Panasonic ideas for life
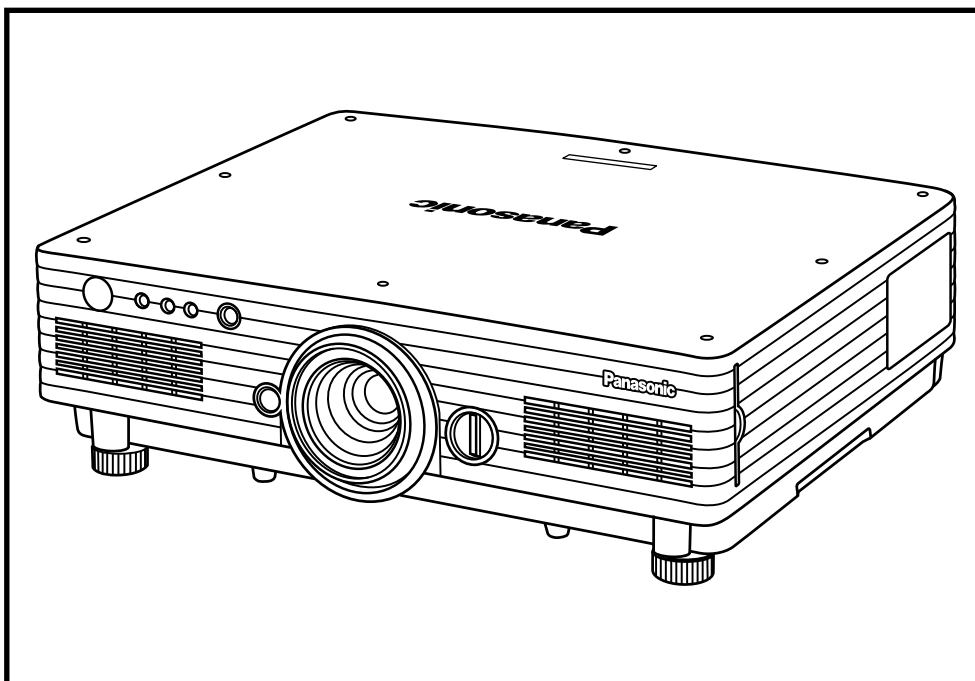
S P E C   F I L E

The PT-DW5100L is not equipped with a lens.

Product Number : PT-**DW5100**/**DW5100L**

Product Name : DLP™ Projectors

DLP™ Projectors

PT-**DW5100/DW5100L**

Specifications

Main Unit

< 2 >

Power supply:	North America:	120 V AC, 50/60 Hz
	Europe:	220–240 V AC, 50/60 Hz
Power consumption:	North America:	770 W (770 VA) (10 W during standby mode with fan stopped)
	Europe:	750 W (790 VA) (15 W during standby mode with fan stopped)
DLP™ chip:	Panel size:	0.65˝ diagonal (15:9 aspect ratio)
	Display method:	DLP™ chip x 1, DLP™ system
	Pixels:	983,040 (1,280 x 768) x 1, total of 983,040 pixels
Lens:	PT-DW5100:	Powered zoom/focus lenses (16:9 aspect ratio: 2.0– 2.6:1),
		F 1.7– 2.0, f 25.6–33.8 mm
	PT-DW5100L:	Optional poweredzoom/focus lenses
Lamp:		300 W UHM™ lamps (x 2) (dual lamp system)
Screen size:		50–600 inches (50–200 inches with the ET-DLE050), 15:9 aspect ratio
Brightness*[1]:		5,500 lumens (dual lamp, high power mode)
Center-to-corner uniformity*[1]:		90%
Contrast*[1]:		2,000:1 (full on/full off, contrast mode: high, brightness: 2,750 lumens)
		1,000:1 (full on/full off, contrast mode: normal)
Resolution:		1,280 x 768 pixels
		(1,600 x 1,200 pixels compatible, compression mode)
Scanning frequency:	RGB:	Horizontal: 15–91 kHz, Vertical: 50–85 Hz,
		Dot clock: 150 MHz or lower
	YPBPR (YCBCR):	480i: f_H 15.75 kHz; fv 59.94 Hz, 576i: f_H 15.63 kHz; fv 50 Hz,
		480p: f_H 31.50 kHz; fv 59.94 Hz, 576p: f_H 31.25 kHz; fv 50 Hz,
		720/60p: f_H 45 kHz; fv 60 Hz, 720/50p: f_H 37.5 kHz; fv 50 Hz,
		1035/60i: f_H 33.75 kHz; fv 60 Hz, 1080/60i: f_H 33.75 kHz; fv 60 Hz,
		1080/50i: f_H 28.13 kHz; fv 50 Hz, 1080/60p: f_H 67.5 kHz; fv 60 Hz,
		1080/50p: f_H 56.25 kHz; fv 50 Hz
	S-Video/Video:	Horizontal: 15.75/15.63 kHz, Vertical: 50/60 Hz,
		(NTSC, NTSC4.43, PAL, PAL60, PAL-N, PAL-M, SECAM)
Optical axis shift:		Horizontal (manual) and vertical (powered),
		Horizontal: ±10%, vertical: +60%
Keystone correction range:		Vertical: ±30°
Installation:		Ceiling/floor, front/rear
Terminals*[2]:	DVI-D IN:	DVI-D 24-pin x 1, DVI 1.0 compliant, HDCP compatible, for single link only
		480p, 576p, 1080/60i, 1080/50i, 1080/60p, 1080/50p, 720/60p, 720/50p, VGA60, SVGA60, XGA50, XGA60, XGA70, XGA75, XGA85, SXGA50, SXGA60, SXGA+60, WXGA768/50, WXGA768/60
	RGB 1 IN:	BNC x 5
	R, G, B:	G: 0.7 Vp-p (G: 1.0 Vp-p for sync on G), 75Ω,
		B, R: 0.7 Vp-p, 75Ω
		HD/VD, SYNC: TTL (positive/negative)
	Y, PB, PR:	Y: 1.0 p-p, 75Ω (including sync signal), PB/PR: 0.7 Vp-p, 75Ω
	RGB 2 IN:	D-sub HD 15-pin x 1
	R, G, B:	G: 0.7 Vp-p (G: 1.0 Vp-p for sync on G), 75Ω,
		B, R: 0.7 Vp-p, 75Ω
		HD/VD, SYNC: TTL (positive/negative)
	Y, PB, PR:	Y: 1.0 p-p, 75Ω (including sync signal), PB,/PR: 0.7 Vp-p, 75Ω
	VIDEO IN:	BNC x 1, 1.0 Vp-p, 75Ω
	S-VIDEO IN:	Mini DIN 4-pin x 1, Y: 1.0 Vp-p, C: 0.286 Vp-p, 75Ω
	SERIAL IN:	D-sub 9-pin x 1 (RS-232C compliant) for external controller
	SERIAL OUT:	D-sub 9-pin x 1 (RS-232C compliant) for external controller
	REMOTE 1 IN:	M3 jack x 1 for wired remote control or link control
	REMOTE 1 OUT:	M3 jack x 1 for link control
	REMOTE 2 IN:	D-sub 9-pin x 1 for external control (parallel)
	LAN:	RJ-45 x 1, compliant with PJLink™, 10Base-T/100Base-TX
Power cord length:		3.0 m (9´10˝)
Cabinet materials:		Molded plastic

