



WD390U-EST

Transforming Education Projection

Revolutionary ultrashort-throw thin-client projector

Easy to Use Anytime, Anywhere...

Introducing the latest model of ultrashort-throw lens mobile projectors in the Mitsubishi Electric line-up, the WD390U-EST. Boasting bright 3000lm illumination and capable of projecting an 80-inch image at a distance of less than 26 inches from the screen, this revolutionary projector reproduces clear, large-screen images even in the tightest of spaces. Connecting to a cloud computing service using the WD390U-EST as a thin client terminal allows users to log-in to a computer or server from the classroom. This eliminates the need to carry around data and enables simple, no-fuss projection. Used with a tablet incorporating the SidePad function or Wifi Doc, it is possible to expand the breadth of classroom

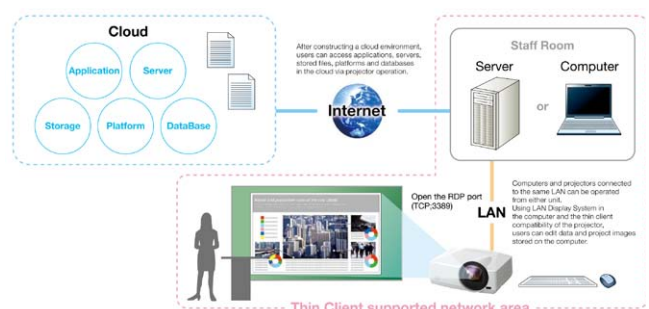
communications even further. Mitsubishi Electric is helping to realize maximum potential by responding to users' needs.

Reasons for Adopting a Direct-throw Projector

As the name suggests, direct-throw projectors project images directly onto the screen, providing a better sense of focus than models that use mirror projection systems. Additionally, they do not need to be installed and are easy to carry around.

Mitsubishi's Thin Client Projector enabling access to the cloud

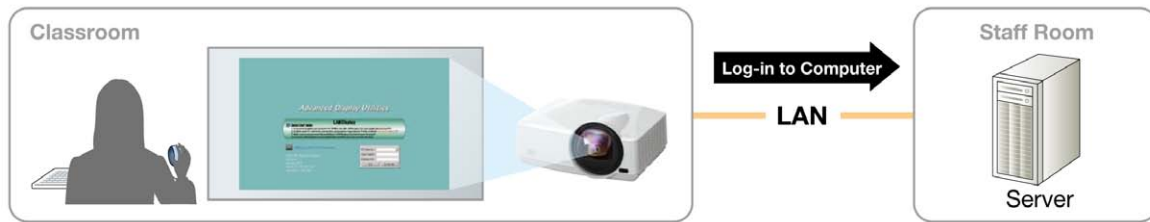
When connected to a LAN, users can log-in to remote computers directly from the projector, retrieve stored images and play them back. Through the introduction of the LAN Display Function and Remote Log-in Function, use as a thin client is possible. As all operations can be performed through the LAN, it is easy to start up another projector at the time of changing classrooms. Faculty members no longer need to return to the staff room to change the log-in on the remote computer. The WD390U-EST itself also functions as a terminal adaptor, enabling connection to a cloud through a computer or server. Applications and data can be used in the cloud infrastructure environment, helping to reduce the amount invested in school equipment. A projector that is truly easy to use, the thin-client compatibility of the WD390U-EST provides enhanced convenience that makes giving presentations much easier.



Remote Log-in Function

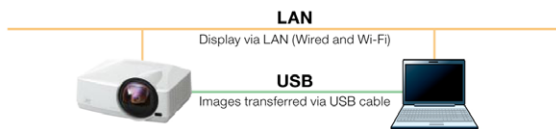
Up until now, LAN Display System required that the projector be selected from a computer, so users had to go to a computer whenever they wanted to use a projector. The WD390U-EST is equipped with a remote log-in function

that enables users to log into a computer from the projector, eliminating the time and effort required to go to the computer to log in.



USB Display / LAN Display

To use the projector to reproduce images from a computer, a VGA cable, USB cable, LAN cable or commercially available wireless dongle can be used. For displaying images via a LAN, up to four computers can be connected to one projector. The projection screen can be divided into quarters, reproducing all computer screens simultaneously.



Notes:
1) For displaying images via a LAN, network settings are required.
2) Not all USB dongles are compatible.

