projectiondesign®
HIGH PERFORMANCE PROJECTORS

professional projector series

F20 sx+

- SXGA+ resolution
- up to 3300 ANSI lumens
- RealColor technology
- 24/7 operation guarantee

DLP
TEXAS INSTRUMENTS

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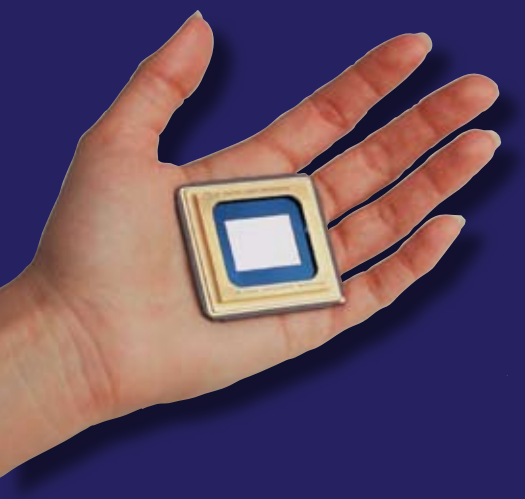
F20 sx+ professional grade DLP™ projector

The F20 sx+ professional grade DLP™ projector has been developed to meet requirements in graphically challenging applications, but at a fraction of the cost of competitors' offerings. Its features include SXGA+ (1400 x 1050) DLP™ technology, our revolutionary RealColor colour management suite, Texas Instruments® BrilliantColor™ technology, and three optional lenses. Its small size and ability to fit in a number of applications, combined with it's unique 24/7 guarantee, makes it ideal for a wide range of professional applications.



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SXGA+ resolution

The projectiondesign F20 sx+ features SXGA+ resolution at 1400 x 1050 pixels. Offering 87% resolution increase over XGA, and 12% over SXGA, SXGA+ offers brilliantly detailed imaging, detailing images standard projectors can never resolve. In simulators and visualisation systems, as well as for medical imaging purposes, SXGA+ ensures more detailed and natural images than any other resolution.

DLP™ technology – chosen for reliability

At the core of the F20 sx+ lies DLP™ technology from Texas Instruments®. It has been chosen for it's unique combination of image quality – high brightness and contrast, and natural colours – compact system size possibilities, and most importantly, its unmatched reliability. Thorough, independent testing has proven DLP™ technology to be the most reliable of all microdisplays. Inorganic by design, it does not degrade when subjected to UV light, inherent in all projectors. Unlike competing technologies, showing severe image quality degradation after only a few thousand hours, DLP™ technology remains constant over hundreds of thousands of hours.

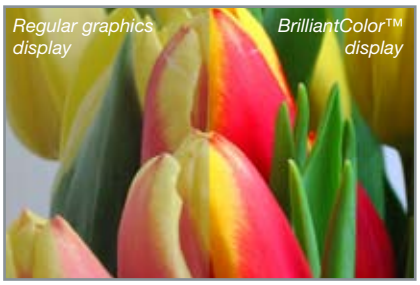
RealColor realises seamless matching

REALCOLOR

Each F20 sx+ projector is uniquely characterised and calibrated during the last stages of its manufacture. Unique optical performance values are recorded and matched to the electronics processing in order to secure perfect on-site calibration. With RealColor, it is possible to match any number of projectors, and ensure they all project the same primaries and grey scale, without going through a very complicated process.

BrilliantColor™ changes what you see

A new innovation from Texas Instruments®, BrilliantColor™ is revolutionary in the way colours are processed and displayed. While increasing brightness over competing technologies, BrilliantColor™ dramatically increases colour saturation and gamut, and really needs to be seen. With strong saturation in yellows, cyans and magentas, colours commonly found in natural scenes, and very little contamination between colours, image quality is dramatically increased over any other technology.



High brightness – and configurable

Featuring up to 3300 ANSI lumens, the F20 sx+ features enough brightness for virtually any installation. With several optional configurations, it can be set to display any brightness desired, and for instance optimised for more saturated colours and video instead of computer graphics.

Precision projection lens optics

Designed purely with High Quality low dispersion glass, a range of three projection lenses are available; a standard zoom lens, a flexible 1:1 wide angle lens, and an ultra wide angle with optical pincushion/barrel adjustemt, designed for rear projection applications and special requirements. Both wide angle lenses feature as low as <0.5 pixels optical distortion.

24/7 operation guaranteed

All our professional projectors are offered with a limited 24/7 operation guarantee. Applicable to process control rooms and heavy duty applications where reliability is key, this is where projectiondesign makes a difference.

