# **Acer Projector**

P1287/M416/PE-X45 P1387W/M426/PE-W45 P5515/N156/PN-805 H6517BD/E145D/HE-801J H6517ST/E145S/HE-801ST Series User's Guide

# First things first

# **Usage Notes**

### Do:

- Turn off the product before cleaning.
- Use a soft cloth moistened with mild detergent to clean the display housing.
- Disconnect the power plug from AC outlet if the product is not being used for a long period of time.

### Don't:

- Block the slots and openings on the unit provided for ventilation.
- Use abrasive cleaners, waxes or solvents to clean the unit.
- Use under the following conditions:
  - In extremely hot, cold or humid environments.
  - In areas susceptible to excessive dust and dirt.
  - Near any appliance that generates a strong magnetic field.
  - Place In direct sunlight.

### **Precautions**

Follow all warnings, precautions and maintenance as recommended in this user's guide to maximize the life of your unit.



### Warning:

- Do not look into the projector's lens when the lamp is on. The bright light may hurt your eyes.
- To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.
- Please do not open or disassemble the product as this may cause electric shock.
- When changing the lamp, please allow unit to cool down, and follow all changing instructions.
- This product will detect the life of the lamp itself. Please be sure to change the lamp when it shows warning messages.
- Reset the "Lamp Hour Reset" function from the Onscreen display "Management" menu after replacing the lamp module.
- When switching the projector off, please ensure the projector completes its cooling cycle before disconnecting power.
- Turn on the projector first and then the signal sources.
- Do not use lens cap when projector is in operation.
- When the lamp reaches the end of its life, it will burn out and may make a loud
  popping sound. If this happens, the projector will not turn back on until the lamp
  module has been replaced. To replace the lamp, follow the procedures listed under
  "Replacing the Lamp".

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# Introduction

### **Product Features**

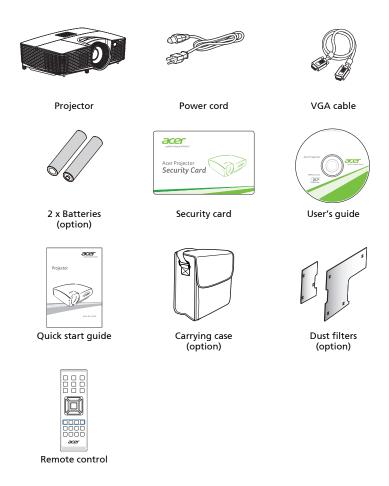
This product is a single-chip DLP® projector. Outstanding features include:

- DLP<sup>®</sup> technology
- P1287/M416/PE-X45 series: Native 1024 x 768 XGA resolution P1387W/M426/PE-W45 series: Native 1280 x 800 WXGA resolution P5515/N156/PN-805/H6517BD/E145D/HE-801J/H6517ST/E145S/HE-801ST series: 1920x1080 1080p resolution Full/4:3/16:9/L.Box aspect ratio supported
- Enables projecting 3D content via DLP Link Technology (Nvidia 3DTV Play Ready only on H6517BD/E145D/HE-801J/H6517ST/E145S/HE-801ST series)
- Acer ColorBoost technology delivers nature's true colors for vivid, life-like images
- High brightness and contrast ratio
- Versatile display modes (Bright, Presentation, Standard, Video, Game, Education, Movie, Dark Cinema, Sports, User) enable optimum performance in any situation
- NTSC / PAL / SECAM compatible and HDTV (720p, 1080i, 1080p) supported
- Lower power consumption and economy (ECO) mode extends lamp life
- Acer EcoProjeciton Technology delivers Intelligent power management approach and physical efficiency improvement
- Equipped with HDMI™ & MHL connection supporting HDCP
- Advanced digital keystone correction optimizes presentations
- Smart detection delivers quick, intelligent source detection
- Multi-language onscreen display (OSD) menus
- Manual focus projection lens zooms up to 1.0x / 1.1x / 1.2x / 1.36x
- 2x digital zoom and pan function
- Microsoft<sup>®</sup> Windows<sup>®</sup> 2000, XP, Vista<sup>®</sup>, Windows 7, Windows 8, Macintosh<sup>®</sup> OS compliant



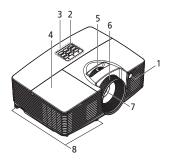
# **Package Overview**

This projector comes with all the items shown below. Check to make sure your unit is complete. Contact your dealer immediately if any thing is missing.



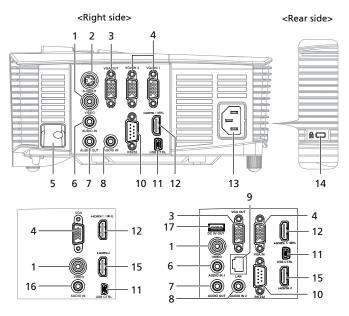
# **Projector Overview**

# Projector Outlook Front / upper side



#	# Description		Description
1	Remote control receiver	5	Zoom lever
2	Power button	6	Focus ring
3	Control panel	7	Projection lens
4	Lamp cover	8	Tilt adjusting wheels

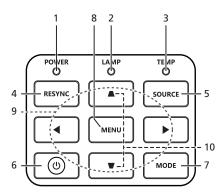
# Right / Rear side



#	Description		Description
1	Composite video input connector		RS232 connector
2	S-Video input connector	11	Mini USB connector
3	Monitor loop-through output connector (for VGA IN 2 only)	12	HDMI/MHL connector (HDMI/MHL, HDMI 1/MHL)
4	PC analog signal/HDTV/component video input connector (VGA, VGA IN, VGA IN 1, VGA IN 2)	13	Power socket
5	Security bar	14	Kensington™ lock port
6	Audio input connector (for S-Video, Composite)	15	HDMI 2 connector
7	Audio out connector	16	Audio input connector ( for S-Video, Composite, VGA)
8	Audio in connector (for VGA IN 1, VGA IN 2)	17	5V DC output connector
9	LAN (RJ45 Port for 10/100M Ethernet)		



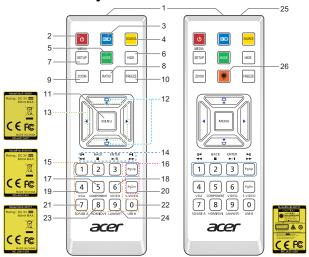
# **Control Panel**



#	lcon	Function	Description
1		POWER	Power Indicator LED
2		LAMP	Lamp Indicator LED
3		TEMP	Temp Indicator LED
4		RESYNC	Automatically synchronizes the projector to the input source.
5		SOURCE	Changes the active source.
6	<del>(</del> )	POWER	See the contents in <b>"Turning the Projector On/Off"</b> section.
7		MODE	Press "MODE" to select the display mode from Bright, Presentation, Standard, Video, Game, Education and User.
8		MENU	Press "MENU" to launch the Onscreen display (OSD) menu, back to the previous step for the OSD menu operation or exit the OSD menu.
			Confirm your selection of items.
9	<b></b>	Four directional select keys	Use ▲▼▶◀ to select items or make adjustments to your selection.
10	<b>A</b>	Keystone	Adjusts the image to compensate for distortion caused by tilting the projector.



# **Remote Control Layout**

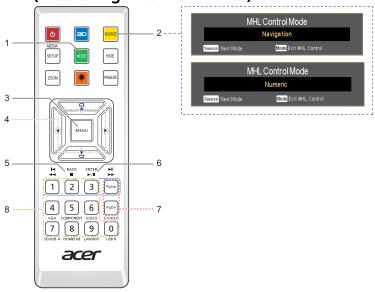


#	Icon	Function	Description		
1		Infrared transmitter	Sends signals to the projector.		
2	0	POWER	Refer to the "Turning the Projector On/Off" section.		
3	30	3D	Press "3D" to select 3D models.		
4		SOURCE	Changes the active source.		
5		MODE	Press "MODE" to select the display mode from Bright, Presentation, Standard, Video, Game, Education and User.		
6		HIDE	Momentarily turns off the video. Press <b>"HIDE"</b> to hide the image, press again to display the image.		
7		MEDIA_SETUP	No function.		
8		RATIO	To choose the desired aspect ratio.		
9		ZOOM	Zooms the projector display in or out.		
10		FREEZE	To pause the screen image.		
11		MENU	Press "MENU" to launch the Onscreen display (OSD) menu, back to the previous step for the OSD menu operation or exit the OSD menu.      Confirm your selection of items.		
12		KEYSTONE	,		
12	D D	KETSTONE	Adjusts the image to compensate for distortion caused by tilting the projector.		
13	<b></b>	Four directional select keys	Use up, down, left, right buttons to select items or make adjustments to your selection.		

#	Icon	Function	Description				
14	<b>* *</b>	Pre./Rewind	No function.				
	ENTER ►/II	Enter/ Play/ Pause	No function.				
	BACK ■	Back/Stop	No function.				
	* *	Next/Fast forward	No function.				
15		KeyPad 0~9	Press "0~9" to input a password in the "Security" OSD.				
16	Paup Proce	PgUp/PgDn	For computer mode only. Use this button to select the next or previous page. This function is only available when USB Ctrl connector (mini type B) is connected to a computer via a USB cable.				
17		COMPONENT	No function.				
18		VIDEO	To change source to COMPOSITE VIDEO.				
19		VGA	Press "VGA" to change source to the VGA connector. This connector supports analog RGB, YPbPr (480p/576p/720p/1080i), YCbCr (480i/576i) and RGBsync.				
20		S-VIDEO	To change source to S-Video.				
21		SD/USB A	No function.				
22		USB B	For USB control and firmware upgrade.				
23		HDMI/DVI	To change source to HDMI/MHL. (no DVI function)				
24		LAN/WiFi	Press "LAN/WiFi" to display the image which is wire or wirelessly transmitted from the PC to the projector via the "Acer LAN webpage management" utility.				
25		Laser pointer	Aim the remote at the viewing screen.				
26	*	Laser button	Aim the remote at the viewing screen, press and hold this button to activate the laser pointer. This function is not supported in Japanese market.				





