



NEWSLETTER-AMSAT-EA

08/2019
AUGUST

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Translation by Fernando EC1AME

PROBLEMS WITH THE FO29

Since last July 9, 2019 the analog transmitters of the FO29 have stopped transmitting.

The Japanese amateur radio satellite "Fuji 3 (JAS-2, FO-29) was launched by the H-II rocket No. 4 of the Tanegashima Space Center in the Prefecture of Kagoshima in August 1996.

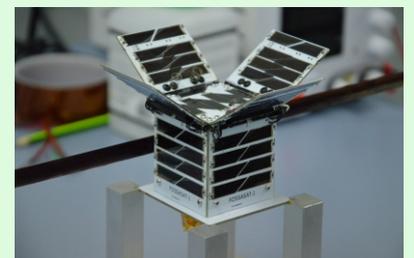
The satellite is a low-orbit satellite, with a perigee height of 799 km, a height of 1,320 km and a tilt angle of 99 degrees, with a period of about 106 minutes. In addition to the transponder (output 1W) of the uplink 145,900 to 146,000 MHz (LSB or CW) and the downlink 435.900 to 435.800 MHz (USB or CW), the beacons transmit on 435.795 MHz (\pm per Doppler shift) There is a fluctuation of about 6 kHz). In addition, the digital talker and the BBS function of packet communication are installed, but they have already stopped.



JARL requests the provision of telemetry data from July 4 (UTC) on July 8.

FOSSASAT-1

Fossa Systems are very proud to present the model of final flight of its FossaSat-1 picosatellite that will fly into space next October. It has already passed the vibration tests and they are very close to the integration. One step closer to demonstrating ultra low cost access to space and communications LoRa IOT



CAS-7B

On Thursday 25, it was launched from the Jiuquan Satellite Launch Center (JSLC), which is located in Inner Mongolia, in northwestern China, the 3 Kg FM satellite CAS-7B (BP-1B), in an orbit of 300 km and 42.7 degrees of inclination, which will cause its estimated useful life to be around a month.

It has CW telemetry beacon: 435.715 MHz 20 dBm and FM V / U transponder 16 kHz bandwidth with uplink in 145.900 Mhz and downlink in: 435.690 MHz

AMSAT-CE works in the transponder CESAR-1 FM

The Government of Chile announced a plan to renew the Fasat Charlie satellite of the Chilean Air Force, along with the promotion of the construction of several microsatellites and nano satellites. This motivated the AMSAT-CE Foundation to propose that the CESAR-1 Chilean amateur radio project can reactivate, modernize and complete as part of the plan of the government.



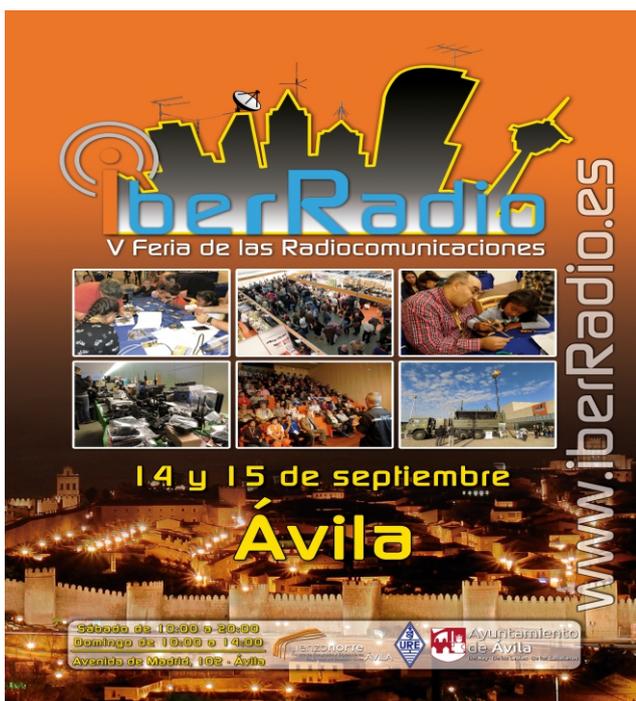
Radio Club de Chile has supported AMSAT-CE since its Home and the Vice President of Radio Club of Chile, José Tijoux CE3BCO, has just joined the Board of Directors of AMSAT-CE to continue and strengthen the Space activity of Chilean radio amateurs. The AMSAT-CE Foundation was created in 1993 and its first project is CESAR-1, which means CE Radio communications Satellite(Chile).

