1
00:00:30,070 --> 00:00:27,609
we are currently receiving downlink

2
00:00:37,510 --> 00:00:30,080
video from inside the the shuttle

3
00:00:40,030 --> 00:00:37,520
Columbia as you can see inside the space

4
00:00:42,729 --> 00:00:40,040
lab module it doesn't matter whether you

5
00:00:45,760 --> 00:00:42,739
walk on the ceiling or the floor the

6
00:00:50,229 --> 00:00:45,770
weightless environment of space allows

7
00:01:19,039 --> 00:00:50,239
the astronauts to be able to work on

8
00:01:24,870 --> 00:01:23,190
okay say that one more time in chi we

9
00:01:36,480 --> 00:01:24,880
need you to try to diffuse the light a

10
00:01:40,730 --> 00:01:36,490
little bit more okay pylant controlling

11
00:01:43,830 --> 00:01:40,740
jerk continues to show video from the

12
00:01:54,149 --> 00:01:43,840
handheld diffusion test cell which is a

13
00:01:56,399 --> 00:01:54,159

protein crystal growth experiment we are

14
00:02:01,350 --> 00:01:56,409
still receiving live video from inside

15
00:02:04,010 --> 00:02:01,360
the space lab we can see that there is a

16
00:02:07,770 --> 00:02:04,020
portion of both the red and blue team

17
00:02:10,100 --> 00:02:07,780
inside the module at this time looks as

18
00:02:13,520 --> 00:02:10,110
though they are posing for pictures this

19
00:02:17,280 --> 00:02:13,530
electronic still camera that allows

20
00:02:21,120 --> 00:02:17,290
digital digitally processed electronic

21
00:02:24,840 --> 00:02:21,130
signals to be sent to the ground so that

22
00:02:28,640 --> 00:02:24,850
we have a way to view still pictures

23
00:02:32,220 --> 00:02:28,650
during real time during the mission in

24
00:02:34,710 --> 00:02:32,230
the center of the screen is payload

25
00:02:39,390 --> 00:02:34,720
specialist al psycho who is holding a

26
00:02:43,380 --> 00:02:39,400
banner from the worchester polytechnic

27
00:02:46,259 --> 00:02:43,390
institute where he is from al Sacco is

28
00:02:48,539 --> 00:02:46,269
also the principal investigator for the

29
00:02:50,670 --> 00:02:48,549
zeolite crystal growth experiment that

30
00:03:00,740 --> 00:02:50,680
is being fun on board this United States

31
00:03:16,070 --> 00:03:05,190
Columbia Houston we've got good downlink

32
00:03:30,140 --> 00:03:21,540
Greg Hughson looks pretty up there it

33
00:03:34,339 --> 00:03:32,720
this is Mission Control Houston we are

34
00:03:36,830 --> 00:03:34,349
receiving television from Columbia's

35
00:03:38,809 --> 00:03:36,840
payload bay camera as Columbia flies

36
00:03:46,970 --> 00:03:38,819
over the Pacific Ocean at an altitude of

37
00:03:48,800 --> 00:03:46,980
about 165 right over Hawaii yeah

38
00:03:50,720 --> 00:03:48,810

unfortunately we've got the window

39
00:03:53,990 --> 00:03:50,730
shades in to keep the lights under

40
00:04:08,590 --> 00:03:54,000
control during the TV stuff but it all

41
00:04:14,560 --> 00:04:12,520
this view of the earth from 165 statute

42
00:04:16,900 --> 00:04:14,570
miles from the payload Bay cameras on

43
00:04:25,390 --> 00:04:16,910
board Columbia in just a few minutes we

44
00:04:27,190 --> 00:04:25,400
will be going on to the will be going on

45
00:04:29,230 --> 00:04:27,200
to the flight deck of Columbia where

46
00:04:31,540 --> 00:04:29,240
Mike Lopez alegria will participate in

47
00:04:34,030 --> 00:04:31,550
an interview with two Spanish radio

48
00:04:47,650 --> 00:04:34,040
stations could cadena ser and Kadena