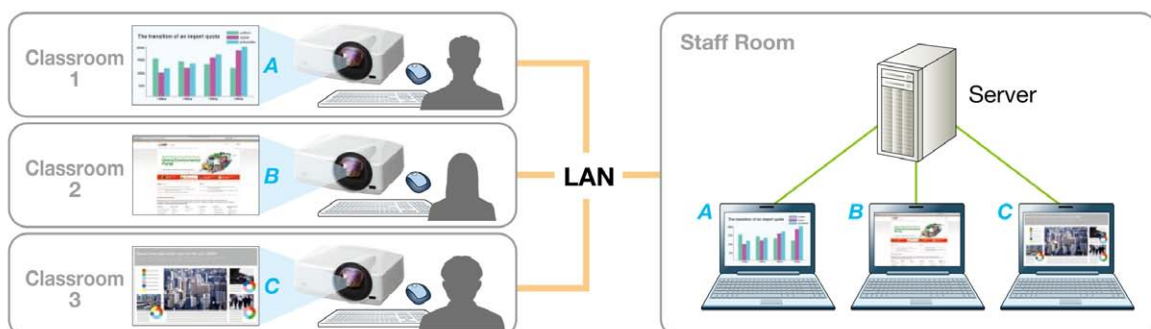
Remote Desktop

When using the LAN Display function, a USB mouse or USB keyboard can be connected to the projector enabling direct access to a computer on the local network.



Thin client Multi-user Server

If a server is installed at the school, different images can be projected simultaneously in each classroom.



PC requirement for thin client

■ Server OS

Windows MultiPoint Server 2011
Windows Server 2008 R2

■ Client OS

Windows XP Professional
Windows Vista (Ultimate, Business, Enterprise)
Windows 7 (Ultimate, Professional, Enterprise)

Expand Creativity and Learning in the Classroom with Smartphones and Tablet Terminals

Download the free MirrorOp Receiver application and turn iPads, iPhones and Android phones/pads into tablet terminals.

SidePad Function

Used in combination with LAN Display System, the images being projected can be displayed on tablets or smartphones, and the computer can be operated from a tablet. Teachers can remotely access their computer when carrying a tablet with them in the classroom, thereby facilitating even closer communication with students during lessons.

* This feature can be used after downloading the MirrorOp Receiver application software (freeware). The LAN Display System is included with the main unit.

Wifi Doc

Wifi Doc is an application software that allows data stored on a tablet or smartphone (txt/pdf/ppt/xls/doc/jpeg files) to be sent directly to a projector and shown. Useful images can be quickly accessed and shared while simultaneously giving presenters the freedom to interact more closely with the audience.

* Please download a freeware Wifi Doc application (both freeware and payware are available). Mirroring of the tablet screen is not supported. On tablets, it is not possible to edit files or send movies. Movies and animations are not supported. Communication fees incurred while downloading applications are to be paid for by the customer.

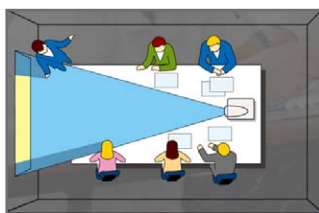


Presentation

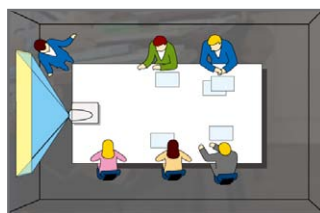
World Shortest* Focal Distance – 0.375 Throw Ratio/80in

Utilizing a large-diameter lens and optimal optical engine design, the shortest focal distance (throw ratio: 0.375) in the industry has been achieved. Even if the teacher or presenter must move in front of the projected image, they are neither blinded nor disturbed by projector light, enabling them to maintain eye contact with the audience at all times.

* Units not equipped with mirrors Note: Data researched by Mitsubishi Electric in March 2011.



Mitsubishi conventional model
[Projection distance of 200cm+(80"+)]

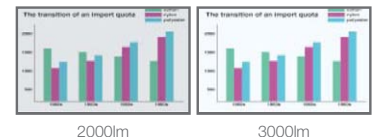


WD390U-ST

3000lm High Luminance

The high 3000lm luminance helps to ensure presentation images are clearly seen without lowering the light in the room.

* Image brightness comparison.



3000:1 High Contrast

Dark chip3 is newly introduced to the DLP® chip line-up. Stray-light processing has been optimised for the optical system, achieving a high contrast of 3000:1. This makes it possible to reproduce sharp, vivid images in which sentences and other characters can be easily read.

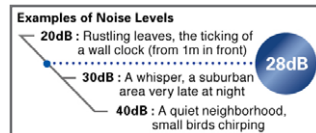
3D Ready – Enjoy the future today



User Friendly

Ultra Quiet 28dB Operation

Fan noise during projector operation can be distracting during a presentation or video conference. The WD390U-EST operates at a significantly low noise level of only 28dB (i.e. in "low lamp" mode). As a result, presentations and conferences can be held without distracting projector noise in the background.



