



### ● Product specification (design and specification subject to change without notice)

#### ■ DISPLAY

|                                       |  |
|---------------------------------------|--|
| Screen Size (Diagonal)                | 80 inch (2032 mm)                        |
| Panel Type / Backlight                | LCD VA panel / E-LED                     |
| Aspect Ratio                          | 16:9                                     |
| Effective Display Area (W x H)        | 1771 x 996 mm                            |
| Number of Pixels (H x V)              | 1920 x 1080 pixel                        |
| Brightness                            | 350 cd/m <sup>2</sup> (typ.)             |
| Contrast Ratio                        | 5000:1 (typ.)                            |
| Dynamic Contrast                      | 50000:1                                  |
| Response Time                         | 4 ms (G to G)                            |
| Viewing Angle (Horizontal / Vertical) | 176 degrees / 176 degrees (CR $\geq$ 10) |
| Panel Life*                           | approx. 50000 hours (typ.)               |

\* An approximate time until the panel brightness decreases to half of its original value.

#### ■ TOUCH PANEL

|                  |  |
|------------------|--|
| Detection Method | Infrared blocking detection method   |
| Touch operation  | up to 12-point multi touch* <sup>1</sup>                                       |
| OS               | Windows (7 / 8.1 / 10)<br>Mac (OS X 10.10 / 10.11, macOS Sierra)* <sup>2</sup> |

\*<sup>1</sup> : When using the Whiteboard Software for Windows<sup>®</sup>. Up to 4-points when using the Built-in Whiteboard Software and Whiteboard Software for Mac.

\*<sup>2</sup> : When using Mac Single touch.

• Windows is trademarks of Microsoft Corporation in the United States and other countries. Mac, Mac OS X, macOS are trademarks of Apple Inc., registered in the U.S. and other countries.

#### ■ CONNECTION TERMINAL

|                         |  |   |
|-------------------------|--|---|
| HDMI IN                 | HDMI TYPE A connector x 2                                  | Linear PCM (Sampling frequency : 48 kHz/44.1 kHz/32 kHz)  |
| COMPONENT/RGB IN        | BNC x 1 set  | Y/G : BNC Contact Plug with sync 1.0 Vp-p (75 $\Omega$ )<br>P <sub>B</sub> /C <sub>B</sub> /B : BNC Contact Plug without sync 0.7 Vp-p (75 $\Omega$ )<br>P <sub>R</sub> /C <sub>R</sub> /R : BNC Contact Plug without sync 0.7 Vp-p (75 $\Omega$ )                        |
| AUDIO IN                | Stereo mini jack (M3) x 1 (Shared with VIDEO IN)           | 0.5 V rms   |
| VIDEO IN                | BNC x 1  | 1.0 V p-p (75 $\Omega$ )  |
| AUDIO IN                | Stereo mini jack (M3) x 1 (Shared with COMPONENT / RGB IN) | 0.5 V rms   |
| DVI-D IN                | DVI-D 24-pin x 1   | Compliance with DVI Revision 1.0<br>Compatible with HDCP 1.1  |
| AUDIO IN                | Stereo mini jack (M3) x 1 (Shared with PC IN)              | 0.5 V rms   |
| PC IN                   | Mini D-sub 15 pin (DDC2B) x 1                              | Y/G : with sync 1.0 Vp-p (75 $\Omega$ )<br>: without sync 0.7 Vp-p (75 $\Omega$ )<br>P <sub>B</sub> /C <sub>B</sub> /B : without sync 0.7 Vp-p (75 $\Omega$ )<br>P <sub>R</sub> /C <sub>R</sub> /R : without sync 0.7 Vp-p (75 $\Omega$ )<br>HD/VD : TTL (high impedance) |
| AUDIO IN                | Stereo mini jack (M3) x 1 (Shared with DVI-D IN)           | 0.5 V rms   |
| PC OUT                  | Mini D-Sub 15-pin x 1                                      | R : 0.7 V p-p (75 $\Omega$ )<br>G : 0.7 V p-p (75 $\Omega$ )<br>B : 0.7 V p-p (75 $\Omega$ )<br>HD/VD : 3.5~5.0 V p-p   |
| SERIAL IN               | D-sub 9pin x 1, RS-232C Compatible                         |   |
| DIGITAL LINK/LAN        | RJ45 x 1, 100BASE-TX, Compatible with PLink                |   |
| External Speaker        | 8 $\Omega$ , 20 W [10 W + 10 W] (10 %THD)                  |   |
| USB A                   | TYPE A USB connector x 1 (For Memory Viewer)               |   |
| USB B                   | TYPE B USB connector x 1 (For Touch panel)                 |   |
| Function Slot : SLOT2.0 | 1 (Vacant)   |   |

