



Amateur Radio on The International Space Stations

September 18, 2025



Mahoning Valley Amateur Radio Association



Gordon Scannell (KD8COJ)
ARISS US Technical Mentor (2016-Present)
Livonia Amateur Radio Club
All Things Amateur Radio Association
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WHO / WHAT is ARISS

Amateur Radio on the International Space Station (ARISS) is a cooperative venture including international space agencies and international amateur radio organizations around the world.



WHO / WHAT is ARISS

PURPOSE: ARISS organizes scheduled contacts via amateur radio between Space Station (ISS) and classrooms or informal education venues.

Help from experienced amateur radio volunteers from amateur radio clubs and coordination from the ARISS team, ISS crewmembers speak directly (or via Telebridge) with large group audiences in a variety of public forums such as: school assemblies, science centers & museums, Libraries, Scout jamborees and space camps

Students, teachers, parents, and communities learn about STEAM, space, space technologies and Amateur Radio.



Spotted in Space

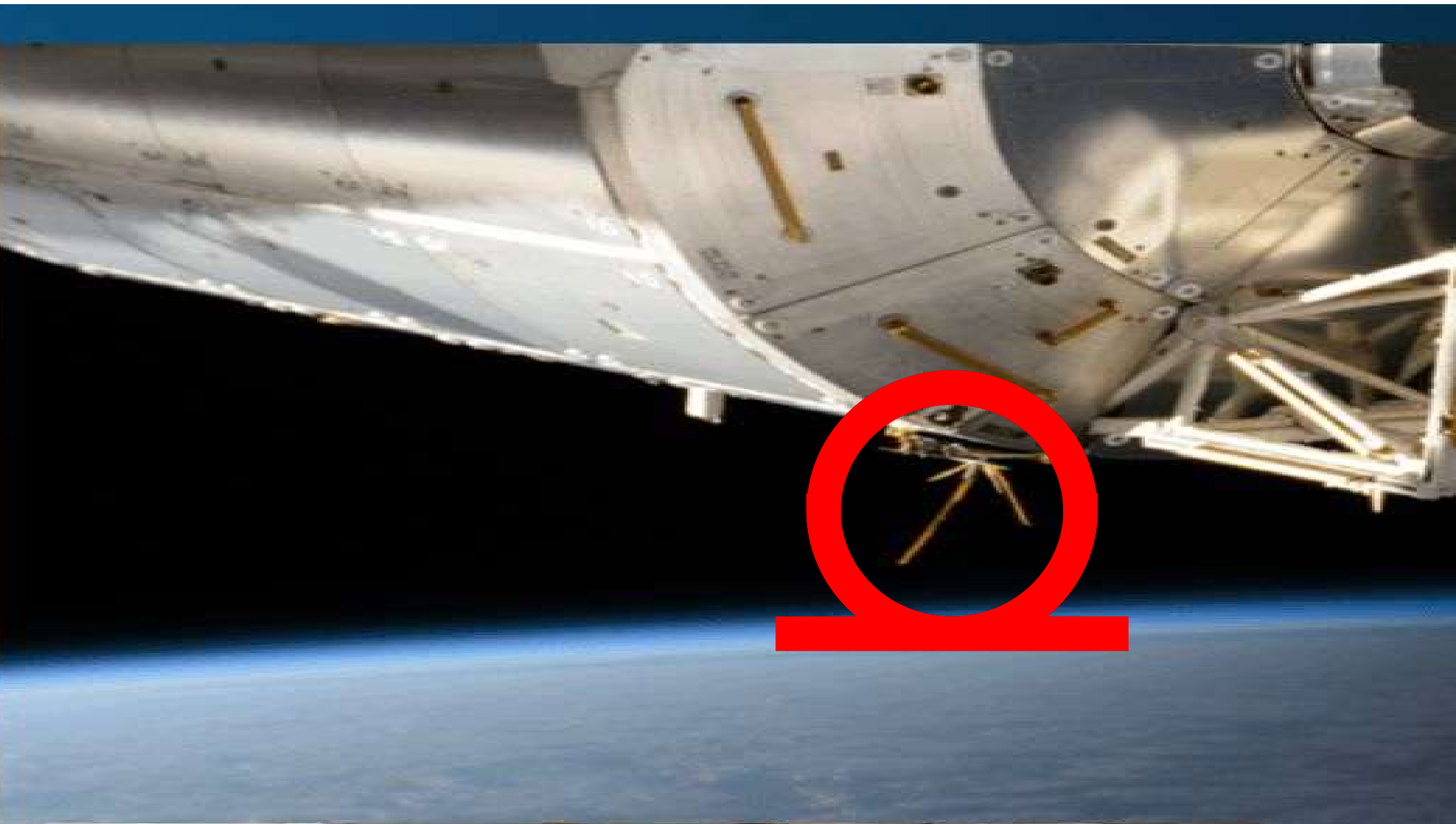
Here's a recent view of the ARISS antenna on the International Space Station's Columbus Module



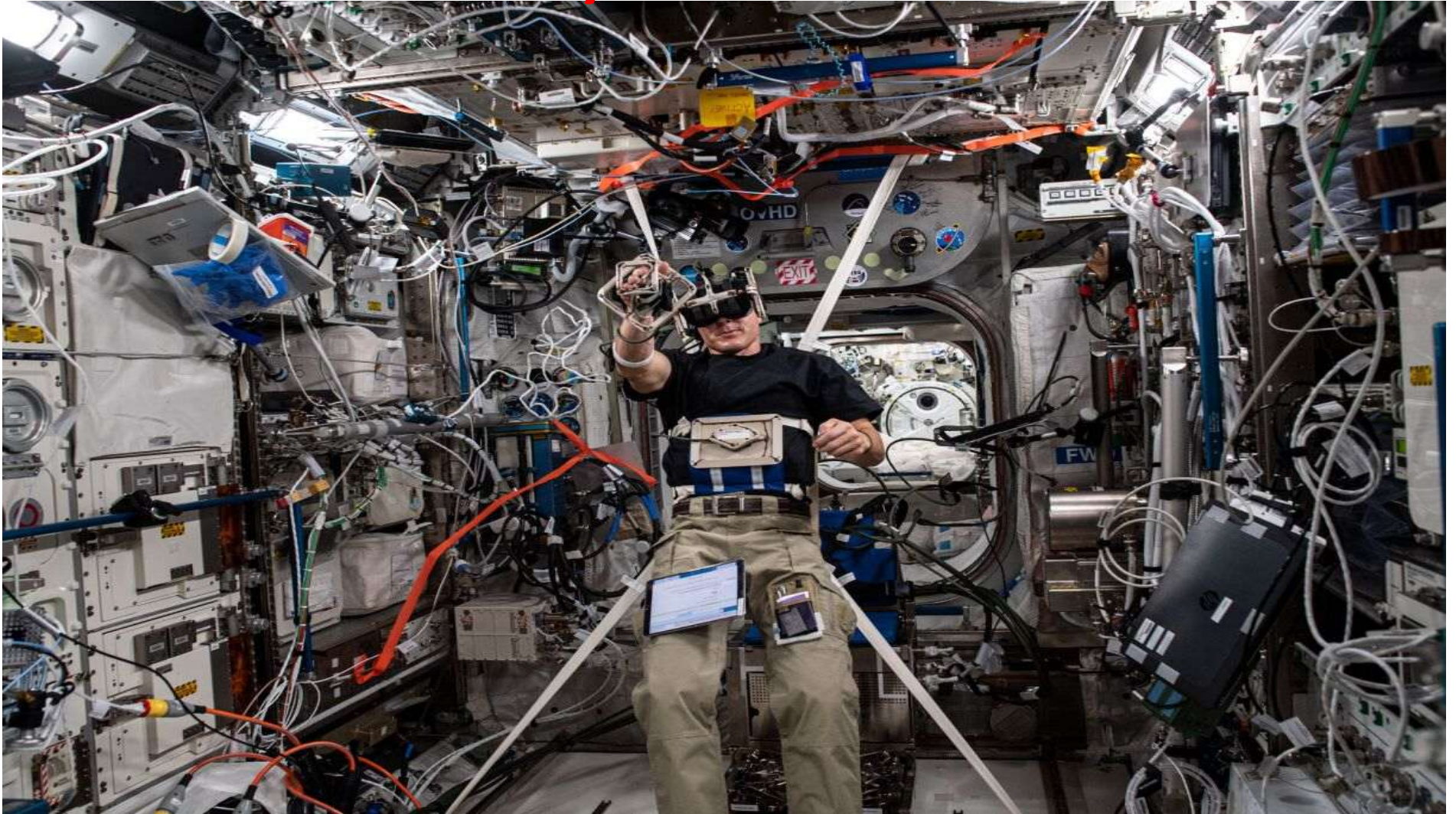
Did you spot it?

