# PT-FRZ60

# Specifications

Power supply			AC 100-240 V, 50 Hz/60 Hz (Taiwan: AC 110 V, 60	Hz)					
Power consumption*1			540 W (5.8 A-2.3 A) (Taiwan: 5.5A)						
	OPERATING MODE	[NORMAL]	490 W						
		[ECO]	385 W						
		[QUIET]	385 W						
	STANDBY MODE	[NORMAL]	<dc out=""> terminal not in use: 10 W</dc>						
			[IN STANDBY MODE] set to [OFF], [QUICK STARTUP]						
			[IN STANDBY MODE] set to [ON], [QUICK STARTUP] s						
			[IN STANDBY MODE] set to [ON], [QUICK STARTUP] s	et to [ON], and <dc out=""> terminal in use: 65 W</dc>					
		[EC0]	Approx. 0.5 W						
BTU value			Max. 1,843 BTU						
DLP™ chip	Panel size		17.0 mm [0.67 in] diagonal (16:10 aspect ratio)						
	Projection system		DLP <sup>™</sup> chip x 1, DLP <sup>™</sup> projection system						
	Pixels		2,304,000 (1920 x 1200 pixels)						
Light source			Laser diodes						
Light output			6,000 Im (ANSI)*2/6,200 Im (Center)*3						
			When [PICTURE MODE] is set to [DYNAMIC], [DAYLI						
			is set to [OFF], [LIGHT OUTPUT] is set to [100%] an	d [AUTO POWER SAVE] is set to [OFF]					
Time until light output	declines to 50%*4		20,000 hours						
Resolution			1920 x 1200 pixels						
Contrast ratio*2			20,000:1 (All White/All Black)						
			[PICTURE MODE] is set to [DYNAMIC], [OPERATING	G MODE] is set to [NORMAL], Dynamic Contras					
Screen size (diagonal)			1.02-7.62 m [40-300 in], 16:10 aspect ratio						
Center to corner zone r	atio*2		90%						
Lens	1		2.0x manual zoom (throw ratio: 1.46-2.94:1), man	nual focus, F 2.0-3.4, f 21.5-43.0 mm					
Lens shift	Vertical		-44% ~ +64% (manual)						
(From the origin point of the lens mounter)	(from center of scre	een)	-27% ~ +34% (manual)						
	Horizontal	)							
Coorneting Convection D	(from center of scre	enj							
Geometry Correction R	ange		[VERTICAL KEYSTONE] (viewed from the side) [HORIZONTAL KEYSTONE] (Viewed from above)						
			- Screen	Screen					
			Vertical arc correction (viewed from the side)	Horizontal arc correction (viewed from above)					
			L2 : Projection distance R2 : Arc radius	L2 : Projection distance R2 : Arc radius					
			Screen	Screen					
				R2					
	R2	R2							
				i <del>a v</del> i					
			Arc center Screen	Arc center Screen					
			Arc center Screen L3 : Projection distance	Arc center Screen					
			Arc center Screen	Arc center Screen L3 : Projection distance					
			Arc center Screen L3 : Projection distance	Arc center Screen L3 : Projection distance R3 : Arc radius					
			Arc center Screen R3 Krc radius Only (KEYSTONE) used Vertical Keystone keystone keystone keystone	Arc center Screen RVED] used together Min. value of Min. v					
			$\begin{tabular}{ c c c c c } \hline & L^3 \\ \hline & L^3 & Projection distance \\ \hline & R_3 & Arc radius \\ \hline & & R_3 & Arc radius \\ \hline & & & & \\ \hline & & & & \\ \hline & & & & \\ \hline & & & &$	Arc center     L3       Arc center     L3 : Projection distance       R3     Arc radius					
			$\label{eq:correction} \begin{array}{ c c c } \hline L3 & \hline Projection distance \\ \hline R3 & Arc center \\ \hline R3 & Arc radius \\ \hline \hline \\ \hline $	Arc center     L3       Arc center     L3 : Projection distance       R3     Arc adus					
			$eq:rescaled_$	Arc center     L3       Arc center     L3 : Projection distance       R3     Arc adus					
			$\label{eq:correction} \begin{array}{ c c c } \hline L3 & \hline Projection distance \\ \hline R3 & Arc center \\ \hline R3 & Arc radius \\ \hline \hline \\ \hline $	Arc center       L3         Arc center       L3 : Projection distance         R3       Arc radius         RVED] used together       Only [CURVED] used         Min. value of       Min. value of         R3/L3       R2/L2         Min. value of       Min. value of         R3/L3       0.9         1.7       0.5         1.0         so f the entire screen may be lost as correction					

