AMSAT

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Global Educational Network for Satellite Operations

Attention all telemetry and data collection buffs! An ESA Assessment Study for this project began in June 2006 and a large number of the study team attended the AMSAT-UK 2006 Colloquium as part of the SSETI contingent. AMSAT-UK representatives later attended a meeting hosted by Neil Mellville of ESA, where they received a briefing on the purpose of a project called GENSO, which is to provide a global infrastructure that will be available for future educational satellite projects. It is envisaged that a world-wide network of ground stations could increase real time collection of telemetry data from amateur [and other scientific] satellites from an average of 3% at present to a potential 60%. This data could be available in real time on the www resulting in a huge improvement in efficiency. As a result of this meeting,

The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. As a forum for members AMSAT-VK operates two monthly nets.

AMSAT-Australia Echolink Net

The "Echolink" net meets on the second Sunday of each month. Anyone with an interest in Amateur Radio Satellites is welcome to join the net. Graham VK5AGR acts as net controller. The net starts at 0500 UTC during summer time periods and 0600 UTC during winter standard time periods. Connect to the AMSAT conference server on Echolink a few minutes before these times.

AMSAT-Australia HF net.

The HF net meets informally on the second Sunday of each month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000 UTC. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900 UTC. Start listening 15 minutes before these times.
All communication regarding AMSAT-Australia matters can be addressed to:
AMSAT-VK,
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Clarence Park, SA. 5034
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AMSAT-UK joined with ESA, the SSETI Association, UNISEC, and several universities around the world, to determine the technical feasibility of the project and define a comprehensive set of technical requirements with suggested design solutions. A month later, the first workshop was held at the University of Tokyo to discuss the proposal and the potential for inter-continental collaboration. The response from the amateur radio and academic communities was particularly promising. The implementation plan produced at the second workshop, held in September, included work packages, a preliminary schedule and a budget framework. The plan was presented to the International Space Education Board during the International Astronautical Congress held in Valencia in October. The Board gave the go-ahead to start the design and implementation of the software and hardware, with the objective of running a pilot phase in around a year's time. A workshop is planned for February 2007 to discuss progress and the core features should be ready for testing by mid-2007. If all goes according to plan, they hope to have the network fully operational from November 2008 onwards. ESA will provide funding for software development and overall project management. The project will bring together other space agencies like CSA, JAXA and NASA. Neil Melville of ESA said, "One of the key aspects of this project will be that the network is developed 'by students for students', with the technical support and guidance of the space agencies and the radio amateur community". So far the amateur radio input has been provided by AMSAT-UK, who has been asked to define the typical ground station in terms of hardware and to provide supporting software. They will be asking for your input in the form of a questionnaire which will appear on AMSAT-BB. The data collection and ground station software, developed as part of the project will be made available to the AMSAT community. More information can be found at:
h t t p : / / w w w . e s a . i n t / e s a E D / SEM8HFZBYTE_index_0.html
Watch also the AMSAT-UK website.

AMRAD AO-27 controllers lose contact.

Reports are to hand that the AMRAD team members are having difficulty in establishing communications with this LEO. It has not figured highly in activities in this part of the world. Apart from brief periods early in its life, it has only been switched on while over the northern hemisphere. AO-27 was launched on September 26, 1993. It carried an uplink on 145.850 MHz FM and a downlink on 436.795 MHz FM.

More Cubesats

Another batch of Cubesats was due for launch on 11th December 2006. AX.25 1200bps FM/AFSK telemetry transmissions should be available on 70 cm immediately after deployment. Details will be available at www.Genesat1.org.

Six-monthly review of operational satellites in the amateur radio service

VO-52 HAMSAT

Catalogue number: 28650
Launch Date: May 05,2005
Status: Operational
U/V:Indian Transponder in use at present
Frequencies:
Indian Transponder:
Uplink: 435.220 MHz to 435.280 MHz LSB/CW
Downlink: 145.870 MHz to 145.930 MHz USB/CW
Dutch Transponder:
Uplink: 435.225MHz to 435.275MHz LSB/CW
Downlink: 145.875MHz to 145.925MHz USB/CW
Indian Beacon: 145.859330 MHz CW
Dutch Beacon: 145.860MHz 12WPM with CW message
Webpage: http://www.amsat.in/hamsat.htm

AO-51 ECHO

Catalogue number: 28375
Launch date: June 29, 2004
Status: Operational
Analog voice downlink:
435.300 MHz FM

435.150 MHz FM
2401.200 MHz FM
Analog voice uplink:
145.880 MHz FM
145.880 MHz USB
145.920 MHz FM 67 Hz PL tone
1268.700 MHz FM 67 Hz PL tone
Digital Downlinks: Pacsat Broadcast Protocol
435.150 MHz FM, 38k4 Digital
435.150 MHz FM, 9k6 Digital
2401.200 MHz FM, 38k4 bps, AX.25
Digital Uplink:
145.860 MHz FM, 9k6
1268.700 MHz FM, 9k6
Broadcast callsign: PECHO-11
BBS callsign: PECHO-12
Webpage: http://www.amsat.org/amsat-new/echo/

SO-50 SAUDISAT-1C
Catalogue number: 27607
Launched: December 20, 2002
Status: Operational.
Uplink: 145.850 MHz
Downlink: 436.795 MHz

To switch the transmitter on, you need to send a CTCSS tone of 74.4 Hz to arm the ten minute timer. Then transmit on 145.850 MHz (FM Voice) using 67.0 Hz to access the repeater within the 10 Minute window.