NASA Photo

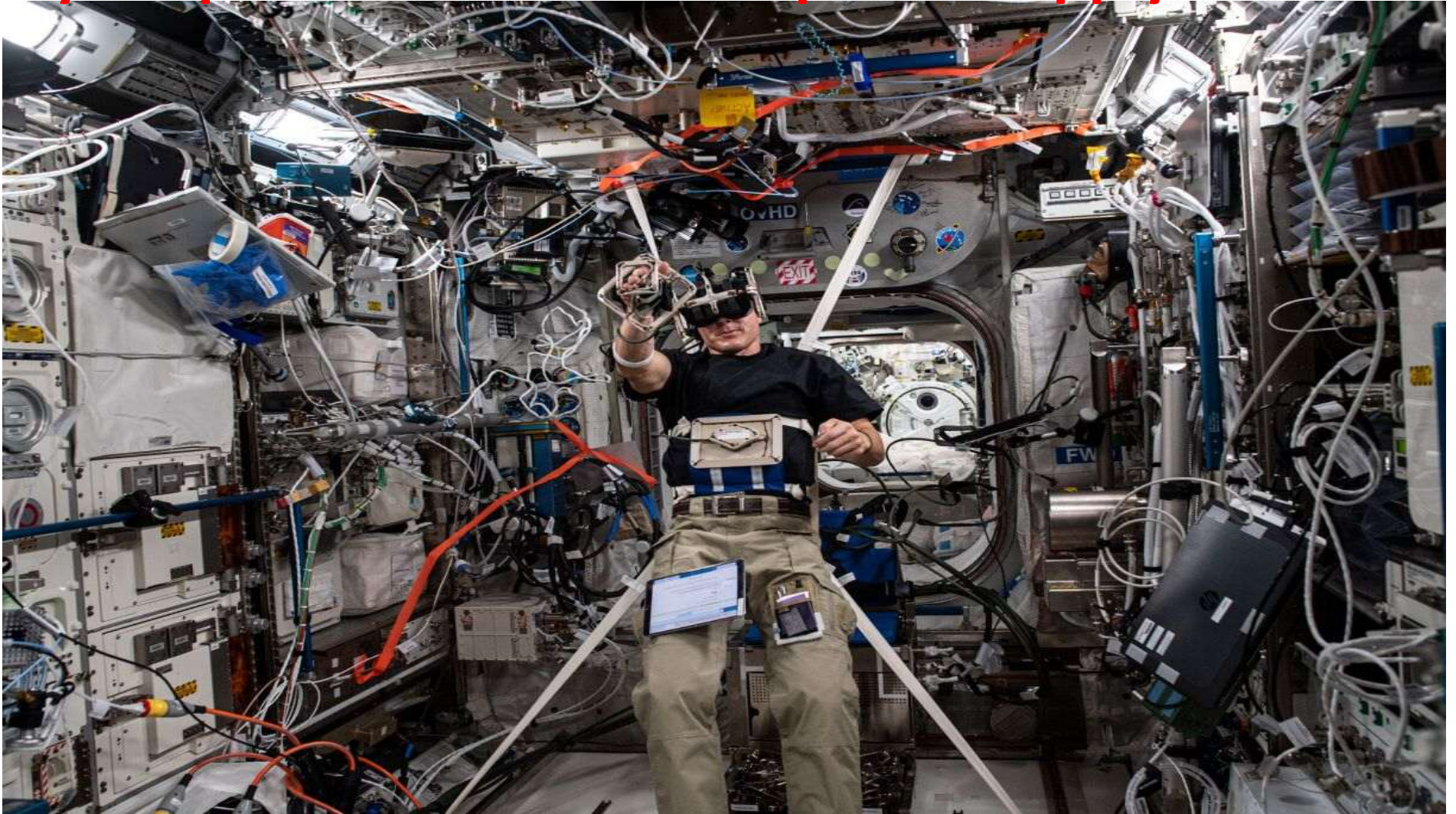




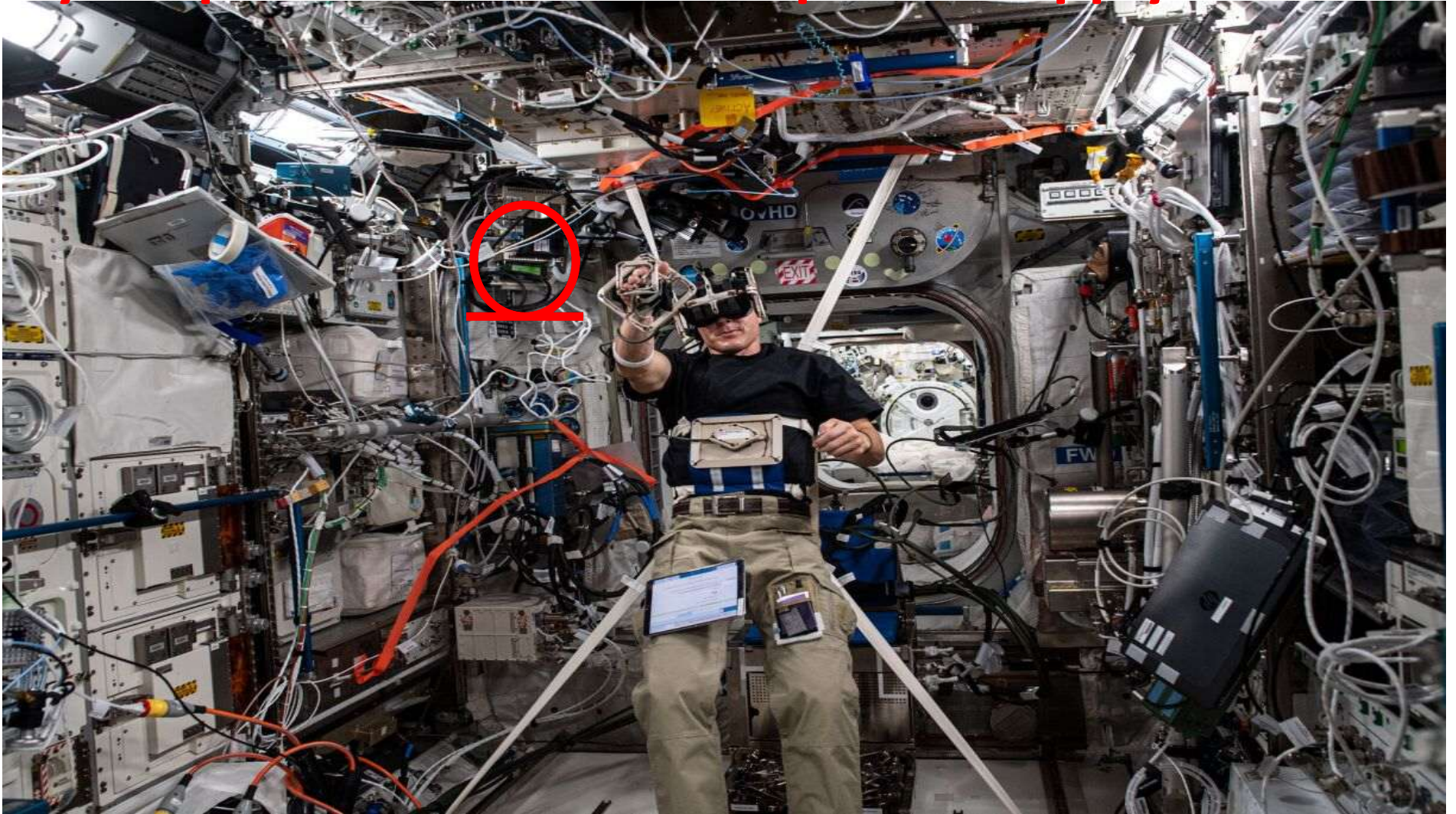
Does this resemble any of OUR Ham shacks???