#### ■ AUDIO

|                  |   |
|------------------|---|
| Built in Speaker | 10 W 8 $\Omega$ , Full Range : 120 mm x 40 mm x 2 |
| Speaker          | 20 W [10 W + 10 W] (10 %THD)                      |

#### ■ ELECTRICAL

|                                    |                         |
|------------------------------------|-------------------------|
| Power Requirements                 | 220-240 V AC 50 / 60 Hz |
| Power Consumption                  | 350 W                   |
| On Mode Average Power Consumption* | approx. 287 W           |
| Power Off Condition                | approx. 0.3 W           |
| Stand-by Condition                 | approx. 0.5 W           |
| Apparent power                     | approx. 359 VA          |

\* Based on IEC 62087 Ed.2 measurement method.

#### ■ MECHANICAL

|                               |   |
|-------------------------------|---|
| Dimensions (W x H x D)        | 1868 x 1093 x 104 mm  |
| Bezel Width                   | T/R/L/B approx. 43 mm   |
| Carton Dimensions (W x H x D) | 2075 x 1319 x 404 mm  |
| Weight                        | approx. 81 kg   |
| Gross Weight                  | approx. 99 kg   |
| Cabinet Material / Color      | Aluminum / Black  |
| Pitch for Wall-Hanging        | VESA Compliant 400 x 400 mm (Installed by: M8 screws / Screw hole depth 20 - 55 mm) |
| Protection Glass Thickness    | approx. 3.3 mm / Anti Glare   |

#### ■ INSTALLATION REQUIREMENT

|               |   |
|---------------|---|
| Orientation   | Landscape / Portrait                        |
| Tilting Angle | 0-20 degrees forward with landscape setting |

\* Please contact your sales representative with regard to the tilt angle before installation.

\* When installing the display on portrait setting, be sure to install with the power indicator at the top side of the display.

**MAIN FEATURE**

|                               |  |
|-------------------------------|--|
| Quick menu                    | Yes  |
| CUD                           | Yes  |
| Easy Whiteboard Functions*1   | Yes  |
| Memory Viewer                 | <ul style="list-style-type: none"> <li>• Picture<br/>Extension :JPG, JPEG, BMP<br/>Format :Maximum resolution 8000 x 8000<br/>Bit numbers (Bit depth): up to 24 bit</li> <li>• Video<br/>Extension :mov, avi, mp4, mpg, mpeg, wmv<br/>Video format :Maximum 1920 x 1080/30fps<br/>Video bitrate :up to 40M bps<br/>Audio format :Maximum 48 kHz 2ch<br/>Audio bitrate :up to 384k bps</li> </ul> |
| Wireless Connections          | Yes (Wireless Display (Miracast) / Panasonic Application)  |
| DIGITAL LINK                  | Yes  |
| Secondary Display             | Yes  |
| Picture in Picture            | Yes  |
| Digital Zoom                  | Yes  |
| 1:1Pixel Mode                 | Yes  |
| Auto Set Up                   | Yes  |
| Power Management              | Yes  |
| Power Management (PC / DVI-D) | Yes  |
| Input Lock                    | Yes  |
| Button / Input lock           | Yes  |
| Remote-control User Level     | Yes  |
| Input Search                  | Yes  |
| Operating Time*2              | 18h/day  |

\*1 For e-mail sending function, can be sent as JPEG format only. Supported mail servers using SSL or STARTTLS.  
 \*2 In case of running for a long time, the moving image is recommended to be displayed. If you display a still picture for an extended period, the image retention might remain on the screen. However, image retention can gradually disappear by displaying movie images.  
 Note: This spec sheet describes a part of the function. Please refer to the operating instructions about the other functions.

