

# Projector

CP-X9110/CP-WX9210/CP-WU9410/CP-HD9320

CP-X9111/CP-WX9211/CP-WU9411/CP-HD9321

User's Manual (detailed)

Operating Guide – Technical

## Example of computer signal

Resolution (H x V)	H. frequency (kHz)	V. frequency (Hz)	Rating	Signal mode
720 x 400	37.9	85.0	VESA	TEXT
640 x 480	31.5	59.9	VESA	VGA (60Hz)
640 x 480	37.9	72.8	VESA	VGA (72Hz)
640 x 480	37.5	75.0	VESA	VGA (75Hz)
640 x 480	43.3	85.0	VESA	VGA (85Hz)
800 x 600	35.2	56.3	VESA	SVGA (56Hz)
800 x 600	37.9	60.3	VESA	SVGA (60Hz)
800 x 600	48.1	72.2	VESA	SVGA (72Hz)
800 x 600	46.9	75.0	VESA	SVGA (75Hz)
800 x 600	53.7	85.1	VESA	SVGA (85Hz)
832 x 624	49.7	74.5		Mac 16" mode
1024 x 768	48.4	60.0	VESA	XGA (60Hz)
1024 x 768	56.5	70.1	VESA	XGA (70Hz)
1024 x 768	60.0	75.0	VESA	XGA (75Hz)
1024 x 768	68.7	85.0	VESA	XGA (85Hz)
1152 x 864	67.5	75.0	VESA	1152 x 864 (75Hz)
1280 x 768	47.7	60.0	VESA	W-XGA (60Hz)
1280 x 800	49.7	60.0	VESA	1280 x 800 (60Hz)
1280 x 960	60.0	60.0	VESA	1280 x 960 (60Hz)
1280 x 1024	64.0	60.0	VESA	SXGA (60Hz)
1280 x 1024	80.0	75.0	VESA	SXGA (75Hz)
1440 x 900	55.9	59.9	VESA	WXGA+ (60Hz)

(continued on next page)

## Example of computer signal

Resolution (H x V)	H. frequency (kHz)	V. frequency (Hz)	Rating	Signal mode
*1 1280 x 1024	91.1	85.0	VESA	SXGA (85Hz)
*2 1400 x 1050	65.2	60.0	VESA	SXGA+ (60Hz)
*3 1680 x 1050	65.3	60.0	VESA	WSXGA+ (60Hz)
*1 1600 x 1200	75.0	60.0	VESA	UXGA (60Hz)
*4 1920 x 1200	74.0	60.0	VESA	W-UXGA (60Hz) Reduced Blanking

\*1) Supported except for HDMI™ input.

\*2) Only for **CP-X9110, CP-X9111**.

\*3) Only for **CP-WX9210, CP-WX9211, CP-HD9320, CP-HD9321, CP-WU9410 and CP-WU9411**.

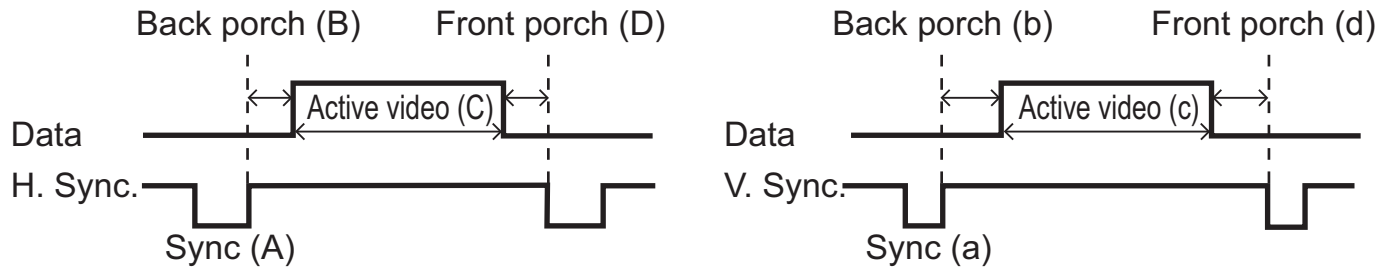
\*4) Only for **CP-WU9410, CP-WU9411**, but except for HDMI™ input.

**NOTE** • Be sure to check jack type, signal level, timing and resolution before connecting this projector to a computer.

