

Others

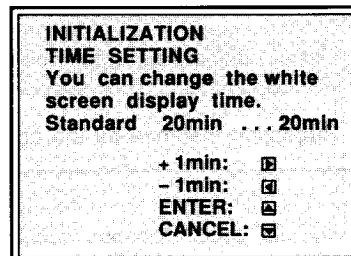
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Changing the Initialization Time

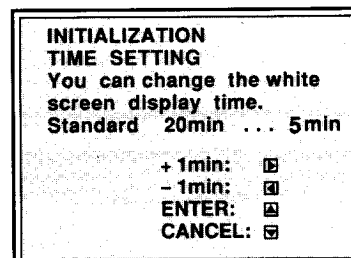
You can set the period of initializing when the projector warms up to the desired minutes in intervals of 1 minute.

- 1** Set the Remote Commander to the serviceman adjustment mode.
(See page 47.)

- 2** Keep pressing the POWER ON key on the Commander for 5 seconds.
The following display appears.



- 3** Press the ► and ◀ keys to set to the desired minutes.
►: to increase by 1 minute
◀: to decrease by 1 minute



- 4** Press the ▲ key.
The display disappears.

To cancel the setting

Press the ▼ key instead of the ▲ key in step 4.

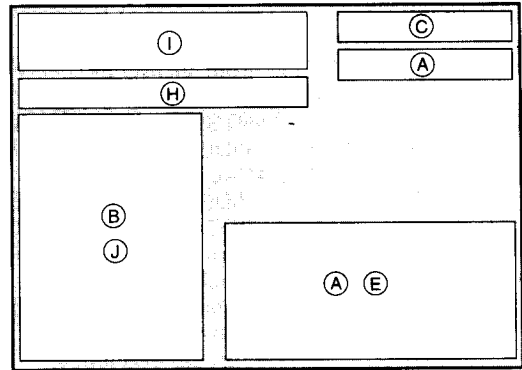
To set so that the signal input from the connected equipment is displayed on the screen immediately after the power is turned on

Set to 0 min.

List of the Messages

Use the list below to check the meaning of the messages displayed on the screen.

The list is divided into sections depending on the location which the message appears. Check the location first, then refer to the alphabet for the section to find the message.



Ⓓ, Ⓕ, Ⓖ, Ⓚ and Ⓛ will appear all over the screen.

A Caution, Message

- | | |
|---|--|
| <ul style="list-style-type: none"> •Not applicable! •Overflow! •PIC MUTING •Input is not VIDEO. •Input is not NTSC. •Input is not RGB. •Input is B & W. •NO INPUT | <ul style="list-style-type: none"> •The key is not applicable in the current mode. •The adjustment data has passed the adjustable range limit, and does not change any more. •Picture muting mode is on. •The input signal is not VIDEO. •The input signal is not NTSC. •The input signal is not RGB. •The input signal is black and white. •No signal is input. |
|---|--|

B PIC CONTROL data

- | | |
|---|---|
| <ul style="list-style-type: none"> •CONTR (CONTRAST) •COLOR •BRT (BRIGHTNESS) •SHARP (SHARPNESS) •HUE •PIC CONTROL data reset | <ul style="list-style-type: none"> •Contrast •Color •Brightness •Sharpness •Hue •Resets the PIC CONTROL data. |
|---|---|

C Input channel

- | | |
|---|--|
| <ul style="list-style-type: none"> •VIDEO •INPUT-A •INPUT-B •SW'ER x-y (switcher x=1-2, y= 1-8) •POSITION No. x
VPH-1272Q/1272QM: x=1-21
VPH-1252Q/1252QM: x=1-9 | <ul style="list-style-type: none"> •Input from VIDEO IN •Input from RGB IN •Input from optional interface board •Input from optional switcher •The cursor position in ZONE adjustment |
|---|--|