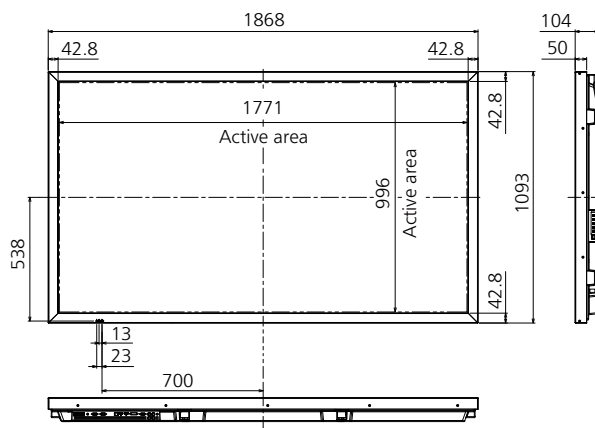
**INCLUDED ACCESSORIES**

- AC cord (2 m) - Remote Control Transmitter
- Batteries for the Remote Control Transmitter (R6 (UM) Size x 2)
- Software CD-ROM (Whiteboard software / Wireless Manager software / Operating Instruction) x 1 - USB Cable (2.8 m) x 1
- Screw x 2 - Washer x 2 - Clamper x 1 - Pen x 4 - Eraser x 1
- Pen Stand x 1 - Operating Instruction book

**STANDARD (CERTIFICATIONS)**

|                       |                                 |
|-----------------------|---------------------------------|
| SAFETY REGULATIONS    | CE, IEC60065                    |
| RADIATION REGULATIONS | AS/NZS CISPR32:2013<br>RCM Mark |

**DIMENSIONS**



**ENVIRONMENTAL**

|                       |  |
|-----------------------|--|
| Operating Environment | Temperature: 0 °C to 40 °C*1               |
|                       | : 0 °C to 35 °C*2                          |
|                       | Humidity : 20 % to 80 % (No condensation)  |
| Storage Environment   | Altitude : 0 to 2800 m                     |
|                       | Temperature : -20 °C to 60 °C              |
|                       | Humidity : 20 % to 80 % (Non condensation) |

\*1 for up to 1400 m altitude  
 \*2 for between 1400 m and 2800 m altitude Depending on the temperature or humidity conditions, uneven brightness may be observed. This is not a malfunction.  
 • This unevenness will disappear while applying current continuously. If not, consult the distributor.

**REMOTE CONTROL TRANSMITTER**

|                        |                                       |
|------------------------|---------------------------------------|
| Power Requirements     | DC 3 V (2 x AA Size batteries)        |
| Operating distance     | approx. 7 m*                          |
| Weight                 | approx. 60 g Does not include battery |
| Dimensions (W x H x D) | 48 x 136 x 24 mm                      |

\*When operated directly in front of receptor.

**BUILT-IN WIRELESS LAN FUNCTION**

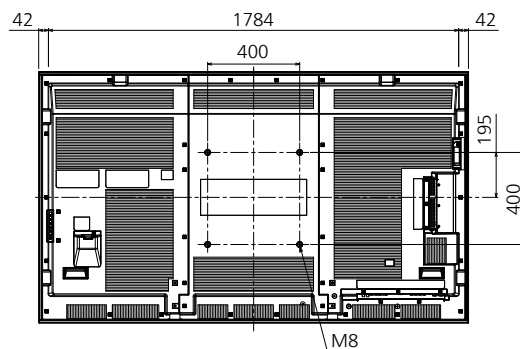
|                     |  |
|---------------------|--|
| Standard            | 2.4 GHz: IEEE802.11b/g/n,<br>5.0 GHz: IEEE802.11a/n  |
| Infrastructure Mode | WPA2-PSK (TKIP / AES), WPA-PSK (TKIP / AES), WEP (64-bit / 128-bit), WPA-EAP / WPA2-EAP (PEAP [MS-CHAPv2 / GTC] / EAP-FAST [MS-CHAPv2 / GTC] / EAP-TTLS [MD5 / MS-CHAPv2], 128-bit / 64-bit) |

**OPTIONAL ACCESSORIES**

|                                  |               |
|----------------------------------|---------------|
| Pedestal Stand                   | TY-ST65P20*1  |
| Mobile Stand                     | TY-ST80LF70   |
| Wall-Hanging bracket (Vertical)  | TY-WK70PV50*1 |
| Early Warning Software           | ET-SWA100     |
| HD-SDI Terminal Board with Audio | TY-FB10HD     |
| Dual Link HD-SDI Terminal Board  | TY-FB11DHD    |
| DVI-D Terminal Board             | TY-FB11DD     |
| Digital Interface Box            | ET-YFB100G    |
| DIGITAL LINK Switcher            | ET-YFB200G    |
| Easy Wireless Stick              | ET-UW100W*2   |

\*1 Production discontinued (stock is limited)  
 \*2 This product can be purchased in the U.S., Canada, Japan, Australia and New Zealand.