- Some computers may have multiple display screen modes. Use of some of these modes will not be possible with this projector.
- Depending on the input signal, full-size display may not be possible in some cases. Refer to the number of display pixels above.
- Although the projector can display signals with a resolution up to UXGA (1600x1200) or up to W-UXGA (1920x1200) for **CP-WU9410, CP-WU9411**, the signal will be converted to the projector's panel resolution before being displayed. The best display performance will be achieved if the resolutions of the input signal and projector panel are identical.
- Automatic adjustment may not function correctly with some input signals.
- The image may not be displayed correctly when the input sync signal is a composite sync or a sync on G.
- The illustrations in this manual are for illustrative purposes. They may differ slightly from your projector.

## Initial set signals

The following signals are used for the initial settings. The signal timing of some computer models may be different. In such case, adjust the items V POSITION and H POSITION in the IMAGE menu.



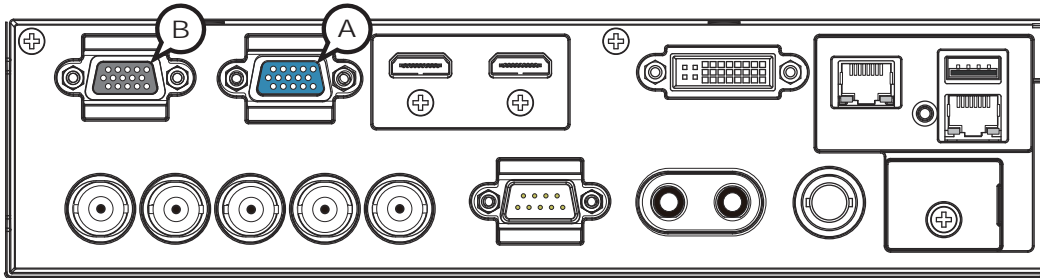
Resolution (H x V)	Horizontal signal timing ( $\mu$ s)				Vertical signal timing (lines)				Signal mode
	(A)	(B)	(C)	(D)	(a)	(b)	(c)	(d)	
720 x 400	2.0	3.0	20.3	1.0	3	42	400	1	TEXT
640 x 480	3.8	1.9	25.4	0.6	2	33	480	10	VGA (60Hz)
640 x 480	1.3	4.1	20.3	0.8	3	28	480	9	VGA (72Hz)
640 x 480	2.0	3.8	20.3	0.5	3	16	480	1	VGA (75Hz)
640 x 480	1.6	2.2	17.8	1.6	3	25	480	1	VGA (85Hz)
800 x 600	2.0	3.6	22.2	0.7	2	22	600	1	SVGA (56Hz)
800 x 600	3.2	2.2	20.0	1.0	4	23	600	1	SVGA (60Hz)
800 x 600	2.4	1.3	16.0	1.1	6	23	600	37	SVGA (72Hz)
800 x 600	1.6	3.2	16.2	0.3	3	21	600	1	SVGA (75Hz)
800 x 600	1.1	2.7	14.2	0.6	3	27	600	1	SVGA (85Hz)
832 x 624	1.1	3.9	14.5	0.6	3	39	624	1	Mac 16" mode
1024 x 768	2.1	2.5	15.8	0.4	6	29	768	3	XGA (60Hz)
1024 x 768	1.8	1.9	13.7	0.3	6	29	768	3	XGA (70Hz)
1024 x 768	1.2	2.2	13.0	0.2	3	28	768	1	XGA (75Hz)
1024 x 768	1.0	2.2	10.8	0.5	3	36	768	1	XGA (85Hz)
1152 x 864	1.2	2.4	10.7	0.6	3	32	864	1	1152 x 864 (75Hz)
1280 x 768	1.7	2.5	16.0	0.8	3	23	768	1	W-XGA (60Hz)
1280 x 800	1.6	2.4	15.3	0.8	3	24	800	1	1280 x 800 (60Hz)
1280 x 960	1.0	2.9	11.9	0.9	3	36	960	1	1280 x 960 (60Hz)
1280 x 1024	1.0	2.3	11.9	0.4	3	38	1024	1	SXGA (60Hz)
1280 x 1024	1.1	1.8	9.5	0.1	3	38	1024	1	SXGA (75Hz)
1280 x 1024	1.0	1.4	8.1	0.4	3	44	1024	1	SXGA (85Hz)
1400 x 1050	1.2	2.0	11.4	0.7	3	33	1050	1	SXGA+ (60Hz)
1440 x 900	1.4	2.2	13.5	0.8	6	25	900	3	WXGA+ (60Hz)
1680 x 1050	1.2	1.9	11.5	0.7	6	30	1050	3	WSXGA+ (60Hz)
1600 x 1200	1.2	1.9	9.9	0.4	3	46	1200	1	UXGA (60Hz)
1920 x 1200	0.208	0.519	12.47	0.312	6	26	1200	3	W-UXGA (60Hz) Reduced Blanking

