TECHNICAL MANUAL (ver.2.0)

Plasma Display:	**PDP-V402/V402E**
Down converter:	**PDA-4003**
Tilted cradle:	**PDK-4001**
Metal fixture for ceiling-hanging type plasma display:	**PDK-4002**
	PDK-4003
	PDK-4004
PDP bracket:	**PDK-4005**
Metal fixture for wall-hanging type plasma display:	**PDK-4006**
Mobile cart:	**PDK-5008**
Multiple mounting fixture for plasma display:	**PDM-4001**
Protective filter:	**PDA-4002**
Speaker system:	**PDP-S03-LR**

This manual gives precautions, general information, and examples for installation and handling of the plasma display and its metal fixtures.
Carefully examine the structure, material, strength, and environmental conditions for the site at which the display is to be installed before selecting an installation method. If the site is unsatisfactory, venders should not sell or install the equipment.

For safety

⚠ In this manual, this symbol indicates important precautions. Read these precautions carefully.

[Installation]

- We sell this equipment on the assumption that it will be installed by a specialist with adequate training. The equipment must be installed by trained vendors or by your dealer.
- We are not responsible for injuries or damage resulting from choice of unsuitable installation sites, problems in assembly and installation, improper installation, or natural disasters.

Note:

- We are not responsible for damage caused by defective parts supplied by third parties.
- The performance of the equipment is guaranteed only when assembly and adjustment are performed as described herein.
- The specifications and descriptions given in this technical manual are subject to change without notice.

Pioneer

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Warning ⚠

- To prevent damage or injury, carefully read and follow this manual and all labels provided on the main display body before undertaking assembly, installation, movement, or adjustment.
- To prevent fire and electric shock resulting from moisture infiltration, never use this system outdoors.
- To prevent injury, take care when handling the system's sharp edges.
- When installing the system at a height, create an off-limits zone to prevent injury or secondary damage in case of falling equipment.
- To prevent fire and electric shock, never place foreign objects within or make modifications to the equipment.
- Always observe the following operating environmental conditions:
  Temperature : 0 °C to 40 °C
  Humidity : Relative humidity 20% to 80%
- Make sure the site is well-ventilated, and take care to maintain adequate ventilation following installation.

Features

Features and functions of the plasma display (PDP-V402/V402E)

- **Layout Freedom and Slim Design**
  Layout freedom is enhanced by providing the highest level of thinness and lightness in the industry (Thinness: 88 mm, Weight: 30.8 kg).
  The thin, light form of the plasma display panel provides immediate improvement of operating conditions by increasing the potential installation locations and style coordination for smooth integration into a variety of applications.

- **Materialization of higher luminance and picture quality**
  Improved efficiency of the driving current provides even higher luminance.
  Adoption of a black stripe and improved filters provides better daylight contrast and color fidelity.

- **Flexible Response to a Wide Band of Input Signals**
  VIDEO signals and 640 x 480 dot (VGA) PC signals are displayed with great clarity.
  Connection of the exclusive high performance down converter (Scheduled for release soon) enables broad response up to 1024 x 768 dot (XGA) PC signals, and provides the optimum solution for sharp resolution to prevent loss of information such as fine characters and lines.

- **Best display for industrial and public purposes**
  Our plasma display (PDP-V402/V402E) is specifically designed for use as an industrial display. It has been designed to provide the following features:
  - An aspect ratio of 4:3 optimal for use as a public display
  - A versatile mounting structure and metal fixtures permitting wall or vertical installation
  - Equipped with integrator mode that enables fine adjustment of white-balance
  - Provided with RS-232C as an external control interface
  - Color temperature (white-balance) changeover function to allow retakes
  - Equipped with a full set of input/output terminals (four input systems and one output system) capable of handling a wide range of applications
  - Operating state monitoring function
  - Priority input auto switching mode
  - Key lock function to prevent tampering
  - OSD (On Screen Display) ON/OFF function

  Our plasma display has been designed for durability and reliability, features required in industrial displays. Its features and quality allow use in a wide range of applications and locations.