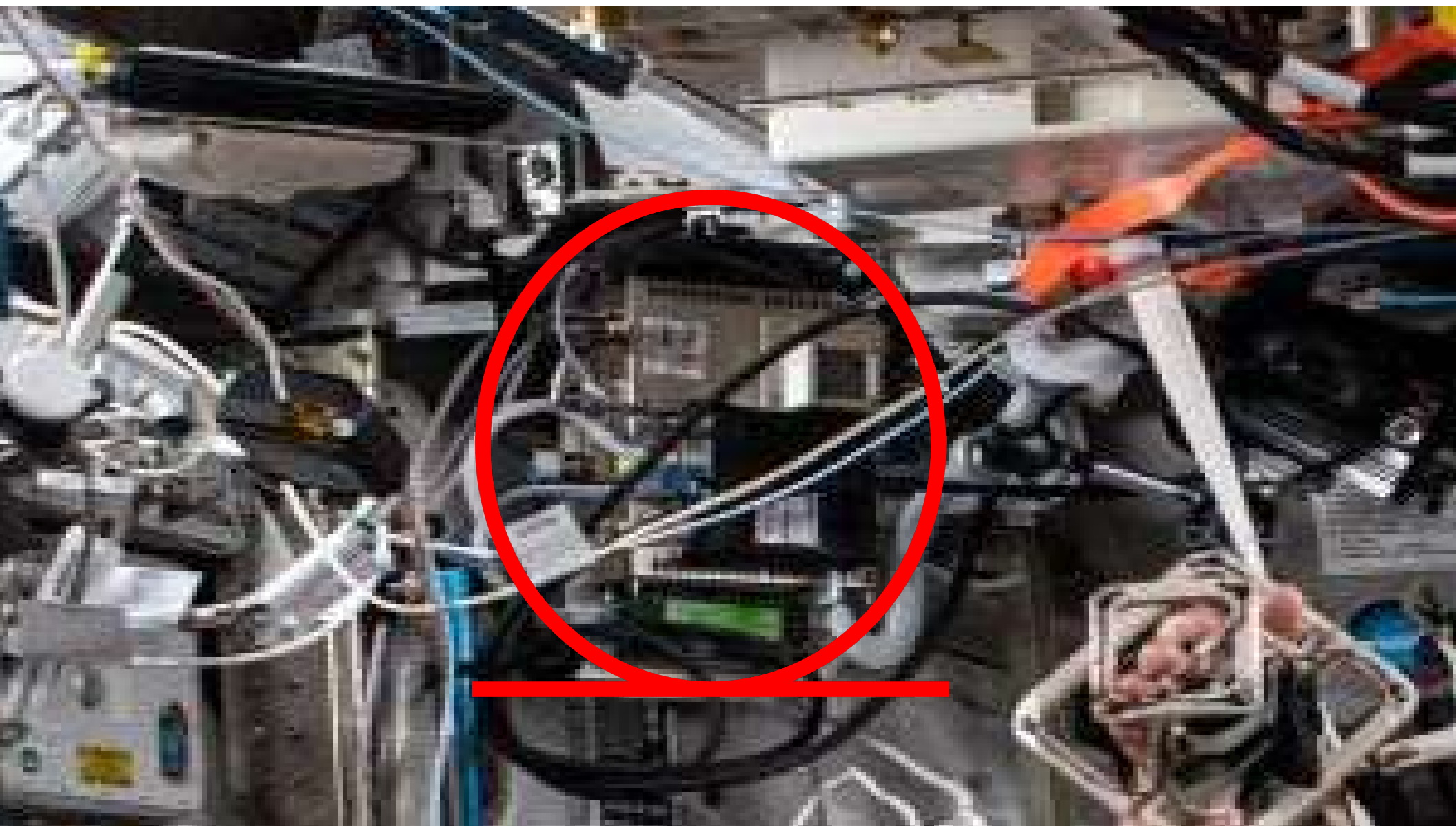


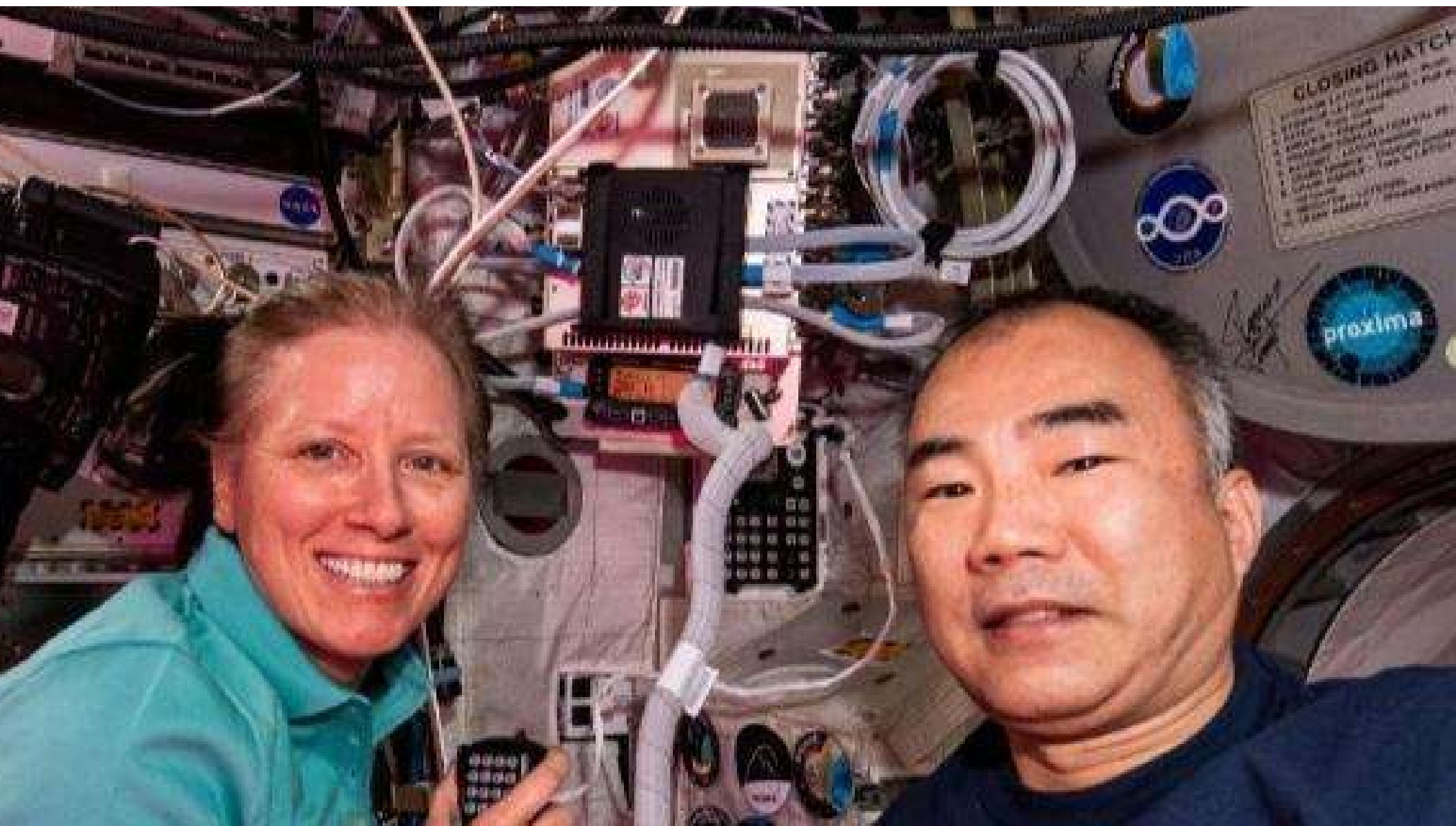
Can you spot the ISS radio and power supply???



Can you spot the ISS radio and power supply???







APRS	145.825	↕
SSTV	145.800	↓
Contact	???.???	↑
	145.800	↓
Voice	145.990	↑ (PL67)
	437.800	↓
HamTV	2395.00	↓

ARISS FAQ: Doppler Shift

"What do I need to know about Doppler Shift to improve my contacts with the ISS?"

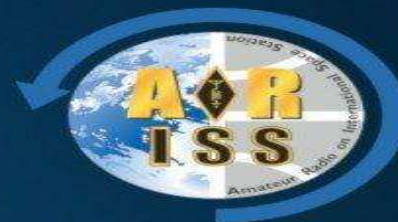


Some radios offer frequency tracking to help follow the Doppler shift during a contact. This photo shows an ARISS team member's radio displaying the last heard frequency on UHF following an ISS pass.

As the ISS moves across the sky it causes an apparent change in frequency. This is called Doppler shift.

For example, on 437.800 MHz the received signal on the ground might vary + or - 9 kHz during a pass. Adjusting for it will help you hear more during passes.

AMSAT-UK.org's Beginners page can tell you more about getting started with FM sats.





AMSAT-UK

Beginners

AMSAT-UK Beginner Links:

- [What is Amateur Radio ?](#)
- [How do I start with satellites ?](#)
- [How to hear the ISS](#)
- [How to work the ISS using APRS Packet Radio](#)
- [How to work FM satellites](#)
- [How to work SSB satellites](#)
- [How to track satellites](#)
- [RadCom article: Getting started on amateur radio satellites](#)
- [Satellites the simple way](#)
- [Work satellites with your HT](#)
- [High Altitude Balloons](#)

Chertsey Radio Club – Getting started with FM satellites

<http://chertseyradioclub.blogspot.co.uk/2017/01/getting-started-with-fm-satellites.html>

Chertsey Radio Club – Getting started with SSB satellites

<http://chertseyradioclub.blogspot.co.uk/2017/03/ssb-ham-radio-satellites-beginners-guide.html>



Latest status of ISS ham radio stations

Status as of September 17, 2025

Columbus Module radio:

- IORS (Kenwood D710GA) – **STATUS** - **Configured**. Default mode is for voice repeater (145.990 MHz up {PL 67} & 437.800 MHz down).
 - Powering off for TBD **OFF** TBD; **ON** TBD.
 - Powering off for TBD **OFF** TBD; **ON** TBD.

Capable of supporting USOS scheduled voice contacts, packet and voice repeater ops.

- Ham TV – **STATUS** - **Configured**. Default mode is for scheduled digital amateur television operations (2395.00 MHz down).
 - Powering off for Cygnus ops **OFF** Sept 18 at 07:45 UTC; **ON** Sept 18 at 18:25 UTC UTC.

Capable of supporting USOS scheduled school contacts with video.

Service Module radio:

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 - Powering off for TBD **OFF**; **ON** TBD.
 - SSTV Activity: **ON** TBD; **OFF** TBD

Capable of supporting ROS scheduled voice contacts, packet, SSTV and voice repeater ops.

(Times subject to change)



<https://www.ariss.org/current-status-of-iss-stations.html>

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AMSAT Live OSCAR Satellite Status Page

This web page was created to give a single global reference point for all users in the Amateur Satellite Service to show the most up-to-date status of all satellites as reported by users around the world. Please help others and keep it current every time you access a bird.

Transponder/Repeater active	Telemetry/Beacon only			No signal	Conflicting reports	ISS Crew (Voice) Active	
Name	Sep 18	Sep 17	Sep 16	Sep 15	Sep 14	Sep 13	
AO-123	2	1	1	1	1	1	
AO-27							
AO-73							
AO-7(A)	2	1	1	22	1251	1	1
AO-7(B)	1	1	1	1	1	33	1
AO-91						148	1
CAS-4A						1	1
CAS-4B						1	1
DUCHFAT3							
EO-80							
EO-29							
HO-68							
IO-117							
IO-86							
ISS-DATA	12312131241	42341232	24521311	121244112	1	222121	12233
ISS-DATV							
ISS-FM	142155325	2221344341	11222132262	113336446421421	53472	33	1
JO-97	2	11323	1121 1223	13121	1 111 2	2 151	2 2 1 11 2
LO-90							
MO-122							
PO-101(FM)	2	12					
QQ-100-NB	11	14 24 1	3 1 3	221 11	2 3511	136411	
QQ-							
100-WB							
RS-44	1111411351	1 4613132121	5113121	1 122113331	21 5115373	11	
SO-124	1 11 2112	2 11 221241	1 121 1	1 1 1	27 11 13	1	2
SO-125							
SO-50	1 11114	1 111221	2 1 1811	1 111 271	2 11 311	111 1	
SONATE-2	2 1	2 1 2					
APRS							
TEVEL-2-7							
TEVEL-2-8							
UO-11(B)							

Hover mouse over number for more data. Satellites do not appear if they have no data available.