DLP® Projectors

PT-**DW5100/DW5100L**

On-screen menu:		9 languages: English, French, German, Spanish, Italian, Russian, Korean, Chinese, and Japanese
Dimensions (W x H x D):	PT-DW5100	530 x 167 x 441 mm (20-7/8″ x 6-9/16″ x 17-3/8″) (with supplied lens)
	PT-DW5100L	530 x 167 x 429 mm (20-7/8″ x 6-9/16″ x 16-7/8″) (without lens)
Weight:	PT-DW5100	13.9 kg (30.6 lbs) (with supplied lens)
	PT-DW5100L	13.1 kg (28.9 lbs) (without lens)
Operating temperature:		0°–45°C (32°–113°F)
Operating humidity:		20%–80% (no condensation)

Remote Control Unit

Power supply:		3 V DC (AA battery x 2)
Operation range*³:	Wireless:	Approx. 30 m (98.4 feet) when operated from directly in front of the signal receptor
Dimensions (W x H x D):		51 x 176 x 22.5 mm (2″ x 6-15/16″ x 7/8″)
Weight:		134 g (4.7 oz) (including batteries)

Supplied Accessories

Power cord, Wireless/wired remote control unit, Batteries for remote control (x 2), Wire rope

Optional Accessories

|	
Replacement lamp unit:	ET-LAD57 (1 unit)
	ET-LAD57W (set of two lamps)
Ceiling mount bracket:	ET-PKD56H (for high ceilings)
	ET-PKD55S (for low ceilings)
Zoom lens (1.4-1.8:1)	ET-DLE100
Zoom lens (2.5-4.1:1)	ET-DLE200
Zoom lens (3.5-4.7:1)	ET-DLE310
Zoom lens (4.7-8.9:1)	ET-DLE410
Fixed-focus lens (0.8:1)	ET-DLE050

Weights and dimensions shown are approximate. Specifications subject to change without notice.
*1 Values indicate overall average values of the product at the time of shipment and are stated based on JIS X 6911:2003 Data Projector Specification Sheet Format. Measurement method and conditions are based on Appendix 2.
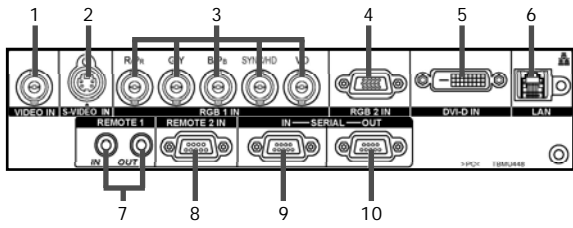***2 The HD/SYNC and VD inputs do not accept the tri-level sync signal.**
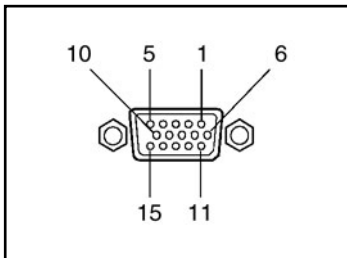***3 Operation range differs depending on environments.**

Dimensions
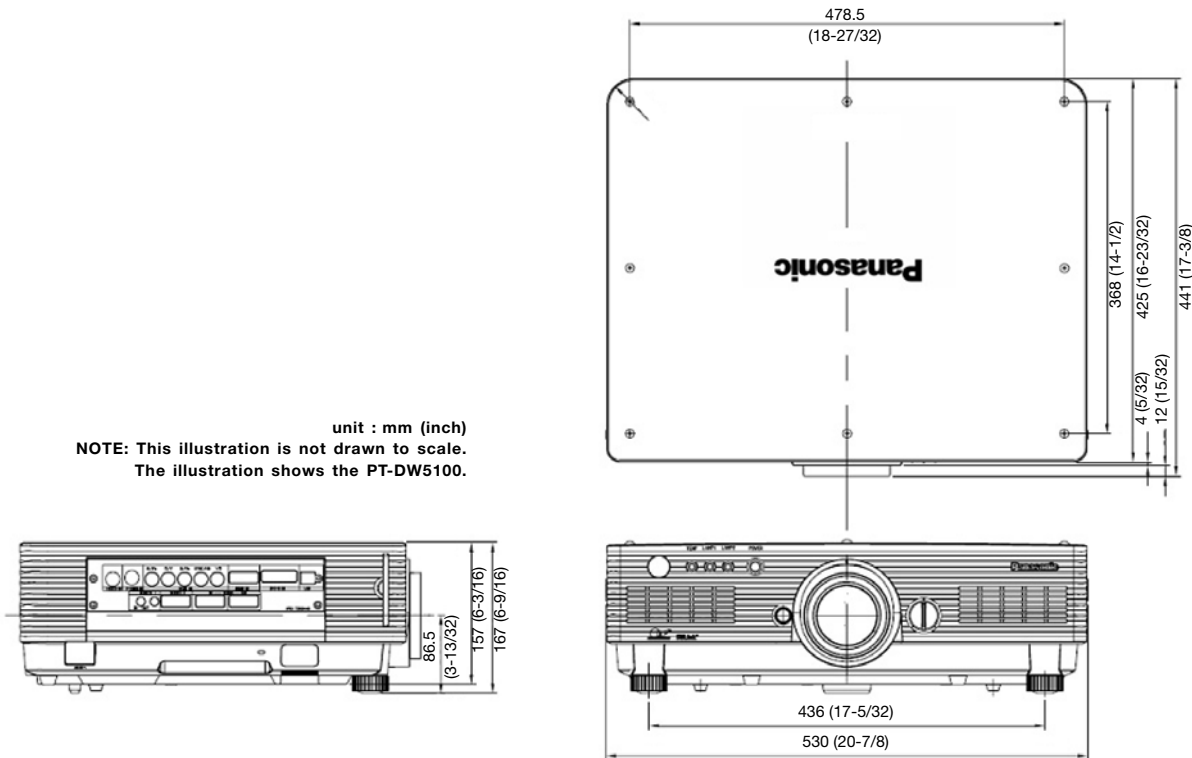
unit : mm (inch)
NOTE: This illustration is not drawn to scale.
The illustration shows the PT-DW5100.