49
00:04:56,390 --> 00:04:49,850
20 Houston let us know when you're ready

50
00:05:00,500 --> 00:04:56,400
for us to come inside Colby oh this is

51
00:05:06,290 --> 00:05:00,510
kalimah sir how do you hear me moncler

52
00:05:10,220 --> 00:05:06,300
cadena ser hebei puedes haces para

53
00:05:13,130 --> 00:05:10,230
gracias te passante de miguel tecnologia

54
00:05:14,990 --> 00:05:13,140
punta para el espacio y precisamente

55
00:05:17,600 --> 00:05:15,000
aqui los tenemos ya estamos en contacto

56
00:05:19,490 --> 00:05:17,610
con miguel lopez Alegria cosa que estas

57
00:05:21,620 --> 00:05:19,500
horas near lopez aradia puede estar

58
00:05:28,820 --> 00:05:21,630
escuchando no se esta escuchando neste

59
00:05:31,520 --> 00:05:28,830
momento Miguel hey buena noche es para

60
00:05:33,650 --> 00:05:31,530
swatches Qatar oh don't donde te

61
00:05:37,480 --> 00:05:33,660
encuentras ahora describe a nose un poco

62
00:05:41,900 --> 00:05:37,490
como como ser interior del Columbia

63
00:05:46,880 --> 00:05:41,910

bueno aqui tenemos como dos horas la

64
00:05:51,500 --> 00:05:46,890
cadena una sera que es más o menos como

65
00:05:54,770 --> 00:05:51,510
el dormitorio ayer la cocina donde

66
00:05:56,930 --> 00:05:54,780
estamos munoz experimentos y también

67
00:05:59,540 --> 00:05:56,940
tenemos o modo lo de como son

68
00:06:02,360 --> 00:05:59,550
laboratorio en la parte atras en el

69
00:06:06,440 --> 00:06:02,370
compaq tomato de carga entonces yo estoy

70
00:06:10,520 --> 00:06:06,450
ahora mismo en la cabina de de Mondo's

71
00:06:12,710 --> 00:06:10,530
yo que tengo todos todos ventanas

72
00:06:16,220 --> 00:06:12,720
Ferrara's para a quitar la de spa que

73
00:06:18,620 --> 00:06:16,230
salga bien television te puedo decir que

74
00:08:30,830 --> 00:06:18,630
estamos sobre las chivas de hoy ahora

75
00:08:38,209 --> 00:08:35,600
oh we got man I got the camcorder I

76
00:08:40,010 --> 00:08:38,219
haven't got it same yet and I just

77
00:08:45,260 --> 00:08:40,020
wanted them to it let them know that

78
00:08:50,570 --> 00:08:45,270
things were in work could probably give

79
00:09:52,640 --> 00:08:50,580
you dat CDR report card also yeah that

80
00:10:04,710 --> 00:09:56,160
we're seeing the shape of the interface

81
00:10:07,730 --> 00:10:04,720
or liquid to air boundary the separation

82
00:10:14,310 --> 00:10:07,740
point between the liquid and air

83
00:10:34,730 --> 00:10:14,320
changing now as Katie Collman adjusts

84
00:10:49,320 --> 00:10:37,350
well the color sure does make a big

85
00:10:51,420 --> 00:10:49,330
difference doesn't it we are doing a

86
00:11:03,630 --> 00:10:51,430
great job we're getting some really

87
00:11:05,370 --> 00:11:03,640
fantastic data buddy in a black and

88
00:11:07,050 --> 00:11:05,380

white monitor but I can still see a lot

89
00:11:10,260 --> 00:11:07,060
more in that display that I see in the

90
00:11:12,540 --> 00:11:10,270
one here on board yeah well that's why

91
00:11:17,610 --> 00:11:12,550
it's so much more helpful for us to have

92
00:11:19,710 --> 00:11:17,620
have this color but the PIV is also the

93
00:11:21,660 --> 00:11:19,720
particles are flow vaish is coming

94
00:11:33,220 --> 00:11:21,670
through really much clearer than I had

95
00:11:50,240 --> 00:11:37,910
it sure is I wish I are enjoying it with

96
00:11:54,380 --> 00:11:50,250
you guys you're really getting us some

97