D PAGE

- | | |
|---|--|
| <p>Subtitle</p> <ul style="list-style-type: none"> •USER PRESET •USER CONTROL •SYSTEM PRESET •INPUT INFO (INPUT INFORMATION) •OTHER ITEMS <p>PAGE 1</p> <ul style="list-style-type: none"> •STATUS ON/OFF •PIC MUTING ON/OFF •AUDIO MUTING ON/OFF •CLEAR BLUE ON/OFF/ --- •SECAM ON/OFF/ --- <p>PAGE 2</p> <ul style="list-style-type: none"> •CONTR (CONTRAST) •COLOR •BRT (BRIGHTNESS) •SHARP (SHARPNESS) •HUE •VOL •PIC CONTROL data reset <p>PAGE 3</p> <ul style="list-style-type: none"> •COLOR TEMPERATURE: 9300/6500/3200/PRESET •CLAMP: AUTO / S on G / H / C / H.P. •V-SHIFT: WIDE / NARROW | <ul style="list-style-type: none"> •User preset •User control •System preset •Input information •Other items •On-screen display on/off •Picture muting mode on/off •Audio muting mode on/off •Clear blue mode on/off/does not function. •Compulsive SECAM mode on/off/does not function. •Contrast •Color •Brightness •Sharpness •Hue •Volume •Resets the PIC CONTROL data. •Color temperature is set to 9300/6500/3200/ the data adjustable by the service personnel. •Clamp position is set to automatic/internal/ external sync signal/ horizontal deflection pulse position. •The adjustable range of vertical shift is wide/narrow. |
|---|--|

List of the Message

<p>PAGE 4</p> <ul style="list-style-type: none"> •INPUT SIGNAL •Y/C •RGB •NTSC •PAL •SECAM •B & W •f_H •f_V •Internal oscillation •H/C-SYNC •V-SYNC •SYNC ON G •H/C-SYNC: POS/NEG/ --- •V-SYNC: POS/NEG/ --- •SYNC ON G: NEG/ --- •REGI BLOCK: No. x <p>PAGE 5</p> <ul style="list-style-type: none"> •1. CRT TIMER DISPLAY •2. BAUD RATE PRESET <p>PAGE 5-1</p> <ul style="list-style-type: none"> •CRT TIMER DISPLAY MODE RED: xxxx hours GREEN: xxxx hours BLUE: xxxx hours <p>PAGE 5-2</p> <ul style="list-style-type: none"> •RS422 COMMUNICATION BAUD RATE PRESET MODE 38.4K/19.2K/9600/4800 	<ul style="list-style-type: none"> •Input signal •S video input signal from VIDEO IN •RGB input signal •NTSC input signal from VIDEO IN •PAL input signal from VIDEO IN •SECAM input signal from VIDEO IN •Black and white input signal from VIDEO IN •Horizontal frequency •Vertical frequency •Internal oscillation mode (No signal is input.) •Horizontal sync signal or composite sync signal •Vertical sync signal •Composite video signal •The polarity of the H/C-SYNC is positive/negative/not input. •The polarity of the V-SYNC is positive/negative/not input. •The polarity of the SYNC ON G is negative/not input. •The input signal is grouped into the registration memory block No. x. <ul style="list-style-type: none"> •CRT use time display •Baud rate setting display <ul style="list-style-type: none"> •CRT use time display mode •Red CRT use time: xxxx hours •Green CRT use time: xxxx hours •Blue CRT use time: xxxx hours <ul style="list-style-type: none"> •The baud rate is set to 38.4K/19.2K/9600/4800 when communicating via the RS-422.
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E Operation	
<ul style="list-style-type: none"> •YES: ▲ •NO: ▼ •SELECT: ◀ ▶ •SELECT: ◀ ▶ ▲ ▼ •ADJ: ◀ ▶ ▲ ▼ •ADJ: ◀ ▶ •ADJ: ▲ ▼ •NEXT: + - •NEXT: [PAGE] •EXIT: [PAGE] •EXIT: [NORMAL] •ENTER: ▶ •ENTER: ▲ •CANCEL: ▼ 	<ul style="list-style-type: none"> •Press ▲ key for "Yes". •Press ▼ key for "No". •Press ◀ or ▶ key to select. •Press, ◀, ▶, ▲ or ▼ key to select. •Press ◀, ▶, ▲ or ▼ key to adjust. •Press ◀ or ▶ key to adjust. •Press ▲ or ▼ key to adjust. •Press + key to move the cursor to the next position. •Press - key to move the cursor to the previous position. •Press PAGE key to go to the next page. •Press PAGE key to exit the PAGE mode. •Press NORMAL key to exit the TEST mode. •Press ▶ key to execute the selected item. •Press ▲ key to execute the selected item. •Press ▼ key to cancel the setting.