Terminals

1 Video input
2 S-Video input
3 RGB 1 input
4 RGB 2 Input
5 DVI-D input
6 LAN connector
7 Remote 1 input and output
8 Remote 2 input
9 Serial input
10 Serial output

RGB IN connector pin assignment

no.	signal	no.	signal	no.	signal
1	R/P$_R$	6	GND	11	GND
2	G/Y	7	GND	12	NC
3	B/P$_B$	8	GND	13	HD/SYNC
4	GND	9	NC	14	VD
5	GND	10	GND	15	NC

DVI-D output connector pin assignment
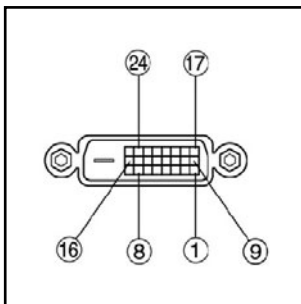
no.	signal	no.	signal	no.	signal
1	T, M, D, S data 2-	9	T, M, D, S data 1-	17	T, M, D, S data 0-
2	T, M, D, S data 2+	10	T, M, D, S data 1+	18	T, M, D, S data 0+
3	T, M, D, S data 2 shield	11	T, M, D, S data 1 shield	19	T, M, D, S data 0 shield
4	NC	12	NC	20	NC
5	NC	13	NC	21	NC
6	DDC clock	14	+5 V	22	T, M, D, S clock shield
7	DDC clock	15	GND	23	T, M, D, S clock +
8	NC	16	Hot plug detection	24	T, M, D, S clock -

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Standard setting-up position (when installed using the ET-PKD56H)
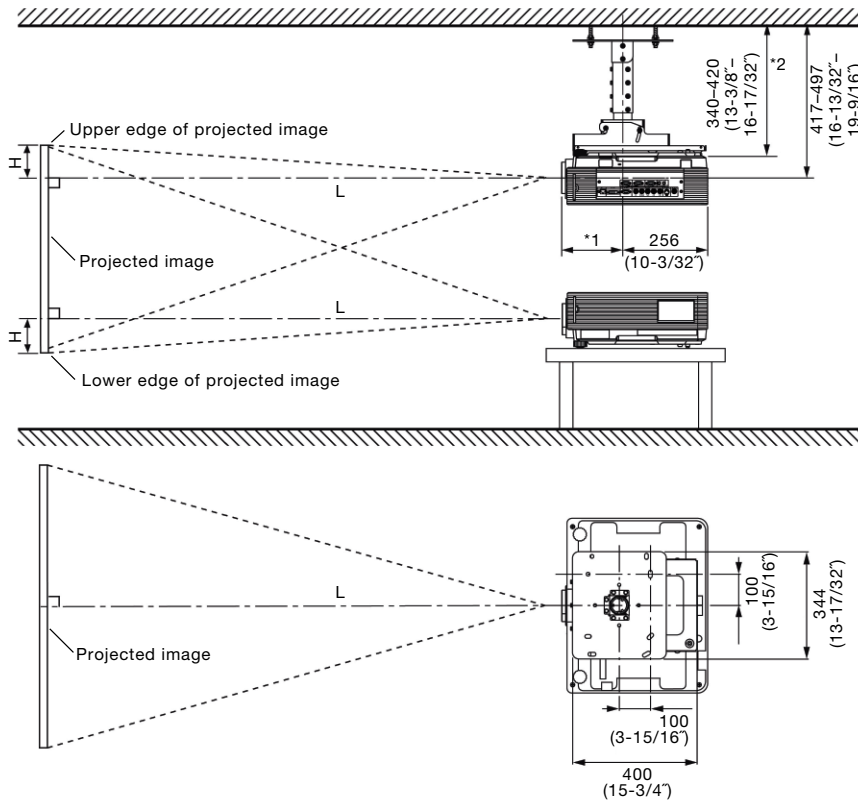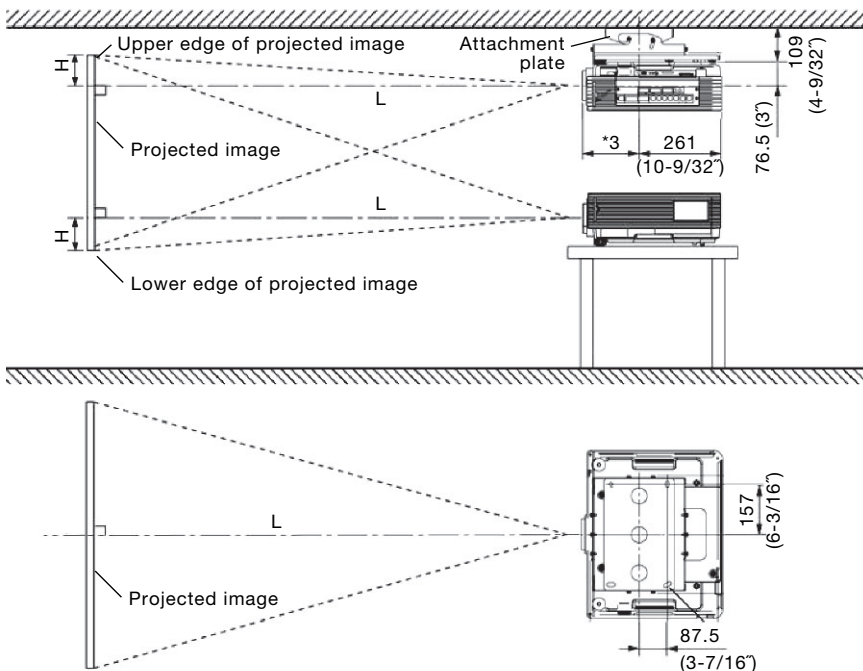
*1 When the lens protrudes to the maxi-
mum.
185 mm (7-9/32˝) with the supplied lens
177 mm (6-31/32˝) with the ET-DLE050
209 mm (8-7/32˝) with the ET-DLE100
208 mm (8-3/16˝) with the ET-DLE200
220 mm (8-21/32˝) with the ET-DLE310
209 mm (8-7/32˝) with the ET-DLE410

*2 Adjustable in 40 mm (1-9/16˝) steps.

unit : mm (inch)

Upper edge of projected image
Projected image
Lower edge of projected image

340–420
(13-3/8˝–
16-17/32˝)

417–497
(16-13/32˝–
19-9/16˝)

*2

*1   256
(10-3/32˝)

100
(3-15/16˝)

344
(13-17/32˝)

100
(3-15/16˝)

400
(15-3/4˝)

Projected image

Standard setting-up position (when installed using the ET-PKD55S)

*3 When the lens protrudes to the maxi-
mum.
180 mm (7-3/32˝) with the supplied lens
172 mm (6-25/32˝) with the ET-DLE050
204 mm (8-1/32˝) with the ET-DLE100
203 mm (8˝) with the ET-DLE200
215 mm (8-15/32˝) with the ET-DLE310
204 mm (8-1/32˝) with the ET-DLE410

unit : mm (inch)

Upper edge of projected image
Attachment plate
Projected image
Lower edge of projected image

109
(4-9/32˝)

76.5 (3˝)

*3   261
(10-9/32˝)

157
(6-3/16˝)

87.5
(3-7/16˝)

Projected image

NOTE:

Illustrations show the projector installed using optional ceiling bracket.

This illustration is not drawn to scale.

Values shown are approximate.

The value for L (distance to screen) varies slightly depending on the zoom lens characteristics. When the shortest projection distance (min.) is used, a small amount of distortion may occur in the image due to the zoom lens characteristics.

C A U T I O N
The ET-DLE050 has a fixed short-focus lens. Therefore, the lens shift function provided in the main unit cannot be used.
If the lens shift function is used, the corners of images may not be displayed or images may remain out of focus in some cases.

