and the support of all expansion modules

MODULA-7	Real-time Laser Controller
M5-SWP	ProLine Software Package with Monitor
M5-SWB	Basic Software Package



MODULA-5® Controller

- Digital laser player based on an industry-grade computer with MO drive and one analog output module for one projector
- Stereo audio outputs (XLR analog/balanced)

Software Packages

- Available with Basic Software for the playback on 1 projector or ProLine Software with extended functions and the support of all expansion modules

MODULA-5	Laser Controller
M5-SWP	ProLine Software Package
M5-SWB	Basic Software Package



Show Programming Suite

- Expansion module for MODULA-7® for the creation of complete shows with advanced graphics editor, time-line based show creation environment and extensive I/O control features
- Includes graphics tablet

Graphics Creation

- Expansion module for MODULA-5® for the creation of beam effects, graphics and texts to be used by the Live or DMX-module
- Includes flat panel monitor with industry-grade graphics card, keyboard, graphics tablet, mouse and clipart library

M7-G	Advanced Show Creation Suite
M5-G	Graphics Creation Module



Output Module

- Expansion module for MODULA-7® and MODULA-5® to control one additional, independent projector
- MODULA-7® supports max. 4 DDL® projectors with full DDL-2®-support including all remote administration features.
- MODULA-5® supports max. 2 analog projectors
- The digital output extension adds DDL® support for MODULA-5® projectors and a digital sound output (optical S/PDIF)

M7-D Digital Output Extension
M5-A Analog Output Module
M5-D Digital Output Extension



Recording Module

- Expansion module for MODULA-5® to record laser shows from any kind of laser controller
- Features analog input for laser data, sound input (XLR analog/balanced, optical S/PDIF)

M5-R Recording Module



MIDI / Live Module

- Expansion module for MODULA-7® and MODULA-5® to create live laser shows to any given music by means of two MIDI devices
- Allows the manual and automated creation of animated graphics, mirror effects and atmospheric 3D effects
- Includes industry-quality MIDI card with 3 configurable MIDI-ports, a sound board for the analysis of the sound and a live effect library

M7-L MIDI / Live Module
M5-L MIDI / Live Module



DMX Module

- Expansion module for MODULA-7® and MODULA-5® providing a DMX in and a DMX out/thru port
- MODULA-7® can directly program almost any kind of DMX device due to the open driver structure. Alternatively the DMX-in port can also be used for remote-control of system functions
- MODULA-5® can emulate up to 4 conventional moving lights to create laser shows by most DMX lighting desks. Includes live effect library with laser gobos and beam effects.

M7-DMX DMX Module
M5-DMX DMX Module



Serial I/O Module

- Expansion module for MODULA-7® and MODULA-5® providing two RS-232 ports to control serial devices, such as lasers, video players or video projectors
- Thanks to MODULA®'s I/O system, serial commands can directly be programmed within a show
- The serial ports can also be used to remote-control system functions of MODULA®

M7-SIO Serial I/O Module
M5-SIO Serial I/O Module



Power Module

- Expansion module for MODULA-7® and MODULA-5® for automated periphery control
- Features 3 programmable power channels each 230V/4A (e.g. for automated and manual control of a screen or a fan), a beam switch port and a status display on the front panel

M7-PU Power Module
M5-PU Power Module



Parallel I/O Module

- Expansion module for MODULA-7® and MODULA-5® providing two configurable parallel ports, each with 10 digital in-/output channels to control devices, such as beam tables, fog machines or SICON® signal converters
- Thanks to MODULA®'s I/O system, almost any kind of switchable systems can be directly programmed within a show
- The parallel ports can also be used to remote control system functions of MODULA®

M7-PIO Parallel I/O Module
M5-PIO Parallel I/O Module



Timecode Module

- Expansion module for MODULA-7® and MODULA-5® providing a timecode-in and a timecode-out port for synchronization with external media systems
- Supports SMPTE/EBU-standardized LTC timecode of all commonly used formats
- MODULA-7® supports real-time SMPTE format conversion features

M7-S SMPTE Timecode Module
M5-S SMPTE Timecode Module



GPS Module

- Expansion module for MODULA-7® to exactly synchronize different MODULA-7® or LACON-5® systems as well as all attached media systems over any given distance using the GPS satellite system
- Includes an external antenna with a 15 m connection cord

M7-GPS GPS Module



GSM Module

- Expansion module for MODULA-7® with an integrated multiband GSM receiver to display short text messages (SMS) sent from any GSM cell phone
- Incoming text messages can automatically be integrated in real-time into laser displays
- Text messages can also be used to remote-control the system by means of pre-defined keywords
- Includes SIM card slot and antenna

M7-GSM GSM Module





Most applications of laser systems require the control of additional peripheral equipment: screens, fog generators or wind machines, for example. All LOBO controllers are equipped to integrate such devices and even more.

With the new DDL-2®-based interfaces of the DEMUX series, almost all control tasks can be performed by one controller via just one single optical data connection.

Furthermore, LOBO provides live effect controllers and laser-safety measurement systems, which can be used in combination with laser systems from any manufacturer.

Bei fast allen Applikationen von Lasersystemen müssen zusätzlich Peripheriegeräte, wie zum Beispiel Leinwände, Nebelgeneratoren oder Windmaschinen angesteuert werden. Alle LOBO-Controller sind für die Einbindung dieser und vieler anderer Geräte vorbereitet.

Mit den neuartigen Interfaces der DEMUX-Serie auf DDL-2®-Basis können fast alle Steueraufgaben von nur einem Controller wahrgenommen werden, wobei die Daten hierbei über ein einziges optisches Datenkabel übertragen werden.

Darüber hinaus bietet LOBO Live-Effekt-Controller sowie Messsysteme zur Beurteilung der Lasersicherheit an, die in Verbindung mit Lasersystemen jedes Herstellers genutzt werden können.

Control Interfaces

The DEMUX series is a new generation of intelligent I/O interfaces for DDL®-based laser systems. They convert DDL® laser control signals into analog signals, as they are required for conventional laser projectors and ILDA Standard Projectors (ISP).

For controllers, supporting the DDL-2® protocol, some DEMUX interfaces provide remote ports for audio, DMX-512, serial data and digital channels. The transmission of the respective signals is effected via the DDL-2® data bus.

SICON-3®, POCON-3® and PSP-3 can be used for the control of conventional peripheral devices.

Die DEMUX-Serie ist eine neue Generation intelligenter I/O-Interfaces für Lasersysteme auf DDL®-Basis. Sie konvertieren DDL®-Lasersteuerdaten in analoge Signale, wie sie für konventionelle Analogprojektoren und ILDA-Standardprojektoren (ISP) benötigt werden.

Für Steuerungen, die das DDL-2®-Protokoll unterstützen bieten einige DEMUX-Geräte Schnittstellen für Audio, DMX-512, serielle Daten und Digitalkanäle. Die Übertragung der jeweiligen Signale erfolgt in diesem Fall ebenfalls über den DDL-2®-Datenbus.

SICON-3®, POCON-3® und PSP-3 eignen sich zur Steuerung konventioneller Peripheriegeräte.



DDL®/Analog Converter

- DDL® Converter providing two LOBO standard connectors to control two independent analog laser projectors by DDL®
- Adjustable color delays
- Additionally features two remote RS-232 ports (e.g. for laser control) and 20 digital I/O channels (e.g. for beamtables, fiber switches,...) for controllers supporting the DDL-2® protocol
- Integrated control panel with back-lit LC-display, key pad and intuitive one-button menu control by means of a push-button rotary encoder
- Allows the complete remote-access to all system parameters by controllers supporting DDL-2®

DEMUX-5LP DDL®/Analog ProLine Converter



DDL®/Analog Converter

- DDL® Converter providing a LOBO standard connector to control one analog laser projector by DDL®
- Adjustable color delays
- Integrated control panel with back-lit LC-display, key pad and intuitive one-button menu control by means of a push-button rotary encoder
- Allows the complete remote-access to all system parameters by controllers supporting DDL-2®

DEMUX-5LB DDL®/Analog Converter



DDL®/ILDA Converter

- DDL® Converter providing two ILDA standard connectors to control two analog ILDA standard laser projectors (ISP) by DDL®
- Adjustable color delays
- Additionally features two remote RS-232 ports (e.g. for laser control) and 20 digital I/O channels (e.g. for beamtables, fiber switches,...) for controllers supporting the DDL-2® protocol
- Integrated control panel with back-lit LC-display, key pad and intuitive one-button menu control by means of a push-button rotary encoder
- Allows the complete remote-access to all system parameters by controllers supporting DDL-2®

DEMUX-5LP1 DDL®/ILDA ProLine Converter



DDL®/ILDA Converter

- DDL® Converter providing an ILDA standard connector to control one analog ILDA standard laser projector (ISP) by DDL®
- Adjustable color delays
- Integrated control panel with back-lit LC-display, key pad and intuitive one-button menu control by means of a push-button rotary encoder
- Allows the complete remote-access to all system parameters by controllers supporting DDL-2®

DEMUX-5LB1 DDL®/ILDA Converter



DDL®/SIO Converter

- Converter for transforming DDL® or DDL-2® signals into RS-232 port signals
- 9 independent RS-232-ports
- Integrated control panel with back-lit LC-display, key pad and intuitive one-button menu control by means of a push-button rotary encoder
- Allows the complete remote-access to all system parameters by controllers supporting DDL-2®

DEMUX-5SIO DDL®/SIO Converter



DDL®/DMX Converter

- Converter for transforming DDL® or DDL-2® signals into DMX signals
- The device provides DMX output
- In addition there is either a further DMX output or an RS-232 interface available
- Integrated control panel with back-lit LC-display, key pad and intuitive one-button menu control by means of a push-button rotary encoder
- Allows the complete remote-access to all system parameters by controllers supporting DDL-2®

DEMUX-5DMX DDL®/DMX Converter



POCON-3® Power Converter

- 6-channel power pack to switch high electrical loads by controllers and SICON-3® devices
- All channels can be used as power switches or as isolated high-load relay contacts and can be locked in pairs against each other
- Continuous load max. 2300 W (230 VAC), peak load max. 2500 W
- Features trip fuses with indicators for each channel, mains switch and mains indicators
- Allows 1-phase or 3-phase supply alternatively

POCON-3 Power Converter



SICON-3® Signal Converter

- Signal converter for galvanical separation and voltage adaptation between controllers like LACON-5® or MODULA-5® and peripheral equipment, such as e.g. fog machines, SPCs and power packs
- Provides 50 digital channels with selectable output voltages (5V / 10V / 24V, max. 0,1A)
- 10 channels provide isolated relay contacts
- LED status displays and manual override function for 30 channels with cut-off function to block all outputs at the press of just one button

SICON-3 Signal Converter



MICON-5® Live Effect Laser Controller

- Stand-alone live effect controller for one projector which allows the manual and automated display of graphic, mirror beams and atmospheric 3D effects to any given music by means of two MIDI devices
- Features a sophisticated sound-to-light system for completely automated effect creation
- ProLine option available with DMX input to program laser shows from lighting consoles, simple text generator and more graphics and effects
- The MICON-5Z® version converts DMX signals of an external light controller directly into gobo-like laser effects without the possibility of manual interaction
- Both versions include an extensive graphics and effect library

MICON-5	Live Effect Laser Controller
PRO-5D	ProLine upgrade for MICON-5 Live Effect Laser Controller
MICON-5Z	DMX / ZAPHIR® Converter



MIDI Keyboard

- 49-note, full-size MIDI keyboard, including power supply
- Features velocity-sensitive keys, pitch-bend wheel, modulation wheel and LED-display
- Perfectly complements MICON-5®, the MIDI / Live Module of LACON-5®, MODULA-5® and MODULA-5®

MIDI-3 MIDI Keyboard



Graphics Tablet

- High-resolution A4 oversize tablet for the connection to LACON-5® to manually digitize vector graphics for laser shows
- Includes mouse and software for the alternative use on conventional PCs

GA-1 Graphics Tablet



Power Supply Main Control

- Universal power supply main control for complete laser systems equipped with emergency stop, configurable key switch and 5 switchable power supply circuits
- Allows the manual control of peripheral equipment, such as screens for example
- Features trip fuses with indicators for each channel
- Automatic cooling management for an increased lifetime of gas-ion laser systems available as an option

PSP-3 Power Supply Main Control



Laser Safety Measurement System

- ILDA-awarded laser safety measurement system for scanned laser radiation (max. 40W) to verify the eye safety of audience-scanning laser shows in accordance to DIN 56912 / EN 60825-1
- One-button measurement with graphical peak display, output of all safety-relevant parameters and extensive log functions to create a printable measurement protocol

LMS-2	Measurement unit with various status displays, operated at a laptop computer, power supply by means of an integrated battery or by mains connector alternatively
LS-2	Software package for the data evaluation and MPE comparison on laptop computers
LAP-2	Pre-configured laptop computer for LMS-2 including operating system
LD-2	Detector head (400 – 700 nm, 7 mm aperture), including cable (3 m)
LAS-10A/B	Alignable / non-alignable reduction element (reduction factor 1:10) for detector head
ZLM-2	Kit with tripod, accessories and transport case for the complete LMS-2 system

Accessories

For those who want to do impressive live shows and already own a laser playback system or a laser projector, LOBO has developed the MICON-5® live effect controller. It adds practice-oriented live operation capabilities to almost any kind of laser system and is also prepared for complete stand-alone operation.

No matter what kind of laser system is used, the eye safety of a laser show should always be of primary importance. With its ILDA-awarded LMS system, LOBO provides an advanced solution to check the safety of a laser show quickly and reliably.

Für all jene, die beeindruckende Liveshows machen wollen und bereits ein Laser-Abspielsystem oder einen Laserprojektor besitzen, hat LOBO den MICON-5® Live-Effekt-controller entwickelt. Er ergänzt praktisch jedes Lasersystem durch eine praxisorientierte Livebedienung und ist auch für den komplett eigenständigen Betrieb vorbereitet.

Egal welche Art von Lasersystem zum Einsatz kommt, die Strahlensicherheit für das Auge sollte immer an erster Stelle stehen. Mit dem von der ILDA ausgezeichneten LMS-System bietet LOBO eine ausgereifte Lösung, die eine schnelle und zuverlässige sicherheitstechnische Beurteilung einer Lasershow gewährleistet.





The new sparks® product family has been designed from scratch to serve the need for ultra-bright, air-cooled multi-color laser systems.

So far, almost any laser system has been built the same way. But sparks® systems are different. They re-think the use of lasers in almost every aspect and have been re-engineered from ground up. The result is a solution which is future-proof, flexible, uncompromisingly practical, technically convincing and made for continuous duty. And the innovative PCS system increases the effective brightness by 9 times! This makes sparks® projectors ideal for the really big jobs.

Die neue sparks®-Produktfamilie wurde von Grund auf neu entwickelt, um der Nachfrage nach ultra-hellen, luftgekühlten Multi-color-Lasersystemen gerecht werden zu können.

Bis heute waren fast alle Lasersysteme im Aufbau ähnlich. Aber sparks®-Systeme sind anders. Sie definieren den Einsatz von Lasern in vielen Aspekten neu: sie sind zukunftssicher, flexibel, kompromisslos praxisorientiert, technisch überzeugend und für den Dauerbetrieb ausgelegt. Und das innovative PCS-System erhöht die effektive Helligkeit um Faktor 9. Damit sind sparks® die Idealbesetzung für die richtig großen Jobs!

Re-thinking Lasers

Sparks® systems do not only provide high output powers, but also concentrate the power to an extraordinarily thin beam, thanks to LOBO's post-collimation scanning system PCS. This high power density results in an extreme effective brightness, which makes sparks® ideal for dazzling laser effects at open-air shows, for building projections or long-range beams.

Thanks to its amazing brightness, even the smallest RGB sparks® system basing on the red dot and iF Product Design-awarded compact projector SGP-3 showed on first tests that it has been far brighter than anything seen so far.

Sparks®-Systeme bieten nicht nur hohe Ausgangsleistungen, sondern bündeln die Leistung dank LOBOs Post-Kollimations-Systeme PCS auch in einen außergewöhnlich dünnen Strahl. Diese hohe Leistungsdichte führt zu einer extrem hohen effektiven Helligkeit, die sparks® geradezu für brillante Lasereffekte bei Open-Airs, für Gebäudeprojektionen oder weithin sichtbare Strahlen prädestiniert.

So hat schon das kleinste sparks®-System, auf Basis des kompakten und mit dem „red dot“ und „iF Product Design Award“ ausgezeichneten SGP-3-Projektors, bei ersten Tests bewiesen, dass es um Größenordnungen heller als alles bisher Dagewesene war.



Probably the brightest display lasers on the planet³

Actually anyone wants a bright laser, but only few understand, that this is not just having lots of Watts. Finally, everything is about light intensity and maintaining this intensity over distance:

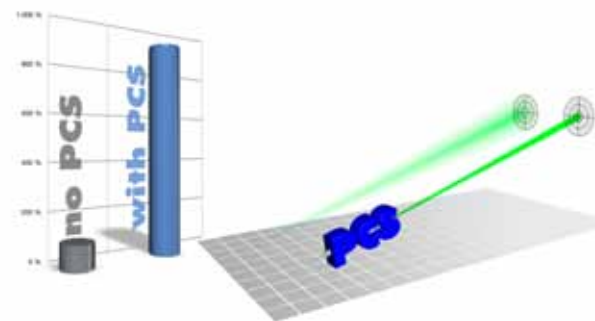
Half the power means half the brightness. But twice the diameter of a beam means approx. just a quarter of effective brightness (as the beam expands in two directions). So, beam diameter and divergence have a stronger influence on visibility than the output power of a laser.

A high effective brightness has been the primary goal when developing the sparks® series. Optically pumped semiconductor laser technology and advanced pre-collimation optics inside the laser modules provide excellent beam parameters at high output powers.

But this was still not enough: Thanks to LOBO's unique post-collimated scanning system PCS the overall brightness of sparks® laser systems is increased to 900% in comparison to conventional optically pumped semiconductor laser systems. This has been made possible by re-engineering the whole optical path inside the projector.

While many manufacturers want to compensate this by just adding more lasers into their projectors, even the smallest and cheapest sparks® RGB system with PCS is still brighter than most of such solutions:

Brightness Comparison with and without PCS



Die wohl hellsten Display Laser auf dem Planeten³

Eigentlich möchte ja jeder einen hellen Laser, aber nur wenige verstehen, dass es mit einer hohen Wattzahl allein noch nicht getan ist. Letztlich dreht sich alles um eine möglichst hohe Lichtintensität und darum, diese Intensität auch über die Distanz zu erhalten:

Die halbe Leistung bedeutet die halbe Helligkeit. Ein doppelt so großer Strahldurchmesser lässt die effektive Helligkeit jedoch gleich auf ein Viertel schrumpfen (da sich der Strahl in zwei Richtungen aufweitet). Strahldurchmesser und Divergenz haben also einen stärkeren Einfluß auf die Sichtbarkeit als die Ausgangsleistung eines Lasers.

Eine hohe effektive Helligkeit war das vorrangige Ziel bei der Entwicklung der sparks®-Serie. Optisch gepumpte Halbleiterlasertechnologie und eine ausgefeilte Prä-Kollimation in den Lasermodule bieten exzellente Strahlparameter bei hohen Leistungen.

Dies war jedoch noch nicht genug. Dank des ausgefeilten Post-Kollimierten Scanning-Systems PCS, wird die Gesamthelligkeit eines sparks® Laser-systems im Vergleich zu konventionellen OP-Systemen auf 900% gesteigert.

Während viele Hersteller dies durch Hinzufügen immer weiterer Laser in ihre Projektoren kompensieren möchten, ist sogar das kleinste und preisgünstigste sparks®-RGB-System dank PCS noch immer heller als die meisten dieser Lösungen:

Comparison of the Effective Laser Brightness (ELB)³ of large entertainment laser systems at a distance of 200 m

Vergleich der effektiven Laserhelligkeit (ELB)³ großer Entertainment-Lasersysteme bei einer Distanz von 200 m

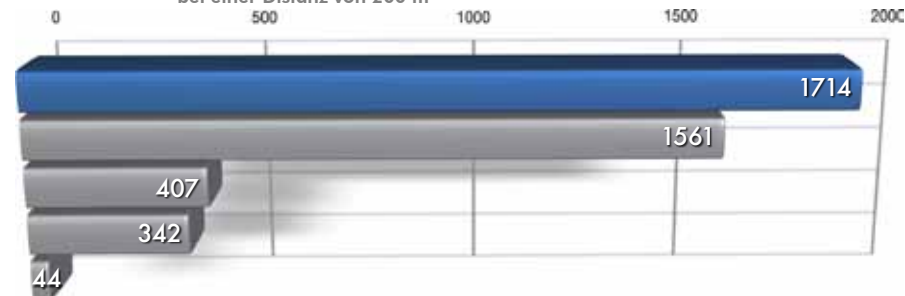
LOBO® sparks® RGB (typ. 5W) includes 3 small sparks modules and PCS

Established RRYGGGBB OP-System (50W) includes 8 optically pumped lasers without PCS

Established RRYGGBB OP-System (29W) includes 6 optically pumped lasers without PCS

Established RYGB Diode+OP-System (25W) includes diode lasers + yellow/green OP-System

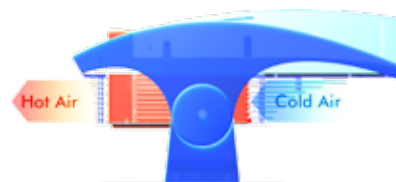
Typical Q-switched laser (90W) monochrome green Nd:YAG laser



Advanced thermal design

Even the best laser projector is useless if it does not withstand typical operating temperatures. Thanks to their triple-stage active cooling system, sparks® laser modules can be operated at an ambient temperature of more than 45°C. But even more important:

Unlike conventional solutions on the market, the patented and awarded design of the SGP-3 projector housing and the PowerDeck SDP-8 allows for an individual and insulated cooling of each laser module, eliminating the typical misalignments due to thermal stress on the optical table.



Fortschrittliches thermisches Design

Selbst der beste Laserprojektor ist nutzlos, wenn er typischen Betriebstemperaturen nicht standhält. Dank ihres dreifachen, aktiven Kühlsystems können sparks®-Lasermodule bis zu einer Umgebungstemperatur von über 45°C betrieben werden.

Aber noch wichtiger: Entgegen konventionellen Lösungen auf dem Markt, erlaubt das geschützte und preisgekrönte Design des Projektorgehäuses SGP-3 und des PowerDecks SDP-8 die thermisch entkoppelte Kühlung jedes einzelnen Lasermodule, wodurch die typische Dejustage durch thermische Spannungen eliminiert wird.

Future-proof modular design

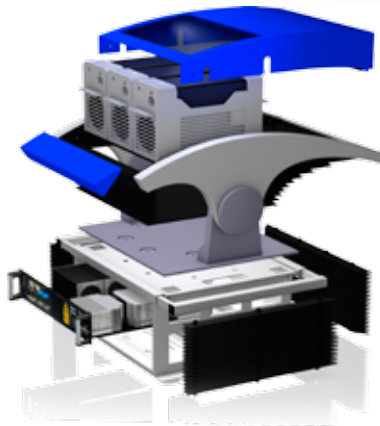
A sparks® system can be individualized to any given application, even on a per-job basis, as its laser modules can almost be changed as easily as the cartridges of a printer.

As LOBO provides a huge variety of laser modules of different basic colors and of different power classes, there is always the right laser for each job.

Anytime, it is possible to reconfigure or to expand a sparks® laser system; be it for higher output powers, for upgrades to more advanced laser technologies, for more colors or just to split up the lasers of one projector to many.

Thanks to the modular approach you can start with a projector featuring just one single module and expand to more colors anytime at comparatively low investment costs.

No matter which way you choose, sparks® systems adapt to your budget and your business strategy. It is hardly possible making a wrong investment.



Zukunftssicherer modularer Aufbau

Ein sparks®-Projektor kann auf alle Anwendungen, selbst für jeden Job, individuell zugeschnitten werden, da sich die Lasermodule fast so leicht tauschen lassen wie Drucker-Cartridges.

Da LOBO eine große Bandbreite an Lasermodulen verschiedener Farben und Helligkeitsklassen anbietet, gibt es für jede Anwendung den perfekten Laser.

Jederzeit ist es möglich, ein sparks®-Lasersystem umzukonfigurieren oder zu erweitern; sei es zugunsten einer höheren Leistung, zum Upgrade auf fortschrittlichere Lasertechnologien oder nur um die Module eines Projektors auf mehrere Projektoren zu verteilen.

Mit dem modularen Aufbau ist es natürlich auch möglich, zunächst mit nur einem oder zwei Modulen in einem Projektor zu starten und ihn jederzeit um weitere Grundfarben zu erweitern.

Egal, welchen Weg Sie wählen, sparks®-Systeme passen sich immer optimal Ihrem Budget und Ihrer Geschäfts-Strategie an. Fehlinvestitionen sind nahezu ausgeschlossen.



Auto-Configuration

Semiconductor lasers can easily be damaged, when not operated within their individual current, color modulation and cooling parameters. Sparks® systems store these parameters inside the laser heads and automatically pass them to the power supply and the Laser Array Manager, making installation and module change safe and easy.

Auto-Konfiguration

Halbleiterlaser können leicht zerstört werden, wenn sie nicht im Rahmen ihrer individuellen Betriebsparameter (Strom, Modulation und Temperatur) betrieben werden. sparks®-Systeme speichern darum diese Parameter im Laserkopf und übertragen sie automatisch zu Netzteil und LMX-3, wodurch der Modulwechsel einfach und sicher vonstatten geht.



Rigid Design

All structural parts of the innovative exoframe design projector as well as the laser modules are CNC-milled from a single block of aluminum. This approach ensures highest stiffness, precision and rigidity at a dramatically decreased weight.

Solider mechanischer Aufbau

Alle strukturell relevanten Teile des innovativen Exoframe-Gehäuses und der Lasermodule sind aus einem massiven Alublock CNC-gefräst. Dieser aufwändige Ansatz garantiert höchste Steifigkeit und Präzision bei einem deutlich niedrigeren Gewicht.



Maintenance-free Design

The sparks® series has been designed for maintenance-free and reliable operation under continuous duty. In contrast to established multi-color systems using diode lasers there is no need for permanent re-alignment even in road use. The typical lifetime of the modules is up to 20.000 hours.

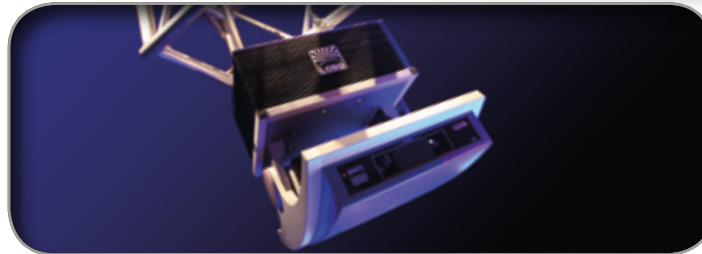
Wartungsfreier Systemaufbau

Die sparks®-Serie ist auf wartungsfreien, zuverlässigen Dauerbetrieb ausgelegt. Entgegen konventionellen Multicolor-Systemen mit Diodenlasern, entfällt die zeitraubende, permanente Nachjustage auch im Road-Einsatz. Die typische Lebenszeit der Lasermodule beträgt bis zu 20.000 Betriebsstunden.



Easy to mount

The projector SGP-3 and its base rack SBR-3 can also be operated and mounted independently in any orientation without adversely affecting its cooling. Camloc connectors and a quick-lock tilting mechanism make it very easy to point the laser effects where you want them.



Installation leicht gemacht

Der Projektor SGP-3 und das Base-Rack SBR-3 können auch unabhängig voneinander und in jeder Ausrichtung betrieben und montiert werden, ohne dass die Kühlung negativ beeinflusst wird. Dank Camloc-Verbindern und einer Neigungsverstellung mit Schnellverschluss sind Lasereffekte immer schnell genau dorthin ausgerichtet, wo sie gewünscht sind.



A long-term value

Modularity extends the overall lifetime and usability of a sparks® laser system significantly. Taking into consideration that LOBO systems maintain a high value even over decades and achieve astonishing prices when selling a used system, it is the best long-term investment one could imagine.

Hohe Werthaltigkeit

Modularität verlängert die Gesamtlebensdauer und Nutzbarkeit eines sparks®-Lasersystems wesentlich. Zieht man dann noch in Betracht, dass LOBO-Systeme auch über Jahrzehnte mit einem unglaublich hohen Wiederverkaufswert glänzen, ist kaum eine bessere Langzeitinvestition vorstellbar.