F Memory data	
<ul style="list-style-type: none"> •MEMORY DATA in saving. •MEMORY DATA saving is complete! •No key may be applicable during the indication of this mode. •The registration data will be used as standard for all inputs OK? 	<ul style="list-style-type: none"> •Saving the memory data now. •Saving the memory data is completed. •When in this mode (MEMORY DATA saving), no key functions. •Is it all right that this registration data will be used as standard for all inputs?
G Data reset	
<ul style="list-style-type: none"> •Do you wish to return to factory preset data? •Do you wish to return to previously saved data? •Reset complete! •RGB SIZE DATA RESET MODE •RGB SHIFT DATA RESET MODE •BLANKING DATA RESET MODE •CENTERING ALL COLOR DATA RESET MODE •W/B GAIN & BIAS ALL COLOR DATA RESET MODE •REGISTRATION (RED/GREEN/BLUE) DATA RESET MODE 	<ul style="list-style-type: none"> •Do you wish to reset the data to the factory preset data? •Do you wish to reset the data to the previously saved data? •Resetting is completed. •RGB or video input size data resetting mode •RGB input shift data resetting mode •Blanking data resetting mode •Centering data (all color) resetting mode •Gain, bias (all color) data resetting mode •Registration (red, green or blue) data resetting mode

H Raster	
<ul style="list-style-type: none"> •RASTER R G B •RASTER R - - •RASTER - G - •RASTER - - B •RASTER R G - •RASTER R - B •RASTER - G B 	<ul style="list-style-type: none"> •Red, green and blue are projected. •Only red is projected. •Only green is projected. •Only blue is projected. •Red and green are projected. •Red and blue are projected. •Green and blue are projected.
I Adjustment	
<ul style="list-style-type: none"> •RGB SIZE ADJ •RGB SHIFT ADJ •R CENT ADJ •G CENT ADJ •B CENT ADJ •SIZE ADJ •fine •LIN (LINEARITY) ADJ •SKEW ADJ •BOW ADJ •KEY (KEystone) ADJ •PIN (PINCUSHION) ADJ •ZONE ADJ •BLKG ADJ UPPER/LOWER/LEFT/RIGHT •BIAS ADJ •GAIN ADJ 	<ul style="list-style-type: none"> •RGB or video input size adjustment mode •RGB input shift adjustment mode •Red centering adjustment mode •Green centering adjustment mode •Blue centering adjustment mode •Size adjustment mode •Picture size fine-adjustment mode for green. •Linearity adjustment mode •Skew adjustment mode •Bow adjustment mode •Keystone adjustment mode •Pincushion adjustment mode •Zone adjustment mode •Blanking adjustment (upper, lower, left, or right) mode •White balance bias adjustment mode •White balance gain adjustment mode

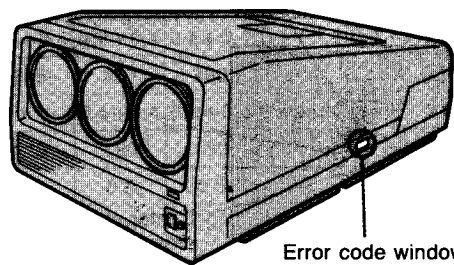
List of the Messages

J Adjustment data	
•H: xxx	•Horizontal adjustment level (xxx = 0-255)
•V: xxx	•Vertical adjustment level (xxx = 0-255)
•Hf: xxx	•Centering adjustment level for horizontal direction (xxx = 0-255) The level changes with the arrow keys pressed once.
•Hc: xxx	•Centering adjustment level for horizontal direction (xxx = 0-255) The level changes with the arrow keys kept pressed.
•Vf: xxx	•Centering adjustment level for vertical direction (xxx = 0-255) The level changes with the arrow keys pressed once.
•Vc: xxx	•Centering adjustment level for vertical direction (xxx = 0-255) The level changes with the arrow keys kept pressed.
K Caution, Message (VPH-1252Q/1252QM only)	
•fH is too high! This input signal cannot be projected as the horizontal frequency is too high.	•The horizontal frequency is too high. This input signal cannot be projected as the horizontal frequency exceeds the acceptable level of the projector.

L Others	
•For optimum performance, white screen will remain for 20 min. For immediate use, push [PAGE] key.	•For optimum performance, white screen will remain for 20 min. For immediate use, push PAGE key.
•INITIALIZATION TIME SETTING	•Initialization time setting mode.
•You can change the white screen display time. Standard 20 min ... xx min	•You can change the white screen display time. The factory preset time is 20 min. The current preset time is xx min.
•Do you wish to enter into the SERVICEMAN CONTROL MODE?	•Do you wish to enter into the service-personnel control mode?
•Do you wish to return to the USER CONTROL MODE?	•Do you wish to return to the user control mode?