AMSAT-CE is designing and building five satellites, to be used by radio amateurs from around the world, which will allow a series of scientific experiments in the field of digital communications, as well as gravimetric and orbitgraphic studies. Of these five satellites, one will be the engineering prototype, three will be flight units and the remaining will be used to verify or replicate on the ground the operation of the units that are in space.

The CESAR-1 satellite will be a 23 cm cube with a mass of approximately 12 kg and is expected to have five main experiments:

- A real-time digital transponder (Digipeater) using AX.25 at 9,600 kbps
An electronic message box (Store and forward) with AX.25 at 9.6 kbps)
- An FM band transponder from 145 MHz to 436 MHz
- A link to two terrestrial repeaters that will allow low power stations operating on 147 MHz FM access the satellite
- An on-board GPS receiver, which will collect information for the investigation gravimetric and orbitgraphic.

The orbit of CESAR-1 will be low, polar and heliosynchronous (about 800 km high).



IberRadio
V Feria de las Radiocomunicaciones

14 y 15 de septiembre
Ávila

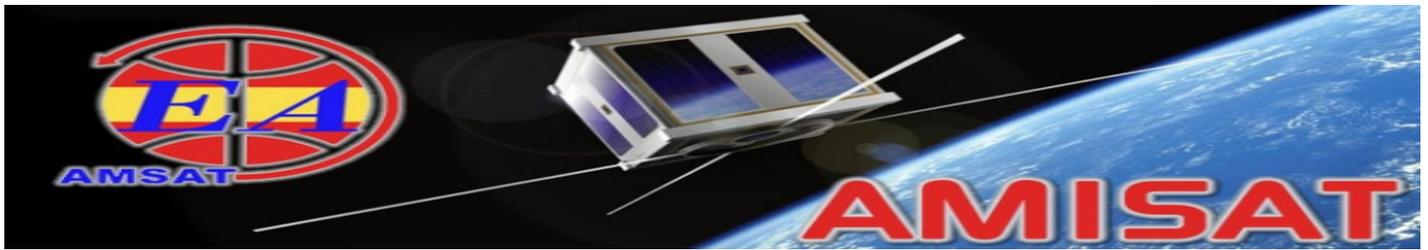
www.iberRadio.es

Sábado de 10:00 a 20:00
Domingo de 10:00 a 14:00
Avenida de Madrid, 102 - Ávila

Ayuntamiento de Ávila

IBERRADIO 2019

We will wait for you



AMSAT-EA will be transmitting its special call AM1SAT via all active satellites from September 9th to September 15th as part of the V RadioHam Fair IberRadio 2018 activities. IberRadio is the biggest event for the ham community in SouthWest Europe and will open doors September 14th and 15th . Learn more about IberRadio at <http://www.iberradio.es>. AM1SAT callsign will be active from a minimum of 14 different grids during that time to help satellite operators to collect as much EA locators as possible.

As part of this activity and in order to promote the participation, AMSAT-EA is sponsoring the AM1SAT Special Award in two categories: SILVER and GOLD.

AWARD RULES

- 1.- This award can be requested and issued to any licensed amateur station and also SWLs
- 2.- Will be valid contacts all those done via AMSAT satellites from September 9th 2018 to September 15th 2019 (UTC time) in all transmission modes.
- 3.- There are two different requirements to get the awards, depending of the applicant location.

Applicant in a EU entity or EA8 and EA9.

To get the award in its SILVER category, the applicant has to contact AM1SAT in 5 different grids (We consider "grid" as a 4-digits main locator. For example IN71, IM68, JN00, etc). To get the award in its GOLD category the applicant has to contact AM1SAT in 10 different grids.

Applicant in a NON EU entity, except EA8 and EA9.

To get the award in its SILVER category, the applicant has to contact AM1SAT in 2 different grids (We consider "grid" as a 4-digits main locator. For example IN71, IM68, JN00, etc). To get the award in its GOLD category the applicant has to contact AM1SAT in 4 different grids.

4.- There is no need of paper QSLs nor EQSLs to ask for the award. When the applicant get the requirements, he has to send via email a log with the QSOs, listing his callsign, name, and QSO data (Date, UTC time, frequencies, mode, received grid and used satellite). Also we need the applicant email to send the award. The awards will be send, latest in 2 months and only in PDF format, free of charge.