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Projection distance for 15:9 aspect ratio screen
(meters)

Screen size (inch, diagonal)	Distance to screen (L)										Height from the edge of screen to center of lens (H)	
	Zoom									Fixed-focus		
	ET-DLE100 Zoom lens		Supplied lens		ET-DLE200 Zoom lens		ET-DLE310 Zoom lens		ET-DLE410 Zoom lens		ET-DLE050 Fixed-focus lens	Zoom lenses	Fixed-focus lens
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.			
50	1.5	1.9	2.0	2.5	2.7	4.3	3.9	5.0	5.1	9.6	0.864	0 – 0.39	0.327
60	1.8	2.3	2.4	3.1	3.3	5.2	4.7	6.0	6.2	11.5	1.044	0 – 0.47	0.392
70	2.1	2.7	2.8	3.6	3.8	6.1	5.4	7.0	7.2	13.5	1.224	0 – 0.55	0.457
80	2.4	3.1	3.2	4.1	4.4	7.0	6.2	8.1	8.3	15.4	1.404	0 – 0.63	0.523
90	2.7	3.5	3.6	4.7	4.9	7.9	7.0	9.1	9.3	17.4	1.584	0 – 0.71	0.588
100	3.0	3.9	4.0	5.2	5.5	8.8	7.8	10.1	10.4	19.3	1.764	0 – 0.78	0.653
120	3.6	4.8	4.8	6.2	6.5	10.6	9.4	12.2	12.4	23.2	2.124	0 – 0.94	0.784
150	4.5	6.0	6.0	7.8	8.2	13.3	11.7	15.2	15.6	29.1	2.664	0 – 1.18	0.980
200	6.0	8.0	8.0	10.5	10.9	17.8	15.7	20.4	20.8	38.8	3.564	0 – 1.57	1.307
250	7.5	10.0	10.0	13.1	13.7	22.2	19.6	25.5	26.0	48.6	–	0 – 1.96	–
300	9.0	12.0	12.0	15.8	16.4	26.7	23.5	30.6	31.2	58.3	–	0 – 2.35	–
400	12.0	16.1	16.1	21.1	21.9	35.7	31.4	40.9	41.7	77.9	–	0 – 3.14	–
500	15.0	20.1	20.1	26.4	27.3	44.6	39.2	51.1	52.1	97.4	–	0 – 3.92	–
600	18.0	24.1	24.1	31.7	32.8	53.6	47.1	61.4	62.6	116.9	–	0 – 4.70	–

Projection distance for 15:9 aspect ratio screen
(feet)

Screen size (inch, diagonal)	Distance to screen (L)										Height from the edge of screen to center of lens (H)	
	Zoom									Fixed-focus		
	ET-DLE100 Zoom lens		Supplied lens		ET-DLE200 Zoom lens		ET-DLE310 Zoom lens		ET-DLE410 Zoom lens		ET-DLE050 Fixed-focus lens	Zoom lenses	Fixed-focus lens
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.			
50	4.8	6.4	6.4	8.7	8.8	14.4	12.6	16.4	16.7	31.5	2.834	0 – 1.29	1.072
60	5.8	7.7	7.8	10.5	10.6	17.3	15.2	19.8	20.2	37.9	3.425	0 – 1.54	1.286
70	6.8	9.1	9.1	12.2	12.4	20.3	17.8	23.2	23.6	44.3	4.015	0 – 1.80	1.501
80	7.8	10.4	10.4	14.0	14.2	23.2	20.3	26.5	27.0	50.7	4.606	0 – 2.06	1.715
90	8.8	11.7	11.7	15.8	16.0	26.1	22.9	29.9	30.4	57.1	5.197	0 – 2.32	1.929
100	9.7	13.0	13.0	17.5	17.8	29.1	25.5	33.3	33.9	63.5	5.787	0 – 2.57	2.144
120	11.7	15.7	15.7	21.1	21.4	34.9	30.6	40.0	40.7	76.3	6.968	0 – 3.09	2.573
150	14.7	19.7	19.6	26.4	26.8	43.7	38.4	50.1	51.0	95.5	8.740	0 – 3.86	3.216
200	19.6	26.3	26.2	35.2	35.7	58.4	51.3	66.9	68.1	127.5	11.693	0 – 5.15	4.288
250	24.5	32.9	32.8	44.0	44.7	73.1	64.2	83.8	85.2	159.5	–	0 – 6.43	–
300	29.4	39.6	39.4	52.8	53.7	87.8	77.1	100.6	102.4	191.5	–	0 – 7.72	–
400	39.3	52.8	52.6	70.5	71.6	117.2	102.9	134.2	136.6	255.5	–	0 – 10.29	–
500	49.1	66.1	65.8	88.1	89.6	146.5	128.6	167.9	170.9	319.6	–	0 – 12.86	–
600	59.0	79.3	79.0	105.8	107.5	175.9	154.4	201.6	205.1	383.6	–	0 – 15.44	–

- **The value for L (distance to screen) varies slightly depending on the zoom lens characteristics.**
- **At the shortest projection distance, the zoom lens characteristics may cause slight image distortion.**
- **When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.**
- **For the ET-DLE050, the height from the edge of the screen to the center of the lens (H) is 1/2 of the screen height.**
- **The brightness varies depending on the zoom setting.**

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DLP® Projectors

PT-**DW5100/DW5100L**

Projection distance for 16:9 aspect ratio screen

(meters)

Screen size (inch, diagonal)	Distance to screen (L)										Height from the edge of screen to center of lens (H)	
	Zoom									Fixed-focus		
	ET-DLE100 Zoom lens		Supplied lens		ET-DLE200 Zoom lens		ET-DLE310 Zoom lens		ET-DLE410 Zoom lens		ET-DLE050 Fixed-focus lens	Zoom lenses	Fixed-focus lens
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.			
50	1.5	2.0	2.0	2.6	2.8	4.4	3.9	5.1	5.2	9.7	0.879	0 – 0.37	0.311
60	1.8	2.4	2.4	3.1	3.3	5.3	4.7	6.1	6.3	11.7	1.062	0 – 0.45	0.374
70	2.1	2.8	2.8	3.7	3.9	6.2	5.5	7.1	7.3	13.7	1.245	0 – 0.52	0.436
80	2.4	3.2	3.3	4.2	4.4	7.2	6.3	8.2	8.4	15.7	1.428	0 – 0.60	0.498
90	2.7	3.6	3.7	4.7	5.0	8.1	7.1	9.2	9.5	17.7	1.611	0 – 0.67	0.560
100	3.1	4.0	4.1	5.3	5.5	9.0	7.9	10.3	10.5	19.6	1.794	0 – 0.75	0.623
120	3.7	4.8	4.9	6.4	6.7	10.8	9.5	12.4	12.6	23.6	2.160	0 – 0.90	0.747
150	4.6	6.1	6.1	8.0	8.3	13.5	11.9	15.5	15.8	29.6	2.709	0 – 1.12	0.934
200	6.1	8.1	8.2	10.7	11.1	18.1	15.9	20.7	21.1	39.5	3.624	0 – 1.49	1.245
250	7.6	10.2	10.2	13.4	13.9	22.6	19.9	25.9	26.4	49.4	–	0 – 1.87	–
300	9.2	12.2	12.3	16.1	16.7	27.2	23.9	31.1	31.7	59.3	–	0 – 2.24	–
400	12.2	16.3	16.3	21.4	22.2	36.3	31.9	41.6	42.4	79.1	–	0 – 2.99	–
500	15.3	20.5	20.4	26.8	27.8	45.4	39.9	52.0	53.0	99.0	–	0 – 3.74	–
600	18.3	24.6	24.5	32.2	33.3	54.5	47.9	62.4	63.6	118.8	–	0 – 4.48	–