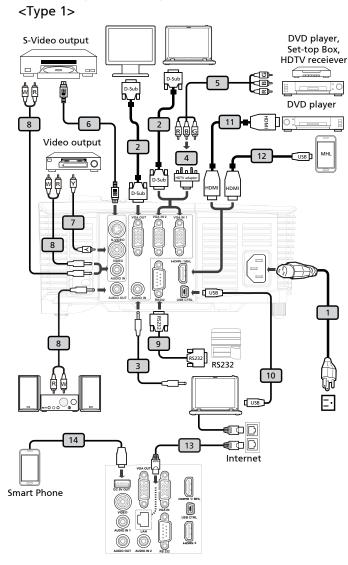


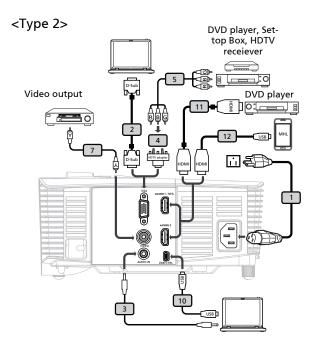
#	lcon	Component	Description
1		MODE	Press "MODE" button for one second to activate the MHL Control Mode.
			To exit, press the "MODE" button again.
2		SOURCE	Press the "SOURCE" button to toggle between Navigation or Numeric mode.
3		MENU	Press to launch the root memu. (only for <b>Navigation</b> mode)
4	<b>\$</b>	Direction Keys	Use up, down, left, right buttons to select items or make adjustments to your selection. (only for <b>Navigation</b> mode)
5	ENTER ►/II	Select	To select the file. (only for <b>Navigation</b> mode)
6	BACK ■	Exit	To exit the file. (only for <b>Navigation</b> mode)
7	PgUp PgDn	PgUp/PgDn	Use the button to select the next or previous page. (only for <b>Navigation</b> mode)
8		KeyPad 0~9	Number buttons. (only for <b>Numeric</b> mode)



# **Getting Started**

# Connecting the Projector





#	Description	#	Description
1	Power cord	8	Audio cable jack/RCA
2	VGA cable	9	RS232 cable
3	Audio cable jack/jack		USB cable
4	VGA to component/HDTV adapter	11	HDMI cable
5	3 RCA component cable	12	MHL cable (MicroUSB to HDMI)
6	S-Video cable	13	RJ45 cable
7	Composite video cable	14	USB cable for charging device



**Note:** To ensure the projector works well with your computer, please make sure the timing of the display mode is compatible with the projector.

Note: Functions vary depending on model definition.

Note: USB cable needs powered extender if the length is over 5 m.

Note: VGA OUT loops through for VGA IN 2 only.

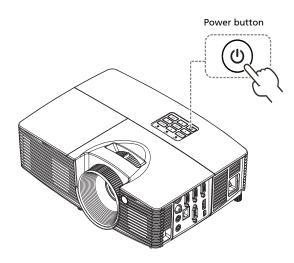
Note: Some smartphones require a converter (supplied by

smartphone maker) to enable the MHL function.

# Turning the Projector On/Off

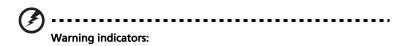
# **Turning on the Projector**

- 1 Ensure that the power cord and signal cable are securely connected. The Power indicator LED will flash red.
- Turn on the projector by pressing "Power" button on the control panel or remote control, and the Power indicator LED will turn blue.
- 3 Turn on your source (computer, notebook, video player ,etc.). The projector will detect your source automatically.
  - If the screen displays "Lock" and "Source" icons, it means the
    projector is locked onto a specific source type and there is no such
    type of input signal detected.
  - If the screen displays "No Signal", please make sure the signal cables are securely connected.
  - If you connect to multiple sources at the same time, use the "Source" button on either control panel or the remote control or direct source key on the remote control to switch between inputs.



### Turning the projector off

- 1 To turn the projector off, press and hold the power button. This message appears: "Please press the power button again to complete the shutdown process." Press the power button again.
- 2 The LED power indicator will turn RED and blink rapidly after the projector is turned off, and the fan(s) will continue to operate for about 2 minutes to ensure that the system cools properly. (only supported under "Instant Resume" mode)
- 3 As long as the power cord remains plugged in, you can press the power button to turn the projector immediately back on anytime during the 2-minute shutdown process. (only supported under "Instant Resume" mode)
- 4 Once the system has finished cooling, the LED power indicator will stop blinking and turn solid red to indicate standby mode.
- 5 It is now safe to unplug the power cord.



- "Projector Overheated. Lamp will automatically turn off soon."
   This onscreen message indicates that the projector has overheated.
   The lamp with automatically turn off, the projector will automatically shut down, and the LED temp indicator will turn solid red. Contact your local dealer or service center.
- "Fan failed. Lamp will automatically turn off soon."
   This onscreen message indicates that the fan has failed. The lamp will automatically turn off, the projector will automatically shut down, and the LED temp indicator will blink. Contact your local dealer or service center.



**Note:** Whenever the projector automatically shuts down and the LED lamp indicator turns solid red, contact your local reseller or service center.

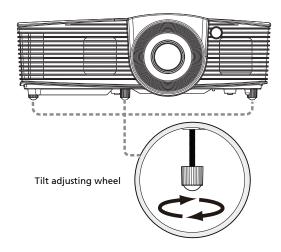
# Adjusting the Projected Image

# Adjusting the Height of Projected Image

The projector is equipped with elevator feet for adjusting the height of image.

### To raise/lower the image:

Use Tilt adjusting wheel to fine-tune the display angle.



# How to optimize image size and distance

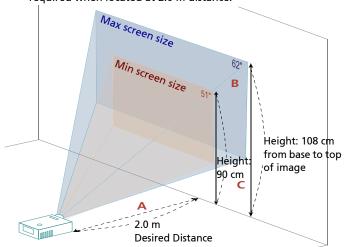
Consult the table below to find the optimal image sizes achievable when the projector is positioned at a desired distance from the screen.

### XGA series

If the projector is 2.0 m from the screen, good image quality is possible for image sizes between 51" and 62".



**Note:** Remind as below figure, the space of 108 cm height is required when located at 2.0 m distance.



	Screen size		Тор	Screen size		Тор
Desired Distance		(Min zo	om)		(Max zo	om)
(m) <a></a>	Diagonal (inch) <b></b>	W (cm) x H (cm)	From base to top of image (cm) <c></c>	Diagonal (inch) <b></b>	W (cm) x H (cm)	From base to top of image (cm) <c></c>
1.5	38	78 x 59	67	46	94 x 70	81
2.0	51	104 x 78	90	62	125 x 94	108
2.5	64	130 x 98	112	77	156 x 117	135
3.0	77	156 x 117	135	92	188 x 141	162
3.5	90	182 x 137	157	108	219 x 164	189
4.0	103	208 x 156	180	123	250 x 188	216
4.5	115	234 x 176	202	138	281 x 211	243
5.0	128	260 x 195	225	154	313 x 234	270
5.5	141	286 x 215	247	169	344 x 258	296
6.0	154	313 x 234	270	185	375 x 281	323
6.5	167	339 x 254	292	200	406 x 305	350
7.0	179	365 x 273	314	215	438 x 328	377
9.0	231	469 x 352	404	277	563 x 422	485
10.0	256	521 x 391	449	308	625 x 469	539

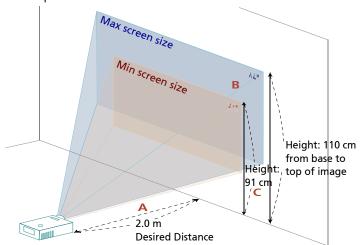
Zoom Ratio: 1.2x

### WXGA series

If the projector is 2.0 m from the screen, good image quality is possible for image sizes between 60" and 73".



**Note:** Remind as below figure, the space of 110 cm height is required when located at 2.0 m distance.



	Screen size Top			Sc	Тор		
Desired		(Min zoom)	•	(Max zoom)			
Distance (m) <a></a>	Diagonal (inch) <b></b>	W (cm) x H (cm)	From base to top of image (cm) <c></c>	Diagonal (inch) <b></b>		From base to top of image (cm) <c></c>	
1.5	45	98 x 61	69	54	117 x 73	82	
2.0	60	130 x 81	91	73	156 x 98	110	
2.5	76	163 x 102	114	91	195 x 122	137	
3.0	91	195 x 122	137	109	234 x 146	165	
3.5	106	228 x 142	160	127	273 x 171	192	
4.0	121	260 x 163	183	145	313 x 195	220	
4.5	136	293 x 183	206	163	352 x 220	247	
5.0	151	326 x 203	229	181	391 x 244	274	
5.5	166	358 x 224	252	199	430 x 269	302	
6.0	181	391 x 244	274	218	469 x 293	329	
6.5	196	423 x 264	297	236	508 x 317	357	
7.0	212	456 x 285	320	254	547 x 342	384	
7.5	227	488 x 305	343	272	586 x 366	412	
8.3	251	540 x 338	380	301	648 x 405	456	

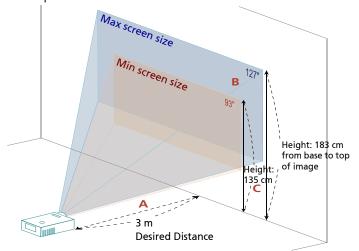
Zoom Ratio: 1.2x

• 1080p series (P5515/N156/PN-805)

If the projector is 3 m from the screen, good image quality is possible for image sizes between 93" and 127".



**Note:** Remind as below figure, the space of 183 cm height is required when located at 3 m distance.



	Scre	en size	Тор	Screen size		Тор
Desired		(Min zoo	m)		(Max zo	om)
Distance (m) <a></a>	(m) Diagonal	W (cm) x H (cm)	From base to top of image (cm) <c></c>	Diagonal (inch) <b></b>	W (cm) x H (cm)	From base to top of image (cm) <c></c>
1.3	40	90 x 50	58	55	122 x 68	70
1.5	47	103 x 58	67	63	140 x 79	92
2	62	138 x 78	90	85	187 x 105	122
2.5	78	172 x 97	112	106	234 x 132	153
3	93	207 x 116	135	127	281 x 158	183
3.5	109	241 x 136	157	148	328 x 184	214
4	125	276 x 155	180	169	375 x 211	244
4.5	140	310 x 174	202	190	421 x 237	275
5	156	345 x 194	225	211	468 x 263	305
5.5	171	379 x 213	247	233	515 x 290	336
6	187	414 x 233	270	254	562 x 316	367
6.5	202	448 x 252	292	275	609 x 342	397
7.1	221	489 x 275	319	300	665 x 374	434

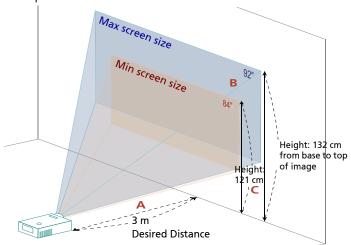
Zoom Ratio: 1.36x

• 1080p series (H6517BD/E145D/HE-801J)

If the projector is 3 m from the screen, good image quality is possible for image sizes between 84" and 92".



**Note:** Remind as below figure, the space of 132 cm height is required when located at 3 m distance.



	Screen size		Тор	Screen size		Тор	
Desired Distance	(Min zoom)		(Max zoom)				
(m) <a></a>	Diagonal (inch) <b></b>	W (cm) x H (cm)	From base to top of image (cm) <c></c>	Diagonal (inch) <b></b>	W (cm) x H (cm)	From base to top of image (cm) <c></c>	
1.5	42	93 x 52	60	46	101 x 57	66	
2	56	123 x 69	81	61	135 x 76	88	
2.5	70	154 x 87	101	76	169 x 95	110	
3	84	185 x 104	121	92	203 x 114	132	
3.5	98	216 x 122	141	107	236 x 133	154	
4	112	247 x 139	161	122	270 x 152	176	
4.5	125	278 x 156	181	137	304 x 171	198	
5	139	309 x 174	201	153	338 x 190	220	
6	167	370 x 208	242	183	405 x 228	265	
7	195	432 x 243	282	214	473 x 266	309	
8	223	494 x 278	322	244	541 x 304	353	
9	251	556 x 313	363	275	608 x 342	397	
10	279	617 x 347	403	305	676 x 380	441	

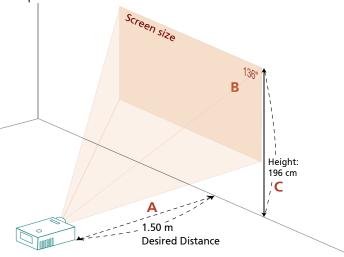
Zoom Ratio: 1.1x

• 1080p series (H6517ST/E145S/HE-801ST)

If the projector is 1.5 m from the screen, good image quality is possible for image sizes 136".



