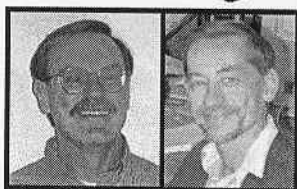


**UNMANNED SATELLITES ON
POSTAGE STAMPS 14:
THE OSCAR AND RS SERIES
Don Hillger (SU 5200) and Garry Toth**



Don Hillger

Garry Toth

This is the fourteenth in a series of articles about unmanned satellites on postage stamps. This article covers postal items showing two amateur radio satellite series, the OSCAR and RS series.

Amateur radio operators are licensed by their governments to use special radio frequencies for communication and experimental purposes, and to act as a reserve of technical skill and talent in emergency situations. Amateur radio operators are also called hams and are given unique call signs to identify themselves when they operate their radios. The origin of the term "ham" is of some debate, partly related to the ability of most radio operators to "ham it up" on the airwaves.

With the advent of satellites, amateur radio operators sought to put radio equipment in space to further their hobby. The first four amateur radio satellites (or hamsats) were built by a California group of ham radio operators called Project OSCAR (Orbiting Satellite Carrying Amateur Radio). [The acronym OSCAR should not be confused with the name Oscar for a series of U.S. Navy navigation satellites more commonly called Transit.] The first hamsat, OSCAR-1, was launched on 12 December 1961.

The primary group involved in amateur radio space activity now is the Radio Amateur Satellite Corporation (Amsat), headquartered in the U.S., but including affiliated groups and individuals in many countries. In particular, hams in the U.K., Japan, and several other countries have been responsible for many amateur radio satellites. To date more than 70 amateur-radio or amateur-related satellites have been launched. However, only 50 of those satellites have been assigned OSCAR numbers by Amsat.

Other amateur radio satellites include the RS (Radio Sputnik or Radio Sport) series and the Iskra (spark) series, the product of Russian ham radio operators. More than 20 RS satellites and three Iskra satellites have been launched.

Often amateur radio satellites are launched along with larger government or commercial payloads, thereby reducing the cost to place these non-commercial satellites into orbit. The history of amateur radio satellites, and stories relating how they were built and launched, is far beyond the scope of this article. Readers should refer to the references at the end of this article and to the authors' Website for a list of amateur radio satellites and launch dates, as well as images of the postal items mentioned in this article.

Of interest is some unique terminology used by the amateur radio satellite community relating to the evolution of hamsat development. That terminology, not typically used in other satellite circles, is the use of "phases" to describe the

orbits and capabilities of amateur radio satellites. Phase-1 and Phase-2 satellites are those in either north-south polar orbits or low-earth east-west equatorial orbits. Phase-1 satellites had limited electrical power and short lifetimes, whereas Phase-2 satellites lasted much longer and allowed communications over longer distances.

Phase-3 hamsats are those that use long elliptical orbits known as Molniya orbits, named after a class of Russian communications satellites which followed similar paths through space. Phase-4 satellites would be those in geo-stationary orbit, but there are no amateur satellites in such orbit, nor are any currently planned. However, a Phase-5 satellite is being considered, one that would fly to Mars and enter orbit around the Red Planet.

Before we get into specifics, it should be mentioned that amateur radio satellites are used not only for communications, but also for technological experimentation. Hamsats also delve into the realm of scientific exploration and remote-sensing of the earth through the instrumentation carried and imagery taken by some of the satellites.

Only about ten postage stamps have been issued specifically showing amateur radio satellites, that is out of the less than 100 stamps that have been issued for all aspects of amateur radio. As a reminder for readers, this series of articles is concerned with satellites on postal items such as stamps, souvenir sheets, aerogrammes, postal cards, meters, and cancels, but not with launch covers for these satellites, although images of many of those covers are included in the authors' Website.



Figure 1 -
Yugoslavia 809



Figure 2 - Switzerland 679

The first stamp showing a satellite on an amateur radio stamp was issued by Yugoslavia (809, Scott catalog numbers used throughout) in 1966. However the satellite shown is not a real satellite. Rather, it is probably the stamp designer's concept or vision of a satellite, a fantasy satellite, since its appearance does not match any known satellites launched up through that year.

Switzerland issued a stamp in 1979 (679) showing OSCAR-7, a Phase-2 satellite. The same year Russia issued a stamp (4733) showing their first two Radio Sputnik satellites, also called Radio-1 and Radio-2. Russia then issued a second stamp (4917) in 1981 showing another RS, probably one of the six RS that were launched as a group that year.

The next stamp (860) issued by Peru in 1985 shows OSCAR-8, another Phase-2 satellite that was launched in the late 1970s. Then in 1991 Argentina issued a stamp (B157) to commemorate their amateur radio satellite, LUSat or



Figure 3 - Russia 4733 (left) and 4917

OSCAR-19. LU is the prefix for the amateur-radio call signs issued to Argentinean ham radio operators. This was followed in 1997 by a stamp issued by Oman (397) showing OSCAR-10, the first successful Phase-3 hamsat launched in 1983, following the failure of the first Phase-3 attempt in 1980.