About the Error Codes

When an operational error occurs, the power will automatically turn off and the error code will light up on the error code window inside the hood. See page 15 for how to open the hood. Refer to the chart below for the meanings.



Error code window
(inside the hood)

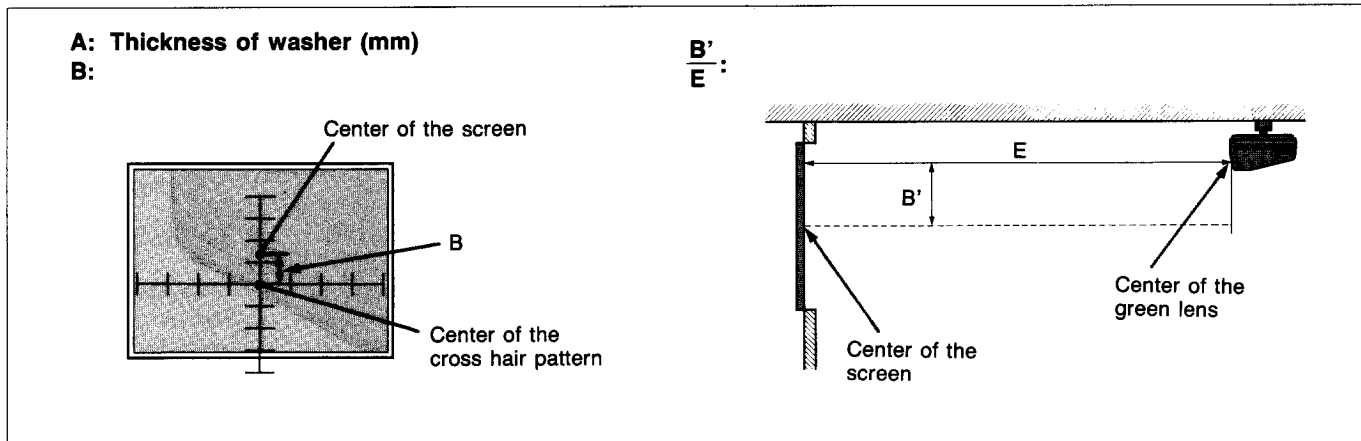
Y: Error occurrence

error Code	FAN stop	(H stop) 100V down	IK-over	V-stop	HV-over	power-down
01	Y	—	—	—	—	—
02	—	Y	—	—	—	—
03	Y	Y	—	—	—	—
04	—	—	Y	—	—	—
05	Y	—	Y	—	—	—
06	—	Y	Y	—	—	—
07	Y	Y	Y	—	—	—
08	—	—	—	Y	—	—
09	Y	—	—	Y	—	—
0A	—	Y	—	Y	—	—
0b	Y	Y	—	Y	—	—
0C	—	—	Y	Y	—	—
0d	Y	—	Y	Y	—	—
0E	—	Y	Y	Y	—	—
0_	Y	Y	Y	Y	—	—
10	—	—	—	—	Y	—
11	Y	—	—	—	Y	—
12	—	Y	—	—	Y	—
13	Y	Y	—	—	Y	—
14	—	—	Y	—	Y	—
15	Y	—	Y	—	Y	—
16	—	Y	Y	—	Y	—
17	Y	Y	Y	—	Y	—
18	—	—	—	Y	Y	—
19	Y	—	—	Y	Y	—
1A	—	Y	—	Y	Y	—
1b	Y	Y	—	Y	Y	—
1C	—	—	Y	Y	Y	—
1d	Y	—	Y	Y	Y	—
1E	—	Y	Y	Y	Y	—
1_	Y	Y	Y	Y	Y	—
20	—	—	—	—	—	Y

Notes

- When the error code lights up, all the previous adjustment data will be cleared.
- The error code will disappear when the MAIN POWER switch is turned off and the power cord is disconnected.
- The error code will light up every time the power is turned on unless the operational error is recovered to normal.