Compatible Signal	Video input		Horizontal: 15.73 kHz, Vertical: 59.94 Hz						
	Y/C input		Horizontal: 15.63 kHz, Vertical: 50 Hz						
	RGB input		Resolution: 640 x	• Resolution: 640 x 400 to 1920 x 1200					
			Dot clock frequency: 162 MHz or less						
			PIAS (Panasonic	Intelligent Auto Scanning) system					
	YC <sub>B</sub> C <sub>R</sub> /YP <sub>B</sub> P <sub>R</sub> input			/576i to 1920 x 1080					
				ncy: 148.5 MHz or less					
				nd VD terminals do not support 3 value SYNC.					
	HDMI input		5 5	ignal resolution: $480i^{*5}/576i^{*5}$ to $4096 \times 2160$					
				Il resolution: 640 x 400 to 1920 x 1200 (non-interlace) ncy: 25 MHz to 594 MHz					
	DIGITAL LINK input			ignal resolution: 480i*5/576i*5 to 4096 x 2160					
			0 0	al resolution: 640 x 400 to 1920 x 1200 (non-interlace)					
			0 0	ncy: 25 MHz to 297 MHz					
Terminals	COMPUTER 1 IN		D-sub HD 15-pin (1						
		RGB signal		SYNC ON GREEN: 1.0 V [p-p] 75 Ω)					
		Ū	SYNC/HD	TTL high impedance, automatic positive/negative polarity compatible					
			VD	TTL high impedance, automatic positive/negative polarity compatible					
		YP <sub>B</sub> P <sub>R</sub> signal	Y: 1.0 V [p-p] inclu	ding synchronization signal, $P_B P_R$ : 0.7 V [p-p] 75 $\Omega$					
		Y/C signal	Y: 1.0 V [p-p], C: 0.	.286 V [p-p] 75 Ω					
	COMPUTER 2 IN/1	OUT	D-sub HD 15-pin (female) x 1						
		RGB signal	0.7 V [p-p] 75 Ω (S	SYNC ON GREEN: 1.0 V [p-p] 75 Ω)					
			SYNC/HD	TTL high impedance, automatic positive/negative polarity compatible					
_			VD	TTL high impedance, automatic positive/negative polarity compatible					
		YP <sub>B</sub> P <sub>R</sub> signal	Y: 1.0 V [p-p] including synchronization signal, P_BP_R: 0.7 V [p-p] 75 $\Omega$						
	HDMI 1 IN/HDMI 2	IN	HDMI 19-pin x 2 Compatible with HDCP 2.3, Deep Color, 4K/60p signal input*6, CEC supported						
		Audio signal	Linear PCM (sampling frequency: 48 kHz/44.1 kHz/32 kHz)						
	VIDEO IN		pin jack x 1	1.0 V [p-p] 75 Ω					
	AUDIO IN 1		pin jack x 2 (L-R)	0.5 V [rms], input impedance 22 k $\Omega$ or more					
	AUDIO IN 2/AUDIO	IN 3	M3 stereo mini jac	$k \ge 2$ 0.5 V [rms], input impedance 22 k $\Omega$ or more					
	VARIABLE AUDIO 0	UT	M3 stereo mini jac	k x 1 (monitor output, stereo compatible)					
				0 V [rms] to 1.80 V [rms] (variable), output impedance 2.2 $k\Omega$ or less					
	SERIAL IN		D-Sub 9 p x 1	RS-232C compliant, for computer control					
	DIGITAL LINK/LAN		RJ-45 x 1	for network and DIGITAL LINK connections (HDBaseTTM compliant),					
				PJLink (class 2) compatible, 100Base-TX, Art-Net compatible,					
				HDCP 2.3 compatible, Deep Color compatible, 4K/60p signal input*6					
	LAN		RJ-45 x 1	for network connection, PJLink (class 2) compatible, 10Base-T/100Base-T/					
			LICP connector (tor	Art-Net compatible					
Power cord length	DC OUT		USB connector (typ	pe A) x 1 for power supply only (DC 5 V, maximum 2 A) [, 2.0 m [78-3/4 in] (for Taiwan)					
Power cord length				, 2.0 iii [10-3/4 iii] (101 iaiwaii)					
Cabinet materials Dimension (W x H x D)			Molded plastic	mm [19-5/8 x 6-5/8*7 x 19-3/8 in]					
Weight*8									
			Approx. 16.1 kg (35.5 lbs) 35 dB [NORMAL] / 30 dB [QUIET]						
Operating noise*2	Operating tame	turo							
Operating	Operating tempera		0-45 °C (32-113 °F)*3						
environment	Operating humidity		10-80% (no conde						
Laser Classification	Laser Class		Class 1 (IEC/EN 60						
	Risk Group		RISK Group 2 (IEC 6	Risk Group 2 (IEC 62471-5:2015)					

#### Remote control unit

Power supply	3V DC (AAA/R03/LR03 battery x 2)
Operation range	Approx. 30 m [98 ft 5 in] (when operated directly in front of signal receiver)
Dimensions (W x H x D)	48 x 145 x 27 mm [1-7/8 x 5-23/32 x 1-1/16 in]
Weight	Approx. 102 g (3.60 ozs.) including batteries

