



Lunar Imaging

CAA
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by

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Lunar Webcams

The background of the slide is a composite image of space. On the left, a large, detailed view of the moon's surface is visible, showing various craters and lunar maria. In the upper right corner, a bright sun is shown, creating a lens flare effect. The rest of the background is a dark, star-filled sky.

Webcams used

- Logitech Pro 4000/5000
- Philips SPC900/SPC880
- Imaging Source DMK21 (Colour)
- Imaging Source DFK21 (Mono)

- The higher the frame rate (Frames Per Second) the better, most home webcams will manage 15fps but high frame rate cameras like the DMK21 will go to 60fps.
- The more frames we capture the greater chance we have of capturing a frame that is in focus and has perfect seeing.
- A higher frame rate also gives us a brighter image, meaning we can turn down the gain of the camera and produce less noise in our images.

Lunar Webcams

Logitech Pro 4000



Philips SPC900



Lunar Webcams

Other Astro Type Webcams

- Meade LPI / Orion StarShoot (£50)
- Celestron NexImage
- Philips TouCam Pro

- www.eBay.co.uk
- www.AstroBuySell.com/uk



Lunar Webcams

Imaging Source Camera – High Frame Rate Cameras

- Can do 60fps
- Can also be converted to an ‘All Sky’ camera with a cheap CCTV fisheye lens
- Mono and Colour available
- Prices: New £300-£600
2nd Hand £150-£300





Lunar Imaging Tips


- Capture video with software that came with webcam or try AmCap or SharpCap (www.sharpcap.co.uk)
- Add a UV/IR rejection filter
- Try a Green or OIII filter to aid with Lunar 'seeing'
- Set your mount to the Lunar Tracking Rate
- The moon is bright, so lower the gain and exposure times
- Don't image a full moon, image the moon through the phases. There is lots of detail along the terminator line
- Take video at the highest frame rates you can
- 500-1000 frames should be enough
- Save your video as an uncompressed AVI
- Process video in Registax – it's FREE

Processing Lunar Video

Registax 6

- Select Video
- Choose Reference Frame
- Set Alignpoints
- Align
- Limit the frames
- Stack the best frames
- Use Wavelets to sharpen

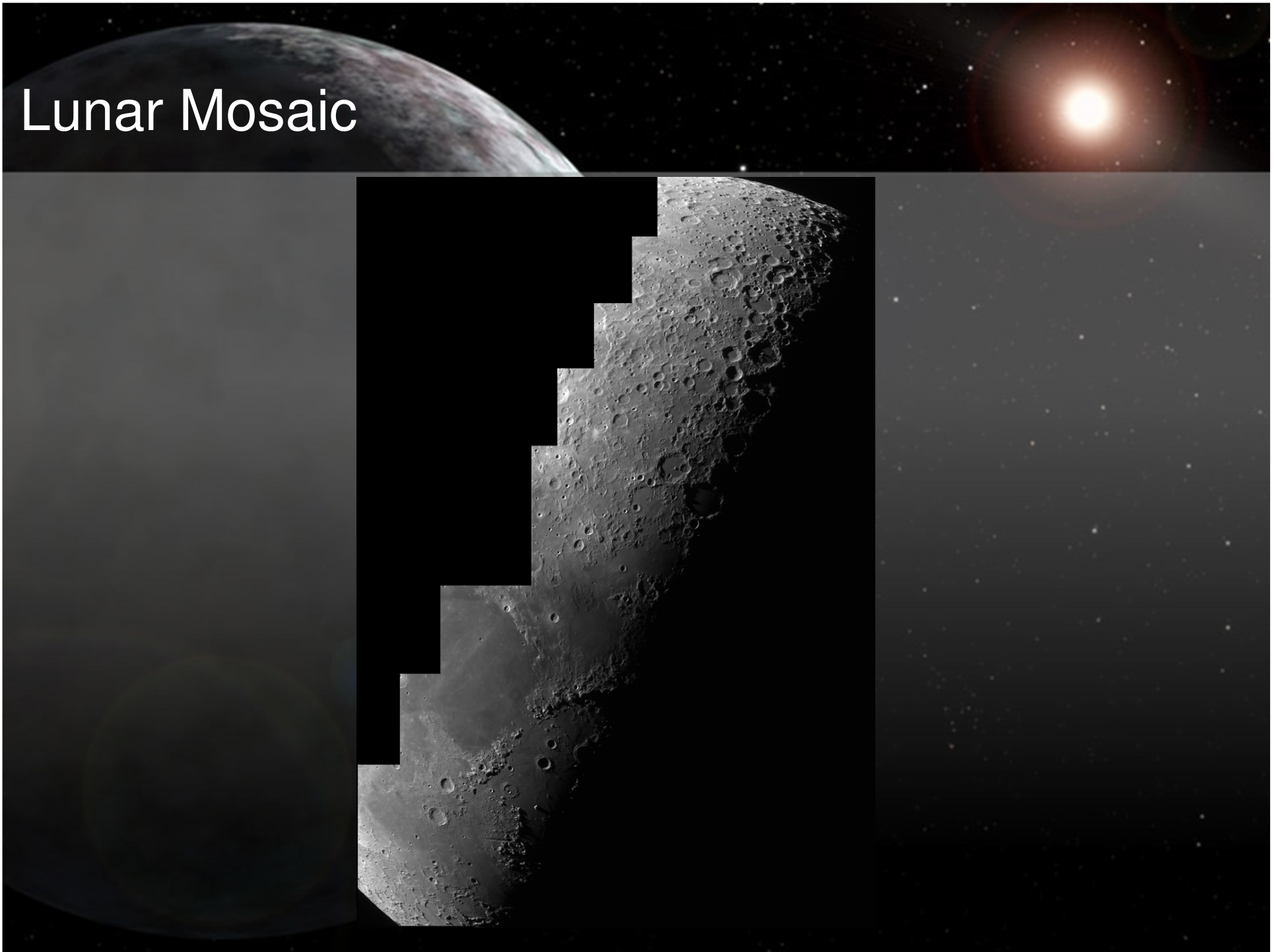
Move to image editing program to tweak brightness, contrast, sharpening etc.



Demo Time

Play the lunar video!

Lunar Mosaic



The background of the slide is a composite image of the moon in space. The moon is on the left side, showing its craters and dark spots. In the upper right, a bright sun is visible, creating a lens flare effect. The rest of the background is a dark, starry space.

Lunar Mosaic

Most webcams have a small chip, so a small field of view
To get the whole moon you will need to make a mosaic by taking several videos.

- Keep the webcam settings the same throughout all videos
- Make sure you overlap your videos
- Process the videos in Registax using the same settings, including Wavelets
- Don't manually align the image frames - use Photomerge in Photoshop and Photoshop Elements (8+). Alternatively use the FREE Microsoft ICE program

The image features a large, detailed view of the Moon's surface on the left side, showing various craters and lunar terrain. The background is a dark space filled with numerous stars. In the upper right corner, a bright sun is visible, creating a lens flare effect. A semi-transparent dark grey rectangular area is overlaid on the center of the image, containing the title text.

Lunar Mosaic Demo



The End

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