List of Washers Used for Non-standard Installation



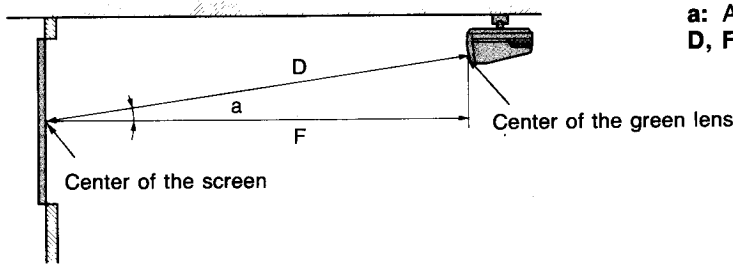
Angle of optical axis (°)	Screen size (inches)	$\frac{B'}{E}$	70	72	75	80	85	86	90	95	100	105	110	115	
			A	B	A	B	A	B	A	B	A	B	A	B	A
1	0.0087 - 0.0262	A	1+1.2	1+1.2	1+1.2	1+1.2	1+1.2	1+0.5	1+0.5	1+0.5	1+0.5	1+0.5	1+0.5	1+0.5	1+0.5
		B	60	60	60	65	70	70	75	80	80	85	90	95	
2	0.0263 - 0.0437	A	1+1	1+1	1+1	1+1	1+1	1.2	1.2	1+0.4	1+0.4	1+0.4	1+0.4	1+0.4	
		B	50	60	60	65	70	70	75	80	80	85	90	95	
3	0.0438 - 0.0612	A	1.2+0.5	1.2+0.5	1.2+0.5	1.2+0.5	1.2+0.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
		B	55	55	60	65	70	70	70	75	80	85	90	95	
4	0.0613 - 0.0787	A	1.2+0.4	1.2+0.5	1.2+0.5	1.2+0.5	1.2+0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
		B	55	55	60	65	70	70	70	75	80	85	90	90	
5	0.0788 - 0.0963	A	1+0.5	1+0.5	1+0.5	1.2+0.4	1.2+0.4	0.4+0.5	0.4+0.5	0.4+0.5	1.0	1.0	1.0	1.0	
		B	55	55	60	65	70	70	70	75	80	85	90	90	
6	0.0964 - 0.1139	A	1.2	1.2	1.2	1+0.4	1+0.4	0.5	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.5	0.4+0.5	0.4+0.5	
		B	50	50	55	60	65	60	65	65	70	75	80	80	
7	0.1140 - 0.1317	A	1.0	1.0	1.2	1.2	1.2	0.5	0.5	0.5	0.5	0.4+0.4	0.4+0.4	0.4+0.4	
		B	45	45	50	50	55	55	55	55	60	60	65	70	70
8	0.1318 - 0.1495	A	0.4+0.5	1.0	1.0	1.0	1.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
		B	40	40	40	45	50	45	45	45	50	50	55	60	60
9	0.1496 - 0.1673	A	0.4+0.4	0.4+0.4	0.4+0.5	1.0	1.0	0.4	0.4	0.4	0.5	0.5	0.5	0.5	
		B	35	35	35	40	40	35	40	40	45	45	50	50	
10	0.1674 - 0.1853	A	0.5	0.5	0.5	0.4+0.4	0.4+0.5	—	—	0.4	0.4	0.4	0.5	0.5	
		B	25	30	30	30	35	30	30	35	35	40	40	40	
11	0.1854 - 0.2035	A	0.4	0.5	0.5	0.5	0.4+0.4	—	—	—	—	0.4	0.4	0.4	
		B	20	20	25	25	25	20	25	25	25	30	30	30	
12	0.2036 - 0.2217	A	—	0.4	0.4	0.5	0.5	—	—	—	—	—	—	0.4	
		B	15	15	15	20	20	14	14	15	20	20	20	20	
13	0.2218 - 0.2401	A	—	—	—	0.4	0.5	—	—	—	—	—	—	—	
		B	10	10	10	10	10	5	5	5	10	10	10	10	
14	0.2402 - 0.2493	A	—	—	—	—	0.4	0.4	—	—	—	—	—	—	
		B	5	5	5	5	5	0	0	0	0	0	0	0	

