

projectiondesign as
medical imaging
projectors

DICOM simulation
portrait and landscape orientation
up to 2.3 MPix
up to five years warranty



high performance projectors

projectiondesign is located in Fredrikstad, Norway, a center in the projection industry since the mid 80's. We are dedicated to designing, manufacturing and marketing a wide range of high performance projectors for various challenging applications. The entire range of products is specially conceived to provide a better price to performance ratio than any competing offering in our target markets. Our dedicated in-house scientists and engineers have life long experience in complete electronic, optical, mechanical and system design of high performance projectors. The approach to integrated product design and manufacture in house assures the best attention to detail and quality. All products are designed in close cooperation with our customers in order to assure the best functionality according to the actual requirements.

philosophy

projectiondesign designs and manufactures high performance projectors for professional and residential applications. Our products are used in high profile installations where performance and reliability are key aspects of the presentation, and we understand the impact a high performance display solution makes in business decisions and demanding applications. In order to meet our clients' requirements, projectiondesign always seeks to offer the best performance for any single installation by providing the best possible fit for any one product. This must be seen in relation to the rapid development of display technologies over the past few years and decades. We seek to offer users of our products the benefit of this change for the better at a minimal cost. All projectiondesign projectors are built to order. By doing so, we guarantee that the latest software and hardware will be in any one product shipped, eliminating the occurrence of receiving a projector that has been sitting on a shelf for months, where new projectors in the same model range ultimately have had upgrades to its performance in the mean time.

achievements

projectiondesign was founded in 2001, and has achieved a tremendous amount of industry firsts. Our first product was the F1 SXGA, a product that shook the entire AV industry. The brightest single chip DLP projector ever at the time, it was also the first to use the high resolution SXGA (1280 x 1024) DMD™ (Digital Micromirror Device™). It was unmatched in the market for more than three years, when a competing product appeared with a similar specification. At InfoComm 2003, we again showed the brightest ever single chip DLP projector, at 4500 ANSI lumens, and with SXGA resolution. At the CEDIA Expo in September 2005, projectiondesign world premiered 1080p resolution DLP technology. In 2008, the revolutionary Active 3D Stereoscopic F10 AS3D was presented. A complete rethinking of active 3D stereoscopic imaging, it is revolutionary in every way, from the small size, to compatibility, and through to performance. Our 2009/2010 product offering further includes the most comprehensive range of compact 1080p DLP projectors, as well as the first commercially available, and fully configurable LED illumination based projector in the cineo32 LED and FL32 series of projectors.

The Philips Medical Ambient Experience uses projectiondesign projectors not only for medical imaging, but also to create an atmosphere and relaxing environments for patients – an atmosphere that results in better health. Pictures © Philips Medical.



medical series projectors

medical imaging applications

Applications span as wide as radiology, including X-ray and MRI, endoscopy, thermography, medical photography, and microscopy, as well as lecturing and conferencing, training and telepresence.

Commonly referred to as PACS (Picture Archiving and Communications System), images are stored in independent formats on servers and in central databases that are closely linked to patient information. As all imaging is stored digitally, there is no need for hard copies, and the result is a much improved and efficient workflow. Common to all applications and uses is the incredible attention to accuracy of imaging. With minute detail and a wealth of information available, only the most accurate of displays can be safely used for training and diagnostics.

unique features

DICOM compliant projectors

In medical applications, highly accurate image representation is a prerequisite. projectiondesign medical projectors are designed to provide the most accurate imaging possible using Texas Instruments® DLP® technology.

Thanks to pre-programmed DICOM simulations settings, DICOM compliant viewing is easy to access. Accuracy to the DICOM curve is guaranteed, as this optimization is done inside the projectors image processor. Users can choose from DICOM Clear Base, DICOM Blue Base, DICOM Full White. These settings allow the user to work with the same settings on the projected image, as on monitors.

Portrait/landscape option

Users can choose for a portrait or landscape mounting in part of the projector program that projectiondesign offer. This unique feature allows for an optimal use of the available projectors resolution, and give a perfect match between the projector's and the display's orientation.

RealColor

RealColor is projectiondesign's unique implementation of colour management, and it has been developed specifically with medical imaging in mind. RealColor simplifies calibration and colour matching between projectors, and gives full control of white point and grey scale tracking accuracy. An extremely efficient image processor calculates correct grey scale tracking from white through black, by interpolating the desired settings from the white point all the way down to black. Grey scale will, as such, carry the same colour through all shades of grey, and linearly follow the desired setting. This makes for truly unique grayscale images with 1024 discrete steps.

The requirements for access to information between healthcare providers and patient are ever increasing, and sharing of PACS data dictates a need and requirement for large screens with DICOM compliant display of images.



the projectiondesign medical series of projectors

projectiondesign's medical projector series is specially tailored and calibrated to meet or exceed standards for various medical imaging applications and uses.