3) Effective Laser Brightness (ELB)

The ELB-value is equivalent to the laser intensity by determining the output power of a laser beam [W] per square meter [m²] at a certain distance (e.g. 200 m for high-power laser systems).

The following formula allows to compare different laser types:

$$ELB_{(distance)} = \frac{4 \cdot \text{output power}}{(\text{distance} \cdot \text{divergence} + \text{diameter})^2 \cdot \pi}$$

This formula is not just of theoretical nature, it has been verified within decades of research of the LOBO labs accompanied by the comparison of uncounted lasers by measuring their characteristics on a special 10 km laser 'test track'.

When comparing these values, you should be aware that the specifications of most entertainment lasers are not more than a very optimistic rough idea. So, only individual measurements will deliver reliable results.

Der ELB-Wert entspricht der Lichtintensität eines Lasers. Hierzu wird die Leistung eines Laserstrahls [W] pro Quadratmeter [m²] in Bezug auf eine bestimmte Distanz ermittelt (z.B. 200 m für Hochleistungs-Lasersysteme, die bei Outdoor-Shows eingesetzt werden).

Die folgende Formel erlaubt den einfachen Vergleich verschiedener Lasertypen:

$$ELB_{(Distanz)} = \frac{4 \cdot \text{Ausgangsleistung}}{(\text{Distanz} \cdot \text{Divergenz} + \text{Durchm.})^2 \cdot \pi}$$

Diese Formel ist nicht nur theoretisch fundiert, sondern auch durch praktische Untersuchungen der LOBO-Labore und die Messung unzähliger Laser über eine spezielle 10 km lange Teststrecke empirisch belegt.

Für den Vergleich verschiedener Laser sei erwähnt, dass Spezifikationen vieler Entertainment-Laser oft allenfalls eine optimistische Schätzung der tatsächlichen Strahlendaten darstellen. Nur Messungen liefern belastbare Ergebnisse.

The perfect basis for each application

The sparks® system gives you two main platforms to set up your individual projector solutions:

- The innovative compact design projector SGP-3, housing up to 3 laser modules, is the perfect choice for most applications, thanks to easy handling, flexible installation and a fast re-configuration of the system. Its compact size is not just ideal for mobile applications; its stunning iF- and reddot-awarded design also convinces in most design-sensitive environments.
- With the PowerDeck SPD-8, LOBO introduces a rock-solid technical basis for permanent installations or for extraordinary brightness demands, as it features 8 mounting bays for laser modules. A multi-color system basing on the PowerDeck can reach unbelievable max. brightness values of more than 20000 W/m² at typical output powers of more than 100 Watts!

The PowerDeck's spacious optical table not only allows for complex, individual optical setups, it also can supply a whole armada of external projectors via glass fibers.



Compact Projector SGP-3 + SBR-3

PowerDeck SPD-8 + DS-3010/S

Die perfekte Basis für jede Anwendung

Das sparks®-System bietet zwei Plattformen zum Aufbau individueller Projektor-Lösungen:

- Der innovative, kompakte Design Projektor SGP-3 nimmt bis zu drei Laser-Module auf und ist die perfekte Wahl für fast alle Anwendungen dank leichter Handhabung, flexiblen Installationsmöglichkeiten und schneller Konfiguration des Systems. Seine kompakten Abmaße sind nicht nur ideal für mobile Anwendungen; sein atemberaubendes, mit dem iF und reddot Award ausgezeichnetes Design überzeugt auch in optisch sensiblen Umgebungen.
- Mit dem PowerDeck SPD-8 präsentiert LOBO eine solide technische Basis für Festinstallationen oder für außergewöhnliche Helligkeitsanforderungen, da es 8 Aufnahmeschächte für sparks Laser Module bietet. Ein Multicolor-System auf der Basis des PowerDecks kann unglaubliche Helligkeitswerte von über 20000 W/m² bei Ausgangsleistungen von weit über 100 Watt erreichen!

Die geräumige optische Einheit erlaubt nicht nur komplexe, individuelle optische Aufbauten, sie kann z.B. auch eine ganze Armada an externen Projektoren über Glasfaser speisen.

The perfect color for each job

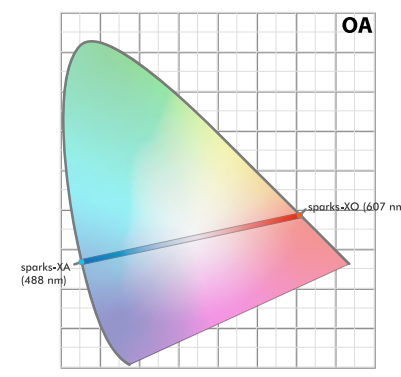
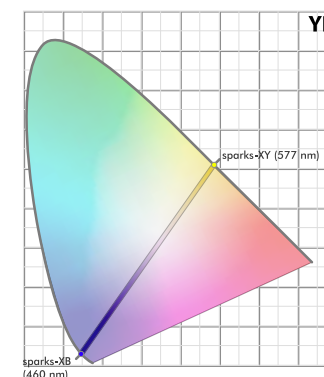
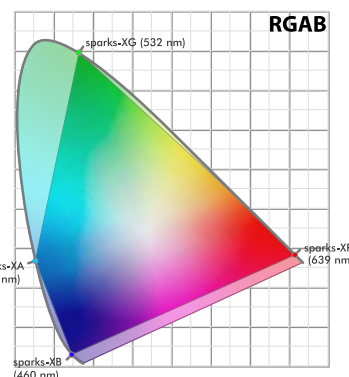
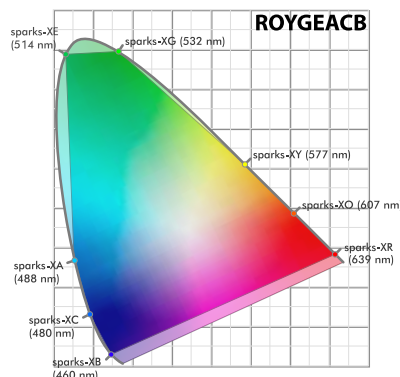
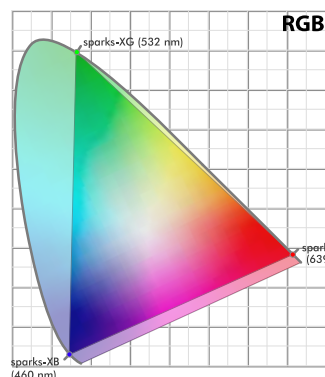
Thanks to the optimal wavelengths of the red, green and blue modules, such a RGB sparks® system covers an extremely wide color gamut and bases on those primary colors perceived by the eye to be the brightest. Especially the color range between blue and green (e.g. purple, red, orange, yellow,...) is covered practically loss-free. Those applications demanding for an even wider gamut can add up all basic colors inside the PowerDeck.

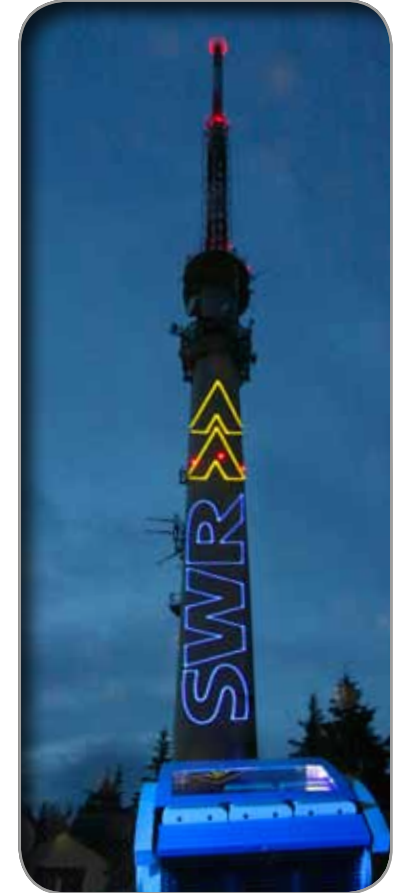
Sometimes, you can save a lot of money, as many applications do not require three modules to display the colors you need. For example, combining just a blue and a yellow module or an azure and an orange module, already gives you any shade of color between these two basic colors, including white! Sometimes it also makes sense to get started with just one single module, as it is still possible to expand the system anytime by integrating further basic colors.

Die perfekte Farbe für jeden Job

Dank der optimalen Wellenlänge des roten, grünen und blauen Moduls, deckt bereits ein RGB sparks®-System einen extrem breiten Farbraum ab und basiert auf den subjektiv am hellsten wahrgenommenen Grundfarben. Der Farbraum zwischen Blau und Grün (z.B. Violett, Rot, Orange, Gelb, ..) ist praktisch verlustfrei abgedeckt. Für sehr anspruchsvolle Anwendungen können alle Grundfarben im PowerDeck zur Farbmischung herangezogen werden.

Offt lassen sich Kosten deutlich reduzieren, da manche Anwendungen nicht drei Module benötigen, um die tatsächlich gewünschten Farben darzustellen. Wenn z.B. nur ein blaues und gelbes Modul kombiniert wird, oder ein azur- und orange-Modul, so erhält man neben allen Farbnuancen zwischen diesen beiden Grundfarben auch weiß! Oft ist es ökonomisch sinnvoll, mit nur einem Modul zu starten, da jederzeit die Möglichkeit besteht, das System um weitere Farben zu ergänzen.





Laser Modules

Laser modules of different basic colors and brightness classes can be combined freely with the possibility to mix any desired shade of color between them.

For most applications, a system consisting of a red, green and blue module will be perfect to reproduce almost any color in the visible spectrum of light. But thanks to the extraordinary choice of basic colors, some applications might not require more than just one or two modules.

The new sparks-Twin modules combine two of the brightest laser heads of each wavelength in one module for the configuration of extraordinarily bright wide-gamut projectors.

Lasermodule verschiedener Grundfarben und Helligkeitsklassen können frei untereinander kombiniert werden, um jede gewünschte Farbnuance zwischen ihnen zu mischen.

Für die meisten Anwendungen reicht ein System mit einem roten, grünen und blauen Modul vollständig aus, um so gut wie jede Farbe im sichtbaren Spektrum darzustellen. Dank der außergewöhnlich breiten Auswahl an Grundfarben, reichen für einige Anwendungen bereits ein oder zwei Module aus.

Die neuen sparks-Twin Module kombinieren jeweils zwei der hellsten Laserköpfe einer Farbe in einem Modul für die Konfiguration extrem heller Wide-Gamut-Projektoren.



sparks®-XR

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in red (639 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,2 - 1,60 mm, divergence approx. 0,55 - 0,75 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOR8	typ. brightness ³ : 4274 W/m ²
OP-1LOR5	typ. brightness ³ : 2465 W/m ²
OP-1LOR4	typ. brightness ³ : 1972 W/m ²
OP-1LOR3	typ. brightness ³ : 1479 W/m ²
OP-1LOR2	typ. brightness ³ : 986 W/m ²



sparks®-XO

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in orange (607 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,2 - 1,60 mm, divergence approx. 0,55 - 0,75 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOO3	typ. brightness ³ : 1232 W/m ²
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sparks®-XY

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in yellow (577 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,3 - 2,0 mm, divergence approx. 0,8 - 1,5 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOY10	typ. brightness ³ : 1804 W/m ²
OP-1LOY8	typ. brightness ³ : 1466 W/m ²
OP-1LOY5	typ. brightness ³ : 902 W/m ²



sparks®-XL

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in lime (561 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,1 - 2,2 mm, divergence approx. 1,2 - 1,8 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOL4	typ. brightness ³ : 538 W/m ²
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sparks®-XG

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in green (532 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,1 - 2,4 mm, divergence approx. 1,2 - 1,8 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOG15	typ. brightness ³ : 1703 W/m ²
OP-1LOG12	typ. brightness ³ : 1362 W/m ²
OP-1LOG8	typ. brightness ³ : 885 W/m ²
OP-1LOG5	typ. brightness ³ : 545 W/m ²
OP-1LOG4	typ. brightness ³ : 408 W/m ²



sparks®-XE

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in emerald (514 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,1 - 2,3 mm, divergence approx. 1,1 - 1,8 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOE8	typ. brightness ³ : 947 W/m ²
OP-1LOE5	typ. brightness ³ : 583 W/m ²



sparks®-XA

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in azure (488 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,1 - 2,0 mm, divergence approx. 1,0 - 1,7 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOA8	typ. brightness ³ : 1095 W/m ²
OP-1LOA5	typ. brightness ³ : 674 W/m ²



sparks®-XC

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in cyan (480 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,1 - 1,8 mm, divergence approx. 0,9 - 1,6 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOC7	typ. brightness ³ : 1080 W/m ²
OP-1LOC4	typ. brightness ³ : 589 W/m ²
OP-1LOC2	typ. brightness ³ : 294 W/m ²



sparks®-XB

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in blue (460 nm), including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head (beam diameter approx. 1,1 - 1,6 mm, divergence approx. 0,8 - 1,6 mrad) in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock

OP-1LOB4	typ. brightness ³ : 641 W/m ²
OP-1LOB3	typ. brightness ³ : 481 W/m ²
OP-1LOB2	typ. brightness ³ : 320 W/m ²



sparks® Twin-Module

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module with two colors, including Auto-Configuration and individual temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan).
- Consisting of two laser heads in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 500 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock. Custom configurations available.

OP-1LOCB11	typ. brightness ³ : 1721 W/m ²
OP-1LOAB12	typ. brightness ³ : 1736 W/m ²

Compact Projector

Up to 3 modules can be controlled by one Laser Array Manager LMX-3. It not only provides an optimized color modulation for millions of colors, but also for parameterized power supply, individual cooling management, safety interlocks as well as status monitoring and remote configuration via DDL-2®.

The projector SGP-3, with its innovative exoframe design, features mounting bays for up to three laser modules. It makes re-configuration almost as easy as changing the cartridges of a printer. The SBR-3 base rack houses power supplies and electronics and can be mounted independently or can directly be attached and mounted with the projector as one unit.

Bis zu drei Module können von einem Laser Array Manager LMX-3 gesteuert werden. Er sorgt nicht nur für eine optimierte Farbmodulation für Millionen von Farben, sondern auch für eine parameterisierte Stromversorgung, individuelles Kühlungsmanagement, Sicherheits- und Statusüberwachung sowie Fernsteuerung über DDL-2®.

Der Projektor SGP-3, mit seinem innovativen Exoframe Design, bietet Aufnahmeschächte für bis zu drei Laser-Module. Dies macht die Konfiguration fast so leicht wie der Patronentausch bei einem Drucker. Das Base Rack SBR-3 beinhaltet Stromversorgung und Elektronik und kann unabhängig oder angeflanscht an den Projektor als eine Einheit montiert werden.



sparks® Laser Array Manager

- Control electronics for up to 3/6 sparks® laser modules for individually parameterizable power supply, cooling management, optimized color modulation, intelligent color management, status monitoring and safety interlock
- Status display (current, head temperature, laser power,...)
- Optical signal transmission via Digital Data Link DDL® / DDL-2®. Additional analog signal inputs
- CE housing (19", 1 HU) with aluminum design front. Intuitive menu control via back-lit LC display and digital rotary encoder. Remote access to all system parameters by controllers supporting the DDL-2® protocol. Additional RS-232 port and connection possibility for external safety shutter

LMX-3

sparks® Laser Array Manager

LMX-6

sparks® Laser Array Manager



sparks® Projector Housing

- Compact design projector housing with mounting bays for up to 3 sparks® display laser modules
- The rigid and innovative exoframe design with a quick-lock tilting mechanism and additional safety lock ensures an unobstructed air flow and thermally insulated cooling for sparks modules
- Allows easy cabling and manifold installation possibilities in any orientation and connection to the SBR-3 Base Rack by means of Camloc connectors
- Dust-protected optical unit for up to 2 scanner units of the AMP series, 2 KOL collimator sets and up to 2 RGB-AO color-mixing units, safety shutter or grating effects

SGP-3

sparks® Projector Housing



sparks® Design Base Rack

- Compact design base rack in cooling fin design with mounting facilities for additional 19" devices with up to 3 HU (e.g. LMX, AMP scanning drivers, RGB color-mixing drivers) and mounting bays for sparks® power supplies
- Features complete power distribution system inside a 19" drawer with integrated ventilator, power switch and connection field for DDL® as well as analog connectors
- Tool-free access from all sides by removable fin packs
- Pull-out carrying handles for easy handling.
- Connection possibility to SGP-3 and easy truss mounting by means of Camloc connectors

SBR-3

sparks® Design Base Rack



sparks® Flight Case

- Multi-functional, high-quality flight case for sparks® projector SGP-3 with SBR-3 base rack and accessories
- Designed as a protective transport case, coated with a hard-wearing laminate finish, heavy-duty wheels, butterfly catches, aluminum edging, special paddings for the SGP-3 exoframe wing and a separate accessory compartment
- Tilted upside-down, the case allows to tear out the complete unit (e.g. with a motorized truss)
- The case also allows to operate the projector inside. Numerous integrated ventilation grids and removable covers serve for a flexible application in any given ambient temperature and setup scenario

FC-1S

sparks® Flight Case





sparks® PowerDeck

- Extra-large housing with mounting bays for up to 8 sparks® display laser modules for extraordinary brightness demands, for even most demanding optical setups or to feed fiber-supplied projectors
- Heavy-duty design made of powder coated steel for a maximum of structural rigidity. Allows easy cabling and a direct connection to two Base Racks DS-3010/S. Features an integrated and torsion-proof frame, insulated air channels and a dust-proof optical unit consisting of a spacious CNC-punched optical table and two dedicated beam combination tables
- The flexible dust-protection panel system allows an easy access to the optical components and a laser output in 2 directions of the housing
- The optional 19" Base Racks DS-3010/S, features a complete power distribution system inside a 19" drawer with integrated ventilator, power switch and connection field for DDL® as well as analog connectors

SPD-8

sparks® PowerDeck

DS-3010/S

sparks® Base Rack (2 required for SPD-8) with 1 sparks mounting tray



PowerDeck

The PowerDeck SPD-8 is the basis for any application demanding for extremely bright laser output or for even most complex optical setups.

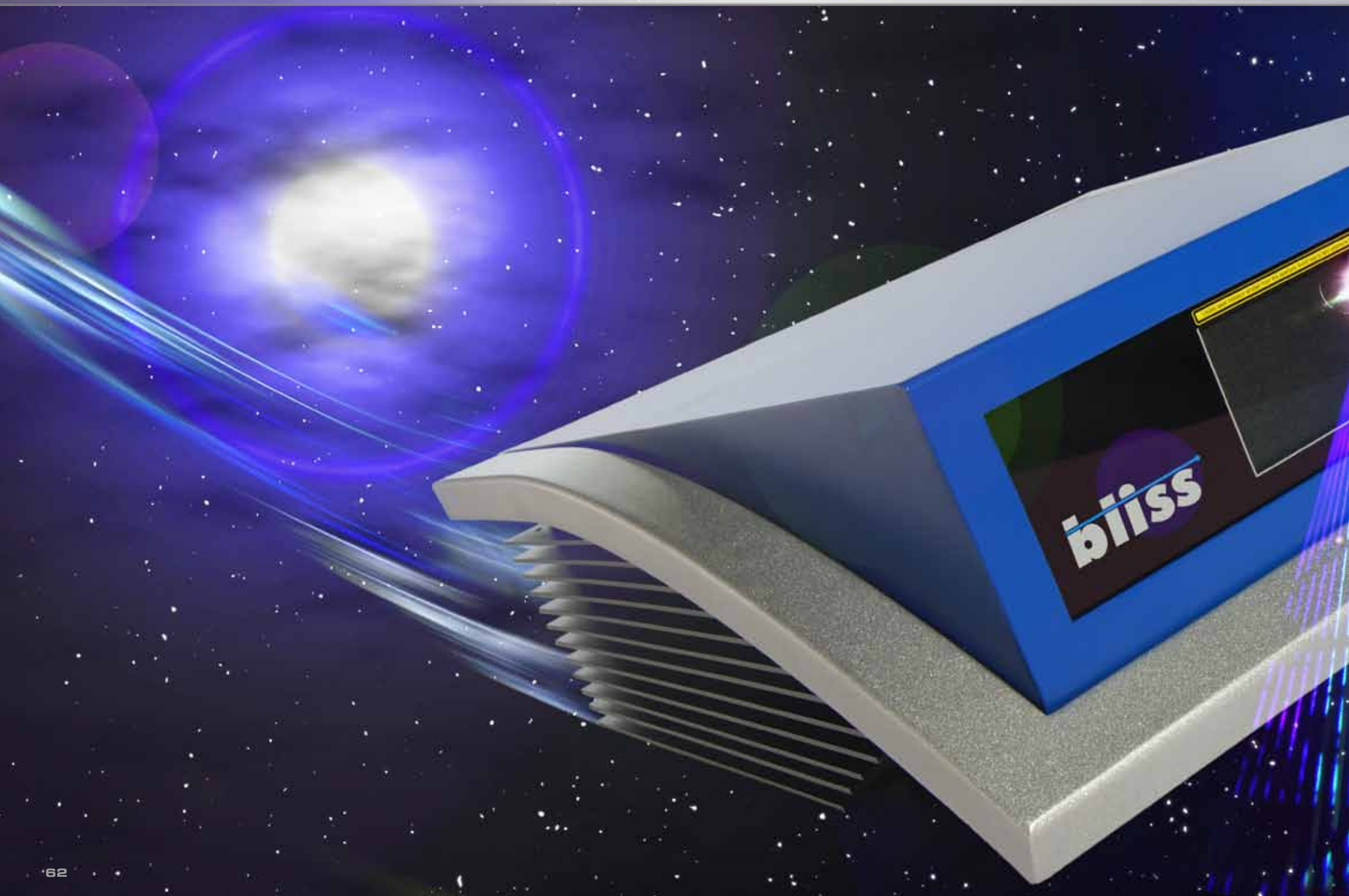
With mounting bays for up to 8 modules you can implement systems of extreme brightness. For the first time entertainment laser systems could reach brightness values significantly above the magic brightness barrier of 20000 W/m^2 at output powers of more than 100 W!

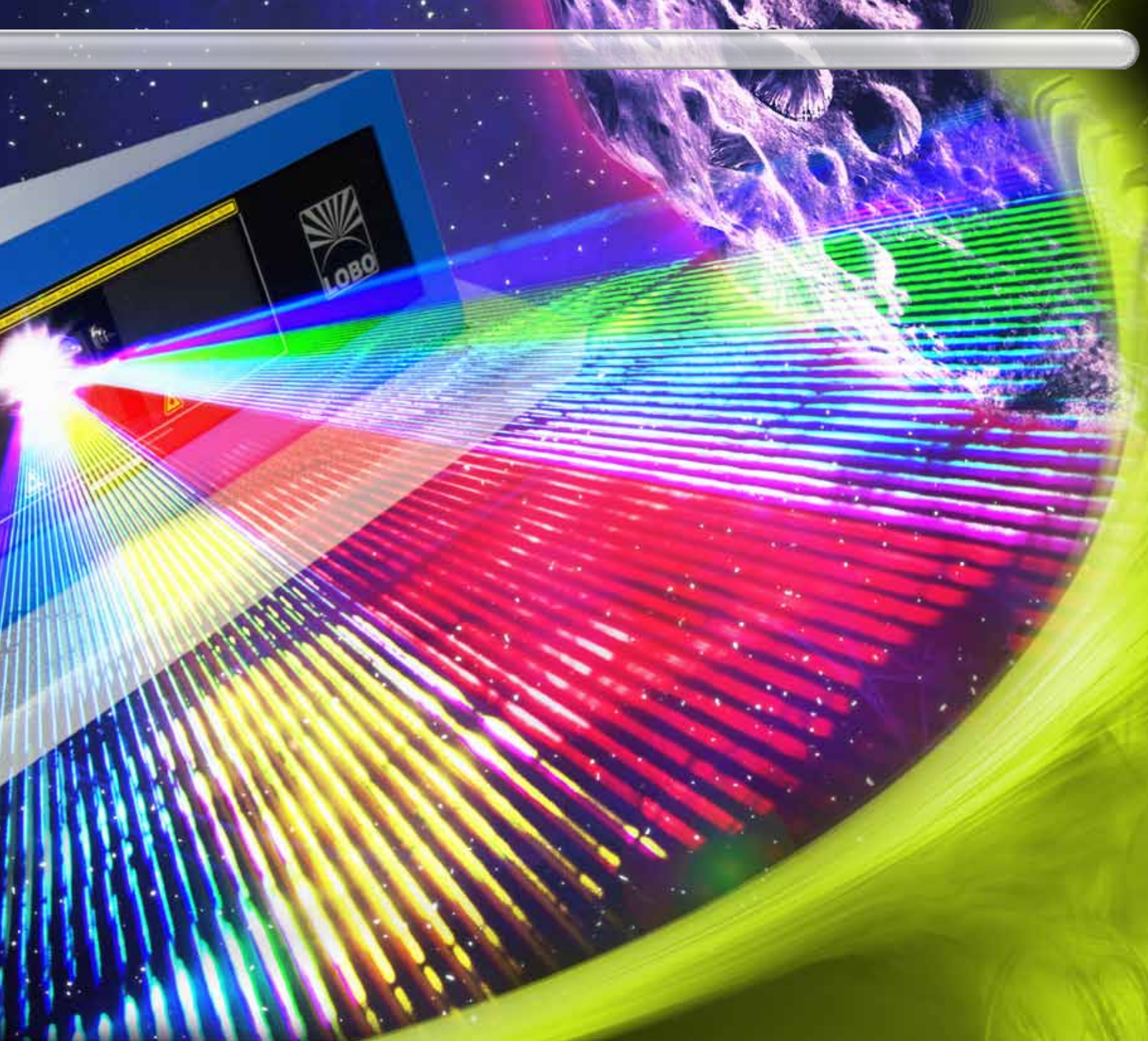
Thanks to its flexible structure and its spacious optical table, it is the perfect basis for fiber-supplied laser systems or demanding optical setups.

Das PowerDeck SPD-8 ist die Basis für alle Anwendungen, die nach besonders heller Laserausgabe oder nach selbst komplexesten optischen Aufbauten verlangen.

Mit Einschubschächten für bis zu 8 Module sind Systeme mit unglaublichen Helligkeitswerten realisierbar. Zum ersten Mal konnten Entertainment-Lasersysteme die magische Helligkeitsgrenze von 20.000 W/m^2 bei Ausgangsleistungen von über 100 W durchbrechen!

Dank des flexiblen Designs und seiner geräumigen Basisplatte ist es auch die perfekte Basis für faser-versorgte Lasersysteme oder individuelle optische Aufbauten.





bliss®
Professional Stage Lighting

The new bliss® series transfers the groundbreaking features of the extraordinarily successful sparks-series to a compact, inexpensive and especially quiet projector. It is designed for typical indoor applications and for outdoor use at smaller venues.

But bliss® projectors make no compromises in reliability and brightness. Unlike conventional solutions, aligning multiple beams in parallel, bliss® systems perfectly overlay the beams of latest-generation laser diodes with no need for permanent re-alignment. Thanks to PCS, also bliss® projectors provide utmost brightness even at comparatively low output powers.

Die neue bliss®-Serie überträgt die bahnbrechenden Eigenschaften der überaus erfolgreichen sparks-Serie auf einen kompakten, preiswerten und auch besonders leisen Projektor, der sich perfekt für typische Indoor-Anwendungen und kleinere Outdoor-Einsätze eignet.

Dabei machen bliss®-Projektoren keine Kompromisse in Zuverlässigkeit und Helligkeit. Statt der marktüblichen parallelen Strahlenreihung, werden bei bliss®-Systemen die Strahlen von Laserdioden der neuesten Generation perfekt überlagert – und dies ohne permanente Neujustage. Dank PCS bieten auch bliss®-Projektoren eine enorme Helligkeit trotz relativ geringer Ausgangsleistung!

System Overview

The new bliss® product family has been developed from ground up coming with features setting new standards for diode laser systems.

You have the choice between a highly integrated compact projector with outstanding design or a modular system, basing on a diode laser module which can also upgrade existing monochrome laser systems using the projector housing LGP-4.

Considering its price and performance, the new bliss®-XT is a real milestone in projector design. It is packed with the latest LOBO developments, including PCS, DDL, as well as an extremely precise and fast digital scanning system.

Die neue bliss® Produktfamilie ist von Grund auf neu entwickelt worden und setzt neue Maßstäbe für Diodenlasersysteme.