Cautions: This drawing is not a scale  
 Units : mm

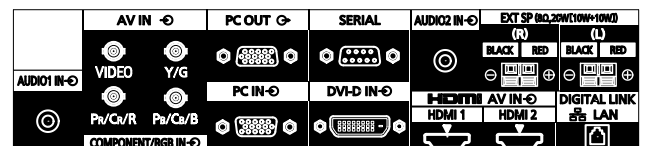


**CONNECTION TERMINAL**

SIDE



BACK



## ● Applicable Input Signals

V : VIDEO  
R : D-sub RGB  
Y : YCbCr/Y/PbPr

D : DVI-D  
H : HDMI  
DL : DIGITAL LINK

### ■ Picture signal form

| Correspondence signal         | Resolution dot      | Scan rate        |               | Dot clock rate (MHz) | Input format | SignalName        |
|-------------------------------|---------------------|------------------|---------------|----------------------|--------------|-------------------|
|                               |                     | Horizontal (kHz) | Vertical (Hz) |                      |              |                   |
| NTSC/NTSC4.43/<br>PAL-M/PAL60 | 720 x 480i          | 15.73            | 59.94         | 13.50                | V            | NTSC              |
| PAL/PAL-N/SECAM               | 720 x 576i          | 15.63            | 50.00         | 13.50                | V            | PAL               |
| 525i (480i)                   | 720 x 480i          | 15.73            | 59.94         | 13.50                | R/Y          | 525/60i (Analog)  |
| 625i (575i)                   | 720 x 575i          | 15.63            | 50.00         | 13.50                | R/Y          | 625/50i (Analog)  |
| 525i (480i)                   | 720 (1440) x 480i*2 | 15.73            | 59.94         | 27.00                | D/H/DL       | 525/60i (Digital) |
| 625i (576i)                   | 720 (1440) x 576i*2 | 15.63            | 50.00         | 27.00                | D/H/DL       | 625/50i (Digital) |
| 525p (480p)                   | 720 x 480           | 31.47            | 59.94         | 27.00                | R/Y/D/H/DL*5 | 525/60p           |
| 625p (575p)                   | 720 x 575           | 31.25            | 50.00         | 27.00                | R/Y          |                   |
| 625p (576p)                   | 720 x 576           | 31.25            | 50.00         | 27.00                | D/H/DL       | 625/50p (576/50p) |
| 750 (720)/60p                 | 1280 x 720          | 45.00            | 60.00         | 74.25                | R/Y/D/H/DL   | 750/60p           |
| 750 (720)/50p                 | 1280 x 720          | 37.50            | 50.00         | 74.25                | R/Y/D/H/DL   | 750/50p           |
| 1125 (1080)/60i*1             | 1920 x 1080i        | 33.75            | 60.00         | 74.25                | R/Y/D/H/DL   | 1125/60i          |
| 1125 (1080)/50i               | 1920 x 1080i        | 28.13            | 50.00         | 74.25                | R/Y/D/H/DL   | 1125/50i          |
| 1125 (1080)/24p               | 1920 x 1080         | 27.00            | 24.00         | 74.25                | R/Y/D/H/DL   | 1125/24p          |
| 1125 (1080)/24PsF             | 1920 x 1080i        | 27.00            | 48.00         | 74.25                | R/Y          | 1125/24PsF        |
| 1125 (1080)/25p               | 1920 x 1080         | 28.13            | 25.00         | 74.25                | R/Y/D        | 1125/25p          |
| 1125 (1080)/30p               | 1920 x 1080         | 33.75            | 30.00         | 74.25                | R/Y/D        | 1125/30p          |
| 1125 (1080)/60p               | 1920 x 1080         | 67.50            | 60.00         | 148.50               | R/Y/D/H/DL   | 1125/60p          |
| 1125 (1080)/50p               | 1920 x 1080         | 56.25            | 50.00         | 148.50               | R/Y/D/H/DL   | 1125/50p          |
| 1250 (1080)/50i               | 1920 x 1080i        | 31.25            | 50.00         | 74.25                | R/Y          |                   |
| 2048 x 1080/24PsF             | 2048 x 1080i        | 27.00            | 48.00         | 74.25                | *8           |                   |
| 2048 x 1080/24p               | 2048 x 1080         | 27.00            | 24.00         | 74.25                | *8           |                   |

