MITSUBISHI ELECTRIC

Changes for the Better

LCD Public Displays from Mitsubishi

MDT461S / MDT402S / MDT321S

Offering High Precision Large Screen LCDs for Public Information Display

46” LCD Display
MDT461S

40” LCD Display
MDT402S

32” LCD Display
MDT321S

Mitsubishi’s large LCD displays allow the presentation of beautiful and dynamic images from a range of 32”, 40” and 46” screen size options. Developed exclusively for public use, these high-spec LCD panels display high-definition images accurately and vividly from DVDs and PCs.
Featuring multi-screen display and zooming functions, as well as centralised control and management from a host PC,* Mitsubishi’s range of LCD displays are ideal for image and information communication in public spaces.

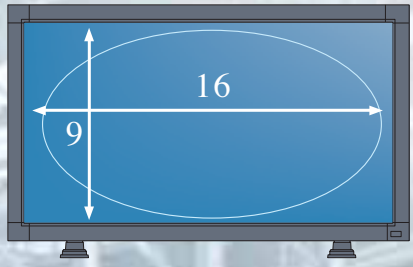
* Excluding MDT321S

Accurate display of a variety of PC/Video signals. High-grade display required for public space applications.

High quality screen with 16:9 aspect ratio precisely displays high-definition images.

461S 402S 321S

High grade LCD panels with an aspect ratio of 16:9 and 3.15 million pixels are utilised for 46"/40"/32" large screens. The native resolution of 1366x768 enables the display of high-definition broadcasting without changing the aspect ratio. In addition, there is support for WXGA and other resolutions including SXGA and UXGA.



High-spec LCD panel designed exclusively for professional use.

461S 402S 321S

The MDT series uses the latest LCD panel designed for professional use, which produces a superior brightness and colour uniformity from corner to corner. A high contrast ratio of 1000:1 (400:1 even under the bright environment of 750lx) and 450cd/m² brightness level, ensures a clear picture is displayed even in light public spaces.

* The values represent that of MDT402S.

Fast response time of 8ms *(Average at Gray-to-Gray) to reproduce moving pictures clearly.

461S 402S

A fast response time of 8 minutes is achieved for both the 46" and 40" LCDs as an average of Gray-to-Gray. This helps reproduce moving pictures clearly, and reduces blurring picture outlines.

* Average of response time between the gray scale from 32 to 88, 64 to 88, 64 to 112 and 48 to 125.
* The response time of White/Black/White counts for 16ms.

Conventional　　MDT461S/402S

Photograph is just for a reference.

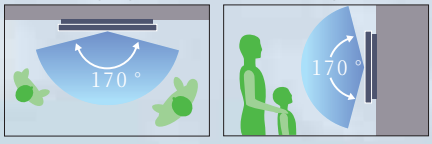
Wide viewing angle of 170° both in horizontal and vertical directions.

461S 402S 321S

The wide viewing angle of both horizontal and vertical directions makes them suitable for use in public spaces. This minimises colour shift even when viewed from the side.

* MDT321S is for 176° viewing angles horizontally and vertically.

Wide viewing angles can accommodate a large audience.



Equipped with "DVI-D" connector, supporting HDCP*1. Reproduce DVD pictures accurately on screen.

461S 402S

"DVI-D" connector is provided supporting a HDCP signal from DVD. Digital signals can directly be displayed which accurately reproduce*2 high quality DVD images.

*1 HDCP: High-bandwidth Digital Content Protection
*2 A DVD player with DVI-D output terminal for HDCP is required.
*Not applicable to MDT321S

Efficient backlight lowers power consumption.

461S 402S 321S

Both high brightness and low power consumption are achieved using the highly efficient backlight. Low cost operation is possible even when multiple screens are used, even for long term use.

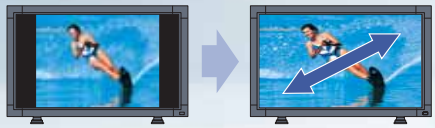
Zoom mode expands the screen from 4:3 to 16:9.

461S 402S 321S

Input signal with an aspect ratio of 4:3 can be stretched to 16:9 by setting in the Zoom mode. In addition, the "Dynamic" mode stretches 4:3 pictures to the entire screen, providing natural-looking wide images, by applying a different expansion ratio to the central and outer areas.

