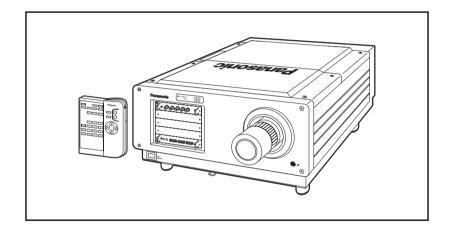
DLP[™] based Projector

Models No.

PT-D8600U PT-D8600E



Panasonic

Note:

Because some pages in the user instruction manual are used for this chapter (pages 10 through 12 in this service manual) without change, note that the page numbers shown in the sentences of this chapter are those of the user instruction manual.

Only pages with changes to the "PT-D8500U/PT-D8500E Operating Instructions" are noted in this simplified manual.

Projection distance for each projection lens (sold separately)

The required project on distance depends on not only the target picture size but also the type of an optional projection lens. Obtain the appropriate projection lens for the installation space by referring to the projection distance for each projection lens shown in the table below and on the next page.



Projection distance measurements (screen aspect ratio : 5:4)

unit: mm (feet/inches)

Ficture	Screen size		Projection distance						
size	Scree	11 5120			Zcom	n lens			Fixed focal lens
5120	Effective	Effective	ET-D95LE1	(1.5-2.5:1)	ET-D95LE2	(2.5-4.0:1)	ET-D95_E3	(4.0-7.0:1)	
	height(SH)	width(SW)	Min.	Max.	Min.	Max.	Nin.	Max.	(0.8:1)
2 540	1 587	1 983	3 145	5 006	5 078	7 915	7 887	13 603	2 316
(100")	(5'3")	(6'7'')	(10' 4''')	(16'6")	(16'9'')	(26' 0'')	(26.0.)	(44'9'')	(7'8')
3 0 1 8	1 \$04	2 380	3 731	5 074	6 0 4 9	9 465	9 4 4 9	16 320	2 7 2 9
(120")	(6'3")	(7' 10")	(12'3")	(19' 8")	(19' 11')	(31' 1")	(31'1")	(53' 9")	(9° D*)
3 810	2 380	2 975	4 610	7 426	7 504	11 791	11 793	20 418	3 348
(150")	(7' 10")	(9' 10")	(15' 2")	(24' 5")	(24' 6")	(38' 9")	(38'10")	(67' 2")	(11:0")
4 572	2 856	3 570	5 489	8 878	8 9 5 9	14 117	14 137	24 507	3 9 6 7
(180")	(9'5'')	(11'9")	(18'1")	(29' 2")	(2916")	(46' 5'')	(46' 6")	(80' 7")	(13'1')
5 080	3 173	3 967	6 075	9 846	9 9 2 9	15 667	15 700	27 233	
(200")	(10'6")	(13'1")	(20' 0")	(32'5")	(32° B")	(51'_7")	(51'8")	(89'7")	
6 350	3 967	4 959	7 540	12 267	12 355	19 543	19 606	34 049	
(250")	(13'1")	(16`4")	(24' 10")	(40'4")	(40' 8")	(64' 4')	(64' 6")	(112' 0")	
7 620	4 760	5 950	9 005	14 687	14 781	23 420	23 5 1 3	40 864	
(300")	(15'8")	(19'7")	(29' 7")	(48`4")	(48' 6")	(77' 0")	(77' 4")	(134' 5")	
8 890	5 5 5 4	6 942	10 470	17 107	17 207	27 296	27 419	47 679	
(350")	(18'3")	(22'10")	(34' 5'')	(56'3")	(56' 7")	(89'10'')	(90.2.)	(156'10")	
10 160	6 347	7 934	11 935	19 527	19 633	31 172	31 326	54 494	
(400")	(20" 11 ")	(26111)	(39' 3'')	(64`3'')	(64' 7'')	(102.7")	(103.0)	(179'3'')	
11 430	7 140	8 925	13 400	21 948	22 059	35 048	35 232	61 310	
(450")	(23.6~)	(29'4")	(44' 1'')	(72' 2")	(75' 2'')	(115'4")	(115'11")	(201' 8'')	
12 700	7 934	9 917	14 866	24 368	24 485	38 925	39 139	68 125	
(500")	(24'6")	(32' 8")	(48' 11")	(80' 2")	(80' 7")	(128'0")	(128'9")	(224' 1")	
13 970	8 727	10 909	16 331	26 788	26 910	42 801	43 045	74 940	<u> </u>
(550")	(26'1") 9 £ 2 0	(35'11")	(53' 8")	(68`1")	(88°6″) 29-336	(140' 10")	(141'7")	(246' 6")	
15 240		1: 900	17 796	29 209		46 677	46 951	81 756	
(600")	(31'4")	(39'2")	(58' 6")	(96'1")	(96' 6")	(153'7")	(154`5")	(288'11")	