Features

List of specifications

2.1 List of specifications

Light emission panel ..... 40-inch plasma display panel
Aspect ratio 4:3
No. of pixels ..... 640 × 480 (adaptable to VGA)
Pixel pitch
..... 1.26 (horizontal, RGB trio) × 1.26 (vertical) mm
No. of gradations ..... 256 gradations/
16,770,000-color full color
View angle ..... Horizontal : 160° or more
Vertical : 160° or more

Input/output terminals

RGB Input

① BNC Terminal R, G, B (fixed to 75 Ω input)
Analog R, G, B (fixed 75 Ω input, G-on Sync input)
HD (H/V SYNC), VD (switching between 75 Ω /2.2 kΩ input)
Switch VD according to the sync output impedance of the connector. Switch VD to 2.2 kΩ except when the sync output impedance is 75 Ω. (The terminal is factory-set to 75 Ω.)

② Mini Dsub 15P
Analog RGB, 0.7 Vp-p, 75 Ω input, G-on Sync input (Sync 0 - 3 Vp-p)
Synchronization:
HD, VD 2.2 kΩ input, 2.0 - 5.0 Vp-p (Positive/Negative),
G-on Sync switch (G-on Sync ON/OFF Change over)
Turn the switch on only if images become greenish (when the G-on Sync signal is applied) at RGB2 input. Under normal circumstances, the switch is left off. (The switch is factory-set to G-on Sync OFF.)

Video input ..... Single-system BNC terminal 75 Ω input
Composite 1 Vp-p
Y/C input..... Double-system BNC terminal 75 Ω input
Control input.... Dsub 9P (RS-232C control)
Video output .... Single-system BNC terminal 75 Ω output
(Note: Up to four units, including the unit to which the signal is first input, may be connected when the equipment is connected in series using this output terminal. However, increasing the number of connected units may increase the noise.)

Applicable sources

① Video system: NTSC <PAL/NTSC Dual>
② Computer system
1. Resolution
AT-compatible: VGA (640 dots × 480 lines)
Macintosh: 13-inch mode (640 dots × 480 line)
PC-9800: Normal mode (640 dots × 400 line)

2. Synchronizing frequency:
AT-compatible: 31.5 kHz (horizontal), 59.9 Hz (vertical)
37.9 kHz (horizontal), 72.8 Hz (vertical)
37.5 kHz (horizontal), 75 Hz (vertical)
Macintosh: 35 kHz (horizontal), 66.7 Hz (vertical)
PC-9800: 24.8 kHz (horizontal), 56.4 Hz (vertical)
31.5 kHz (horizontal), 70.1 Hz (vertical)

Does not accommodate the interlaced mode of the computer.
Some types of computer have multiple indication modes. However, some modes cannot be displayed even if the computer meets the specifications. Please contact your dealer for further information.

Power source ..... 100 to 120 V AC, 50/60 Hz
<220 to 240 V AC , 50/60 Hz>
Inrush ..... 70 A or less <30 A or less>
Power factor ..... 0.95 or more
Power consumption ..... 350 W (in standby: 2 W)
Outer dimensions ..... 916 (W) × 714 (H) × 88 (D) mm
Weight ..... 30.8 kg <31.6 kg>
Operating environment temperature range
..... 0 to 40 °C
Operating environment humidity range
..... Relative humidity 20% to 80%
Operating environment air pressure range
..... 0.8 - 1.1 atmospheric pressure
Storage conditions (plasma display panel alone)
Storage ambient temperature range
-20 to 60°C (Temperature gradient (10°C/hr. or less)
Storage ambient humidity range
..... 20 to 90% (without condensation)
Storage ambient air pressure range
..... 0.6 - 1.5 atmospheric pressure
Storage conditions (Package state)
Storage environment temperature range
..... –40 to 60 °C
Storage environment humidity range
..... Relative humidity 20% to 90%
Storage ambient air pressure range
..... 0.6 - 1.5 atmospheric pressure
Storage stack limit ..... maximum of 10

Accessory

Power cord (PDP-V402 only) 1
Remote control 1
Remote control case 1
AA battery 2
Stand 2
Bolt 2
Washer 2
Cable clamp 3
Operating Instructions 1
Warranty card 1

- Specifications and appearance are subject to change without notice.
- < > shows the PDP-V402E.