### ■ PC signal form

| Correspondence signal | Resolution dot | Scan rate        |               | Dot clock rate (MHz) | Input format | SignalName     |
|-----------------------|----------------|------------------|---------------|----------------------|--------------|----------------|
|                       |                | Horizontal (kHz) | Vertical (Hz) |                      |              |                |
| 640 x 400*4           | 640 x 400      | 31.46            | 70.07         | 25.17                | R/Y          | VGA70          |
| 640 x 480*4           | 640 x 480      | 31.47            | 59.94         | 25.18                | R/Y/D/H/DL*6 | VGA60          |
|                       |                | 35.00            | 66.67         | 30.24                | R/Y          |                |
|                       |                | 37.86            | 72.81         | 31.50                | R/Y          | VGA72          |
|                       |                | 37.50            | 75.00         | 31.50                | R/Y          | VGA75          |
|                       |                | 43.27            | 85.01         | 36.00                | R/Y          | VGA85          |
| 800 x 600*4           | 800 x 600      | 35.16            | 56.25         | 36.00                | R/Y          | SVGA56         |
|                       |                | 37.88            | 60.32         | 40.00                | R/Y/D/H/DL   | SVGA60         |
|                       |                | 48.08            | 72.19         | 50.00                | R/Y          | SVGA72         |
|                       |                | 46.88            | 75.00         | 49.50                | R/Y          | SVGA75         |
|                       |                | 53.67            | 85.06         | 56.25                | R/Y          | SVGA85         |
| 832 x 624*4           | 832 x 624      | 49.72            | 74.54         | 57.28                | R/Y          | MAC16          |
| 852 x 480*4           | 852 x 480      | 31.47            | 59.94         | 33.54                | R/Y*6        |                |
|                       |                |                  |               | 34.24                | D/H/DL       | WVGA60         |
| 1024 x 768*4          | 1024 x 768     | 39.55            | 50.00         | 51.89                | D/H/DL       | XGA50          |
|                       |                | 48.36            | 60.00         | 65.00                | R/Y/D/H/DL   | XGA60          |
|                       |                | 56.48            | 70.07         | 75.00                | R/Y          | XGA70          |
|                       |                | 60.02            | 75.03         | 78.75                | R/Y          | XGA75          |
|                       |                | 68.68            | 85.00         | 94.50                | R/Y          | XGA85          |
| 1066 x 600*4          | 1066 x 600     | 37.64            | 59.94         | 53.00                | R/Y/D/H/DL   | WSVGA60        |
| 1152 x 864*4          | 1152 x 864     | 53.70            | 60.00         | 81.62                | D/H/DL       | XGA+           |
|                       |                | 67.50            | 75.00         | 108.00               | R/Y          | 1152x864_75Hz  |
| 1152 x 870*4          | 1152 x 870     | 68.68            | 75.06         | 100.00               | R/Y          | MAC21          |
| 1280 x 768*4          | 1280 x 768     | 47.70            | 60.00         | 80.14                | R/Y          | WXGA60_GTF     |
| 1280 x 800*4          | 1280 x 800     | 49.31            | 59.91         | 71.00                | R/Y/D/H/DL   | VESA1280RB     |
|                       |                | 49.70            | 59.81         | 83.50                | R/Y/D/H/DL   | VESA1280CVT    |
| 1280 x 960*4          | 1280 x 960     | 60.00            | 60.00         | 108.00               | R/Y          | Quad_VGA_60    |
|                       |                | 85.94            | 85.00         | 148.50               | R/Y          | Quad_VGA_85    |
|                       |                | 63.98            | 60.02         | 108.00               | R/Y/D/H/DL   | SXGA60         |
| 1280 x 1024*4         | 1280 x 1024    | 79.98            | 75.03         | 135.00               | R/Y          | SXGA75         |
|                       |                | 91.15            | 85.02         | 157.50               | R/Y          | SXGA85         |
|                       |                | 39.55            | 50.00         | 69.92                | D/H/DL       | WXGA50         |
| 1366 x 768*4          | 1366 x 768     | 48.36            | 60.00         | 86.71                | R/Y/D/H/DL   | WXGA60         |
| 1400 x 1050           | 1400 x 1050    | 65.22            | 60.00         | 122.61               | D/H/DL       | SXGA+60GTF     |
| 1440 x 900*4          | 1440 x 900     | 55.47            | 59.90         | 88.75                | R/Y/D/H/DL   | 1440x900/60RB  |
|                       |                | 55.93            | 59.89         | 106.50               | R/Y/D/H/DL   | 1440x900/60GTF |
| 1600 x 1200*4         | 1600 x 1200*3  | 75.00            | 60.00         | 162.00               | R/Y/D/H/DL   | UXGA60         |
|                       | 1600 x 1200*3  | 81.25            | 65.00         | 175.50               | R/Y          |                |
| 1920 x 1080*4         | 1920 x 1080    | 67.50            | 60.00         | 148.50               | R/Y/D/H/DL*7 | 1920x1080/60TV |
| 1920 x 1200           | 1920 x 1200*3  | 74.04            | 59.95         | 154.00               | D/H/DL       | WUXGA60RB      |