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#### PEC FILE

### 1-Chip DLP™ Projectors

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#### **Other Applications**

Multi Monitoring Control Software (for Windows) Logo Transfer Software (for Windows)

#### Supplied accessories

Wireless remote control unit (x 1) Power cord with secure lock (x 1) (x 2 for Europe/ASIA models) Batteries for remote control (AAA/R03 or AAA/LR03 battery x 2)

#### **Optional accessories**

Ceiling Mount Bracket

Projector Mount Bracket **DIGITAL LINK Switcher** Digital Interface Box Early Warning Software

ET-PKD120H (for high ceiling) ET-PKD120S (for low ceiling) ET-PKD130B ET-YFB200G ET-YFB100G ET-SWA100 Series \*The suffix of the Model No. differs according to the license type ET-ADSV

D-sub/S-VIDEO Conversion Cable

\*1 Operating Temperature 25 °C(77 °F), Altitude 700 m (2297 ft), IEC62087:2008 Broadcast contents, Picture Mode: Standard, Dynamic Contrast [2].
\*2 Measurement, measuring conditions, and method of notation all comply with ISO/IEC 21118: 2020 international standards. Value is average of all products when shipped.

\*4 Around this time, light output value of all shipped products measured at centre of screen in NORMAL Mode.
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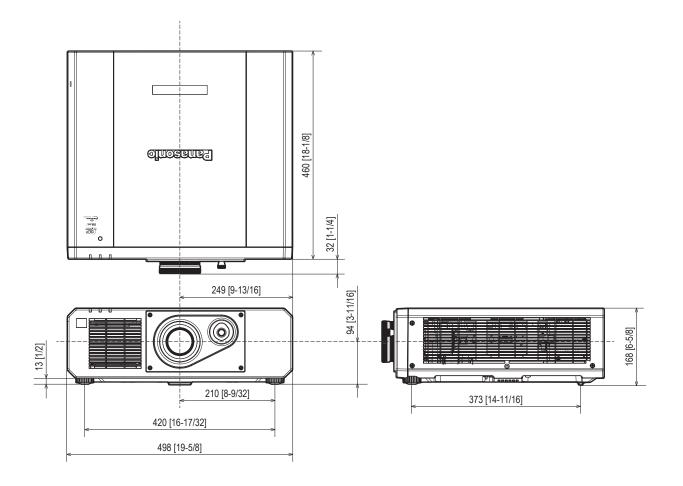
- \*5 Only dot clock frequency 27MHz (Pixel Repetition signal) is supported.
  \*6 4K/60p input signal is converted to projector's resolution (1920 x 1200).
  \*7 With legs at shortest position.

'/ Wint legs at stores position.
 '8 Average value. May differ depending on the actual unit.
 '9 The operating environment temperature should be between 0°C (32°F) and 40°C (104°F) if the projector is used at an altitude between 1400m (4593ft) and 4200m (13780ft) above sea level.
 'When the [PR0JECTOR SETUP] menu → [ECO MANAGEMENT] → [OPERATING MODE] is set to [ECO] or [OUIET], the projector cannot be used at an altitude of 2700m (8858ft) or higher above sea level.
 When using the projector at an altitude lower than 2700m (8858ft) above sea level, and the operating environment temperature becomes 30°C (86°F) or higher, the light output may be reduced to protect the projector.
 When using the projector at an altitude between 2700m (8858ft) and 4200m (13780ft), and the operating environment temperature becomes 25°C (77°F) or higher, the light output may be reduced to protect the projector.

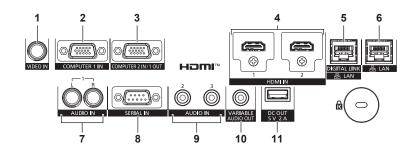
## Dimensions

unit : mm (inch) NOTE: This illustration is not drawn to scale.

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## **Terminals**

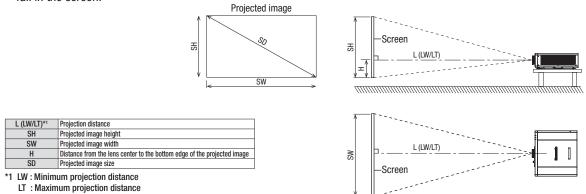


1	VIDEO IN	7	AUDIO IN 1
2	COMPUTER 1 IN	8	SERIAL IN
3	COMPUTER 2 IN/1 OUT	9	AUDIO IN 2/AUDIO IN 3
4	HDMI 1 IN/HDMI 2 IN	10	VARIABLE AUDIO OUT
5	DIGITAL LINK/LAN	11	DC OUT
6	LAN		

## Projected image and throw distance

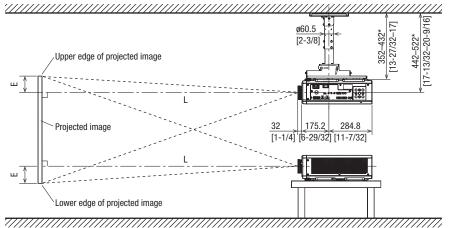
Install the projector referring to the projected image size and projection distance. Image size and image position can be adjusted in accordance with the screen size and screen position.

