NEWSLETTER-AMSAT-EA

04/2021 APRIL

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New amateur radio satellites launched from the ISS

On March 14 they 8 new sats were deployed from the ISS, all with ham radio payloads, including the first developed and put into orbit by Paraguay, the GuaraniSat-1. East satellite, together with the Maya-2 of the Philippines and the Tsuru of Japan are part of the fourth edition of the Kyushu Institute of Technology BIRDS program that is intended to help the development of space technology in countries with little or no experience. All three Cubesats carry digital repeaters.

Beside that, some others were deployed: OPUSAT-II, RSP-01, WARP-01, TAUSAT-1, this one with an FM transponder, and STARS-EC.

New pocketQubes and other HAM satellites launched by Soyuz

On March 22, a Soyuz-2.1a vehicle with the upper stage Fregat was launched from the Baikonur Cosmodrome in Kazakhstan.

Aboard were a lot of satellites, some of them with ham radio functionalities and among them several pocketQubes that will be deployed from the Gaussian UNISAT-7 mother satellite: Unicorn-1,Germany technology demonstrator, DIY-1, for orbit ejection mechanism testing and built in Argentina, and the educational FEES, of Italy, STECCO, also from Italy, SMOG-1, from Hungary and BCCSAT-1, from Thailand, being the last pending IARU coordination, as well as the own UNISAT-7, whose coordination was rejected.

Other satellites of interest to radio amateurs are: Beesat-5, Beesat-6,Beesat-7, Beesat-8, GRBAlpha, KSU_Cubesat, CubeSX-HSE, CubeSX-Sirius-HSE,Orbicraft-Zorkiy and NanoSatC-BR2.

More information about this mission in this link:

http://gklaunch.ru/en/news/38-satellites-from-18-countries-wiil-be-deliveredinto-orbit-from-baikonur-cosmodrome-on-march-20/

GOOD PRACTICES IN FM LEO SATELLITES

EA1PA - SALVA

After writing several articles in the technical field, now I´d like to discuss operational issues on LEO amateur radio satellites. Surely these are aspects that are well known to most, but I think It is advisable to use this newsletter to guide those who have recently begun in this world so entertaining and exciting; and for the not so new,just as a reminder.

How has it happened to us all, especially in the beginnings or when we resume after a long time of stop, we are totally permeated by emotion and illusion with the magic lot this type of amateur radio. Later, after lots of hours into it we enjoy it in a different way, maybe with less emotions but equally satisfactory and pleasant.

After all, the consequence of these practices is to increase the effectiveness and performance so that, once the pass is finished and looking behind, there is a good general taste in your mouth for having enjoyed and make others enjoy, too.

I´ll focus on the FM satellites since being a single channel results in the most critical and where good practices are crucial to do and let do.

All stations are present in the same QRG and the time of the pass is limited so crowding can be considerable. On the satellites with linear transponder operation philosophy is very different, perhaps it is a subject to deal with in another short content article.

Without further delay I will list the general guidelines, maybe I will forget some of them, but I trust that the most important are these:

1. First of all, make sure you have a good reception of the satellite. Listen to QSOs or calls from others, there is almost always activity.

2. Don't call if you don't listen properly. You will not be aware if someone answers you or if you are interrupting a QSO in progress.

3. Forget saying "hello,hello", carriers and whistles to check if you hear yourself on the downlink. It is best to simple transmit once your callsign and try again after enough listening space. If you still do not listen to yourself, do not insist and continue listening for activity, you may get the signal back later.

4. Don't call CQ CQ. It is lengthening the call unnecessarily, simply add "SAT" after your callsign, callsign followed by the grid or just only your callsign.

5. Call with your singularity, if any, without disrupting ongoing QSOs. For singularity I mean those circumstances that can make your call attractive to others:

   Unusual DXCC.
   Unusual grid.
   Portable or mobile station: / P, / M, / MM.
   Peculiar operation: Handheld antenna, walkie talkie (handy),....

6. The singular stations of the previous point, as well as expeditions and activities, have priority and it is necessary to allow others to work them.

7. Call once at a time giving reasonable time to listen.

8. Do not call a station if it is calling another station. He is interested in working the other station and not you. Wait for them to complete the contact, only when finished you can go ahead and call him.

9. Respect the QSOs in progress and turns. Don't mix QSOs, wait for QSOs to complete and then, call

10. Not make the QSOs long. The QSO should be fast, without being lengthy, with the minimum data exchange : callsign, report and grid (4 or 6 digits, 4 is enough, in the US the usual is 6 digits).