FO-29 JAS-2
Catalogue number: 24278
Launch Date: August 17, 1996
Status: Operational
Voice/CW Mode JA
Uplink: 145.90 to 146.00 MHz CW/LSB
Downlink: 435.80 to 435.90 MHz CW/USB
Beacon: 435.795 MHz
Digital Mode JD
Uplink: 145.850 145.870 145.910 MHz FM
Downlink: 435.910 MHz 1200-baud BPSK or 9600-baud FSK
Callsign: 8J1JCS
Digitalker: 435.910 MHz
Current mode switching details on the AMSAT web site.

AO-7 AMSAT OSCAR 7
Catalogue number: 07530
Launch Date: November 15, 1974
Status: Operational when in sunlight
Current Reported mode: Mode-A
Uplink:
145.850 to 145.950 MHz CW/USB Mode A
432.125 to 432.175 MHz CW/LSB Mode B
Downlink:
29.400 to 29.500 MHz CW/USB Mode A (1W PEP)
145.975 to 145.925 MHz CW/USB Mode B (8W PEP)
Beacons: 29.502 MHz, 145.972 MHz
Official Webpage:
http://www.amsat.org/amsat-new/satellites/sat_summary/ao7.php

International Space Station (ISS) – ARISS
Catalogue number: 25544
Launch date: November 20, 1998
Status: Operational
Current Mode: Occasional Voice
The Expedition 14 crew is:
Commander: Michael Lopez-Alegria - KE5GTK
Flight Engineer: Mikhail Tyurin - RZ3FT
Flight Engineer: Thomas Reiter - DF4TR

Digital/APRS:
Worldwide packet uplink: 145.990 MHz FM
Worldwide packet downlink: 145.800 MHz FM

Voice:
Region 1 voice uplink: 145.200 MHz FM
Region 2/3 voice uplink: 144.490 MHz FM
Worldwide downlink: 145.800 MHz FM
SSTV testing reported on 145.800 MHz FM

Callsigns:
German: DP0ISS
Russian: RS0ISS, RZ3DZR
USA: NA1SS
Packet Mailbox: RS0ISS-11
Digipeater callsign: ARISS
Official ARISS Webpage: http://www.rac.ca/ariss

AO-51 ECHO
Catalogue number: 28375
Launch date: June 29, 2004
Status: Operational
Current Mode(s):
FM Repeater - V/U
PBBS - V/U - 9k6 PBP
Analog voice downlink:
435.300 MHz FM
435.150 MHz FM
2401.200 MHz FM
Analog voice uplink:
145.880 MHz FM
145.880 MHz USB
145.920 MHz FM 67Hz PL tone
1268.700 MHz FM 67Hz PL tone
Digital Downlinks:
435.150 MHz FM, 38k4 Digital, PBP, 1 watt output
435.150 MHz FM, 9k6 Digital Pacsat Broadcast Protocol
2401.200 MHz FM, 38k4 bps, AX.25
Digital Uplink:
145.860 MHz FM, 9k6 Digital, Pacsat Broadcast Protocol
1268.700 MHz FM, 9k6 PBP Digital
Broadcast callsign: PECHO-11
BBS callsign: PECHO-12
Webpage: http://www.amsat.org/amsat-new/echo/

AO-16 PACSAT
Catalogue number: 20439
Launch Date: January 22, 1990
Status:
Semi-operational, the digipeater command is open for APRS users.
Uplink:
145.900 FM
145.920 FM
145.940 FM
145.960 FM
Downlink:
437.026 MHz SSB (1200-baud PSK)
Mode-S Beacon: 2401.1428 MHz
Broadcast callsign: PACSAT-11
BBS callsign: PACSAT-12
Webpage: http://www.amsat.org/amsat/sats/n7hpr/ao16.html

UO-11 OSCAR-11
Catalogue number: 14781
Launched: March 1, 1984
Status: Semi-operational
Telemetry Downlink: 145.826 MHz.
Webpage: http://www.users.zetnet.co.uk/clivew/

The above list is not exhaustive but includes those of most interest to amateurs in this part of the world. A number of satellites are listed elsewhere as operational but only their beacons are active – or they are at present undergoing testing or recovery efforts. A complete list is kept up to date on the AMSAT-NA web site.

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