Sie haben die Wahl zwischen einem hoch integrierten Kompaktprojektor in herausragendem Design oder einem modular aufgebauten System auf Basis eines Dioden-Lasermoduls, das sich auch zur Umrüstung bestehender monochromer Lasersysteme eignet, die das Projektorgehäuse LGP-4 nutzen.

In Preis und Leistung ist der neue bliss®-XT ein echter Meilenstein im Projektorbau. Er ist vollgepackt mit den neuesten LOBO-Entwicklungen, inklusive PCS, DDL sowie eines extrem schnellen und präzisen digitalen Scanning-Systems.



Real beam overlay

Many people are astonished when comparing the real-life performance of even most established diode lasers with their alleged power and beam specifications. In fact, not many diode lasers on the market meet the typically specified divergence value of 1 mrad and the manufacturer's power specifications. And in spite of high powers they are sometimes looking fuzzy and dim. But why?

Due to the lack of red and blue lasers of satisfying power and beam characteristics, diode lasers became quite popular. Most diode lasers use tiny micro-mechanics to align the weak beams of small laser diodes parallel to each other (see image). Already at the output, the beam is very thick and due to the limited mechanical accuracy, the beams misalign after a short distance. And as it is not a real overlay, but only a parallel alignment of beams, it can never result in a sharp, bright laser beam.

With the bliss® series, LOBO introduces a new generation of diode laser systems, basing on very powerful laser diodes with supreme beam parameters. Not more than 2 diodes of each color are accurately overlaid using the polarization technique and laboratory-grade components. So the diodes really sum up their brightness and you really have the power in the air and not just inside the projector.



Old Principle: Parallel Alignment of Laser Beams

Echte Strahlüberlagerung

Schon mancher staunte nicht schlecht, als er die tatsächlichen Leistungs- und Strahldaten etablierter Diodenlaser mit den Herstellerdaten verglichen hat. Es ist eine traurige Tatsache, dass viele Diodenlaser die i.d.R. angegebene Divergenz von meist 1 mrad und die spezifizierte Leistung nicht erreichen. Und selbst bei hohen Leistungen sehen die Laser zuweilen unscharf und dunkel aus. Aber warum?

Lange gab es keine roten und blauen Laser mit akzeptablen Leistungs- und Strahldaten. Deshalb versuchen einige Anbieter mit mikromechanischen Spiegeln schwache Strahlen kleiner Laserdioden parallel zueinander auszurichten (s. Bild). Bereits am Austritt sind diese Strahlen aber dick und laufen wegen der begrenzten mechanischen Genauigkeit schon nach kurzer Distanz auseinander. Da es sich nur um eine Anreihung und keine echte Strahlüberlagerung handelt, lässt sich mit diesem verbreiteten Prinzip letztlich nie ein scharfer, heller Strahl erzielen.

Mit bliss® präsentiert LOBO eine neue Generation an Diodenlasersystemen, die auf leistungsstarken Dioden mit speziellen Optiken für überragende Strahldaten basieren. Maximal je 2 Dioden werden zur Helligkeitsverdopplung per Polarisationsverfahren exakt überlagert. Die Leistung ist somit auch real im Raum sichtbar und nicht nur im Innern des Projektors.

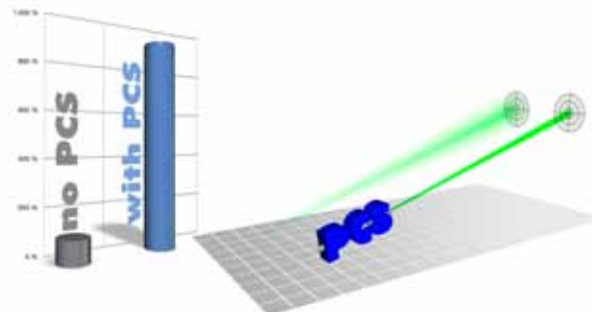


PCS for 9 times increased brightness

Actually anyone wants a bright laser, but only few understand that this is not just having lots of Watts. It is even more important having a good beam quality. Because finally, everything is about light intensity and maintaining this intensity over distance:

Half the power means half the brightness. But twice the diameter of a beam means approximately just a quarter of effective brightness (as the beam grows in two directions). So, the beam diameter and its divergence have a stronger influence on the final visibility than the actual output power of a laser.

Similar to the revolutionary sparks® series, also in bliss® projectors LOBO's unique post-collimated scanning system PCS increases the overall brightness to 900% in comparison to conventional diode laser systems.



Brightness Comparison with and without PCS

PCS für 9-fache Helligkeit

Eigentlich möchte ja jeder einen hellen Laser, aber nur wenige verstehen, dass es mit einer hohen Wattzahl alleine nicht getan ist. Letztlich dreht sich alles um eine möglichst hohe Lichtintensität und darum, diese Intensität auch über die Distanz zu erhalten:

Die halbe Leistung bedeutet die halbe Helligkeit. Ein doppelt so großer Strahldurchmesser lässt die effektive Helligkeit jedoch gleich auf ein Viertel schrumpfen (da sich der Strahl in zwei Richtungen aufweitet). Strahldurchmesser und Divergenz haben also einen stärkeren Einfluss auf die Sichtbarkeit als die Ausgangsleistung eines Lasers.

Wie bei der sparks®-Serie, sorgt auch in bliss® Projektoren LOBOs ausgefeiltes Post-Kollimiertes Scanning-System PCS für eine Erhöhung der effektiven Gesamthelligkeit auf 900% im Vergleich zu konventionellen Diodenlasern.



Maintenance-free design

Bliss® has been designed for maintenance-free and reliable operation under continuous duty.

In contrast to established diode lasers it has no micro-mechanics for beam alignment anymore. Thus, there is no need for permanent re-alignment of the projector even in road use.

The typical lifetime of the modules is more than 10.000 hours. An integrated ESD protection system eliminates one of the most critical reasons for accidental damage and laser diode failure.

Wartungsfreier Systemaufbau

Bliss® ist auf wartungsfreien und zuverlässigen Dauerbetrieb ausgelegt.

Im Vergleich zu etablierten Diodenlasern gibt es keine Mikromechaniken zur Anreihung von Strahlen mehr. Damit entfällt die ständige Nachjustage des Projektors selbst im rauen Road Einsatz.

Die typische Lebensdauer der Module beträgt mehr als 10.000 Stunden. Ein integrierter ESD-Schutz beseitigt einen der häufigsten Gründe für den Ausfall von Laserdioden.

bliss®-XT - designed for professionals

The new bliss®-XT projector provides extreme performance on a small footprint and indispensable features for professional use: A reliable operation under permanent duty even under extreme ambient temperatures and this in virtually any orientation; but also Camloc connectors for easy mounting on truss systems and a solid handle bar, which goes all around the unit.

Just by releasing a few screws, the whole slide-in module with electronics and optics can be taken out and thus, is accessible from all sides for servicing. In addition, also the complete dust-proof optical module can easily be removed from the slide-in module for an easy access.

bliss®-XT - für Profis gebaut

Der neue bliss®-XT-Projektor bietet extreme Performance auf kompaktem Raum mit Features, die unabdingbar für den professionellen Einsatz sind: Ein zuverlässiger Dauerbetrieb bei selbst höchsten Umgebungstemperaturen in praktisch jeder Einbaulage sind genauso selbstverständlich, wie Camloc-Anschlüsse zur einfachen Traversenmontage oder der solide, umlaufende Tragegriff.

Durch Lösen weniger Schrauben lässt sich die gesamte Elektronik und Optik in Form eines Einschubmoduls herausnehmen und ist somit von allen Seiten für Servicearbeiten zugänglich. Zusätzlich kann auch das komplett staubgeschützte optische Modul für optimalen Zugang mit wenigen Handgriffen aus dem Einschubmodul entfernt werden.



Whisper-Quiet

The bliss®-XT projector is ideal for noise-sensitive environments, such as theaters and planetariums. Thanks to an intelligent projector design and a sophisticated cooling concept featuring especially milled heat sinks, very large, slowly rotating and whisper-quiet fans can be used.

Flüsterleise

Der bliss®-XT-Projektor ist ideal für Geräusch-empfindliche Umgebungen, wie z.B. Theater oder Planetarien. Dank des intelligenten Projektoraufbaus und eines ausgefeilten Kühlkonzepts mit aufwändig gefrästen Kühlelementen, können besonders große, langsam drehende und damit flüsterleise Lüfter eingesetzt werden.



bliss® Diode Laser Module

- Air-cooled, multi-color diode laser (445-642 nm) with polarized beam overlay (no diode coupling by aligning beams), including temperature stabilisation units (TEC modules, temperature sensors and heat sink)
- Consisting of diode laser module (beam diameter approx. 1,8 - 3 mm, divergence approx. 0,8 - 1,9 mrad; for LD-B4RGB modules: beam diameter approx. 1,8 - 4 mm, divergence approx. 1,1 - 4 mrad) and external power supply (100 - 240 VAC, approx. 200 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock



bliss® Diode Laser Manager

- Control electronics for bliss diode laser modules for individually parameterizable power supply, cooling management, optimized color modulation, intelligent color management, status monitoring and safety interlock
- Status display (e.g. current, head temperature, laser power,...)
- Optical signal transmission via Digital Data Link DDL® / DDL-2®. Additional analog signal inputs
- CE housing (19", 1 HU) with aluminum design front. Intuitive menu control via back-lit LC display and digital rotary encoder. Remote access to all system parameters by controllers supporting the DDL-2® protocol. Additional RS-232 port and connection possibility for external safety shutter

LMD-3 Diode Laser Manager



bliss® modular RGB Projector

- Modular, air-cooled, multi-color laser projector featuring PCS for an extraordinary effective laser brightness
- Available in different brightness classes, in analog (ILDA-standard) and digital versions (DDL® compatible)
- Consists of:

1 x LD-BxRGB	bliss diode module
1 x LMD-3	Diode Laser Manager
1 x AMP-5/-5A	high-speed scanning unit
1 x KOL-3	collimator set
1 x LGP-4	compact projector housing

BMS-4/D	Digital projector	with LD-B4RGB
BMS-4/A	Analog projector	with LD-B4RGB
BMS-3/D	Digital projector	with LD-B3RGB
BMS-3/A	Analog projector	with LD-B3RGB
BMS-2/D	Digital projector	with LD-B2RGB



bliss®-XT Compact RGB Projector

- Highly integrated, compact, multi-color laser projector, featuring DDL-2®, digital scanning system and PCS for an extraordinary laser brightness
- Diode laser manager for power supply, cooling management, color modulation, color management, status monitoring and safety interlock
- Dust-protected, removeable optical unit with diode laser module (beam diameter approx. 1,8 - 3 mm, divergence approx. 0,8 - 1,9 mrad; XT-B4RGB: beam diam. approx. 1,8 - 4 mm, div. approx. 1,1 - 4 mrad), incl. temperature/power regulation, RS-232 port, modulation input
- Rigid design housing with service-friendly slide-out module for electronics and optics, Camloc-connectors for easy mounting and handle bar.
- Intuitive menu control via back-lit LC display and digital rotary encoder. Remote access to all system parameters by controllers supporting DDL-2®
- Low-noise design for use in noise-sensitive environments

XT-B4RGB	ELB ₂₀₀ : 85 W/m², max. 3,75 W
XT-B3RGB	ELB ₂₀₀ : 328 W/m², max. 2,35 W
XT-B2RGB	ELB ₂₀₀ : 241 W/m², max. 1,75 W

LD-B4RGB	ELB ₂₀₀ : 85 W/m², max. 3,75 W
LD-B3RGB	ELB ₂₀₀ : 328 W/m², max. 2,35 W
LD-B2RGB	ELB ₂₀₀ : 241 W/m², max. 1,75 W





A laser projector typically consists of a scanning system, sometimes a color mixing unit and the laser itself. Some applications require miniaturized scanning systems in the venue fed with laser light via glass fibers from a central laser system.

To serve all requirements, LOBO provides a broad range of optical modules which allow to set up completely individualized projection systems.

Scanning systems can also be integrated into moving projectors, giving the user the freedom to move laser graphics and beam effects in any direction.

Typischerweise besteht ein Laserprojektor aus einem Scanningsystem, ggf. einem Farbmischer und dem eigentlichen Laser. Einige Anwendungsfälle verlangen nach miniaturisierten Scanningsystemen im Veranstaltungsraum, die per Glasfaser von einer zentralen Laseranlage mit Laserlicht gespeist werden.

Um allen Anforderungen gerecht werden zu können, bietet LOBO eine breite Auswahl an optischen Modulen, die den komplett individualisierten Aufbau eines Projektionssystems ermöglichen.

Scanningsysteme können auch in bewegte Projektoren eingebaut werden, die dem Nutzer die Freiheit geben, Lasergrafiken und räumliche Strahleneffekte in jede Richtung zu bewegen.

Projector Components

The key component of each laser projector is the scanning unit. Its accuracy and speed define the display quality and the universal usability of a whole laser system. LOBO scanning systems with DDL® not only ensure a perfect display of vector graphics and precise targeting of external effect mirrors; they are so fast that they can even project Scanline® laser videos.

Depending on the type of laser, color projectors require a color mixing unit. The unsurpassed efficiency and color management of the RGB-AO series ensures that expensive laser power is not lost within the color mixing process.

Die Schlüsselkomponente jedes Laserprojektors ist das Scanning-system. Seine Genauigkeit und Geschwindigkeit bestimmen die Darstellungsqualität und die universelle Nutzbarkeit des gesamten Lasersystems. LOBO-Scanningsysteme mit DDL® garantieren nicht nur die perfekte Darstellung von Vektorgrafiken und das präzise Anschließen von Spiegelstrahlen, sie sind auch so schnell, dass sie flächige Scanline® Laser-Videos darstellen können.

Je nach Laser benötigen Projektoren darüber hinaus eine Farbmischeinheit. Der unübertroffene Wirkungsgrad und das ausgereifte Farbmanagement der RGB-AO-Serie stellen sicher, dass teuer erkaufte Laserleistung nicht im Farbmischprozess verloren geht.



Scanning Unit*

- Scanning system for DDL-2® or DDL® with digital control circuit and digital output stage for unsurpassed accuracy and speed
- Features active safety monitoring system and temperature control
- Includes x/y driver with aluminum design front and scanning head
- DDL-2® ports for optical signal transmission and analog inputs
- Control panel with LC-display, key pad and rotary encoder with push-button function for intuitive one-button menu control
- Remote-access to all system parameters by DDL-2® controllers

AMP-7 Scanning System for 1 projector with DDL-2®



Scanning Unit

- Digital scanning system for DDL-2® or DDL® with extreme accuracy and speed
- Features active safety monitoring system and temperature control
- Includes x/y driver with aluminum design front and scanning head
- DDL-2® ports for optical signal transmission and analog inputs
- Control panel with LC-display, key pad and rotary encoder with push-button function for intuitive one-button menu control
- Remote-access to all system parameters by DDL-2® controllers

AMP-6 Scanning System for 1 projector with DDL-2®



Scanning Unit

- Digital scanning system for DDL® with high accuracy and speed
- Features active safety monitoring system, temperature control and test pattern generator
- Includes one driver per axis and scanning head (scanners alternatively G120 torsion bar scanners or Cambridge moving magnet scanners)
- DDL® ports for optical signal transmission and analog inputs
- Also available as analog version without DDL®

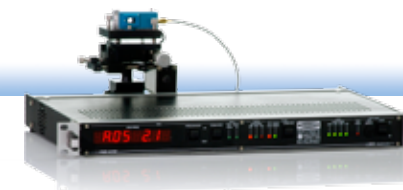
AMP-5 Scanning System for 1 projector with DDL®
AMP-5A Scanning System for 1 projector



Color Mixing Unit

- Digital and highly-efficient (max. 97%) acousto-optical 12-lines color mixing unit for DDL-2® or DDL® with digital signal generation and intelligent RGB color management for more than 16 mio. colors
- Includes driver with aluminum design front and temperature-stabilized crystal with dust-protection housing on a high-precision micropositioning stage with linear drives and differential spindle slewing drives
- DDL-2® ports for optical signal transmission, analog inputs and shutter/interlock port
- Features a remote RS-232 port (e.g. for lasers) and 20 digital I/O channels for DDL-2® controllers
- Control panel with LC-display, key pad and rotary encoder with push-button function for intuitive one-button menu control
- Remote-access to all system parameters by DDL-2® controllers

RGB-AO7P Color Mixing Unit, ProLine version with Auto-Calibration, Auto-Balancing and DDL-2®
RGB-AO7B Color Mixing Unit, standard version with DDL-2®



Color Mixing Unit

- Highly-efficient (max. 95%) acousto-optical 8-lines color mixing unit for DDL® with intelligent RGB color management for more than 16 mio. colors
- Includes driver and temperature-stabilized crystal with dust-protection housing on a high-precision micropositioning stage with linear drives and differential spindle slewing drives
- DDL® ports for optical signal transmission and analog inputs
- Control panel with LED-display for the adjustment of all system parameters
- Also available as analog version without DDL®

RGB-AO5 Color Mixing Unit with DDL®
RGB-AO5A Color Mixing Unit



Fiber Coupling Stage

- Fiber coupling stage for highly precise co-linear fiber coupling
- 4 degrees of freedom (2 translation drives with cross-guide rollers, 2 rotary drives with linear ball bearings)
- Ultrasmooth micro-adjustment and 10 times increased definition through differential spindles free from friction, stiction or backlash
- Micrometer adjusting screws with coarse and fine adjustment possibility

MFC-5 Fiber Coupling Stage



Fiber Coupling Stage

- Fiber coupling stage based on robust erosion technology for exact co-linear fiber coupling
- Backlash-free fine-screw thread drive for 4 degrees of freedom (2 translation axes, 2 rotary axes)

MFC-3 Fiber Coupling Stage



Input Coupler

- Input coupler with optics to focus the laser beam on the surface of the glass fiber
- Tubus including adjustable high-grade annealed achromate for glass fiber with SMA connector
- Designed to be mounted in a MFC series fiber coupling stage

FAC-16 Input Coupler



Output Coupler

- Output coupler with integrated collimator to re-focus the laser beam after the fiber transmission
- Tubus including adjustable high-grade annealed achromate for glass fiber with SMA connector

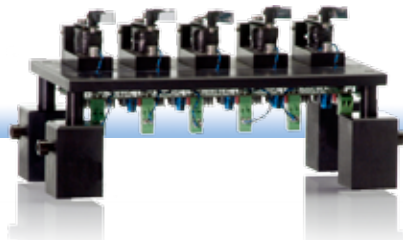
FCA-40 Output Coupler



Glass Fiber

- Step index glass fiber with SMA connectors and plastic jacket exclusively manufactured to LOBO specifications for an almost loss-free transmission of laser light (efficiency max. 86 % @ 15m whitelight)
- Polished, isolated fiber input, suitable for the transmission of very high laser powers
- Fiber core diameter 30-50 μm
- Rugged, jelly-filled buffer tubing (\varnothing 5 mm)
- Available in standard lengths up to 100 m

F5-15 Glass Fiber, length 15 m
F5-100 Glass Fiber, length 100 m



Beam Switch

- Opto-mechanical beam switches for the selective deflection or cutoff of laser beams within less than 50 ms
- Equipped with ball bearing hinges and precisely adjustable dichroitic filters
- Features control electronics with inputs for 0-5 V or isolated touch contacts alternatively

OBS-10 10-fold Beam Switch
OBS-5 5-fold Beam Switch
OBS-1 Single Beam Switch



Collimator Set

- Dual-stage microbench collimator to focus laser beams
- Features high-grade annealed achromatic lenses, each equipped with backlash-free fine-screw thread centering drives
- Distance adjustment by means of fine-pitch thread drive with linear ball bearings

KOL-5 Collimator Set



Collimator Set

- Dual-stage microbench collimator to focus laser beams
- Features high-grade annealed achromatic lenses, each equipped with backlash-free fine-screw thread centering drives
- Manual distance adjustment along microbench rods

KOL-3 Collimator Set

Optical Modules

In some applications, it is not possible or not desired to place rather bulky laser projection equipment inside the venue.

In these cases, the laser light, coming from the laser or the color mixer, can be transmitted to a compact scanning system by means of glass fiber technology.

LOBO provides optical modules for glass fiber systems which ensure the maximum transmission of laser power thanks to an extremely-precise mechanical design and the use of high-performance glass fibers exclusively manufactured to LOBO specifications.

In manchen Anwendungen ist es nicht möglich oder nicht erwünscht, relativ sperrige Laserprojektionstechnik direkt im Vorführbereich aufzustellen.

In diesen Fällen kann das vom Laser oder Farbmischer kommende Laserlicht zu einem kompakten Scanningsystem per Glasfasertechnologie übertragen werden.

LOBO bietet optische Module für Glasfasersysteme an, die dank eines extrem präzisen mechanischen Aufbaus und exklusiv nach LOBO-Spezifikationen gefertigten Hochleistungsfasern eine maximale Übertragung an Laserleistung gewährleisten.

Breadboards

Breadboards are required to set up complex and customized laser projection systems.

LOBO breadboards are especially developed for laser display applications, provide a flexible layout and a sophisticated anti-torsion design which reduces the negative influence of temperature variations to a minimum.

Each breadboard is available with an optional dust-protective enclosure system furnished with an antireflexion-coated projection window and a large, lockable cover allowing easy servicing of optomechanical components.

Basisplatten werden benötigt, um komplexe und kundenspezifische Laserprojektionssysteme aufzubauen.

LOBO-Basisplatten sind speziell für Laserdisplay-Anwendungen entwickelt worden, bieten ein flexibel nutzbares Layout und reduzieren dank eines ausgefeilten Anti-Torsions-Designs die negativen Einflüsse durch Temperaturschwankungen auf ein Minimum.

Jede Basisplatte kann auf Wunsch mit einem passenden Staubschutzgehäuse geliefert werden, das mit einem speziell entspiegelten Strahlaustrittsfenster und mit einem abschließbaren Deckel versehen ist, der einen leichten Zugang zu den optomechanischen Komponenten im Servicefall erlaubt.



Breadboard

- Extra-large CNC-punched high-precision optical table with integrated torsion-proof frame to mount extraordinary large lasers and very complex setups of optomechanical components
- Heavy design made of powder-coated steel for a maximum of structural rigidity
- Space-saving non-uniform layout with approx. 1.500 mounting facilities for optomechanical components
- Pre-defined footprints for the most commonly used laser types ensure a quick fastening of laser heads

BG-5 Breadboard 2.500 x 600 mm

Breadboard

- CNC-punched high-precision optical table with integrated torsion-proof frame to mount medium-size lasers and complex setups of optomechanical components
- Heavy design made of powder-coated steel for a maximum of structural rigidity
- Space-saving non-uniform layout with approx. 1.200 mounting facilities for optomechanical components
- Pre-defined footprints for the most commonly used laser types ensure a quick fastening of laser heads

BG-3 Breadboard 2.000 x 600 mm

Breadboard

- Compact CNC-punched high-precision optical table with integrated torsion-proof frame to mount small lasers and optomechanical components
- Heavy design made of powder-coated steel for a maximum of structural rigidity
- Space-saving non-uniform layout with approx. 250 mounting facilities for optomechanical components
- Pre-defined footprints for the most commonly used laser types ensure a quick fastening of laser heads

BG-1 Breadboard 800 x 400 mm



Dust Protection Housing

- Powder-coated housing to be mounted onto BG-5 breadboards to protect optomechanical systems against dust and accidental contact
- Features an extra-large window with antireflexion coating
- Brush-sealed cable outlets in the rear panel and the right panel
- A large cover with key locks and gas pressure spring as well as individually removable panels allow an easy servicing

GBG-5 Dust protection housing for BG-5 breadboard

Dust Protection Housing

- Powder-coated housing to be mounted onto BG-3 breadboards to protect optomechanical systems against dust and accidental contact
- Features an extra-large window with antireflexion coating
- Brush-sealed cable outlets in the rear panel and the right panel
- A large cover with key locks and gas pressure spring as well as individually removable panels allow an easy servicing

GBG-3 Dust protection housing for BG-3 breadboard

Dust Protection Housing

- Powder-coated housing to be mounted onto BG-1 breadboards to protect optomechanical systems against dust and accidental contact
- Features an extra-large window with antireflexion coating
- Brush-sealed cable outlets in the rear panel and the right panel
- A large cover with key locks and gas pressure spring as well as individually removable panels allow an easy servicing

GBG-1 Dust protection housing for BG-1 breadboard



Grating Box

- Miniaturized fiber projector housing with integrated grating effects section and external control electronics prepared for the integration of one fiber-fed scanning head
- Features 10 frameless transmission gratings to be swiveled within less than 0,5 s into scanned graphics by means of linear-magnet catapult drives, equipped with a noise-reducing shock absorbing system
- Adjustable bidirectional rotation by means of two independent motor systems which allow the combination of up to two grating effects simultaneously
- External mount for glass fiber input coupler equipped with dust-protective antireflective input window
- An angle adjustment mechanism around the optical axis allows the installation in any position

GTB-5

Miniaturized fiber projector housing with grating effects section and control electronics



Projector Housing

- Compact laser projector housing prepared for direct laser supply or fiber-fed operation
- Ultra-rigid powder coated aluminum construction with flying studs
- Integrated 19" rack on a removable frame to mount up to 5 HU of control electronics and power supplies cooled by an axial fan with exchangeable filter cloth
- Capsuled optical unit isolated from the air flow equipped with a removable optical table providing mounting facilities for a scanning system, a collimator set as well as for a laser or a fiber output coupler
- A removable front panel with antireflexion-coated window ensures easy servicing
- An integrated connector field with power switch, mains connector, connectors for the laser control, DDL® in/out ports as well as an analog LOBO standard connector allows an easy cabling

LGP-4

Universal laser projector housing



Fiber Projector Housing

- Miniaturized fiber projector housing prepared for the integration of one fiber-fed scanning head
- External mount for glass fiber output coupler equipped with dust-protective and antireflective input window
- Detachable cover with integrated antireflexion-coated window.
- The angle adjustment mechanism around the optical axis ensures a quick and easy installation of the projector base in any position
- An integrated connector field at the rear panel for the scanning head allows easy cabling
- Optional pneumatic lifts available

GTB-5H

Miniaturized fiber projector housing



Projector Housing

- Splashwater-proof laser projector housing for temporary outdoor applications prepared for direct laser supply or fiber-fed operation
- Hermetically closed powder-coated aluminum construction with water-protective cable and fiber inlets
- Integrated removable optical table providing mounting facilities for a scanning system, a collimator set as well as for a laser or a fiber output coupler alternatively
- A removable front panel with antireflexion-coated window ensures easy servicing

LGP-3

Universal laser projector housing

Projector Housings

Laser projectors can be operated with integrated lasers or can be fed by an external laser system using glass fiber technology.

With the LGP series, LOBO provides universal housings which can alternatively be used for both applications.

For fiber-supplied systems, the projector housing itself can be reduced to a very compact size. The Grating Box is a very special housing of that kind equipped with a grating effects section which allows manifold modifications of scanned graphics by means of effect gratings.

Laserprojektoren können mit integrierten Lasern betrieben oder von einem externen Lasersystem per Glasfasertechnologie gespeist werden.

LOBO bietet mit der LGP-Serie universell nutzbare Gehäuse, die alternativ für beide Anwendungen eingesetzt werden können.

Bei glasfaserversorgten Systemen kann das eigentliche Projektorgehäuse auf sehr geringe Abmessungen reduziert werden. Die Grating Box ist ein spezielles Gehäuse dieser Art, das mit einer zusätzlichen Optomechanik ausgerüstet ist, um dargestellte Grafiken mittels holographischer Gittereffekte auf vielfältige Art und Weise zu modifizieren.

Zaphir® Moving Head

With Zaphir® LOBO presents a new generation of laser moving heads: fast, precise and conveniently to use.

A built-in digital scanning system provides highest display precision, even in extreme margin areas.

The head movement can be controlled by DMX or by means of the same DDL® signal line, which also delivers the projector data.

The Zaphir® comes in two configurations: As a fiber-supplied projector for high light output in multi-color or as a complete system with an integrated, extremely long-lasting laser source.

Mit dem Zaphir® präsentiert LOBO eine neue Generation von Laser Moving Heads: Schnell, präzise und komfortabel zu bedienen.

Das eingebaute digitale Scanning system sorgt für höchste Darstellungspräzision selbst in extremen Randbereichen.

Die Ansteuerung der Kopfbewegung erfolgt wahlweise über DMX oder ganz bequem über das selbe optische DDL®-Kabel, das auch die Projektor-Daten liefert.

