Multimedia Projectors

Types of Projectors
There are two common types of projectors: DLP (digital light processing), and LCD (liquid crystal display).

- **LCD:**

LCD projectors work by utilizing polarized mirrors that pass and reflect only certain colors of light. This causes each channel of red, green and blue to be separated and later re-converged via a prism after passing through an LCD panel that controls the intensity and saturation of each color.

- **DLP:**

DLP projectors can be classified as one-chip or three-chip. Each chip houses millions of mirrors that reflect light thousands of times each second. One-chip DLP projectors can produce more than 16 million colors while three-chip models can produce more than 35 trillion colors. This allows DLP projectors to reproduce more natural and lifelike images. The closeness of each mirror within a chip makes it difficult to see any spaces separating the pixels and in turn creates a more fluid and crisp image compared to LCD technology

Things to be considered

- **Brightness:**

  Measured in 'ANSI lumens', lamp brightness is important for good contrast and picture quality, but crucial if using the projector in a room with ambient light (rather than in a darkened home cinema).

- **Lamp life:**

  Projector lamp life has generally improved over the past couple of years. Lamps for the latest models can be replaceable with reasonable cost. Some projectors' lamps deliver an astounding 30,000 hours of life but they're not replaceable.

- **Boot time:**

  The projector lamp needs time to heat up before it can display a picture. For better lamp life, it's a good idea to let the projector heat up and cool down according to manufacturer instructions.

- **Noise levels:**

  The sound produced by the projector will vary depending on whether it's in high brightness or economical mode.

- **USB Options:**

  Some models provide USB connectivity only for firmware updates while others can display photos but not video. However, if user has a streaming device such as a Google Chromecast stick, he/she can plug it straight into the projector's HDMI port and power the stick through the USB port – giving an instant wireless projector to stream the content from smartphone or tablet.

- **Infrared (IR) position front/rear:**

  Getting access to the IR sensor can be an issue if user wants to operate the projector during a movie. For example, if the projector is placed in front of user and the IR port is at the front user will has to move in front to use the projector remote. If the projector is ceiling-mounted at the back of the room and the IR port is at the rear of the projector also have a similar problem. Some models have ports at the front and rear.

- **Resolution:**

  The physical size of the projector doesn't necessarily have any impact on the resolution it can display. The native resolution is the resolution at which the projector can display images without having to scale the picture up or down. The ideal situation

is when the video signal matches the native resolution, but in reality user will be watching video from different sources at different resolutions.

- **Keystone / lens shift correction:**
  The 'keystone' effect usually occurs when the image is projected to the screen at an angle. If projected upwards, it results in a picture that's wider at the top and looks like a wedge or 'keystone'.

- **Lens shift:**
  This feature is necessary for when the projector is positioned off-center of the screen. Without this feature user may have to move the whole projector to make a correction.

- **Throw ratio:**
  The distance of the projector from the screen will determine the size of the projected image and affect brightness. This is called the throw ratio, or projection distance. Careful attention needs be paid to the throw ratio to ensure that a projector will fill a screen from its intended position.

- **Child lock:**
  The setting can be locked against unauthorized or accidental change.

Multimedia Projector

Item	Minimum Specification	Bidder's Compliance	
		Yes/No	If 'No' indicate your offer
Brand	(Specify)		
Model	(Specify)		
Country of Origin	(Specify)		
Country of Manufacture / Assembled	(Specify)		
Projection System Technology	DLP or LCD		
Display	Panel 0.55" Dark Chip 3 DMD		
Resolution Native	WXGA (1280 x 800)		
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	16:9 (Native),		
Contrast Ratio	10,000:1		
Displayable Colors	1.07 Billion Colors		
Brightness	3,000 Above ANSI Lumens (Standard),		
Projection Lens	F = 2.70, f = 7.15mm, Manual Focus		
Projection Screen Size	(Diagonal) 120"		
Projection Distance	0.4m - 3.8m		
Throw Ratio	0.617 (77"@97cm)		
Key Stone Correction	Please Specify		
Lamp Type	200W or above		
Lamp Life	4,000 Hours (Standard), 10,000 Hours (ECO/Extreme ECO)		
Keystone Correction	+/-40 Degrees (Vertical), Manual		
Projection Mode	Front, Rear, Front-Ceiling, Rear-Ceiling		
Ceiling Mounting Capability	Yes		

Remote Control	Remote controller must be available		
Digital Zoom	2X or Above		
Power Supply	AC input 100~240V auto-switching power supply		
Power Consumption	Please specify		
Noise Level	32 dBA (Standard), 24 dBA (ECO)		
Input Interface	Analog RGB/Component Video (D-sub) x 2 Composite Video (RCA) x 1 HDMI/MHL (Video, Audio, HDCP) x 1 HDMI (Video, Audio, HDCP) x 1 PC Audio (Stereo mini jack) x 1		
Output Interface	Analog RGB (D-sub) x 1 PC Audio (Stereo mini jack) x 1 DC Out (5V/1A, USB Type A) x 1, share the input interface		
Standard Accessories AC power cord	AC power cord Remote control Battery for remote control Lens cap Carrying case User's guide (CD-ROM) Quick start guide		
Native Aspect Ratio	16:9		
Lamp Life	Up to10,000 hours of lamp life with ECO /Extreme ECO		
Digital Zoom and Pan	Digital Zoom and Pan		
Auto Shutdown	Should be Available		
Manufacture Experience	Manufacturer should have minimum of ten years' experience in manufacturing of the same brand. (Proof document should be attached)		
Bidders Experience	The bidder should have successfully sold same similar product for last 3 years (Bidder should provide documentary evidence to support the above)		

Manufacturer Authorization Certificate	Manufacturer Authorization Certificate should be provided (Originals should be provided on request)		
Warranty	Comprehensive on-site manufacturer authorized warranty for 36 months (Labor & Parts) Excluding Consumes. Bidder or its parent company or its subsidiary should have Island wide owned branch network Documentary evidence to be provided of the following under bidders' name. (a) Address, Contact Details & Date of Commencement of each branch/regional office (Should have completed minimum of 5 years from the Date of Commencement of each ranch/regional)		
Warranty	4,000 Hours for the Lamp		

Warranty Information	A sticker with
	        -Supplier name
	        -Contact Numbers
	        -Date of Commissioning of Hardware
	        -Warranty period
	All Projectors		

Brochure	Supplier should provide brochure of make/model quoted as per above specification		

Content References:

- https://byte-notes.com
- https://pcpartpicker.com
- https://www.choice.com.au
- https://www.cnet.com
- http://www.globusinfocom.com
- https://www.icta.lk
- https://www.itbusiness.ca
- https://www.pcworld.com
- https://www.streetdirectory.com