2.2 Outline drawing

Plasma display main body weight : 30.8 kg <31.6 kg>

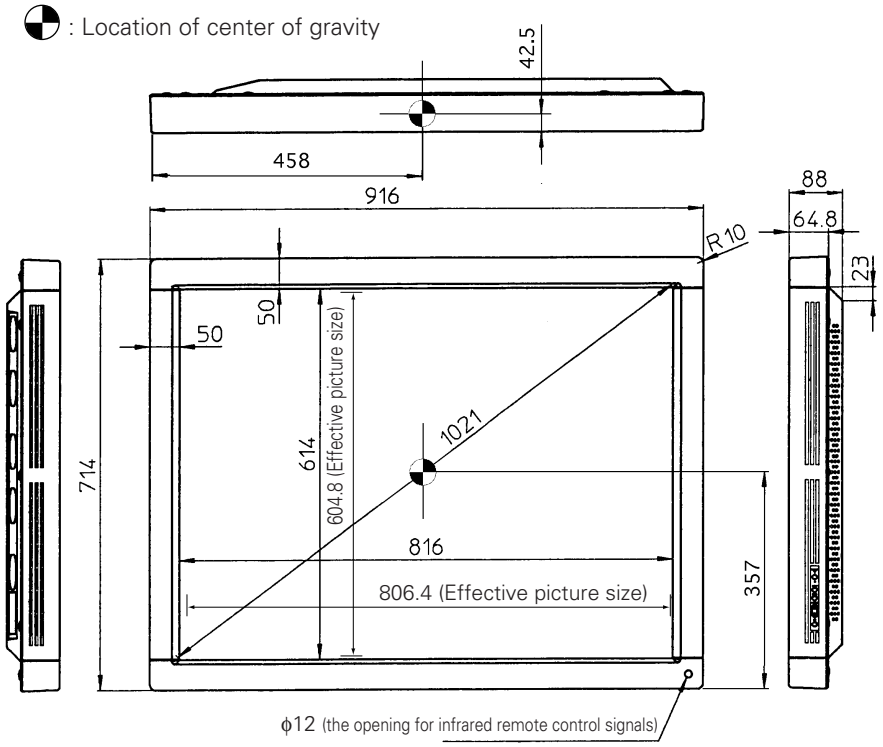
Material : Front - Plastic, Back - plate

Treatment : Front - Leather satin gray paint, Back - Semi-matte black paint (Coating colors should be according to Pioneer's original color specification)

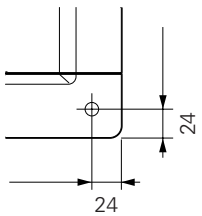
Packing specifications - See "3.3.2 Unpacking"

• < > shows the PDP-V402E.