**Note:** Remind as below figure, the space of 196 cm height is required when located at 1.50 m distance.



	Scr	een size	Тор
Desired			
Distance (m) <a></a>	Diagonal (inch) <b></b>	W (cm) x H (cm)	From base to top of image (cm) <c></c>
0.50	45	100 x 56	65
0.75	68	150 x 85	98
1.00	91	200 x 113	131
1.25	113	251 x 141	163
1.50	136	301 x 169	196
1.75	158	351 x 197	229
2.00	181	401 x 225	262
2.25	204	451 x 254	294
2.50	226	501 x 282	327
2.75	249	551 x 310	360
3.00	272	601 x 338	392
3.25	294	351 x 366	425
3.35	303	671 x 378	438

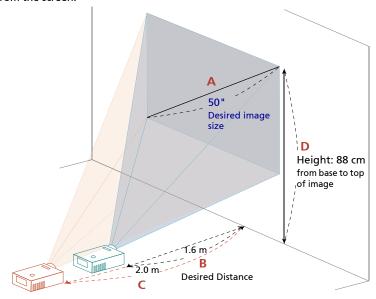
Zoom Ratio: 1.0x

# How to get a preferred image size by adjusting distance and zoom

The table below shows how to achieve a desired image size by adjusting either the position or the zoom ring.

### XGA series

To obtain an image size of 50 " set the projector at a distance 1.6 m and 2.0 m from the screen.

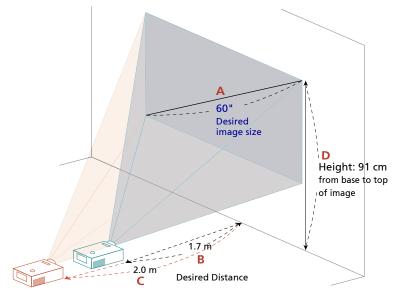


Desired Image Size		Distan	ce (m)	Top (cm)
Diagonal (inch) <a></a>	W (cm) x H (cm)	Max zoom <b></b>	Min zoom <c></c>	From base to top of image <d></d>
38	77 x 58	1.2	1.5	67
40	81 x 61	1.3	1.6	70
50	102 x 76	1.6	2.0	88
60	122 x 91	2.0	2.3	105
70	142 x 107	2.3	2.7	123
80	163 x 122	2.6	3.1	140
90	183 x 137	2.9	3.5	158
100	203 x 152	3.3	3.9	175
120	244 x 183	3.9	4.7	210
150	305 x 229	4.9	5.9	263
180	366 x 274	5.9	7.0	315
250	508 x 381	8.1	9.8	438
300	610 x 457	9.8	11.7	526
307	624 x 468	10.0	12.0	538

Zoom Ratio: 1.2x

### WXGA series

To obtain an image size of  $60\,^{\circ}$  set the projector at a distance 1.7 m and 2.0 m from the screen.

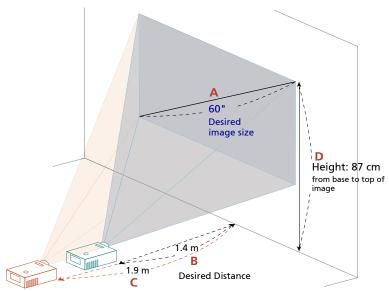


Desired Image Size		Distan	ce (m)	Top (cm)
Diagonal (inch) <a></a>	W (cm) x H (cm)	Max zoom <b></b>	Min zoom <c></c>	From base to top of image <d></d>
45	97 x 61	1.2	1.5	68
50	108 x 67	1.4	1.7	76
55	118 x 74	1.5	1.8	83
60	129 x 81	1.7	2.0	91
70	151 x 94	1.9	2.3	106
80	172 x 108	2.2	2.6	121
90	194 x 121	2.5	3.0	136
100	215 x 135	2.8	3.3	151
120	258 x 162	3.3	4.0	182
150	323 x 202	4.1	5.0	227
200	431 x 269	5.5	6.6	303
250	538 x 337	6.9	8.3	378
300	646 x 404	8.3	9.9	454

Zoom Ratio: 1.2x

### • 1080p series (P5515/N156/PN-805)

To obtain an image size of 60 " set the projector at a distance 1.4 m and 1.9 m from the screen.

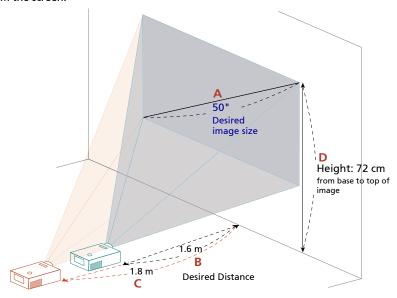


Desired I	mage Size	Distan	ce (m)	Top (cm)
Diagonal (inch) <a></a>	W (cm) x H (cm)	Max zoom <b></b>	Min zoom <c></c>	From base to top of image <d></d>
40	89 x 50	0.9	1.3	58
50	111 x 62	1.2	1.6	72
60	133 x 75	1.4	1.9	87
70	155 x 87	1.7	2.2	101
80	177 x 100	1.9	2.6	116
90	199 x 112	2.1	2.9	130
100	221 x 125	2.4	3.2	144
120	266 x 149	2.8	3.9	173
150	332 x 187	3.5	4.8	217
180	398 x 224	4.3	5.8	260
200	443 x 249	4.7	6.4	289
250	553 x 311	5.9	8.0	361
300	664 x 374	7.1		433

Zoom Ratio: 1.36x

### • 1080p series (H6517BD/E145D/HE-801J)

To obtain an image size of 50 " set the projector at a distance 1.6 m and 1.8 m from the screen.



Desired I	mage Size	Distan	ce (m)	Top (cm)
Diagonal (inch) <a></a>	W (cm) x H (cm)	Max zoom <b></b>	Min zoom <c></c>	From base to top of image <d></d>
41.8	93 x 52	1.4	1.5	60
50	111 x 62	1.6	1.8	72
60	133 x 75	2.0	2.2	87
70	155 x 87	2.3	2.5	101
80	177 x 100	2.6	2.9	116
90	199 x 112	2.9	3.2	130
100	221 x 125	3.3	3.6	144
120	266 x 149	3.9	4.3	173
150	332 x 187	4.9	5.4	217
180	398 x 224	5.9	6.5	260
200	443 x 249	6.6	7.2	289
250	553 x 311	8.2	9.0	361
305	675 x 380	10.0		441

Zoom Ratio: 1.1x

# **User Controls**

### Installation menu

The installation menu provides an onscreen display (OSD) for projector installation and maintenance. Use the OSD only when the message "No signal input" is displayed on the screen.

The menu options include settings and adjustments for screen size and distance, focus, keystone correction and more .

- 1 Turn on the projector by pressing "Power" button on the control pad.
- 2 Press the "MENU" button on the remote control to launch the OSD for projector installation and maintenance.



- 3 The background pattern acts as a guide to adjusting the calibration and alignment settings, such as screen size and distance, focus and more .
- 4 The Installation menu includes the following options:
  - Projection method
  - Projection Mode
  - Projection Location
  - Auto Keystone settings
  - •Manual Keystone settings
  - •H. Keystone
  - •V. Keystone
  - •I AN/WiFi
  - •LAN
  - •I AN IP/Mask
  - •USB Display
  - Language settings
  - •WirelessHD Dongle Paring

•Reset to factory default function

Use the up and down arrow keys to select an option, the left and right arrow keys to adjust selected option settings, and the right arrow key to enter a submenu for feature setting. The new settings will be saved automatically upon exiting the menu.

5 Push the MENU button anytime to exit the menu and return to the Acer welcome screen.

<b>@</b>			
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# **Onscreen Display (OSD) Menus**

The projector has multilingual OSD that allow you to make image adjustments and change a variety of settings.

### Using the OSD menus

- To open the OSD menu, press "MENU" on the remote control or control
  panel.
- When the OSD is displayed, use the weys to select any item in the main menu. After selecting the desired main menu item, press to enter submenu for feature setting.
- Use the keys to select the desired item and adjust the settings by using the keys.
- Select the next item to be adjusted in the submenu and adjust as described above.
- Press "MENU" on the remote control or control panel, the screen will return to the main menu.
- To exit OSD, press "MENU" on the remote control or control panel. The OSD menu will close and the projector will automatically save the new settings.





**Note:** Some of the following OSD settings may not be available. Please refer to the actual OSD of your projector.

# Color

Display Mode	There are many factory presets optimized for various types of images.
	Bright: For brightness optimization.
	Presentation: For meeting presentation.
	Standard: For common environment.
	Video: For playing video in a bright environment.
	Game: For game content.
	Education: For education environment.
	Movie: For brighter and general movie/video/photo playing.
	Dark Cinema: For dark movie content.
	Sports: For sport picture.
	User: Memorize user's settings.
Wall color	Use this function to choose a proper color according to the wall. There are several choices, including white, light yellow, light blue, pink, dark green. It will compensate the color deviation due to the wall color to show the correct image tone.
Brightness	Adjust the brightness of the image.
	Press ( to darken the image.
	Press  to lighten the image.
Contrast	"Contrast" controls the difference between the lightest and darkest parts of the picture. Adjusting the contrast changes the amount of black and white in the image.
	Press  to decrease the contrast.
	Press  to increase the contrast.
Saturation	Adjusts a video image from black and white to fully saturated color.
	Press  to decrease the amount of color in the image.
	Press  to increase the amount of color in the image.
Tint	Adjusts the color balance of red and green.
	Press  to increase the amount of green in the image.
	Press  to increase the amount of red in the image.

Color Temperature	Mode Use this function to choose CT1, CT2 (Native), CT3, User mode.
	R Gain Adjusts the red gain for color temperature optimization.
	G Gain Adjusts the green gain for color temperature optimization.
	B Gain Adjusts the blue gain for color temperature optimization.
	R Bias Adjusts the red bias for color temperature optimization.
	G Bias Adjusts the green bias for color temperature optimization.
	B Bias Adjusts the blue bias for color temperature optimization.
Dynamic Black	Choose "On" to automatically optimize the display of dark movie scenes enabling them to be shown in incredible detail.
Gamma	Effects the representation of dark scenery. With greater gamma value, dark scenery looks brighter.
Advanced	Ind. Color Management Adjusts the red, green, blue, cyan, yellow and magenta colors.
	Ind. Hue Adjusts the color balance of red and green.
	Ind. Saturation Adjusts the selected color to be less or more saturated color.
	Ind. Gain Adjusts the selected color's contrast.
	Brilliant Color Produces an expanded on-screen color spectrum that delivers enhanced color saturation for bright, true-to-life images.
	White Peaking Increases the brightness of whites that are near 100%. (video sources only)
	Film Mode Sets the image optimized to 24-frame True Film mode.
	Noise Reduction Adjusts signal noise reduction. "0" means the noise reduction is off, ">0" increase noise reduction.
	Black Extension This ensures optimum black level for each analog source.