• Following illustration is prepared on the assumption that the projected image size and position have been aligned to fit full in the screen.



### Standard setting-up position

Illustrations show the projector installed using optional ceiling mountbracket ET-PKD120H, optional bracket assembly ET-PKD130B.



unit : mm (inch)

NOTE: This illustration is not drawn to scale.

\* Adjustable in 40 mm [1-9/16 in] steps.



• All construction work should be done by a qualified technician.

When mounting to the ceiling, use the special mounting bracket.

Projected image

Furthermore, in order to prevent it from falling down from the ceiling, use the supplied wire on the mounting bracket.

100 [3-15/16]

100 [3-15/16]

<u>259</u> [10-3/16] 370 4-9/16]

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Unit: feet

### **Projection distance**

A  $\pm$ 5% error in listed projection distances may occur.

When [SCREEN ADJUSTMENT] is used, distance is corrected to become smaller than the specified image size.

									Unit: meters	
Projected image size		Aspect rati	o 16:10		Aspect rat	io 16:9	Aspect ratio 4:3			
Projecteu image size	Projection	distance (L)	Hoight position (U)	Projection	distance (L)	Height position (U)	Projection of	distance (L)	Unight position (1)	
Diagonal (SD)	Min. (LW)	Max. (LT)	Height position (H)	Min. (LW)	Max. (LT)	Height position (H)	Min. (LW)	Max. (LT)	Height position (H)	
1.02/40	1.22	2.51	-0.08 - 0.51	1.26	2.58	-0.07 - 0.47	1.39	2.85	-0.09 - 0.58	
1.27/ 50	1.54	3.15	-0.09 - 0.63	1.59	3.23	-0.09 - 0.59	1.75	3.57	-0.11 - 0.72	
1.52/ 60	1.86	3.78	-0.11 - 0.76	1.92	3.89	-0.10 - 0.70	2.12	4.29	-0.13 - 0.86	
1.78/70	2.18	4.42	-0.13 - 0.89	2.24	4.55	-0.12 - 0.82	2.48	5.01	-0.15 - 1.00	
2.03/ 80	2.50	5.06	-0.15 - 1.01	2.57	5.20	-0.14 - 0.94	2.84	5.73	-0.17 - 1.14	
2.29/ 90	2.82	5.70	-0.17 - 1.14	2.90	5.86	-0.16 - 1.06	3.20	6.46	-0.19 - 1.29	
2.54/100	3.14	6.34	-0.19 - 1.27	3.23	6.51	-0.17 - 1.17	3.57	7.18	-0.21 - 1.43	
3.05/120	3.78	7.61	-0.23 - 1.52	3.89	7.82	-0.21 - 1.41	4.29	8.62	-0.26 - 1.72	
3.81/150	4.74	9.53	-0.28 - 1.90	4.88	9.79	-0.26 - 1.76	5.38	10.79	-0.32 - 2.15	
5.08/200	6.34	12.72	-0.38 - 2.53	6.52	13.07	-0.35 - 2.34	7.19	14.40	-0.43 - 2.87	
6.35/250	7.94	15.91	-0.47 - 3.16	8.16	16.35	-0.44 - 2.93	9.00	18.01	-0.53 - 3.58	
7.62/300	9.54	19.10	-0.57 - 3.80	9.81	19.63	-0.52 - 3.51	10.81	21.62	-0.64 - 4.30	