Projection distance measurements (screen aspect ratio : 16:9)

unit: mm (feet/inches)

Picture	Screen size		Projection distance						
		11 0120			Zoon	i lens			Fixed focal lens
size	Effective	Effective	ET-D95LEI	(1.5-2.5:1)	ET-D95LE2	(2.5-4.0:1)	ET-D95LE3	(4.0-7.0:1)	
	height(SH)	width(SW)	Min.	Max.	Min.	Max.	Min.	Max.	(0.8:1)
2 540 (100°) 3 048 (120°) 3 810 (50°) 4 572 (180°) 5 080 (200°) 5 080 (200°) 6 350 (200°) 6 350 (200°) 7 620 (330°) 16 180 (400°) 11 430 (400°) 12 700 (500°)	1 245 (4117) 1 494 (4117) 1 868 (627) 2 241 (747) 2 491 3 133 (10'37) 3 736 (12'37) 4 358 (14'47) 4 981 (16'47) 5 604 (18'57) 6 226 (20'57)	2 214 (73°) 2 657 3 321 3 321 3 985 (181°) 4 428 (181°) 5 535 (182°) 6 641 (211°) 7 748 8 535 (182°) 6 641 (211°) 7 748 8 535 (290°) 9 952 (228°) 1 0.69 9 952 (328°)	3 48.6 (11 ⁻⁶⁷) 4 140 (13 ⁻⁸⁷) 5 121 (17 ⁻³⁷) 6 102 (20 ⁻¹⁷) 6 756 (22 ⁻³⁷) 10 027 (33 ⁻⁰⁷) 1 662 (38 ⁻⁴⁷) 1 3 2.97 (43 ⁻⁶⁷) 1 4 932 (49 ⁻¹⁷) 1 6 558 (64 ⁻⁶)	$\begin{array}{c} 5 & 568\\ (18'4'')\\ 6 & 648\\ (22'11'')\\ 8 & 269\\ (22'2''')\\ 9 & 890\\ (32'6'')\\ 10 & 971\\ (36'1'')\\ 13 & 672\\ (45'0'')\\ 13 & 672\\ (45'0'')\\ 13 & 672\\ (45'0'')\\ 13 & 672\\ (45'0'')\\ 145'0''\\ 19 & 075\\ (52'9'')\\ 24' & 478\\ (80'6'')\\ 27' & 180\\ (69'5'')\\ \end{array}$	5 641 (1877) 6 724 (2217) 8 349 (2767) 9 974 (32107) 1 057 (32207) 1 3 764 (4537) 1 6 472 (5472) 1 9 180 (6317) 2 1 887 (7207) 2 4 595 (80117) 2 7 303 (89107)	8 8 5 (28'07) 10 546 (34'7') 13 142 (43'3') 15 737 (51'9') 26 121 (57'6') 26 121 (65'11') 30 448 (100'2') 34 448 (104'5') 39 101 (128'8') 43 427 (142'10')	$\begin{array}{c} 8 & 794 \\ (28\ 11^{\circ}) \\ (10 & 538 \\ (34\ 11^{\circ}) \\ (31\ 155 \\ (43^{\circ}3^{\circ}) \\ (43^{\circ}3^{\circ}) \\ 15\ 771 \\ (57\ 771 \\ 21\ 875 \\ (12^{\circ})^{\circ} \\ 21\ 875 \\ (12^{\circ})^{\circ} \\ 21\ 875 \\ (12^{\circ})^{\circ} \\ (12^{\circ})^{\circ} \\ 34\ 956 \\ (116^{\circ}0^{\circ}) \\ 39\ 316 \\ (116^{\circ}0^{\circ}) \\ 39\ 316 \\ (12^{\circ}4^{\circ}) \\ 36\ 76 \\ (14^{\circ}6^{\circ})^{\circ} \\ (14^{\circ}6$	15 186 (35°0°) 18 229 (8°0°) 27 93 (78°0°) 27 357 (98°0°) 30 400 (100°0°) 38 007 (125°0°) 45 614 (150°0°) 53 221 (175°1°) 68 435 (225°1°) 76 042 (250°2°)	2 55 f 86 5") 3 017 (9"11") 3 706 (12"2") 4 395 (14"6")
13970 (550″)	6 849 (22' 6")	12 176 (40°0″)	18 203 (50 11")	29881 (08'3")	(08°10″) (08°10″)	47 754 (157'1*)	48 036 (158`0")	(250 2) 83 648 (275' 4")	