Projection distance for 16:9 aspect ratio screen

(feet)

Screen size (inch, diagonal)	Distance to screen (L)										Height from the edge of screen to center of lens (H)	
	Zoom									Fixed-focus		
	ET-DLE100 Zoom lens		Supplied lens		ET-DLE200 Zoom lens		ET-DLE310 Zoom lens		ET-DLE410 Zoom lens		ET-DLE050 Fixed-focus lens	Zoom lenses	Fixed-focus lens
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.			
50	4.9	6.5	6.5	8.6	9.0	14.6	12.8	16.7	17.0	32.0	2.884	0 – 1.23	1.021
60	5.9	7.9	7.9	10.4	10.8	17.6	15.4	20.1	20.5	38.5	3.484	0 – 1.47	1.226
70	6.9	9.2	9.2	12.1	12.6	20.6	18.1	23.6	24.0	45.0	4.084	0 – 1.72	1.430
80	7.9	10.6	10.6	13.9	14.4	23.6	20.7	27.0	27.4	51.6	4.685	0 – 1.96	1.634
90	8.9	11.9	11.9	15.7	16.3	26.6	23.3	30.4	30.9	58.1	5.285	0 – 2.21	1.838
100	9.9	13.3	13.3	17.4	18.1	29.6	25.9	33.8	34.4	64.6	5.885	0 – 2.45	2.043
120	11.9	16.0	15.9	21.0	21.7	35.5	31.2	40.7	41.4	77.6	7.086	0 – 2.94	2.451
150	14.9	20.0	20.0	26.3	27.2	44.5	39.0	50.9	51.8	97.1	8.887	0 – 3.68	3.064
200	19.9	26.8	26.7	35.1	36.3	59.4	52.1	68.0	69.2	129.6	11.889	0 – 4.90	4.085
250	24.9	33.5	33.4	44.0	45.4	74.3	65.2	85.2	86.6	162.2	–	0 – 6.13	–
300	29.9	40.2	40.1	52.8	54.6	89.3	78.3	102.3	104.0	194.7	–	0 – 7.35	–
400	39.9	53.7	53.5	70.5	72.8	119.1	104.6	136.5	138.8	259.7	–	0 – 9.80	–
500	49.9	67.2	66.9	88.2	91.0	149.0	130.8	170.7	173.6	324.8	–	0 – 12.26	–
600	59.9	80.7	80.3	105.8	109.3	178.8	157.0	204.9	208.5	389.9	–	0 – 14.71	–

- **The value for L (distance to screen) varies slightly depending on the zoom lens characteristics.**
- **At the shortest projection distance, the zoom lens characteristics may cause slight image distortion.**
- **When vertical keystone correction is used, the image is corrected in the direction that reduces its projected size.**
- **For the ET-DLE050, the height from the edge of the screen to the center of the lens (H) is 1/2 of the screen height.**
- **The brightness varies depending on the zoom settings.**
- **The height of images from 4:3 aspect ratio sources is slightly larger than that of images from 16:9 sources. If images from 4:3 sources do not fit the screen, set the aspect ratio to "S4:3".**

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PT-**DW5100/DW5100L**

Calculation of the projection distance

For a screen size different from the above, use the equation below to calculate the projection distance.

Aspect ratio 15:9

| ET-DLE100 | minimum | L (m) = (diagonal screen size in inches) x 0.0300 - 0.0452 |
	maximum	L (m) = (diagonal screen size in inches) x 0.0404 - 0.0478
Supplied lens	minimum	L (m) = (diagonal screen size in inches) x 0.0402 - 0.0650
	maximum	L (m) = (diagonal screen size in inches) x 0.0530 - 0.0638
ET-DLE200	minimum	L (m) = (diagonal screen size in inches) x 0.0547 - 0.0657
	maximum	L (m) = (diagonal screen size in inches) x 0.0895 - 0.0758
ET-DLE310	minimum	L (m) = (diagonal screen size in inches) x 0.0786 - 0.1062
	maximum	L (m) = (diagonal screen size in inches) x 0.1026 - 0.1056
ET-DLE410	minimum	L (m) = (diagonal screen size in inches) x 0.1044 - 0.1374
	maximum	L (m) = (diagonal screen size in inches) x 0.1951 - 0.1352
ET-DLE050	(fixed focus)	L (m) = (diagonal screen size in inches) x 0.0180 - 0.0361

Aspect ratio 16:9

ET-DLE100	minimum	L (m) = (diagonal screen size in inches) x 0.0305 - 0.0452
	maximum	L (m) = (diagonal screen size in inches) x 0.0411 - 0.0478
Supplied lens	minimum	L (m) = (diagonal screen size in inches) x 0.0409 - 0.0650
	maximum	L (m) = (diagonal screen size in inches) x 0.0539 - 0.0638
ET-DLE200	minimum	L (m) = (diagonal screen size in inches) x 0.0556 - 0.0657
	maximum	L (m) = (diagonal screen size in inches) x 0.0910 - 0.0758
ET-DLE310	minimum	L (m) = (diagonal screen size in inches) x 0.0799 - 0.1062
	maximum	L (m) = (diagonal screen size in inches) x 0.1043 - 0.1056
ET-DLE410	minimum	L (m) = (diagonal screen size in inches) x 0.1061 - 0.1374
	maximum	L (m) = (diagonal screen size in inches) x 0.1983 - 0.1352
ET-DLE050	(fixed focus)	L (m) = (diagonal screen size in inches) x 0.0183 - 0.0361

- **Distances calculated with the above equations will include a slight error.**
- **When an SXGA signal is input, the left and right edges of the image are blanked, and the image is projected at a screen aspect ratio of 5:4.**
- **The brightness varies depending on the zoom setting.**

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Shift range

Optical axis shift function allows to shift the position of a projected image as shown below.

H
(Width of
projected image)

0.1H

0.1H

0.6V

V
(Height of
projected image)