		Aspect rati	n 16·10		Aspect rat	in 16·9		Aspect rat	tio 4:3	
Projected image size	Projection of			Projection	distance (L)		Projection	distance (L)	ligight position (II)	
Diagonal (SD)	Min. (LW)	Max. (LT)	Height position (H)	Min. (LW)	Max. (LT)	Height position (H)	Min. (LW)	Max. (LT)	Height position (H)	
1.02/40	4.00	8.23	- 0.26 - 1.67	4.13	8.46	- 0.23 - 1.54	4.56	9.35	- 0.30 - 1.90	
1.27/ 50	5.05	10.33	- 0.30 - 2.07	5.22	10.60	- 0.30 - 1.94	5.74	11.71	- 0.36 - 2.36	
1.52/ 60	6.10	12.40	- 0.36 - 2.49	6.30	12.76	- 0.33 - 2.30	6.96	14.07	- 0.43 - 2.82	
1.78/ 70	7.15	14.50	- 0.43 - 2.92	7.35	14.93	- 0.39 - 2.69	8.14	16.44	- 0.49 - 3.28	
2.03/ 80	8.20	16.60	- 0.49 - 3.31	8.43	17.06	- 0.46 - 3.08	9.32	18.80	- 0.56 - 3.74	
2.29/ 90	9.25	18.70	- 0.56 - 3.74	9.51	19.23	- 0.52 - 3.48	10.50	21.19	- 0.62 - 4.23	
2.54/100	10.30	20.80	- 0.62 - 4.17	10.60	21.36	- 0.56 - 3.84	11.71	23.56	- 0.69 - 4.69	
3.05/120	12.40	24.97	- 0.75 - 4.99	12.76	25.66	- 0.69 - 4.63	14.07	28.28	- 0.85 - 5.64	
3.81/150	15.55	31.27	- 0.92 - 6.23	16.01	32.12	- 0.85 - 5.77	17.65	35.40	- 1.05 - 7.05	
5.08/200	20.80	41.73	- 1.25 - 8.30	21.39	42.88	- 1.15 - 7.68	23.59	47.24	- 1.41 - 9.42	
6.35/250	26.05	52.20	- 1.54 - 10.37	26.77	53.64	- 1.44 - 9.61	29.53	59.09	- 1.74 - 11.75	
7.62/300	31.30	62.66	- 1.87 - 12.47	32.18	64.40	- 1.71 - 11.52	35.47	70.93	- 2.10 - 14.11	

## Calculation of the projection distance

To use a projected image size not listed in this manual, check the projected image size SD (m) and use the respective formula to calculate the value.

The unit of all the formulae is m. (Values obtained by the following calculation formulae contain a slight error.) When calculating the value using image size designation (value in inches), multiply the value in inches by 0.0254 and substitute it into SD in the formula.

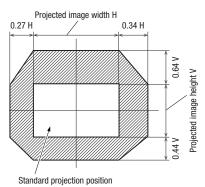
	Aspect ratio 16:10	Aspect ratio 16:9	Aspect ratio 4:3
Projected image size Height (SH)	= SD x 0.530	= SD x 0.490	= SD x 0.6
Projected image size Width (SW)	= SD x 0.848	= SD x 0.872	= SD x 0.8
Minimum projection distance (LW)	= 1.2598 x SD - 0.0526	= 1.2949 x SD - 0.0526	= 1.4262 x SD - 0.0526
Maximum projection distance (LT)	= 2.5118 x SD - 0.0390	= 2.5816 x SD - 0.0390	= 2.8436 x SD - 0.0390

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## Adjustment range by the lens position shift (optical shift)

Based on the standard projection position using the optical axis shift function, the projection position can be adjusted in the range shown in the following figure.

Following figure shows the adjustment range when the projector is installed on the floor.

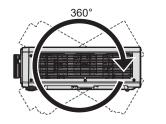


• Optimal image can be achieved by installing the projector squarely in front of the screen and adjusting the lens shift lever to center.

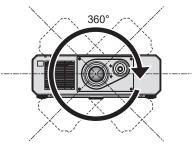
### Installable angle

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

#### Projection in all 360° direction



360° vertically



360° horizontally

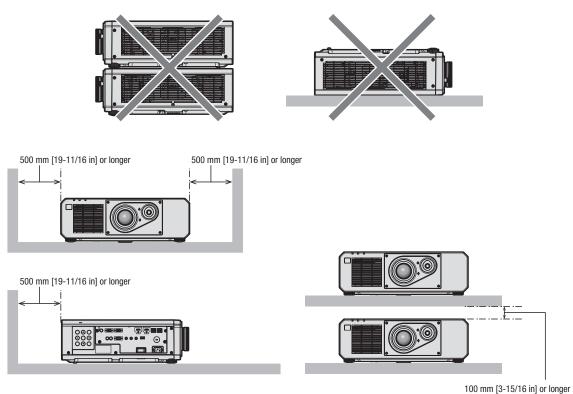


360° tilted (combination of vertical and horizontal)

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### Cautions when setting up the projector

- Do not stack projectors on top of each other.
- Do not use the projector supporting it by the top.
- Do not block the intake and exhaust vents of the projector.
- Prevent hot and cool air from the air conditioning system to blow directly to the intake and exhaust vents of the projector.



• Do not install the projector in a confined space.

When installing the projector in a confined space, provide air conditioning or ventilation separately. Exhaust heat may accumulate when the ventilation is not enough, triggering the protection circuit of the projector.

### List of compatible signals

The following table specifies the video signals compatible with the projector.

• Symbols that indicate formats are as follows.

• Input corresponding to each item in the plug and play column is as follows.