NOTE:

• The projection distance listed in the table may have a variation within ± 5 %.

• Keystone (trapezoidal distortion) is compensated to be smaller than the screen size.

Calculation of the projection distance for each projection lens (inches)

If there is no reference made to the require picture size, calculate the projection distance using an expression below after obtaining the diagonal measurement (inch) of the screen you will use.

Model	No. of projection lens	Aspect ratio	Methods of calculation of Projection distance (L)	Jnit : inches
		4:3	Min. : L = diagonal of screen(inches) x 1.182 + 8.5 Max. : L = diagonal of screen(inches) x 1.952 + 6.5	
N	ET-D95LE1 (1.5 – 2.5 : 1)	5:4	Min. : L = diagonal of screen(inches) x 1.154 + 8.5 Max.: L = diagonal of screen(inches) x 1.906 + 6.5	
0	(1.5 2.5.1)	16:9	Min. : L = diagonal of screen(inches) x 1.288 + 8.5 Max. : L = diagonal of screen(inches) x 2.127 + 6.5	
0		4:3	Min. : L = diagonal of screen(inches) x 1.957 + 8.9 Max. : L = diagonal of screen(inches) x 3.127 + 6.4	
В	ET-D95LE2 (2.5 – 4.0 : ⁻)	5:4	Min. : L = diagonal of screen(inches) x 1.910 + 8.9 Max. : L = diagonal of screen(inches) x 3.052 + 6.4	
— e		16:9	Min. : L = diagonal of screen(inches) x 2.132 + 8.9 Max. : L = diagonal of screen(inches) x 3.407 + 6.4	
n		4:3	Min. : L = diagonal of screen(inches) x 3.151 + 2.9 Max. : L = diagonal of screen(inches) x 5.498 - 1.1	
s	ET-D95LE3 (4.0 – 7.0 : 1)	5:4	Min. : L = diagonal of screen(inches) x 3.076+ 2.9 Max. : L = diagonal of screen(inches) x 5.366 - 1.1	
	(4.0 7.0.1)	16:9	Min. : L = diagonal of screen(inches) x 3.433 + 2.9 Max. : L = diagonal of screen(inches) x 5.990 + 1.1	
		4:3	L = 0.833 x diagonal of screen(inches) + 9.9	
Fixed focal lens	ET-D95LE9 (0.8 : 1)	5:4	L = 0.813 x diagonal of screen(inches) + 9.9	
IGIIS		16:9	L = 0.907 x diagonal of screen(inches) + 9.9	

Calculation of the projection distance for each projection lens (mm)

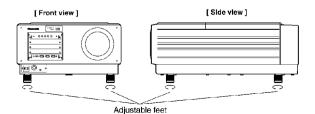
If there is no reference made to the require picture size, calculate the projection distance using an expression below after obtaining the diagonal measurement (inch) of the screen you will use.