Angle of optical axis (°)	Screen size (inches)		120	125	130	135	139	140	150	160	170	180	190	200
	B'	E												
1	0.0087 - 0.0262	A	1+0.5	1+0.5	1+0.5	1+0.5	1+0.5	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4
		B	100	105	110	110	115	115	120	130	140	150	155	165
2	0.0263 - 0.0437	A	1+0.4	1+0.4	1+0.4	1+0.4	1+0.4	0.5	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4
		B	100	105	105	110	115	115	120	130	140	150	155	165
3	0.0438 - 0.0612	A	1.2	1.2	1.2	1.2	1.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		B	95	100	105	110	115	110	120	130	135	145	155	160
4	0.0613 - 0.0787	A	1.2	1.2	1.2	1.2	1.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		B	95	100	105	110	110	110	120	130	135	145	155	160
5	0.0788 - 0.0963	A	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		B	95	100	105	110	115	110	115	125	130	140	150	155
6	0.0964 - 0.1139	A	0.4+0.5	1.0	1.0	1.0	1.0	0.4	0.4	0.4	0.5	0.5	0.5	0.5
		B	85	90	95	100	100	95	100	110	115	125	130	140
7	0.1140 - 0.1317	A	0.4+0.4	0.4+0.5	0.4+0.5	0.4+0.5	0.4+0.5	—	0.4	0.4	0.4	0.4	0.4	0.5
		B	75	80	80	85	90	85	90	95	100	110	115	120
8	0.1318 - 0.1495	A	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.5	—	—	—	0.4	0.4	0.4	0.4
		B	65	65	70	75	75	70	75	80	85	90	95	100
9	0.1496 - 0.1673	A	0.5	0.5	0.5	0.4+0.4	0.4+0.4	—	—	—	—	—	0.4	0.4
		B	55	55	60	60	65	55	60	65	70	75	80	85
10	0.1674 - 0.1853	A	0.5	0.5	0.5	0.5	0.5	—	—	—	—	—	—	—
		B	45	45	50	50	55	40	45	50	55	55	60	65
11	0.1854 - 0.2035	A	0.5	0.5	0.5	0.5	0.5	—	—	—	—	—	—	—
		B	35	35	35	40	40	30	30	35	40	40	45	45
12	0.2036 - 0.2217	A	0.4	0.4	0.5	0.5	0.5	—	—	—	—	—	—	—
		B	20	25	25	25	25	15	20	20	20	25	25	30
13	0.2218 - 0.2401	A	—	0.4	0.4	0.4	0.4	—	—	—	—	—	—	—
		B	10	10	15	15	15	5	5	5	5	10	10	10
14	0.2402 - 0.2493	A	—	—	—	0.4	0.4	—	—	—	—	—	—	—
		B	0	0	0	5	5	0	0	5	5	5	5	5

List of Washers Used for Non-standard Installation

Angle of optical axis (°)	Screen size (Inches)		210	220	230	240	250	260	270	280	290	300
	B'	E										
1	0.0087 – 0.0262	A	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.5	0.4+0.5
		B	175	180	190	200	205	215	225	235	240	250
2	0.0263 – 0.0437	A	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4
		B	175	180	190	200	210	215	225	235	245	250
3	0.0438 – 0.0612	A	0.5	0.5	0.5	0.5	0.5	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4	0.4+0.4
		B	170	180	185	195	205	215	225	235	245	250
4	0.0613 – 0.0787	A	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4+0.4	0.4+0.4	0.4+0.4
		B	170	180	185	195	205	215	220	230	240	245
5	0.0788 – 0.0963	A	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
		B	165	170	180	190	195	205	215	220	230	235
6	0.0964 – 0.1139	A	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5
		B	145	155	160	165	175	185	190	200	205	210
7	0.1140 – 0.1317	A	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
		B	125	135	140	145	155	160	165	170	180	185
8	0.1318 – 0.1495	A	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
		B	110	115	120	125	130	135	141	145	150	160
9	0.1496 – 0.1673	A	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
		B	90	95	100	105	110	115	115	120	125	130
10	0.1674 – 0.1853	A	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
		B	70	70	75	80	80	20	20	20	20	20
11	0.1854 – 0.2035	A	—	—	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
		B	50	50	55	55	60	10	10	15	15	15
12	0.2036 – 0.2217	A	—	—	—	—	0.4	0.4	0.4	0.4	0.4	0.4
		B	30	30	35	35	40	10	10	15	15	15
13	0.2218 – 0.2401	A	—	—	—	—	—	—	0.4	0.4	0.4	0.4
		B	10	15	15	15	15	10	10	15	15	15
14	0.2402 – 0.2493	A	—	—	—	—	—	—	—	—	—	—
		B	5	10	10	10	10	0	0	0	0	0