Signal name (SIGNAL FORMAT)	Resolution	Scannir	ng freq.	Dot clock					g and play	1		Plug and play*1						
	(Dots)	Horizontal	Vertical	freq. (MHz)	Format	COMPUTER		HDMI			DIGITAL LINI							
		(kHz)	(Hz)	(11112)			4K/60P	4K/30P	2K	4K/60P	4K/30P	2K						
NTSC/NTSC4.43/ PAL-M/PAL60	720 x 480i	15.7	59.9	-	v	-	-	-	-	-	-	-						
PAL/PAL-N/SECAM	720 x 576i	15.6	50.0	-	V	-	-	-	-	-	-	-						
480/60i	720 x 480i	15.7	59.9	13.5	R/Y	-	-	-	-	-	-	-						
576/50i	720 x 576i	15.6	50.0	13.5	R/Y	-	-	-	-	-	-	-						
480/60i	720(1440) x 480i*2	15.7	59.9	27.0	H/DL	-	-	-	-	-	-	-						
576/50i	720(1440) x 576i*2	15.6	50.0	27.0	H/DL	-	-	-	-	-	-	-						
480/60p	720 x 480	31.5	59.9	27.0	R/Y/H/DL	-	1	1	1	1	1	1						
576/50p	720 x 576	31.3	50.0	27.0	R/Y/H/DL	-	1	1	1	1	1	1						
720/60p	1280 x 720	45.0	60.0	74.3	R/Y/H/DL	-	1	1	1	1	1	1						
720/50p	1280 x 720	37.5	50.0	74.3	R/Y/H/DL	-	1	1	1	1	1	1						
1080/60i	1920 x 1080i	33.8	60.0	74.3	R/Y/H/DL	-	1	1	1	1	1	1						
1080/50i	1920 x 1080i	28.1	50.0	74.3	R/Y/H/DL	-	1	1	1	1	1	1						
1080/24p	1920 x 1080	27.0	24.0	74.3	R/Y/H/DL	-	1	1	1	1	1	1						
1080/24sF	1920 x 1080i	27.0	48.0	74.3	R/Y/H/DL	-	-	-	-	-	-	-						
1080/25p	1920 x 1080	28.1	25.0	74.3	R/Y/H/DL	-	-	-	_	-	-	-						
1080/30p	1920 x 1080	33.8	30.0	74.3	R/Y/H/DL	-	-	-	_	-	-	_						
1080/60p	1920 x 1080	67.5	60.0	148.5	R/Y/H/DL	-	-	-	_	-	-	_						
1080/50p	1920 x 1080	56.3	50.0	148.5	R/Y/H/DL	-	-	-	-	-	-	_						
3840 x 2160/24p	3840 x 2160	54.0	24.0*5	297.0	H/DL	-	1	1	1	1	1	1						
3840 x 2160/25p	3840 x 2160	56.3	25.0	297.0	H/DL	_	1	1	1	1	1	1						
3840 x 2160/30p	3840 x 2160	67.5	30.0*5	297.0	H/DL	_	1	1	1	1	1	/						
	3840 x 2160*6	135.0	60.0*5	297.0	H/DL	-	1	-	-	1	-	_						
3840 x 2160/60p	3840 x 2160	135.0	60.0*5	594.0	Н	_	· ·	_	_	-	_	_						
	3840 x 2160*6	112.5	50.0	297.0	H/DL	_	1	_	_	1	_	_						
3840 x 2160/50p	3840 x 2160	112.5	50.0	594.0	Н	_	<i>✓</i>	_	_	-	_	_						
4096 x 2160/24p	4096 x 2160	54.0	24.0*5	297.0	H/DL	-	· ·	1	1	1	1	1						
4096 x 2160/25p	4096 x 2160	56.3	25.0	297.0	H/DL	_	✓ ✓	· ·	- -	1	1	· /						
4096 x 2160/30p	4096 x 2160	67.5	30.0*5	297.0	H/DL	_	· ·			· ·								
1000 x 2100/00p	4096 x 2160*6	135.0	60.0*5	297.0	H/DL	_	· ·	-	_	· ·	_	-						
4096 x 2160/60p	4096 x 2160	135.0	60.0*5	594.0	Н	_	✓ ✓	_	_	-	-	_						
	4096 x 2160*6	112.5	50.0	297.0	H/DL	_	<i>v</i>	_	_	1	_	_						
4096 x 2160/50p	4096 x 2160	112.5	50.0	594.0	H	_	✓ ✓	_	_	-	_	_						
640 x 400/70	640 x 400	31.5	70.1	25.2	R/H/DL	_	• -	_			_							
640 x 400/85	640 x 400	37.9	85.1	31.5	R/H/DL	_	_	_	_	_	_	_						
640 x 480/60	640 x 480	31.5	59.9	25.2	R/H/DL	-	-	-	-	-	-	-						
640 x 480/60	640 x 480	35.0	66.7	30.2	R/H/DL	-	-	-	-	-	-	-						
640 x 480/73																		
640 x 480/73	640 x 480 640 x 480	37.9 37.5	72.8	31.5 31.5	R/H/DL R/H/DL													
	640 x 480						1	1	1	1	1	1						
640 x 480/85		43.3	85.0	36.0	R/H/DL	-	-	-	-	-	-	-						
800 x 600/56	800 x 600	35.2	56.3	36.0 40.0	R/H/DL R/H/DL		<i>\</i>											
800 x 600/60	800 x 600	37.9	60.3				1				✓ ✓							
800 x 600/72	800 x 600	48.1	72.2	50.0	R/H/DL		1											
800 x 600/75	800 x 600	46.9	75.0	49.5	R/H/DL B/H/DI	<i>✓</i>	✓ _	✓ 	-	✓ _	✓ _	-						
800 x 600/85	800 x 600	53.7	85.1	56.3	R/H/DL	-	-	-										
832 x 624/75	832 x 624	49.7	74.6	57.3	R/H/DL		1	1		1	1	1						
1024 x 768/50	1024 x 768	39.6	50.0	51.9	R/H/DL	-	-	-	_	-	-							
1024 x 768/60	1024 x 768	48.4	60.0	65.0	R/H/DL		1				1							
1024 x 768/70	1024 x 768	56.5	70.1	75.0	R/H/DL	<i>✓</i>	1	<i>✓</i>	1	1	1							
1024 x 768/75	1024 x 768	60.0	75.0	78.8	R/H/DL	1	1	1		1	1	1						
1024 x 768/82	1024 x 768	65.5	81.6	86.0	R/H/DL	-	-	-	-	-	-	-						
1024 x 768/85	1024 x 768	68.7	85.0	94.5	R/H/DL	-	-	-	-	-	-	-						
1024 x 768/100	1024 x 768	81.4	100.0	113.3	R/H/DL	-	-	-	-	-	-	-						
1024 x 768/120	1024 x 768	98.7	120.0	139.1	R/H/DL	1	1	1	1	1	1	1						
1152 x 864/60	1152 x 864	53.7	60.0	81.6	R/H/DL	-	-	-	-	-	-							
1152 x 864/70	1152 x 864	64.0	70.0	94.2	R/H/DL	-	-	-	-	-	-	-						
1152 x 864/75	1152 x 864	67.5	75.0	108.0	R/H/DL	-	_	-	_	-		_						

