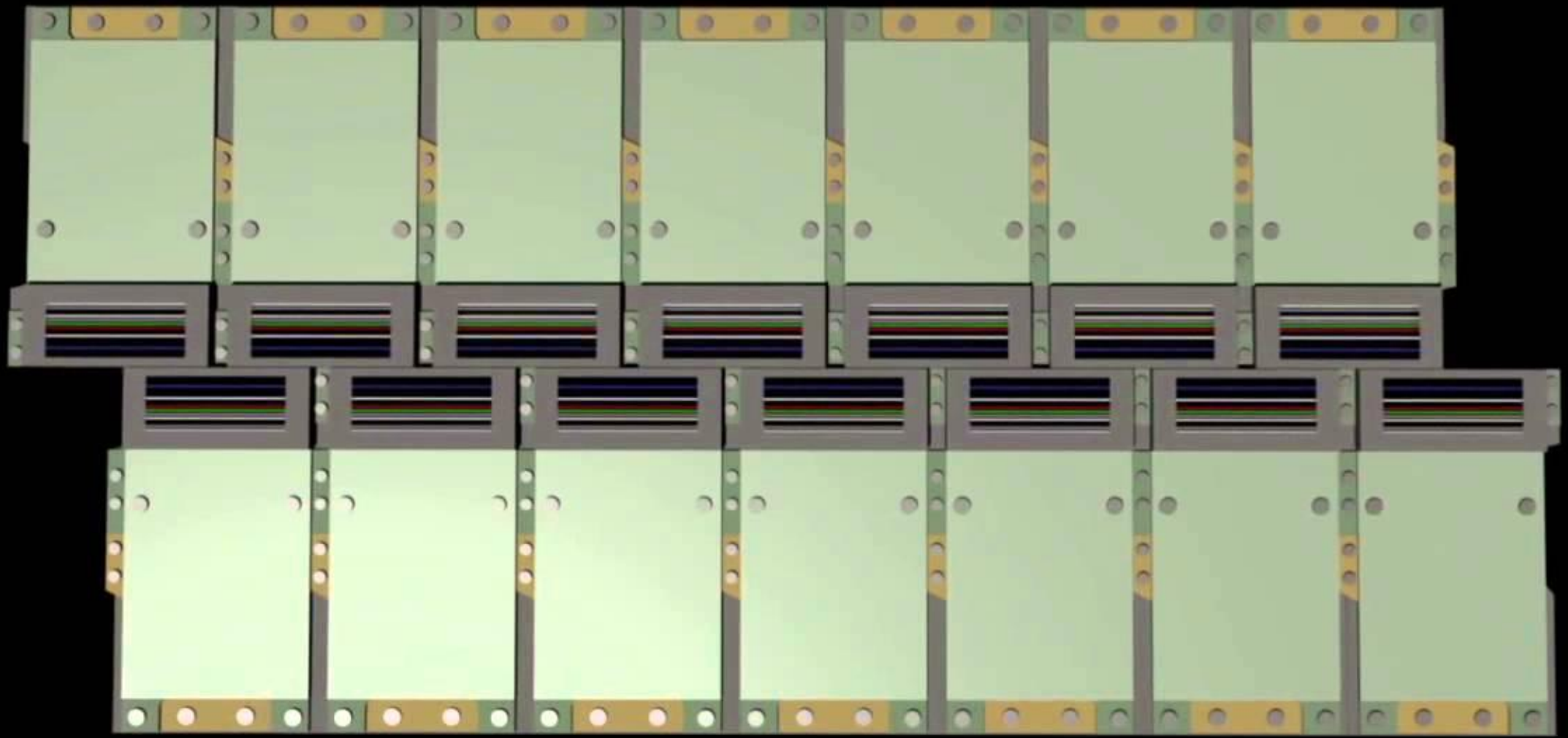

1
00:00:00,050 --> 00:00:04,090
When we do a lunar calibration, it's once a month, and we do the maneuver

2
00:00:04,110 --> 00:00:08,140
only at night time - or basically, when the spacecraft is at night time -

3
00:00:08,160 --> 00:00:12,170
so we don't have to worry about the sun hitting the spacecraft someplace we don't want it to hit.

4
00:00:12,190 --> 00:00:16,200
So we do all our maneuvering in the dark.

5
00:00:16,220 --> 00:00:20,230
We'll take the instrument and point it away from the Earth and we'll point it up at the moon. Around the time you

6
00:00:20,250 --> 00:00:24,250
the slew is starting, the spacecraft is maneuvering to point to the moon

7
00:00:24,270 --> 00:00:28,300
It slews out to the moon and it stands by there for just a short time

8
00:00:28,320 --> 00:00:32,320
until it starts the scans.

9
00:00:32,340 --> 00:00:36,350
It's a push-broom instrument, so it basically consists of 7000 detectors that build up an image

10
00:00:36,370 --> 00:00:40,390
of the earth, like you would push a broom along the surface.

11
00:00:40,410 --> 00:00:44,430
The actual focal plane is made up of a number of modules. There's actually 14 modules across

12
00:00:44,450 --> 00:00:48,490
the focal plane. Each one has about 500 detectors.

13
00:00:48,510 --> 00:00:52,500

And the spacecraft has to take each one and run it down

14
00:00:52,520 --> 00:00:56,550
the centerline of the moon. Our scan pattern is a lot like just how a farmer would

15
00:00:56,570 --> 00:01:00,620
plow a field. You plow down the field one way, turn around,

16
00:01:00,640 --> 00:01:04,640
and move over, and come back. It basically moves the spacecraft so that

17
00:01:04,660 --> 00:01:08,650
each one sees exactly the same field of view across the moon

18
00:01:08,670 --> 00:01:12,650
We actually do this over a period of two orbits, because we don't have enough time in one orbit to get all

19
00:01:12,670 --> 00:01:17,700
14 focal plane modules. That takes about 18 minutes for 8 scans

20
00:01:17,720 --> 00:01:23,440
And then it will return back to Earth just as we're entering daylight.

21
00:01:23,460 --> 00:01:26,760
And then the second orbit will do the rest of them.

22
00:01:26,780 --> 00:01:29,790
The main reason we look at is because the moon is a stable source.

23
00:01:29,810 --> 00:01:36,820
It doesn't have any seasons, or any rain to change the soil color or anything like that. It's as stable a thing as w

24
00:01:36,840 --> 00:01:40,860
By looking at the moon we can see drifts in the instrument much more precisely