

# AMATEUR SATELLITE FREQUENCY GUIDE

May 2020

Satellite <sup>(Notes)</sup>

Mode <sup>(1)</sup>

Frequencies

freqguide@amsat.org

**AO-7** <sup>(3)</sup>  
V/a-Non-Inverting  
U/v-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	29.400	410	420	430	440	450	460	470	480	490	29.500
<b>Up-USB</b>	145.850	860	870	880	890	900	910	920	930	940	145.950
<b>Dwn-USB</b>	145.925	930	935	940	945	950	955	960	965	970	145.975
<b>Up-LSB</b>	432.175	170	165	160	155	150	145	140	135	130	432.125
<b>Bcn</b>	29.502	145.975	435.100								

**AO-73**  
(FUNcube-1) U/v-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	145.950	955	960	965	145.970	<i>Check AMSAT-BB for schedule.</i>
<b>Up-LSB</b>	435.160	155	150	145	435.140	
<b>Bcn</b>	145.935	<i>BPSK Telemetry</i>				

**AO-91** <sup>(2)</sup>  
(RadFxSat, Fox-1B) U/v  
FM Voice  
Digital [c]

<b>Dwn-FM</b>	145.960	<i>67.0 Hz CTCSS tone for access</i>
<b>Up-FM</b>	435.250	

**AO-92** <sup>(2,4)</sup>  
(Fox-1D) U/v - L/v  
FM Voice  
Digital [b] [c] [e] [\$]

<b>Dwn-FM</b>	145.880	<i>FSK data up to 9600 baud</i>
<b>Dwn-FM</b>	145.880	
<b>Up-FM</b>	435.350	<i>67.0 Hz CTCSS tone for access</i>
<b>Up-FM</b>	1267.359	<i>67.0 Hz CTCSS tone for access</i>

**CAS-4A** <sup>(2)</sup>  
U/v - Inverting  
Analog SSB/CW  
Digital [b] [f]

<b>Dwn-USB</b>	145.860	865	870	875	145.880
<b>Up-LSB</b>	435.230	225	220	215	435.210
<b>Dwn</b>	145.835	<i>Digital telemetry</i>			
<b>Bcn</b>	145.855				

**CAS-4B** <sup>(2)</sup>  
U/v - Inverting  
Analog SSB/CW  
Digital [b] [f]

<b>Dwn-USB</b>	145.915	920	925	930	145.935
<b>Up-LSB</b>	435.290	285	280	275	435.270
<b>Dwn</b>	145.890	<i>Digital telemetry</i>			
<b>Bcn</b>	145.910				

**EO-88** <sup>(2)</sup>  
(FUNcube-5,  
Nayif-1) U/v-Inverting  
Analog SSB/CW  
Digital [d]

<b>Dwn-USB</b>	145.960	965	970	975	980	985	145.990
<b>Up-LSB</b>	435.045	040	035	030	025	020	435.015
<b>Bcn</b>	145.940						

*Transponder is on when in  
eclipse and off when in  
sunlight.*

**FalconSAT-3** <sup>(2)</sup>  
V/u  
Digital [g] [#] [\*]

<b>Dwn-FM</b>	435.103
<b>Up-FM</b>	145.840

**FO-29**  
(JAS-2) V/u-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	435.800	810	820	830	840	850	860	870	880	890	435.900	<i>Check AMSAT-BB for schedule.</i>
<b>Up-LSB</b>	146.000	990	980	970	960	950	940	930	920	910	145.900	
<b>Bcn</b>	435.795											

**FO-99** <sup>(2)</sup>  
(NEXUS) V/u-Inverting  
Analog SSB/CW  
Digital [g]

<b>Dwn-USB</b>	435.880	885	890	895	900	905	435.910
<b>Up-LSB</b>	145.930	925	920	915	910	905	145.900
<b>Bcn</b>	437.075	<i>CW telemetry</i>					
<b>Bcn</b>	435.900	<i>FSK</i>					

*Schedule:  
twitter.com/gsnihonuniv*

**HO-107** <sup>(2)</sup>  
(HuskySat-1) V/u-Inverting  
Digital [d]

<b>Dwn-USB</b>	435.810	815	820	825	830	835	435.840
<b>Up-LSB</b>	145.940	935	930	925	920	915	145.910
<b>Bcn</b>	435.800						

**NO-84**  
(PSAT) V/v APRS  
A/u PSK31

<b>Dwn-FM</b>	145.825	<i>APRS</i>	<b>Dwn-FM</b>	435.350	<i>PSK31</i>
<b>Up-FM</b>	145.825		<b>Up-USB</b>	28.120	

