

PROJECTOR USE IN U3A GROUPS

Many of our groups share DVDS, Photos, Powerpoint presentations and other media in group situations. There has been a revolution in projector technology in recent years with the introduction of LEDs and LCDs that have replaced filament bulb technology. This vastly increases life of the projector (from typically 4,000 hrs to 30,000) and drastically impacts on price. Which one to buy though?

“Projectors – a guide for use in Macclesfield U3A”

1. Projectors for “home cinema and gaming” are not great at presenting detail. “Office use” projectors are. There are cross overs that do both.
2. The perfect, all use specification for general use in U3A will cost around £450 (2019 prices). See ideal spec. on the next page.
3. Low end, unsuitable spec. costs from £50 to £120. Avoid.
4. For general, small location, smallish group up to 30 people can be acquired for around £150 to £200. Cross overs are in this range.
5. Large halls and large groups need the “Perfect” spec and will typically be a by Optoma, Benq, Sony, Epson. We need (and have) one of these.
6. All projectors should have HDMI and VGA connection available. All should have a sound capability and sound output Jack socket for a local amplifier and a working remote control.
7. A projector stand is highly recommended, to optimise performance.
8. A pure white, portable reflective screen is highly recommended.
9. A set of adapters and tools (See slide 5) should be kept with the projector.
10. Important! “Brightness” quote in adverts & on line is unreliable. (Slide 4).

Critical Projector Specifications (January 2019 prices)

Parameter	Ideal LED Projector	InFocus IN110x	Epson EB-S41	WiMiUS P18 LED	GOO-DEE YG600 LED	VANKYO Leisure 410	Cheerlux C6
1. Light output	3,000 Lumens	3,200 (Lamp)	3300 (Lamp)	4,000 MktgLumen	3,000	"2500"Dim! MktgLumen	1,200
2. Optimum Size/throw	100"/8ft	Up to 299"	30" to 300"	50" Upto 200"	100"/10FT Upto 200"	About 70" Max 170"	72"/6ft
3. Contrast Ratio (W:B)	2500:1	15,000:1	15,000:1	4,000:1	2,000:1	2,000:1	1,200:1
4. Display resolution	1024 x 768 Pixels	1920 x 1080	WXGA	1280 x 800	1280 x 768	800 x 480 Native	800/480
5. Aspect Ratio	4:3 and 16:9	16:9 native	Auto ANY	16:9 native	16:9 native	16:9 native	4:3 and 16:9
6.Keystone/Tombstone	+/- 15deg	+/- 40deg	+/- 30deg	+/- 15deg Manual	+/- 15deg Manual	+/- 15deg Manual	NO
7.Sound power	5 Watts	2W mono	2W mono	2W * 2	3W * 2	2W Mono	2W
8. Price point	£500	£470+vat	£279	£160	£155	£69.99	£55

The following are deemed essential in every case:

- o 1 x HDMI and 1 x VGA input
- o USB port for 5v power
- o Composite video input
- o Sound output jack for amplifier
- o PAL/NTSC format
- o Remote control
- o LED low maint. light source

Not required/Not recommended:

- o Android operating system
- o Bluetooth
- o Remote control

Recommended for group work:

- GOO-DEE YG600 from amazon, £164 delivered.
- Carry bag, £23 for protection and accessories.
- A kit of necessary adapters and tools, £20.



7 Technology Features

7.1 Basic parameters

Imaging Technology	TFT LCD
Resolution	1280*768RGB
Highest Resolution	1920*1080
Light	LED
LED light life time	30000 hours
Lens	Multichip Coated Lens(F=180)
Operation Mode	Manual operation
Projection Distance	1.5--5.6M
Screen Size	44---200 inches
Aspect Ratio	16:9
Color temperature	262K
Keystone	Manual correction±15°
Power Input	100V-240V-50/60Hz
Integrated watt	135W
Input	HD*2/USB/VGA/MicroSD/AV
Output	Earphone
Speaker	3W*2
* Language support	Support 23 Language
Unit Size	310.7*239.3*117.6mm
Projection ratio	1:4
Net Weight	2.5kg

Key Parameter meaning:

