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www.sbhackerspace.com



Santa Barbara
Museum of Natural History

www.sbnature.org

FOR IMMEDIATE RELEASE:

Santa Barbara Non-profits Collaborate for Near Space Launch

Natural History Museum, Amateur Radio Club & Hackerspace to Launch High-altitude Balloon

JULY 13, 2011 --- SANTA BARBARA, CALIF.

The Santa Barbara Natural History Museum, in cooperation with the Santa Barbara Amateur Radio Club and Santa Barbara Hackerspace, plan to launch a high-altitude balloon this weekend. The balloon will carry a technology payload to a projected altitude of 100,000 feet above the Earth where it will capture live images and dispatch flight information to ground stations.

“It has been a fun and rewarding challenge,” said Rod Fritz of the Santa Barbara Amateur Radio Club. “It is exciting to see our ideas take shape as we anticipate a successful flight. Until I can soar into space commercially, it’s great to know I can get there this way and take others along for the ride.”

For those technically inclined to follow the flight, the payload will include...

- An Automatic Position Reporting Beacon (APRS) on 144.39 MHz with the WB9KMO-11 amateur radio call sign; track the balloon online at www.aprs.fi/?call=WB9KMO-11
- Two multi-mode digital telemetry downlinks on 144.34 MHz and 14.079 MHz; view the telemetry as it’s received live by amateur radio stations at www.nearspace.us/tracker
- Live Robot 36 images via Slow Scan TV on 144.58 (input of 145.18 MHz Repeater)
- Amateur TV on 2441.5 MHz; view the video stream as it’s received live by radio amateurs at www.batc.tv/ch_live.php (select WB9KMO-ATN from the list).

The launch is scheduled for Saturday, July 16 at 10:00 a.m. from West Beach near Stearn’s Wharf in Santa Barbara, however weather conditions and winds may cause the site to be moved. **Updates will be posted online at www.sbarc.org and on the SBARC amateur radio repeater on 146.79 MHz.** If all goes according to plan, the craft should rise above 99 percent of the Earth’s atmosphere and transmit stunning images from the edge of space before returning to the surface for retrieval.

SBARC is a non-profit public benefit corporation organized to promote education for persons interested in telecommunications, to disseminate information about scientific discoveries and progress in the field, and to train communicators for public service and emergency communications. SBARC also encourages and sponsors experiments in electronics and promotes the highest standards of practice and ethics in the conduct of communications.

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2m Telemetry – 144.34 MHz, 1160 Hz Center Frequency, use DL-FLDIGI HAB with WB8ELK Auto-configure

- Modes...
 - Domino EX 22 – Transmits every minute at 00 seconds, like 10:00:00, 10:01:00
 - RTTY - 300 baud ASCII, 8N1 bits/parity/stop, 200 Hz shift – Transmits every minute at 15 seconds, like 10:00:15, 10:01:15
 - CW – Transmits every 5 minutes at 30 seconds, like 10:00:30, 10:5:30
 - Hellschreiber – Transmits every 5 minutes at 2:30 seconds, like 10:02:30, 10:07:30
- Telemetry Format - \$\$WB8ELK,88,09:43:00,3456.78,-08612.54,33,04,5.36,30*66
 - \$\$<callsign>
 - ,<sequence #>
 - ,<UTC time (HH:MM:SS)>
 - ,<Lat (ddmm.mm)>
 - ,<Lon (dddmm.mm)>
 - ,<altitude(meters)>
 - ,<satellites>
 - ,<battery voltage>
 - ,<internal temperature (deg C)>
 - ,* <checksum>

20m Telemetry – 14.079 MHz, 1500 Hz Center Frequency, use DL-FLDIGI HAB with WB9KMO Auto-configure

- Modes...
 - Domino EX 16 – Transmits every minute at 00 seconds, like 10:00:00, 10:01:00
 - RTTY - 110 baud ASCII, 8N1 bits/parity/stop, 200 Hz shift – Transmits every minute at 15 seconds, like 10:00:15, 10:01:15
 - CW – Transmits every 5 minutes at 30 seconds, like 10:00:30, 10:5:30
 - Hellschreiber – Transmits every 5 minutes at 2:30 seconds, like 10:02:30, 10:07:30
- Format - \$\$WB9KMO,88,09:43:00,3441.00,-119.69,2,03,5.36,33*69
 - \$\$<callsign>
 - ,<sequence #>
 - ,<UTC time (HH:MM:SS)>
 - ,<Lat (ddmm.mm)>
 - ,<Lon (dddmm.mm)>
 - ,<altitude(meters)>
 - ,<satellites>
 - ,<battery voltage>
 - ,<internal temperature (deg C)>
 - ,* <checksum>

2m APRS – 144.39 MHz, search for WB9KMO*

- Mode ...
 - Packet – 1200 baud
- Format...
 - Standard APRS format – Receive directly or at websites like www.aprs.fi

2m SSTV – 144.575 or 144.58 MHz (input of 145.18 MHz Repeater on Santa Ynez Peak)

- Mode...
 - Probably Robot 36, possibly Scottie S2

2.4 GHz ATV – 2441.5 GHz FM TV (input of ATV Repeaters in Santa Barbara, Simi Valley and others)

- Reception...
 - Direct reception using a 24 dbi or larger dish is recommended
 - Video may be received and repeated by ATV Repeaters; this will likely be intermittent
 - Video Streaming may be available on www.batc.tv, ATV Repeaters, WB9KMO-ATN