5.- Logs and any question about this activity must be send to eb1ao@amsat-ea.org .

6.- Logs must be received by October 1st 2019. We will consider the AM1SAT operators logs as the valid ones to check and cross the QSOs. Disputes or open issues will be solved by AMSAT-EA committee.

7.- Trophies. AMSAT-EA is sponsoring two different trophies for this event:

- Grid Chaser Trophée for the operator getting more EA grids from AM1SAT stations during the event. In case of two or more operators getting the same number of grids, the trophée will go to the one needing less time to achieve the number.
- Satellite Chaser Trophée for the operator making QSOs with AM1SAT stations through more different satellites. If a satellite has more than one mode or band (Like AO-7, AO-92 or QO-100), it will always count as one single satellite even if you work it in different modes/bands. In case of two or more operators getting the same number of worked satellites, the trophée will go to the one needing less time to achieve the number.

Looking for a gentle trophy distribution we want to avoid both prizes going to the same operator. If this happens, the Satellite Chaser Trophée will be given to the station getting the second higher number of worked satellites.

AMSAT-EA will send these trophies free of charge to the operators who get them.

NEXT ACTIVITIES

CY9C will be on St. Paul Island till August 8. This is a dxpedition in all bands / modes, with EME and Sats as well. Plus information available at <http://cy9c.com/index.html>.

N7EGY, Dennis will attend a family reunion from August 2 to 3 and may be in some FM passes. Stay tuned for Dennis' Twitter feed For more updates: <https://twitter.com/n7egy1>

EA4NF, Philippe will be operating from EL95 (Key Largo and Brickell Key) as KC3NSG, from August 4 to 11, 2019. FM and SSB. QSL through LoTW. Stay tuned for Philippe's Twitter feed to get more updates: https://twitter.com/EA4NF_SAT

KI7UNJ, Casey will head north to the state of Washington in the grids (CN96 / 96 and DN06 / 07/17/17), on August 9 and 10. Watch for his twitter for more details . <https://twitter.com/KI7UNJ>

ADX expedition to San Pedro and Miquelon is planned, from August 10 to 18. The team will operate as **T05M** from Ile aux Marins in 6-160m, but there is possibility of some FM satellites. Watch this website for updates: <http://fp2019.net/>

AD0DX, Ron returns to Santa Rosa Island, August 12-14. Ron will be in FM and linear satellites like W6R. Watch for Ron's Twitter feed to get updates on the ever closer dates. <https://twitter.com/ad0dx>

VE3FU, Chris will visit relatives and will be keeping his station remote of HF on FO93, it can be on FM satellites as VO2AC. Chris will try to Post info before each pass, so watch his Twitter feed: <https://twitter.com/ChrisVE3FU>

EA4NF, Philippe will be operating from JAMAICA (IOTA NA-097 - Grid FK18) on Satellite with the special call 6Y4NF from August 12 to 19 2019. QRV satellite in FM and SSB. QSL through LoTW. Check his feed: https://twitter.com/EA4NF_SAT.



EA4NF, ready for AO7



K0FFY, Adam from Iceland.

ESPAÑA - NAMIBIA VIA SAT

The "oldie" satellite AO7 continues to give surprises. And it has its merit, because Oscar 7 has been in orbit since November 15, 1974, weighs about 29 kg and flies at an altitude of about 1450 km, which makes its footprint, perfect for distant contacts.

A few days ago, EA4NF got its DXCC # 62 on satellites. 7277 kms away with less than 3 degrees of elevation thru sat AO7. Power only 5w are its Arrow antenna. He contacted Derek V51DM, a great Amateur Radio in Namibia, South Africa

Congratulations to both!



SSTV DESDE LA ISS

After some SSTV on July 29, 30 and 31..now we are into the second SSTV global event that is on since August 1st and will end on August 4th.