The term medical imaging is widely used, and refers to all processes and techniques used to create, visualize, and display parts of the human body as a means for clinical or scientific purposes. Strict requirements to properly display such imagery are commonly accepted through various standards, such as DICOM (Digital Imaging & Communications in Medicine).

colour matching

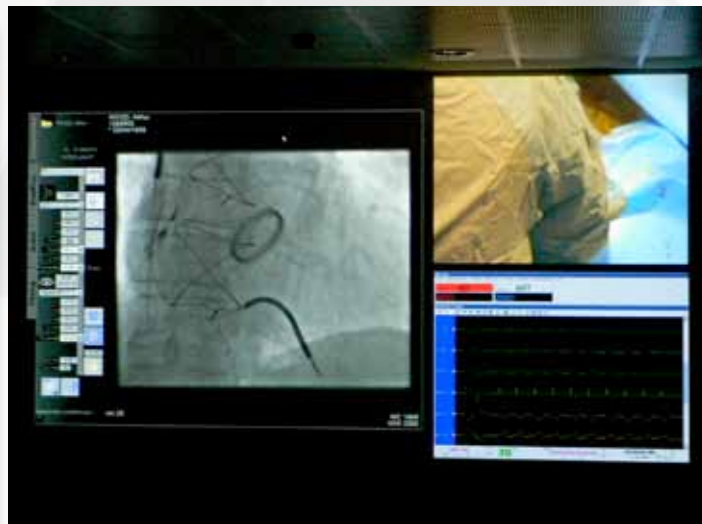
Optical colour matching is available with all our professional series projectors. When two or more colour matched projectors are specified, we make sure that lamps and optics are within close range of each other chromatically. That means that measured and visible colour coordinates are matched, so that projectors can be set up side by side and appear entirely similar. Colour matched projectors rely only on fine tuning with RealColor colour management.

references

More than 1000 projectiondesign projectors are installed in medical imaging environments throughout the world. In hospitals, training centers, conference facilities and the like.

qualified dealer network

projectiondesign medical projectors are available through a qualified network of resellers in order to ensure the best possible support and performance.



medical series projectors



F22 sx+ Medical



F22 wuxga Medical



F12 sx+ Medical

model

description

technology	single chip DLP® technology with BrilliantColor™	single chip DLP® technology with BrilliantColor™	single chip DLP® technology with BrilliantColor™
concept	small size professional projector with lens shift for medical scientific visualisation and simulation	small sized professional projector with lens shift for medical scientific visualisation and simulation	high contrast, fixed offset professional projector for medical scientific visualisation and simulation
resolution (native)	1400 x 1050	1920 x 1200	1400 x 1050
input resolution (max)	1920 x 1200	1920 x 1200	1920 x 1200
aspect ratio	4 : 3	16 : 10	4 : 3
colour wheel options	VizSim	VizSim	VizSim
brightness	1600	1400	2000
pre set DICOM calibrations	Clearbase, Bluebase, Full White	Clearbase, Bluebase, Full White	Clearbase, Bluebase, Full White
contrast ratio	up to 2500:1	up to 2500:1	up to 3000 : 1
orientation	portrait/landscape	portrait/landscape	landscape

optics, lenses, and lamps

ultra wide angle lens	0.80 : 1	0.74 : 1	–
wide angle lens	1.0 : 1	0.92 : 1	1.03 : 1
wide angle zoom lens	–	–	–
standard zoom lens	1.73 – 2.39:1	1.60 – 2.21 : 1	1.70 – 2.20 : 1
short tele zoom lens	2.70 – 4.20 : 1	2.5 – 3.90 : 1	–
long tele zoom lens	–	–	–
lens operation	manual zoom and focus, vertical lens shift	manual zoom and focus, vertical lens shift	manual zoom and focus
lens shift / offset	vertical: 10 - 110% with zoom lenses, 0 - 80% with wide angle lenses	vertical: 10 - 104% with zoom lenses, 0 - 80% with wide angle lenses	vertical 109% fixed
lamp options	220W VIDI UHP™	220W VIDI UHP™	300W VIDI UHP™
lamp life full power / eco (typical)	2250 / 3000 hrs	2250 / 3000 hrs	2250 / 3000

inputs and connectors

computer connectivity	HDMI, DVI-I, VGA	HDMI, DVI-I, VGA	HDMI, DVI-D, 2x VGA
video connectivity	HDMI 1.3, component, S-Video, composite	HDMI 1.3, component, S-Video, composite	HDMI 1.3, component, S-Video, composite
HD-SDI	–	–	–
control	TCP/IP , RS232, 1x 12V trigger, RC	TCP/IP , RS232, 1x 12V trigger, RC	TCP/IP , RS232, 1x 12V trigger, RC
XPort™ expandable I/O	–	–	–
ProNet compatible	yes	yes	yes

general

weight	about 3.0 kg	about 3.0 kg	about 3.5 kg
dimensions in mm (d w h)	234 x 278 x 94	234 x 278 x 94	268 x 300 x 104
standard limited warranty	2 years	2 years	2 years
24 / 7 operation coverage (conditions apply)	yes	yes	yes
optional extended warranty (conditions apply)	up to 3 years extended (total warranty period 5 years)	up to 3 years extended (total warranty period 5 years)	up to 3 years extended (total warranty period 5 years)
lamp warranty	500 hours or 90 days, whichever comes first	500 hours or 90 days, whichever comes first	500 hours or 90 days, whichever comes first
availability	now	now	tba.