Model	Model No. of projection lensAspect ratio Methods of calculation of Projection distance (L) Unit : mm					
		4:3	Min. : L = diagonal of screen(inches) x 30.019 + 215 Max. : L = diagonal of screen(inches) x 49.592 + 165			
N	ET-D95LE1 (1.5 – 2.5 : 1)	5:4	Min. : L = diagonal of screen(inches) x 29.301 + 215 Max. : L = diagonal of screen(inches) x 48.406 + 165			
0	(16:9	Min. : L = diagonal of screen(inches) x 32.705 + 215 Max. : L = diagonal of screen(inches) x 54.029 + 165			
2		4:3	Min. : L = diagonal of screen(inches) x 49.706 + 226 Max. : L = diagonal of screen(inches) x 79.424 + 162			
В	ET-D95LE2 (2.5 – 4.0 : 1)	5:4	Min. : L = diagonal of screen(inches) x 48.517 + 226 Max. : L = diagonal of screen(inches) x 77.525 + 162			
0	(2.0	16:9	Min. : L = diagonal of screen(inches) x 54.153 + 226 Max. : L = diagonal of screen(inches) x 86.530 + 162			
5		4:3	Min. : L = diagonal of screen(inches) x 80.043 i 74 Max. : L = diagonal of screen(inches) x 139.645 - 28			
S	ET-D95LE3 (4.0 – 7.0 : 1)	5:4	Min. : L = diagonal of screen(inches) x 78.129 + 74 Max. : L = diagonal of screen(inches) x 136.306 - 28			
	(16:9	Min. : L = diagonal of screen(inches) x 87.204 + 74 Max. : L = diagonal of screen(inches) x 152.139 - 28			
		4:3	L = 21.146 x diagonal of screen(inches) + 252			
Fixed focal lens	ET-D95LE9 (0.8:1)	5:4	L = 20.640 x diagonal of screen(inches) – 252			
	()	16:9	L = 23.038 x diagonal of screen(inches) - 252			

Adjustment Item	Operation	Adjustment Details
SHARPNESS H Makes the horizontal contours sharper.		Nine steps from OFF to 8 (factory default : 2) A larger value causes a greater effect
SHARPNESS V	Makes the vertical contours sharper.	Four steps from OFF to 3 (factory default : 2) A larger value causes a greater effect
NR (Noise Reduction)	Selects the noise reduction effectiveness.	OFF: No correction 1 : Weak 2 : Medium (factory default) 3 : Strong A larger value causes a greater effect
GAMMA MODE	Selects the gamma mode.	Eight steps from 0 to 7 (factory default : 6) The only setting 6, 7 allows the COLOR TEMP adjustment and color matching adjustment.
FILTER	Use this adjustment to select interpolation filter settings for signals other than SXGA.	Five types from 0 to 4 (factory default : 2) 0 : Gives priority to contrast. 4 : Restricts the loss in picture information to a minimum.
FRAME BATE	Use this adjustment to choose the best frame rate conversion for minimum flicker on individual HDTV signal input.	$24p \longrightarrow 80p / 24p \longrightarrow 24p$ (factory default: 24p \longrightarrow 80p) 25p \longrightarrow 50p / 25p \longrightarrow 25p (factory default: 25p \longrightarrow 50p) 30p \longrightarrow 80p / 30p \longrightarrow 30p (factory default: 30p \longrightarrow 50p)
PAL CINEMA	Use this adjustment to further enhance vertical resolution when a 576i PAL (or SECAM) signal is applied.	OFF: Normal ON : Effect On (see the following notes.)