\*1: When 1125 (1035)/60i signal is input, it is displayed as 1125 (1080)/60i signal.

\*2: Pixel-Repetition signal (dot clock frequency 27.0 MHz) only

\*3: Displayed with image elements thinned out in the image processing circuit.

\*4: The picture may not be displayed correctly with the PC signal from COMPONENT IN/RGB IN inputs.

\*5: When selected the RGB format and 525p signal input to the PC IN terminal, it is recognized as VGA 60 Hz signal.

Note: Signals without above specification may not be displayed properly.

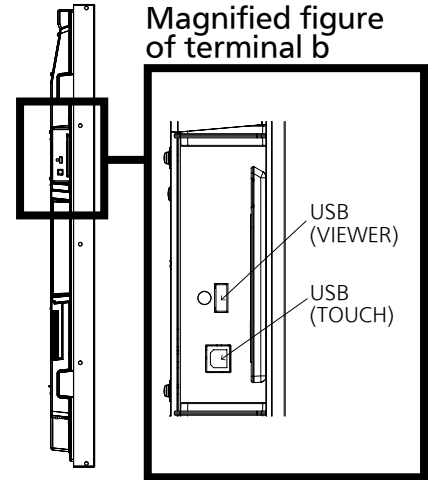
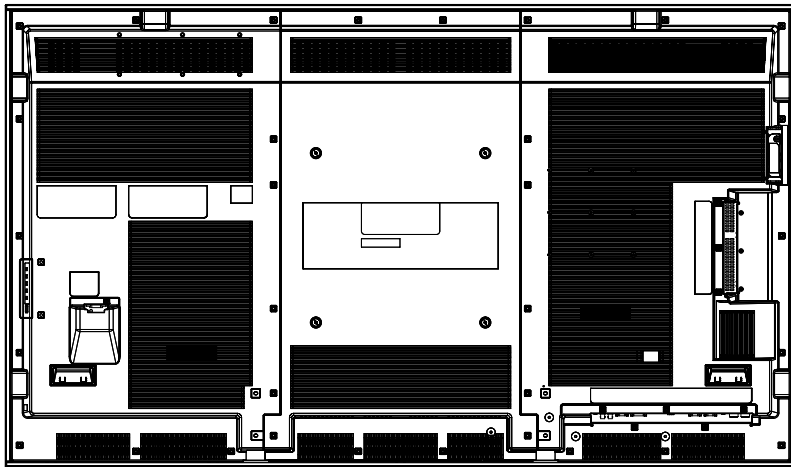
\*6 When inputted VGA 60 Hz format signal from the other than PC IN terminal, it is recognized as 525p signal.

\*7 When the signal is input to the PC IN, RGB IN and COMPONENT IN terminal, it is recognized as 1125 (1080)/60p signal.

