
MISSION CONTROL CENTER
PAO

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00:00:01,600 --> 00:00:02,868
>> Kelly Humphries: We have
a special guest here with us

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00:00:02,868 --> 00:00:04,937
in Mission Control today.

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00:00:04,937 --> 00:00:11,277
Visiting in association with
AMSAT and the ARISS Experiment,

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00:00:11,277 --> 00:00:13,446
the amateur radio experiment
aboard the International

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00:00:13,446 --> 00:00:14,580
Space Station.

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00:00:14,580 --> 00:00:17,316
We have Frank Bauer who
is the Vice President

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00:00:17,316 --> 00:00:20,052
for Space Flight
Programs at AMSAT.

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00:00:20,052 --> 00:00:21,287
Welcome Frank.

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00:00:21,287 --> 00:00:22,455
>> Frank Bauer: Thank you.

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00:00:22,455 --> 00:00:24,290
>> Kelly: It's good
to have you here.

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00:00:24,290 --> 00:00:29,428
You are no stranger to NASA or
Mission Control but you're here

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00:00:29,428 --> 00:00:31,363
for a special reason this week

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00:00:31,363 --> 00:00:33,899
and that is you've got a large
group of folks here in Houston.

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00:00:33,899 --> 00:00:35,301
Tell us a little bit
about why you're here.

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00:00:35,301 --> 00:00:37,002
>> Frank: Yeah we have about a
hundred and thirty people here

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00:00:37,002 --> 00:00:40,206
from AMSAT the Radio
Armature Satellite Corporation

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00:00:40,206 --> 00:00:45,144
and we're here for a space
symposium all weekend starting

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00:00:45,144 --> 00:00:50,049
actually on Friday and what
we are doing is discussing our

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00:00:50,049 --> 00:00:53,085
amateur radio satellites
and AIRUSS

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00:00:53,085 --> 00:00:56,789
and improving our
operations and one

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00:00:56,789 --> 00:00:58,257
of the major satellites
we're working

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00:00:58,257 --> 00:01:02,761
on is a cube set called
Fox so we've got a lot

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00:01:02,761 --> 00:01:05,197
of different space craft that
we've built over the years,

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00:01:05,197 --> 00:01:08,134
way over seventy
satellites at this point,

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00:01:08,134 --> 00:01:12,104
starting in 1961 the very
first satellite called Oscar 1.

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00:01:12,104 --> 00:01:15,107
>> Kelly: Oscar 1 and then as
we mentioned you're no stranger

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00:01:15,107 --> 00:01:18,077
to NASA, you worked at
Goddard Space Flight Center

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00:01:18,077 --> 00:01:19,411
and elsewhere.

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00:01:19,411 --> 00:01:21,013
Tell us a little bit about
your history with the agency.

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00:01:21,013 --> 00:01:25,117
>> Frank: Yeah I started in the
mid-seventies working for NASA

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00:01:25,117 --> 00:01:30,623
at Goddard and actually
my career was down here

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00:01:30,623 --> 00:01:32,658
for a couple of years
on Constellation

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00:01:32,658 --> 00:01:35,561
and then ultimately NASA
Headquarters folks asked me

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00:01:35,561 --> 00:01:37,997
to come up and be the Chief
Engineer for Exploration

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00:01:37,997 --> 00:01:39,832
so I was doing that
for four years

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00:01:39,832 --> 00:01:42,434
and retired about two years ago.

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00:01:42,434 --> 00:01:45,171
>> Kelly: Ok and retirement
you're staying obviously working

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00:01:45,171 --> 00:01:45,938
with this group.

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00:01:45,938 --> 00:01:47,273
We've got about a hundred

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00:01:47,273 --> 00:01:48,941
and thirty people I think
visiting Johnson Space Center

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00:01:48,941 --> 00:01:50,276
here from your symposium.

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00:01:50,276 --> 00:01:53,078
It's great to have them
here in the viewing room.