 $\label{eq:VIDEO} -V: \text{VIDEO}, \text{Y/C} \quad -\text{R: RGB (analog)} \quad -\text{Y: YC}_{\text{B}}\text{C}_{\text{R}}/\text{YP}_{\text{B}}\text{P}_{\text{R}} \text{ (analog)} \quad -\text{H: HDMI} \quad -\text{DL: DIGITAL LINK}$ 

# PT-FRZ60

Cignol roma	Deept. Harr	Scannir	ng freq.	Dot clock		Plug and play*1						
U U	Resolution (Dots)	Horizontal Vertical		freq.	Format			HDMI			K	
	(0013)	(kHz)	(Hz)	(MHz)		COMPUTER	4K/60P	4K/30P	2K	4K/60P	4K/30P	2K
1152 x 864/85	1152 x 864	77.1	85.0	119.7	R/H/DL	-	-	-	-	-	-	-
1152 x 870/75	1152 x 870	68.7	75.1	100.0	R/H/DL	1	1	1	1	1	1	1
1280 x 720/50	1280 x 720	37.1	49.8	60.5	R/H/DL	-	-	-	-	-	-	-
1280 x 720/60	1280 x 720	44.8	59.9	74.5	R/H/DL	-	-	-	-	-	-	-
1280 x 720/100	1280 x 720	76.3	100.0	131.8	R/H/DL	-	-	-	-	-	-	-
1280 x 720/120	1280 x 720	92.6	120.0	161.6	R/H/DL	-	-	-	-	-	-	-
1280 x 768/50	1280 x 768	39.6	49.9	65.3	R/H/DL	-	-	-	-	-	-	-
1000 700/00	1280 x 768	47.8	59.9	79.5	R/H/DL	-	-	-	-	-	-	-
1280 x 768/60	1280 x 768*3	47.4	60.0	68.3	R/H/DL	-	-	-	-	-	-	-
1280 x 768/75	1280 x 768	60.3	74.9	102.3	R/H/DL	-	-	-	_	-	_	_
1280 x 768/85	1280 x 768	68.6	84.8	117.5	R/H/DL	-	-	-	-	-	_	_
1280 x 800/50	1280 x 800	41.3	50.0	68.0	R/H/DL	-	-	-	_	-	-	_
	1280 x 800	49.7	59.8	83.5	R/H/DL	_	_	_	_	-	_	_
1280 x 800/60	1280 x 800*3	49.3	59.9	71.0	R/H/DL	_	_	_	_	_	_	_
1280 x 800/75	1280 x 800	62.8	74.9	106.5	R/H/DL	-	_	_	_	-	_	_
1280 x 800/85	1280 x 800	71.6	84.9	122.5	R/H/DL	_	_	_	_	_	_	_
1280 x 960/60	1280 x 960	60.0	60.0	108.0	R/H/DL	_	-	_	_	_	_	_
1280 x 1024/50	1280 x 1024	52.4	50.0	88.0	R/H/DL	_	_	_	_	_	_	
1280 x 1024/60	1280 x 1024	64.0	60.0	108.0	R/H/DL	_	_	_	_	_	_	_
1280 x 1024/66	1280 x 1024	72.3	66.3	125.0	R/H/DL	_	_	_	_	_	_	_
1280 x 1024/00	1280 x 1024	72.3	72.0	135.1	R/H/DL		_	_	_	_	_	_
1280 x 1024/72	1280 x 1024	80.0	72.0	135.0	R/H/DL	-	-	-	-	-	-	-
	1280 x 1024		85.0		R/H/DL	-	-	-	-	-	-	-
1280 x 1024/85		91.1		157.5								
1366 x 768/50	1366 x 768	39.6	49.9	69.0	R/H/DL	-	-	-	-	-	-	-
1366 x 768/60	1366 x 768	47.7	59.8	85.5	R/H/DL	-	-	-	-	-	-	-
1400 x 1050/50	1400 x 1050	54.1	50.0	99.9	R/H/DL	-	-	-	-	-	-	
	1400 x 1050	64.0	60.0	108.0	R/H/DL	-	-	-	-	-	-	-
1400 x 1050/60	1400 x 1050	65.3	60.0	121.8	R/H/DL	-	-	-	-	-	-	-
	1400 x 1050	65.2	60.0	122.6	R/H/DL	1	1	1	1	1	1	1