 $\ensuremath{\text{\textbf{Note:}}}$  "Saturation" and "Tint" functions are not supported under computer or HDMI mode.

# Image

Projection		
	• Front-Desktop: The factory default setting.	
	Profit-Desktop. The factory default setting.	
	• Rear-Desktop: When you select this function, the projector	
	reverses the image so you can project from behind a translucent screen.	
	Rear-Ceiling: When you select this function, the projector	
	reverses and inverts the image at same time. You can project from behind a translucent screen with ceiling mounted projection.	
	Front-Ceiling: When you select this function, the projector inverts the image for ceiling-mounted projection.	
Projection Mode		
	• Front: The factory default setting.	
	Rear: Reverses the image so you can project from behind a translucent screen.	
Projection Location		
	Auto: Automatically adjusts projection location of image.	
	• Desktop	
	Ceiling: Turns the image upside down for ceiling-mounted projection.	
Aspect Ratio	Use this function to choose your desired aspect ratio.	
	<ul> <li>Auto: Keep the image with original width-higth ratio and maxi mize the image to fit native horizontal or vertical pixels.</li> </ul>	
	Full: Resize image to fit full screen by width (1280 pixels) and	
	height (800 pixels).	
	4:3: The image will be scaled to fit the screen and displayed using     a 4:3 ratio.	
	• 16:9: The image will be scaled to fit the width of the screen and	
	the height adjusted to display the image using a 16:9 ratio.	
	<ul> <li>L.Box: Keep original signal aspect ratio and zoom in by 1.333 times.</li> </ul>	
Auto Keystone	Automatically adjusts vertical image.	
Manual Keystone	Adjust image distortion caused by tilting projection.	
	** Alger	
	<note> The Manual Keystone function is unavailable under Auto Keystone setting to "On".</note>	

H./V. Keystone	Auto V. Keystone
H./V. Reystone	Automatically adjusts vertical image.
	H. Keystone
	Press the or button to adjust image distortion horizontally
	and makes a squarer image.
	V. Keystone
	Press the $\bigcirc$ or $\bigcirc$ button to adjust image distortion vertically and
	makes a squarer image.
4 Corner Correction	Manually adjusts the shape and size of an image that is unevenly rectangular on all sides. Press "MODE" repeatedly to select the corner that you wish to adjust. Press four directional selection keys to adjust the image shape.
	Note> The function is unavailable when H./ V. Keystone is adjusted.
Sharpness	Adjusts the sharpness of the image.
Sharphess	, ,
	Press ( to decrease the sharpness.
	Press ( ) to increase the sharpness.
H. Position (Horizontal	Press ( to move the image left.
position)	Press  to move the image right.
V. Position (Vertical position)	Press ( to move the image down.
	Press      to move the image up.
Frequency	"Frequency" changes the projector's refresh rate to match the frequency of your computer's graphics card. If you can see a vertical flickering bar in the projected image, use this function to make the necessary adjustments.
Tracking	Synchronizes the signal timing of the projector with the graphics card. If you experience an unstable or flickering image, use this function to correct it.
HDMI Color Range	Adjust the color range of the HDMI image data to correct color display error.
	Auto: Automatically adjust by information from player.
	• Limited Range: Prosess the input image as limited color range data.
	Full Range: Prosess the input image as full color range data.
HDMI Scan Info	Adjust the overscan ratio of the HDMI image on screen.
	Auto: Automatically adjust by information from player.
	Underscan: Always no overscan on HDMI image.
	Overscan: Always keep overscan on HDMI image.
	<u> </u>



Note: "H. Position", "V. Position", "Frequency" and "Tracking" functions

are not supported under HDMI or Video mode.

Note: "HDMI Color Range" and "HDMI Scan Info" functions are only

supported under HDMI mode.

# **Setting**

Use this function to select your desired startup screen. If you change the setting, the changes will take effect when you exit the OSD menu.  Acer: The default startup screen of your Acer projector.  User: Use memorize picture from "Screen Capture" function.  Screen Capture  Use this function to customize the startup screen, To capture the image that you want to use as the startup screen, follow the instructions below.  Notice:  Before proceeding with the following steps, make sure that the "Keystone" is set to the default value 0 and the aspect ratio is set to 4:3. For details, refer to the "Image" section.  • Change the "Startup Screen" from the default setting "Acer" to "User".  • Press "Screen Capture" to customize the startup screen.  • A dialog box appears to confirm the action. Choose "Yes" to use the current image as your customized startup screen. The capture range is the red rectangular area. Choose "No" to cancel the screen capture is finished, the mosscend ofsplay (OSD).  • A message appears, stating that the screen capture is in progress.  • When the screen capture is finished, the message disappears and the original display is shown.  • The customized startup screen, as shown below, takes effect when there is a new input signal or when you restart the projector will search for other signals if the current input signal is lost. When Source Lock is turned "Off", the projector will search for other signals if the current input signal is lost. When Source Lock is turned "Orf" the capturing mode from CC1, CC2, CC3, CC4, (CC1 displays captions in the primary language in your area). Select "Off" to turn off the captioning mode from CC1, CC2, CC3, CC4, (CC1 displays captions in the primary language in your area). Select "Off" to turn off the captioning feature. This function is only available when a composite video or S-Video input signal is selected and its system format is NTSC.  «Note» Set your screen aspect ratio to 4:3. This function is not available when the aspect ratio is "16:9" or "Auto".  Press		
image that you want to use as the startup screen, follow the instructions below.  Notice:  Before proceeding with the following steps, make sure that the "Keystone" is set to the default value 0 and the aspect ratio is set to 4:3. For details, refer to the "Image" section.  • Change the "Startup Screen" from the default setting "Acer" to "User".  • Press "Screen Capture" to customize the startup screen.  • A dialog box appears to confirm the action. Choose "Yes" to use the current image as your customized startup screen. The capture range is the red rectangular area. Choose "No" to cancel the screen capture and exit the onscreen display (OSD).  • A message appears, stating that the screen capture is in progress.  • When the screen capture is finished, the message disappears and the original display is shown.  • The customized startup screen, as shown below, takes effect when there is a new input signal or when you restart the projector.  Source Lock  When Source Lock is turned "Off", the projector will search for other signals if the current input signal is lost. When Source Lock is turned "On", it will "lock" the current source channel unless you press "Source" button on the remote control for the next channel.  Closed Caption  Selects a preferred closed captioning mode from CC1, CC2, CC3, CC4, (CC1 displays captions in the primary language in your area). Select "Off" to turn off the captioning feature. This function is only available when a composite video or S-Video input signal is selected and its system format is NTSC.  «Note> Set your screen aspect ratio to 4:3. This function is not available when the aspect ratio to 4:3. This function is not available when the aspect ratio to 4:3. This function is not available when the aspect ratio to 4:3. This function for the administrator to manage usage of the projector.  Press the button and choose "Yes" to return the parameters on all menus to the factory default settings.  • Press the button and choose "Yes" to return the administrator to manage usage of the pro	Startup Screen	change the setting, the changes will take effect when you exit the OSD menu.  • Acer: The default startup screen of your Acer projector.
other signals if the current input signal is lost. When Source Lock is turned "On", it will "lock" the current source channel unless you press "Source" button on the remote control for the next channel.  Closed Caption  Selects a preferred closed captioning mode from CC1, CC2, CC3, CC4, (CC1 displays captions in the primary language in your area). Select "Off" to turn off the captioning feature. This function is only available when a composite video or S-Video input signal is selected and its system format is NTSC. <note> Set your screen aspect ratio to 4:3. This function is not available when the aspect ratio is "16:9" or "Auto".  VGA OUT (Standby)  Default is "Off". Choose "On" to enable VGA OUT connection.  WirelessHD Dongle Paring  Press the button and choose "Yes" to return the pairing.  Security  Security  Security  This projector provides a useful security function for the administrator to manage usage of the projector.  Press to change the "Security" setting. If the security function is enabled, your must enter the "Administrator Password" first before changing the security settings.  Select "On" to enable the security function. The user has to enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector</note>	Screen Capture	image that you want to use as the startup screen, follow the instructions below.  Notice: Before proceeding with the following steps, make sure that the "Keystone" is set to the default value 0 and the aspect ratio is set to 4:3. For details, refer to the "Image" section.  • Change the "Startup Screen" from the default setting "Acer" to "User".  • Press "Screen Capture" to customize the startup screen.  • A dialog box appears to confirm the action. Choose "Yes" to use the current image as your customized startup screen. The capture range is the red rectangular area. Choose "No" to cancel the screen capture and exit the onscreen display (OSD).  • A message appears, stating that the screen capture is in progress.  • When the screen capture is finished, the message disappears and the original display is shown.  • The customized startup screen, as shown below, takes effect when there is a new input signal or when you restart the
CC4, (CC1 displays captions in the primary language in your area).  Select "Off" to turn off the captioning feature. This function is only available when a composite video or S-Video input signal is selected and its system format is NTSC. <note> Set your screen aspect ratio to 4:3. This function is not available when the aspect ratio is "16:9" or "Auto".  VGA OUT (Standby)  Default is "Off". Choose "On" to enable VGA OUT connection.  WirelessHD Dongle Paring  Persus the button and choose "Yes" to return the parameters on all menus to the factory default settings.  Security  Security  This projector provides a useful security function for the administrator to manage usage of the projector.  Press to change the "Security" setting. If the security function is enabled, your must enter the "Administrator Password" first before changing the security settings.  Select "On" to enable the security function. The user has to enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector</note>	Source Lock	other signals if the current input signal is lost. When Source Lock is turned "On", it will "lock" the current source channel unless you
WirelessHD Dongle Paring  Default is "No". Select "Yes" to do WirelessHD (WiHD) dongle pairing.  Press the button and choose "Yes" to return the parameters on all menus to the factory default settings.  Security  Security  This projector provides a useful security function for the administrator to manage usage of the projector.  Press to change the "Security" setting. If the security function is enabled, your must enter the "Administrator Password" first before changing the security settings.  Select "On" to enable the security function. The user has to enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector	Closed Caption	CC4, (CC1 displays captions in the primary language in your area). Select "Off" to turn off the captioning feature. This function is only available when a composite video or S-Video input signal is selected and its system format is NTSC. <note> Set your screen aspect ratio to 4:3. This function is not</note>
Paring pairing.  Peset Press the button and choose "Yes" to return the parameters on all menus to the factory default settings.  Security This projector provides a useful security function for the administrator to manage usage of the projector.  Press to change the "Security" setting. If the security function is enabled, your must enter the "Administrator Password" first before changing the security settings.  Select "On" to enable the security function. The user has to enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector	VGA OUT (Standby)	Default is "Off". Choose "On" to enable VGA OUT connection.
Security  Security  This projector provides a useful security function for the administrator to manage usage of the projector.  Press to change the "Security" setting. If the security function is enabled, your must enter the "Administrator Password" first before changing the security settings.  Select "On" to enable the security function. The user has to enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector		
This projector provides a useful security function for the administrator to manage usage of the projector.  Press to change the "Security" setting. If the security function is enabled, your must enter the "Administrator Password" first before changing the security settings.  Select "On" to enable the security function. The user has to enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector		parameters on all menus to the factory default settings.
is enabled, your must enter the "Administrator Password" first before changing the security settings.  Select "On" to enable the security function. The user has to enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector	Security	This projector provides a useful security function for the
enter a password to operate the projector. Please refer to the "User Password" section for details.  If "Off" is selected, then the user can turn on the projector		is enabled, your must enter the "Administrator Password" first
		enter a password to operate the projector. Please refer to the
		l