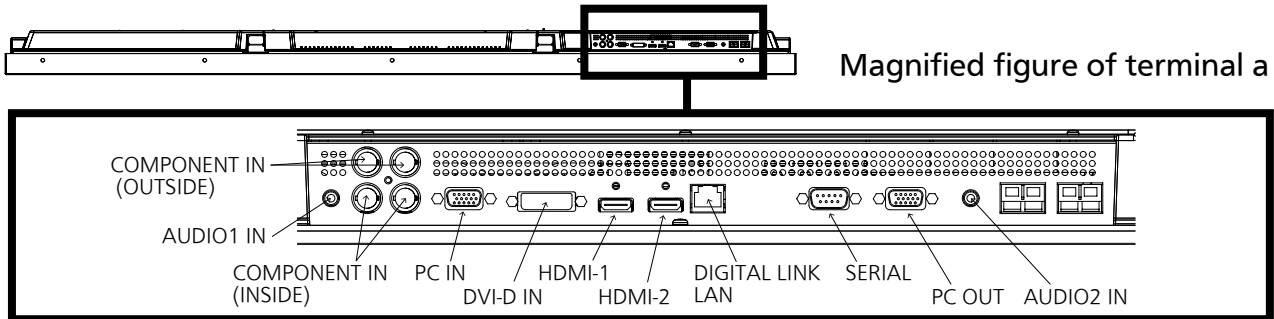
\*8 These signals can be received when the Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed.

**● Drawing of terminals**

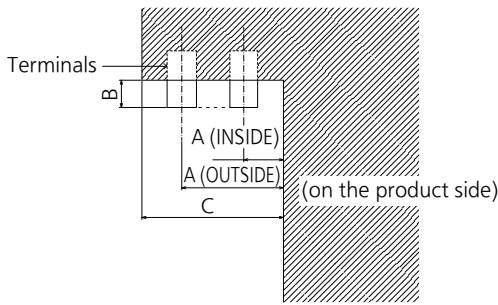
View from back



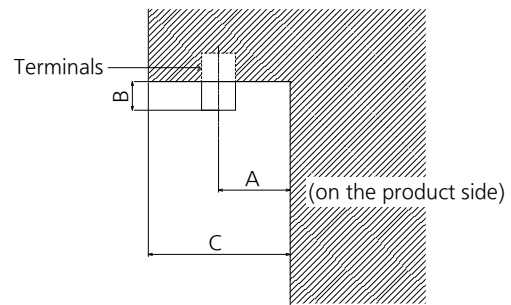
Magnified figure of terminal a



**Sectional view of terminal a**  
COMPONENT IN (OUTSIDE) /COMPONENT IN (INSIDE)



**Sectional view of terminal a**  
PC IN/PC OUT/DVI-D IN/HDMI-1/HDMI-2/DIGITAL LINK LAN/SERIAL

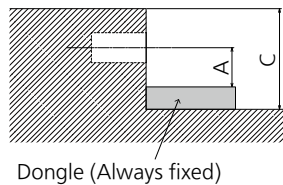


**Terminal a**  
**80BF1 Terminal (Bottom)**

Units : mm

|   | COMPONENT IN (OUTSIDE) | COMPONENT IN (INSIDE) | AUDIO1 IN/AUDIO2 IN | PC IN/PC OUT | DVI-D IN | HDMI-1 | HDMI-2 | DIGITAL LINK LAN | SERIAL |
|---|------------------------|-----------------------|---------------------|--------------|----------|--------|--------|------------------|--------|
| A | 29.8                   | 12.8                  | 12.8                | 12.5         | 11.2     | 9.4    | 7.1    | 12.1             | 12.6   |
| B | 12.0                   | 12.0                  | 2.0                 | 5.1          | 5.2      |        |        |                  | 5.1    |
| C |                        |                       |                     |              | 45       |        |        |                  |        |

**Sectional view of terminal b**  
USB (VIEWER)/USB (TOUCH)



**Terminal b**  
**80BF1 Terminal (Side)**

Units : mm

|   | USB (VIEWER) | USB (TOUCH) |
|---|--------------|-------------|
| A | 13.8         | 15.2        |
| B |              |             |
| C | 45.3         |             |

\* Due to the construction of terminal, some types of connecting cable or USB memory device cannot be used. Be sure to use connecting cable or USB memory device after confirmation in this drawing.