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00:01:53,078 --> 00:01:55,314
So tell us a little
bit this is all

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00:01:55,314 --> 00:01:56,982
about the International
Space Station today

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00:01:56,982 --> 00:02:00,419
so give us a little bit of
history and tell us a little bit

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00:02:00,419 --> 00:02:04,590
about AIRUSS and its
value to both the folks

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00:02:04,590 --> 00:02:07,626
on the Space Station and
to folks here on the ground

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00:02:07,626 --> 00:02:10,262
>> Frank: and one of the things
we were celebrating this weekend

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00:02:10,262 --> 00:02:13,699
is that this is the thirtieth
anniversary of amateur radio

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00:02:13,699 --> 00:02:15,467
on human space flight vehicles.

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00:02:15,467 --> 00:02:17,336
And so we have a panel
session with Owen Garriott

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00:02:17,336 --> 00:02:20,573
and Bill McArthur and
others to talk about that.

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00:02:20,573 --> 00:02:24,076
Owen being an STS-9 being
the very first amateur radio

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00:02:24,076 --> 00:02:28,480
operator to actually talk to
anyone you know on the ground,

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00:02:28,480 --> 00:02:30,216
Ham radio operators
and then ultimately

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00:02:30,216 --> 00:02:35,521
in 1996 we started the
ARISS program amateur radio

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00:02:35,521 --> 00:02:36,956
on the International
Space Station

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00:02:36,956 --> 00:02:41,827
and that program has been going
very well on Space Station.

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00:02:41,827 --> 00:02:47,099
We turned down the radio system
two weeks after Bill McArthur

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00:02:47,099 --> 00:02:53,572
and Sergei Krikalev got into
the module on Space Station

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00:02:53,572 --> 00:02:55,641
and we've been operating

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00:02:55,641 --> 00:02:59,578
since on all thirty seven
expeditions at this point.

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00:02:59,578 --> 00:03:02,014

>> Kelly: And about how
many contacts do you have

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00:03:02,014 --> 00:03:05,384
in a given period with the
Space Station amateur Radio?

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00:03:05,384 --> 00:03:09,255
>> Frank: Well, we're doing
about a hundred a year you know

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00:03:09,255 --> 00:03:11,590
about two a week,
actually we had two today

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00:03:11,590 --> 00:03:16,095
that were very successful,
Cradle of Aviation museum

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00:03:16,095 --> 00:03:21,133
up in New York and another
school in New Jersey.

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00:03:21,133 --> 00:03:26,672
And so we have about two a week,
it depends on orbit dynamics

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00:03:26,672 --> 00:03:29,908
and things like that but
so it keeps us pretty busy.

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00:03:29,908 --> 00:03:34,013
The interesting thing about our
program is it's all volunteer

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00:03:34,013 --> 00:03:35,748
so you know we're touching

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00:03:35,748 --> 00:03:39,618
about fifteen thousand students

directly a year in the program

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00:03:39,618 --> 00:03:43,789
and then also you know
millions see the contact

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00:03:43,789 --> 00:03:47,760
between the space shuttle
astronauts and the students.

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00:03:47,760 --> 00:03:50,129
We give them about a you
know orbit dynamics mean

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00:03:50,129 --> 00:03:53,432
that we can give them about
a ten minute opportunity to Q

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00:03:53,432 --> 00:03:56,368
and A the astronauts on all
kinds of different questions

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00:03:56,368 --> 00:04:00,773
and it works out really
well and it's inspiring,

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00:04:00,773 --> 00:04:04,476
it's a once in a lifetime
opportunity for the students,

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00:04:04,476 --> 00:04:07,212
for the families, for
the whole community,

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00:04:07,212 --> 00:04:11,083
the whole community gets
behind this thing and millions,

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00:04:11,083 --> 00:04:14,219
like I said, millions

experience it a year

84
00:04:14,219 --> 00:04:16,121
as part of that activity.