## Connection to the ports

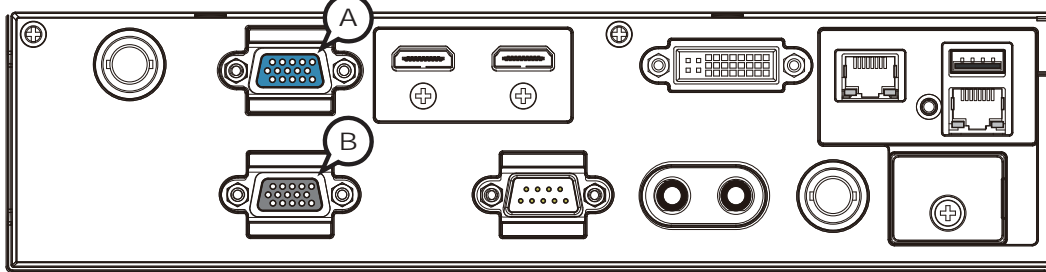
**NOTICE** ▶ Use the cables with straight plugs, not L-shaped ones, as the input ports of the projector are recessed.

▶ Only the signal that is input from the **COMPUTER IN1** or **IN2 (COMPUTER IN** for CP-HD9320/HD9321) can be output from the **MONITOR OUT** port.

### CP-X9110/WX9210/WU9410/CP-X9111/WX9211/WU9411

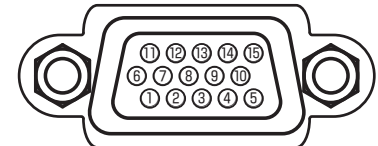


### CP-HD9320/HD9321



#### ⒶCOMPUTER IN1, ⒷMONITOR OUT

D-sub 15pin mini shrink jack



<Computer signal>

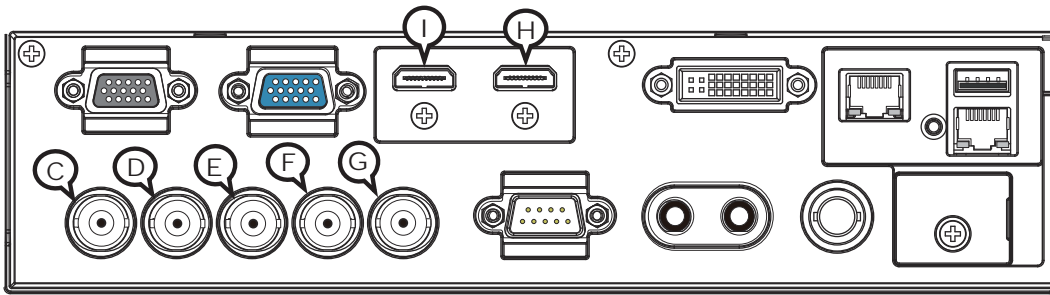
- Video signal: RGB separate, Analog, 0.7Vp-p, 75Ω terminated (positive)
- H/V. sync. signal: TTL level (positive/negative)
- Composite sync. signal: TTL level