Reports From:

2M0SQL
4E9KKZ
9G5AR
9H1GW
AD7MQ
AH6EK
BA1PK
BA4QNR
BA8AFK
BD1AJF
BD1BGB
BD7PZF
BG0FHV
BG2GNX
BG5CDZ
BG5DNQ
BG5FNA
BG5JSB
BG6HVT
BG6RIN

To correct a report made in error:
Enter the same data as before, except with the correct status.
Then click submit—the original entry will be corrected.

Submit Report

Satellite

Select Satellite

Status Report

☐ Uplink and Downlink Active
☐ Downlink Only
☐ Not Heard
☐ ISS Crew (Voice) Active

Date Heard

Sep 18 2025

Time Heard (UTC)

09 :46:59



<https://www.amsat.org/status>

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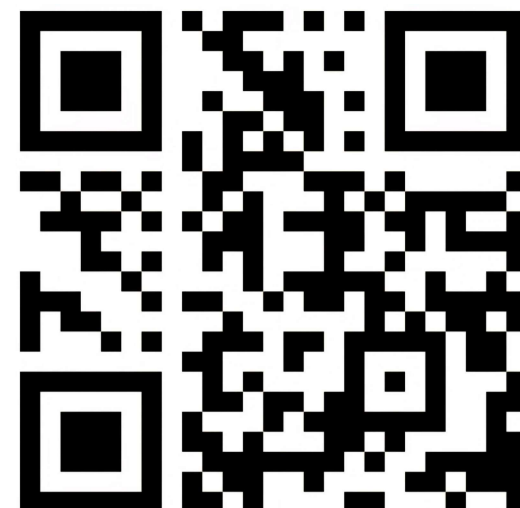
Transponder/Repeater active	Telemetry/Beacon only		No signal	Conflicting reports	ISS Crew (Voice) Active	
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AO-123	2	1	1		1	1
AO-27						
AO-73		3	1			1
AO-7[A]	2	1	2		2	2
AO-7[B]						
AO-91		1				
CAS-4A						
CAS-4B						
DUCHIFAT3						
EO-80						
EO-29						
HO-68						
IO-117						
IO-86						
ISS-DATA	1	2	3	4	1	2
ISS-DATV						
ISS-FM	1	2	3	4	1	2
JO-97						
LO-90						
MO-122						
PO-						
101[FM]						
QO-100 NB						
QO-						
100 WB						
RS-44						
SO-124						
SO-125						
SO-50						
SONATE-2						
APRS						
TEVEL2-7						
TEVEL2-8						
UO-11[B]						

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<https://www.amsat.org/status>

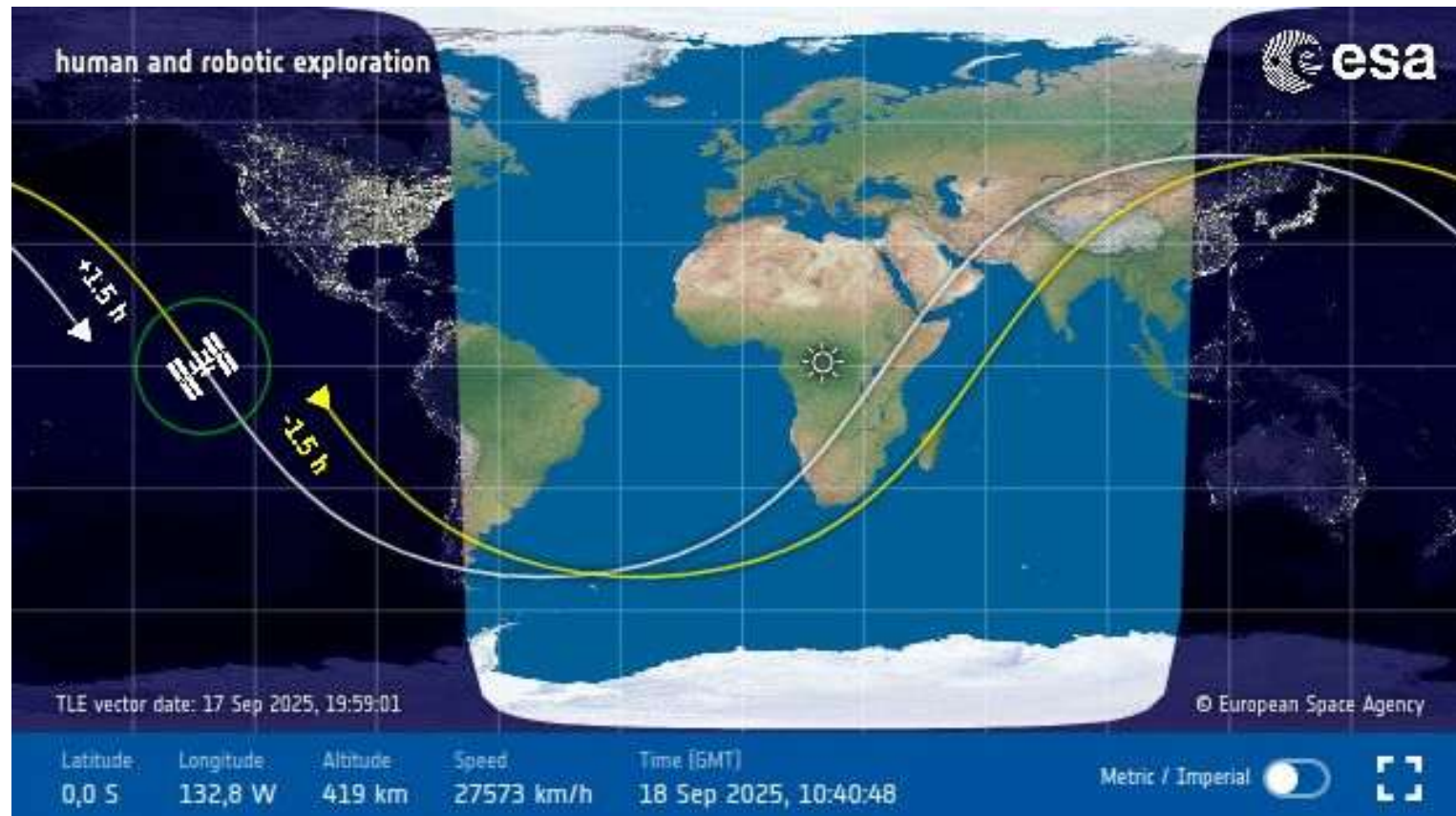
	Transponder/Repeater active			Telemetry/Beacon only			No signal			Conflicting reports			ISS Crew (Voice) Active			
Name	Sep 18			Sep 17			Sep 16			Sep 15			Sep 14			Sep 13
AO-123		2	1	1			1	1		1			1	1	1	1
AO-27					1				1							
AO-73				3	1		1	1		2	1	1	1		1	1
AO-7[A]		2	1	2	1			1	1		2	2	1	1	2	2
AO-7[B]		1		1	1	1	1	2	1	1	1	1	3	3	1	2
AO-91			1		1	1		1	1	1	1	1	2		2	1
CAS-4A								1							1	
CAS-4B										1					1	
DUCHIFAT3													1			
EO-80														1		
FO-29					1	1		1	1	1		1	3	1	1	1
HO-68															1	
IO-117																1
IO-86														1	1	1
ISS-DATA		1	2	3	1	2	1	3	1	2	4	1	1	2	2	1
ISS-DATV			1									1				1
ISS-FM		1	4	2	1	5	3	2	5	2	2	1	3	3	6	4



<https://www.amsat.org/status>

When Astronauts are there





https://isstracker.spaceflight.esa.int/index_portal.php

Donate Sep-18 06:23:48 Loc:EN82GH

Click Satellite To see Az/EI/Freq Click to set QTH

Zoom Live? Sort1 Name

AL SAT LILAC
AMICA LO-19
AO-7 LO-74
AO-73 MINXS
AO-85 MO122
AO-91 MOVE-
AO-95 NO-44
ARISS NORBT
BINA2 OBJEC
BINA3 OBJEC
BINA4 OBJEC
BUGSA OBJEC
CAS2T OBJEC
CATSA OBJEC
CO-55 PARS1
CO-57 PO101
CO-65 00100
CO-66 ROBUS
CSS RS-44
CUBEB RS27S
D-STA RS38S
DSAT RS40S
DUCH3 RS49S
EO-79 RS57S
EYESA RS58S
FLORI SAUDI
FO-29 SONAT
GRBBE STARI
HADES SUOMI
HO-68 TAURU
ITASA TEIKY
ITUPS TO108
JO-97 UO-11
K2SAT URESA
KAZSC UVSQ-
KKS-1 UWE-4
KNACK XW-2C
KOSEN XW-2D
LAPAN XW-3
LED SA Z-SAT
ZHUHA

Next passes at your location starting at 06:23:25 GMT-0400 (Eastern Daylight time)

h:mm	Satell.	Orbit#	Date	-Local Time-	Elev.	Azimuth
-07'	STARL	27299	Sep-18	06:11 - 06:31	56°	164, 104, 5
-06'	CO-65	94423	Sep-18	06:16 - 06:29	31°	3, 306, 213
-00'	AL SAT	48009	Sep-18	06:16 - 06:24	4°	51, 77, 116
-04'	NORBI	27432	Sep-18	06:17 - 06:28	28°	23, 84, 172
0:01	AO-73	63873	Sep-18	06:25 - 06:35	11°	349, 307, 239
0:03	BINA3	6632	Sep-18	06:27 - 06:33	8°	293, 356, 43
0:05	BINA4	6474	Sep-18	06:29 - 06:36	14°	272, 336, 46
0:09	URES A	12941	Sep-18	06:33 - 06:39	60°	165, 134, 349
0:12	AO-7	232645	Sep-18	06:35 - 06:55	27°	27, 99, 162
0:17	LO-19	186343	Sep-18	06:40 - 06:53	13°	35, 94, 144
0:20	CATSA	6541	Sep-18	06:44 - 06:48	2°	82, 54, 34
0:22	OBJEC	6292	Sep-18	06:45 - 06:50	4°	322, 5, 57
0:22	OBJEC	6728	Sep-18	06:46 - 06:47	0°	156, 156, 131
0:30	OBJEC	6337	Sep-18	06:53 - 06:58	6°	303, 346, 42