F12 wuxga Medical

F32 sx+ Medical

F32 wuxga Medical

FL32 wuxga Medical

single chip DLP® technology with BrilliantColor™	single chip, dual lamp DLP® technology with BrilliantColor™	single chip, dual lamp DLP® technology with BrilliantColor™	single chip DLP® projector with ReaLED™ LED illumination technology
high contrast, fixed offset professional projector for medical scientific visualisation and simulation	fail safe high resolution professional projector with full lens shift for medical scientific visualisation and simulation	fail safe high resolution professional projector with full lens shift for medical scientific visualisation and simulation	LED based high resolution projector for 24/7 operation, or highly accurate colour displays
1920 x 1200	1400 x 1050	1920 x 1200	1920 x 1200
1920 x 1200	1920 x 1200	1920 x 1200	1920 x 1200
16:10	4 : 3	16:10	16:10
VizSim	VizSim / Graphics / High Brightness	VizSim / Graphics / High Brightness	user selectable profiles: VizSim, High Brightness
1800	3100 / 4100 / 6100	2900 / 3800 / 5700	>750
Clearbase, Bluebase, Full White	Clearbase, Bluebase, Full White	Clearbase, Bluebase, Full White	Clearbase, Bluebase, Full White
up to 3000 : 1	up to 7500 : 1	up to 7500 : 1	infinite when input level is zero, up to 7500 : 1 corrected
landscape	landscape	landscape	portrait/landscape
–	0.84 : 1	0.79 : 1	0.79 : 1
0.95:1	1.25 : 1	1.16 : 1	1.16 : 1
–	1.34 – 1.74 : 1	1.24 – 1.60 : 1	1.24 – 1.60 : 1
1.6 – 2.0 : 1	1.74 – 2.51 : 1	1.60 – 2.32 : 1	1.60 – 2.32 : 1
–	2.56 – 4.10 : 1	2.37 – 3.79 : 1	2.37 – 3.79 : 1
–	4.10 – 7.10 : 1	3.80 – 6.50 : 1	3.80 – 6.50 : 1
manual zoom and focus	motorized zoom and focus, vertical and horizontal shift	motorized zoom and focus, vertical and horizontal shift	motorized zoom and focus, vertical and horizontal shift
vertical: 110% or 118% fixed	vertical: ± 110% horizontal: ± 90%	vertical: ± 117% horizontal: ± 84%	vertical: ± 117% horizontal: ± 84%
300W VIDI UHP™	300W VIDI UHP™ (2x)	300W VIDI UHP™ (2x)	ReaLED™ illumination with PhlatLight LEDs
2250 / 3000	2000 / 2500 (5000 in relay mode) hrs	2000 / 2500 (5000 in relay mode) hrs	up to 100.000 hours (typical expected)
HDMI, DVI-D, 2x VGA	HDMI, DVI-D, VGA, BNC	HDMI, DVI-D, VGA, BNC	HDMI, DVI-D, VGA, BNC
HDMI 1.3, component, S-Video, composite	HDMI 1.3, component, S-video, composite	HDMI 1.3, component, S-video, composite	HDMI 1.3, component, S-video, composite
–	optional	optional	optional
TCP/IP, RS232, 1x 12V trigger, RC	TCP/IP, RS232, 2x 12V trigger, RC	TCP/IP, RS232, 2x 12V trigger, RC	TCP/IP, RS232, 2x 12V trigger, RC
–	yes, 2x	yes, 2x	yes, 2x
yes	yes	yes	yes
about 3.5 kg	about 12.6 kg (excluding lens)	about 12.6 kg (excluding lens)	about 12.6 kg (excluding lens)
268 x 300 x 104	603 x 505 x 250	603 x 505 x 250	603 x 505 x 250
2 years	2 years	2 years	2 years
yes	yes	yes	yes
up to 3 years extended (total warranty period 5 years)	up to 3 years extended (total warranty period 5 years)	up to 3 years extended (total warranty period 5 years)	up to 3 years extended (total warranty period 5 years)
500 hours or 90 days, whichever comes first	500 hours or 90 days, whichever comes first	500 hours or 90 days, whichever comes first	n/a (follows product warranty)
tba.	tba.	tba.	tba.

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