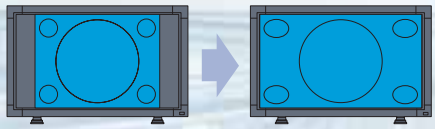
Zoom mode/16:9

(4:3 screen)　　(Expanded to 16:9)



Zoom mode/Dynamic

(4:3 screen)　　(Dynamic display)



"Dual Picture Function" allows setting of versatile dual screen display.

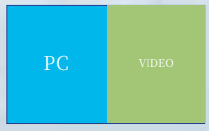
461S 402S

Two selected pictures among connected signal sources can be displayed simultaneously on a screen. The "PiP (Picture in Picture)" feature is where the sub-screen is displayed in the main screen, "PoP (Picture out Picture)", is when the sub-screen is displayed alongside the main screen, and "Side by Side" is where the screen is divided in two sections (available as options).

* Only "PiP" possible for MDT321S.

「PiP」　「PoP」

「Side by Side」



"Scheduling Function" can automate the power ON/OFF control.

461S 402S 321S

"Scheduling Function", is available to automatically turn the power ON or OFF. It can be easily set by entering a desired time to turn on/off for either everyday, a certain day of the week, or time every week. The number of schedules that can be set is a maximum of 7. In addition, a power saving mode is provided which is activated automatically when there is no input signal.

Set screen of "Scheduling Function"

* MDT321S display differs.

"Natural Colour Matrix" enables the reproduction of more natural colours on screen.

461S 402S

Mitsubishi's original colour conversion system, "Natural Colour Matrix" is utilised in the LCDs. This system ensures an unique six-axis colour control, which permits colour adjustment via six-axis (R,G,B,C,M and Y) independently, rather than through the three-axis (R,G,B) which was previously available.

* Not applicable to MDT321S.

Both vertical and horizontal placements are possible.

461S 402S 321S

Depending on the application, both vertical and horizontal installation is available. Compliance with VESA Standards* facilitates ceiling suspension or wall mount installation, as the back surface of the panel can be mounted right onto the wall without any space, recessed installation will have a clean look.

* Screw hole: 600 x 200mm

Accessories to enhance usability.

461S 402S 321S

■Table-top stand

For table or counter-top installation

■Remote Controller

For turning the power ON/OFF, switching image sources and changing various settings

■Speaker output connectors

The 7W+7W external output connectors. This enables audio to be transmitted clearly even in public places.

Advanced Functions to Enable Various System Configurations. Assuring Easy Control/Management for Long Term Operation.

Easy colour setting in a wide range of colour temperature from 2,600K to 10,000K.

46IS 40ZS 32IS

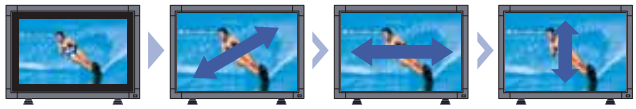
Colour temperature can be set in a broad range from 2,600K to 10,000K. Particularly ideal when a picture on screen is displayed for broadcasting. It can be shown in natural colours without the need for troublesome colour adjustment work.

Zoom functions to expand the original image in any aspect ratio.

46IS 40ZS 32IS

By selecting "Custom", in zoom mode and simply increasing or decreasing zoom slider, you can adjust the diagonal ratio of the original screen, or proportions in horizontal and vertical directions.

Zoom mode/Custom



"Tiling" and "Frame Comp" demonstrates multi-screens with a smooth, continuous image.

46IS 40ZS 32IS

"Tiling", enables multi-screen operation up to 25 (5x5) screens, by simply setting the position of each divided screen in OSD. Working together with tiling, the "Frame Comp", features allows a smooth image of entire screen, by compensating for the bezel width.

*4 x 4 =16 screens for MDT321S

Multi-screen display of 5 x 5 = 25 screens at maximum

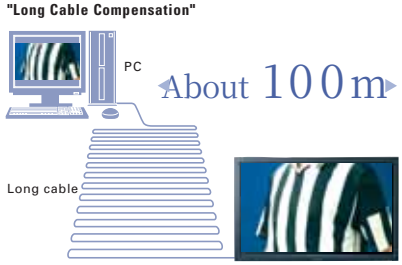
FRAME COMP function not applied. FRAME COMP function applied.

"Long Cable Compensation" prevents image distortion.

46IS 40ZS

Even when a cable connection gets as long as 100m, by automatically adjusting the phase of R,G,B signals, colour shift is corrected and signal distortion is prevented. Furthermore, the new "Video Equalizing Function", compensates for a dull signal caused by a long cable, and optimises the signal shape. These unique functions are specially designed for public space applications, expanding the flexibility of system layouts between signal source and display.