00:11:56,750 --> 00:11:54,390
fantastic data and everything is just

98
00:11:59,930 --> 00:11:56,760
just great for mark from our point of

99
00:12:01,490 --> 00:11:59,940
view everybody in the STD see crew wants

100
00:12:10,430 --> 00:12:01,500
to really thank you for the kind of

101
00:12:11,780 --> 00:12:10,440
effort you putting out a pleasure to do

102
00:12:13,700 --> 00:12:11,790
it that's probably like to come to space

103
00:12:15,800 --> 00:12:13,710
and then I wish we could bring more have

104
00:12:19,430 --> 00:12:15,810
you with us up here but there's it gets

105
00:12:22,720 --> 00:12:19,440
a little chronic yeah well it'd be nice

106
00:12:25,340 --> 00:12:22,730
for an old guy to be up there I tell you

107
00:12:27,829 --> 00:12:25,350
okay Kathy I think we got to wind it up

108
00:12:30,920 --> 00:12:27,839
now so again give our best to everybody

109
00:13:02,480 --> 00:12:30,930
aboard and Keith we're looking forward

110
00:13:02,490 --> 00:13:12,280
you

111
00:13:18,020 --> 00:13:14,930
this is space live operations control

112
00:13:20,770 --> 00:13:18,030
Huntsville and we're now seeing on the

113
00:13:25,670 --> 00:13:20,780

downlink video as kathy thornton

114
00:13:31,010 --> 00:13:25,680
proceeds to deploy a drop of liquid in

115
00:13:33,410 --> 00:13:31,020
the drop physics module to proceed al

116
00:13:41,720 --> 00:13:33,420
Sacco rather is actually running the

117
00:13:55,119 --> 00:13:41,730
controls for this experiment we copy

118
00:14:08,030 --> 00:14:03,980
again as go ahead out what do you think

119
00:14:13,309 --> 00:14:08,040
about big crop it's a beautiful drop

120
00:14:24,579 --> 00:14:13,319
let's deploy it okay I've just wait for

121
00:14:31,970 --> 00:14:28,040
al saccos reference to free drift being

122
00:14:36,879 --> 00:14:31,980
the condition where the orbiter is put

123
00:14:40,490 --> 00:14:36,889
in a mode with no thruster jet firings

124
00:14:42,619 --> 00:14:40,500
temporarily and that gives the most

125
00:14:47,240 --> 00:14:42,629
stable and vibration free environment

126
00:14:49,340 --> 00:14:47,250
and that's the condition desired when

127
00:14:50,990 --> 00:14:49,350
you're actually deploying operation like

128
00:15:05,530 --> 00:14:51,000
deploying a drop a very sensitive

129
00:15:13,100 --> 00:15:08,059
this is spaced I of operation sense

130
00:15:15,530 --> 00:15:13,110
ville here we again take some video from

131
00:15:17,559 --> 00:15:15,540
the surface tension driven convection

132
00:15:21,970 --> 00:15:17,569
experiment which kathy thornton is

133
00:15:24,319 --> 00:15:21,980
running again and going through another

134
00:15:35,840 --> 00:15:24,329
experiment run with some different

135
00:15:37,699 --> 00:15:35,850
parameters dial in the majority of the

136
00:15:39,889 --> 00:15:37,709
adjustments that we keep hearing on air

137
00:15:45,049 --> 00:15:39,899
to ground about controlling this

138
00:15:48,230 --> 00:15:45,059

experiment involve the amount of

139
00:15:51,379 --> 00:15:48,240
electrical energy being used turning up

140
00:15:55,160 --> 00:15:51,389
the power on a laser light source and

141
00:15:57,110 --> 00:15:55,170
that laser then is directed down onto

142
00:16:00,739 --> 00:15:57,120
the surface of the little container of

143
00:16:03,129 --> 00:16:00,749
oil and it shines onto the surface we

144
00:16:05,929 --> 00:16:03,139
can see a bright spot there where it is