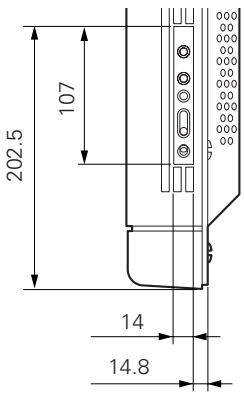
: Location of center of gravity

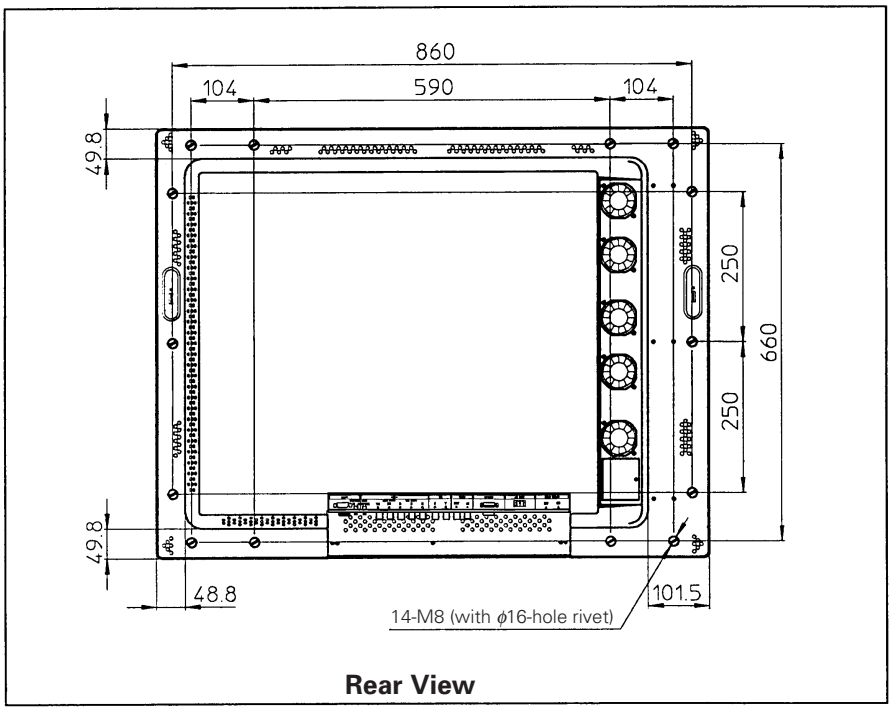


<Light-accepting section of the remote controller>



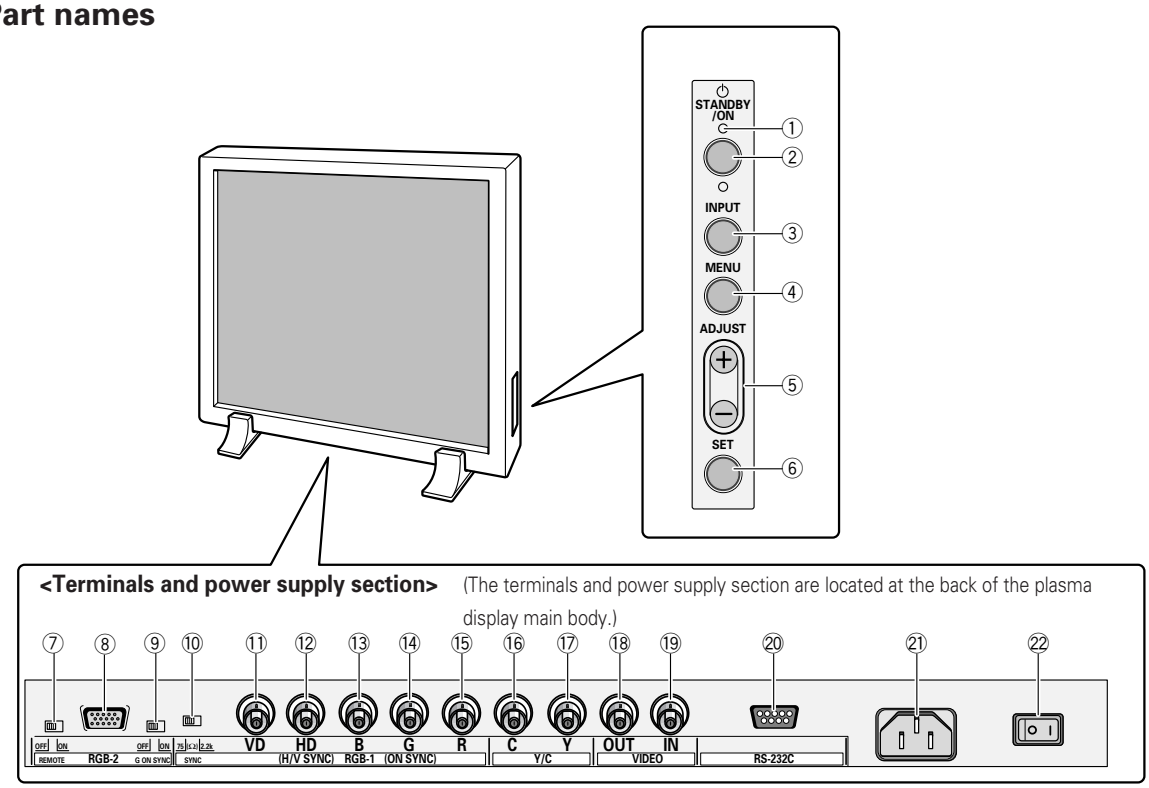
<Operation panel of the main body>





Rear View

2.3 Part names



<Control Panel>

① **STANDBY/ON indicator**
The indicator is red when in standby mode and turns green when the power to the display is turned on.

② **STANDBY/ON button**
Press to turn the power to the display on and off.

③ **INPUT button**
Press to switch the various input functions.

④ **MENU button**
Press to enter the menu screen and exit from it.

⑤ **ADJUST button**
Use the +/– buttons to adjust picture quality.

⑥ **SET button**
Press to finalize menu selections when adjusting picture quality.

<Rear Panel Terminals/Connections to Power Source>

RGB-2 input terminals

⑦ **Remote control out switch (ON/OFF)**
This switch will output remote control commands from the RGB-2 (D-SUB 15-pin) terminal to control external peripheral devices planned for future sales release. Normally be sure to use set to OFF.

⑧ MINI D-SUB 15-pin terminal

⑨ **G on Sync mode selection switch (ON/OFF)**