Den Zaphir® gibt es in zwei Konfigurationen: Als glasfasergespeister Projektor für hohe Lichtleistung in Farbe oder als Komplettsystem mit einer integrierten extrem langlebigen Laserquelle.



ZAPHIR® Laser Moving Head Projector

- Extremely fast and precise laser moving head projector with DDL-2® or DDL®
- DMX-controlled 450° pan and 270° tilt movement with 16 bit resolution and automatic position recovery
- Available with integrated single-color laser or as a fiber-fed version for high-power multi-color output
- Wide-angle scanning system (max. 80°) for extreme accuracy and speed with active safety monitoring system, suitable for Scan-line® laser video display
- Dual-stage microbench collimator with high-grade annealed achromatic lenses, each equipped with backlash-free fine-screw thread centering drives or output coupler with integrated collimator in fiber-fed version
- The sophisticated cooling management makes ZAPHIR® suitable for continuous duty even under extreme temperature conditions
- Head movement, laser projector and the laser can be controlled by just one single optical DDL® connector using controllers supporting the DDL-2® protocol
- Additionally provides an analog LOBO standard connector for the laser projector signal as well as a DMX input (5 DMX channels) for the head movement and the control of the laser
- Features laser interlock in/out connectors and a remote RS-232 port (e.g. for the control of an external laser) for controllers supporting the DDL-2® protocol
- Integrated control panel with "laser emission" LED, LC-display, key pad and rotary encoder with push-button function for intuitive one-button menu control
- Menu-guided laser control and moving head setup (start address, startup position, invert Pan/Tilt, invert x/y, color delays)
- Integrated DMX monitor for the incoming DMX signal
- Remote-access to all system parameters by DDL-2® controllers
- The optional MICON-5Z DMX converter allows completely DMX-controlled operation of the head and the laser projector by any standard moving light controller

ZAPHIR-5MC Fiber-fed ZAPHIR® laser moving head projector including scanning system and output coupler

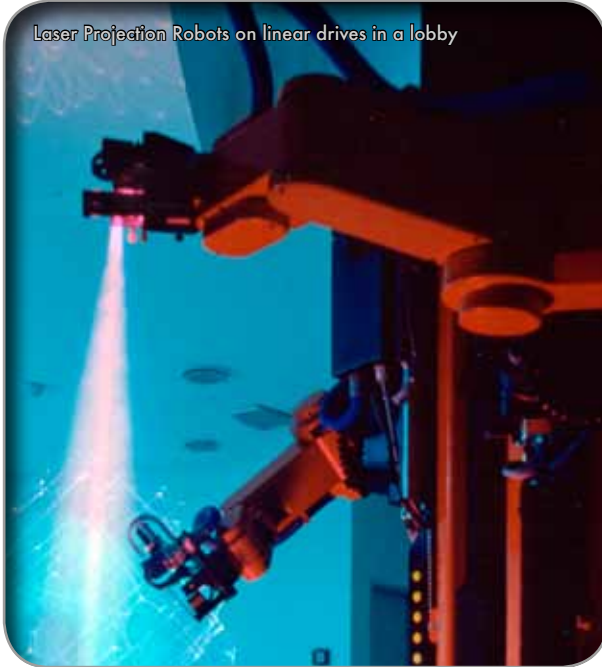
ZAPHIR-5G ZAPHIR® laser moving head projector including scanning system, collimator set and integrated diode-pumped long-life solid-state laser (532 nm / green, max. 0,8 Watt) with ultra-fast brightness modulation

ZAPHIR-5B ZAPHIR® laser moving head projector including scanning system, collimator set and integrated long-life diode laser (445 nm / blue, max. 1,2 Watt) with ultra-fast brightness modulation

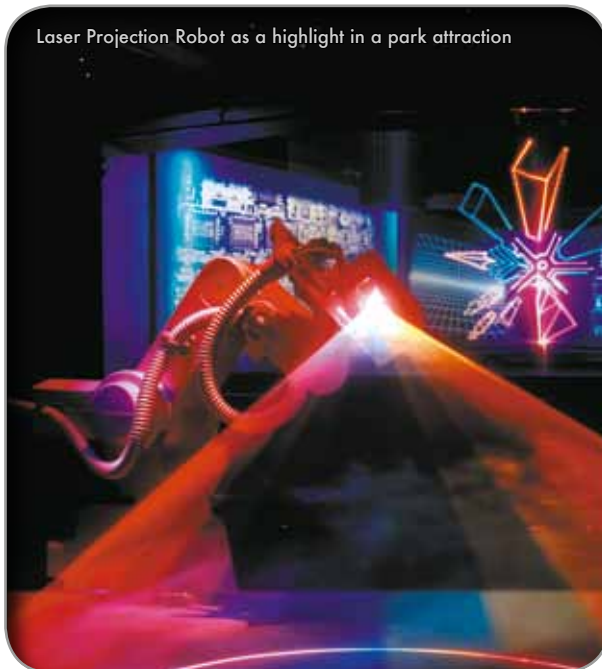
Zaphir® Laser Moving Heads are perfect eye catchers for clubs



Laser Projection Robots on linear drives in a lobby



Laser Projection Robot as a highlight in a park attraction



Projection Robot

- Modified industrial robot for the extremely accurate positioning of a fiber-fed scanning head
- Features independent motors for complex 5-degrees-of-freedom movements
- Includes industrial robot prepared for the integration of one fiber-fed scanning head (with protective fiber ducts, output coupler mount and mounting facility for scanning system), power supply, cable set and teaching box
- Allows the programming of more than 600 projection positions by means of the teaching box
- Backup possibility of the position data by means of EPROM
- Various movement speeds and acceleration modes available
- Direct movement control via RS-232 by LACON® and MODULA® controllers
- Optional pneumatic lift or linear drive available

ROB-1 Laser Projection Robot

Pneumatic Lift

- To be used with any LOBO fiber projector, including projection robots and ZAPHIR® laser moving heads
- Silent and smooth movement with well defined mechanical end stops, which allows for precise projections in the lower, as well as in the upper position
- Available in max. lifting heights of up to 5,3 m.
- Consisting of pneumatic cylinders, mounting plate, guidances, check-valves, compressor and accessories

LIFT-3 Pneumatic lift for laser projectors (lifting height 5.30 m) incl. compressor

LIFT-2 Pneumatic lift for laser projectors (lifting height 4.30 m) incl. compressor

LIFT-1 Pneumatic lift for laser projectors (lifting height 2.80 m) incl. compressor

Laser Projection Robot

Laser Projection Robots probably are one of the most spectacular ways to stage laser performances in close reach of the audience.

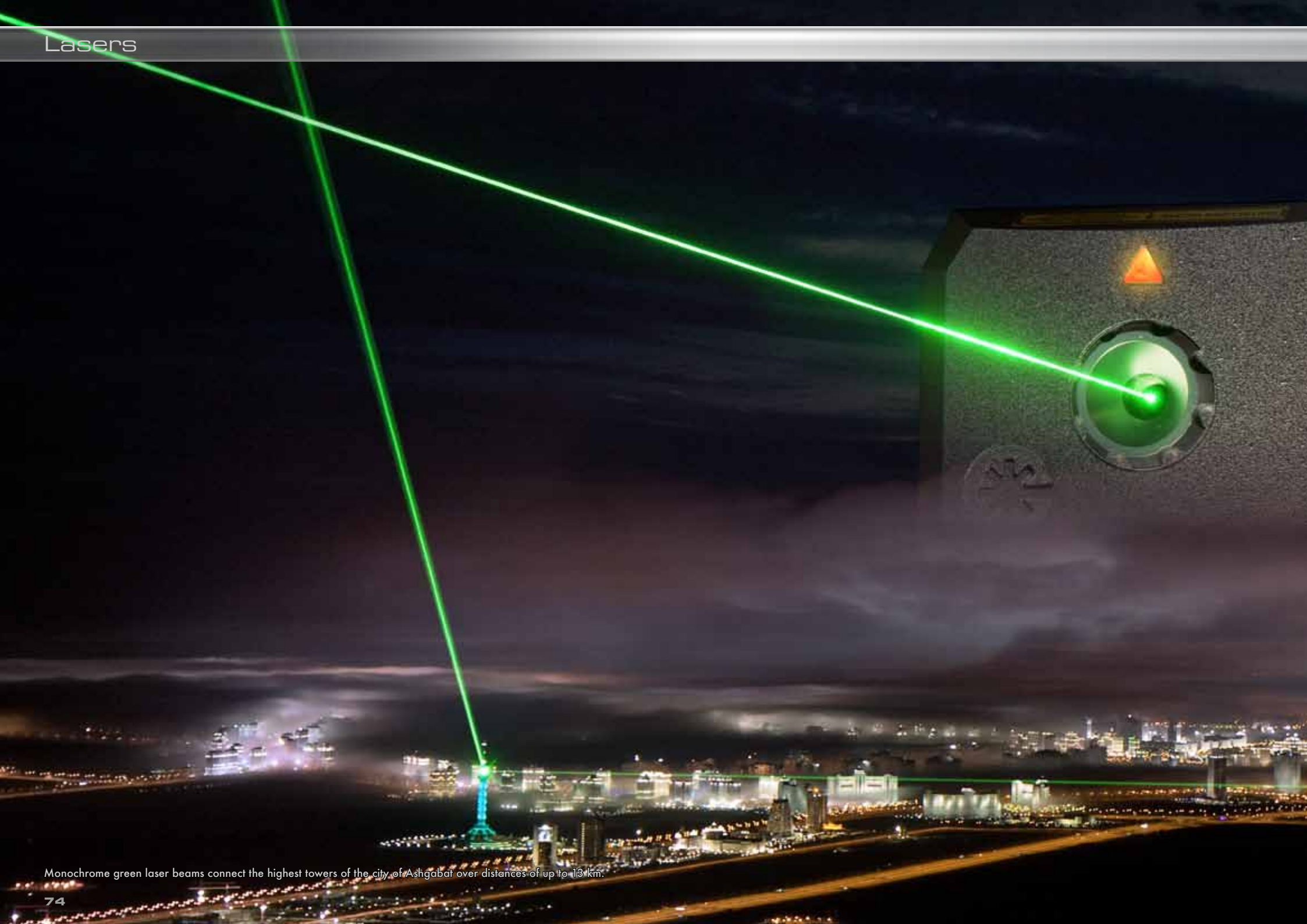
The look of the robot and its multi-dimensional movements, combined with the advantages of being able to project in all directions, adds an innovative touch to product displays or to didactic installations, such as for example in planetariums.

The Projection Robots are fed externally with laser light by means of glass fibers and can also be mounted on pneumatic lifts or linear drives.

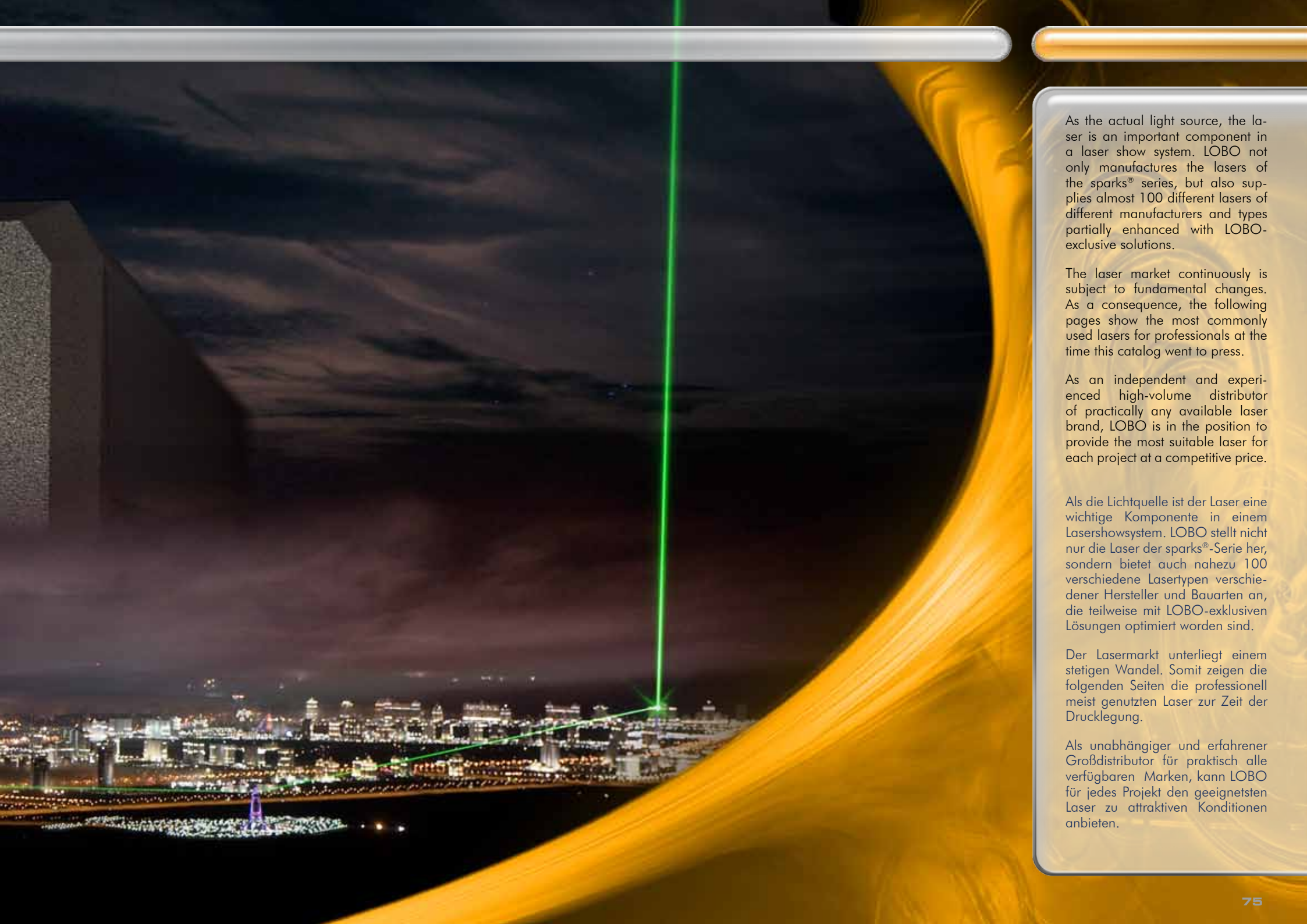
Laserprojektionsroboter sind womöglich die spektakulärste Art, Laser-Performances nahe dem Publikum zu inszenieren.

Die optische Anmutung des Roboters und seiner mehrdimensionalen Bewegung, kombiniert mit den Vorteilen, in jede gewünschte Richtung projizieren zu können, gibt Produktpräsentationen und didaktischen Installationen das innovative Etwas.

Die Projektionsroboter werden extern per Glasfaser mit Laserlicht gespeist und können auch auf Pneumatik-Lifts und Linearantrieben montiert werden.



Monochrome green laser beams connect the highest towers of the city of Ashgabat over distances of up to 13 km.



As the actual light source, the laser is an important component in a laser show system. LOBO not only manufactures the lasers of the sparks® series, but also supplies almost 100 different lasers of different manufacturers and types partially enhanced with LOBO-exclusive solutions.

The laser market continuously is subject to fundamental changes. As a consequence, the following pages show the most commonly used lasers for professionals at the time this catalog went to press.

As an independent and experienced high-volume distributor of practically any available laser brand, LOBO is in the position to provide the most suitable laser for each project at a competitive price.

Als die Lichtquelle ist der Laser eine wichtige Komponente in einem Lasershowsystem. LOBO stellt nicht nur die Laser der sparks®-Serie her, sondern bietet auch nahezu 100 verschiedene Lasertypen verschiedener Hersteller und Bauarten an, die teilweise mit LOBO-exklusiven Lösungen optimiert worden sind.

Der Lasermarkt unterliegt einem stetigen Wandel. Somit zeigen die folgenden Seiten die professionell meist genutzten Laser zur Zeit der Drucklegung.

Als unabhängiger und erfahrener Großdistributor für praktisch alle verfügbaren Marken, kann LOBO für jedes Projekt den geeignetsten Laser zu attraktiven Konditionen anbieten.

OPSL Lasers (multi-color)

The sparks®-series bases on optically pumped solid-state lasers of the latest generation. They combine superior beam characteristics with high output powers and a wide choice of wavelengths.

Due to their rigid design and their self-sufficient enclosure it is ideal for individual setups of multi-color solutions. Thanks to the integrated triple-stage temperature stabilisation unit, they allow for a reliable operation even under high ambient temperatures.

For more details, please refer to the sparks® chapter from page 52.

Die sparks®-Serie basiert auf optisch gepumpten Festkörperlaser der neuesten Generation. Sie verbinden auf ideale Weise höchste Strahlqualität mit hohen Ausgangsleistungen und einer breiten Auswahl an Wellenlängen.

Aufgrund ihrer stabilen Konstruktion und ihres autark aufgebauten Gehäuses, eignen sie sich perfekt für individuelle Aufbauten von Multicolor-Lösungen. Dank der eingebauten, dreistufigen Temperatur-Stabilisierungseinheit, können sparks® Lasermodule zuverlässig selbst unter hohen Umgebungstemperaturen betrieben werden.

Weitere Details hierzu erhalten Sie im Kapitel „sparks®“ ab Seite 52.



sparks® laser modules

- Air-cooled, optically-pumped, ultra-bright semiconductor laser module in different colors, including Auto-Configuration and temperature stabilisation units (TEC modules, temperature sensors, heat sink and regulated fan)
- Consisting of laser head in a rigid aluminum housing with insulated airflow channel, pre-collimation optics and power sensor and external power supply (100 - 240 VAC, approx. 300 W) incl. temperature/power regulation, RS-232 port, modulation input and interlock
- Available in wavelengths from 460 - 639 nm at beam diameters between 1,1 - 2,0 mm and a divergence between approx. 0,55 - 1,8 mrad

Two green solid-state lasers create bright atmospheric beam effects



Sky tracking beams above Budapest with two 3W DPSS lasers and PCS





VIPER, VERDI

- Air-cooled, diode-pumped, green solid-state laser with supreme beam quality and high visibility, suitable for long-range outdoor applications
- Includes laser head (532 nm / green), heat sink and external power supply (90-250 VAC) with integrated LC-display and control panel for setup and power adjustment
- Verdi-10 and Verdi-18 come with water-cooled heat sink and a compact water-to-air heat exchanger

LF-1C18	Verdi-18, max. power: 20 W, guaranteed power: 18 W
LF-1C10	Verdi-10, max. power: 11 W, guaranteed power: 10 W
LF-1C5	Verdi-5, max. power: 6 W, guaranteed power: 5 W



VERDI-G

- Air-cooled, optically-pumped, green solid-state laser with superior beam quality and high visibility, suitable for long-range outdoor applications
- Includes laser head (532 nm / green), heat sink and external power supply (90-250 VAC) with integrated LC-display and control panel for setup and power adjustment

LF-1G18	Verdi-G18, max. power: 20 W, guaranteed power: 18 W
LF-1G10	Verdi-G10, max. power: 11 W, guaranteed power: 10 W
LF-1G5	Verdi-G5, max. power: 6 W, guaranteed power: 5 W



Laser Remote Control

- Universal laser remote control for up to two independent solid-state lasers
- Required for Melles Griot lasers
- Includes DDL® signal converter for generate blanking signals and brightness modulation signals for the laser
- Features emergency stop, status displays and key-switch

LRC-4	Laser Remote Control
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elite

- Compact, air-cooled, diode-pumped, green solid state laser, suitable for beam effects in large-size indoor venues and for medium-size outdoor applications
- Includes laser head (532 nm / green) with integrated heat sink and external power supply (230 VAC)

LF-3LQ5	elite II, max. power: 5,8 W, guaranteed power: 5,0 W
LF-3LQ3	elite I, max. power: 3,5 W, guaranteed power: 3,0 W



excel

- Compact, air-cooled, diode-pumped, green solid state laser with brightness modulation, suitable for beam effects in medium-size indoor venues and for small outdoor applications
- Includes laser head (532 nm / green) and external power supply (230 VAC) with input for direct brightness modulation

LF-2LQ3	excel III, max. power: 2,5 W, guaranteed power: 2,0 W
LF-2LQ2	excel II, max. power: 2,0 W, guaranteed power: 1,5 W
LF-2LQ1	excel I, max. power: 1,4 W, guaranteed power: 1,0 W



entertainer

- Ultra-compact, air-cooled, diode-pumped, green solid state laser with superior brightness modulation, suitable for beam effects and graphics displays in small-size indoor venues and for very small outdoor applications
- Includes laser head (532 nm / green) and external power supply

LF-1LQ5	entertainer III, max. power: 0,8 W, guaranteed power: 0,6 W
LF-1LQ2	entertainer II, max. power: 0,5 W, guaranteed power: 0,4 W
LF-1LQ1	entertainer I, max. power: 0,3 W, guaranteed power: 0,2 W

DPSS Lasers (monochrome green)

The solid-state lasers of the "Verdi" series offer high output powers, a supreme beam quality and thus perfectly meet the requirements of large-scale laser entertainment applications.

The "entertainer" is the smallest of the shown DPSS lasers. It is highly compact, robust, provides an excellent brightness modulation and is perfect for small to medium sized indoor applications. The "excel" serves larger scale venues. It combines high optical power with superior beam characteristics. The "elite" is a high-powered, ultra-portable, air-cooled unit that is even suitable for outdoor shows.

Die Festkörperlaser der „Verdi“-Serie sind Hochleistungslaser, die durch hohe Ausgangsleistungen bei bester Strahlqualität speziell auf die Anforderungen großer Projekte im Bereich der Laserunterhaltung zugeschnitten sind.

Der „entertainer“ ist dagegen der kleinste der abgebildeten DPSS-Laser. Er ist äußerst kompakt, robust, bietet eine hochwertige Helligkeitsmodulation und ist so perfekt für kleine und mittlere Indoor-Anwendungen. Der „excel“ ist für größere Räume gedacht. Er verbindet eine hohe Ausgangsleistung mit überlegener Strahlqualität. Der „elite“ ist ein ultra-portabler, luftgekühlter Hochleistungslaser, der selbst Outdoor-Anforderungen gerecht wird.

Mirror System

Reflector



Line



Grid



Burst



Mirror Ball



Tunnel



Mirror Cylinder





Effect mirrors re-direct or manipulate laser beams projected from a laser projector. Mirrors spread laser effects all over a venue to create the illusion that the audience is surrounded by many laser sources.

Thanks to powerful controllers and high-precision scanning systems, every LOBO system is designed to align external mirror effects in a minimum of time without the need for mechanical beam tables.

Using a large set of mirrors, even a simple laser system with just one projector can look more impressive than a multi-projector laser system without any mirror effects.

Von einem Projektor kommende Laserstrahlen können mit Effektsiegeln umgelenkt oder manipuliert werden. Spiegel verteilen Lasereffekte über den gesamten Showbereich und erzeugen so die Illusion, dass das Publikum von vielen Laserquellen umgeben ist.

Dank leistungsfähiger Controller und hoch präziser Scanningsysteme ist jedes LOBO-System darauf ausgelegt, Spiegeleffekte in kürzester Zeit einzurichten, ohne dafür mechanische optische Bänke zu benötigen.

Mittels eines großzügig bemessenen Spiegelsatzes kann somit ein einfaches Lasersystem mit nur einem Projektor beeindruckender wirken als ein System mit vielen Projektoren aber ohne jegliche Spiegeleffekte.

System Overview

In addition to conventional bouncing mirrors LOBO's Mirror System MS offers a wide choice of different effects which change the shape and the color of a laser beam. Reflective grating effects spread a laser beam in different colorful patterns, mirror balls are used to create intense laser stars and tunnels create cone-shaped beam effects.

The Mirror System MS provides a rock-solid mechanical design and ensures a quick alignment thanks to a locking mechanism which can be operated using only one hand.

For applications with long distances LOBO provides mirrors with usable diameters up to 290 mm with its LD versions.

Über gewöhnliche Umlenkspiegel hinaus bietet LOBOs Mirror System MS eine breite Auswahl an verschiedenen Effekten, die die Form und Farbe eines Laserstrahls verändern. Gittereffekte fächern einen Strahl in verschiedene mehrfarbige Muster auf, Spiegelkugeln erzeugen intensive Lasersterne, während Tunnel kegelförmige Effekte erzeugen.

Das Mirror System MS bietet einen robusten mechanischen Aufbau sowie eine schnelle Einhand-Arretierung.

Für Anwendungen über große Distanzen bietet LOBO Spiegel in der LD-Version mit nutzbaren Durchmessern bis zu 290 mm.