	Timeout(Min.)
	Once "Security" is activated to "On", the administrator can set
	timeout function.
	• Press • or • to select the timeout interval.
	The range is from 10 minute to 990 minutes.
	When the time is up, the projector will prompt the user to enter the password again.
	The factory default setting of "Timeout(Min.)" is "Off".
	Once the security function is enabled, the projector will request user to enter password when switch on the projector . Both "User Password" and "Administrator Password" can be accepted for this dialogue.
	User Password
	Press to setup or change the "User Password".
	Press number keys to set your password on the remote control and press "MENU" to confirm.
	● Press ◀ to delete character.
	Enter the password when you see "Confirm Password" displayed.
	The password should be between 4 and 8 characters long.
	If you select "Request password only when plugging the power cord in.", the projector will prompt the user to enter the password every time the power cord is plugged.
	If you select "Always request password while projector turns on.", the user has to enter the password every time when the projector is turned on.
	Administrator Password
	The "Administrator Password" can be used in both the "Enter Administrator Password" and "Enter Password" dialog boxes.
	Press  to change the "Administrator Password".
	• The factory default of "Administrator Password" is "1234".
	If you forgot your administrator password, do the following to retrieve the administrator password:
	An unique 6-digit "Universal Password" which is printed on the Security Card (please check accessory in the box). This unique password is the number which will be accepted by projector anytime no matter what the Administrator Password is.
	If losing this security card and number, please contact with an Acer service center.
	Lock to user startup screen Default Lock User Startup Screen is "Off". If lock user startup screen is "On", users cannot change startup screen anymore and avoid other users change that arbitrarily. Choose "Off" to unlock startup screen.
LAN/Control Channel	Control Channel Default is "RS232". Choose "LAN" to enable LAN connection.
	LAN IP/Mask
	Identify IP and Mask address.
	LAN Reset Reset LAN function.



Note: Functions vary depending on model definition.

# Management

ECO Mode	Choose "On" to dim the projector lamp which will lower power consumption, extend the lamp life and reduce noise. Choose "Off" to return normal mode.	
High Altitude	Choose "On" to turn on High Altitude mode. Operate the fans at full speed continuously to allow for proper high altitude cooling of the projector.	
Turn Off Mode	Instant Off: Shuts down the projector without fan cooling.	
	Instant Resume: Resumes the system when the Power button is pressed again within 2 minutes.	
Auto Shutdown	The projector will automatically shutdown when there is no signal input after the allocated time. (default is 15 minutes)	
AC Power On	Choose "On" to power on projector while AC power plug in.	
Lamp Hour Elapse	Displays the lamp's elapsed operating time (in hours).	
Lamp Reminding	Activate this function to display a reminder to change the lamp 30 hours before its expected end-of-life.	
Lamp Hour Reset	Press the button and choose "Yes" to turn the lamp hour counter to 0 hours.	
3D Dust Filter	Replacement Reminder Default of Replacement Reminder is "Off". Select "On" to activate filter replacement reminder after installing 3D dust filter.	
	Place Choose one of three places (indoor, outdoor, and Loess area) based on actual environment. The default is "indoor".	
	Filter Hour Show the filter used hour information. When meeting max time based on selected place, it will pop up a warning message to ask for replacing filter.	
	Filter Reset	
	Press the button and choose "Yes" to return the parameter to the factory default after replacing new 3D dust filter.	



Note: Functions vary depending on model definition.

# **Audio**

Volume	<ul> <li>Press ( ) to decrease the volume.</li> <li>Press ( ) to increase the volume.</li> </ul>	
Mute	<ul><li>Choose "On" to mute the volume.</li><li>Choose "Off" to restore the volume.</li></ul>	
Power On/Off Volume	Select this function to adjust the notification volume when turning the projector on/off.	
Alarm Volume	Select the function to adjust the volume of any warning notifications.	



**Note:** Functions vary depending on model definition.

### **3D**

3D	Choose "On" to enable DLP 3D function.		
	On: Choose this item while using DLP 3D glasses, 120Hz 3D capable graphics cards and HQFS format file or DVD with corresponding SW player.		
	Off: Turn off 3D mode.		
3D Format	If the 3D content is not displayed correctly, you can select a 3D format that suits the 3D content you are viewing and obtain the best result.		
24P 3D	Choose "96Hz" or "144Hz" to compatible with 3D glasses.		
3D L/R Invert	If you see a discrete or overlapping image while wearing DLP 3D glasses, you may need to execute "Invert" to get best match of left/right image sequence to get the correct image (for DLP 3D).		
3D Warning Message	Choose "On" to display the 3D warning message.		
	Note: 3D display is now enabled.  1. Please make sure you have the correct 3D signals and glasses.  2. Remember to turn 3D off if you don't want to see 3D images.  3. If the 3D display isn't correct, please try to enable 3D Sync Invert.  4. Display mode options will be disabled while in 3D mode.		



**Note**: It needs correct settings on graphic card 3D application program for correct 3D display.

**Note:** The SW players, such as Stereoscopic Player and DDD TriDef Media Player can support 3D format files. You can download these three players on web page below,

- Stereoscopic Player (Trial): http://www.3dtv.at/Downloads/Index\_en.aspx
- DDD TriDef Media Player (Trial): http://www.tridef.com/download/TriDef-3-D-Experience-4.0.2.html

Note: "3D L/R Invert" is only available when 3D is enabled.

**Note:** There has reminder screen if 3D still enable when power on projector. Please adjust setting depended on your purpose.

## Language

Choose the multilingual OSD menu. Use the ▲ or ▼ key
to select your preferred menu language.
Press  to confirm the selection.

# Acer LAN webpage management

## How to login in

Open browser and enter the Server IP address by 192.168.100.10 to find below homepage of acer LAN webpage management. A password is needed to login in before using.

Select a user. **Administrator** is with high authority that can process more operations such as network setting and alert setting. Default password of administrator is "admin". And **User** is with normal authority with default password by "user". Click Login button to enter into homepage with correct password.



#### Home

**Home** page shows connection status and you can find three main functions listed, **Control Panel**, **Networking Setting** and **Alert Setting**.





**Note:** Control Panel and Networking Setting are only for Administrator account.

#### **Control Panel**

Enduser can control and adjust projector setting value via this page.



### **Network Setting**

Enduser can set IP address, group name and password as wish. After change network configurations or password, projector will reboot automatically after press "Apply".





Note: Group Name and projector Name must be less then 32 characters.

## **Alert Setting**

Enduser can send mail with error message right away if projector has problem.



## Logout

After tap Logout, you will return to login page within 5 seconds.





Note: Functions vary depending on model definition.

# **Appendices**

# Troubleshooting

If you experience a problem with your Acer projector, refer to the following troubleshooting guide. If the problem persists, please contact your local reseller or service center.

### **Image Problems and Solutions**

#	Problem	Solution
1	No image appears onscreen	Connected as described in the "Getting Started" section.  Ensure none of the connector pins are bent or broken.  Check if the projector lamp has been securely installed. Please refer to the "Replacing the Lamp" section.  Make sure you have removed the lens cap and the projector is switched on.
2	Partial, scrolling or incorrectly displayed image (for PC (Windows 2000/PP/vista/ Windows 7/ Windows 8))	Press "RESYNC" on the remote control.  For an incorrectly displayed image:  Open "My Computer", open the "Control Panel", and then double-click the "Display" icon.  Select the "Settings" tab.  Verify that your display resolution setting is lower than or equal to WUXGA-RB (1920 x 1200).  Click the "Advanced Properties" button.  If the problem still appears, change the monitor display you are using and follow the steps below:  Verify that the resolution setting is lower than or equal to WUXGA-RB (1920 x 1200).  Click the "Change" button under the "Monitor" tab.  Click "Show all devices". Next, select "Standard monitor types" under the SP box, and choose the resolution mode you need under the "Models" box.  Verify that the resolution setting of the monitor display is lower than or equal to WUXGA-RB (1920 x 1200).

3	Partial, scrolling or incorrectly displayed image (For notebooks)	Press "RESYNC" on the remote control.  For an incorrectly displayed image: Follow the steps for item 2 (above) to adjust the resolution of your computer. Press the toggle output settings. Example: [Fn]+[F4], Compaq [Fn]+[F4], Dell [Fn]+[F8], Gateway [Fn]+[F4], IBM [Fn]+[F7], HP [Fn]+[F4], NEC [Fn]+[F3], Toshiba [Fn]+[F5]  If you experience difficulty changing resolutions or your monitor freezes, restart all equipment including the projector.
4	The screen of the notebook computer is not displaying your presentation	If you are using a Microsoft® Windows® based notebook: Some notebook PCs may deactivate their own screens when a second display device is in use. Each has a different way to be reactivated. Refer to your computer's manual for detailed information.  If you are using an Apple® Mac® OS based notebook: In System Preferences, open Display and select Video Mirroring "On".
5	lmage is unstable or flickering	Adjust the "Tracking" to correct it. Refer to the "Image" section for more information. Change the display color depth settings on your computer.
6	Image has vertical flickering bar	Use "Frequency" to make an adjustment. Refer to the "Image" section for more information.  Check and reconfigure the display mode of your graphics card to make it compatible with the projector.
7	Image is out of focus	Make sure the lens cap is removed. Adjusts the focus ring on the projector lens.  Make sure the projection screen is within the required distance of 4.9 to 32.0 feet (1.5 to 9.8 meters) (XGA series) / 4.9 to 27.1 feet (1.5 to 8.3 meters) (WXGA series) / 1.6 to 10.9 feet (0.5 to 3.3 meters) (1080p, H651757/E145S/HE-801ST series) / 4.9 to 32.2 feet (1.5 to 9.8 meters) (1080p, H6517BD/ E145D/HE-801J series) / 4.3 to 23.3 feet (1.3 to 7.1 meters) (1080p, P5515/N156/PN-805 series) from the projector. Refer to the "How to Get a Preferred Image Size by Adjusting Distance and Zoom" section for more information.