Actividad Inter-MAI-75

- (July 29) GMT 210/13: 15 - SSTV activate
- (July 29) GMT 210/21: 25 - SSTV Closure
- (July 30) GMT 211/13: 50 - SSTV activate
- (July 30) GMT 211/19: 30 - SSTV Closure

It's a memorial event in honor of Owen Garriott - W5LFL. He was the first person in operating an amateur radio from space. We owe a lot to his efforts to bring the hobby to space for other operators. The schedule is below Memorial ARISS Garriott SSTV activity

Memorial ARISS Garriott actividad SSTV

-
- (August 1) GMT 213/09: 40 - SSTV activate
- (August 2) GMT 214/14: 00 - SSTV Verification
- (August 4) GMT 216/18: 15 - SSTV Closure

AMSAT-EA FORUM



From AMSAT-EA we want to promote among the community of hispanic amateur radio speakers spreading all knowledge about our hobby through the internet. Therefore we remind you that our association has a forum where any person can participate without needing to be a member. We encourage you to take advantage of this space to make your inquiries, start discussions, share your concerns or help other hobby partners transmitting your wisdom. We leave you the access address to the forum:

<http://foro.amsat-ea.org>

NEW RECORD AO-7

by KE9AJ

On the 4th of July, 2019 Jérôme Lecuyer, F4DXV (AMSAT-UK and AMSAT-EA) and I achieved a new AO-7 satellite QRB record of 8060.889 kilometers.

My name is Joe Werth, KE9AJ (AMSAT-NA) and I have been a licensed amateur radio operator since 1976 though only involved in satellites since June of 2017. Like many, I started with the FM satellites (SO-50 and AO-85) and quickly fell in love with this niche aspect of our hobby. Soon after, I purchased a used Yaesu FT-847 to explore linear satellites as they afford the opportunity for more “relaxed” conversations utilizing a multi-user passband. In particular, I was interested in the AO-7 satellite with a well known history and its higher orbit giving an opportunity for greater distance QSOs.



I’ve had hundreds of HF QSOs with DX stations around the world, but there is something special about making contacts with distant stations using an orbiting satellite and in particular with AO-7 and its many challenges such as mode switching, garbled voice on SSB and usual “popping” sounds.

In reviewing the amsat.org website, I found the section on distance records for satellites and wondered if I had any possibility to get into the record book. I thought no as the current AO-7 record of 8,030 held by KG5CCI and PY2RN seemed so daunting. This began a study of the requirements for contact distance such as footprints, probable passes, time window lengths and satellite apogees. I also studied the operating styles of accomplished satellite DX operators such as KG5CCI, AL6D, F4DXV and EB1AO on YouTube videos. Also studied SatPC32 programs such as WinListen and Preview Pass utilities. I began practicing long distance QSOs on AO-7 working the “Atlantic pass” when time permitted.

In order to achieve a new distance record the window of opportunity would be less than a minute and probably much less. Initially, I was not very good at finding my downlink signal but with these ‘failures’ came more confidence through practice on lower than 3 degree passes from my home location in EN50en. I kept a notebook of both uplink and downlink frequencies at AOS and would put these into my Yaesu FT-847 memory. After much refinement, I could find my downlink in less than 5 seconds, but would this be good enough?

The distance from Denver, Colorado and the well known French satellite operator Jérôme, F4DXV was near the AO-7 distance record. Jérôme and I had several QSOs on AO-7 from my home QTH in Illinois. In early 2018 I contacted him to see if he was interested in attempting a new distance record for AO-7. He graciously agreed. My wife Cindy and I planned to visit my parents near Denver in March, so Jérôme looked for possible passes during our visit. On my end, I looked for a high elevation location that would give me a negative horizon, but had no idea of how high I needed to be. There are many mountains along the Colorado front range, but most are inaccessible or require long hikes up steep mountain trails. The Yaesu FT-847 is not a small, lightweight radio (~7 KG).



The search for a suitable mountain with road access nearby continued until my son Chris, who lives near Denver suggested Genesee Mountain at near 2,600 meters. Jérôme and I scheduled a pass for mid-March of 2018 with him at his ‘good spot’ in JN04jr and I would summit at DM79iq.



My son and his friend Joe came along to help me carry all the equipment which was a good idea after seeing the “Road Closed in Winter” sign some distance from the summit. After parking the car the three of us carried the equipment, radio, antenna, tripod, computer, small folding table etc., to the summit by trekking a steep mountain trail perhaps 1,200 meters until we reached the summit. I set up my gear, made some preliminary tests and pointed the antenna to 45 degrees northeast. Jérôme sent a text message that he was QRV and ready for the distance attempt. I was very nervous and hoped that I made no mistakes in finding my downlink, correct antenna polarity and many other things. The time was near, my AOS

approached but I heard nothing! Where was the familiar “popping” noise? The next text message from Jérôme, who was first in the footprint, that the satellite was off or had “flipped” to Mode A.