Standard postition
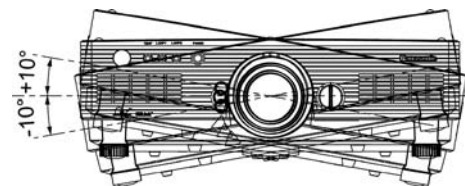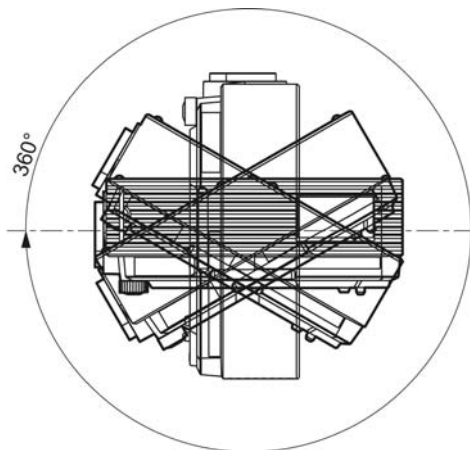of projected image
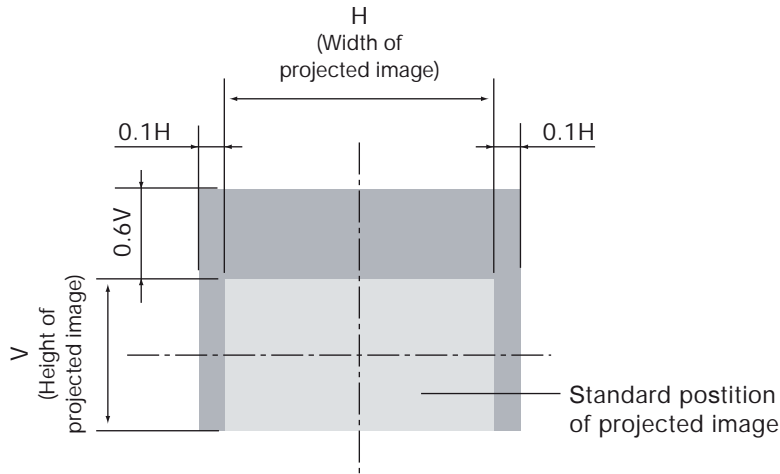
Installable angle

Install the projector at an angle within the range shown below.

• Vertical direction
The projector may be installed at a vertical angle of 360°.

• Horizontal direction
The projector may be installed at a horizontal angle of ±10°.

360°

-10° +10°

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PT-**DW5100/DW5100L**

List of compatible signals

This projector supports RGB signals with horizontal frequencies of 15 to 91 kHz, vertical frequencies of 50 to 85 Hz and up to 150 MHz dot clock.

NOTE: The native resolution of this projector is 1,280 x 768 pixels. If the display resolution of the input signal is different from the native resolution, image compression or expansion will be used to convert the input signal to a level within the native resolution.

Display mode	Display resolution (dots)[1]	Scanning frequency H (kHz)	V (kHz)	Dot clock frequency (MHz)	Picture quality[2]	Format
NTSC/NTSC4.43/PAL-M/PAL60	720 x 480i	15.7	59.9	-	A	VIDEO/S-VIDEO
PAL/PAL-N/SECAM	720 x 576i	15.6	50.0	-	A	
480i (525i)	720 x 480i	15.7	59.9	13.5	A	YP$_B$P$_R$ /RGB
576i (625i)	720 x 576i	15.6	50.0	13.5	A	
480p (525p)	720 x 483	31.5	59.9	27.0	A	YP$_B$P$_R$ /RGB/DVI
576p (625p)	720 x 576	31.3	50.0	27.0	A	
720/60p	1,280 x 720	45.0	60.0	74.3	A	
720/50p	1,280 x 720	37.5	50.0	74.3	A	
1080/60i	1,920 x 1,080i	33.8	60.0	74.3	A	
1080/50i	1,920 x 1,080i	28.1	50.0	74.3	A	
1080/60p	1,920 x 1,080	67.5	60.0	148.5	A	
1080/50p	1,920 x 1,080	56.3	50.0	148.5	A	
VGA400	640 x 400	31.5	70.1	25.2	A	RGB
		37.9	85.1	31.5	A	
VGA480	640 x 480	31.5	59.9	25.2	A	RGB/DVI
		35.0	66.7	30.2	A	RGB
		37.9	72.8	31.5	A	
		37.5	75.0	31.5	A	
		43.3	85.0	36.0	A	
SVGA	800 x 600	35.2	56.3	36.0	A	
		37.9	60.3	40.0	A	RGB/DVI
		48.1	72.2	50.0	A	RGB
		46.9	75.0	49.5	A	
		53.7	85.1	56.3	A	
MAC16	832 x 624	49.7	74.6	57.3	A	
XGA	1,024 x 768	39.6	50.0	51.9	AA	RGB/DVI
		48.4	60.0	65.0	AA	
		56.5	70.1	75.0	AA	
		60.0	75.0	78.8	AA	
		68.7	85.0	94.5	AA	
		35.5	87.0	44.9	AA	RGB
WXGA	1,280 x 768	39.6	50.0	65.2	AA	RGB/DVI
		47.7	60.0	80.1	AA	
	1,280 x 800	41.3	50.0	68.0	A	RGB
		49.7	59.8	83.5	A	
MXGA	1,152 x 864	64.0	71.2	94.2	A	
		67.5	74.9	108.0	A	
		76.7	85.0	121.5	A	
MAC21	1,152 x 870	68.7	75.1	100.0	A	
MSXGA	1,280 x 960	60.0	60.0	108.0	A	
SXGA	1,280 x 1,024	64.0	60.0	108.0	A	RGB/DVI
		80.0	75.0	135.0	A	RGB
		91.1	85.0	157.5	A	
SXGA+	1,400 x 1,050	64.0	60.0	108.0	A	RGB/DVI
UXGA	1,600 x 1,200	75.0	60.0	162.0	A	RGB

1. The "i" appearing after the resolution indicates an interlaced signal.
2. The following symbols are used to indicate picture quality.
   - **AA**   Maximum picture quality can be obtained.
   - **A**   Signals are converted by the image processing circuit before picture is projected.

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Serial connector

The serial connector complies with RS-232C. To control the projector from a personal computer, commands must be input through communication software, based on the format and satisfying the communication conditions shown below.
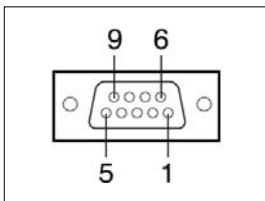
Pin assignments and signal names
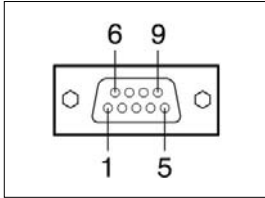
D-sub 9-pin (female)
Serial input

No.	Signal name	Description	No.	Signal name	Description
1	–	NC			
2	TXD	Send data	6	–	NC
3	RXD	Receive data	7	CTS	Connected internally
4	–	Connected internally	8	RTS	Connected internally
5	GND	Ground	9	–	NC

Pin assignments and signal names

D-sub 9-pin (male)
Serial output

No.	Signal name	Description	No.	Signal name	Description
1	–	NC			
2	RXD	Receive data	6	–	NC
3	TXD	Send data	7	RTS	Connected internally
4	–	Connected internally	8	CTS	Connected internally
5	GND	Ground	9	–	NC

Communication conditions (factory setting)

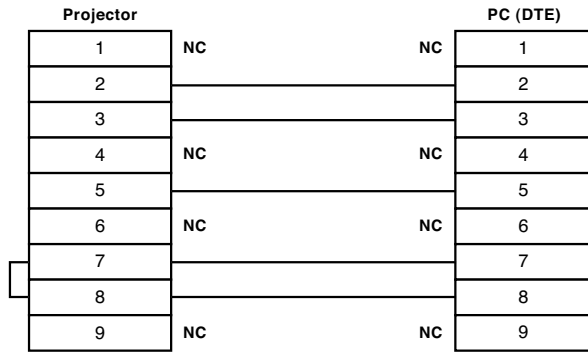|	
Signal level	RS-232C-compliant
Synchronization method	Start-stop synchronization
Baud rate	9,600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
X parameter	None
S parameter	None

Basic format

Transmission from the computer begins with STX, then the ID, command, parameter, and ETX are sent in this order. Add parameters according to the details of control.