If the images become greenish when an external device is connected to the RGB-2 input terminal, turn ON the G on SYNC mode. Normally set to OFF.

RGB-1 input terminals

⑩ Sync Signal Input Impedance switch (75 Ω/2,2 kΩ)

⑪ Vertical Sync Signal Input terminal: (75 Ω/2,2 kΩ, switchable with the Sync Signal Input Impedance switch)

⑫ Horizontal or Composite Sync Signal Input terminal: (75 Ω/2,2 kΩ, switchable with the Sync Signal Input Impedance switch)

⑬ Blue Signal Input terminal: 75 Ω

⑭ Green or Green with Sync Signal Input terminal (ON SYNC) :75 Ω

⑮ Red Signal Input terminal: 75 Ω

Y/C input terminals

⑯ Color Signal Input terminal: 75 Ω

⑰ Luminance Signal Input terminal: 75 Ω

VIDEO input/output terminals

⑱ Video Output terminal: 75 Ω

⑲ Video Input terminal: 75 Ω

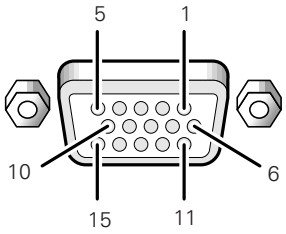
⑳ **Control Signal Input terminal (RS-232C)**

㉑ **AC inlet**

㉒ **MAIN POWER switch**

2.4 Various pin arrangements

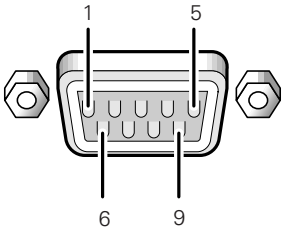
RGB-2 input terminal (mini D-sub 15-pin connector: female)
Pin arrangement



Pin No.	Signal
1	R
2	G
3	B
4	NC (not connected)
5	GND
6	GND
7	GND
8	GND
9	NC (not connected)
10	GND
11	NC (not connected)
12	Remote control signal output (Note)
13	HD or H/V SYNC
14	VD
15	NC (not connected)