Simple service – simple lamp replacement

Replacing the lamp is done directly from the front of the projector, and unlike most competitors, the F20 sx+ does not need to be unmounted when replacing it. The front panel comes off, so mechanical and optical adjustments are left intact This is particularly important in installations where accuracy in installation is key.

Lamp replacement door

Small size and light weight

The F20 sx+ has been designed to be as small and light as possible. With low unsprung weight, it fits into motion platform simulators without having to take special notice of mounting hardware to cope with high forces during operation. Its light component weight ensures there is little stress internally, and this further enhances the F20 sx+'s mode of operation.

Security and network manageable

Fully networkable, most projector settings and features can be set through the built-in web page, thus allowing remote asset management. Like the TCP/IP interface, the projector itself features a PIN (Personal Identification Number) lock, so that unauthorised users cannot take advantage of it, thus preventing theft.

Fully customisable

Like with all our professional projectors, we offer a range of customisation options, for instance different colour wheels, specially designed for various applications, such as graphics visualisation and simulation, presentation, medical imaging, and public display purposes.

Built-in Real Time Clock and timer

The built-in real time clock and timer enables the F20 sx+ to be programmed to perform any desired operation at any one time. Examples include automatic switching on and off or switching between various sources at set intervals. Up to 10 different programmes can be stored individually.

actual installation, Switzerland, courtesy of BeMore

actual installation, Germany, courtesy of Frauenhofer Institute

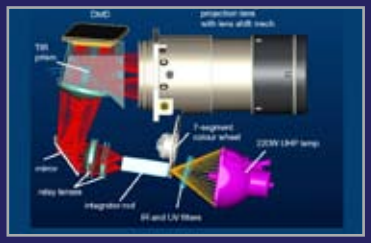
Key features

The ultra wide angle 0.8 : 1 rear projection lens features built-in optical pincushion/barrel adjustment, as well as a mechanical focus lock.

Vertical lens shift makes installations easy, and allows a direct, on-axis rear projection setup with the optional 0.8:1 and 1:1 wide angle lenses.

Unique UniBoard™ video processing incorporating Faroudja® technology ensures professional video quality.

The F20 sx+ can display portrait images in for instance medical and desktop publishing installations without lamp life degradation.



The proprietary folded optical path enables an incredibly small projector that can placed in portrait mode without affecting reliability.

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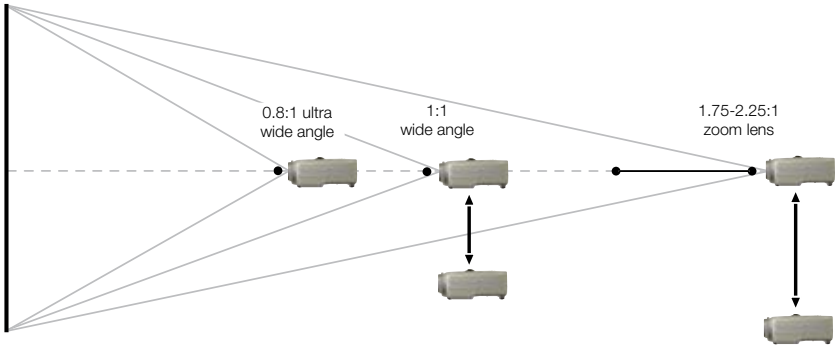
technical specifications		F20 sx+
projector		SXGA+ DLP™ digital projector
display	technology	single chip LVDS DMD™ with DarkChip3™
	concept	sealed, all-glass lens shift optical design
	resolution	1400 x 1050 pixels
	brightness	up to 3300 ANSI lumens
	contrast ratio	up to 2500 : 1 (on/off)
	aspect ratio	4 : 3, 5 : 4 and 16 : 9 compatible
	displayable colours	24-bit colour resolution
	image processing latency	~ 1 input frame on graphics port
compatibility	computer	UXGA, SXGA+, SXGA, XGA, SVGA, VGA
		1920 x 1080 - 640 x 480 pixel resolution
		RGBHV, RGBS, RGsB
	horizontal scan frequency	15 - 150 kHz
	vertical scan frequency	48 - 190 Hz
	video	HDTV (1080i, 720p, 576i/p, 480i/p)
		NTSC 3.56/4.43, PAL BGHI, M, N, SECAM
	bandwidth	205 MHz on analog RGB
		165 MHz on digital RGB over DVI
optics and lamp	zoom lens	1.78 - 2.23 : 1 (distance : width)
	image size (diagonal)	0.85 - 7.0 m
	focusing distance	1.5 - 10 m
	optical lens shift	0 - 100% (customizable to 110%)
	wide angle lens	1.00 : 1 (distance : width)
	image size (diagonal)	1.25 - 12.5 m
	focusing distance	1.0 - 10 m
	optical lens shift	0 - 80% (designed for on-axis projection)
	ultra wide angle lens	0.82 : 1 (distance : width)
	image size (diagonal)	0.875 – 8.75 m
	focusing distance	0.7 – 7 m
	optical lens shift	n/a (on axis only)
	colour wheel options	RGBCMY – visualisation and simulation
		RGBCYW – graphics display
		RGBCW – high brightness display
	lamp	170 – 220W UHP™, continuously adjustable
	lamp life	3000 / 2250 hours (eco / full power)