Adjusting projector feet

The four feet on the bottom of the projector are adjustable for the height ($0 \text{ mm } / 0^{\circ}$ to 25 mm $/ 1^{\circ}$) and can be used for its adjustment when the installation position is not level.



 NOTE • SHARPNESS V and NR (noise reduction) settings cannot be adjusted for analog RGB input and TMDS input.

- The FILTER adjustment is ineffective for SXGA (1 280 x 1 024) mode. It is also ineffective for any video input mode other than analog
- RGB and TMDS modes, or if "THROUGH" is chosen for the SIZE mode (see page 57).
- FRAME RATE is effective only for analog RGB, HD serial, 1080/30p, 1080/25p, 1080/24p, and 1080/24sF video signal formats.
- PAL CINEMA is effective only for the 576i PAL (or SECAM) standard.
- PAL CINEMA will cause degraded picture quality (lowered vertical resolution) if used for signals other than those pulled down at a 2:2 ratio.
- For 480p, 480i or 576i scan format, SHARPNESS H defaults to 7.

Adjusting the picture size

Adjustment procedure

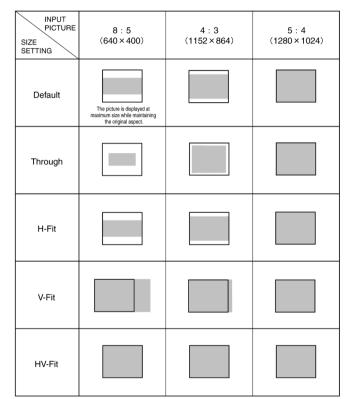
NENU ALTO STTUP IENS PICTUPEN ONITEN SIGNAL LIS TEST PATTERN	 ⑦Press the MENU button The MENU screen will be displayed. ②Press the UP (▲) and DOWN (♥) arrow buttons to select POSITION.
NENU:▲▼ aud WFNU - ENTER Exit - NENJ	
NGITION STITI ULS OTATO OTATO OTATO OTATO OTATO DESCENTION SUSSESSES NGTO OTATO NGTO ULS NGTO ULS NGTO ULS SUSSESSESSES SUSSESSES NGTO NGTO NGTO NGTO NGTO NGTO NGTO NGTO	③Press the ENTER buttonThe POSITION screen will be displayed. ⓒPress the UP (▲) and DOWN (♥) arrow buttons to select SIZE.
51/1	Press the ENTER button The SIZE screen will be displayed.
ULLLG' : I ADJUS : AVIA "XIT M M HU	 Press the control level buttons (+ and –) to select the desired size mode from those indicated below. DEFAULT, THROUGH, H-FIT, V-FIT, HV-FIT, ZOOM "4:3", "16:9" Modes other than the analog RGB or TMDS input allow the selection.
Size modes	
	put signal is projected with the aspect ratio unchanged.
	nput signal is projected with the resolution unchanged. Iput signal is projected with all horizontal panel picture elements used.
	gnals with a aspect ratio which is vertically longer than 5:4 the top and bottom edges of
	cture are cropped.
	put signal is projected with all vertical panel picture elements used. gnals with a aspect ratio which is horizontally longer than 5:4, the left and right edges of
	cture are cropped.
HV-FitThe in	nput signal is converted to an aspect ratio of 5:4.
	gnals with an aspect ratio other than 5:4 circles in the picture become distorted, etc.
and ve input) 999 %	nlargement ratio of the picture is changed. The enlargement ratio in both the horizontal ertical directions can be changed to between 50 % and 999 %(except enalog RGB, TMDS, between 75 % and 999 %(up to SXGA of analog RGB, TMDS input),between 100 % and (UXGA of analog RGB, TMDS input) with the top-left corner of the screen as
the re	ference point.

4:3The input signal is projected with the aspect ratio 4:3.

16:9The input signal is projected with the aspect ratio 16:9.

• An overscan of 7 % is applied to all modes other than analog RGB input and TMDS input.

Screen examples for different size settings



* If the picture extends outside the screen, the top-left corner is used as the reference point.