More-recent postal items include a Souvenir Leaf (or Souvenir Card) issued by Israel in 1995 showing their contribution to the amateur satellite line, Technion or OSCAR-32. The Souvenir



Figure 4 - Peru 860



Figure 5 - Argentina B157

Card also contains a postal cancel that shows the Technion satellite. The same cancel is also available on a cover issued at the same time. In 2000 Guyana issued a souvenir sheet of 6 stamps (3502) showing two amateur radio satellites, OSCAR-13 and OSCAR-24, American-built and French-built satellites respectively. And finally, in 2002 Somalia issued a miniature sheet containing only one stamp (new issue, catalog number yet unknown) showing Uribyol, which is another name for three Korean-built amateur satellites also called Kitsat, two of which were given OSCAR numbers, OSCAR-23 or OSCAR-25 and were launched in 1992 and 1993 respectively.

Few of the OSCARS and Radio Sputniks that have been launched have been featured on postage stamps. It is hoped that readers with additional information will notify the authors of any postal items showing amateur-related satellites that may have been overlooked. A table and images of several of the postal items showing these satellites are presented both here and on the Website developed by the authors to accompany this series of articles: <http://www.cira.colostate.edu/ramm/hillger/satellites.htm>. E-mail correspondence with the authors is welcome. Don Hillger (a licensed amateur radio operator, WDOGCK) can be reached at hillger@cira.colostate.edu and Garry Toth at garry.toth@ec.gc.ca. ❖

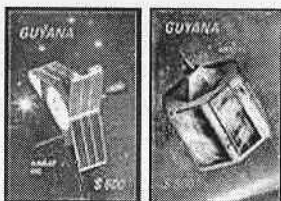


Figure 6 - Guyana 3602a (left) and 3602f

References:

Curtis, Anthony R., 2004: The Extraordinary History of Amateur Radio Satellites, Space Today, <http://www.spacetoday.org/Satellites/Hamsats/HamsatsBasics.html>

Bible, Steve, 2004: A Brief History of Amateur Satellites, Radio Amateur Satellite Corporation, <http://amsat.org/amsat/sats/n7hpr/history.html>

Checklist of Postal Items Showing OSCAR and RS

Country	Catalog #	Type of Item**	Year	Notes on Content
OSCAR				
Argentina	B157		1991	LUsat-1 / OSCAR-19
Great Britain	None	Meter	1981	UoSAT
Guyana	3502a	One of MS6 (3502a-f)	2000	Amsat-3C/OSCAR-13

Checklist of Postal Items Showing OSCAR and RS (continued)

Country	Catalog #	Type of Item**	Year	Notes on Content
Guyana	3502f	One of MS6 (3502a-f)	2000	Arsene / OSCAR-24
Israel	None	Cancel on cover	1995	Technion / OSCAR-32
Israel	None	Souvenir Card and cancel	1995	Technion / OSCAR-32
Korea (South)	1976f	One of MS6 (1976a-f)	2000	Kitsat-1 / Uribyol / OSCAR-23
Oman	397		1997	OSCAR-10
Peru	860		1985	OSCAR-8
Somalia	Unknown	In margin of SS1	2002	Uribyol / Kitsat / OSCAR-23/25
Switzerland	679		1979	OSCAR-7
Yugoslavia	809		1966	Fantasy OSCAR
Radio Sputnik (Russia)				
Russia	4733		1979	RS-1, RS-2
Russia	4917		1981	RS
Russia	None	Stamped envelope	1985	RS



Figure 7 - South Korea 1976f

* Scott catalog number.

** SS# = souvenir sheet, MS# = miniature sheet, where # = number of stamps in sheet, and the numbers in parentheses are the catalog numbers of the stamps in the sheet.



TREASURER'S REPORT

Terry Chamberlin, Treasurer (SU 1541)



I have completed the 2003 financial report (next page) and once again printing and postage costs are our main expenses. What a bargain it is to receive six issues of our award winning publication, *Astrophile*, as well as a cover in each issue for only \$15 dues. It really does pay to belong to the Space Unit!

Once again, members were generous in their donations in 2003. The Space Unit collected \$639 in cash donations, as well as, over 10,000 envelopes and covers. The following members made donations in 2003:

John Augis	William Everett	Lewis Kellert
Steven Belasco	Donald Fleming	John Kerr
Mark Bloom	Stanley Gister	Michio Kimura
Charles Blumenthal	Herman Grackin	Raymond Knauss
Fred Breier	Allen Hanawalt	Neil Koshnick
Prelediana Chattey	Paul Hartman	Robert Law
David Chudwin	Peter Hoffman	Roy LeDoux
Charles Corbin	Steve Kaplan	Lillian Liconti
David Epps	Gus Kathmann	Joan Main