STX	A D	I1 I2	;	C1 C2 C3	:	P1 P2 ... Pn	ETX

Start
(1 byte)

ID 2 characters
(2 bytes)

Semicolon
(1 byte)

Command
(3 bytes)
(Control and/or query commands)

Colon
(1 byte)

Parameters
(undefined length)

End
(1 byte)

ID designator:
  01 to 64: Address number
  0A to 0Z: Group ID
  ZZ: All units (ID ALL)
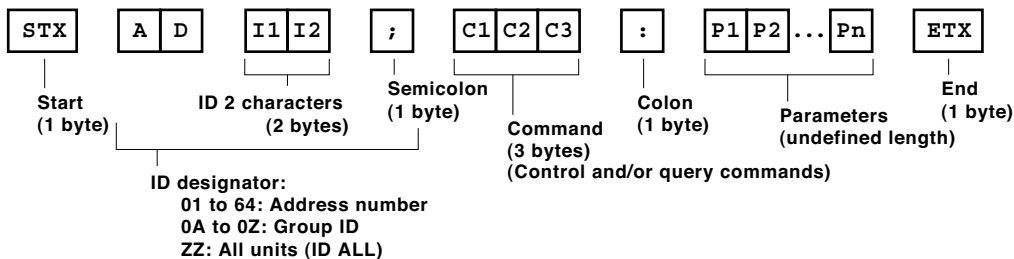
CAUTIION
• It may not be possible to send or receive commands for about 10 to 60 seconds when the lamp is first turned on. If this occurs, wait for 60 seconds, then try sending or receiving again.
• When sending multiple commands, be sure to wait for at least 0.5 second after receiving a response from the projector before sending the next command.
• Additional time is sometimes required for response due to processing inside the projector. Set the time-out period for command response to 10 seconds or more.

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Cable specifications

Projector				PC (DTE)
1	NC		NC	1
2				2
3				3
4	NC		NC	4
5				5
6	NC		NC	6
7				7
8				8
9	NC		NC	9

Control commands

Item	Command : Parameter	Function	Callback
POWER	`PON`*1	Power on	`PON`
	`POF`*1	Standby power off	`POF`
FREEZE	`OFZ:0`	Freeze off	`OFZ:0`
	`OFZ:1`	Freeze on	`OFZ:1`
AUTO SETUP	`OAS`	Auto setup	`OAS`
SHUTTER	`OSH:0`*1/*2	Shutter off	`OSH:0`
	`OSH:1`*1/*2	Shutter on	`OSH:1`
INPUT SELECT	`IIS:RG1`	RGB 1	`IIS:RG1`
	`IIS:RG2`	RGB 2	`IIS:RG2`
	`IIS:VID`	Video	`IIS:VID`
	`IIS:SVD`	S-Video	`IIS:SVD`
	`IIS:DVI`	DVI	`IIS:DVI`
TEST	`OTS:00`	Exit test pattern	`OTS:00`
	`OTS:01`	White (full on)	`OTS:01`
	`OTS:02`	Black (full off)	`OTS:02`
	`OTS:03`	Flag	`OTS:03`
	`OTS:05`	Window	`OTS:05`
	`OTS:07`	Focus	`OTS:07`
	`OTS08`	Color bar	`OTS08`
ON SCREEN	`OOS:0`	On-screen display off	`OOS:0`
	`OOS:1`	On-screen display on	`OOS:1`

*1 Do not send PON, POF, OSH, or OLP commands continuously in a short period of time. Doing so may burst the lamp or shorten the lamp replacement cycle.

*2 When a command that cannot be executed during standby mode is sent, the projector will send an ER401 command in reply.

Adjustment mode

Item	Command: Parameter	Description	Callback: Parameter	Parameter value Min.	Max.
PICTURE MODE	`VPM:NAT`	Natural	`VPM:NAT`	–	–
	`VPM:STD`	Standard	`VPM:STD`	–	–
	`VPM:DYN`	Dynamic	`VPM:DYN`	–	–
	`VPM:CIN`	Cinema	`VPM:CIN`	–	–
	`VPM:GRA`	Graphic	`VPM:GRA`	–	–
SYSTEM	`VXX:DLVI0=+00000`	Off	`VXX:DLVI0=+00000`	–	–
DAYLIGHT	`VXX:DLVI0=+00001`	1	`VXX:DLVI0=+00001`	–	–
VIEW	`VXX:DLVI0=+00002`	2	`VXX:DLVI0=+00002`	–	–
	`VXX:DLVI0=+00003`	3	`VXX:DLVI0=+00003`	–	–
COLOR	`VCO:p1p2p3`	Color	`VCO:p1p2p3`	1	63
TINT	`VTN:p1p2p3`	Tint	`VTN:p1p2p3`	1	63
COLOR TEMP.	`OTE:1`	Middle	`OTE:1`	–	–
	`OTE:2`	High	`OTE:2`	–	–
	`OTE:4`	User	`OTE:4`	–	–
	`OTE:10`	Default	`OTE:10`	–	–
CONTRAST	`VCN:p1p2p3`	Contrast	`VCN:p1p2p3`	1	63
BRIGHTNESS	`VBR:p1p2p3`	Brightness	`VBR:p1p2p3`	1	63
SHARPNESS	`VSR:p1p2p3`	Sharpness	`VSR:p1p2p3`	0	15
SET DATE	`TSD:y1y2y3y4m1m2d1d2w`	Date setting	`TSD:y1y2y3y4m1m2d1d2w`	200701011	203512317
SET TIME	`TST:h1h2m1m2s1s2`	Time setting	`TST:h1h2m1m2s1s2`	000000	235959