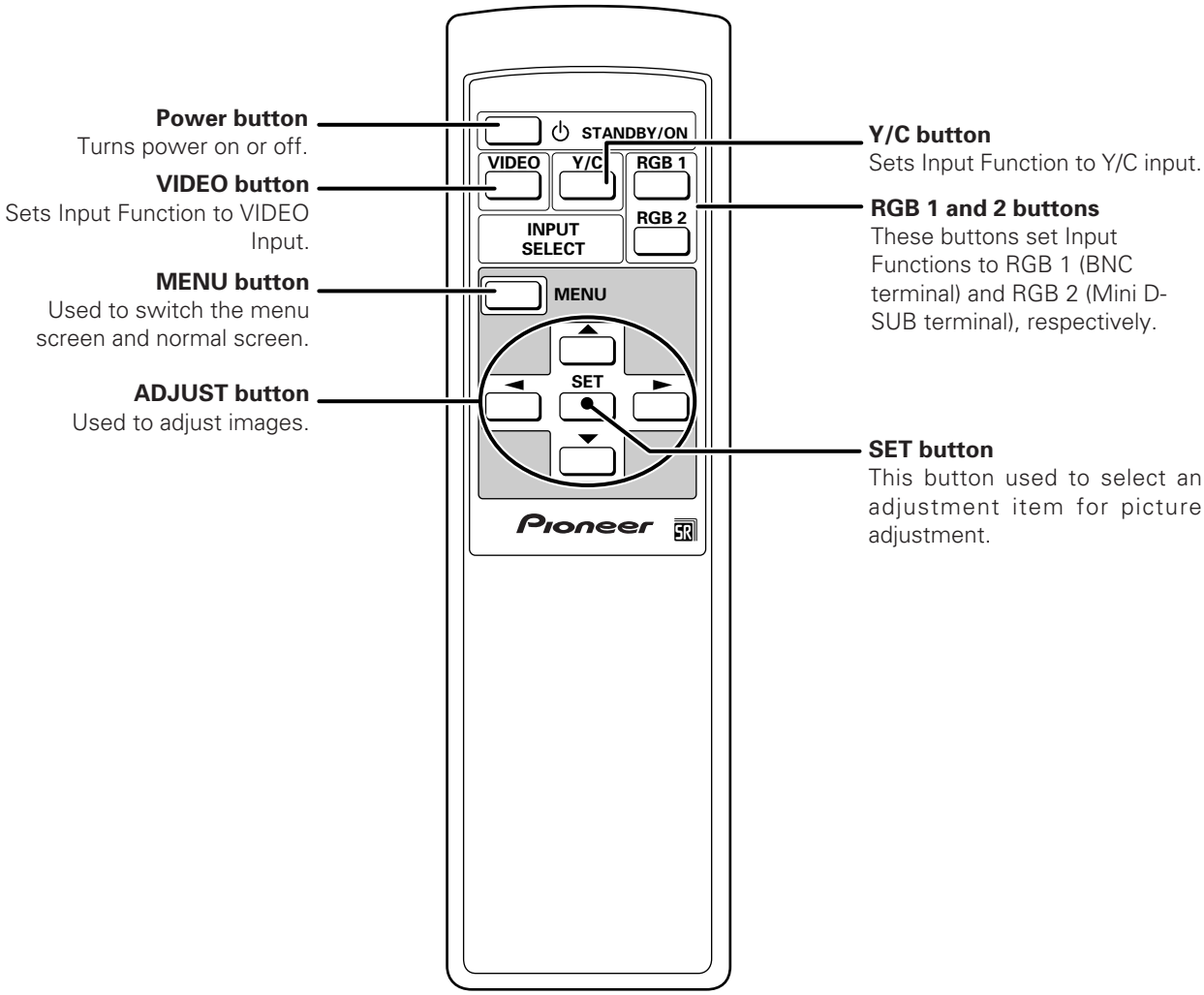
Note: This is a pin for controlling an external add-on peripheral device to be released in the near future.
1 This can be turned ON/OFF with the remote out switch ⑦.
When ''OFF'' is selected, it is NC (not connected).