8	Image is stretched when displaying a "widescreen" DVD title	<ul> <li>When you play a DVD encoded in anamorphic or 16:9 aspect ratio you may need to adjust the following settings:</li> <li>If you play a 4:3 format DVD title, please change the format to 4:3 in the projector OSD.</li> <li>If the image is still stretched, you will also need to adjust the aspect ratio. Set up the display format to 16:9 (wide) aspect ratio on your DVD player.</li> <li>If you play an Letterbox (LBX) format DVD title, please change the format to Letterbox (LBX) in the projector OSD.</li> </ul>
9	Image is too small or too large	<ul> <li>Adjust the zoom lever on the top of the projector.</li> <li>Move the projector closer to or further from the screen.</li> <li>Press "MENU" on the remote control. Go to "Image&gt; Aspect Ratio" and try different settings or press "RATIO" on the remote control to adjust directly.</li> </ul>
10	Image has slanted sides	<ul> <li>If possible, reposition the projector so that it is centered on the screen.</li> <li>Press the "Keystone △ / □" button on the remote control until the sides are vertical.</li> <li>Press "MENU" on the remote control. Go to "Image&gt; Auto Keystone" and choose "Off" on the OSD, if "Keystone" button is not available on the remote control.</li> </ul>
11	Image is reversed	Select "Image> Projection" on the OSD and adjust the projection direction.

## **OSD** Messages

#	Condition	Message Reminder
1	Message	Fan Fail - the system fan is not working.
		Fan Fail.  Lamp will automatically turn off soon.  • Projector Overheated - the projector has exceeded its recommended operating temperature and must be allowed to cool down before it may be used. Please check the following message.
		Projector overheated, system will turn off automatically soon, please:  1. Check if operation ambient temperature between 5 degree and 40 degree.  2. Check if filter needs to be cleaned.  3. Check if inlet or outlet is blocked.  4. Check if high altitude mode is set when the projector operating at high altitude area.
		Please also check the dust filters if they are installed. If the dust filter is clogged with dust, please clean it. Please refer to "Cleaning and replacing the dust filter" for details.
		Replace the lamp - the lamp is about to reach its maximum lifetime. Prepare to replace it soon.
		Lamp is approaching the end of its useful life in full power operation. Replacement suggested!

## Problems with the Projector

#	Condition	Solution
1	The projector stops responding to all controls	If possible, turn off the projector, then unplug the power cord and wait at least 30 seconds before reconnecting power.
2	Lamp burns out or makes a popping sound	When the lamp reaches the end of its useful life, it will burn out and may make a loud popping sound. If this happens, the projector will not turn on until the lamp module has been replaced. To replace the lamp, follow the procedures in the "Replacing the Lamp" section.

# **LED & Alarm Definition Listing**

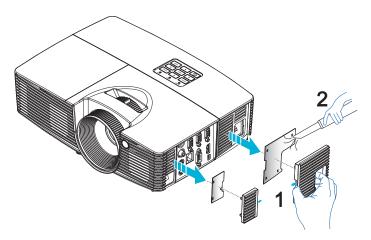
## **LED Messages**

Message	Lamp_LED	Temp_LED	Powe	r LED
iviessage	Red	Red	Red	Blue
Input power plug	Flash ON to OFF 100ms	Flash ON to OFF 100ms	Flash ON to OFF 100ms	
Standby			ON	
Power button ON				ON
Lamp retry				Quick Flashing
Power off (Cooling state)			Quick Flashing	
Power button OFF (cooling completed; standby mode)			ON	
Error (thermal failure)		ON		ON
Error (fan lock)		Quick Flashing		ON
Error (lamp breakdown)	ON			ON
Error (color wheel fail)	Quick Flashing			ON

# Cleaning and replacing the dust filters

#### Cleaning the dust filters

Clean the dust filters after every 1000 hours of use. If they are note cleaned periodically, they can become clogged with dust, preventing proper ventilation. This can cause overheating and damage the projector.



#### Follow these steps:

- 1 Turn the projector off. Wait for the Power LED to stop flashing then unplug the power cord.
- 2 Allow the projector at least 30 mins to cool down.
- 3 Pull out the dust filter. (Illustration #1)
- 4 To clean the dust filters, use a small vacuum cleaner designed for computers and other office equipment. (Illustration #2)
- 5 If the dirt is difficult to remove or the filter is broken, please contact your local dealer or service center to obtain a new filter.

## Replacing the Lamp

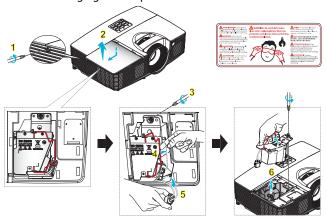
Use a screwdriver to remove the screw(s) from the cover, and then pull out the lamp.

The projector will detect the lamp life. You will be shown a warning message "Lamp is approaching the end of its useful life in full power operation.

Replacement suggested!" When you see this message, change the lamp as soon as possible. Make sure the projector has been cooling down for at least 30 minutes before changing the lamp.



**Warning:** The lamp compartment is hot! Allow it to cool down before changing the lamp.



#### To Change the Lamp

Turn off the projector by pressing the Power button.

Allow the projector at least 30 minutes to cool down.

Disconnect the power cord.

- 1 Use a screwdriver to remove the screw from the cover. (Illustration #1) Push up and remove the cover. (Illustration #2)
- 2 Remove the screw that secure the lamp module. (Illustration #3) Pull out the lamp plug. (Illustration #4) Lift the handle so that it stands up. (Illustration #5)
- 3 Lift the handle so that it stands up. Pull out the lamp module by force. (Illustration #6)

To replace the lamp module, use a new lamp and reverse the above steps.

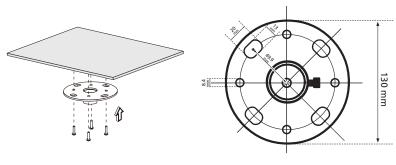


**Warning:** To reduce the risk of personal injury, do not drop the lamp module or touch the lamp bulb. The bulb may shatter and cause injury if it is dropped.

## **Ceiling Mount Installation**

If you wish to install the projector using a ceiling mount, please refer to the steps below:

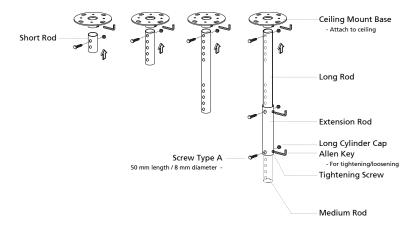
1 Drill four holes into a solid, structurally sound part of the ceiling, and secure the mount base.



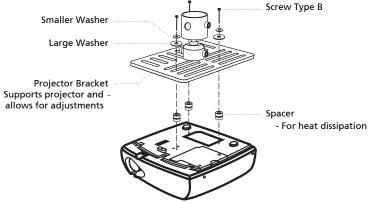


**Note:** Screws are not included. Please obtain the appropriate screws for your type of ceiling.

2 Secure the ceiling rod using the appropriate type of four-cylinder screws.



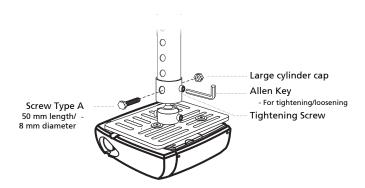
3 Use the appropriate number of screws for the projector size to attach the projector to the ceiling mount bracket.



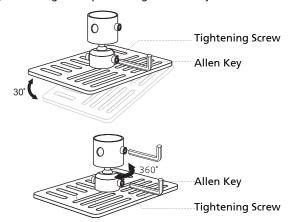


**Note:** It is recommended that you keep a reasonable space between the bracket and the projector to allow for proper heat distribution. Use two washers for extra support, if deemed necessary.

4 Attach the ceiling bracket to the ceiling rod.



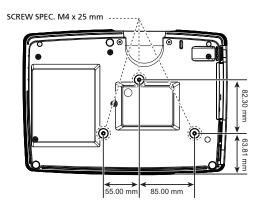
5 Adjust the angle and positioning as necessary.





**Note:** The appropriate type of screw and washer for each model is listed in the table below. 4 mm diameter screws are enclosed in the screw pack.

Screw Type B		Washe	r Type
Diameter (mm)	Length (mm)	Large	Small
4	25	V	V



# Specifications

The specifications listed below are subject to change without notice. For final specs, please refer to Acer's published marketing specifications.

Projection system	DLP <sup>®</sup>	
Resolution	P1287/M416/PE-X45 series: Native 1024 x 768 XGA resolution	
	P1387W/M426/PE-W45 series: Native 1280 x 800 WXGA resolution	
	<ul> <li>P5515/N156/PN-805/H6517BD/E145D/HE-801J/ H6517ST/E145S/HE-801ST series: 1920x1080 1080p resolution</li> </ul>	
	<ul> <li>Maximum: UXGA (1600 x 1200), WSXGA+ (1680x1050), 1080p(1920x1080), WUXGA-RB (1920 x 1200)</li> </ul>	
Computer compatibility	IBM PC and compatibles, Apple Macintosh, iMac and VESA standards: SXGA, XGA, VGA, SVGA, SXGA+, WXGA, WXGA+, WSXGA +	
Video compatibility	NTSC (3.58/4.43), PAL (B/D/G/H/I/M/N), SECAM (B/D/G/K/K1/L), HDTV (720p, 1080i, 1080p), EDTV (480p, 576p), SDTV (480i, 576i)	
Aspect ratio	Full, 4:3, 16:9, L.Box	
Displayable colors	16.7 million colors	
Projection lens	P1287/M416/PE-X45/P1387W/M426/PE-W45 series:     f = 2.41 ~ 2.70, f = 18.17 mm ~ 21.81 mm, 1.2x     manual zoom and manual focus	
	H6517ST/E145S/HE-801ST series: F = 2.80, f = 7.42 mm, 1.0x manual zoom and manual focus	
	<ul> <li>H6517BD/E145D/HE-801J series: F = 2.5 ~ 2.67, f = 21.90mm ~ 24.00mm, 1:1.1 Manual Zoom and Manual Focus</li> </ul>	
	<ul> <li>P5515/N156/PN-805 series: F = 2.5 ~ 2.93, f = 15.98mm ~ 21.42mm, 1:1.4 Manual Zoom and Manual Focus</li> </ul>	
Projection screen size (diagonal)	• P1287/M416/PE-X45 series: 38" (98 cm) ~ 300" (762 cm)	
	<ul> <li>P1387W/M426/PE-W45/H6517ST/E145S/HE-801ST series: 45" (115cm) ~ 300" (762cm)</li> </ul>	
	• H6517BD/E145D/HE-801J series: 42" (106cm) ~ 300" (762cm)	
	• P5515/N156/PN-805 series: 40" (103cm) ~ 300" (762cm)	