**NO-104**  
(PSAT2) V/v APRS  
A/u PSK31

<b>Dwn-FM</b>	145.825	<i>APRS</i>	<b>Dwn-FM</b>	435.350	<i>PSK31</i>
<b>Up-FM</b>	145.825		<b>Up-USB</b>	29.4815	



# Satellite <sup>(Notes)</sup> Mode <sup>(1)</sup> Frequencies

## PO-101 <sup>(2)</sup>

(Diwata-2)

U/v  
FM Voice  
Digital [a] [#]

<b>Dwn-FM</b>	145.900	Schedule: <a href="https://twitter.com/diwata2ph">twitter.com/diwata2ph</a> 141.3 Hz CTCSS tone for access
<b>Up-FM</b>	437.500	

## RS-44

(DOSAFF-85)

V/u-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	435.610	620	630	640	650	660	435.670
<b>Up-LSB</b>	145.995	985	975	965	955	945	145.935
<b>Bcn</b>	435.605						

## SO-50 <sup>(6)</sup>

(SaudiSat-1C)

V/u  
FM Voice

<b>Dwn-FM</b>	436.795	67.0 Hz CTCSS tone for access
<b>Up-FM</b>	145.850	

## XW-2A

(CAS-3A)

U/v-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	145.665	670	675	680	145.685
<b>Up-LSB</b>	435.050	045	040	035	435.030
<b>Bcn</b>	145.660				

## XW-2B

(CAS-3B)

U/v-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	145.730	735	740	745	145.750
<b>Up-LSB</b>	435.110	105	100	095	435.090
<b>Bcn</b>	145.725				

## XW-2D

(CAS-3D)

U/v-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	145.860	865	870	875	145.880
<b>Up-LSB</b>	435.230	225	220	215	435.210
<b>Bcn</b>	145.855				

## XW-2F

(CAS-3F)

U/v-Inverting  
Analog SSB/CW

<b>Dwn-USB</b>	145.980	985	990	995	146.000
<b>Up-LSB</b>	435.350	345	340	335	435.330
<b>Bcn</b>	145.975				

## ISS <sup>(5)</sup>

(International Space Station)

V/v - U/v  
FM Voice  
Digital [a] [#]

<b>Dwn-FM</b>	145.800 (voice, SSTV)	
<b>Dwn-FM</b>	145.825 (packet)	
<b>Up-FM</b>	144.490 Region 2/3 Voice	145.200 Region 1 Voice
<b>Up-FM</b>	145.825 Simplex Digipeater	

## FUTURE LAUNCH

## RadFxSat-2 <sup>(2)</sup>

(Fox-1E)

V/u-Inverting  
Analog SSB/CW  
Digital [d]

<b>Dwn-USB</b>	435.760	765	770	775	780	785	435.790
<b>Up-LSB</b>	145.890	885	880	875	870	865	145.860
<b>Bcn</b>	435.075						

## CURRENT SATELLITE STATUS IS AVAILABLE AT [WWW.AMSAT.ORG/STATUS](http://WWW.AMSAT.ORG/STATUS)

### NOTES:

- The Mode designations are:

A = 10m                      H = 15m                      V = 2m  
U = 70cm                    L = 23cm                    S = 13cm  
C = 6cm                      X = 3cm                      K = 1.5cm

The uplink is upper case and listed first while the downlink is lower case and listed last. Uplink/Downlink. Thus, old Mode B is U/v and old Mode J is V/u.

- Letters in [ ] represent the following digital formats:

[a] = 1200 bps AFSK-FM AX.25  
[b] = 9600 bps FSK  
[c] = Subaudible slow speed data when in transponder mode  
[d] = 1200 bps BPSK  
[e] = 9600 bps downlink includes images and science data  
[f] = 4800 bps GMSK

[g] = 9600 bps GMSK

[\*] denotes Store and Forward (flying mailbox) capability

[#] denotes digipeater that also allows APRS

[\$] denotes provisions for capturing pictures in orbit

- AO-7 is available only when it's in sunlight. It may not be functional on each pass. Excessive uplink power, especially CW, will reset the transponder to Mode A. Please use QRP only.
- L uplink is switchable by command station; not operational simultaneously. Normal operation is U/v.
- The Region 2/3 voice uplink frequency listed for ISS is to be used over North & South America. The Digital frequency is usable worldwide.
- To activate SO-50, transmit briefly with a 74.4 Hz CTCSS tone.

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**THE RADIO AMATEUR SATELLITE CORPORATION**  
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