<Component video signal>

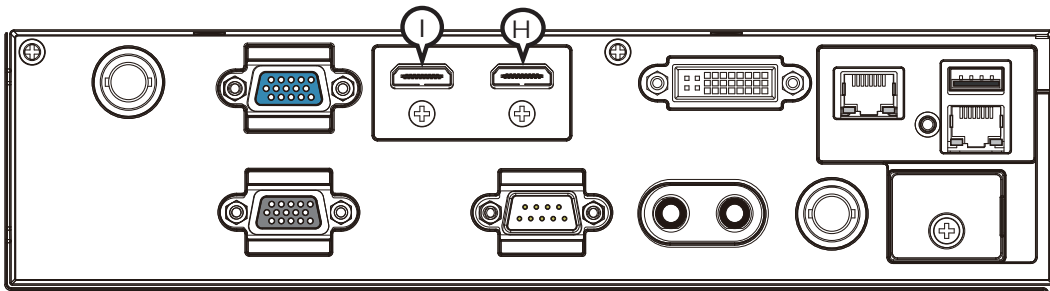
- Video signal: Y with composite sync, Analog, 1.0±0.1Vp-p, 75Ω terminated  
Cb/Pb, Analog, 0.7±0.1Vp-p, 75Ω terminated  
Cr/Pr, Analog, 0.7±0.1Vp-p 75Ω terminated
- System: 480i@60, 480p@60, 576i@50, 720p@50/60, 1080i@50/60, 1080p@50/60

Pin	Signal	Pin	Signal
1	Video Red, Cr/Pr	9	(No connection)
2	Video Green, Y	10	Ground
3	Video Blue, Cb/Pb	11	(No connection)
4	(No connection)	12	Ⓐ: SDA (DDC data) Ⓑ: (No connection)
5	Ground	13	H. sync / Composite sync.
6	Ground Red, Ground Cr/Pr	14	V. sync.
7	Ground Green, Ground Y	15	Ⓐ: SCL (DDC clock) Ⓑ: (No connection)
8	Ground Blue, Ground Cb/Pb		

**CP-X9110/WX9210/WU9410/CP-X9111/WX9211/WU9411**



**CP-HD9320/HD9321**



**COMPUTER IN2** ⒸR/Cr/Pr, ⒹG/Y, ⒺB/Cb/Pb, ⒻH, ⒼV

BNC jack x5

<Computer signal>

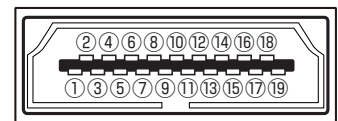
- Video signal: RGB separate, Analog, 0.7Vp-p, 75Ω terminated (positive)
- H/V. sync. signal: TTL level (positive/negative)
- Composite sync. signal: TTL level

<Component video signal>

- Video signal: Y with composite sync, Analog, 1.0±0.1Vp-p, 75Ω terminated  
Cb/Pb, Analog, 0.7±0.1Vp-p, 75Ω terminated  
Cr/Pr, Analog, 0.7±0.1Vp-p 75Ω terminated
- System: 480i@60, 480p@60, 576i@50, 720p@50/60, 1080i@50/60, 1080p@50/60