Projection Distance by Angle of Optical Axis



a: Angle of optical axis
D, F: Projection distance

Screen size (inches)	a = 1°		a = 2°		a = 3°		a = 4°		a = 5°		a = 6°	
	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)
70	2038	2037	2038	2037	2039	2036	2039	2035	2040	2032	2041	2030
72	2091	2091	2092	2090	2168	2089	2093	2088	2093	2085	2094	2083
75	2170	2170	2171	2169	2171	2168	2172	2167	2173	2164	2174	2162
80	2302	2302	2303	2301	2303	2300	2304	2299	2313	2304	2316	2303
85	2437	2437	2435	2433	2444	2440	2454	2448	2464	2454	2467	2454
86	2461	2460	2461	2460	2462	2458	2463	2457	2470	2460	2476	2462
90	2566	2566	2567	2565	2568	2564	2568	2562	2569	2559	2570	2556
95	2698	2698	2698	2697	2700	2696	2700	2694	2701	2690	2703	2688
100	2830	2830	2831	2829	2832	2828	2832	2826	2833	2822	2835	2819
105	2963	2962	2964	2962	2965	2960	2965	2958	2966	2954	2968	2952
110	3096	3095	3097	3095	3098	3093	3098	3091	3099	3087	3101	3084
115	3224	3223	3225	3223	3225	3221	3226	3219	3227	3214	3229	3211
120	3352	3351	3352	3350	3353	3349	3354	3346	3355	3342	3357	3339
125	3484	3483	3484	3482	3488	3454	3486	3478	3487	3473	3489	3470
130	3616	3615	3616	3614	3617	3612	3619	3610	3629	3615	3630	3610
135	3748	3747	3749	3746	3751	3744	3753	3744	3773	3758	3773	3753
139	3853	3852	3854	3852	3855	3850	3868	3858	3887	3871	3888	3866
140	3880	3879	3881	3878	3882	3876	3888	3879	3901	3885	3905	3883
145	4012	4011	4013	4010	4014	4008	4015	4005	4022	4006	4027	4005
150	4144	4143	4145	4142	4146	4140	4147	4137	4149	4132	4151	4128
155	4275	4274	4276	4274	4277	4271	4279	4268	4280	4263	4283	4259
160	4406	4405	4407	4405	4409	4403	4410	4399	4412	4394	4414	4390
165	4538	4537	4539	4536	4540	4534	4541	4531	4543	4525	4546	4521
170	4669	4668	4670	4667	4672	4665	4673	4662	4675	4656	4677	4652
175	4800	4799	4802	4799	4803	4796	4804	4793	4806	4787	4809	4782
180	4932	4931	4933	4930	4934	4927	4936	4924	4937	4918	4940	4913
185	5063	5062	5064	5061	5066	5059	5067	5055	5069	5049	5072	5044
190	5194	5193	5196	5193	5197	5190	5199	5186	5200	5180	5203	5175
195	5326	5325	5327	5324	5329	5321	5330	5317	5332	5311	5335	5306
200	5457	5456	5458	5455	5460	5452	5462	5448	5463	5442	5467	5437
205	5590	5589	5592	5588	5593	5585	5595	5581	5597	5574	5600	5569
210	5723	5722	5725	5721	5726	5718	5728	5714	5730	5707	5733	5702
215	5856	5855	5858	5854	5860	5851	5861	5847	5863	5840	5867	5834
220	5990	5988	5991	5988	5993	5984	5995	5980	5997	5973	6000	5967
225	6123	6121	6124	6121	6126	6117	6128	6113	6130	6105	6133	6100
230	6256	6255	6257	6254	6259	6251	6261	6246	6263	6238	6267	6232
235	6389	6388	6391	6387	6392	6384	6394	6379	6397	6371	6400	6365
240	6522	6521	6524	6520	6526	6517	6528	6512	6530	6504	6534	6498
245	6655	6654	6657	6653	6659	6650	6661	6645	6663	6636	6667	6630
250	6788	6787	6790	6786	6792	6783	6794	6778	6796	6769	6800	6763
260	7055	7053	7057	7053	7058	7048	7061	7044	7063	7036	7067	7028
270	7321	7320	7323	7319	7325	7315	7327	7309	7330	7302	7334	7293
280	7587	7586	7589	7584	7591	7581	7594	7576	7596	7567	7601	7559
290	7853	7852	7856	7851	7858	7847	7860	7841	7863	7833	7867	7824
300	8120	8119	8122	8117	8124	8113	8127	8107	8130	8099	8134	8089