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Status asking commands

Item	Command:Parameter	Function	Callback	Description
POWER CONDITION	`QPW`	Main power status	`000`	Standby (Off)
			`001`	On
FREEZE	`QFZ`	Freeze function status	`0`	Off
			`1`	On
SHUTTER	`QSH`	Shutter function status	`0`	Off
			`1`	On
INPUT SIGNAL	`QIN`	Input signal status	`RG1`	RGB 1
			`RG2`	RGB 2
			`VID`	Video
			`SVD`	S-Video
			`DVI`	DVI
TEST	`QTS`	Test pattern status	`0`	Exit test pattern
			`1`	White (full on)
			`2`	Black (full off)
			`3`	Flag
			`5`	Window
			`7`	Focus
			`8`	Color bar
ON SCREEN	`QOS`	On-screen display status	`0`	Off
			`1`	On
PICTURE MODE	`QPM`	Picture mode status	`NAT`	Natural
			`STD`	Standard
			`DYN`	dynamic
			`CIN`	Cinema
			`GRA`	Graphic
SYSTEM DAYLIGHT VIEW	`QVX:DLVI0`	System daylight view status	`DLVI0=+00000`	Off
			`DLVI0=+00001`	1
			`DLVI0=+00002`	2
			`DLVI0=+00003`	3
COLOR	`QVC`	Color adjustment value	`p1p2p3`	
TINT	`QVT`	Tint adjustent value	`p1p2p3`	
COLOR TEMP.	`QTE`	Color temperature adjustment status	`1`	Middle
			`2`	High
			`4`	User
			`10`	Default
CONTRAST	`QVR`	Contrast adjustment value	`p1p2p3`	
BRIGHTNESS	`QVB`	Brightness adjustment value	`p1p2p3`	
SHARPNESS	`QVS`	Sharpness adjustment value	`p1p2p3`	
SET RUNTIME	`QST`	Picture mode status	`p1p2p3p4p5`	00000h–99999h
LAMP ON TIME	`Q$L:1`	Lamp 1 run time	`p1p2p3p4`	0000h–9999h
(LAMP TIMER)	`Q$L:2`	Lamp 2 run time	`p1p2p3p4`	0000h–9999h
LAMP SELECT	`QSL`	Lamp operation mode status	`0`	Dual
			`1`	Single
			`2`	Lamp 1
			`3`	Lamp 2
LAMP POWER	`QLP`	Lamp power mode status	`0`	High
			`1`	Low
VPS SYSTEM	`QVY`	VPS system status	`0`	Slave
			`1`	Master
TMP CHECK	`QTM:0`	Temperature status	`p1p2p3p4/p5p6p7p8` [*1]	p0 = Intake air
	`QTM:1`			p1 = Exhaust air
	`QTM:2`			p2 = DLP™ chip
GET DATE	`QGD`	Date setting status	`y1y2y3y4m1m2d1d2w`	yyyymmdd (day of week) [*2]
GET TIME	`QGT`	Time setting status	`h1h2m1m2s1s2`	hhmmss [*3]

∗1 p1p2p3p4: Celsius (°C), p5p6p7p8: Fahrenheit (°F)
∗2 Day of week: Monday = 1, Tuesday = 2, … Sunday = 7
∗3 Set the date and time to UTC (universal time coordinated).

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Parameter format

Parameter format	Size (Byte)	Difinition
<pl>	3 (1 or 2 bytes also possible when under control)	Dicimal without signs: 0-999 (000, 001, 002...999) Dicimal with signs: -99 to +99 (-99...-01, +00, +01, +02...+99) Callback from the projector is 3 Byte.
<off on>	1	0 = off, 1 = on
<input signal>	3	RG1 = computer 1, RG2 = computer 2, VID = video, SVD = S-Video, DVI = DVI
<installation>	1	0 = front, 1 = rear, 2 = ceiling and front, 3 = ceiling and rear
<language>	3	ENG = English, DEU = German, FRA = French, ESP = Spanish, ITL = Italian, JPN = Japanese, CHI = Chinese, RUS = Russian, KOR = Korean
<power condition>	3	000 = standby power off, 001 = standby power on
<lamp on time>	4	Decimal without signs: 0000-9999 hours
<lamp select>	1	0 = dual, 1 = single, 2 = lamp 1, 3 = lamp 2
<lamp power>	1	0 = high, 1 = low
<acctch>	4	Decimal without signs: 0000-9999 hours
<color temp>	2	1 = mid, 2 = high, 4 = user, 10 = default
<date>	9	y1y2y3y4m1m2d1d2w = year (y) month (m) day (d) day of week (w) Day of week: Monday = 1, Tuesday = 2, ... Sunday = 7
<time>	6	h1h2m1m2s1s2 = hour (h) minute (m) second (s)

NOTE: If a wrong command is received, the projector will send an ER401 command to the computer.

Command example

To set the on-screen display off, send the command as shown below.

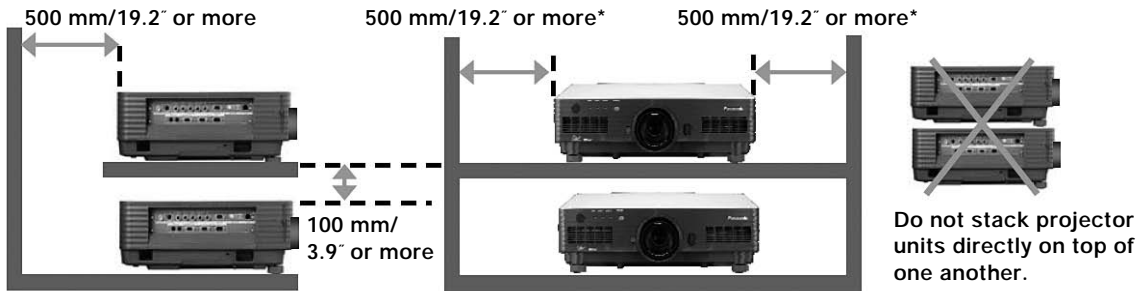| STX	ADZZ	;	OOS	:	30	ETX
Start	ID Address		Command		Parameter	End

NOTE: When sending commands without parameters, a colon (:) is not necessary.

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Notes on Projector Placement and Operation:

The projector uses a high-wattage lamp that becomes very hot during operation. Please observe the following precautions.

1. Never place objects on top of the projector while it is operating.
2. Make sure there is an unobstructed space of 500 mm or more around the projector's exhaust openings.
3. Do not stack projector units directly on top of one another. If two units must be stacked for back-up use in ordinary projection, use a method as shown below and provide ample space between the units to ensure that exhaust heat does not accumulate near the intake opening or around the units. Dual stacked projection of the PT-DW5100/DW5100L is not recommended.
4. If the projector is placed in a box or enclosure, ensure the temperature of the air surrounding the projector is between 0°C/32°F and 40°C/104°F*. Also make sure the projector's intake and exhaust openings are not blocked. Take particular care to ensure that hot air from the exhaust openings is not sucked into the intake openings.
    *   Even when the ambient temperature near the intake opening is 40°C/104°F or lower, an accumulation of hot air inside the cabinet may cause the protective circuit to activate and shut down the projector. Please give ample consideration to the design with regard to ambient temperature conditions.

500 mm/19.2″ or more   **500 mm/19.2″ or more***   **500 mm/19.2″ or more***

100 mm/ 3.9″ or more

Do not stack projector units directly on top of one another.

* Minimum distance when two units are used together.
  Keep 300 mm/11.8″ or more when a single unit is used.

Direction of Air Intake and Exhaust

Intake

Exhaust
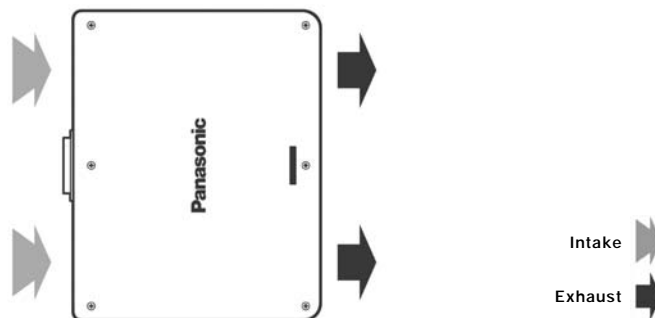
Operating the Projector Continuously:

1. If the projector is to be operated continuously 24 hours a day, use the dual-lamp optical system's alternating lamp operation (lamp changer) function. The projector cannot be operated continuously 24 hours a day in dual-lamp mode.
    Allow a minimum of two hours per day of non-operation time.
2. The lamp replacement cycle duration becomes shorter if the projector is operated repeatedly for short periods.

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