Reflector LD

- Extra large high-quality mirror (Ø 290 mm) for the reflection of laser beams over long distances
- Rigid, weather-proof frame consisting of stainless steel on base plate, adjustable in two axes
- Robust three-point fine adjustment mechanism by means of hexagon socket screws accessible from the front

MS-2201 Reflector LD



Line LD

- Extra large reflective diffraction grating mirror (Ø 280 mm) to create a line-shaped reflection
- Rigid, weather-proof frame consisting of stainless steel on base plate, adjustable in two axes
- Motorized version available with integrated synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, IP-55 protection, 230 VAC)

MS-2304 Motorized Line LD
MS-2204 Line LD



Grid LD

- Extra large reflective diffraction grating mirror (Ø 280 mm) to create a grid-shaped reflection
- Rigid, weather-proof frame consisting of stainless steel on base plate, adjustable in two axes
- Motorized version available with integrated synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, IP-55 protection, 230 VAC)

MS-2303 Motorized Grid LD
MS-2203 Grid LD



Half Mirror Ball LD

- Extra large, spherical faceted mirror (Ø 280 mm) to create a star-like laser beam reflection with high beam density
- Rigid, weather-proof frame consisting of stainless steel on base plate, adjustable in two axes
- Motorized version available with integrated synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, IP-55 protection, 230 VAC)

MS-2307 Motorized Half Mirror Ball LD
MS-2207 Half Mirror Ball LD



Reflector

- High-quality front-coated mirror (Ø 115 mm) for the reflection of laser beams with a minimum of distortion
- Rigid powder-coated housing on base plate, adjustable in two axes with special locking lever designed for convenient one-hand operation
- Robust three-point fine adjustment mechanism with ergonomic knurled screws accessible from the front

MS-2001 Reflector



Line

- Reflective high-resolution diffraction grating mirror (Ø 100 mm) to create a line-shaped reflection
- Rigid powder-coated housing on base plate, adjustable in two axes with special locking lever designed for convenient one-hand operation
- Motorized version available with integrated synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2104 Motorized Line
MS-2004 Line



Grid

- Reflective diffraction grating mirror (Ø 100 mm) to create a grid-shaped reflection
- Rigid powder-coated housing on base plate, adjustable in two axes with special locking lever designed for convenient one-hand operation
- Motorized version available with integrated synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2103 Motorized Grid
MS-2003 Grid



Burst

- Reflective diffraction grating mirror (Ø 100 mm) to create a circle-like reflection
- Rigid powder-coated housing on base plate, adjustable in two axes with special locking lever designed for convenient one-hand operation
- Motorized version available with integrated synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2106 Motorized Burst
MS-2006 Burst



Mirror Ball LD

- Facetted mirror sphere (Ø 300 mm) consisting of 5 x 5 mm glass mirrors to create a star-like laser beam reflection with high beam density
- Motorized version available with ceiling-mounted synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2308 Motorized Mirror Ball LD
MS-2208 Mirror Ball LD



Mirror Ball

- Facetted mirror sphere (Ø 150 mm) consisting of 5 x 5 mm glass mirrors to create a star-like laser beam reflection with high beam density
- Motorized version available with ceiling-mounted synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2108 Motorized Mirror Ball
MS-2008 Mirror Ball



Mirror Cylinder LD

- Mirror cylinder (Ø 150 mm, length 900 mm) consisting of 10 x 900 mm glass mirrors to create a rotor-like laser beam reflection
- Motorized version available with ceiling-mounted synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2309 Motorized Mirror Cylinder LD
MS-2209 Mirror Cylinder LD



Mirror Cylinder

- Mirror cylinder (Ø 150 mm, length 500 mm) consisting of 10 x 500 mm glass mirrors to create a rotor-like laser beam reflection
- Motorized version available with ceiling-mounted synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2109 Motorized Mirror Cylinder
MS-2009 Mirror Cylinder



Scanbox

- Base for standard mirrors with oscillating motor drive (pan range approx. 180°) to create continuously moving laser effects
- With integrated synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

MS-2190 Motorized Scanbox



Half Mirror Ball

- Spherical facetted mirror (Ø 100 mm) to create a star-like laser beam reflection with high beam density
- Rigid powder-coated housing on base plate, adjustable in two axes with special locking lever designed for convenient one-hand operation
- Motorized version available with ceiling-mounted synchronous motor (alternatively with 1/5/10/20/30 rpm and CW/CCW rotation, 230 VAC)

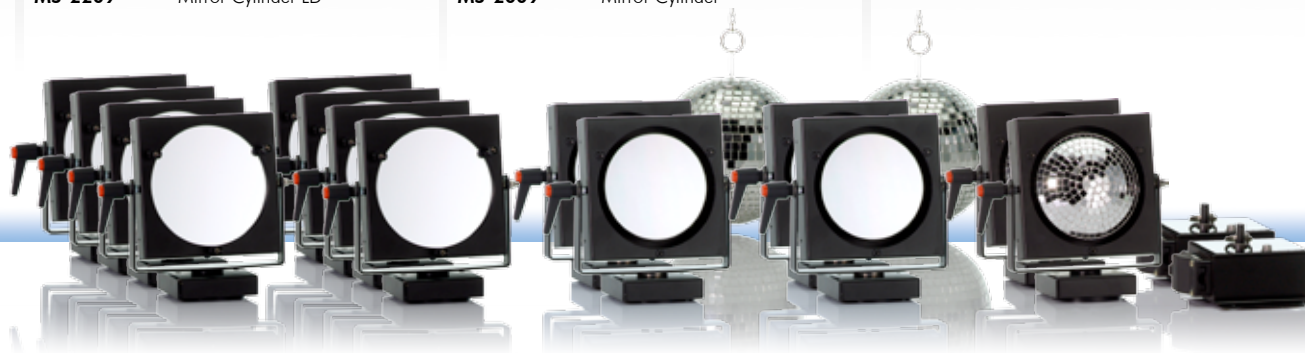
MS-2107 Motorized Half Mirror Ball
MS-2007 Half Mirror Ball



Tunnel

- High-quality front-coated mirror (Ø 75 mm) to create a cone-shaped laser beam reflection
- Rigid powder-coated housing on base plate, adjustable in two axes with special locking lever designed for convenient one-hand operation
- Integrated motor (2.800 rpm, 230 VAC)

MS-2102 Motorized Tunnel

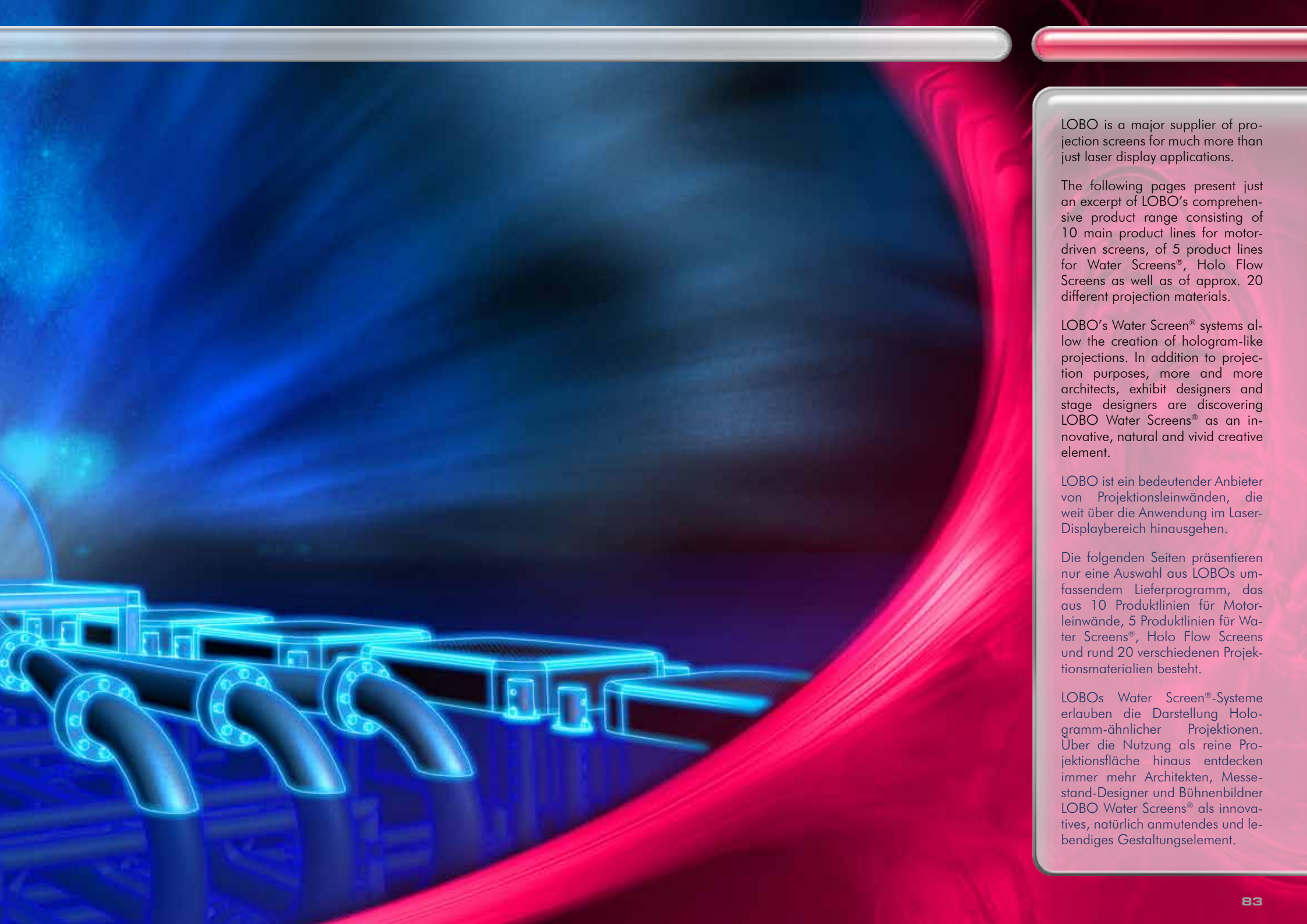


Standard Mirror Set

- Basic mirror set for one projector, required for a best-possible performance of LOBO standard beam shows
- 8 Reflectors MS-2001
- 2 Line MS-2004
- 2 Grid MS-2002
- 2 motorized Half Mirror Balls MS- 2107 (10 rpm, CW+CCW rotation, 230 VAC)
- 2 motorized Mirror Balls MS- 2108 (5 rpm, CW+CCW rotation, 230 VAC)

MS-Set1 Standard Mirror Set





LOBO is a major supplier of projection screens for much more than just laser display applications.

The following pages present just an excerpt of LOBO's comprehensive product range consisting of 10 main product lines for motor-driven screens, of 5 product lines for Water Screens®, Holo Flow Screens as well as of approx. 20 different projection materials.

LOBO's Water Screen® systems allow the creation of hologram-like projections. In addition to projection purposes, more and more architects, exhibit designers and stage designers are discovering LOBO Water Screens® as an innovative, natural and vivid creative element.

LOBO ist ein bedeutender Anbieter von Projektionsleinwänden, die weit über die Anwendung im Laser-Displaybereich hinausgehen.

Die folgenden Seiten präsentieren nur eine Auswahl aus LOBOs umfassendem Lieferprogramm, das aus 10 Produktlinien für Motorleinwände, 5 Produktlinien für Water Screens®, Holo Flow Screens und rund 20 verschiedenen Projektionsmaterialien besteht.

LOBOs Water Screen®-Systeme erlauben die Darstellung Hologramm-ähnlicher Projektionen. Über die Nutzung als reine Projektionsfläche hinaus entdecken immer mehr Architekten, Messestand-Designer und Bühnenbildner LOBO Water Screens® als innovatives, natürlich anmutendes und lebendiges Gestaltungselement.

Projection Materials

Different applications and different ambient lighting conditions require different projection materials.









While projection foils guarantee crisp and sharp front and rear projections of laser, video, slides and gobos, semi-transparent scrim materials can create fantastic spatial effects in rear projection. The darker the screen, the less it reflects ambient light and the higher will be the resulting contrast ratio.

All materials are available in almost any dimensions. In addition to the listed projection materials, LOBO supplies blackout fabrics, deco fabrics and sound-proof curtains.

Verschiedene Anwendungen und verschiedene Umgebungslichtbedingungen erfordern verschiedene Projektionsmaterialien.

Während Projektionsfolien eine scharfe Auf- und Rückprojektion von Laser, Video, Dia und Gobos garantieren, können halbdurchsichtige Gazematerialien fantastische räumliche Effekte erzeugen. Je dunkler die Leinwand, desto weniger wird auch das Umgebungslicht reflektiert, wodurch das Kontrastverhältnis steigt.

Alle Materialien sind in fast jeder Größe erhältlich. Neben den aufgeführten Projektionsmaterialien liefert LOBO auch Verdunklungsstoffe, Dekostoffe und schallhemmende Stoffe.

			
<p>Anthracite Screen</p> <ul style="list-style-type: none"> • Translucent, anthracite projection foil made of PVC with a dull finish • Flame resistant according to DIN 4102 B1 • Recommended for front/rear projection of laser • Limited suitability for front/rear projection of video and light <p>FL-4/A Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/A Tension Screen, 4 x 3 m with fixing eyelets and straps</p>	<p>Grey Screen</p> <ul style="list-style-type: none"> • Translucent, grey projection foil made of PVC with a dull finish • Flame resistant according to DIN 4102 B1 • Suitable for front/rear projection of laser, video and light <p>FL-4/G Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/G Tension Screen, 4 x 3 m with fixing eyelets and straps</p>	<p>White Screen</p> <ul style="list-style-type: none"> • Translucent, white projection screen made of PVC with a dull finish • Flame resistant according to DIN 4102 B1 • Recommended for front/rear projection of video and light in a dark environment • Suitable for front/rear projection of laser <p>FL-4/W Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/W Tension Screen, 4 x 3 m with fixing eyelets and straps</p>	<p>Transparent Screen</p> <ul style="list-style-type: none"> • Clear PVC screen • Flame resistant according to DIN 4102 B1 • Suitable for rear projection of laser • Not recommended for video and light • Not suitable for front projection <p>FL-4/T Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/T Tension Screen, 4 x 3 m with fixing eyelets and straps</p>
			
<p>PVC Projection Scrim</p> <ul style="list-style-type: none"> • Heavy, anthracite, PVC-coated Polyester net • Flame resistant according to DIN 4102 B1 • Suitable for front projection of laser • Limited suitability for front projection of video and light • Not recommended for rear projection <p>FL-4/AS Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/AS Tension Screen, 4 x 3 m with fixing eyelets and straps</p>	<p>Silver Scrim</p> <ul style="list-style-type: none"> • Highly transparent scrim material with special coating to reduce hotspot effects • Flame resistant according to DIN 4102 B1 • Recommended for rear projection of laser • Limited suitability for front projection of laser and front/rear projection of video and light <p>FL-4/SS Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/SS Tension Screen, 4 x 3 m with fixing eyelets and straps</p>	<p>Black Scrim</p> <ul style="list-style-type: none"> • Semi-transparent scrim material • Flame resistant according to DIN 4102 B1 • Suitable for front projection of laser • Limited suitability for front projection of video and light • Not recommended for rear projection <p>FL-4/BS Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/BS Tension Screen, 4 x 3 m with fixing eyelets and straps</p>	<p>White Scrim</p> <ul style="list-style-type: none"> • Semi-transparent scrim material • Flame resistant according to DIN 4102 B1 • Suitable for front/rear projection of laser, video and light in a dark environment <p>FL-4/WS Screen, 4 x 3 m with 2 pockets and 2 mounting tubes SL-4/WS Tension Screen, 4 x 3 m with fixing eyelets and straps</p>



Winding Screen

- Fast winding screen with internally mounted geared motor, supplied in different dimensions between 2 m and 6 m with standard projection materials
- Low-crease tube design
- Control via 230 V (up/down) with adjustable limit switches

TL-4 Winding Screen, WxH: 4 x 3 m
TL-4H Screen Holder for TL-4



Winding Screen

- Extremely fast winding screen with externally flanged geared motor, supplied in different dimensions between 2 m and 6 m with standard projection materials
- Low-crease tube design
- Control via frequency converter incl. soft start / stop function

TL-4F Winding Screen, WxH: 4 x 3 m
TL-4H Screen Holder for TL-4F



Winding Screen

- Extremely fast, large winding screen with externally flanged geared motor, supplied in different dimensions with standard projection materials
- Consists of divisible carbon fiber tube elements with aluminum quick connectors
- Control via frequency converter incl. soft start / stop function

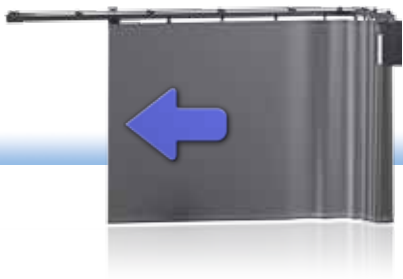
TL-12X XXL Screen, WxH: 12 x 8 m
TL-12H Screen Holder for TL-12X



Inverted Winding Screen

- Fast inverted winding screen with internally mounted geared motor, supplied in different dimensions between 2 m and 6 m with standard projection materials
- Low-crease tube design
- Control via 230 V (down/up) with adjustable limit switches

TL-4I Inverted Screen, WxH: 4 x 3 m
TL-4H Screen Holder for TL-4I



Rail Screen

- Fast moving, rail screen system with rope-driven runner, supplied in different dimensions with standard projection materials
- Customized layouts with curvatures possible (min. radius 0,5 m)
- Special heavy-duty versions available
- Control via frequency converter incl. soft start / stop function

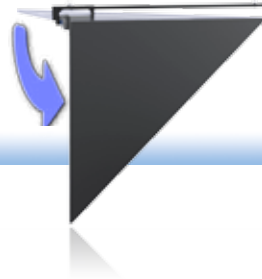
SES-15 Rail Screen, WxH: 15 x 6 m



Festoon Screen

- Motorized festoon screen basing on a gathering mechanism mounted inside an aluminum truss segment with externally flanged geared motor
- Supplied in different dimensions with standard projection scrims
- Allows heights of up to 12 m
- Control via frequency converter incl. soft start / stop function

FES-12 Festoon Screen, WxH: 12 x 8 m



Triangular Folding Screen

- Frame-mounted, triangular folding screen with screen holder, supplied with standard projection materials
- Rigid transmission-belt drive for extremely fast movements (folding time < 5 s)
- Dimensions: 3,1 x 3,1 x 4,4 m
- Control via 230 V (up/down) with double limit switches

KS-3 Triangular Folding Screen



Flap Screen

- Truss-based, rectangular flap screen, supplied in different dimensions with tension screen made of standard projection materials
- The integrated linear motor allows the positioning of the screen in any angle within the slewing range
- Control via isolated relay contacts (out/in) with limit switches

FS-6 Flap Screen, WxH: 6 x 6 m

Screen Drives

Projection screens for laser, slides and video can be moved in many different ways. Based on years of practical experience, LOBO provides a broad range of professional screen drive systems for different applications.

All screen constructions have a common denominator: they are all available in different standard sizes and with almost any projection material. Their uncompromisingly rigid and road-proof design as well as their easy assembly make them ideal for mobile applications.

On request, LOBO also supplies special projection solutions, such as mobile projection domes or special projection glass plates (Crystal Screens).

Projektionsleinwände für Laser, Dia und Video können auf vielfältige Art und Weise bewegt werden. Auf Basis jahrelanger Erfahrung bietet LOBO für die unterschiedlichsten Anwendungsgebiete eine breite Auswahl professioneller Leinwandantriebe an.

Alle Leinwandkonstruktionen haben gemein, dass sie in unterschiedlichen Standardgrößen und mit fast jedem Projektionsmaterial verfügbar sind.

Auf Wunsch liefert LOBO auch spezielle Projektionslösungen, wie zum Beispiel mobile Projektionskuppeln oder spezielle Projektions-Glasscheiben (Crystal Screens).

Water Screen®-Curtain Road Version

The curtain versions of LOBO Water Screens® are designed like a waterfall. Alignable water distribution segments with an extreme low weight (approx. 6 kg per meter) are fixed onto the ceiling or on a truss. Hundreds of little precision nozzles form an almost transparent projection surface of water which makes it possible to rear-project under controlled lighting conditions hologram-like images which seem to float in the air.

Its easy handling has also established Water Screens® as a creative element in exhibit design and architecture.

Die Curtain-Versionen von LOBOs Water Screens® sind wie ein Wasserfall konzipiert. Anreihbare Verteilersegmente mit extrem geringem Eigengewicht (ca. 6 kg pro laufendem Meter) werden an der Decke oder an einer Traverse montiert. Hunderte kleiner Präzisionsdüsen bilden eine weitestgehend transparente Projektionsfläche aus Wasser, auf der sich unter kontrollierten Beleuchtungsbedingungen scheinbar frei in der Luft schwebende Bilder in Rückprojektionstechnik darstellen lassen.

Ihre einfache Handhabung etabliert Water Screens® auch als ein kreatives Gestaltungselement für Messestände und Architektur.



Water Screen® - Curtain

- Highly transparent and economic rectangular Water Screen® Curtain optimized for hologram-like laser projections (indoor and outdoor)
- Includes circulation pump (230 V, 1 kW), check valve with filter, 2 hoses and an alignable water distribution element made of aluminum with approx. 170 high-precision nozzles per meter and quick ventilation system
- The sophisticated design of the CNC-milled high-precision nozzles ensures a uniform projection surface over even large heights and reduces splashing water to a minimum
- Also ideal for the creation of water walls in exhibit design

TL-2WI	Water Screen® - Curtain, Road Version, approx. 340 nozzles,	Width: 2 m
TL-3WI	Water Screen® - Curtain, Road Version, approx. 510 nozzles,	Width: 3 m
TL-4WI	Water Screen® - Curtain, Road Version, approx. 680 nozzles,	Width: 4 m
TL-5WI	Water Screen® - Curtain, Road Version, approx. 850 nozzles,	Width: 5 m
TL-6WI	Water Screen® - Curtain, Road Version, approx. 1.020 nozzles,	Width: 6 m

Laser projection on a Water Screen® - Curtain



Water Screen® - Curtain in outdoor use





High-Density Water Screen® - Curtain

- High-Density Water Screen® curtain optimized for hologram-like laser and video projections (indoor and outdoor)
- Includes a high-volume submersible pump (400 V, 2,8 kW), check valve with micron fine filter, hoses and an alignable water distribution element made of aluminum with approx. 510 high-precision nozzles per meter and quick ventilation system
- The sophisticated design of the CNC-milled high-precision nozzles ensures a uniform projection surface over even large heights and reduces splashing water to a minimum
- Also suitable as an innovative element in interior design for the creation of water walls or as a transparent projection surface in exhibit design

TL-2WID	High-Density Water Screen® - Curtain, Road Version, approx. 1.020 nozzles,	Width: 2 m
TL-3WID	High-Density Water Screen® - Curtain, Road Version, approx. 1.530 nozzles,	Width: 3 m
TL-4WID	High-Density Water Screen® - Curtain, Road Version, approx. 2.040 nozzles,	Width: 4 m
TL-5WID	High-Density Water Screen® - Curtain, Road Version, approx. 2.550 nozzles,	Width: 5 m
TL-6WID	High-Density Water Screen® - Curtain, Road Version, approx. 3.060 nozzles,	Width: 6 m

Hologram-like Video projection on a High-Density Water Screen®



Layered video projection with Water Screen® Curtain and video backdrop



HD Water Screen®-Curtain Road Version

The high-density version of LOBO's Water Screen® Curtains offer a three-fold higher density than the standard design, as it is equipped with more than 500 nozzles per meter and a powerful submersible pump.

This high resolution ensures significantly brighter and crisper rear projections with video, laser, slide or gobo projectors – even under unfavorable lighting conditions.

In interior design, these screens are used to build up transparent water walls, creating a unique atmosphere thanks also to their air-improving characteristics.

Die High-Density-Ausführung von LOBOs Water Screen® Curtain besitzt mit mehr als 500 Düsen pro laufendem Meter die dreifache Dichte der Standard-Ausführung sowie eine leistungsstarke Tauchmotor-Pumpe.

Diese hohe Auflösung erlaubt eine wesentlich hellere und deutlichere Rückprojektion von Video, Laser, Dias oder Gobos sogar unter ungünstigen Lichtbedingungen.

Im Innenraumdesign werden diese Leinwände zum Aufbau von transparenten Wasserwänden eingesetzt, die nicht zuletzt aufgrund ihrer luftverbessernden Eigenschaften eine einzigartige Atmosphäre schaffen.

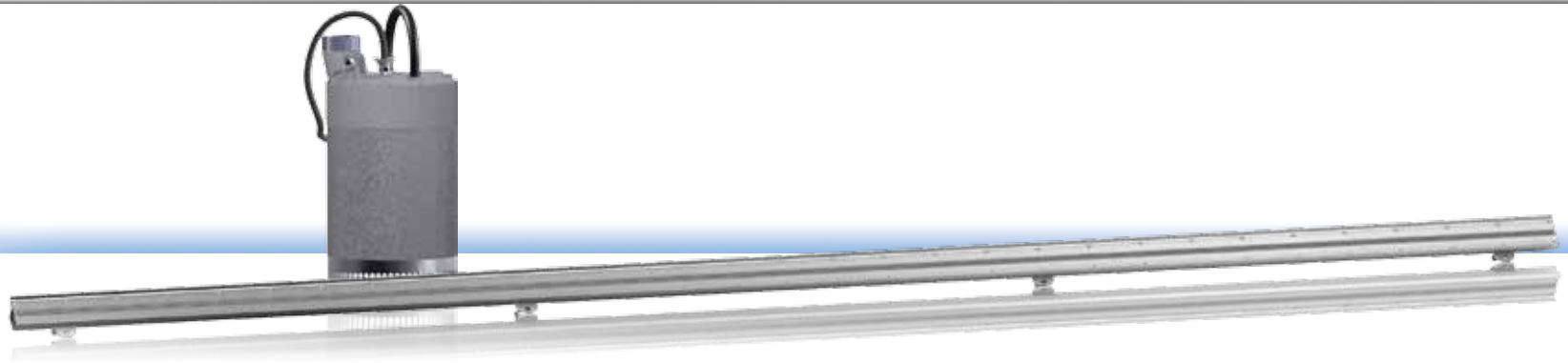
HD Water Screen®-Curtain Installation Version

Especially for permanent installations and jobs under permanent duty, LOBO provides an especially long-lasting V2A stainless steel version of its HD Water Screen® Curtains. This construction is not only corrosion-resistant, but also features a detachable nozzle plate for fast and easy cleaning.

In comparison to the road version, it features a very sophisticated internal water flow design, ensuring an absolutely consistent water flow throughout the whole length of the water distribution segment.

Speziell für Festinstallationen und Dauerbetrieb sind HD Water Screen® Curtains auch in einer besonders langlebigen V2A Edelstahlausführung erhältlich. Diese Ausführung ist nicht nur korrosionsbeständig, sondern verfügt zudem über eine abnehmbare bzw. austauschbare Düsenplatte, die eine besonders einfache Reinigung ermöglicht.

Im Vergleich zur Road-Version, bietet diese Variante eine besonders aufwändige interne Wasserführung, die einen absolut gleichmäßigen Wasserfluss über die gesamte Länge des Wasserverteil-segments gewährleistet.



High-Density Water Screen® - Curtain

- High-Density Water Screen® curtain optimized for hologram-like laser and video projections (indoor and outdoor)
- Distribution segment as well as nozzles in V2A stainless steel design with sophisticated internal water flow design.
- Removable nozzle plate for easy cleaning of the elements.
- Includes a high-volume submersible pump (400 V, 2,8 kW), check valve with micron fine filter, hoses and an alignable water distribution element made of V2A stainless steel with approx. 510 high-precision nozzles per meter and quick ventilation system
- The sophisticated design of the CNC-milled high-precision nozzles ensures a uniform projection surface over even large heights and reduces splashing water to a minimum
- Also suitable as an innovative element in interior design for the creation of water walls or as a transparent projection surface in exhibit design

TL-2WID/R	High-Density Water Screen® - Curtain, Installation Version, approx. 1.020 nozzles,	Width: 2 m
TL-3WID/R	High-Density Water Screen® - Curtain, Installation Version, approx. 1.530 nozzles,	Width: 3 m
TL-4WID/R	High-Density Water Screen® - Curtain, Installation Version, approx. 2.040 nozzles,	Width: 4 m
TL-5WID/R	High-Density Water Screen® - Curtain, Installation Version, approx. 2.550 nozzles,	Width: 5 m
TL-6WID/R	High-Density Water Screen® - Curtain, Installation Version, approx. 3.060 nozzles,	Width: 6 m



Permanently installed High-Density Water Screen® in the Exxon Mobil Headquarters



Water Screens® as decorative wall



Made for continuous duty



Holo Flow Screen - Curtain

- Consists of distributor element for the creation of a rectangular projection surface, based on a fine, freely falling water mist, for hologram-like projections. Due to an extremely fine and controlled dispersion of the water, a water basin is not necessary
- Can be used for "walk-through" projections
- Includes an automatic water filling system, integrated water tank, 10 m power cable, control cable and a 10 m hose
- The control can be effected manually by an included remote-control or externally by DMX

TL-2HFSI Holo Flow Screen - 2 m distributor element (not alignable), water consumption approx. 3-8 l/h, 100 - 240 V, 2,2 kW, dimensions: 250 x 65 x 65 cm, weight: 180 kg

TL-1HFI Holo Flow Screen - alignable 1 m distributor element, control unit, water consumption approx. 4-6 l/h, 230 V, 0,9 kW, dimensions: 100 x 65 x 76 cm, weight: 96 kg

TL-2HFI Holo Flow Screen - alignable 2 m (2 x 1 m) distributor element, 2-fold control unit, water consumption approx. 8-12 l/h, 230 V, 1,8 kW, dimensions: 200 x 65 x 76 cm, weight: 192 kg

TL-3HFI Holo Flow Screen - alignable 3 m (3 x 1 m) distributor element, 3-fold control unit, water consumption approx. 12-18 l/h, 230 V, 2,7 kW, dimensions: 300 x 65 x 76 cm, weight: 288 kg

Walk-through Installation with Holo Flow Screen



Video projection on Holo Flow Screen



Holo Flow Screen

The Holo Flow Screen creates a virtually invisible walk-through screen, created by a laminar flow of mist onto which it is possible to rear-project video, lasers, gobos, etc., seemingly floating in mid-air.

The actual screen surface consists of a light, freely falling water mist, which is typically dispersed completely in the surrounding air before it reaches the ground. So, there is no need for a water basin.

The system can be operated by regular, softened drinking water, to be fed by an external water tank or by a permanent water connection.

Die HoloFlow Screen erzeugt eine praktisch unsichtbare, durchgehende Leinwand aus laminar geführtem Dunst, auf den Rückprojektionen mit Video, Laser, Gobos, etc. dargestellt werden können, die scheinbar frei in der Luft zu schweben scheinen.

Die eigentliche Projektionsfläche ist ein frei fallender Wasserdunst, der i.d.R. komplett von der umgebenden Luft aufgenommen wird, noch bevor er den Boden erreicht. Somit ist kein Wasserbecken nötig.

Das System kann mit üblichem, enthärteten Trinkwasser betrieben werden, das entweder über einen externen Tank oder einen Wasseranschluss zugeführt werden kann.

Water Screen®-Jet

The Jet Water Screen® consists of 2 m fountain segments which can be lined up to any desired width. Each element can be equipped with up to 8 individually-adjustable nozzles.

They form a dense wall of water jets which can reach a height of approx. 8-15 m, depending on the amount and type of the submersible pumps.

Compared to other solutions on the market, its rectangular shape and its higher wind stability make the Jet Water Screen® ideal not only for laser, but also for video projections.

Die Jet Water Screen® besteht aus Fontänensegmenten mit 2 m Länge, die beliebig zu jeder Breite aneinandergereiht werden können. Jedes Element kann mit bis zu 8 individuell justierbaren Düsen bestückt werden.

Sie bilden eine dichte Wand von Wasserstrahlen, die je nach Anzahl und Typ der Pumpen eine Höhe von ca. 8-15 m erreichen können.

Verglichen mit anderen Lösungen ist die Jet Water Screen® aufgrund ihrer rechteckigen Form und ihrer erhöhten Windstabilität nicht nur ideal für Laser, sondern auch sehr gut für Videoprojektionen geeignet.



