1
00:00:00,000 --> 00:00:03,942
Music

2
00:00:03,977 --> 00:00:06,358
The thing that makes this really

3
00:00:06,393 --> 00:00:07,733
exciting for us in the avionics

4
00:00:07,768 --> 00:00:09,621
world is that this is the first

5
00:00:09,656 --> 00:00:11,182
time since the shuttle days that

6
00:00:11,217 --> 00:00:13,254
we're implementing a whole new

7
00:00:13,289 --> 00:00:15,982
avionics design that we're

8
00:00:16,017 --> 00:00:17,990
testing for the first time with

9
00:00:18,025 --> 00:00:19,701
an integrated static motor

10
00:00:19,736 --> 00:00:21,389
firing. Avionics boxes are

11
00:00:21,424 --> 00:00:24,486
essentially for the SLS

12
00:00:24,521 --> 00:00:27,557
configuration into sections of

13
00:00:27,592 --> 00:00:30,093

the vehicle. On the booster,

14
00:00:30,128 --> 00:00:31,932
they are in the forward skirt

15
00:00:31,967 --> 00:00:33,764
and then in the aft skirt. So in

16
00:00:33,799 --> 00:00:36,980
the QM-1 configuration, we have

17
00:00:37,015 --> 00:00:38,588
a rack that contains all the

18
00:00:38,623 --> 00:00:40,372
forward skirt avionics boxes and

19
00:00:40,407 --> 00:00:42,302
then mounted on one of the walls

20
00:00:42,337 --> 00:00:45,132
underneath the booster. So there

21
00:00:45,167 --> 00:00:47,676
are four booster control

22
00:00:47,711 --> 00:00:50,051
distribution units, and they

23
00:00:50,086 --> 00:00:52,940
control the actuators. Then we

24
00:00:52,975 --> 00:00:56,620
have ISCs, which control the

25
00:00:56,655 --> 00:00:58,331
pyrotechnic events. We have two

26
00:00:58,366 --> 00:01:00,155
of those, and then we have two

27
00:01:00,190 --> 00:01:02,267
HPUCs, that control the

28
00:01:02,302 --> 00:01:04,011
hydraulic power unit. The reason

29
00:01:04,046 --> 00:01:06,763
we have twos and fours of things

30
00:01:06,798 --> 00:01:09,403
is for fault tolerance. Unlike

31
00:01:09,438 --> 00:01:11,059
the shuttle program, all our

32
00:01:11,094 --> 00:01:12,347
power now is self-contained

33
00:01:12,382 --> 00:01:13,731
within the booster element

34
00:01:13,766 --> 00:01:15,379
itself, so we have multiple

35
00:01:15,414 --> 00:01:17,235
batteries that are separated by

36
00:01:17,270 --> 00:01:19,259
strings that are independent of

37
00:01:19,294 --> 00:01:22,106
each other. We are running off

38
00:01:22,141 --> 00:01:24,306

of a redesign of a heritage

39
00:01:24,341 --> 00:01:26,083
battery, and that test is

40
00:01:26,118 --> 00:01:28,354
underway right now to qualify

41
00:01:28,389 --> 00:01:30,098
for the new environments of the

42
00:01:30,133 --> 00:01:33,170
SLS rocket. QM-1 is going to be

43
00:01:33,205 --> 00:01:34,874
the opportunity to bring

44
00:01:34,909 --> 00:01:36,690
everything together in an

45
00:01:36,725 --> 00:01:38,337
integrated booster for the first

46
00:01:38,372 --> 00:01:41,345
time. It's really exciting to

47
00:01:41,380 --> 00:01:43,297
know that and be a part of that

48
00:01:43,332 --> 00:01:45,522
and know that it's all going to

49
00:01:45,557 --> 00:01:47,490
come together and have the

50
00:01:47,525 --> 00:01:48,945
opportunity to do that on a test