Projection distance	• P1287/M416/PE-X45 series:
	4.9' (1.5 m) ~ 32.0' (9.8 m)  • P1387W/M426/PE-W45 series: 4.9' (1.5m) ~ 27.1' (8.3m)
	H6517ST/E145S/HE-801ST series:     1.6' (0.5m) ~ 10.9' (3.3m)
	<ul> <li>H6517BD/E145D/HE-801J series:</li> <li>4.9' (1.5m) ~ 32.2' (9.8m)</li> </ul>
	• P5515/N156/PN-805 series: 4.3' (1.3m) ~ 23.3' (7.1m)
Throw ratio	• P1287/M416/PE-X45 series: 62"@2m (1.60 ~ 1.92:1)
	<ul> <li>P1387W/M426/PE-W45 series: 73"@2m (1.28 ~ 1.54:1)</li> </ul>
	<ul> <li>H6517ST/E145S/HE-801ST series: 181"@2m (0.50 ~ 0.50:1)</li> </ul>
	<ul> <li>H6517BD/E145D/HE-801J series: 61"@2m (1.48 ~ 1.62:1)</li> </ul>
	<ul> <li>P5515/N156/PN-805 series: 85"@2m (1.07 ~ 1.45:1)</li> </ul>
Horizontal scan rate	15 - 100 kHz
Vertical refresh scan rate	24 - 120 Hz
Lamp type	P1287/M416/PE-X45/P1387W/M426/PE-W45/P5515/     N156/PN 205
	N156/PN-805 series: 260 W user-replaceable lamp • H6517ST/E145S/HE-801ST/H6517BD/E145D/HE-801J
	series: 210W user-replaceable lamp
Keystone correction	<ul> <li>P1287/M416/PE-X45/P1387W/M426/PE-W45/ H6517ST/E1455/HE-801ST/H6517BD/E145D/HE-801J series: ±40 degrees</li> </ul>
	<ul> <li>P5515/N156/PN-805 series: ±30 degrees</li> </ul>
Audio	<ul> <li>P1287/M416/PE-X45/P1387W/M426/PE-W45/P5515/ N156/PN-805 series: Internal speaker with 10 W output</li> </ul>
	H6517ST/E145S/HE-801ST/H6517BD/E145D/HE-801J series: Internal speaker with 2 W output
Weight	2.5 ~ 3.0 Kg (5.51 ~ 6.61 lbs)
Dimensions (W x D x H)	314 mm X 223.4 mm X 93.4 mm (12.4" x 8.8" x 3.7")
Digital Zoom	2X
Power supply	AC input 100 - 240 V auto-switching power supply
Power consumption	<ul> <li>P1287/M416/PE-X45/P1387W/M426/PE-W45 series: Normal mode: 330W ± 10% @ 110VAC ECO mode: 280W ± 10% @ 110VAC Standby mode &lt; 0.5W</li> </ul>
	<ul> <li>H6517ST/E145S/HE-801ST/H6517BD/E145D/HE-801J series: Normal mode: 255W ± 10% @ 110VAC ECO mode: 196W ± 10% @ 110VAC Standby mode: &lt; 0.5W</li> </ul>
	<ul> <li>P5515/N156/PN-805 series:         Normal mode: 325W ± 10% @ 110VAC         ECO mode: 270W ± 10% @ 110VAC         Standby mode &lt; 0.5W         Network standby mode: &lt;3W </li> </ul>

Operating temperature	0°C to 40°C / 32°F to 104°F
Standard package contents	AC power cord x1
	VGA cable x1
	Remote control x1
	<ul> <li>Battery x2 (for remote control) (option)</li> </ul>
	<ul> <li>User's guide (CD-ROM) x1</li> </ul>
	Quick start guide x1
	Security card x1
	<ul> <li>Carrying case x1 (option)</li> </ul>

I/O connectors	P1287/ M416/PE-X45/ P1387W/ M426/PE-W45	P5515/N156/ PN-805	H6517BD/E145D/HE-801J/ H6517ST/E145S/HE-801ST
Power socket	V	V	V
DC Jack	Х	V	Х
VGA IN	Х	V	V
VGA IN 1	V	Х	Х
VGA IN 2	V	Х	Х
VGA output	V	V	Х
3.5 mm audio jack input 1	V	V	V
S-Video	V	Х	Х
Composite video	V	V	V
3.5 mm audio jack input 2	V	V	Х
3.5 mm audio jack output	V	V	Х
RJ45 LAN input	Х	V	Х
RS232	V	V	Х
HDMI /MHL	V	V	V
HDMI	Х	V	V
Mini USB x1 (for firmware upgrade)	V	V	V



**Note:** Design and specifications are subject to change without notice.

# Compatibility modes

## A. VGA Analog

### 1 VGA Analog - PC Signal

VGA 640x480 60 31.5 640x480 72 37.9 640x480 75 37.5 640x480 85 43.3 640x480 85 43.3 640x480 120 61.9 SVGA 800x600 56 35.1 800x600 72 48.1 800x600 72 48.1 800x600 75 46.9 800x600 85 53.7 800x600 85 53.7 800x600 120 77.4 XGA 1024x768 60 48.4 1024x768 75 60.0 1024x768 75 60.0 1024x768 120 99.0 SXGA 1152x864 70 63.8 1152x864 75 67.5 1152x864 75 67.5 1152x864 75 67.5 1152x864 75 80.0 1280x1024 76 63.8 1280x1024 76 63.8 1280x1024 75 80.0 1280x1024 75 80.0 1280x1024 75 80.0 1280x1024 85 91.1 QuadVGA 1280x960 75 75.2 SXGA+ 1400x1050 60 60.0 1280x960 75 75.2 SXGA+ 1400x1050 60 65.3 UXGA 1600x1200 60 75.0 PowerBook G4 640x480 60 31.4 PowerBook G4 128x960 75 75.0 PowerBook G4 128x960 75 75.0 PowerBook G4 122x960 75 75.0 PowerBook G4 128x960 75 75.0 i Mac DV (G3) 1024x768 75 60.0	Modes	Resolution	V.Frequency [Hz]	H.Frequency [KHz]
640x480 72 37.9 640x480 75 37.5 640x480 85 43.3 640x480 85 43.3 640x480 120 61.9  SVGA 800x600 56 35.1 800x600 60 37.9 800x600 72 48.1 800x600 75 46.9 800x600 85 53.7 800x600 120 77.4  XGA 1024x768 60 48.4 1024x768 75 60.0 1024x768 75 60.0 1024x768 120 99.0 SXGA 1152x864 70 63.8 1152x864 75 67.5 11280x1024 60 64.0 1280x1024 75 80.0 1280x1024 85 91.1 QuadVGA 1280x960 60 60.0 1280x960 75 75.2 SXGA+ 1400x1050 60 65.3 UXGA 1600x1200 60 75.0 PowerBook G4 640x480 60 60 31.4 PowerBook G4 1024x768 60 48.4 PowerBook G4 1152x870 75 68.7 PowerBook G4 1280x960 75 75.0	VGA	640x480		
640x480 75 37.5 640x480 85 43.3 640x480 120 61.9  SVGA 800x600 56 35.1 800x600 60 37.9 800x600 72 48.1 800x600 75 46.9 800x600 85 53.7 800x600 120 77.4 XGA 1024x768 60 48.4 1024x768 75 60.0 1024x768 85 68.7 1024x768 85 68.7 1024x768 120 99.0 SXGA 1152x864 70 63.8 1152x864 75 67.5 1152x864 85 77.1 1280x1024 75 80.0 1280x1024 75 80.0 1280x1024 85 91.1 QuadVGA 1280x960 75 75.2 SXGA+ 1400x1050 60 65.3 UXGA 1600x1200 60 37.9 PowerBook G4 1024x768 60 48.4 PowerBook G4 1024x768 60 37.9 PowerBook G4 1024x768 60 37.9 PowerBook G4 1152x870 75 68.7 PowerBook G4 1152x870 75 68.7			72	37.9
640x480         85         43.3           640x480         120         61.9           SVGA         800x600         56         35.1           800x600         60         37.9           800x600         72         48.1           800x600         75         46.9           800x600         85         53.7           800x600         120         77.4           XGA         1024x768         60         48.4           1024x768         70         56.5           1024x768         75         60.0           1024x768         85         68.7           1024x768         85         68.7           1024x768         120         99.0           SXGA         1152x864         70         63.8           1152x864         75         67.5           1152x864         75         67.5           1152x864         75         67.5           1280x1024         60         64.0           1280x1024         72         77.0           1280x1024         75         80.0           1280x1024         85         91.1           QuadVGA         1280x960		640x480	75	37.5
SVGA         800x600         56         35.1           800x600         60         37.9           800x600         72         48.1           800x600         75         46.9           800x600         120         77.4           XGA         1024x768         60         48.4           1024x768         70         56.5           1024x768         75         60.0           1024x768         85         68.7           1024x768         120         99.0           SXGA         1152x864         70         63.8           1152x864         75         67.5           1152x864         75         67.5           1152x864         75         67.5           1152x864         75         67.5           1280x1024         60         64.0           1280x1024         72         77.0           1280x1024         75         80.0           1280x1024         85         91.1           QuadVGA         1280x960         60         60.0           1280x1024         85         91.1           QuadVGA         1280x960         75         75.2		640x480		
SVGA         800x600         56         35.1           800x600         60         37.9           800x600         72         48.1           800x600         75         46.9           800x600         120         77.4           XGA         1024x768         60         48.4           1024x768         70         56.5           1024x768         75         60.0           1024x768         85         68.7           1024x768         120         99.0           SXGA         1152x864         70         63.8           1152x864         75         67.5           1152x864         75         67.5           1152x864         75         67.5           1152x864         75         67.5           1280x1024         60         64.0           1280x1024         72         77.0           1280x1024         75         80.0           1280x1024         85         91.1           QuadVGA         1280x960         60         60.0           1280x1024         85         91.1           QuadVGA         1280x960         75         75.2		640x480	120	61.9
800x600       60       37.9         800x600       72       48.1         800x600       75       46.9         800x600       85       53.7         800x600       120       77.4         XGA       1024x768       60       48.4         1024x768       70       56.5         1024x768       75       60.0         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1152x864       75       67.5         1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4<	SVGA	800x600	56	
800x600       72       48.1         800x600       75       46.9         800x600       85       53.7         800x600       120       77.4         XGA       1024x768       60       48.4         1024x768       70       56.5         1024x768       75       60.0         1024x768       85       68.7         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.		800x600	60	
800x600       85       53.7         800x600       120       77.4         XGA       1024x768       60       48.4         1024x768       70       56.5         1024x768       75       60.0         1024x768       85       68.7         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         5XGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0			72	
800x600       85       53.7         800x600       120       77.4         XGA       1024x768       60       48.4         1024x768       70       56.5         1024x768       75       60.0         1024x768       85       68.7         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         5XGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0		800x600	75	46.9
XGA       1024x768       60       48.4         1024x768       70       56.5         1024x768       75       60.0         1024x768       85       68.7         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       80x600       60       37.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0 </td <td></td> <td></td> <td></td> <td></td>				
1024x768       70       56.5         1024x768       75       60.0         1024x768       85       68.7         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0				
1024x768       70       56.5         1024x768       75       60.0         1024x768       85       68.7         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0	XGA	1024x768	60	48.4
1024x768       75       60.0         1024x768       85       68.7         1024x768       120       99.0         SXGA       1152x864       70       63.8         1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0				
SXGA         1024x768         120         99.0           SXGA         1152x864         70         63.8           1152x864         75         67.5           1152x864         85         77.1           1280x1024         60         64.0           1280x1024         72         77.0           1280x1024         75         80.0           1280x1024         85         91.1           QuadVGA         1280x960         60         60.0           5XGA+         1400x1050         60         65.3           UXGA         1600x1200         60         75.0           PowerBook G4         640x480         60         31.4           PowerBook G4         640x480         66.6(67)         34.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0			75	
SXGA         1024x768         120         99.0           SXGA         1152x864         70         63.8           1152x864         75         67.5           1152x864         85         77.1           1280x1024         60         64.0           1280x1024         72         77.0           1280x1024         75         80.0           1280x1024         85         91.1           QuadVGA         1280x960         60         60.0           5XGA+         1400x1050         60         65.3           UXGA         1600x1200         60         75.0           PowerBook G4         640x480         60         31.4           PowerBook G4         640x480         66.6(67)         34.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0		1024x768	85	68.7
1152x864       75       67.5         1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0				
1152x864       85       77.1         1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0	SXGA	1152x864	70	63.8
1280x1024       60       64.0         1280x1024       72       77.0         1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       800x600       60       37.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0		1152x864	75	67.5
1280x1024     72     77.0       1280x1024     75     80.0       1280x1024     85     91.1       QuadVGA     1280x960     60     60.0       1280x960     75     75.2       SXGA+     1400x1050     60     65.3       UXGA     1600x1200     60     75.0       PowerBook G4     640x480     60     31.4       PowerBook G4     640x480     66.6(67)     34.9       PowerBook G4     800x600     60     37.9       PowerBook G4     1024x768     60     48.4       PowerBook G4     1152x870     75     68.7       PowerBook G4     1280x960     75     75.0		1152x864	85	77.1
1280x1024       75       80.0         1280x1024       85       91.1         QuadVGA       1280x960       60       60.0         1280x960       75       75.2         SXGA+       1400x1050       60       65.3         UXGA       1600x1200       60       75.0         PowerBook G4       640x480       60       31.4         PowerBook G4       640x480       66.6(67)       34.9         PowerBook G4       800x600       60       37.9         PowerBook G4       1024x768       60       48.4         PowerBook G4       1152x870       75       68.7         PowerBook G4       1280x960       75       75.0		1280x1024	60	64.0
QuadVGA     1280x960     60     60.0       1280x960     75     75.2       SXGA+     1400x1050     60     65.3       UXGA     1600x1200     60     75.0       PowerBook G4     640x480     60     31.4       PowerBook G4     640x480     66.6(67)     34.9       PowerBook G4     800x600     60     37.9       PowerBook G4     1024x768     60     48.4       PowerBook G4     1152x870     75     68.7       PowerBook G4     1280x960     75     75.0		1280x1024	72	77.0
QuadVGA         1280x960         60         60.0           1280x960         75         75.2           SXGA+         1400x1050         60         65.3           UXGA         1600x1200         60         75.0           PowerBook G4         640x480         60         31.4           PowerBook G4         640x480         66.6(67)         34.9           PowerBook G4         800x600         60         37.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0		1280x1024	75	80.0
1280x960     75     75.2       SXGA+     1400x1050     60     65.3       UXGA     1600x1200     60     75.0       PowerBook G4     640x480     60     31.4       PowerBook G4     640x480     66.6(67)     34.9       PowerBook G4     800x600     60     37.9       PowerBook G4     1024x768     60     48.4       PowerBook G4     1152x870     75     68.7       PowerBook G4     1280x960     75     75.0		1280x1024	85	91.1
SXGA+         1400x1050         60         65.3           UXGA         1600x1200         60         75.0           PowerBook G4         640x480         60         31.4           PowerBook G4         640x480         66.6(67)         34.9           PowerBook G4         800x600         60         37.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0	QuadVGA	1280x960	60	60.0
UXGA         1600x1200         60         75.0           PowerBook G4         640x480         60         31.4           PowerBook G4         640x480         66.6(67)         34.9           PowerBook G4         800x600         60         37.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0		1280x960	75	75.2
PowerBook G4         640x480         60         31.4           PowerBook G4         640x480         66.6(67)         34.9           PowerBook G4         800x600         60         37.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0	SXGA+	1400x1050	60	65.3
PowerBook G4         640x480         60         31.4           PowerBook G4         640x480         66.6(67)         34.9           PowerBook G4         800x600         60         37.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0	UXGA	1600x1200	60	75.0
PowerBook G4         800x600         60         37.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0	PowerBook G4		60	31.4
PowerBook G4         800x600         60         37.9           PowerBook G4         1024x768         60         48.4           PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0	PowerBook G4	640x480	66.6(67)	34.9
PowerBook G4         1152x870         75         68.7           PowerBook G4         1280x960         75         75.0	PowerBook G4	800x600		37.9
PowerBook G4 1280x960 75 75.0	PowerBook G4	1024x768	60	48.4
	PowerBook G4	1152x870	75	68.7
i Mac DV (G3) 1024x768 75 60.0	PowerBook G4	1280x960	75	75.0
	i Mac DV (G3)	1024x768	75	60.0