Water Screen® - Jet Version

- Alignable 2 m water jet element to create a rectangular water screen according to the fountain principle, optimized for hologram-like laser and video projections
- The max. height varies between 8-15 m depending on the chosen pump configuration and wind conditions
- Includes one water jet segment with manual height adjustment, 8 individually adjustable nozzles, connection set, 2 height-adjustable stands and a high-volume submersible pump made of cast aluminum and stainless steel with feeding pipe
- Not recommended for indoor use

- TL-2WH** High-Power Water Screen® - Jet Version with submersible pump (400V, 3,9 kW), Length: 2 m
- TL-2W** Water Screen® - Jet Version with submersible pump (400V, 2,8 kW), Length: 2 m

Laser projection on Jet Water Screen®

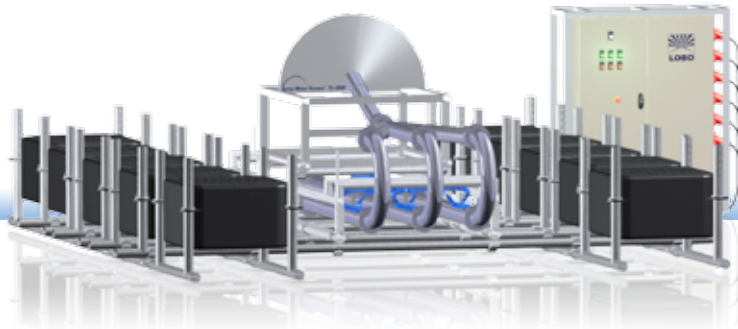


Daylight view on a Jet Water Screen®



Video projection on a Jet Water Screen®



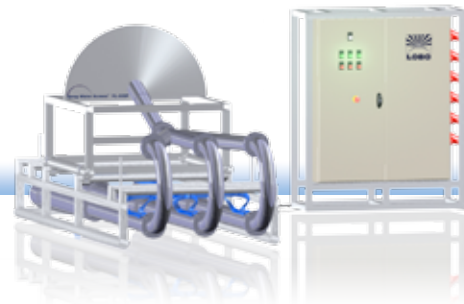


Floating Water Screen® - Spray Version

- Central pump-jet configuration made of stainless steel to create an almost semi-circular water shield with a diameter of maximum 30-40 m
- Consists of three independently wired submersible pumps (400 V, 75 kW), a central exchangeable high spray nozzle, 100 m connection cable, a switch gear cabinet and a dismantable raft basing on pontoons
- Features star-delta soft start control, protective motor switch as well as a fault-current breaker
- 3-fold redundancy by means of completely separated circuits for each pump
- Control via DMX-512 or 230 V signal voltage
- Dimensions with standard nozzle (WxHxD): 420 x 140 x 485 cm

TL-28SPF Floating Water Screen® - Spray Version, Screen Diameter typ. 20 - 28 m

TL-40SPF Floating Water Screen® - Spray Version, Screen Diameter typ. 35 - 40 m



Water Screen® - Spray Version

- Central pump-jet configuration made of stainless steel to create an almost semi-circular water shield with a diameter of maximum 30-40 m
- Consists of three independently wired submersible pumps (400 V, 75 kW), a central exchangeable high spray nozzle, 100 m connection cable and a switch gear cabinet
- Features star-delta soft start control, protective motor switch as well as a fault-current breaker
- 3-fold redundancy by means of completely separated circuits for each pump
- Control via DMX-512 or 230 V signal voltage
- Dimensions with standard nozzle (WxHxD): 115 x 140 x 325 cm

TL-28SP Water Screen® - Spray Version, Screen Diameter typ. 20 - 28 m

TL-40SP Water Screen® - Spray Version, Screen Diameter typ. 35 - 40 m



Daylight view on a floating Spray Water Screen®



Laser on Spray Water Screen®



Standard Spray Water Screen®

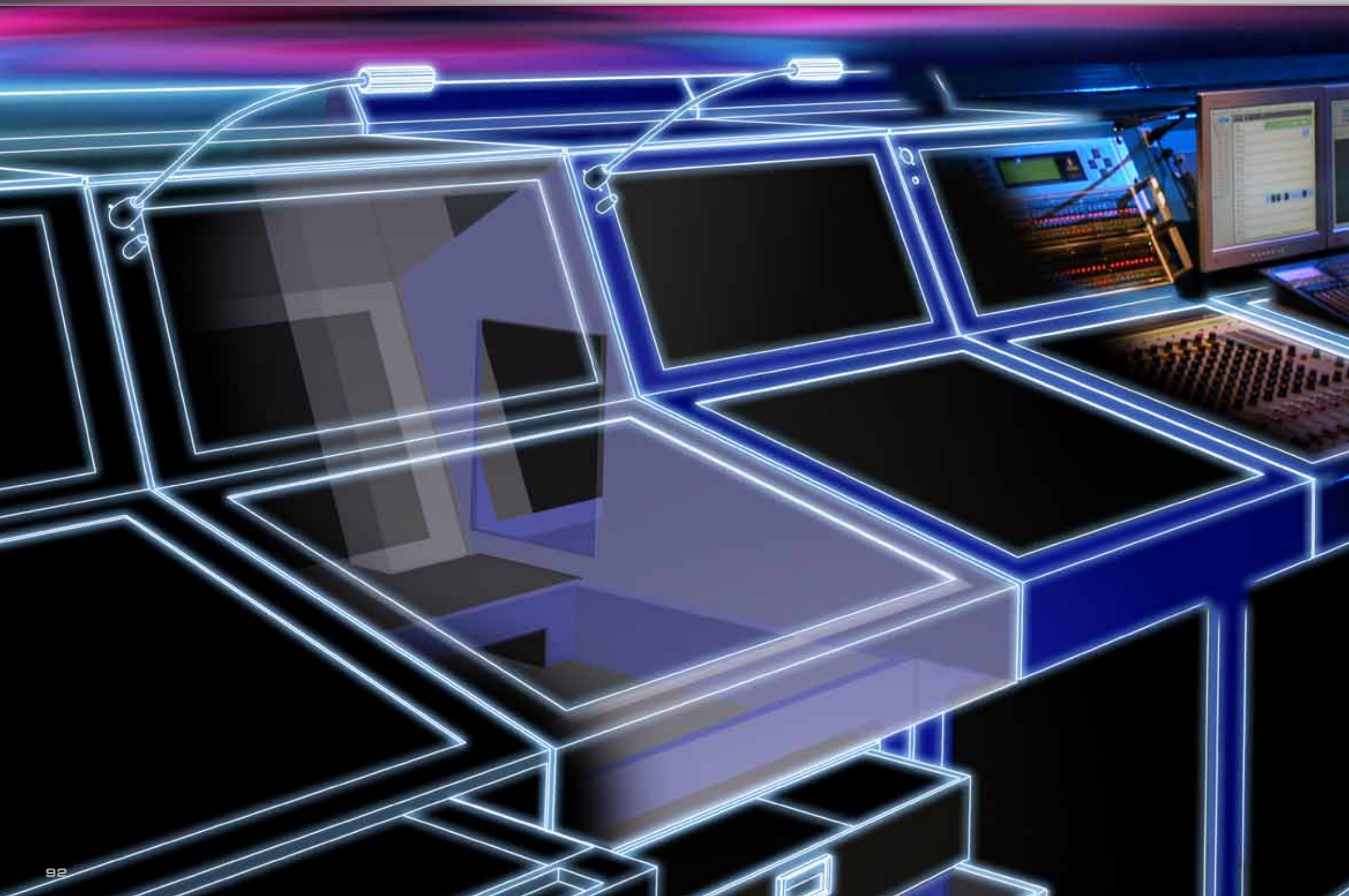
Water Screen®-Spray

The Spray Water Screen® consists of a high-performance pump system feeding one central, exchangeable spray nozzle which forms an almost semi-circular water shield. Depending on the wind and the used spray nozzle, the usable diameter of the resulting projection surface of the standard versions ranges between 20 m up to a maximum of 40 m. For higher operational reliability, the LOBO Spray Water Screen® consists of three completely separately-wired submersible multistage pumps (75 kW). A floating version is available for deep waters.

Using the screen for video projections, the displayed content has to match the semi-circular shape.

Die Spray Water Screen® besteht aus einem Hochleistungs-Pumpensystem, das eine zentrale, austauschbare Düse speist, die eine nahezu halbkreisförmige Wassernebelwand bildet. Je nach Wind und Düse beträgt der Durchmesser der nutzbaren Projektionsfläche in Standardversionen zwischen 20 bis maximal 40 m. Für eine erhöhte Betriebssicherheit besteht die LOBO Spray Water Screen® aus drei komplett separat verdrahteten, mehrstufigen Tauchmotorpumpen (75 kW). Für tiefe Gewässer ist auch eine schwimmende Version verfügbar.

Beim Einsatz mit Videoprojektionen muss der dargestellte Inhalt der halbrunden Form angepasst sein.





Above all, LOBO devices are equipped for mounting in 19" racks.

This worldwide standard for professional equipment makes it easy to install, transport and handle all kinds of devices for media and computer systems.

For control rooms and media workstations, LOBO provides a modular desk system which makes it possible to place devices within ergonomic reach for the operator.

In addition, the all-new Design Station DS-7 provides a professional working environment for multimedia show design.

Wie bei professionellem Equipment üblich, sind alle LOBO-Geräte für die Montage in 19"-Racks vorbereitet.

Dieser weltweite Standard für professionelles Equipment vereinfacht die Installation, den Transport und die Handhabung von verschiedenen Geräten für Medien- und Computersysteme.

Für Regieräume und Medienarbeitsplätze bietet LOBO ein modular aufgebautes Pultsystem an, das es erlaubt, alle Geräte in ergonomischer Reichweite zum Nutzer zu montieren.

Darüber hinaus bietet die völlig neu entwickelte Design Station DS-7 eine professionelle Arbeitsumgebung für die Gestaltung von Multimediashows.

Desk System

The desk system DS consists of system elements according to DIN 41634 which may be combined in a flexible way to house 19" devices for studios, control rooms or discotheques.

The used sheet metal guarantees a high degree of protection against fire and optimal shielding against electromagnetic fields.

Recesses for cable ducts and rear desk openings allow easy assembly and quick servicing. A large number of accessories, as well as special constructions for compact laser animation workstations, are available.

A variety of accessories and custom-made constructions are available.

Das Pulsystem DS besteht aus flexibel kombinierbaren Systemelementen nach DIN 41634 zur Aufnahme von 19"-Geräten in Studios, Regieräumen oder Diskotheken.

Das verwendete Stahlblech garantiert hohen Brandschutz sowie die optimale Abschirmung von elektromagnetischen Streufeldern.

Aussparungen für durchlaufende Kabelkanäle sowie rückwärtige Pultöffnungen lassen eine einfache Montage und einen raschen Service zu.

Eine Vielzahl von Zubehörteilen sowie Sonderkonstruktionen sind verfügbar.



Base Rack

- Stackable powder-coated steel enclosure for up to 12 HU of 19" devices with heavy-duty rack strips at the front and back opening
- Recessed mounting strips at the front protect the installed devices against accidental contact
- Large openings at the top and the bottom ensure an easy cabling and a best-possible cooling of the installed devices
- Standard color: blue (RAL 5010)

DS-3010 Base Rack



Slope Desk

- Desk-shaped, powder-coated steel enclosure for up to 12 HU / 6 HU of 19" devices with heavy-duty rack strips at the front and back openings
- A large opening at the bottom and duct openings at the side ensure an easy cabling
- Standard color: blue (RAL 5010)

DS-3030 Slope Desk



Slope Desk for Drawer

- Desk-shaped, powder-coated steel enclosure for up to 12 HU / 6 HU of 19" devices with heavy-duty rack strips at the front and back openings
- A large opening at the bottom and duct openings at the side ensure an easy cabling
- Front opening for drawer mounted on telescopic slides for keyboards or graphics tablets
- Standard color: blue (RAL 5010)

DS-3031 Slope Desk with front opening

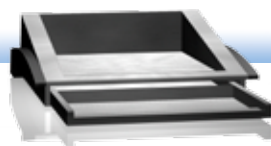
DS-3301 Drawer for Slope Desk



Angular Slope Module 30°

- Powder-coated angular module for the seamless connection to a Base Rack and a Slope Desk
- Can also be combined with Table Desks
- Duct openings at the sides ensure an easy cabling
- Standard color: blue (RAL 5010)

DS-3040 Angular Slope Module 30°



Design Console

- Exclusive design console for 12 HU of 19" devices made of brushed stainless steel with Nero Assoluto granite wings
- Large drawer with hidden ball-bearing slides
- Mounting facility for up to two monitor arms

SOL-D Design console

TMT-1 Monitor arm with VESA mount



Table Desk

- Table-desk-shaped, powder-coated steel enclosure for up to 9 HU of 19" devices with heavy-duty rack strips at the front and back opening
- A large opening at the bottom, duct openings at the side as well as a cable entry in the table top ensure an easy cabling
- Standard color: blue (RAL 5010)

DS-3020 Table Desk



Table Desk for Drawer

- Table-desk-shaped, powder-coated steel enclosure for up to 9 HU of 19" devices with heavy-duty rack strips at the front and back opening
- A large opening at the bottom, duct openings at the side as well as a cable entry in the table top ensure an easy cabling
- Front opening for drawer mounted on telescopic slides for keyboards or graphics tablets
- Standard color: blue (RAL 5010)

DS-3021 Table Desk with front opening

DS-3301 Drawer for Table Desk



Angular Table Module 45°

- Powder-coated angular module for the seamless connection to a Base Rack and a Table Desk
- Can also be combined with slope desks
- Duct openings at the sides ensure an easy cabling
- Standard color: blue (RAL 5010)

DS-3050 Angular Table Module 45°



Top Rack 9 HU

- Powder-coated steel enclosure for up to 9 HU of 19" devices with heavy-duty rack strips at the front and back opening to be mounted on top of a Slope / Table Desk or an Angular Module
- Features integrated cable ducts to the desk
- Includes rack (blue, RAL 5010) and two mounts (black, RAL 9001)

DS-3060	Rack for Slope / Table Desk
DS-3062	Rack for Angular Slope Module
DS-3064	Rack for Angular Table Module



Top Rack 6 HU

- Powder-coated steel enclosure for up to 6 HU of 19" devices with heavy-duty rack strips at the front and back opening to be mounted on top of a Slope / Table Desk or an Angular Module
- Features integrated cable ducts to the desk
- Includes rack (blue, RAL 5010) and two mounts (black, RAL 9001)

DS-3061	Rack for Slope / Table Desk
DS-3063	Rack for Angular Slope Module
DS-3065	Rack for Angular Table Module



Top Shelf

- Powder-coated steel shelf to be mounted on top of a Slope / Table Desk or an Angular Module
- Features integrated cable ducts to the desk
- Includes shelf panel (blue, RAL 5010) and two mounts (black, RAL 9001)

DS-3070	Shelf for Slope / Table Desk
DS-3071	Shelf for Angular Slope Module
DS-3072	Shelf for Angular Table Module



Drawer

- Lockable, front-mounted, powder-coated steel drawer with ball-bearing slides, available in different heights to be mounted in the Desk System
- Includes drawer with locks and keys
- Standard color: black (RAL 9001)

DS-3302	19" Drawer, 2 HU
DS-3303	19" Drawer, 3 HU
DS-3304	19" Drawer, 4 HU
DS-3306	19" Drawer, 6 HU



Cradle

- Front-mounted powder-coated 19" steel cradle to install non-19"-standard equipment in Base Racks, Slope / Table Desks and Top Racks
- Standard color: black (RAL 9001)

DS-3630	19" Cradle, 3 HU
DS-3640	19" Cradle, 4 HU



Rear Panel

- Powder-coated steel panel to cover the back side of Base Racks, Slope / Table Desks and Top Racks
- Standard color: blue (RAL 5010)

DS-3107	Rear Panel, 7 HU
DS-3110	Rear Panel, 10 HU
DS-3112	Rear Panel, 12 HU



Rack Panel

- Powder-coated aluminum panel to cover openings at the front of Base Racks, Slope / Table Desks and Top Racks
- Standard color: black (RAL 9001)

DS-3501	Rack Panel, 1 HU
DS-3502	Rack Panel, 2 HU
DS-3503	Rack Panel, 3 HU
DS-3504	Rack Panel, 4 HU
DS-3505	Rack Panel, 5 HU
DS-3506	Rack Panel, 6 HU



Duct Cover

- Powder-coated steel panel to cover the duct openings of Slope / Table Desks or an Angular Module
- Standard color: blue (RAL 5010)

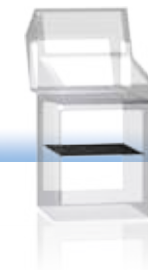
DS-3191	Duct Cover
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Racklight Set

- Gooseneck lamp with adjustable reflector and XLR connector to be mounted in the standard lamp mounts of Base Racks, Slope / Table Desks and Top Racks
- Includes gooseneck lamp (30 cm) with XLR socket, power supply, dimmer and mounting kit

DS-3950	Racklight Set
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Heavy-Duty Shelf

- Heavy-duty 19" shelf made of powder-coated steel to take up heavy loads (e.g. laser power supplies)
- Standard color: black (RAL 9001)

DS-3410	Shelf for Slope / Table Desk
DS-3420	Shelf for Base Rack
DS-3430	Shelf for Top Racks

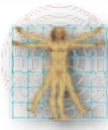
Design Station

What happens if the industry's most awarded show design team⁴ thinks about the ideal working environment to develop laser shows and multimedia spectacles on a small footprint? The result is the new Design Station DS-7. It is both, stylish and inspiring, but also uncompromisingly practical and ergonomic.

It's operator-centric design provides an unobstructed view on the giant screen. And at the same focusing distance you have a perfect view of the monitor. There is enough space for anything you need to make your show happen. And perhaps the best about it: The Design Station is a universal solution, not limited to the use of LOBO products.

Was passiert, wenn das am meisten ausgezeichnete Show-Design-team⁴ der Branche über die ideale Arbeitsumgebung zur Entwicklung von Lasershows und Multimedia-Spektakel auf kompaktem Raum nachdenkt? Das Ergebnis ist die Design Station DS-7. Sie ist sowohl stylish und inspirierend, aber auch kompromisslos praktisch und ergonomisch.

Das nutzerorientierte Design erlaubt einen unverstellten Blick auf die gigantische Leinwand. Auf gleicher Fokus-Distanz ist der Monitor optimal im Blick. Es gibt genug Platz für alles, was man für das Gelingen der Show benötigt. Und das Beste daran: Die Design Station ist eine universelle Lösung, die nicht auf den Einsatz von LOBO-Produkten beschränkt ist.



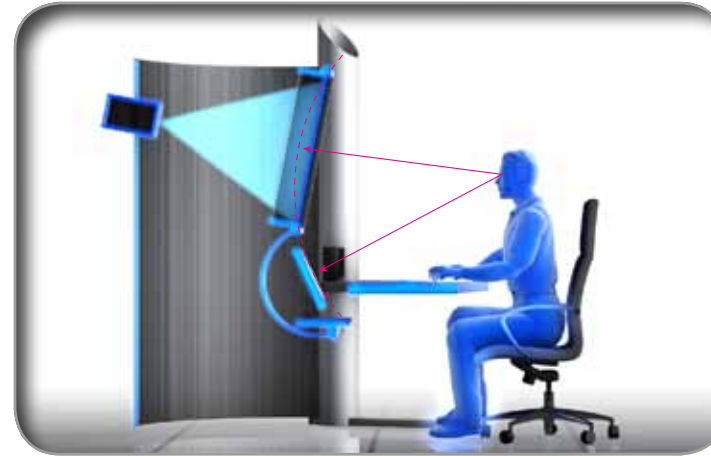
Visionary Ergonomics for Projection Design

Designing laser shows on limited space is a real challenge, as typical office and studio solutions do not really match your requirements. You need a certain distance and darkness for projection, a projection surface of adequate size, a monitor which does not obstruct the projection and a lot of additional space, for example for a graphics tablet, a sound mixer or just for documents. Most of the setups we have seen rather look like an interim solutions than a professional workstation.

The new Design Station DS-7 provides an extremely productive infrastructure for these applications. Its screen and the lowered monitor platform gives you the perfect real-life impression of the projection and the corresponding information on up to two monitors in a perfect arrangement on the same eye-friendly focus distance. The whole workstation is curved around the designer with vast space for storyboards, drawings, additional equipment and anything else, you need for your show.

The Operator Table DT-7 is the ideal solution for applications which are monitor-based, but still require a perfect view on what is going on in front of you. This makes it perfect for sound studios, permanently installed operator desks, for video or show directors or for general surveillance tasks.

The Working Table WT-7 transfers the same design philosophy on a common working table, which can complement one of the above mentioned solutions at the same working radius or which can be used as a stand-alone solution as well.



Visionäre Ergonomie für Projektions-Design

Lasershows unter begrenzten Raumverhältnissen zu gestalten ist eine große Herausforderung, da klassische Büro- und Stüdiomöbel nicht wirklich den Anforderungen gerecht werden. Zur Projektion braucht man eine gewisse Distanz und auch Dunkelheit, eine Projektionsfläche annehmbarer Größe, einen Monitor, der die Projektion nicht verdeckt und dann noch viel Platz, z.B. für ein Grafiktablett, einen Soundmixer oder auch für Produktionsvorlagen.

Die neue Design Station DS-7 schafft eine extrem produktive Infrastruktur für genau diese Anwendungen. Ihre Projektionsfläche und die abgesenkte Monitorebene geben Ihnen sowohl einen realistischen Eindruck von der Projektion und die zugehörigen Informationen auf bis zu zwei Monitoren - und das in perfekter Anordnung und der selben augenschonenden Distanz. Der gesamte Arbeitsplatz ist um den Designer herum angeordnet und bietet großzügig viel Platz für Storyboards, Zeichnungen, zusätzliches Equipment und alles, was man für das Gelingen einer Show benötigt.

Der Operator-Tisch DT-7 ist die ideale Lösung für Monitor-basierte Anwendungen, die dennoch einen optimalen Blick auf das benötigen, was vor einem abläuft. Er ist damit ideal für Soundstudios, fest installierte Bedienstände, für Video, Show-Regie oder für allgemeine Überwachungsaufgaben.

Der Arbeitstisch TW-7 überträgt diese Designphilosophie auf einen normalen Arbeitsplatz, der die oben erwähnten Lösungen ideal mit dem gleichen Arbeitsradius ergänzen kann oder auch eigenständig einsetzbar ist.

Inspirierendes Arbeitsumfeld für Kreative

Für kreatives Arbeiten ist ein gleichermaßen inspirierender und dennoch effektiver Arbeitsplatz unabdingbar. Dank des ausgefeilten Licht-Absorbers, holen wir die Designer aus ihren üblichen dunklen Ecken in freundliche und helle Arbeitsumgebungen.

Aufgrund der geringen Stellfläche der Design Station, wird nicht mehr Platz als der zweier normaler Arbeitstische in Beschlag genommen.

Durch wertige Anmutung macht die tägliche Arbeit nicht nur mehr Spaß, die perfekte Ergonomie reduziert auch deutlich Ermüdungserscheinungen, wenn einmal mehr die Nacht durchgearbeitet werden muss.



Inspiring Working Environment for Creatives

When it comes to creative tasks, it is absolutely essential to provide an inspiring, yet effective workspace. Thanks to the sophisticated light absorber, we take the designers out of their typical dark corners into friendly and bright working environments.

The Design Station's small footprint does not block much more space than a regular double-table.

Its supreme look-and-feel will make your work more enjoyable day by day and at the same time its perfect ergonomics will reduce fatigue even when once again having to work through the night.



Easy Installation

The Design Station features covered cable ducts below the work plate and inside the vertical tubes. So, the desk looks always clean and tidy.

The Light Absorber features vertical clamping bands to allow for a most flexible installation of various projection equipment, such as laser projectors or video projectors.



Versatile

It was important to us that the Design Station is not a special solution just for LOBO users. So, we kept the design so open and simple that it is an universal solution for most applications requiring projections parallel to the use of monitors.

Einfache Installation

Die Design Station ist mit verdeckt geführten Kabelschächten ausgestattet, die sich unter der Arbeitsplatte und innerhalb der senkrechten Rohre befinden.

Der Licht Absorber besitzt vertikale Montagebänder zur flexiblen Installation verschiedener Projektionsgeräte, wie z.B. Laserprojektoren oder Video-Beamer.

Flexibel

Es war für uns wichtig, dass die Design Station nicht zur Sonderlösung für LOBO-Anwender wird. Das Design ist so offen und einfach gehalten, dass es eine universelle Lösung für die meisten Anwendungen darstellt, die gleichzeitig Projektions- und Monitordarstellung benötigen.



Design Station

- Versatile and ergonomic laser and multimedia design station in technoid style
- Provides an ideal environment for creating laser shows, also in combination with video projections, on a compact footprint
- Features a spacious work plate, curved around the user and an optimal arrangement of the projection surface, suitable for laser and video projections
- Lowered monitor platform with cable ducts.
- Rugged, powder-coated, heavy-duty steel construction on the basis of two 220 mm steel tubes and a robust MDF work plate with scratch-resistant coating
- Freely alignable 60-degree-element, combinable with further design stations and table elements. Features mounts to directly attach semi-circular absorber
- The optional, semi-circular light absorber to block and to absorb ambient light. Features diffuser with a special mini-trapezoid surface structure on a powder-coated steel sub-construction and an universal mounting facility for smaller laser and video projectors (up to 20 kg max.)

DS-7 Versatile design and multimedia station

DA-7 Light Absorber



Operator Table

- Ergonomic operator table in technoid style, ideal for show operators and directors
- Features a spacious, curved desk surface
- Lowered monitor platform with cable ducts ensures an unobstructed view on both, monitors and the action on stage
- Rugged, powder-coated, heavy-duty steel construction on the basis of two 220 mm steel tubes and a robust MDF work plate with scratch-resistant coating
- Freely alignable 60-degree-element, combinable with further design stations and table

DT-7 Operator Table



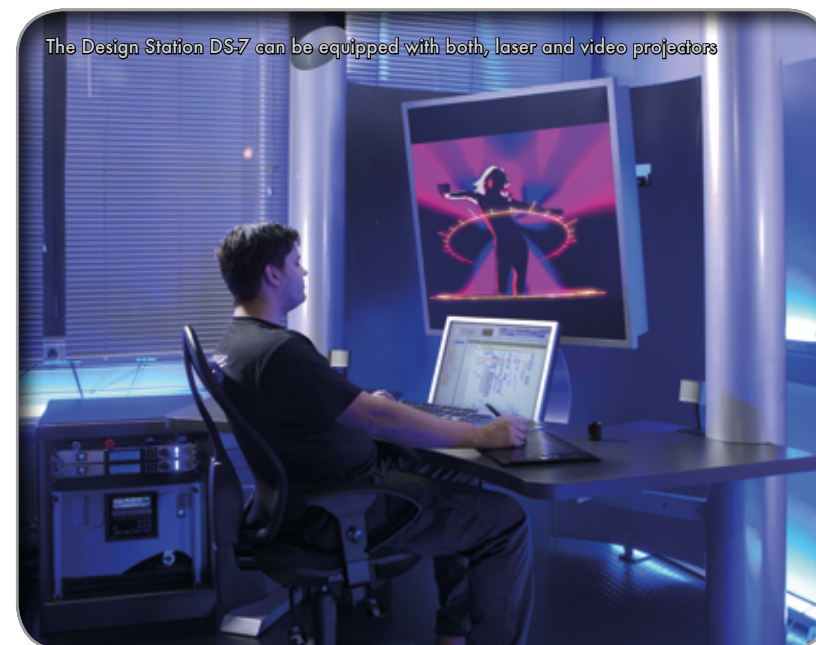
Working Table

- Ergonomic working table in technoid style
- Features a spacious, curved desk surface
- Rugged, powder-coated, heavy-duty steel construction on the basis of two 220 mm steel tubes and a robust MDF work plate with scratch-resistant coating
- Freely alignable 60-degree-element, combinable with further design stations and table elements.