Top-loading lamp for easier maintenance



PC-less Presentations/Computer-free Presentations (PtG file/JPEG Viewer)

Using "PtG Converter", PowerPoint files can be converted into a special format and saved on a USB storage device. When the USB device is connected to the projector, users can replay slideshows or animation effects using only the projector. JPEG files saved on a USB storage device can be projected in slideshow style.

Note: Only compatible with JPEG files. The types of slideshows and animation effects that can be relayed are limited.

E-Zoom (Digital Zoom)

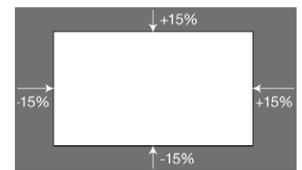
The E-Zoom function utilizes an electrical image-correction process to reduce the image size up to 30% (maximum reduction to 70% of original size). When zooming out, the focal point at the centre of the image remains the same while the overall image dimensions are reduced. Clear, vivid images are reproduced even in small rooms where a long projection distance is not possible.



Reduction ratio; 100-70%,
Zoom ratio; 1-1.4

E-Shift

This function utilizes the electrical image-correction process to enable the user to adjust the position of the image projected up/down and left/right.* The adjustment range (up/down, left/right) is $\pm 15\%$ when the E-Zoom reduction ratio is 70% and $\pm 10\%$ when the reduction ratio is 80%.



When the reduction ratio is 70%
(minimum)

* There is a maximum range setting for the projected image, so E-Shift adjustment is only possible after the image size has been reduced using E-Zoom.

Audio

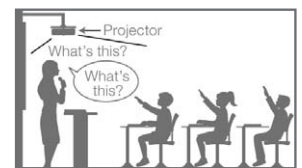
Stand-by Audio/Audio Pass-through

When the projector is in stand-by mode, its 10W speaker can still be used. Additionally, while in stand-by mode, an external speaker can be used by connecting it via the Audio Out terminal.



Excellent Sound Projection (10W Speaker+Audio Mix)

A high-volume, 10W speaker is built-in, eliminating the need for an external speaker. Using the "Audio Mix*" feature and wireless microphone sold separately, the presenter's voice is reproduced loud and clear in real time.



*Only compatible with stereo mini-jack. Not compatible with RCA jack (L/R) or HDMI. 10W speaker and external speaker cannot be used at the same time.

Network

Simultaneous Message Display (Visual PA)

Simultaneous message display is a function included in LAN control operation (ProjectorView global+). Using a control room computer equipped with projector-control software, administrators can simultaneously send messages (up to 390 characters long) in real-time to projectors connected to the LAN. Ideal for broadcasting important information to multiple rooms in the school or building.

Network Connectivity

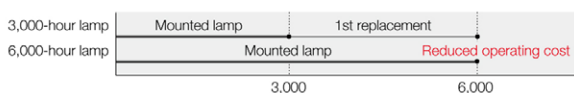


* The trademark of PjLink is trademark applied for registration or registered trademark in Japan, the United States, and other countries and areas.

Ecology

6000-hour Long-life Lamp (max. use set to Low mode)

A longer service life for the projection lamp has been achieved by incorporating an optimal design for lamp temperature control. Benefits include substantial reductions in projector operating cost and the labour required for changing the lamp.



ESTLamp life specification is an estimate based on verification under proper conditions and is not the duration of the warranty. Lamp will shut-off automatically when usage reaches the specified estimated maximum lamp hours. Service life may vary widely depending on usage and operating environment and conditions, as well as users' adherence to the maintenance and cleaning procedures provided in the user manual.

Auto Power Off

If no image signal is output for a predetermined period of time*, power is automatically turned off, realizing energy savings by reducing needless power consumption.

* Time preset by user.

Stand-by Wattage under 0.5W*

Stand-by (low) mode power consumption is less than 0.5W, offering increased energy savings and further contributing to environmental preservation.

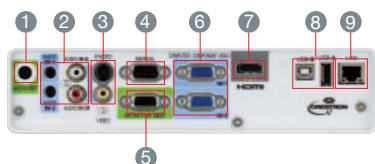
* When in stand-by (low) mode. At this time, use of the LAN function, RS-232C output is not possible.

NEW WD390U-EST



Ultra Short-throw Projection	Brilliant Color™	Color Enhancer	Wall Screen	10W Speaker
USB / LAN Display	Remote Desktop	Stand-by Audio	Audio Mix	Computer-Presentations
Visual PA	PJLink	Direct Power Off	Long-life Lamp	Low Stand-by Power
Top Loading Lamp	LAN (RJ-45)	HDMI	Closed Caption	Low Fan Noise
Picture Performance		Presentation		
User-friendly				

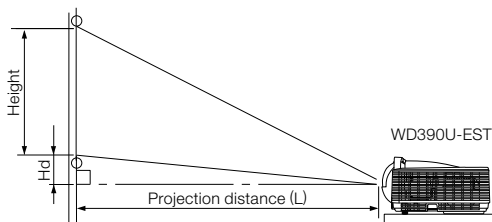
Input and Output Terminals



- ① Audio output
- ② Audio input
- ③ S-Video/Video
- ④ Serial RS-232C
- ⑤ Monitor output
- ⑥ PC/Component video input
- ⑦ HDMI
- ⑧ USB
- ⑨ LAN (RJ-45)

Screen Size and Projection Distance

Side view



The above numbers are approximate, and may be slightly different from the actual measurements.