11. Do not chain or link QSOs without giving other users an opportunity. Do not monopolize the pass.

12. Work in full-duplex with headphones so you can hear yourself in the downlink without couplings. You can see first-hand if you are on the repeater, as well as get an idea of the quality of your modulation.

13. Use the Q code and the international alphabet “ICAO”. Do not invent words, always go to the international agreement that any radio amateur knows and is trying to distinguish between the QRM and the fading, when signals are low. Vocalize well, calmly.

14. Record the audio of the satellite downlink. Write down the stations present and the new grids in case you have to review any contacts

15. In the case of working with linear polarization, previously study the fading period to match your QSO and collect / transmit your exchange data at the time of the signal peak. Be quick and clear.

16. It is not well seen to use a final beep when finishing transmitting, so try to avoid any "roger beep".

After all these recommendations, special mention should be made about the FM satellites SO-50 (SaudiSat 1C) and AO-27 (AMRAD OSCAR 27). They are real luxury satellites, magnificent examples of the old school, but they have certain

operational difficulties:

- In the case of the AO-27 the maximum operating time is approximately 4 minutes per pass for mid-latitudes of the North Hemisphere. It is a real race against time for the whole "satellite" community. The premises listed above are vital to host as many QSOs as possible.

- It is well known that the peculiarity of the SO-50 lies in its transmission of only 250mW in UHF over a sloped ¼λ antenna 45 inward. Therefore, the reception is delicate and would be strictly mandatory to ensure good listening, with understandable signals before calling. It is not strange to listen to some operators who call insistently while others are answering repeatedly, but unfortunately remain orphans QSOs due to lack of reception from the calling station. These are ineffective contacts that frustrates other attempts with more possibilities.

- Be careful with the third harmonic present in the descent through our own transmission, who hasn't happened to? Can confuse and give the impression that we are on the satellite since we listen our own signal. Nothing is further from reality, we are occupying the satellite without being aware of it.

- Finally, due to the coincidence of uplink and downlink frequencies for both satellites and that it is not strange that over our position there is a common footprint with both, we can go up to work the SO-50 and be exciting both repeaters, that of the SO-50 and the AO-27. On the contrary, it would not be possible, since to excite the SO-50 you would need the corresponding CTCSS tone.

This is it, I hope it helps to reduce the chaos by advocating by ordered passes, after all, it´s for the benefit of all. You have a great successes and may health and enthusiasm be with you. Best regards to the readers.

Salva
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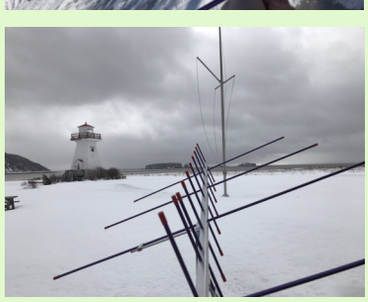
PORTABLE STATON OF MONTH - (VE1CWJ - JOHN)



Global Ranking (LEO+HEO+GEO)

COUNTRIES

1	EA4CYQ	117	URE
2	EA3CJ	111	URE
3	EA2AA	108	URE
4	EB1AO	107	URE
5	EA4SG	104	URE
6	EA5TT	100	URE
7	EA4NF	97	URE
8	EA3AGB	96	URE
9	EA8XCN	67	URE
10	EA4M	53	URE

GRIDS

1	EA4CYQ	628	URE
2	EB1AO	499	URE
3	EA8HB	461	URE
4	EA5TT	418	URE
5	EA3CJ	411	URE
6	EA4SG	313	URE
7	EA3AGB	300	URE
8	EA4NF	232	URE
9	EA8CXN	210	URE
10	EC4TR	191	URE

Ranking (LEO+HEO)

COUNTRIES

1	EA4CYQ	103	URE
2	EA4NF	97	URE
3	EA4M	53	URE
4	EA3CJ	53	URE
5	EA3B	48	URE
6	EA7E	47	URE
7	EA5WA	45	URE
8	EA3AGB	43	URE
9	EA2AA	41	URE
10	EA8CXN	35	LOTW

GRIDS

1	EA4CYQ	565	URE
2	EA4NF	232	URE
3	EA3CJ	216	URE
4	EA3B	170	URE
5	EA3AGB	168	URE
6	EA7E	153	URE
7	EA5WA	135	URE
8	EA8CXN	109	URE
9	EA4CO	83	URE
10	EA4GQS	54	LOTW