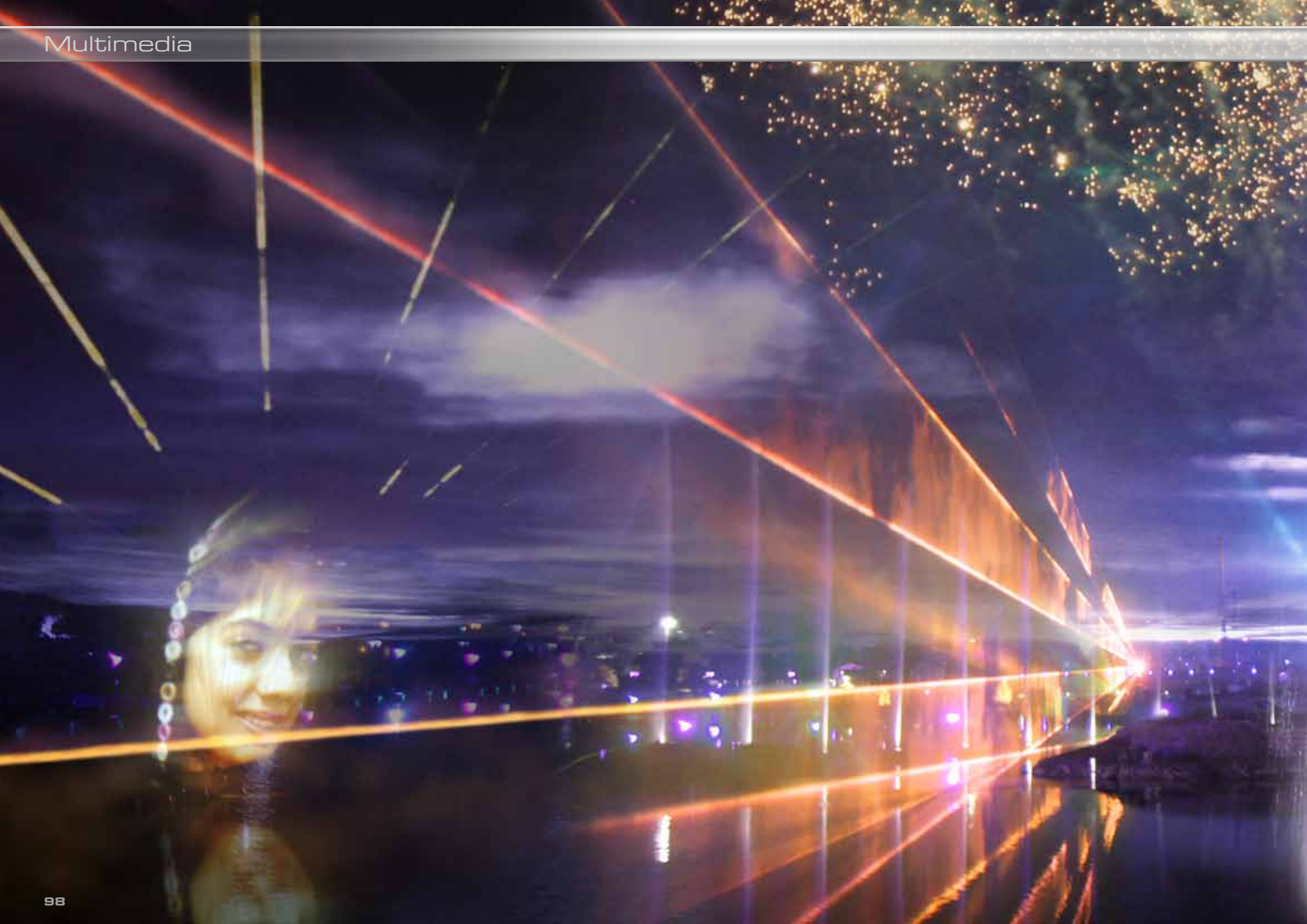
WT-7 Working Table

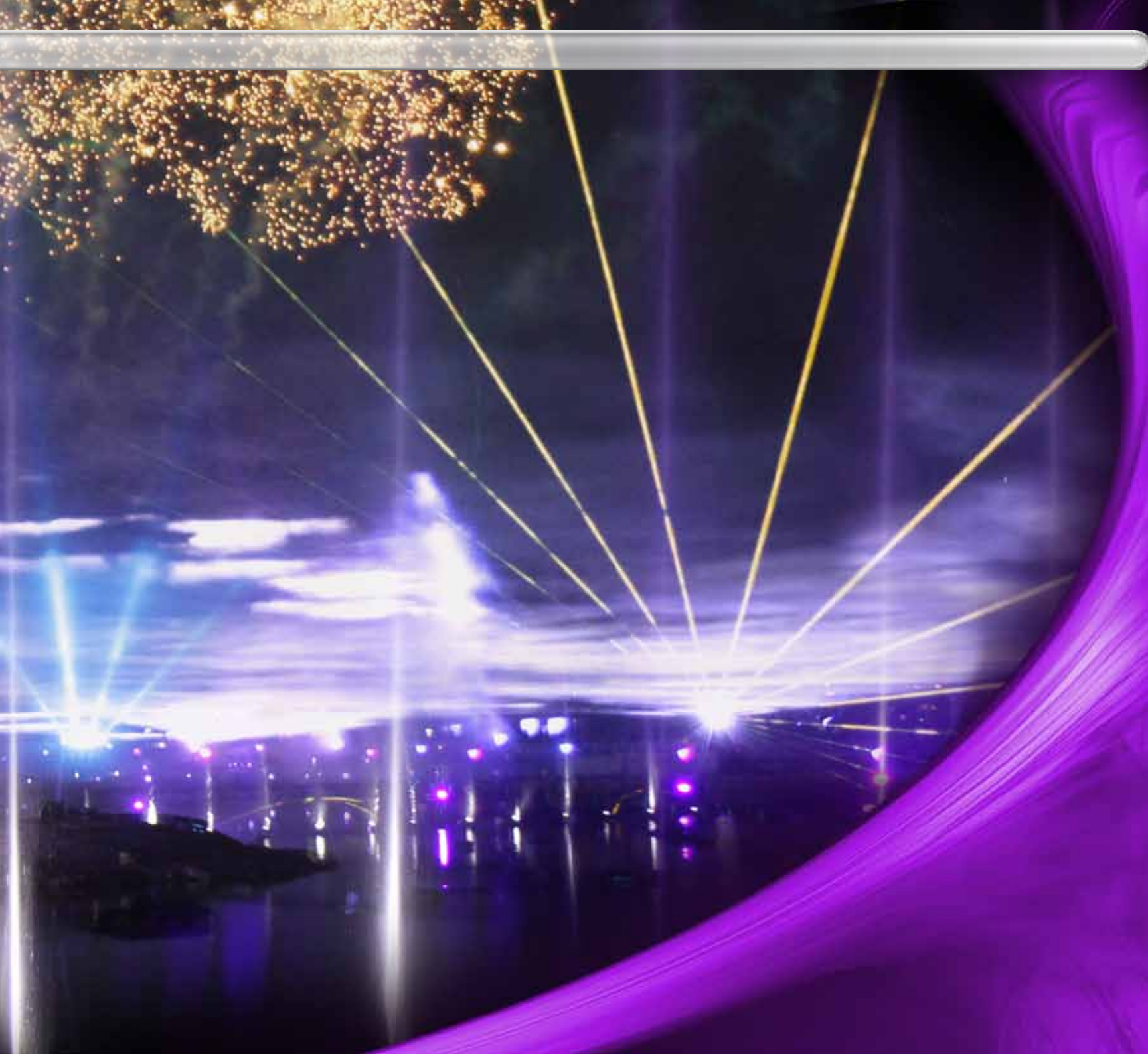


The whole Design Station system provides unlimited combination possibilities for ergonomic design environments



The Design Station DS-7 can be equipped with both, laser and video projectors





Although lasers are probably the most spectacular and most flexible medium on the market, they evolve their maximal potential when embedded in a multimedial symphony of artists, video, lights, monumental sound and special effects.

LOBO controllers have been designed as native multimedia machines which go far beyond the purpose of displaying only laser graphics, Scanline® laser videos or beam shows. They can act as master controllers or slave subsystems in complex multimedia environments.

LOBO offers a full range of professional multimedia equipment for such applications.

Obwohl Laser das wohl spektakulärste und flexibelste Medium auf dem Markt darstellt, entfaltet es seine maximale Wirkung erst, wenn es in eine multimediale Symphonie mit Künstlern, Video, Licht, monumentalem Sound und Spezialeffekten eingebunden wird.

LOBO-Steuerungen sind als Multimediamaschinen entwickelt worden, die weit über das Wiedergeben von Lasergrafiken, Scanline® Laser-Videos oder Beamshows hinausgehen. Sie können sowohl als Master-Controller oder als Slave-Subsysteme in komplexen Multimediasystemen agieren.

Für solche Anwendungen bietet LOBO ein komplettes Programm an professionellem Multimedia-equipment an.

Video

By means of video, 'real life' imagery becomes part of shows for large crowds.

LED walls are ideal for outdoor applications or video displays under adverse light conditions, whereas video projectors are the established standard for videos within shows on Water Screens®.

Plasma displays are an exclusive solution for information systems at exhibitions, in representative areas or the point of sale.

Depending on the application, various video playback solutions are available including video servers offering utmost creative freedom.

Mit Video werden lebensechte Bilder Bestandteil von Shows für viele Zuschauer.

LED-Wände sind ideal für Anwendungen im Außenbereich oder unter widrigen Lichtbedingungen, während dagegen Videoprojektoren der etablierte Standard für Videos im Showeinsatz oder auf Water Screens® sind.

Plasma-Displays sind eine exklusive Lösung für Informationssysteme in Ausstellungen, in repräsentativen Bereichen oder am Point of Sale.

Je nach Anwendung gibt es eine Auswahl an verschiedenen Wiedergabelösungen und auch Video Server mit umfassenden kreativen Möglichkeiten.



Video Projectors

- Video projectors are the most affordable and flexible way of presenting large-scale video onto almost any kind of structures - be it regular screens or even whole buildings
- Stereoscopic setups can be implemented easily
- Depending on the given application there is a wide choice of projectors of different brightness classes and different types (LCD, DLP, LED,...)
- A wide selection of optics give utmost flexibility in coping with virtually any setup condition
- For professional use special flight frames and stacking frames are available



LED Walls

- LED walls became the most popular way of presenting brilliant video content and vivid backdrops in most different shapes and dimensions
- LED walls base on high-resolution LED panels which can be configured to different dimensions
- LED displays even cope with most adverse lighting conditions and can even deliver perfect results under daylight conditions
- Special weather-proof outdoor versions with an increased brightness and truck-based mobile solutions are available on request



LCD and Plasma Displays

- Widescreen LCD or plasma displays are the best choice when it is required to present high-quality video content close to the spectators
- Seamless versions for tiled screens and goggle-free auto-stereoscopic versions are available
- For stand-alone use in representative areas, stainless steel design stands are available, providing additional space for sound systems, video players or personal computers
- Individualized solutions including the production of video content are available on request



LED Image Curtain

- High-resolution Image Curtain (25 m²) based on LED technology for indoor application
- Pixel distance 10 cm, totally 2.400 LEDs integrated in black stage molton, flame resistant
- Universal input, e.g. VGA (optional - direct video input) as well as integrated Ethernet connection



Media Server

- Catalyst media server for up to 2 individual video feeds with multi-layer support and extensive correction capabilities, to be controlled by DMX and timecode
- Consists of Apple MacPro computer, software and dongle (depending on desired software version).
- Remote control possibility from LACON-5® and MODULA® controller via DMX
- Alternative media servers, also on the basis of stand-alone devices available on request



Flash Memory Video Player

- Digital player for video playback in DVD quality on basis of a Compact-Flash memory card without any mechanical components subject to abrasion
- Offers component output (Y/C, S-Video) and composite video/audio output (V,L,R / Cinch)
- Remote control possibility from LACON-5® and MODULA® controller via RS-232



Professional DVD Player

- Industrial multi-mode DVD player for the computer-controlled playback of PAL and NTSC DVDs,
- Multi-format support (DVD video, video-CD, DVI-D, DVD-R, dual layer DVD-R, DVD-RW, CD-audio)
- Features composite Y/C (S-video) and component video output as well as digital video output.
- RS-232 remote-control facility by LACON-5® and MODULA® controllers

CAT-2F12L

Catalyst Media Server

FMVD-1

Flash Memory Video Player

DVD-3

Professional DVD player



Lighting not only creates eye-catching show effects, but also atmospheric backdrops



Moving Heads

- For almost any kind of application moving heads of different power, type (wash, projector,...) and different techniques (LED, HMI,...) are available
- Moving Heads and other lighting are configured and quoted on a project-specific basis

MP-V57	Moving head HMI projector
MW-VC7	Moving head HMI washlight
MP-VL3W	LED moving head washlight



Architectural Lighting

- Weather-proof, color-changers for the illumination of facades or architectural design details
- All units feature a CMY color mixing unit, long-life discharge lamps, different presets for color patterns and color changing speed as well as the external control by DMX

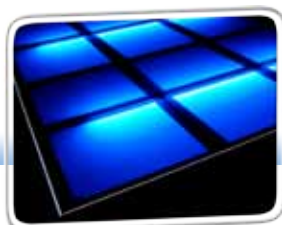
ARCF-2500A	CMY floodlight, 2.500 W
ARCS-1200A	CMY washlight, 1.200 W



LED Tubes

- LED tubes are ideal to create vividly animated outlines in scenic and interior design
- Cascadeable LED tube consisting of 144 RGB LEDs incl. electronic, length 100 cm, diameter 36mm (with optional diffusion optics 50 mm) for standalone or DMX operation
- RGB LED color mixing in up to 8 sub parts. Including power supply 220 V.
- Various other makes and models are available on request

LEDT-100	RGB LED tube, 1m
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Glass Floors

- Modular floor elements consisting of toughened and frosted glass tiles (60 x 60 cm) mounted on a supporting frame
- Different backlight options available

GF-3/4	Glass Floor, WxD: 2,4 x 1,8 m
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Vibration Floors

- Creates a strong physical feedback of the music without the need for a high sound volume
- Consists of alignable floor elements with vibration transformer, driver and power electronics

VIB-3	Vibration Floor, WxD: 4 x 3 m
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Star Curtains

- Robust Star Curtain basing on glass fiber technology creating backdrops with brilliant sparkling stars in any desired color
- Consists of strain-relieved glass fibers with a protective PVC coating, invisibly woven on a net inside a double-coated black molton cloth
- Includes a central lamp (230 V, 150 W) with color wheel feeding up to 400 stars
- Individual dimensions, densities or patterns are available on request
- Flame resistant according to DIN 4102 B1

STAR-6/6	Star Curtain, WxH: 6 x 6 m
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EL-Lighting Systems

- EL-lighting systems consist of thin and bright luminous strips or luminous cords which are available in different colors and any length
- A large variety of special solutions, such as illuminated step profiles or floor-mounted indicators are available
- DMX-controlled converters (230 V) allow easy dimming of the EL-systems

SLIM-13	luminous strip (13 mm)
STEP-3	Illuminated step profile
INDI-1	Floor indicator (Ø 13 cm)
SLCO-2	3-channel DMX converter

Lighting

Light is one of the key elements of impressive multimedia spectacles.

Moving lights not only create impressive show effects, but are also ideal for atmospheric lighting.

In addition to conventional lighting systems, LOBO provides a broad range of professional lighting solutions for rental projects, installations as well as for architectural applications.

Be it multi-color LED effects, illuminated glass floors, magically sparkling fiber star curtains or ultra-flat EL lighting systems.

Licht ist eines der Schlüsselemente für beeindruckende Multimedia-Spektakel.

Moving Heads schaffen nicht nur beeindruckende Effekte in Shows, sondern eignen sich auch ideal für atmosphärische Lichtstimmungen.

Neben konventionellem Licht bietet LOBO eine breite Auswahl an professionellen Beleuchtungslösungen für Mietprojekte und Installationen sowie für Architekturanwendungen an:

Seien es mehrfarbige LED-Effekte, hinterleuchtete Glasfußböden, magisch funkelnde Glasfaservorhänge oder ultra-flache EL-Leuchtsysteme.

Fog & Fragrance

Fog is not only the medium required to make laser beams visible, but also a spectacular special effect on stage or just in combination with light.

High-volume fans make sure that the fog is exactly there where it is needed within just a few seconds. LOBO's custom-made fog fluids are not only optimized for the use with lasers, but also ensure a safe operation even in most sensitive environments thanks to their low-residue formula.

Professional fragrance machines also include the olfactory sense into your show presentations in a targeted way.

Nebel wird nicht nur als Medium benötigt um Laserstrahlen sichtbar zu machen, sondern ist auch ein spektakulärer Spezialeffekt auf der Bühne oder einfach nur in Kombination mit Licht.

Lüfter mit hohem Luftdurchsatz stellen sicher, dass innerhalb weniger Sekunden der Nebel genau da ist, wo er gebraucht wird. LOBOs speziell für den Lasereinsatz optimierte Nebel-Fluids erzeugen praktisch keinen Niederschlag und können selbst in besonders kritischen Umgebungen sicher eingesetzt werden.

Mit professionellen Duftmaschinen, sprechen Sie gezielt innerhalb von Shows auch den Geruchssinn an.



Fog Generator

- Compact fog generator (230 V, 2 kW) with low-voltage control via XLR-connector for the remote control by LACON-5® and MODULA-5® controllers
- Optimized for a high peak performance (approx. 1.300 m³/min.)
- Radio-control option, consisting of handheld transmitter and receiver is available as an option
- Special versions for the creation of heavy fog available

FOG-3	Fog generator
REM-1	Radio-control option for FOG-3 fog generator



Laser Show Fog Fluid

- Special fog fluid exclusively developed for laser performances in a cooperation of LOBO® and the 'Oscar'-awarded fog specialist SAFEX®
- Ultra-low residue formula for the use in sensitive environments
- A large variety of fluids with different characteristics is available on request

FLUID-25	Dense and long-lasting fog fluid, 25 l
FLUID-5	Dense and long-lasting fog fluid, 5 l



Wind Generators

- Rigid, powder-coated series of fans to be used as wind generators or to distribute fog over large distances
- Low-noise fan unit protected against accidental contact
- Different sizes, techniques and power classes available

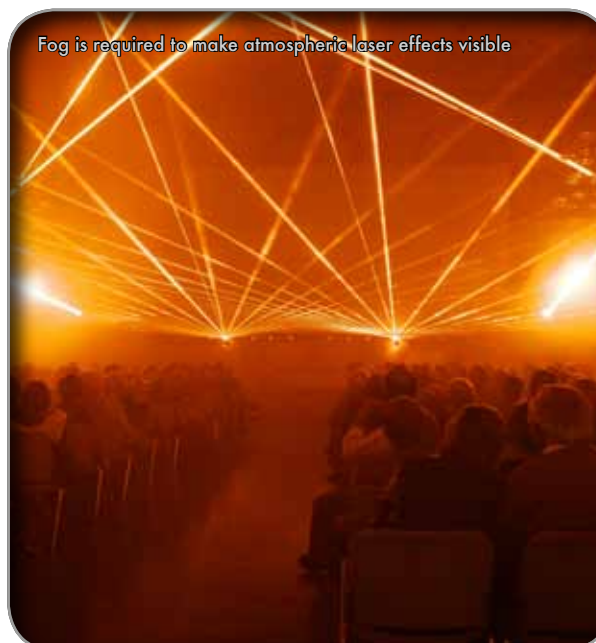
FAN-5	Wind generator, 400 V, 1,25 kW, 14.000 m³/h
FAN-3	Wind generator, 230 V, 210 W, 5.600 m³/h
FAN-2	Wind generator, 230 V, 65 W, 1.800 m³/h



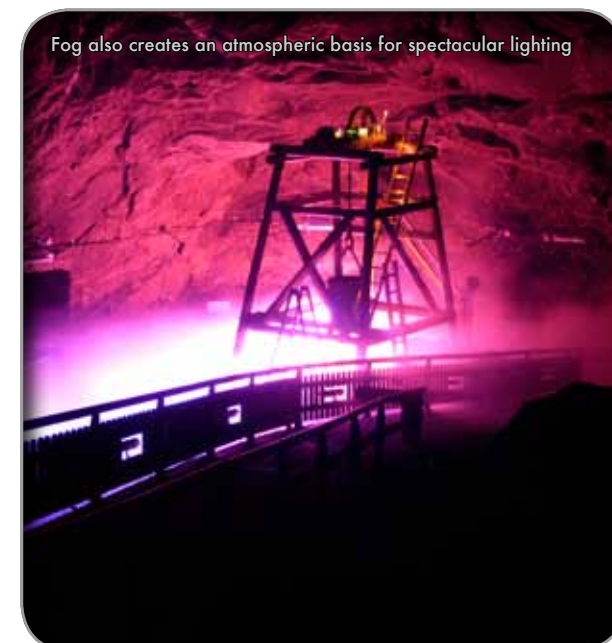
Fragrance Machine

- Intense fragrance unit based on essential oils
- Can be equipped with 2 different fragrances
- Different sizes and power classes available

DUFT-5	Fragrance Machine, 200 W
DUFT-4	Fragrance Machine, 100 W
DUFT-3	Fragrance Machine, 80 W



Fog is required to make atmospheric laser effects visible



Fog also creates an atmospheric basis for spectacular lighting



Water Fountains

- Sophisticated music-synchronized fountains and water effects ideal for the combination with laser or Water Screens®
- Available for rental and sale in different layouts and heights with static or moving effect patterns as well as with different lighting options
- Music fountain systems are configured and quoted on a project-specific basis



Water Jumping Jet

- Compact jumping jet unit for creating a laminar water jet for indoor and outdoor applications and water depths between 20 and 30 cm
- Adjustable water parable (max. height 2,5 m, max. width 4,5 m)
- Swiveling range 45° - 90°
- Includes external submersible pump (150 l / min.), 230 V, 150 W, and LED- RGB multicolor spotlight
- Directly controllable via DMX by MODULA® and LACON-5® controllers

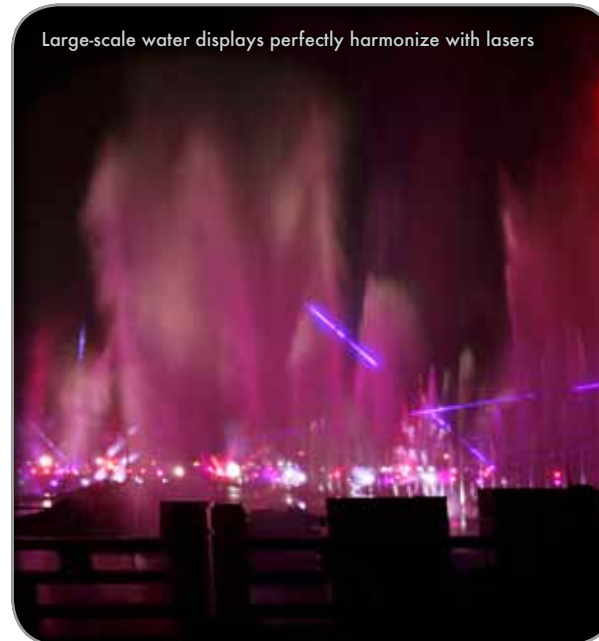
WJJ-4

Water Jumping Jet, weight: approx. 20 kg

Large-scale fountains are an emotionally appealing effect for live shows and permanent installations



Large-scale water displays perfectly harmonize with lasers



Fountains

Professional water fountain systems create emotionally appealing effects and perfectly harmonize with lasers and Water Screens®.

They are probably one of the most popular and impressive effects for live multimedia performances besides lasers.

LOBO provides various solutions from single DMX-controlled water features up to giant musical water displays with moving water features, giant fountains and certainly Water Screens®.

Professionelle Wassersystemen erzeugen emotional hochgradig ansprechende Effekte und harmonisieren perfekt mit Laser und Water Screens®.

Wahrscheinlich sind sie neben Laser sogar der populärste und beeindruckendste Effekt für Live-Multimediashows.

LOBO bietet hierzu verschiedene Lösungen an. Angefangen von einzelnen DMX-gesteuerten Wasser-Effektgeräten bis hin zu kompletten Musikfontänenanlagen mit bewegten Effekten, Großfontänen und natürlich Water Screens®.

Fire, Pyro & Fireworks

As a new and very impressive stylistic element, DMX-controlled fire effects are more and more applied in multimedia shows.

Compared with pyrotechnics, the flame effects are relatively safe and do virtually not leave any residues.

The flames either are generated by propane gas or by sprayed liquid fuel (aerosol).

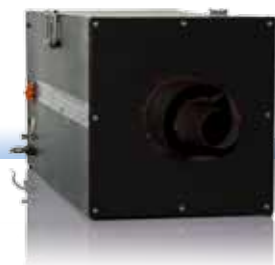
When it comes to huge shows, stage pyro effects and fireworks are still one of the most impressing effects you can imagine.

Als neues und sehr beeindruckendes Stilmittel werden in Multimediashow vermehrt DMX-gesteuerte Flammeffekte eingesetzt.

Im Vergleich zu Pyrotechnik sind Feuereffekte relativ ungefährlich und hinterlassen praktisch keine Rückstände.

Die Flamme wird dabei entweder durch Propangas oder eine fein zerstäubte Flüssigkeit (Aerosol) erzeugt.

Insbesondere bei richtig großen Shows sind Bühnen-Pyroeffecte und Feuerwerk nach wie vor die mit die beeindruckendsten Effekte, die man sich vorstellen kann.



13 m Propane Flame Effect

- Flame effect for outdoor applications to create an up to 13 m high fire explosion
- Electronic glow ignition via platinum spirals
- Flame monitoring and automatic shut-off within 1 second in case of spark failure or tilting of the device
- Connection to a gas bottle via 10 m hose line incl. pressure reducer
- Horizontal and vertical operation possible

FLAME-13HO Fire Explosion Effect

FLAME-13HOS Flame Effect splashwater-proof



4 m Propane Flame Effect

- Flame effect for outdoor or indoor applications for an up to 4 m high real "hot" gas flame
- Electronic instant ignition via electric arc
- Flame monitoring and automatic shut-off within 1 second in case of spark failure or tilting of the device
- Connection to a gas bottle via 10 m hose line incl. pressure reducer
- vertical operation possible only

FLAME-4HO Flame Effect, outdoor

FLAME-4HI Flame Effect, indoor



4 m Aerosol Flame Effect

- Flame effect for indoor applications for an up to 4 m high "hot" aerosol flame
- Electronic instant ignition via electric arc
- Flame monitoring and automatic shut-off within 1 second in case of spark failure or tilting of the device
- Depending on cartridge, colored flames are possible
- Vertical operation possible only

FLAME-4HS Flame Effect, indoor

AERO-5 Aerosol cartridge

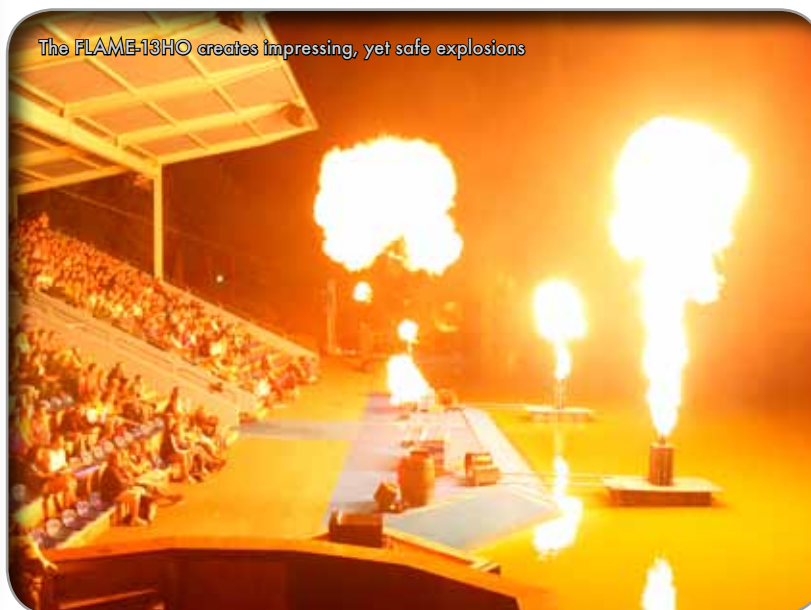


6-fold Aerosol Flame Effect

- DMX-controlled flame effect for indoor applications to create 6 independent, up to 6 m high "hot" aerosol flames
- Central electronic ignitor with 5 independently controllable valves
- Depending on cartridge, colored flames are possible
- Vertical operation possible only

FLAME-X6S 6-fold Flame Effect, indoor

AERO-X6 Aerosol cartridge



The FLAME-13HO creates impressing, yet safe explosions



Large gas flames and explosions appeal to all senses: you see, feel and hear them



Flame Wall

- Alignable 2 m long distribution segment for creating a flame wall for indoor and outdoor application with "hot" gas flame
- Height of flame adjustable to max. 1,6 m
- Flame monitoring via optical sensor for immediate shut-off of the gas supply
- Connection to a gas bottle via 10 m hose line incl. pressure reducer

FLAME-2WA Flame Wall, 2 m



Ignition Box

- Ignition box for flame effects incl. key switch and individual manual ignition keys
- Programming of individual ignitions via LACON-5® and MODULA® controller via DMX-512 input
- Free choice of DMX channels incl. LED 7 segments display
- Emergency switch for immediate shut-off of all flame effects

FCON-8 8-ch. Ignition Box

FCON-2 2-ch. Ignition Box



Stage Pyro Effects

- Easy-to-use stage pyro system prepared for the programmed ignition by LACON-5® and MODULA® controllers
- Consists of a 6-channel ignition device with channel switches, ignition button and key switch for the connection of up to 36 launching boxes (max. 6 effects per channel)
- Depending upon the country different regulations and restrictions for transport and use of the pyro system may apply

PCON-6 6-channel ignition device

PYR-1 Launching box for electric ignition

SIV-7 T₁ class stage fountain (5 m, 7,5 s.)