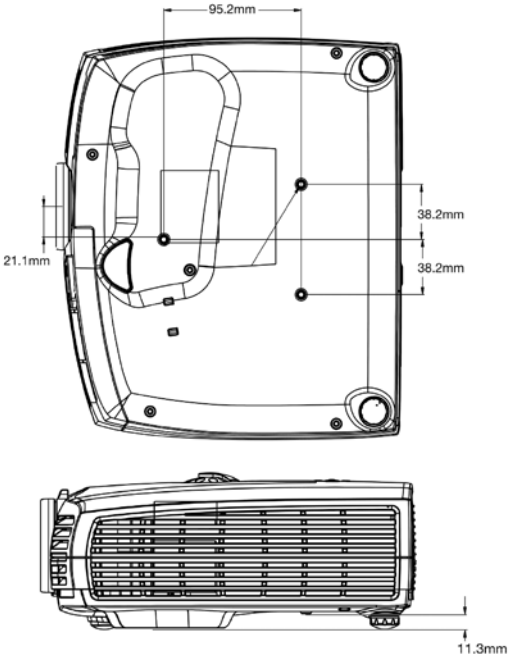
connectivity	computer	1x DVI-D digital RGB
		1x 15 pin HDDSUB analog RGB
	video inputs	1x DVI-D (HDCP) digital RGB, shared w/ computer
		3x RCA component YUV
		1x 4-pin mini DIN S-video Y/C
		1x RCA composite video
	audio inputs	1x 3.5 mm stereo mini jack
	control and communication	1x RJ45 TCP/IP network port
		1x RS232 9-pin DSUB
		1x USB mouse control & firmware upgrade
		2x IR receivers (front / back)
	speaker	1x 2W speaker
supplied accessories	cables	2m DVI-D cable
		2m VGA cable, 15pin HDDSUB
		2m USB cable
		2m A/V cable, 3x RCA - 1x RCA + 3.5 mm mini jack
		2m stereo audio cable, 3.5mm mini jack
		4m power cord (country dependant)
	other	backlit IR remote control
general	operating noise level (typ)	24 dB (A) at 20ºC/ 68ºF, sea level
	dimensions (dwh)	234 x 278 x 94 mm (9.2" x 10.9" x 3.7")
	weight	2.980 g / 6.0 lbs
	timer	built-in real time clock with ten program options
	security	4-digit PIN code, Kensington lock
	power requirements	100 – 240 VAC, 50/60 Hz, +/- 10%
		350W power consumption
	conformances	CE, CSA "C/US", FCC Class A, CCC
	operating temperature	0 – 40ºC / 32 – 104ºF, 0 – 1500 m
		0 – 35ºC / 32 – 95ºF, 1500 – 3000 m
	operating humidity	20 – 90% RH
	storage conditions	20 – 90% RH
	available colour	black metallic
	warranties	2 years, 500 hours or 90 days on lamp
		optional 3-year warranty, special conditions apply

Optical lens shift



Three lens options, including a 0.8:1 ultra wide angle, a 1:1 standard wide angle, and a 1.75-2.25:1 zoom lens with full lens shift accomodates easy and flexible installation, including direct on-axis rear projection.

Standardised bolt-on ceiling mount interface



Available versions

Projection Lens / Colour Wheel	0.8 : 1 (ultra wide angle)	1.0 : 1 (wide angle)	1.75 - 2.25 : 1 (standard zoom)
RGBCMY (viz & sim)	101-0202-xx	101-0195-xx	101-0194-xx
RGBCYW (graphics)	101-0203-xx	101-0200-xx	101-0198-xx
RGBCW (high bright)	101-0204-xx	101-0201-xx	101-0199-xx
Available colours: black metallic -08 (standard), vanquish grey -07 (option), pearl white -05 (option)			

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