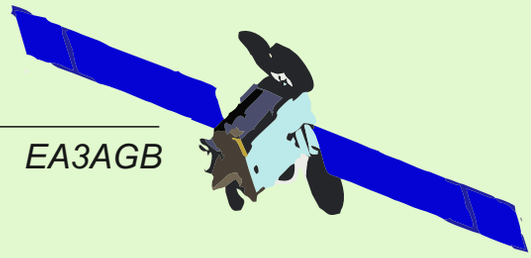
Types of orbits considered:

* LEO Low Earth Orbit (Low Orbit Satellites)

* Highly elliptical orbit HEO (very elliptical orbit satellites)

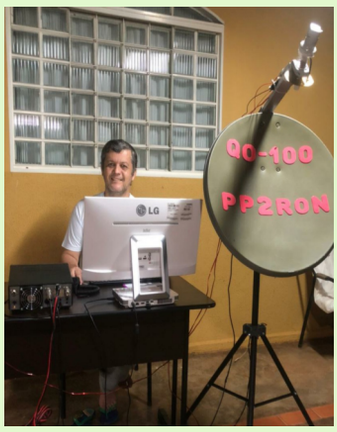
* GEO Geosynchronous Earth Orbit (geostationary satellites)

QO-100



EA3AGB

CALLSIGN	LOCATOR	MODE	QSL VIA
4O4A	JN92	SSB/CW	LOTW
8Q7QC	MJ65	SSB	DK3ZL
9H1XT	JM75	SSB	QRZ.COM
9K2PZ	LL39	SSB	QRZ.COM
A25RU	KG36	SSB/CW	OQRS
A71UN/P	LL54	SSB	LOTW/BURO
CN21JIF	IM61	SSB	QRZ.COM
CT9/DF7EE	IM12	SSB	LOTW
CU2JX	HM77	SSB	DIREC/BURO
EA6URP	JM19	SSB	LOTW/EQSL
ES3RF	KO29	SSB	ES1RF
FR4OZ	LG78	SSB	QRZ.COM
HZ1BL	LL56	SSB	IZ8CLM
PP2RON	GH25	SSB/CW	LOTW
PT9BM	GH40	SSB	LOTW
PS8DX	GI84	SSB	HOME CALL
PQ213CFN	GG87	SSB	LOTW
TT8SN	JK72	SSB	QRZ.COM
UB8QBD	MO25	SSB	LOTW/EQSL
V51JP	JG78	SSB	LOTW
VU2DPN	NK03	SSB	LOTW/EQSL
VU2POS	MJ98	SSB	QRZ.COM
YO9DOC	KN23	SSB	DIRECT
YC1HVZ	OI33UC	SSB	LOTW
YD1BDU	OI33UC	SSB	LOTW
ZS6MAR	KG43	SSB	QRZ.COM
ZS6WAB	KG46	SSB	QRZ.COM
ZP/PY5ZUE/P	GG25	SSB	QRZ.COM

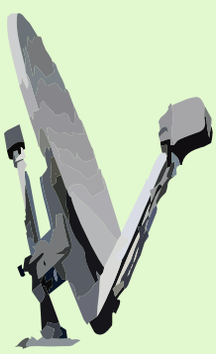


PP2RON

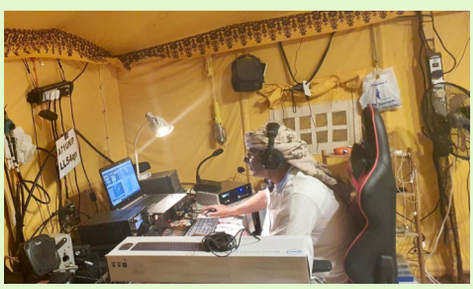
YC1HVZ & YD1BCU

40 MONTENEGRO, new entity activated on QO-100

YB INDONESIA, a lot of excitement was created with this rare and interesting DXCC entity, although not many, perhaps in the future new activities may arise.



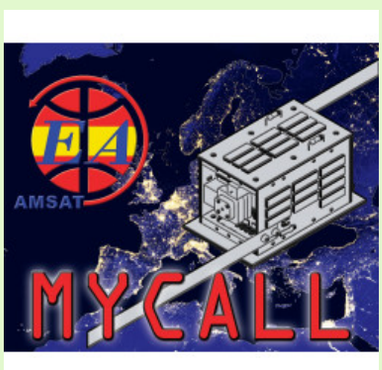
4O4A



A71UN/P

AMSAT-EA products in the URE store

For several weeks you have at your disposal several products of AMSAT-EA personalized with your callsign on the URE website.



Don´t hesitate

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