"Long Cable Compensation"



*Applicable only to BNC input
*Manual correction up to 50m for MDT321S
*Compensation level depends on the quality of signal source and cable.

"Automatic input-signal selection" prevents manual work for signal set-up.

46IS 40ZS 32IS

By choosing a signal from the given 3 methods below, an appropriate signal is automatically selected among the connected signal sources. This alleviates the manual selection work at signal source change.

FIRST DETECT	The first input signal detected is displayed. When this signal disappears, another input signal will be automatically displayed. (applicable only to RGB1/2/3)
LAST DETECT	The last input signal detected is displayed. When another signal is detected , the display will automatically switch over. (applicable only to RGB1/2/3)
VIDEO DETECT	When DVD/HD or VIDEO input signal is present, the display will change and keep to the DVD/HD or VIDEO input, even when RGB1/2/3 is receiving signal.

Using "Self-diagnosis Function" a failure can be captured by a host PC.

46IS 40ZS 32IS

The "Self-diagnosis function" allows you to detect any problems that may occur inside the display. The detected data can be read through RS-232C by the host PC, this enables users to conduct centralised control remotely.

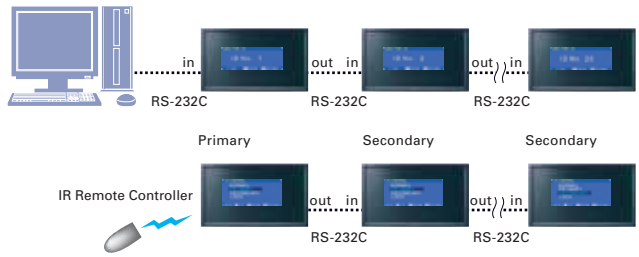
Major detection contents of "Self-diagnosis function" Non-lighting of backlight due to inverter circuit trouble (excluding MDT321S)/Trouble of power supply circuit/Temperature rise inside body/Status of input signal, etc.

Centralised / Remote control of multiple displays through a RS-232C Daisy Chain.

46IS 40ZS

When a system is composed of multiple displays, a daisy chain through RS-232C can be made. With this set-up, you can have effective centralised control: you can remotely change the setting of each display or operate self-diagnosis (up to 26 units). This also allows you to control multiple displays collectively with one remote control.

*Not applicable to MDT321S
*Connectable number of displays depends on system configuration.



The "Power ON Delay Function", starts multiple displays in a stable manner.

46IS 40ZS 32IS

Feeding power simultaneously to multiple displays by turning the breaker on, may cause over-current at power up. With the Power ON Delay Function, you can turn on the power of each display in a staggered manner to avoid temporary over-current. The delay time for power on can be selected in a range from 0~50 seconds.

"Screen Saver Function" reduces the load on a LCD panel at long term operation.

46IS 40ZS 32IS

To reduce the load given to a LCD panel, and the risk of image-persistence, various settings are available. The optional settings include selection of display gamma, operation of a cooling-fan, brightness control for lowering the maximum brightness and a motion function to slightly move the screen vertically and horizontally. The optimum setting can be selected depending on the application.

*Different display for MDT321S

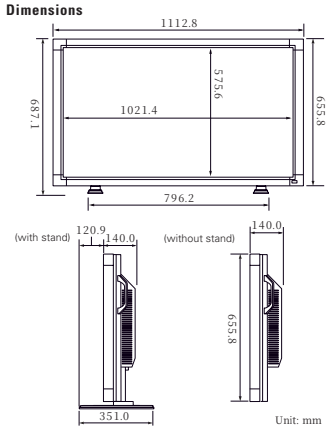
Large Screen Line-up from Mitsubishi

LCD Display
MDT461S **[46"screen]**

Brightness	450cd/m²
Contrast ratio	800 : 1
Viewing angle	170˚ horizontally / 170˚ vertically
Response time	16ms(Tr+Tf), 10ms(Tr), 6ms(Tf)
Resolution	1366 dots x 768 lines W-XGA

sRGB Natural Color Matrix

Dimensions

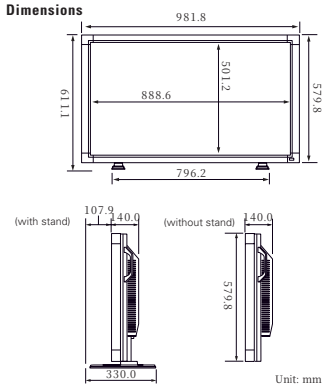


LCD Display
MDT402S **[40"screen]**

Brightness	450cd/m²
Contrast ratio	1000 : 1
Viewing angle	170˚ horizontally / 170˚ vertically
Response time	16ms(Tr+Tf), 10ms(Tr), 6ms(Tf)
Resolution	1366 dots x 768 lines W-XGA