42 SSB Linear Sats
68 SSB + FM Sats
26 FM Voice Sats
34 FM Digital Sats
111 XMT Only Sats
11 Weather Sats
4 In Range Sats
276 Show ALL Sats

Downlinks/Uplinks
ARISS PK:145.825 FM
Voice DU:145.800 FM
DU:437.800 FM
PK:145.99-.80
AO-07 U:145.850-950
Mode A D:28.400-28.5



<https://mail.amsat.org.ar/pass.htm>



ISS Detector/Pro

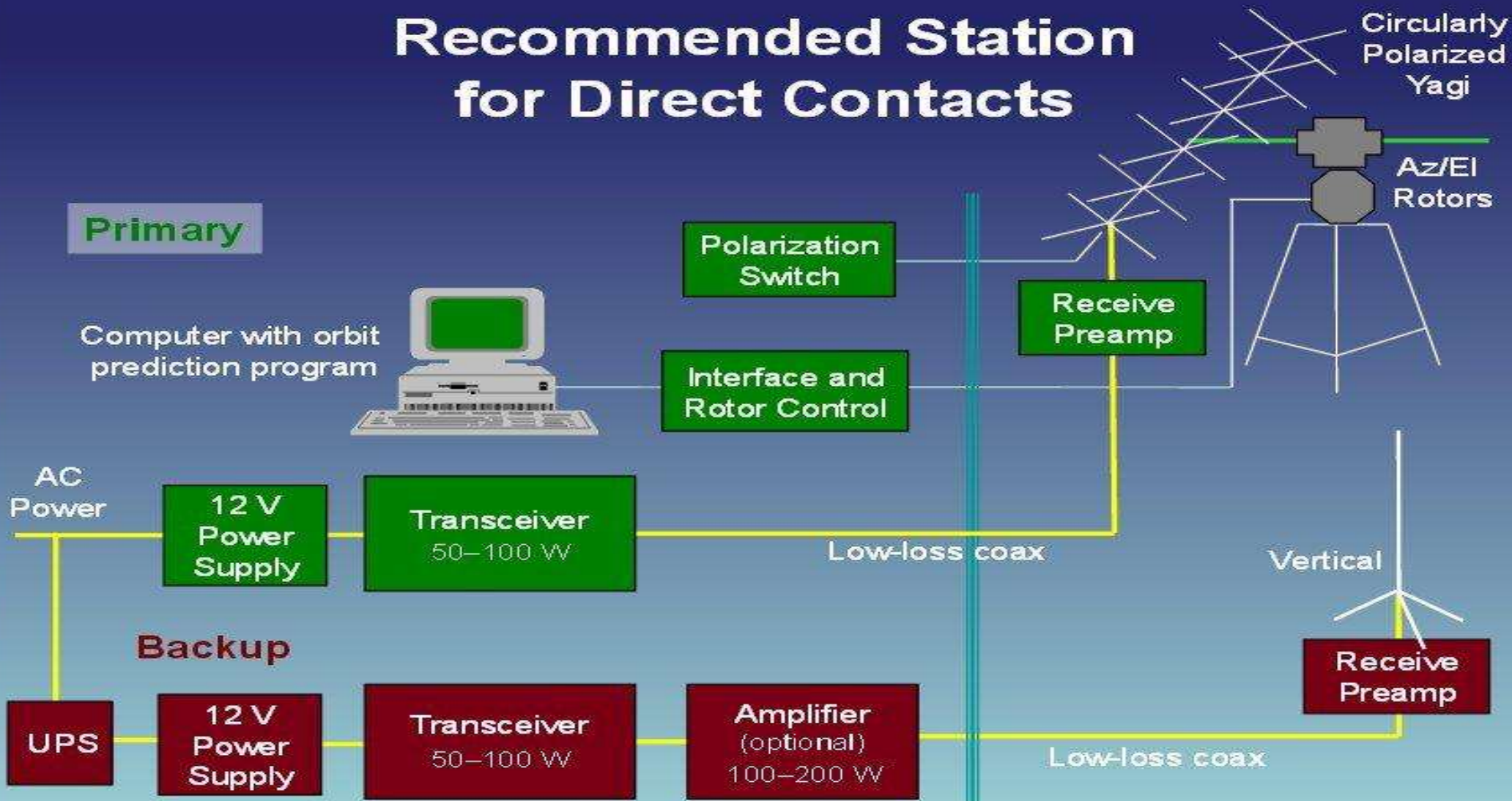
Heavens Above/Pro

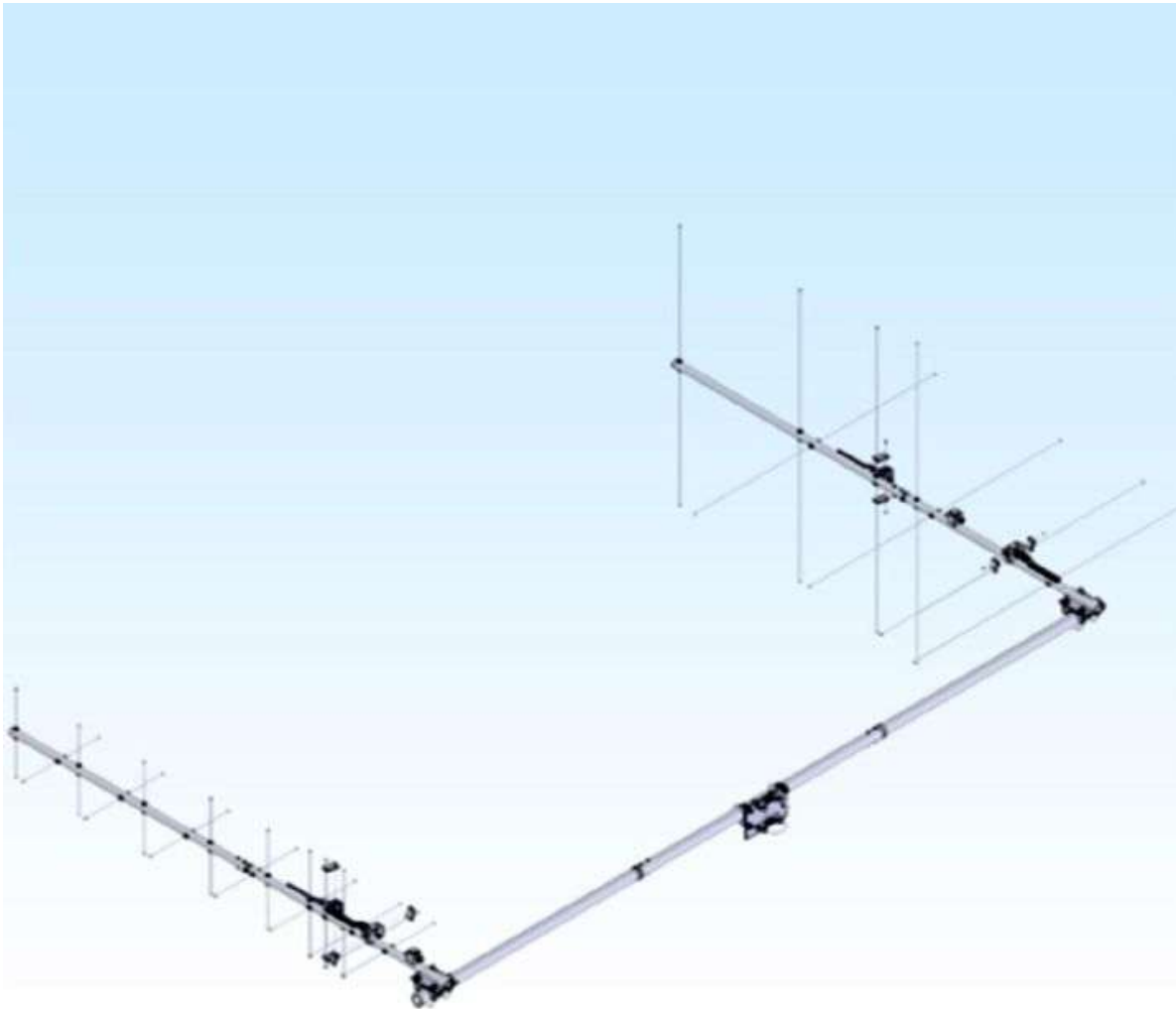
Look4Sat

GoSatWatch

Orbit

Recommended Station for Direct Contacts





Leo-Pack





**Yaesu
G-5500**

<https://www.yaesu.com>



**Alpha Radio
Az/EI Rotor**

<http://www.alfaradio.ca>