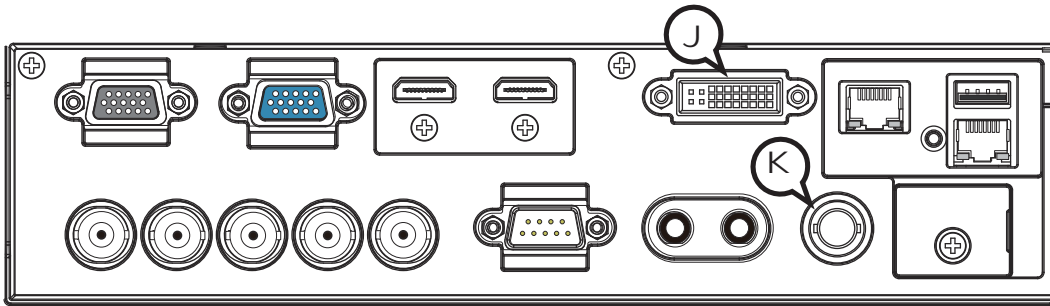
**ⒻHDMI 1, ⒼHDMI 2**

HDMI™ connector

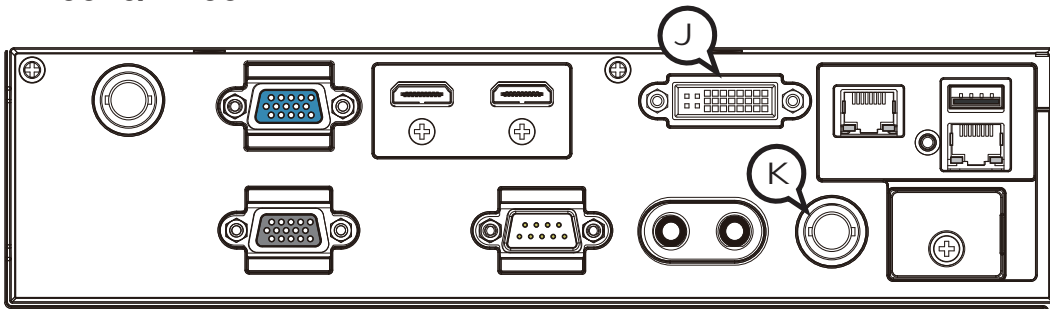


Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2 +	8	T.M.D.S. Data0 Shield	15	SCL
2	T.M.D.S. Data2 Shield	9	T.M.D.S. Data0 -	16	SDA
3	T.M.D.S. Data2 -	10	T.M.D.S. Clock +	17	DDC/CEC Ground
4	T.M.D.S. Data1 +	11	T.M.D.S. Clock Shield	18	+5V Power
5	T.M.D.S. Data1 Shield	12	T.M.D.S. Clock -	19	Hot Plug Detect
6	T.M.D.S. Data1 -	13	CEC		
7	T.M.D.S. Data0 +	14	Reserved (N.C. on device)		

**CP-X9110/WX9210/WU9410/CP-X9111/WX9211/WU9411**

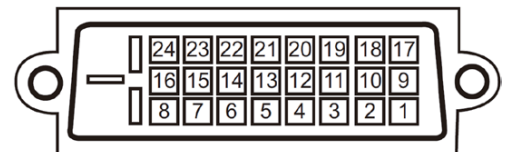


**CP-HD9320/HD9321**



**J DVI-D**

DVI-D jack (digital to digital)



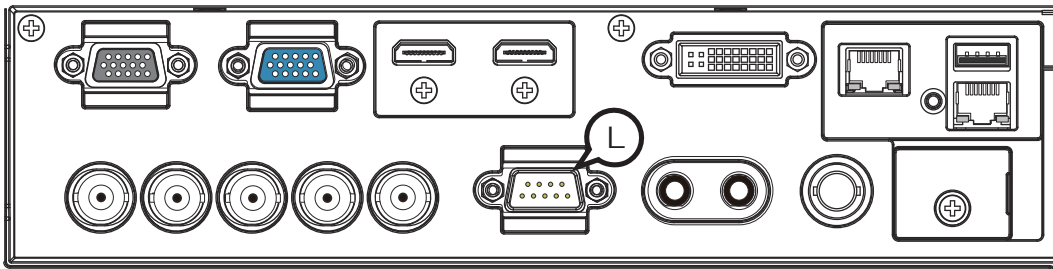
Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2 -	9	T.M.D.S. Data1 -	17	T.M.D.S. Data0 -
2	T.M.D.S. Data2 +	10	T.M.D.S. Data1 +	18	T.M.D.S. Data0 +
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	-	12	-	20	-
5	-	13	-	21	-
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock +
8	-	16	Hot Plug Detect	24	T.M.D.S. Clock -

**K VIDEO**

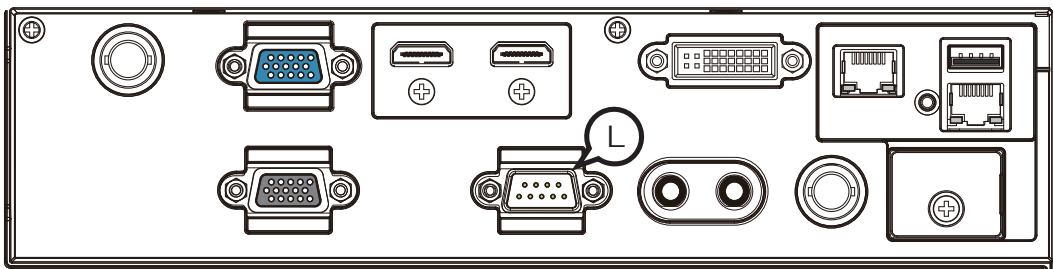
BNC jack

- Composite video signal, Analog, 1.0±0.1Vp-p, 75Ω terminator
- System: NTSC, PAL, SECAM, PAL-M, PAL-N, NTSC4.43, PAL(60Hz)