Screen size chart

Screen (16 : 10)						Projection distance (L)				Height Projected Image (Hd)				Movable H Position at Longest (Tele) with E-Zoom/E-Shift				Movable V Position at Longest (Tele) with E-Zoom/E-Shift			
Diagonal size		Width		Height		Shortest (Wide)		Longest (Tele) with E-Zoom		Shortest (Wide)		Longest (Tele) with E-Zoom		Left	Right	Left	Right	Down	Up	Down	Up
inch	cm	inch	cm	inch	cm	inch	m	inch	m	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm	inch	cm
70	178	59	151	37	94	22	0.56	31	0.79	4.6	12	12.2	31	-9	← 0 → 9	-23	← 0 → 23	-6	← 0 → 6	-14	← 0 → 14
80	203	68	172	42	108	25	0.64	36	0.92	5.3	13	13.9	35	-10	← 0 → 10	-26	← 0 → 26	-6	← 0 → 6	-16	← 0 → 16
100	254	85	215	53	135	32	0.82	46	1.17	6.6	17	17.4	44	-13	← 0 → 13	-32	← 0 → 32	-8	← 0 → 8	-20	← 0 → 20
120	305	102	258	64	162	39	0.99	56	1.42	7.9	20	20.9	53	-15	← 0 → 15	-39	← 0 → 39	-10	← 0 → 10	-24	← 0 → 24
150	381	127	323	79	202	49	1.25	-	-	9.9	25	-	-	-	← 0 → -	-	← 0 → -	-	← 0 → -	-	← 0 → -
180	457	153	388	95	242	60	1.51	-	-	11.9	30	-	-	-	← 0 → -	-	← 0 → -	-	← 0 → -	-	← 0 → -

Specifications

Model	WD390U-EST
Display technology	0.65" 1-Chip DMD
Resolution	1280 × 800 (Total 1,024,000 pixels)
Brightness*	3000lm
Contrast ratio*	3000 : 1
Zoom/Focus	Digital Zoom (Zoom ratio 1.4:1) and Manual Focus
Picture size	70" – 180"
Throw ratio	0.375
Source lamp	Normal Mode: 230W (Shut Off Time: 3000hrs), Low Mode: 190W (Shut Off Time: 6000hrs)
PC compatibility	640 × 480 – 1280 × 800 – 1600 × 1200, 1080p Sync on Green available
Video compatibility	NTSC / NTSC 4.43 / PAL (including PAL-M, N) / SECAM / PAL-60 Component Video; 480i/p (525i/p), 576i/p (625i/p), 720p (750p), 1080i/p (1125i/p 60Hz), 1080i/p (1125i/p 50Hz)
Input terminals	RGB; mini D-sub 15pin × 2 Video; RCA × 1 + S-VIDEO × 1 Audio; Stereo mini jack (φ3.5mm) × 2 (one for PC1, another one for PC2) Digital; HDMI × 1 Video Audio; RCA jack (L/R) × 1
Output terminals	RGB; mini D-sub 15pin × 1 Audio; Stereo mini jack (φ3.5mm) × 1
Communication terminal	SERIAL; mini D-sub 9pin × 1 (RS232C) LAN (RJ-45); × 1 (Projector control, LAN Display) USB type-A; × 1 (Wireless USB Adapters, USB Flash Drive, Human Interface Device) USB type-B; × 1 (USB Display)
Audio speaker	10W Mono
Dimensions (W x H x D)	325 × 113 × 258 mm
Weight	4.1 kg (9.0 lbs)
Power requirements	AC 100-240V, 50/60Hz
Optional lamp	VLT-XD560LP

*Compliant with ISO21118-2005 •Varies depended on condition. •All brand names and product names are trademarks, registered trademarks or trade names of their respective holders. •Lamp life specification is an estimate based on verification under proper conditions and is not the duration of the warranty. Lamp will shut-off automatically when usage reaches the specified estimated maximum lamp hours. Service life may vary widely depending on usage and operating environment and conditions, as well as users' adherence to the maintenance and cleaning procedures provided in the user manual. •HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Note: Digital zoom (E-zoom) is a function used to zoom the screen in/out using electrical processing rather than an optical lens.