Projection Distance by Angle of Optical Axis

Screen size (inches)	a = 7°		a = 8°		a = 9°		a = 10°		a = 11°		a = 12°	
	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)	D (mm)	F (mm)
70	2042	2027	2044	2024	2045	2020	2047	2016	2049	2012	2051	2006
72	2096	2080	2097	2077	2099	2073	2101	2069	2103	2064	2105	2059
75	2175	2159	2177	2155	2178	2152	2180	2147	2182	2142	2185	2137
80	2317	2300	2319	2296	2319	2291	2320	2285	2322	2279	2323	2272
85	2469	2451	2471	2447	2471	2441	2472	2435	2473	2428	2476	2421
86	2478	2459	2479	2455	2483	2452	2488	2450	2491	2445	2492	2438
90	2572	2553	2574	2549	2576	2545	2582	2542	2584	2537	2586	2529
95	2704	2684	2707	2680	2709	2675	2711	2670	2714	2664	2718	2658
100	2837	2815	2839	2811	2841	2806	2844	2801	2847	2795	2851	2788
105	2970	2948	2972	2943	2975	2938	2978	2932	2981	2926	2984	2919
110	3103	3080	3106	3075	3108	3070	3111	3064	3114	3057	3118	3050
115	3231	3207	3234	3202	3236	3197	3240	3190	3243	3183	3247	3175
120	3359	3334	3362	3329	3365	3323	3368	3317	3372	3309	3376	3301
125	3492	3465	3494	3460	3497	3454	3501	3447	3504	3440	3509	3431
130	3632	3605	3632	3597	3637	3592	3639	3584	3640	3573	3642	3561
135	3776	3748	3776	3739	3779	3733	3783	3725	3785	3716	3784	3701
139	3890	3861	3890	3853	3894	3846	3899	3839	3900	3828	3901	3815
140	3913	3884	3915	3877	3920	3871	3921	3861	3925	3853	3929	3842
145	4030	4000	4037	3998	4041	3991	4042	3981	4047	3973	4051	3961
150	4154	4123	4159	4118	4162	4111	4165	4102	4170	4093	4175	4083
155	4285	4253	4289	4247	4293	4240	4297	4232	4302	4223	4307	4212
160	4417	4384	4421	4378	4425	4370	4429	4362	4434	4353	4440	4342
165	4549	4515	4552	4508	4557	4500	4561	4492	4567	4482	4572	4472
170	4680	4645	4684	4639	4688	4631	4693	4622	4699	4612	4704	4601
175	4812	4776	4816	4769	4820	4761	4825	4752	4831	4742	4837	4730
180	4944	4907	4948	4900	4952	4891	4957	4882	4963	4872	4969	4860
185	5075	5037	5079	5030	5084	5021	5090	5012	5095	5001	5101	4989
190	5207	5168	5211	5161	5216	5152	5222	5142	5227	5131	5234	5119
195	5339	5299	5343	5291	5348	5282	5354	5272	5360	5261	5366	5248
200	5470	5429	5475	5422	5480	5412	5486	5402	5492	5391	5498	5377
205	5604	5562	5608	5554	5613	5544	5619	5534	5626	5522	5633	5509
210	5737	5694	5748	5692	5747	5676	5753	5666	5760	5654	5767	5640
215	5871	5827	5875	5818	5881	5808	5887	5798	5894	5785	5901	5771
220	6004	5959	6009	5951	6014	5940	6021	5929	6028	5917	6035	5902
225	6138	6092	6143	6083	6148	6073	6155	6061	6162	6048	6169	6033
230	6271	6224	6276	6215	6282	6205	6289	6193	6296	6180	6303	6165
235	6405	6357	6410	6348	6416	6337	6422	6325	6430	6311	6437	6296
240	6538	6489	6543	6480	6549	6469	6556	6457	6564	6443	6572	6427
245	6672	6622	6676	6612	6683	6601	6690	6588	6698	6574	6706	6558
250	6805	6754	6810	6744	6817	6733	6823	6720	6832	6706	6840	6689
260	7092	7033	7078	7009	7084	6997	7101	6993	7107	6976	7113	6958
270	7339	7299	7345	7274	7352	7261	7369	7257	7376	7240	7382	7221
280	7606	7564	7612	7538	7619	7525	7637	7521	7644	7504	7650	7483
290	7873	7830	7879	7802	7886	7789	7905	7785	7912	7767	7919	7746
300	8140	8095	8146	8067	8154	8054	8173	8049	8181	8031	8187	8008