CP-X9110/WX9210/WU9410/CP-X9111/WX9211/WU9411



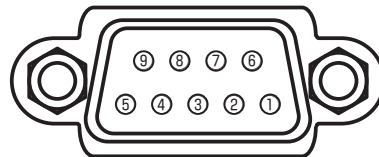
CP-HD9320/HD9321



**L** CONTROL

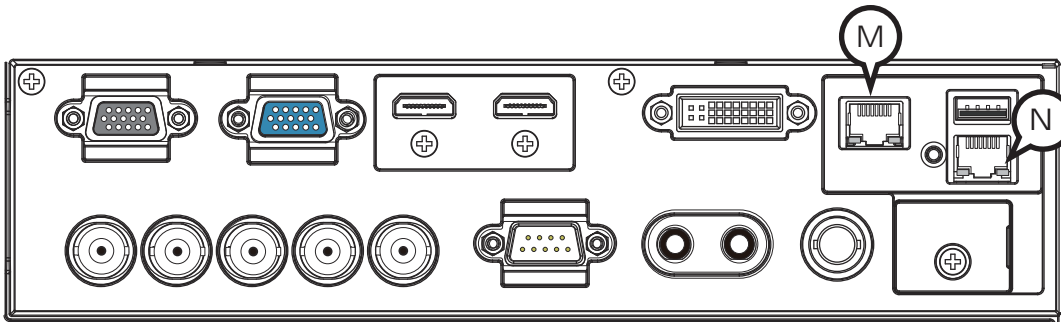
D-sub 9pin plug

\* About the details of RS-232C communication, please refer to the next section.

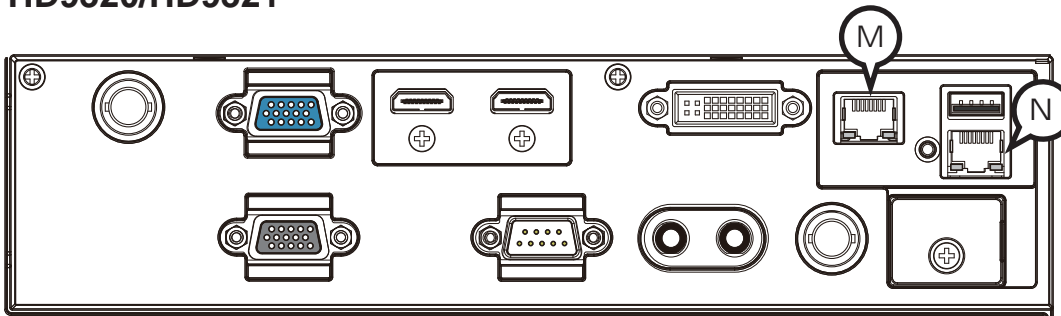


Pin	Signal	Pin	Signal	Pin	Signal
1	(No connection)	4	(No connection)	7	RTS
2	RD	5	Ground	8	CTS
3	TD	6	(No connection)	9	(No connection)

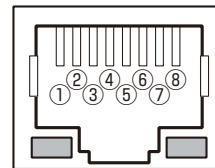
CP-X9110/WX9210/WU9410/CP-X9111/WX9211/WU9411



CP-HD9320/HD9321

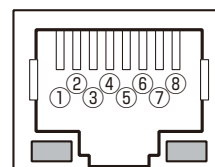


**M** HDBaseT  
RJ-45 jack



Pin	Signal	Pin	Signal	Pin	Signal
1	HDBaseT0+	4	HDBaseT2+	7	HDBaseT3+
2	HDBaseT0-	5	HDBaseT2-	8	HDBaseT3-
3	HDBaseT1+	6	HDBaseT1-		