RS-232C terminal (D-sub 9-pin connector: male)
Pin arrangement



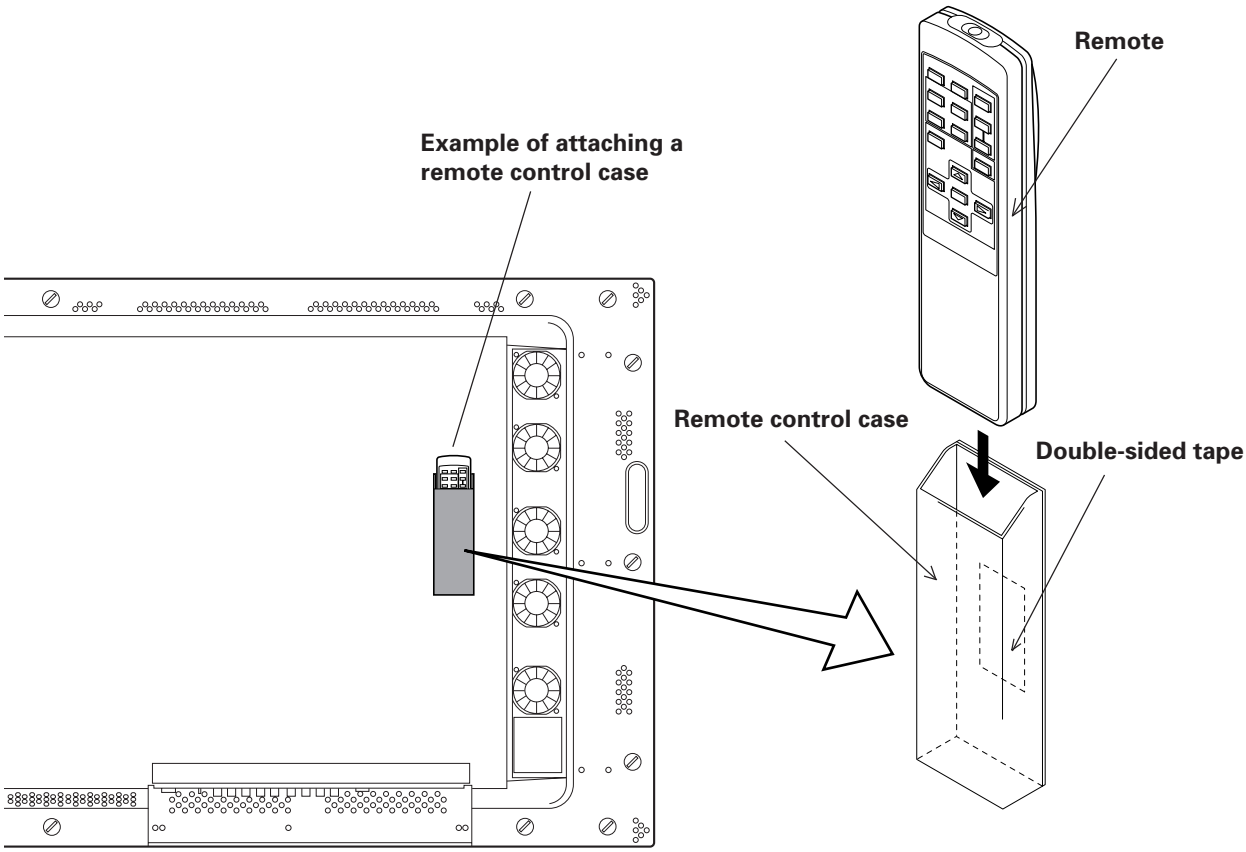
Pin No.	Signal
1	NC (not connected)
2	TxD (Transmit Data)
3	RxD (Receive Data)
4	NC (not connected)
5	GND
6	NC (not connected)
7	NC (not connected)
8	RTS (Reguest To Send)
9	NC (not connected)

2.5 Remote control



2.6 Remote control case

Remove the peel-off paper from the double-sided tape on the back of the remote control case, and attach it on the back of this display or on the installation metal fixture to use as a remote control storage case.



⚠ **(Note) Make sure not to block any air inlet hole with the remote control case.**