sRGB Natural Color Matrix

Dimensions

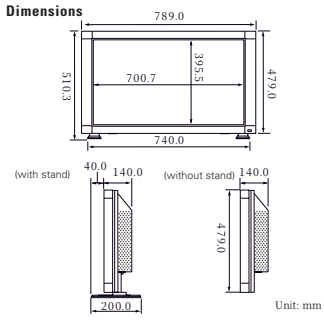


LCD Display
MDT321S **[32"screen]**

Brightness	500cd/m²
Contrast ratio	600 : 1
Viewing angle	176˚ horizontally / 176˚ vertically
Response time	20ms(Tr+Tf), 9ms(Tr), 11ms(Tf)
Resolution	1366 dots x 768 lines W-XGA

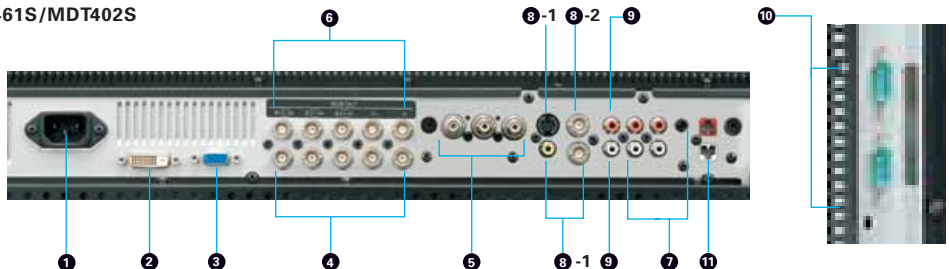
sRGB

Dimensions

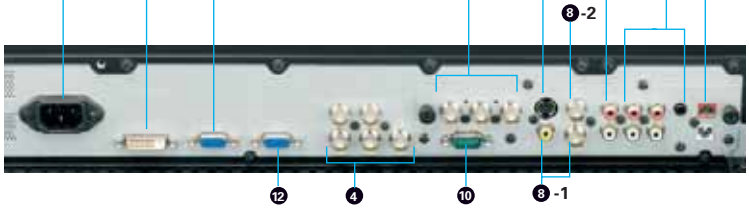


Connectivity

MDT461S/MDT402S



MDT321S



❶ **AC IN Connector**
Connects with the power cord.

❷ **RGB1 IN (DVI-D)**
Connects with digital RGB signals from PC or HDTV device having a digital RGB output.

❸ **RGB2 IN (Mini D-SUB 15pin)**
Connects with analog RGB signals from PC or other RGB equipment.

❹ **RGB3 IN [R,G,B,H,V](BNC)**
Connects with analog RGB signal or signal from other RGB equipment.

❺ **DVD/HD Input Connector (BNC)**
Connects DVD, Laser-Disk player, etc.

❻ **RGB3 Output Connector (BNC)**
Output from RGB3 IN

❼ **AUDIO IN 1,2,3**
Input for audio signal from external equipment such as PC, VCR, DVD player etc.

❽ **-1 VIDEO Input**
VIDEO IN (BNC, RCA)
S-VIDEO IN (DIN 4pin)

❽ **-2 VIDEO Output (BNC)**

❾ **AUDIO OUT**
Output of audio signal selected from AUDIO IN source.

❿ **RS-232C Connector (D-SUB 9pin)**
IN:input signal from control equipment such as PC or output from other MDT402S/MDT461S.
OUT:connect to input of other MDT402S/MDT461S

⓫ **External Speaker Terminal**
Connect external speaker

⓬ **RGB Output Connector**
Outputs the signal entered from RGB2 (Mini D-SUB 15pin) (❸) or RGB3 (❹)