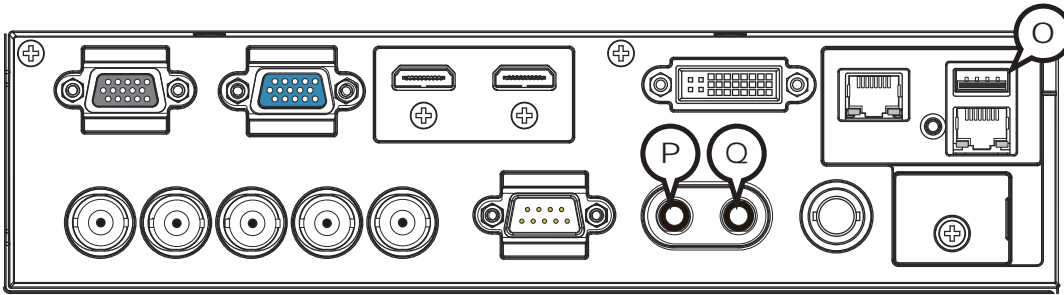
**N** LAN  
RJ-45 jack



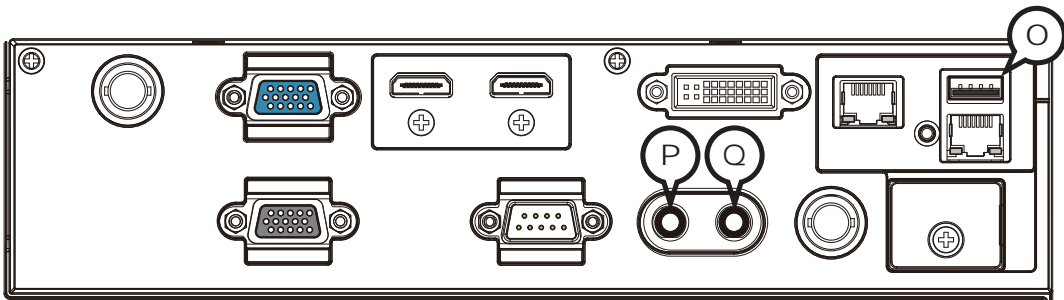
Pin	Signal	Pin	Signal	Pin	Signal
1	TX+	4	-	7	-
2	TX-	5	-	8	-
3	RX+	6	RX-		



**CP-X9110/WX9210/WU9410/CP-X9111/WX9211/WU9411**

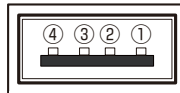


**CP-HD9320/HD9321**



**⊙ WIRELESS PORT**

Only for USB wireless adapter.

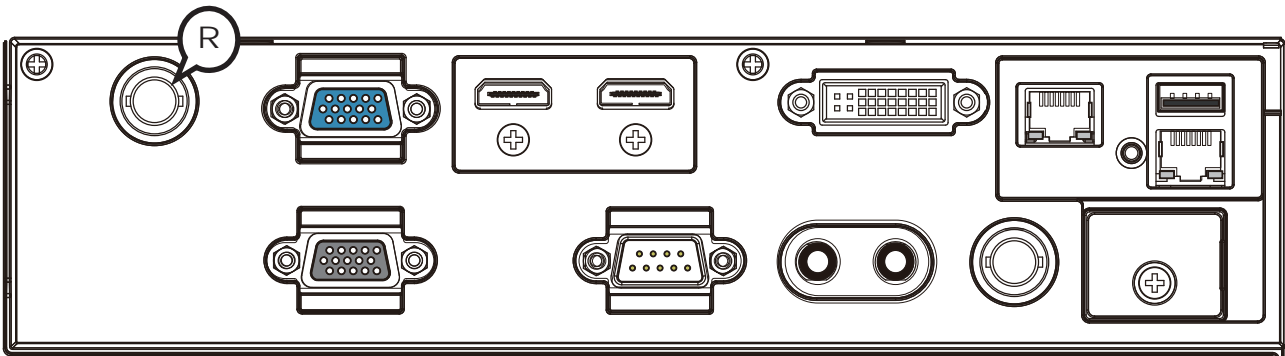


Pin	Signal
1	+5V
2	- Data
3	+ Data
4	Ground

**REMOTE CONTROL ⊕IN, ⊙OUT**

Ø3.5 stereo mini jack

## CP-HD9320/HD9321



### ⓇSDI

BNC jack

- SD/HD/3G-SDI signal, Digital,  $0.8V \pm 10\%$ ,  $75\Omega$  terminated
- System:

SD-SDI signal: conforming to SMPTE ST 259-C standard  
YCBCR 4:2:2 10-bit  
480i, 576i

Single link HD-SDI signal: conforming to SMPTE ST 292 standard  
YPBPR 4:2:2 10-bit  
720p@50/60, 1080i@50/60, 1080sf@25/30

3G-SDI Level-A signal: conforming to SMPTE ST 424 standard  
YPBPR 4:2:2 10-bit  
1080p@50/60