1. **Light O/P , Brightness:** Measured in ANSI Lumens as a standard. BEWARE of “Marketing Lumens”, “Chinese Lumens” and “Effective Lumens”, they are wildly overstating brightness. Not all 3,000 lumen projectors are equal. Get an ANSI figure if possible.
2. **Projector optimum image size and range:** Projected image size will generally be in the range 30 to 300 inches for the best, lesser will manage 50 to 200 inches. Optimum image size (Aim for 100 inches) provides best clarity and definition. Manual will tell you distance from screen for best size. Some have a size adjustment feature (Expensive lenses in reality, hikes the cost a lot).
3. **Contrast W/B:** Generally in the 2-5,000 range, the depth of black compared to bright white on the projected image.
4. **Display Resolution:** many cheaper projectors have a native mode of 800:400 feeding a laptop 1024:768 into this will produce a fuzzy image. Get the right native resolution.
5. **Aspect ratio:** The shape of the screen, laptops in general go 4:3 on powerpoint. DVDs go 16:9. Have a projector that can do both.
6. **Kerning/Tombstone setting:** If projector set lower or higher than screen, the projector can adjust the image back to a square projection. Measured in degrees, 15+/- is an acceptable implementation.
7. **SOUND POWER:** 10w is LOUD but should fill a hall well, less than this and extra amplification may be necessary.

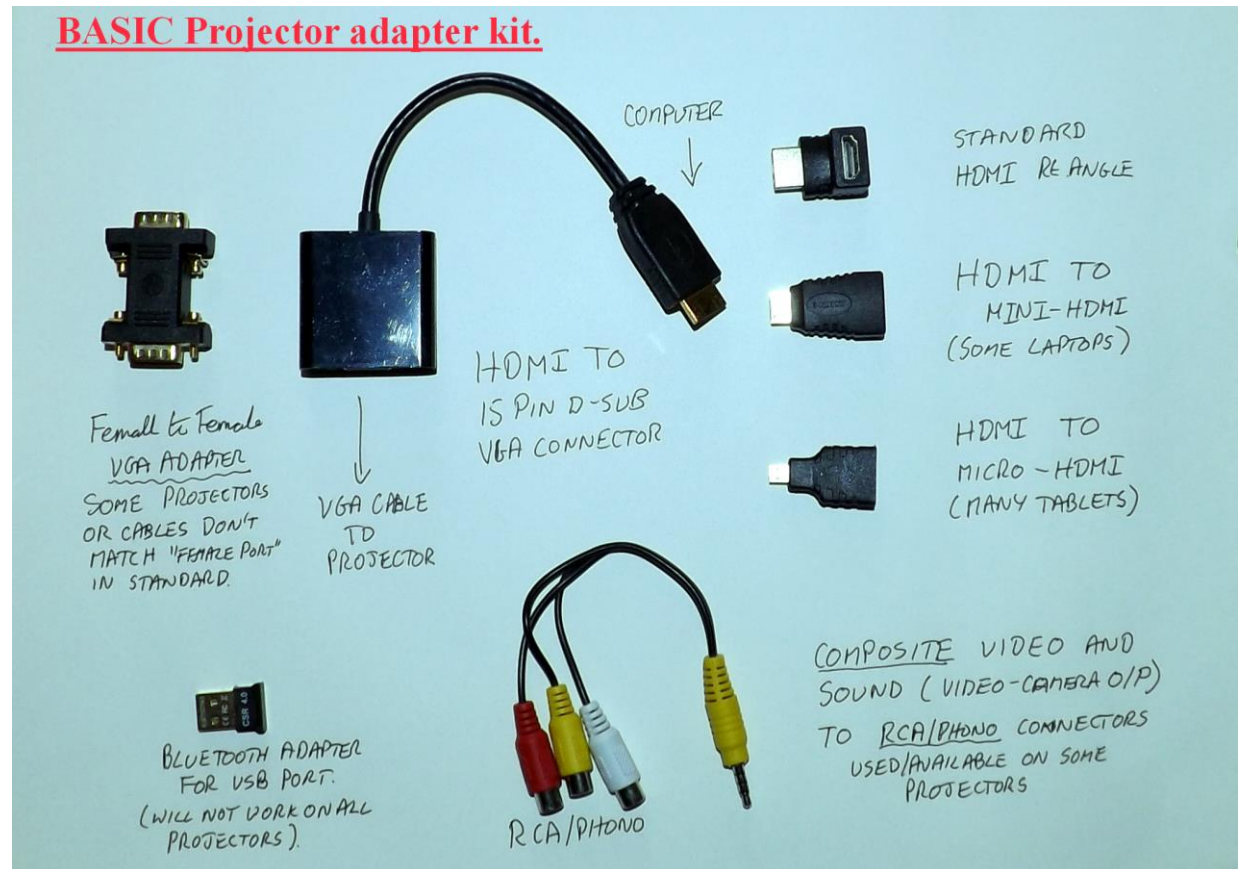
Tools and Adapters required.