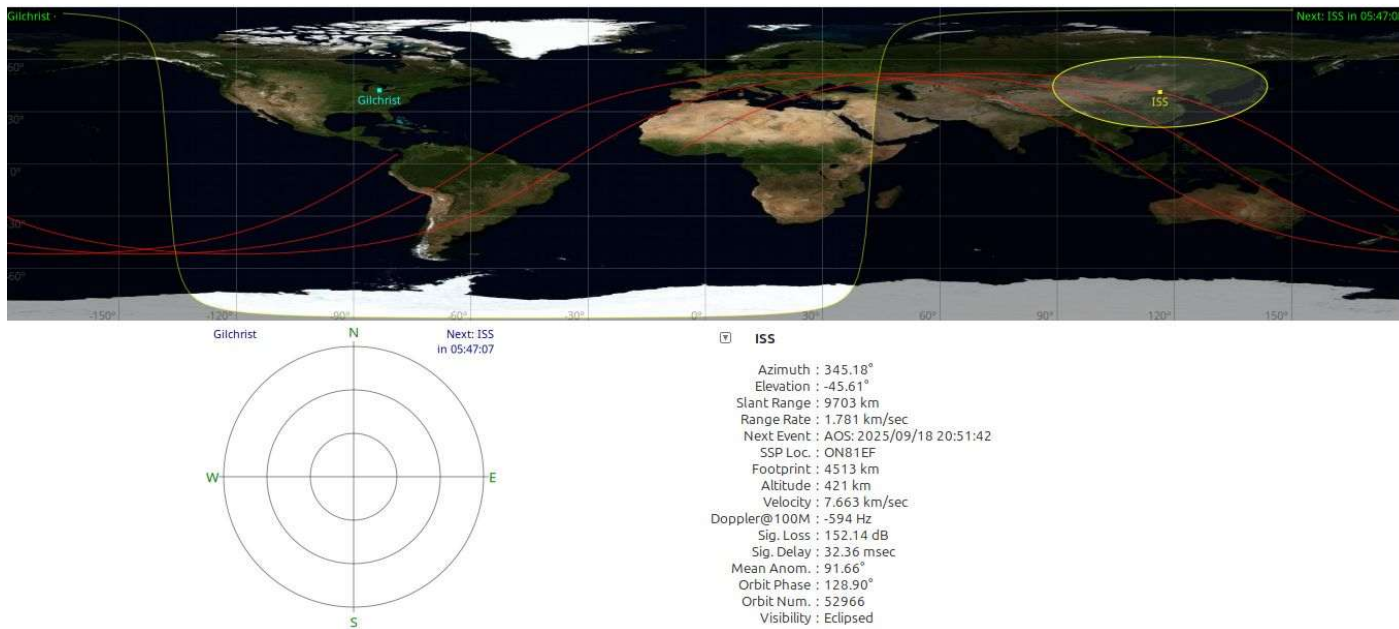
**CSN
Technologies
S.A.T.**

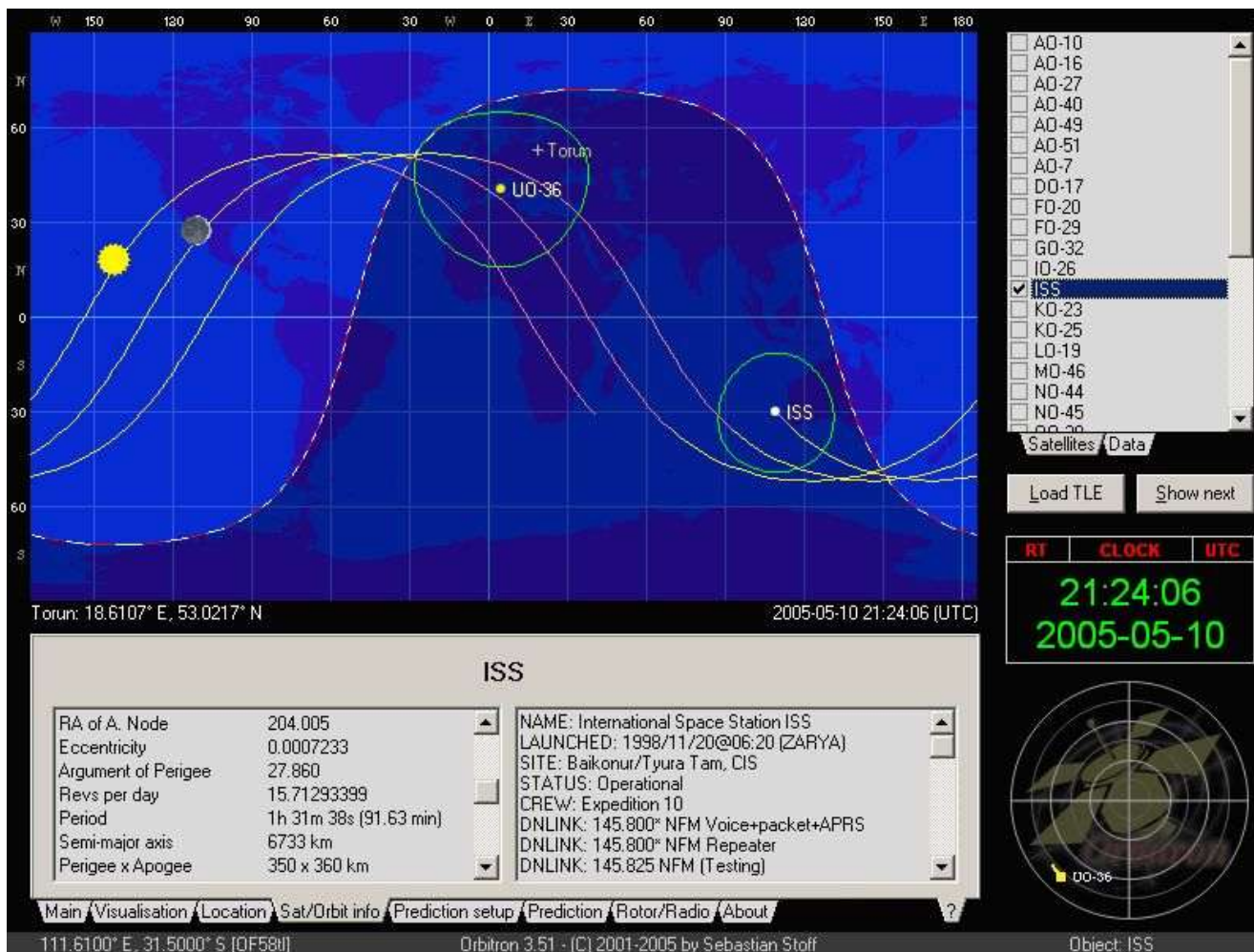
<http://www.csntechnologies.net>





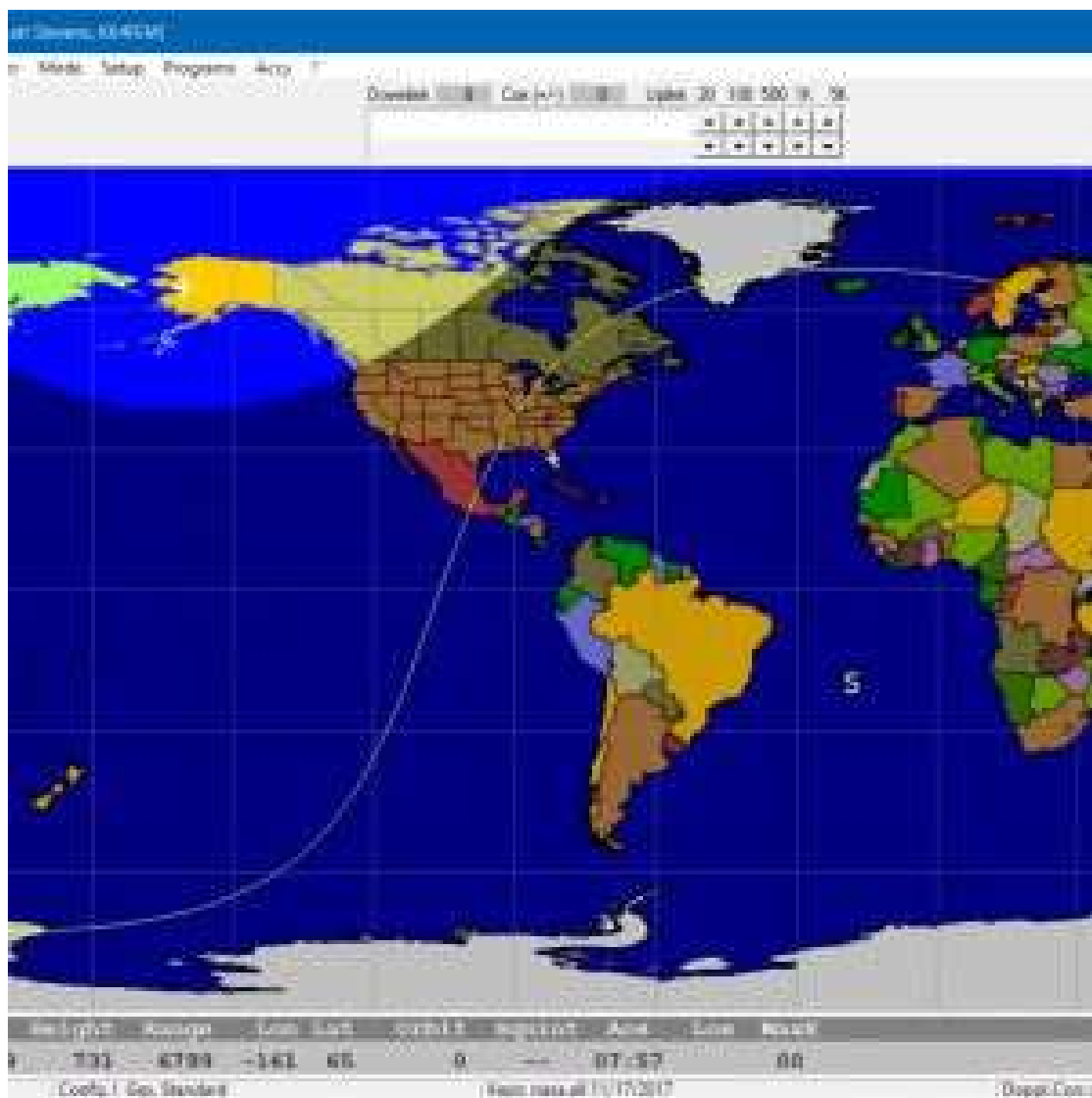
2025/09/18 15:04:34





<https://www.stoff.pl>

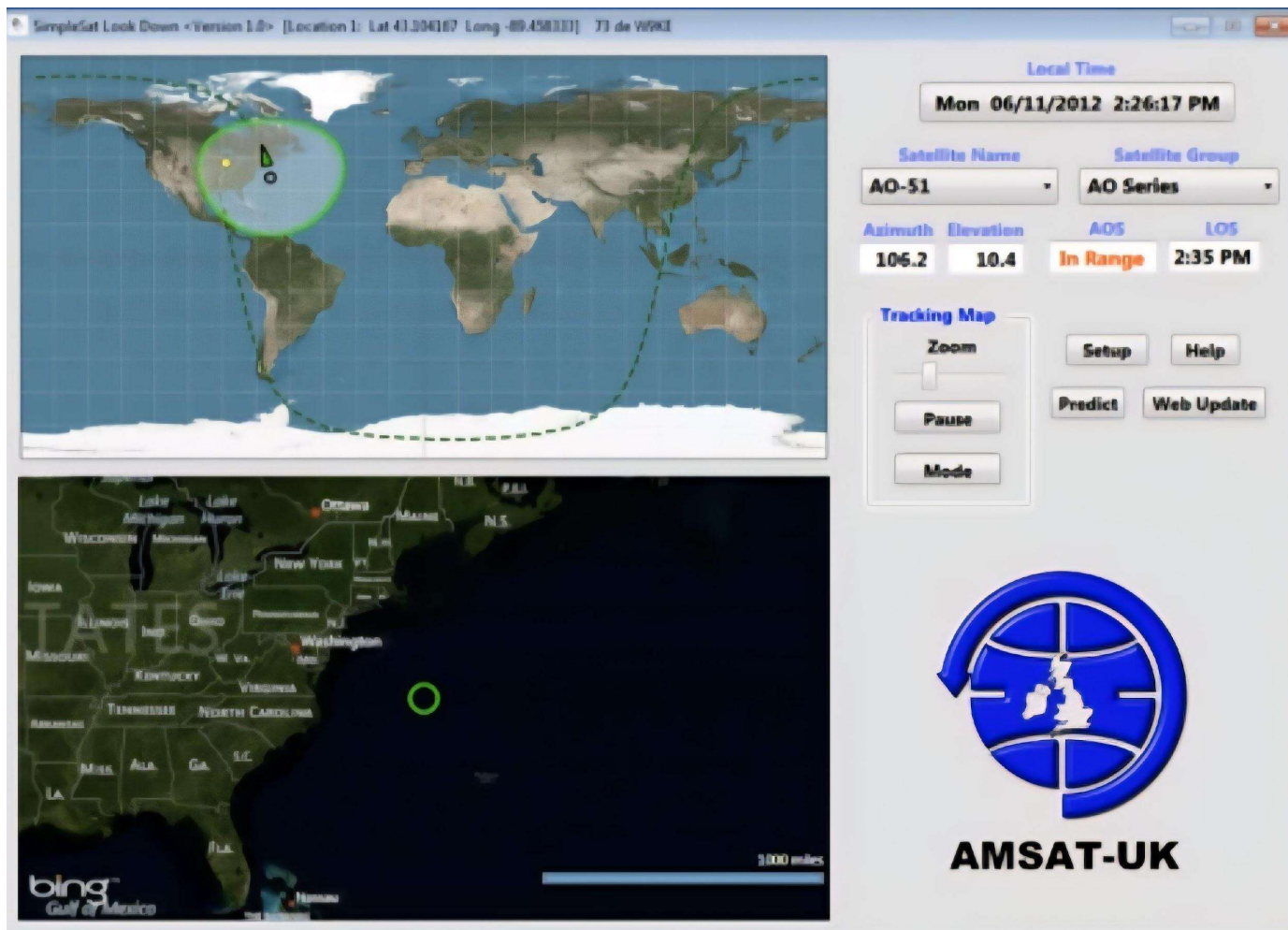




SATPC32



Tom Doyle W9KE SimpleSat Lookdown





 **ICOM[®] IC-9700**





YAESU

Radio for Professionals

FT-991A



KENWOOD



TH-D72A



TH-D74A





TH-D72A

KENWOOD

144/430MHz FM Dual Bander

GPS receiver

APRS

FULL DUPLEX!!!!

Discontinued

KENWOOD

144/220/430 MHz TriBander

GPS receiver

APRS

DSTAR

MicroSD Card - RECORDING!!!!