Outdoor Fireworks

- Music-synchronized large-scale fireworks creating captivating highlights for big outdoor spectacles
- Fireworks are configured and quoted on a project-specific basis
- Only available on a rental basis
- Depending upon the country and location different regulations and restrictions for transport and performance of fireworks may apply

Flame Walls on stage in the "Kingdom of Dreams", Gurgaon/India



High-altitude fireworks in combination with lasers





Sound is our passion

For more than 20 years, KLING & FREITAG has been producing professional top-of-the-line speaker systems and is among the top brands in the pro audio market. KLING & FREITAG SoundSystems stands for sound quality in all dimensions – from an intimate jazz concert to a mega event, from the opera house to the sports arena.

KLING & FREITAG SoundSystems is and will always be "Made in Germany" with our philosophy being defined by "German Engineering."

Klang ist unsere Leidenschaft

Seit über 20 Jahren fertigt KLING & FREITAG professionelle Lautsprechersysteme auf höchstem Niveau und zählt international zu den Top-Brands im Pro-Audio Markt. KLING & FREITAG SoundSystems steht für Klangqualität in allen Dimensionen - vom intimen Jazz-Konzert bis zum Mega-Event, vom Opernhaus bis zur Sportarena.

KLING & FREITAG SoundSystems ist und bleibt "Made in Germany". Diese Philosophie wird durch das "German Engineering" definiert.



K&F PASSIO

- Compact High Performance Loudspeaker 2 x 5" / 1"
- Regular directivity pattern of 70° x 60°
- Max. SPL 121,5 dB
- High directivity in relation to the size
- VariPoint® for the quick fastening of accessories

KF-PAS

K&F PASSIO



K&F GRAVIS 12 N/W

- Lightweight fullrange system 12" / 1,4"
- Coverage angles 65° x 50° or 90° x 50°
- 137 dB max SPL
- 35° and 55° monitor angles
- Good handling by low weight and ergonomic handles
- VariPoint® for the quick fastening of accessories

KF-GRA12N

K&F GRAVIS 12 N

KF-GRA12W

K&F GRAVIS 12 W



K&F NOMOS LS

- Light suspendable 1 x 15" Subwoofer
- Frequency range from 33 Hz (-10 dB)
- Very high maximum sound pressure of 128,5 dB (SPL peak / 1 m / full space)
- VariPoint® for the fast rigging

KF-NOMLS

K&F NOMOS LS



K&F SCENA 15

- Stage monitor 1 x 15" coaxial
- Coverage angles 50° x 70°
- 136 dB max SPL
- Low height of installation, adapted for camera takes and use on stage
- Covered connections in monitor mode
- Handling simplified by low weight, ergonomic handles and connector plate for distance rod

KF-SCE15

K&F SCENA 15



K&F SystemRack

- Remote control by K&F remote software
- High performance and high operational reliability
- K&F SystemRack is required for use of all ProRental speakers except K&F PASSIO

KF-RACK10

K&F SystemRack



K&F NOMOS XLC

- 3 x 18" High performance subwoofer for 2 channel operations
- Frequency range starting at 28 Hz (-10dB)
- Very high max. SPL of 140 dB (SPL peak / 1m / full space)
- Cardioid and/or hypercardioid directivity with high rear attenuation

KF-NOMXLC

K&F NOMOS XLC



K&F SEQUENZA 10 N/W

- Coverage angles 77° x 10° or 100° x 10°
- 146,5 dB max SPL (4 x SEQUENZA 10)
- FLC® technology, Snap&Fly and Waveguide patented

KF-SEQ10W K&F SEQUENZA 10 W
KF-SEQ10N K&F SEQUENZA 10 W



K&F SEQUENZA 10 B

- Frequency range starting at 33 Hz (-10dB)
- Very high max. SPL of 133 dB (SPL peak / 1m / full space)
- Optional cardioid and/or hypercardioid directivity with high rear attenuation with a cluster of three cabinets

KF-SEQ10B K&F SEQUENZA 10B



Example: K&F SEQUENZA 10 N/W/B & Flying Frame

All system components from KLING & FREITAG are conceived, developed and produced based on state-of-the-art quality standards. We accept no compromises in doing so, with only selected suppliers meeting our high standards. The exceptional value retention and long service life of KLING & FREITAG products guarantee high investment security.

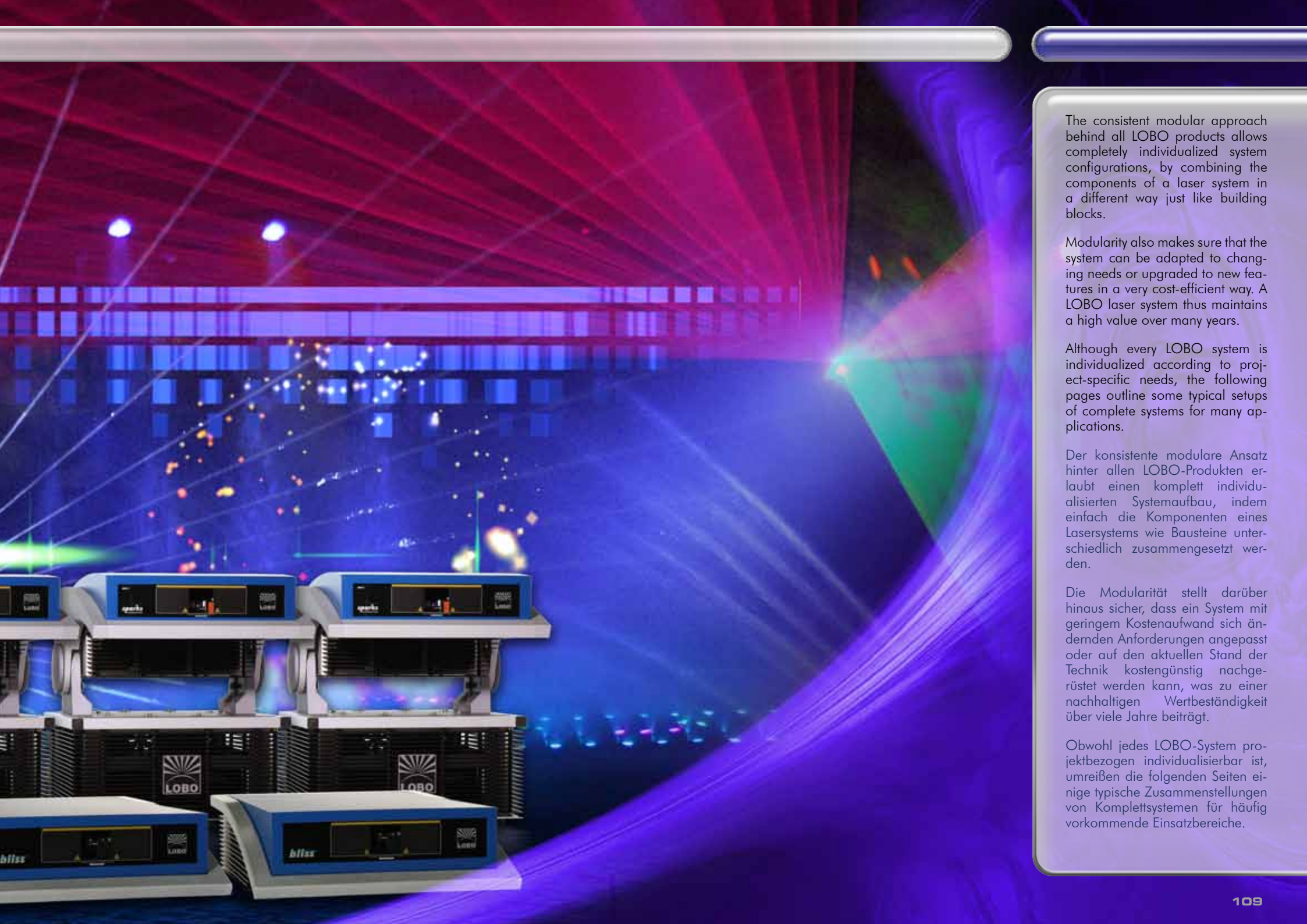
KLING & FREITAG consistently and continuously invests into innovation and quality. The common goal is clearly stated: Striving to make electro-acoustic possibilities that seem unthinkable today become reality. In doing so, our passion for music and pure sound experiences are the heart and soul of our mission.

Alle System-Komponenten von KLING & FREITAG werden aufwändig nach modernsten Qualitätsstandards geplant, entwickelt und gefertigt. Hierbei gibt es keine Kompromisse. Nur ausgesuchte Zulieferer entsprechen unseren hohen Anforderungen. Außergewöhnliche Wertstabilität und lange Nutzungsdauer der KLING & FREITAG Produkte gewährleisten eine hohe Investitionssicherheit.

Konsequent und kontinuierlich investiert KLING & FREITAG in Innovation und Qualität. Das gemeinsame Ziel ist klar formuliert: Heute noch unvorstellbare Möglichkeiten der Elektroakustik Wirklichkeit werden lassen. Dabei steht unsere Leidenschaft für die Musik und für das unverfälschte Klangerlebnis im Mittelpunkt.



An example for a laser system configuration.



The consistent modular approach behind all LOBO products allows completely individualized system configurations, by combining the components of a laser system in a different way just like building blocks.

Modularity also makes sure that the system can be adapted to changing needs or upgraded to new features in a very cost-efficient way. A LOBO laser system thus maintains a high value over many years.

Although every LOBO system is individualized according to project-specific needs, the following pages outline some typical setups of complete systems for many applications.

Der konsistente modulare Ansatz hinter allen LOBO-Produkten erlaubt einen komplett individualisierten Systemaufbau, indem einfach die Komponenten eines Lasersystems wie Bausteine unterschiedlich zusammengesetzt werden.

Die Modularität stellt darüber hinaus sicher, dass ein System mit geringem Kostenaufwand sich ändernden Anforderungen angepasst oder auf den aktuellen Stand der Technik kostengünstig nachgerüstet werden kann, was zu einer nachhaltigen Wertbeständigkeit über viele Jahre beiträgt.

Obwohl jedes LOBO-System projektbezogen individualisierbar ist, umreißen die folgenden Seiten einige typische Zusammenstellungen von Komplettsystemen für häufig vorkommende Einsatzbereiche.

Laser Truck®

LOBO's Laser Trucks® serve the demand for highly-mobile, large-scale laser systems. They are the optimal technical platform for major outdoor shows. Capsuled laser systems on shock-absorbing frames and the intelligent technical layout cut setup times and transportation costs to a minimum.

Laser Trucks® are configured individually using LOBO standard components and are based on containers, vans or trucks.

To ensure a maximum level of reliability for critical jobs, Laser Trucks® can be equipped with backup systems, air-conditioning and self-sufficient power supply options.

LOBOs Laser Trucks® bedienen die Nachfrage nach hoch mobilen Großlaseranlagen. Sie sind die optimale technische Plattform für große Outdoor-Shows. Schwingungsgedämpft gelagerte, gekapselte Lasersysteme und der intelligente technische Aufbau reduzieren Aufbauzeiten und Transportkosten auf ein Minimum.

Laser Trucks® werden auf Basis von LOBO-Standardkomponenten individuell konfiguriert und basieren auf Containern, Vans oder LKWs.

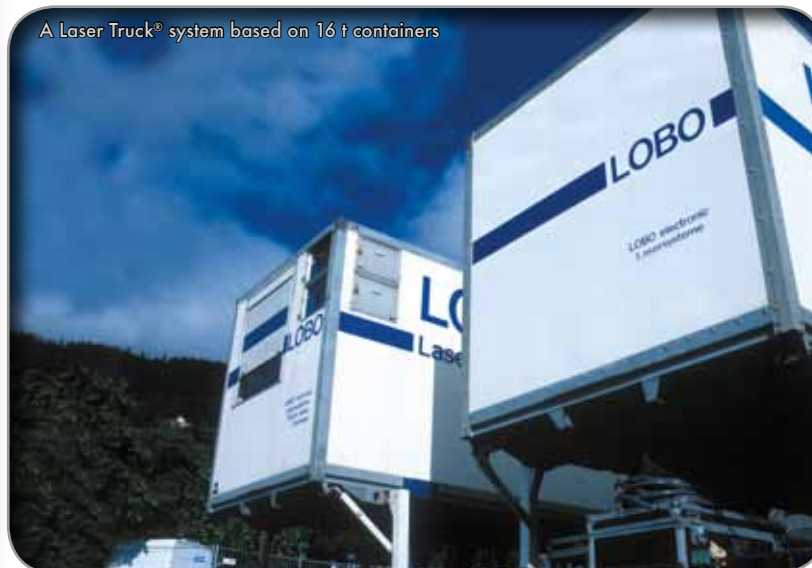
Für ein Maximum an Betriebssicherheit in kritischen Anwendungen können Laser Trucks® auf Wunsch mit Backup-Systemen, Vollklimatisierung und autarker Stromversorgung ausgestattet werden.



Laser Truck®

- Fully redundant Laser Truck® system based on two partially air-conditioned 16 t BDF containers with integrated control room, external connector field and two independent laser systems providing enough space for up to 2 sparks® PowerDecks with possible max. multi-color powers beyond 200 W and an effective overall brightness of more than 38000 W/m² for even most demanding outdoor projects
- Includes a LACON-5®-controlled laser system and a completely separately wired backup unit consisting of a second LACON-5® system
- The material container alternatively houses a ground support with conventional screens or a Water Screen® with water basin as well as a sound system

LTSS-200 Laser Truck®, dual-sparks® PowerDeck configuration



A Laser Truck® system based on 16 t containers



Laser Truck® Compact

- Laser Truck® Compact system based on an air-conditioned 10 ft container with integrated control room basing on the LOBO desk system, external connector field and a sparks® PowerDeck laser system with possible max. multi-color powers beyond 100 W and an effective overall brightness of more than 19000 W/m² for even most demanding outdoor projects
- Includes a MODULA-7® control system for fully automated operation
- Further expansion modules, mirror sets, fog machines, screens and sound systems are available on request as an option

LTCSS-100 Laser Truck® compact, sparks® PowerDeck configuration



The Laser Truck® compact bases on 11 ft containers



sparks® Systems

sparks® laser systems are made for extraordinarily demanding tasks, such as large-scale projections or 3D atmospheric beam effects in front of large audiences.

Solutions basing on the sparks® compact projector are more versatile and mobile, while the sparks® PowerDeck has been primarily designed to serve the needs for permanent installations, demanding for an extreme effective brightness or for individual optical setups.

These two examples show you an entry-level sparks® system on the basis of a compact projector, as well as a PowerDeck with a very advanced configuration.

Sparks®-Lasersysteme wurden für fordernde Aufgaben geschaffen, wie zum Beispiel Großprojektionen oder räumliche Strahleneffekte vor großem Publikum.

Lösungen auf der Basis des sparks® Kompaktprojektors sind flexibel und mobil, während das sparks® PowerDeck eher für Festinstallationen entwickelt worden ist, die nach einer extremen effektiven Helligkeit oder einem individuellen optischen Aufbau verlangen.

Die beiden Beispiele zeigen sowohl ein sparks®-Einstegersystem auf der Basis eines Kompaktprojektors, wie auch ein PowerDeck einer eher höheren Ausbaustufe.



Example: MODULA® Multi-color Set
(typ. brightness ³ 1714 W/m²)

- Ready-to-use, air-cooled, analog, multi-color laser system with playback controller and RGB sparks® projector featuring PCS for an unsurpassed effective laser brightness
- Ideal for multi-purpose applications, e.g. for concerts, discotheques, laser advertisement, theaters and exhibitions
- Allows the playback of high-quality laser animations and beam shows
- ProLine software, expansion modules (e.g. for DMX-control, graphics creation, live operation, SMS-to-laser, Timecode-control,...) mirror sets, fog machines and screens are available as an option

• Control System:	1x MODULA-5®	digital laser controller
	1x M5-SWB	basic software package
• Laser Projector:	1x SGP-3	sparks® design projector housing
	1x SBR-3	sparks® design base rack
	1x AMP-5/A	high-speed scanning unit (analog)
	1x KOL-3	collimator set
	4x BS-50	beam splitting unit
	1x LMX-3	sparks® Laser Array Manager
	1x OP-1LOR2	red sparks®-laser module (typ. brightness*: 986 W/m²)
	1x OP-1LOG4	green sparks®-laser module (typ. brightness*: 408 W/m²)
	1x OP-1LOB2	blue sparks®-laser module (typ. brightness*: 320 W/m²)

SMS-8RGB/AM sparks® RGB-system, MODULA-5® controller

If you already own a laser control system, the same projector is certainly available with an ILDA standard connector without a control system:

SMS-8RGB/A sparks® RGB-projector without controller (ILDA port)



Example: Complete Dual-Head RRYGGCBCB System
(typ. brightness ³ 19004 W/m²)

- Ready-to-use, air-cooled, digital, multi-color laser system with LACON-5® multimedia workstation and RRYGGCBCB sparks® PowerDeck projector, featuring PCS for an unsurpassed effective laser brightness and DDL-2® for status monitoring (e.g. current, actual laser power, head temperature, operating hours...) and the remote configuration of the system on the LACON-5® monitor
- Ideal for extraordinarily demanding projects, e.g. projections on large buildings, mountains or atmospheric beam effects at outdoor concerts, stadiums,...
- Provides a convenient show creation environment for creating high-quality laser animations, beam shows and sophisticated multimedia performances
- Further expansion modules, mirror sets, fog machines and screens are available as an option

• Control System:	1x LACON-5®	laser and multimedia workstation
	1x L5-SWP	ProLine software package
	1x L5-D	Output Extension for one further projector
• Laser Projector:	1x SPD-8	sparks® PowerDeck
	2x DS-3010/S	sparks® base rack
	2x AMP-6	high-speed scanning unit (digital)
	2x KOL-5	collimator set
	10x BS-50	beam splitting unit
	4x LMX-3	sparks® Laser Array Manager
	2x OP-1LOR8	red sparks®-laser module (typ. brightness*: 4274 W/m²)
	2x OP-1LOY10	yellow sparks®-laser module (typ. brightness*: 1804 W/m²)
	2x OP-1LOG15	green sparks®-laser module (typ. brightness*: 1703 W/m²)
	2x OP-1LOCB11	cyan/blue sparks®-laser module (typ. brightness*: 1721 W/m²)

SMS-88RRYGGCBCB/L sparks® RRYGGCBCB-system, DDL-2®, LACON-5®

If you already own a laser control system, the same system is certainly available in an analog version with AMP-5/A, an ILDA standard connector, without DDL-2® and without a control system:

SMS-88RRYGGCBCB/A sparks® RRYGGCBCB-system without controller (ILDA port)

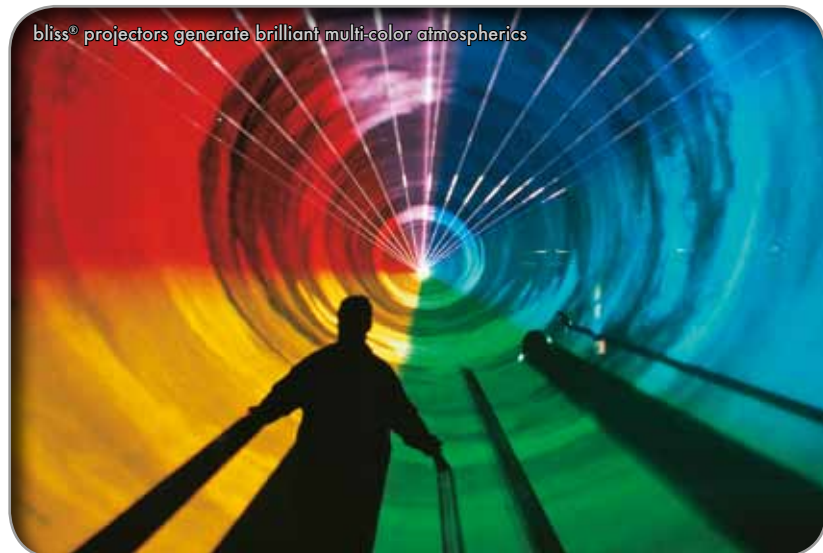


Example: bliss®-XT Configuration

- Compact, multi-color laser projector, digital version (color spectrum 445 – 642 nm) with diode laser module with a max. output power of 2,35 W and a typical brightness (ELB200) of 328 W/m²
- Control System:

1x MODULA-5®	digital laser controller
1x M5-SWP	ProLine Software Package
1x M5-D	Digital Output Extension
- Laser Projector: 1x XT-3RGB
bliss®-XT Compact Laser Projector, ELB₂₀₀: 328 W/m², max. 2,35 W

BXTS-3/D digital projector with bliss® XT-3RGB



bliss® projectors generate brilliant multi-color atmospherics



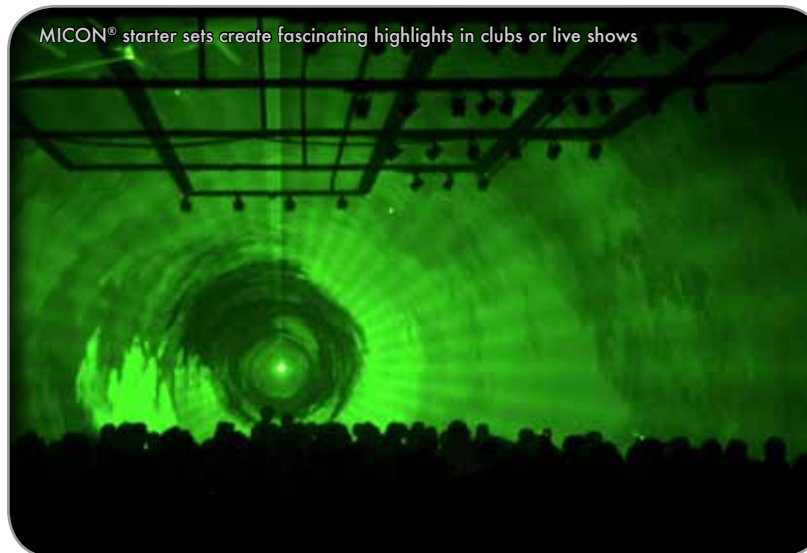
Example: MICON® Monochrome Starter Set

- Ready-to-use monochrome (green) basic laser system with a MICON® live effect controller
- Ideal for live concerts, small clubs and mobile applications up to outdoor events using the 3 W version
- Allows the manual or automated creation of graphics, mirror effects or atmospheric 3D beam effects to any given music by means of two included MIDI keyboards
- Consists of a MICON® live effect controller with two MIDI keyboards as well as a projector housing with scanning system and integrated diode-pumped long-life solid-state laser (532 nm / green) with brightness modulation
- ProLine software with DMX-control, mirror sets, fog machines and screens are available as an option

MIMS-5 MICON® Starter Set, max. laser power 3,0 W (monochrome solid-state laser)

MIMS-4 MICON® Starter Set, max. laser power 1,4 W (monochrome solid-state laser)

MIMS-2 MICON® Starter Set, max. laser power 0,8 W (monochrome solid-state laser)



MICON® starter sets create fascinating highlights in clubs or live shows

Compact Systems

When it comes to compact road systems and solutions for smaller to medium-sized indoor venues, the bliss® series is the perfect choice. It combines compact dimensions with an astonishing effective brightness and many features, so far only known by the significantly more expensive sparks® series.

Systems using monochrome green diode-pumped solid-state (DPSS) are even more affordable and have become very popular not just because of their attractive price, but also as the typical wavelength of 532 nm is very close to the maximum sensitivity of the human eye. This makes these systems perfect for mobile applications, small clubs or concerts.

Wer ein kompaktes Mobilsystem und Lösungen für Indoor-Anwendungen kleinerer bis mittlerer Größe sucht, für den ist die bliss®-Serie die erste Wahl. Sie verbindet kompakte Abmaße mit einer erstaunlich hohen effektiven Helligkeit und bietet viele Ausstattungsmerkmale, die man bis dato nur von der wesentlich teureren sparks®-Serie kannte.

Systeme auf der Basis monochromer, grüner Festkörperlaser (DPSS) sind noch einmal etwas günstiger und erfreuen sich nicht allein wegen ihres Preises größter Beliebtheit, sondern auch aufgrund der Tatsache, dass die maximale spektrale Empfindlichkeit des menschlichen Auges sehr nah an der für diese Laser typischen Wellenlänge von 532 nm liegt.

Awards:

134 x ILDA Award, USA

Awarded by the International Laser Display Association for outstanding creative and technical achievements

LDI Award, USA

"Laser Show of the Year"

Reddot Design Award

iF Product Design Award

VR InnovationsPreis Mittelstand

Rudolf-Eberle Innovation Award

The Innovation Award of the State

2 x Innovation Award, Ostwürttemberg

Internationaler Showpreis

Golden Eye Award, Belgium

"Best Multimedia Technology"

TiLE Award of Excellence, France

"New Product"

SIB / SILB Award, Italy

"Show of the Year"

Pepsi Award, Italy

"Laser Show of the Year"



LOBO is certified as a

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Lasershow Company

COHERENT Premium Certified
Integrator

LOBO is member of:

ILDA
International Laser Display Association

IAAPA
International Association of Amusement
Parks and Attractions

PHOTONICS BW e.V.

VPLT
Verband für professionelle Licht- und
Tontechnik e.V.

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¹⁾ Prof. Dr. Hermann Simon: "Die heimlichen Gewinner - Die Erfolgsstrategien unbekannter Weltmarktführer", p. 44, Frankfurt/New York, first edition, Campus Verlag, 1996

Prof. Dr. Hermann Simon: "Hidden Champions des 21. Jahrhunderts - Die Erfolgsstrategien unbekannter Weltmarktführer", p. 339, Frankfurt/New York, Campus Verlag, 2007

²⁾ Prof. Dr. Dr. Eckbert Hering, Prof. Dr. Holger Held: "Erfolgreich selbständig im Ostalbkreis", p. 60 ff, Aalen, Hochschule Aalen Eigenverlag, 2007

³⁾ The calculations have been effected on the basis of the ELB formula (see page 55) and the specifications published on the web-sites of the respective manufacturers at the date of printing (January 2012)

⁴⁾ For further details about awards won by LOBO, please refer to page 114.
A detailed list of all ILDA Awards winners can be found on ILDA's official website "www.laserist.org".

¹⁾ Prof. Dr. Hermann Simon: "Die heimlichen Gewinner - Die Erfolgsstrategien unbekannter Weltmarktführer", S. 44, Frankfurt/New York, Erstauflage, Campus Verlag, 1996

Prof. Dr. Hermann Simon: "Hidden Champions des 21. Jahrhunderts - Die Erfolgsstrategien unbekannter Weltmarktführer", S. 339, Frankfurt/New York, Campus Verlag, 2007

²⁾ Prof. Dr. Dr. Eckbert Hering, Prof. Dr. Holger Held: "Erfolgreich selbständig im Ostalbkreis", S. 60 ff, Aalen, Hochschule Aalen Eigenverlag, 2007

³⁾ Die Berechnungen erfolgten mit der ELB-Formel (s. Seite 55) und den im Internet publizierten Spezifikationen der entsprechenden Hersteller bei Druckerlegung (Januar 2012) LOBO übernimmt keinerlei Gewähr für die Richtigkeit dieser Spezifikationen.

⁴⁾ Weitere Details über Auszeichnungen, die LOBO erhalten hat, erhalten Sie auf Seite 114.
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