I had driven 1,600 km to DM79, hiked up a mountain with heavy gear and failed to make any QSOs on AO-7. Although frustrated, this is the nature of the AO-7 satellite. After this, I didn’t think too much about making any future distance record attempts but continued to hone my AO-7 operating skills and general knowledge of operating satellites.

Fast forward to early 2019 when my wife and I made plans to again visit my parents in July. I thought again about the AO-7 distance record and wondered if Jérôme F4DXV would be willing to make another attempt. Jérôme cheerfully agreed and started looking for possible pass dates. We settled on July 4th, Independence Day which is the grandest of summer holidays in the US. Next item was finding a suitable location. I could either return to the location where I had failed 14 months prior or find another high elevation mountain that I could drive to such as Pikes Peak at 4,300 meters.



On the evening before the record AO-7 attempt, I visited the Pikes Peak mountain web-site. Due to the construction of a new summit visitors center, driving to the summit was not possible. Instead a transfer at the midpoint of the mountain to a 12-person capacity shuttle van would continue to the summit. This would be challenging with all the radio gear in tow.

Weather this time of year is a concern in the high elevation mountains with patterns almost every day for large storms with lightning forming at the top of these summits. This is not good for humans or setting up antennas, etc.

Finally, the July 4th Independence Day Holiday, would surely bring throngs of locals and tourists to this famous mountain. What if heavy traffic prevented me from arriving at the summit in time for my AOS of AO-7? Therefore, I had a decision to make. I could go to the very high summit of Pikes Peak, where my chances of completing a QSO with F4DXV would be very high, but risk not making the summit in time for AOS or having a higher probability of inclement weather ...or, I could return to lower Genesee Mountain where I would have a 99,9% chance of making it to the summit of this much less popular mountain in time for the satellite AOS. After much thought, I decided on Genesee Mountain, DM79iq.

Mid-morning of July 4, my wife and I drove to the summit and as expected, there were very few tourists. Great! However, after driving three-fourths the way to the summit, the gate was again closed as it was two years before! OH NO! This time excessive Spring rainfall washed out the road to the summit. Arrrggghhh. I parked the car and with my wife Cindy, collected the radio gear and walked along the closed roadway to a grassy area near the summit. The area I chose had a good view of the Northeast direction with only a few trees. This area was peaceful and quiet with no tourists. It was a few hundred meters below the actual summit which I felt would not significantly impact the chances for success.

I set up the Yaesu FT-847, 6ah LiPO battery, a standard 3+7 Arrow antenna, tripod and two 12' lengths of LMR-240 ultraflex coax. I positioned the Arrow with the 2 meter elements in the horizontal orientation and set my power level at 25 watts since the entire pass would be at negative elevation on my side. I made a few test transmissions and waited. I received a text from Jérôme that he had arrived at JN04ft near the city of Bergerac, known for its famous red wine and perhaps more importantly, a relatively high elevation and wonderful horizon.



At 17:48:00 utc, I tuned to our agreed frequency of 145.937 Mhz and started my voice recorder. At my negative AOS, based on WinListen data at -2 degrees elevation, I made a few quick whistles almost immediately hearing my downlink signal. I made a slight tweak to the antenna orientation for maximum perceived signal audio. Within a few seconds I heard Jerome and his lovely French accent "Foxtrot Four Delta Xray Victor" about 300 hz down! I was so excited and hoped to not make a mistake in tuning Jérôme in. I immediately responded with his call, signal report and my grid locator. He returned the QSL and then with my signal report and his locator and then a little chit-chat!

Our QSO lasted approximately 40 seconds, both of us working negative degrees under the horizon! Amazing! We made a successful QSO and set a new QRB record on AO-7 of 8,060



kilometers. Jérôme and I exchanged our congratulations via a few text messages. Then Jérôme, who had made previous arrangements to arrive at his place of work one hour later than normal to make this attempt, had to quickly pack up his gear and drive to work. Jérôme's satellite equipment was a FT-847, a modified Arrow 5+10 antenna and a 10aH LiPO battery. Jérôme's power was 25 watts when below the horizon and reduced to 5 watts during the remainder of the pass. Jérôme manually hand-rotated his Arrow for polarization. Neither Jérôme or I used external LNA's.

I want to thank and congratulate those who have gone before us in achieving AO-7 distance records. I'm excited for Jérôme and I to be in the record book and encourage others to continue to strive to break this record with the grand old satellite AO-7.

73,
Joe KE9AJ