### 2 VGA Analog - Extended Wide timing

Modes	Resolution	V.Frequency [Hz]	H.Frequency [KHz]
WXGA	1280x768	60	47.8
	1280x768	75	60.3
	1280x768	85	68.6
	1280x720	60	44.8
	1280x720	120	92.9
	1280x800	60	49.6
	1280x800-RB	119.909	101.6
	*1920x1200	60	74
	1440x900	60	59.9
WSXGA+	1680x1050	60	65.3
	1920x1080 (1080P)	60	67.5
	1366x768	60	47.7
WUXGA	1920x1200-RB	59.94	74.04

### 3 VGA Analog -Component Signal

Modes	Resolution	V.Frequency [Hz]	H.Frequency [KHz]
480i	720x480(1440x480)	59.94 (29.97)	15.7
576i	720x576(1440x576)	50(25)	15.6
480p	720x480	59.94	31.5
576p	720x576	50	31.6
720p	1280x720	60	45.0
720p	1280x720	50	37.5
1080i	1920x1080	60(30)	33.8
1080i	1920x1080	50(25)	28.1
1080p	1920x1080	23.97/24	27.0
1080p	1920x1080	60	67.5
1080p	1920x1080	50	56.3
*1080p	1920x1200	59.94	74.04

## B. HDMI Digital

## 1 HDMI - PC Signal

Modes	Resolution	V.Frequency [Hz]	H.Frequency [KHz]
VGA	640x480	60	31.5
	640x480	72	37.9
	640x480	75	37.5

	640x480	85	43.3
	640x480	120	61.9
SVGA	800x600	56	35.1
	800x600	60	37.9
	800x600	72	48.1
	800x600	75	46.9
	800x600	85	53.7
	800x600	120	77.4
XGA	1024x768	60	48.4
	1024x768	70	56.5
	1024x768	75	60.0
	1024x768	85	68.7
	1024x768	120	99.0
SXGA	1152x864	70	63.8
	1152x864	75	67.5
	1152x864	85	77.1
	1280x1024	60	64.0
	1280x1024	72	77.0
	1280x1024	75	80.0
	1280x1024	85	91.1
QuadVGA	1280x960	60	60.0
	1280x960	75	75.2
SXGA+	1400x1050	60	65.3
UXGA	1600x1200	60	75.0
PowerBook G4	640x480	60	31.4
PowerBook G4	640x480	66.6(67)	34.9
PowerBook G4	800x600	60	37.9
PowerBook G4	1024x768	60	48.4
PowerBook G4	1152x870	75	68.7
PowerBook G4	1280x960	75	75.0
i Mac DV (G3)	1024x768	75	60.0

### 2 HDMI - Extended Wide timing

Modes	Resolution	V.Frequency [Hz]	H.Frequency [KHz]
WXGA	1280x768	60	47.8
	1280x768	75	60.3
	1280x768	85	68.6
	1280x720	60	44.8
	1280x720	120	92.9
	1280x800	60	49.6
	1280x800-RB	119.909	101.6

	1440x900	60	59.9
	*1920x1200	60	74
WSXGA+	1680x1050	60	65.3
	1920x1080 (1080P)	60	67.5
	1366x768	60	47.7
WUXGA	1920x1200-RB	59.94	74.04

## 3 HDMI - Video Signal

Modes	Resolution	V.Frequency [Hz]	H.Frequency [KHz]
480i	720x480(1440x480)	59.94 (29.97)	15.7
576i	720x576(1440x576)	50(25)	15.6
480p	720x480	59.94	31.5
576p	720x576	50	31.6
720p	1280x720	60	45.0
720p	1280x720	50	37.5
1080i	1920x1080	60(30)	33.8
1080i	1920x1080	50(25)	28.1
1080p	1920x1080	23.97/24	27.0
1080p	1920x1080	60	67.5
1080p	1920x1080	50	56.3
*1080p	1920x1200	59.94	74.04

### 4 HDMI - 1.4a 3D Timing

Modes	Resolution	V.Frequency [Hz]	H.Frequency [KHz]
720p (Frame Packing)	1280 x 720	50	37.5
720p (Frame Packing)	1280 x 720	60	45.0
1080p (Frame Packing )	1920 x1080	24	27.0
720p (Frame Packing)	1280 x 720	50	37.5
720p (Frame Packing)	1280 x 720	60	45.0
1080i (Top and Bottom)	1920 x1080	50 (25)	28.1
1080i (Top and Bottom)	1920 x1080	60 (30)	33.8
1080p (Top and Bottom)	1920 x1080	24	27.0
1080p (Top and Bottom)	1920 x1080	50	56.3
1080p (Top and Bottom)	1920 x1080	60	67.5
720p (Side by Side (Half))	1280 x 720	60	45.0
1080i (Side by Side (Half))	1920 x1080	50 (25)	28.1
1080i (Side by Side (Half))	1920 x1080	60 (30)	33.8
1080p (Side by Side (Half))	1920 x1080	50	56.3

1080p (Side by Side (Half))	1920 x1080	60	67.5
C	Horizontal scan rate:	tal scan rate:	15k-100kHz
Graphic source monitor range limits	Vertical scan rate:		24-120 Hz
	Max. pixel rate:		165 MHz

# C. MHL Digital

1	\	
Resolution	V.Frequency	H.Frequency
Resolution	[Hz]	[KHz]
640x480	59.94/60	31.5
720x480 (1440x480)	59.94/60	15.7
720x576 (1440x576)	50(25)	15.6
720x480	59.94/60	31.5
1440x480	59.94/60	31.5
720x576	50	31.3
1440x576	50	31.3
1280x720	59.94/60	45.0
1280x720	50	37.5
1920x1080	60(30)	33.8
1920x1080	50(25)	28.1
1920x1080	23.97/24	27.0
1920x1080	25	28.1
1920x1080	29.97/30	33.8
Horizontal scan rate:	15k-50 kHz	
Vertical scan rate:	24-60 Hz	
Max. pixel rate:	Digital: 75 MHz	
	720x480 (1440x480) 720x576 (1440x576) 720x480 1440x480 720x576 1440x576 1280x720 1280x720 1920x1080 1920x1080 1920x1080 1920x1080 1920x1080 Horizontal scan rate: Vertical scan rate:	[Hz] 640x480 59.94/60 720x480 (1440x480) 59.94/60 720x576 (1440x576) 50(25) 720x480 59.94/60 1440x480 59.94/60 720x576 50 1440x576 50 1280x720 59.94/60 1280x720 59.94/60 1280x720 50 1920x1080 60(30) 1920x1080 50(25) 1920x1080 23.97/24 1920x1080 25 1920x1080 29.97/30 Horizontal scan rate: 24-6



**Note:** \* Functions vary depending on model definition.