1400 x 1050/72	1400 x 1050	78.8	72.0	149.3	R/H/DL	-	-	-	-	-	-	-
1400 x 1050/75	1400 x 1050	82.2	75.0	155.9	R/H/DL	-	-	-	-	-	-	_
1440 x 900/50	1440 x 900	46.3	49.9	86.8	R/H/DL	-	-	-	-	-	-	-
1440 x 900/60	1440 x 900	55.9	59.9	106.5	R/H/DL	-	-	-	-	-	-	-
1600 x 900/50	1600 x 900	46.4	49.9	96.5	R/H/DL	-	-	-	-	-	-	-
1600 x 900/60	1600 x 900	55.9	60.0	119.0	R/H/DL	1	1	1	1	1	1	1
1600 x 1200/50	1600 x 1200	61.8	49.9	131.5	R/H/DL	-	-	-	-	-	-	-
1600 x 1200/60	1600 x 1200	75.0	60.0	162.0	R/H/DL	1	1	1	1	1	1	1
1680 x 1050/50	1680 x 1050	54.1	50.0	119.5	R/H/DL	-	-	-	-	-	-	-
1680 x 1050/60	1680 x 1050	65.3	60.0	146.3	R/H/DL	-	-	-	-	-	-	-
1920 x 1080/50	1920 x 1080	55.6	49.9	141.5	R/H/DL	-	-	-	-	-	-	-
1000 × 1000/60	1920 x 1080*3	66.6	59.9	138.5	R/H/DL	-	-	-	-	-	-	-
1920 x 1080/60	1920 x 1080*4	67.2	60.0	173.0	R	-	-	-	-	-	-	-
1920 x 1200/50	1920 x 1200	61.8	49.9	158.3	R/H/DL	-	-	-	-	-	-	-
1000 1000/00	1920 x 1200*4	74.6	59.9	193.3	R	-	-	-	-	-	-	-
1920 x 1200/60	1920 x 1200*3	74.0	60.0	154.0	R/H/DL	1	1	1	1	1	1	1

\*1 Signal with 🗸 in the plug and play column is a signal described in the EDID (extended display identification data) of the projector. The signal that does not have 🗸 in the plug and play column can also be input if it is described in the format column. The resolution may not be selected in the computer even if the projector is compatible for the signal that does not have  $\checkmark$  in the plug and play column.

\*2 Pixel-Repetition signal (dot clock frequency 27.0 MHz) only
\*3 VESA CVT-RB (Reduced Blanking)-compliant

\*4 Samples the pixels in the image processing circuit and projects the image. \*5 The signal with 1/1.001x vertical scanning frequency is also supported. \*6  $YP_{B}P_{R}$  4:2:0 format only

#### Note

• A signal with a different resolution is converted to the number of display dots. The number of display dots is as follows. -1920 x 1200

• The "i" at the end of the resolution indicates an interlaced signal.

• When interlaced signals are connected, flickering may occur on the projected image.

• Even if it is the signal listed in the list of compatible signals, it may not be displayed by the projector if the video signal is recorded in a special format.