YOU WILL NEED : HDMI to HDMI cable and VGA (Mini 15pin D-Sub) to VGA Cable.

It is always a good idea to have the following; small flat bladed electrical screwdriver; small pozidrive/Philips screwdriver, spare 3amp fuses; extension lead (5M,2 way). Also, keep a spare battery for the remote on hand.

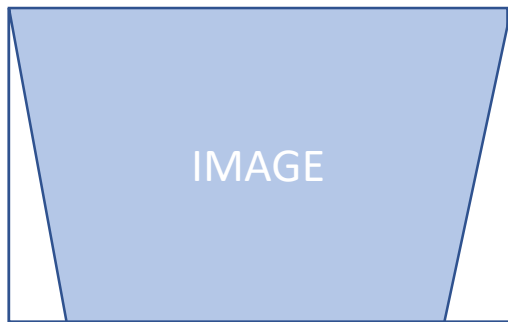
Other useful things:

- 3.5mm jack extension cable.
- F to F 3.5mm adapter.
- A small 4 port USB hub to power tablets, phones etc.
- **Projector operating manual!**



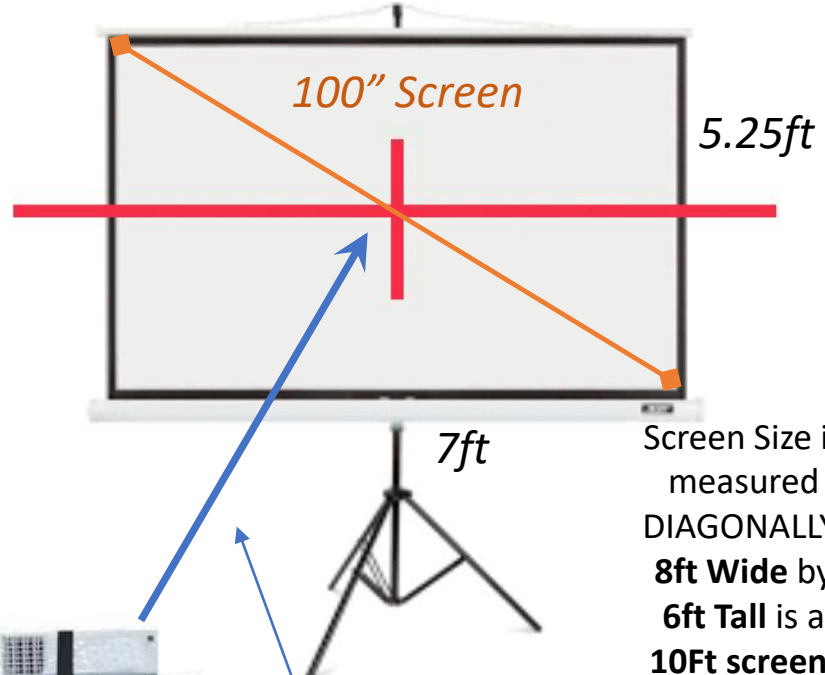
Projector setup

If projected image is not on the Centre line of screen, tilt Table to centre image:



If BELOW the centre line the image will look as above, use kerning (Tombstone) function of projector to correct to a square image by +15° or more.

For most work a **100"** viewable screen area is recommended



Tilttable Table

Adjust height to centre line if possible

Place projector lens Optimum distance away from centre (Throw), THEN focus The image.

Google Chromecast – Remote projection

- Use Chromecastdevice V3.0, Model NC2-6A5, HDMI Tail output.
- CPU – RK3036
- DDR3 Ram – 128MB
- O.S. Linux 3.0.8
- Airplay/Miracast/Chromecast
- Power 5V – 1amp USB Micro
- Requires WiFi hub connection on same SSiD as Laptop/phone.
- Use Google CHROME on P.C. as browser, cast desktop from Account/Cast.
- Use Google HOME on Android to set up device.



HDMI plugs into projector,
power supply into micro-usb