Discontinued



TH-D74A



AnyTone

144/430MHz FM Dual Bander

GPS receiver

APRS

DMR

Satellite Tracking & Doppler

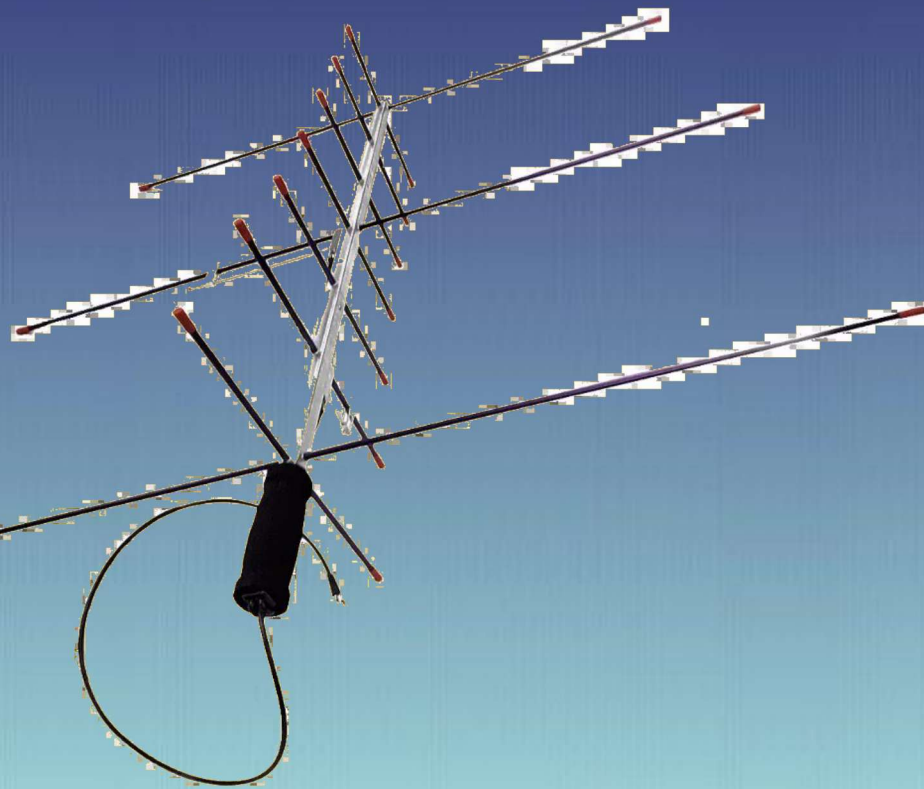
Satellite Functions REMOVED

AT-D878UVII-Plus



BASIC RECEIVE ONLY

Arrow Dual Band Antenna with Duplexer



2m
70cm Receiver

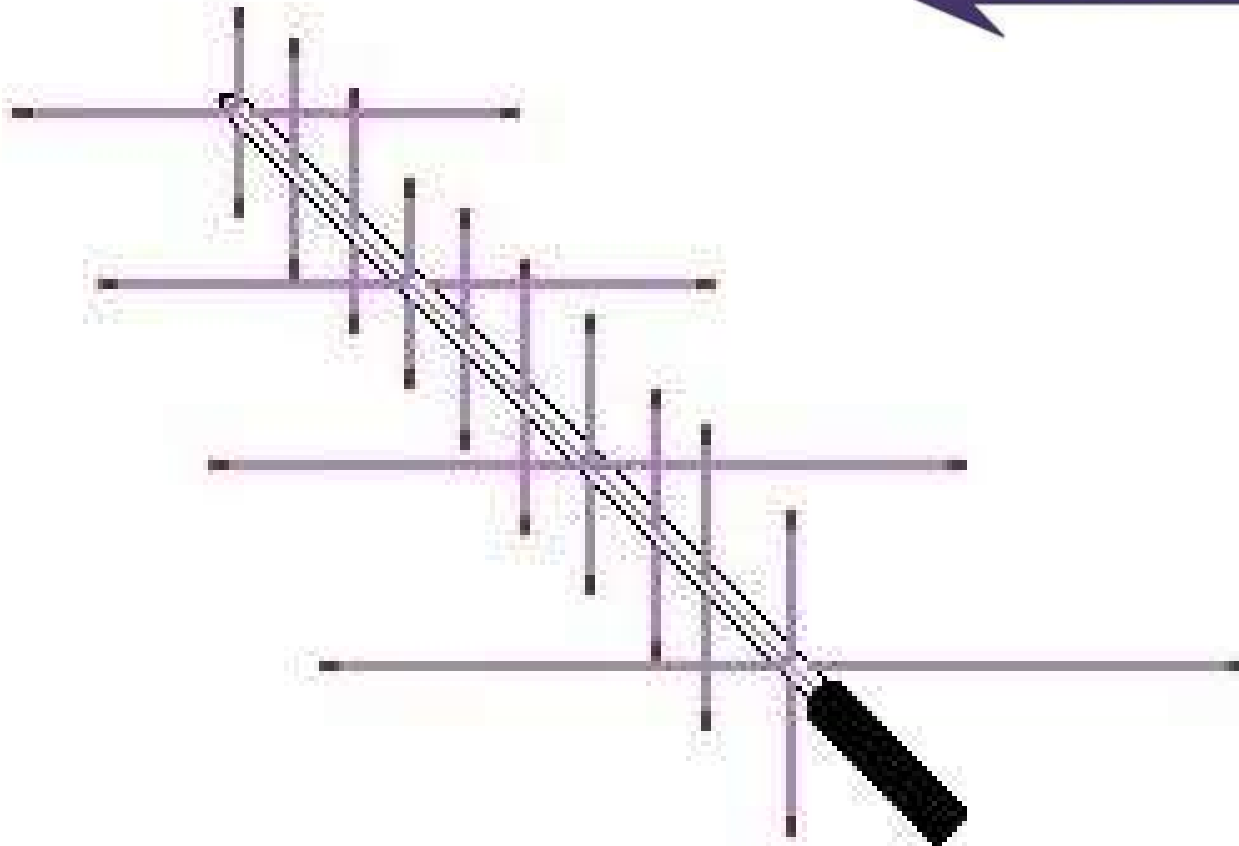


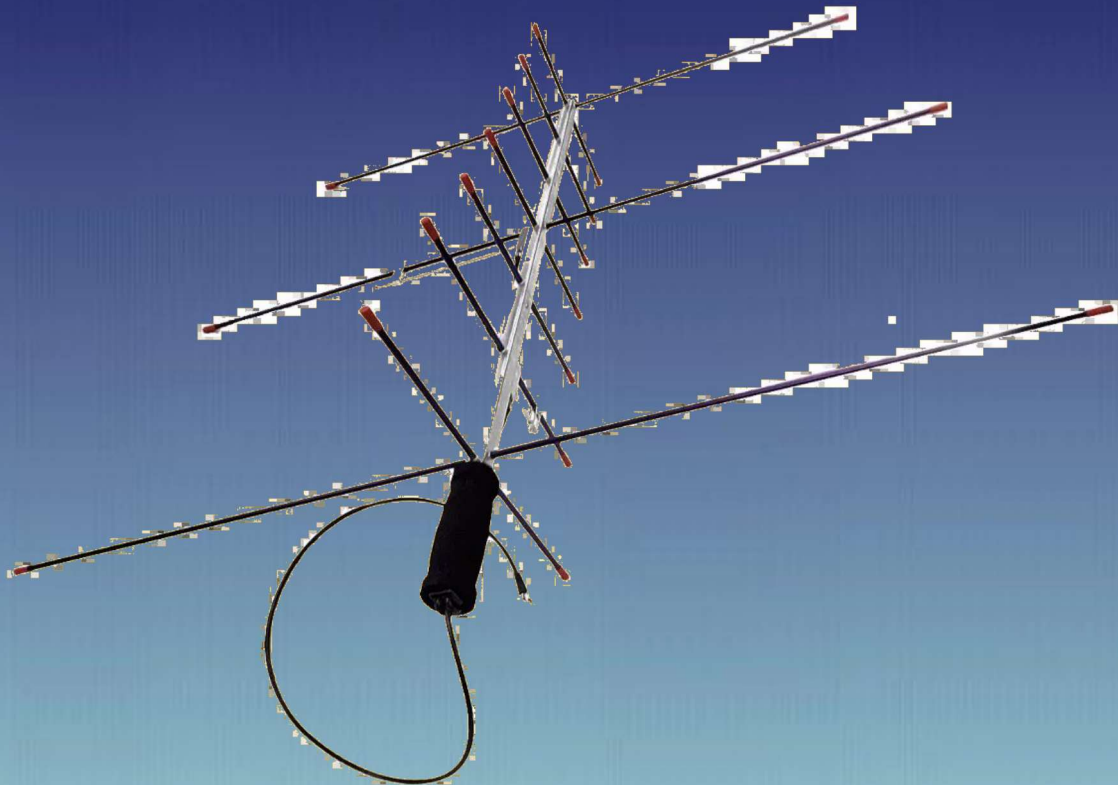
Smartphone



← Arrow Antenna

Alaskan Antenna





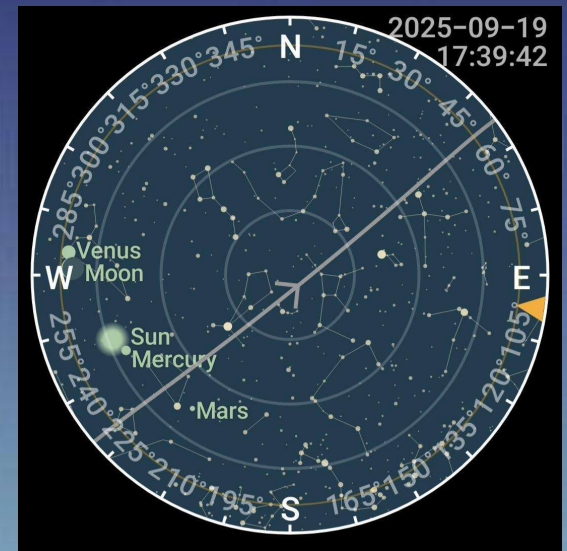
Radar Views



Low Pass



Medium Pass



High Pass

ISS Crossband Repeater - August 2, 2025

Dearborn Michigan

Kenwood TH-D74A



SlowScan TV (SSTV)



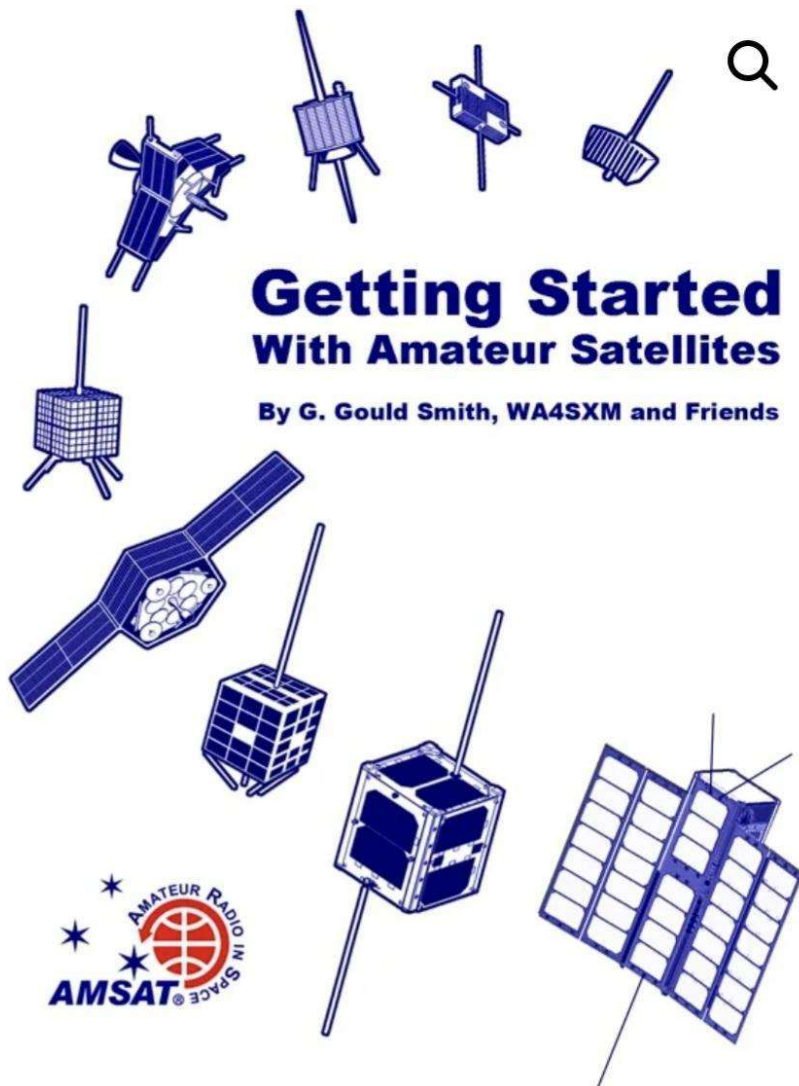
Michigan

15

Ohio

18

**Almost 2000 contacts since
December 12, 2000**



Books



Digital Download



HardCover

ARISS QSL Cards



The International Space Station (ISS) is sponsored by **Canada, Japan, Russia, the USA and many nations in Europe**. ISS crews hail from these and other nations. Major hardware elements are:

- Zarya, Zvezda, Pirs, research modules Poisk and MRM-1 Rassvet built by Russia
- Science lab Destiny, Unity, Quest, Harmony and Tranquility modules provided by the US
- Canadian Mobile Servicing System, a 55-foot mobile robotic arm used for assembly and maintenance
- Columbus module, a science laboratory provided by ESA
- Kibo module, a science laboratory provided by Japan.

ISS crews and visitors often use their Amateur Radio station, first set up in Zarya and then Zvezda, to talk with school students to aid in their education, plus chat with fellow radio amateurs around the world. The ARISS Team continually works to extend ISS Amateur Radio station capability with new operation modes and, more recently, equipment placement in the Columbus module.

To					
From	Day	Month	Year	UTC	MHz
NA1SS					
RS0ISS					
OR4ISS					
Mode : Voice Packet SSTV APRS Repeater SWL					

<https://www.ariss.org/qsl-cards.html>





<https://www.ariss.org>

<https://www.youtube.com/@ARISSLIVE>

<http://live.ariss.org>

<https://www.facebook.com/ARISSIntl>

<https://www.facebook.com/groups/ARISS.US.Education/>