Specifications

			MDT461S(L464G7)	MDT402S(L404G6)	MDT321S(L325RM)
Display size			46" (1168mm diagonal)	40" (1016mm diagonal)	31.5" (800mm diagonal)
Viewable size			1018.4x572.4mm	885.2x497.7mm	697.7x392.3mm
Resolution			1366x768 dots (WXGA)		
Pixel pitch			0.746mm	0.648mm	0.511mm
Colour			16.7 Million		
Viewing angle			170°Hor. 170°Vert. (typ, Contrast Ratio>10)		176°Hor. 176° Vert (typ, Contrast Ratio>10)
Brightness			450cd/m²		500cd/m²
Contrast ratio			800:1 (typ)	1000:1 (typ)	600:1 (typ)
Response time (typical)			16ms(Tr+Tf), 10ms(Tr), 6ms(Tf)		20ms(Tr+Tf), 9ms(Tr), 11ms(Tf)
Input Connector	PC input		DVI-D(HDCP) x 1, Analog RGB x 1 <BNCx5>, Mini D-SUB 15pin x 1		DVI-D(no HDCP) x1, Analog RGB x1 <BNCx5>,Mini D-SUB 15pin x1
	Video input		Video input x1<BNC, RCA terminal (S terminal priority/separate switchable)>, S terminal x 1, Component input x1<BNC>		
	Audio input		RCA pin jack L/R x2, 3.5φ Stereo mini jack x1(PC Audio)		
	Control input		RS-232C input x1		
Output Connector	PC output		Analog RGB x1<BNCx5>		Analog RGB x1<Mini D-SUB 15pin>
	Video output		Video output x1 <BNCx1>		
	Audio output		RCA pin jack L/Rx1		
	External speaker output		Speaker terminal L/Rx1		
PC input	Horizontal frequency		15.625/15.734/31.5~91.1kHz (Analog), 31.5~91.1kHz (Digital)		
	Vertical frequency		50/58~85Hz (Analog), 50/58~85Hz (Digital)		
	Video signal		Digital RGB, Analog RGB		
	Sync. signal		Separate: TTL level(Posi/Nega), Sync on green		
	Supported Resoluton		VGA60, SVGA60, XGA60, WXGA60, SXGA60, UXGA60, SXGA(Scaled), UXGA(Scaled)		
Video signal			NTSC/PAL/SECAM/4.43NTSC/PAL60, Composit, Separate(S terminal), Component (HDTV)		
Control input			Based on RS232C standard		
Control output			Based on RS232C standard		——
Speaker / Audio output			External speaker terminal 8 ohm, External speaker jack 7W+7W, (Stereo), External speaker (option setting)		
Stand			Desktop stand (removable)		
Complied regulatory and guidelines	Power management		VESA DPM		
	Safety		UL60950-1/CSA C22.2 No.60950-1/TUV-GS/EN60950-1		
	EMC		FCC-B/DOC-B/EN55022-A/EN55024/EN61000-3-2/EN61000-3-3/CE		
	Others		WEEE, VESA DDC2B,DDC-CI		
Operational environment	Temperature		5~40℃		
	Humidity		20~80% (without condensation)		
Power supply	Input		100~240 VAC 50/60Hz		
	Power consumpton	Max	260W	230W	120W
		At power saving	Less than 5W(Power button OFF/Main power switch ON) 0W(Main power switch OFF)		
Weight	Display unit	Net with stand	Approx. 32.8kg	Approx. 29.0kg	Approx. 16.4kg
		Net without stand	Approx. 31.0kg	Approx. 27.5kg	Approx. 15.2kg
Packing weight / dimensions			Approx. 40.5kg / 1278(W) x 837(H) x 312(D)mm	Approx. 36.5kg / 1147(W) x 761(H) x 312(D)mm	Approx. 22.5kg / 944(W) x 652(H) x 312(D)mm
Accessory			Wireless remote controller, AA battery x 2, Power cord (3.0m), Signal cable,(4.0m : Mini D-SUB 15 pin/Mini D-SUB 15pin), CD-ROM(Utility etc.), Instruction manual, Self-standing stand, Main power switch cover, Clamper, Speaker plug, Ferrite core, Band		

●Power cord for North America & for EU are included. Please use a power cord that matches with the AC voltage of power outlet and complies with the safety standard of your particular country. ●LCD panels are manufactured using high precision technology; nevertheless there may be some missing pixels and some pixels might be always lit on. ●Displaying still pictures for long term may cause permanent image sticking. ●If you alter the original images either through compression or enlargement or something else, and show it on a display with commercial purpose or intention of showing to general public, it may infringe the copyright of the author which is protected by the copyright law. ●As a conversion adapter may be required to connect to Macintosh, check the configuration of the Macintosh connector beforehand. No conversion adapter is required for the models with Mini D-SUB 15pin VGA connector.●Windows® is a registered trademark of Microsoft Corporation of US in the territory of US and others. ●Macintosh is a registered mark of Apple Computer US in the territory of US and others. ●Other company and product names are a registered mark or trademark of the relative company.

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