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00:04:16,121 --> 00:04:19,124
>> Kelly: I actually had
the pleasure of being at one

86
00:04:19,124 --> 00:04:22,728
of those contacts in Northern
California a couple of years ago

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00:04:22,728 --> 00:04:24,496
and it really is quite the set

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00:04:24,496 --> 00:04:25,864
up because your volunteers
come in,

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00:04:25,864 --> 00:04:28,500
they set up the antennas
outside the school,

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00:04:28,500 --> 00:04:32,171
the teachers organize a couple
of three hundred students

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00:04:32,171 --> 00:04:37,009
to come in the auditorium, they
have a large group and a program

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00:04:37,009 --> 00:04:42,348
about the space station and
discuss the orbital mechanics

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00:04:42,348 --> 00:04:44,917
that are allowing it to
come within radio range

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00:04:44,917 --> 00:04:48,454
for the ARISS experiment
and then they do a countdown

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00:04:48,454 --> 00:04:52,691
to the contact and then they get
a chance to actually speak live

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00:04:52,691 --> 00:04:54,159
with the astronauts
on the space station.

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00:04:54,159 --> 00:04:57,563
I saw the grins on the faces
of the kids that got to talk

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00:04:57,563 --> 00:05:00,199
and they have some pretty
interesting questions too.

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00:05:00,199 --> 00:05:01,233
>> Frank: Yes exactly.

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00:05:01,233 --> 00:05:02,534
It's all about education.

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00:05:02,534 --> 00:05:05,471
It's to get students interested
in stem career, science,

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00:05:05,471 --> 00:05:06,705
technology, engineering,

103
00:05:06,705 --> 00:05:10,309
math and you know we go
beyond just inspire you know

104
00:05:10,309 --> 00:05:13,078
into engaging the students

105
00:05:13,078 --> 00:05:16,415
and educating the students
ultimately, that's our goals

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00:05:16,415 --> 00:05:20,185
and objectives of the program
and it's of course you know

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00:05:20,185 --> 00:05:23,489
from our perspective there's
three main organizations

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00:05:23,489 --> 00:05:24,823
in the United States involved,

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00:05:24,823 --> 00:05:30,062
NASA of course very intimately
involved, the AMSAT folks

110
00:05:30,062 --> 00:05:32,765
and the American
Radio Relay League.

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00:05:32,765 --> 00:05:35,934
And then I have a whole
team around the world

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00:05:35,934 --> 00:05:37,169
that are supporting this

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00:05:37,169 --> 00:05:39,872
from the various space
agency organizations.

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00:05:39,872 --> 00:05:43,375
We have HAM radio groups you
know in Europe and in Russia,

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00:05:43,375 --> 00:05:46,245
and Japan, Canada,
they're all involved.

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00:05:46,245 --> 00:05:49,515
When Chris Hatfield flew there
was a huge activity there

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00:05:49,515 --> 00:05:52,418
if you watched all of the school
contacts that were being done.

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00:05:52,418 --> 00:05:57,856
Up and down you know the whole
Canadian province if you will.

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00:05:57,856 --> 00:06:00,859
>> Kelly: Alright, well, so
totally a global initiative

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00:06:00,859 --> 00:06:04,229
and a great inspiration
opportunity for students

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00:06:04,229 --> 00:06:07,766
on the ground and I know the
astronauts enjoy participating

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00:06:07,766 --> 00:06:10,102
and talking with them, it
gives them a little relief

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00:06:10,102 --> 00:06:12,037
from their day to day
activities as well.

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00:06:12,037 --> 00:06:13,372
>> Frank: Exactly.

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00:06:13,372 --> 00:06:14,706

>> Kelly: Frank Bauer thank
you very much for coming in

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00:06:14,706 --> 00:06:17,709
and talking to us about amateur
radio on the space station

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00:06:17,709 --> 00:06:20,112
and other vehicles
and I wish you and all

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00:06:20,112 --> 00:06:21,613
of your guests here
a great day today.

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00:06:21,613 --> 00:06:23,148
>> Frank: Ok thank
you very much Kelly.