

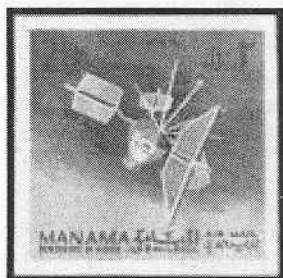
## UNMANNED SATELLITES ON POSTAGE STAMPS: PART 16 - THE EXPLORER SERIES

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This is the sixteenth in a series of articles about un-manned satellites on postage stamps. This article features the scientific/research satellites in the Explorer-series, starting with Explorer-2. Explorer-1 was covered in the previous article in this series.



Manama Mi94

There have been at least 80 satellites in the Explorer series. Their numbering is consistent among various references only through Explorer-55. Beyond that point there is controversy over what constitutes an Explorer satellite. Another complicating factor is that, of the numbered Explorer satellites, only Explorer-2 and Explorer-5 failed but were still numbered in sequence. This was before it was common practice to delay the numbering of a satellite until its launch was known to be successful.

Some of the Explorer-series satellites had additional names that make them part of other satellite series as well: Injun, SolRad (also called GREB or GRAB), GEOS, and ISEE. When applicable these names are included in this article. In particular, the following names and numbers are synonymous:

Explorer-25 = Injun-4	Explorer-40 = Injun-5
Explorer-29 = GEOS-1	Explorer-44 = SolRad-10
Explorer-30 = SolRad-8	Explorer-52 = Injun-6
Explorer-36 = GEOS-2	Explorer-56 = ISEE-1
Explorer-37 = SolRad-9	Explorer-59 = ISEE-3 (later renamed ICE).

The Explorer series is the longest running series of spacecraft: it continues even today. This series has produced some of the longest-lived spacecraft as well, with several Explorers having operated for 10 years or more. At least one (Explorer-50) has been operational for more than 25 years! Explorer satellites have performed a large variety of scientific missions, ranging from energetic particle exploration through atmospheric and ionospheric studies, to investigations of micrometeoroids, air density, radio astronomy, geodesy, gamma ray astronomy, as well as interplanetary and solar monitoring missions. Another characteristic of the Explorer series is that most of them, especially the early ones, were relatively small and uncomplicated.



Ajman Mi264

The Explorer series includes too many satellites, and a wide variety of satellite shapes and sizes, for this article to provide details about each. The Explorer satellites are featured on a large number of postal items, as listed in the table below. However, since many of the images on stamps are detailed, it is possible to identify specific Explorer numbers in many cases.

One historical and notable mission was Explorer-6, which took the first photo of the earth. Thus it can be considered in some sense as the first weather satellite. Explorer-6 was soon followed by the first Television and InfraRed Observation Satellite (TIROS-1). The TIROS weather satellites were discussed in the first article in this series. Explorer-6 is also notable philatelically because it was nearly identical to Pioneer-5. Both were "paddlewheel" satellites in appearance, and both are featured on several postal items. Through examining reference images as well as images on covers and postal items, the authors discovered that Explorer-6 contained two short antennas on its "top", whereas Pioneer-5 contained only a single short antenna. This difference, though not documented elsewhere to the authors' knowledge, was a key to differentiating between the two satellites when their names were not specifically given on the stamp.



Belgium 670

Readers are referred to the authors' Website for reference images of satellites in the Explorer series, as well as images of launch covers and postal items that feature these satellites. As a complement to this article, a checklist of Explorer satellites is presented both here and on the Website <http://www.cira.colostate.edu/ramm/hillger/satellites.htm>. E-mail correspondence with the authors is welcome. Don Hillger can be reached at [hillger@cira.colostate.edu](mailto:hillger@cira.colostate.edu) and Garry Toth at [garry.toth@ec.gc.ca](mailto:garry.toth@ec.gc.ca).

### Checklist of Postal Items Showing Explorer-series Satellites (excluding Explorer-1)

Country	Catalog Number*	Type of Item **	Year	Notes on Content
Ajman	Mi264		1968	Explorer-14
Ajman	BL35	Embossed perforate and imperf. SS2 (like Mi261+264)	1968	Explorer-14
Ajman State	Mi2782	One of MS8 + 8 labels	1973	Explorer-20
Ajman State	Mi2783	One of MS8 + 8 labels	1973	Explorer-22/27
Ajman State	Mi2785	One of MS8 + 8 labels	1973	Explorer-17
Ajman State	iMi2782	One of imperforate MS8 + 8 labels, different color	1973	Explorer-20

Ajman State	iMi2783	One of imperforate MS8 + 8 labels, different color	1973	Explorer-22/27
Ajman State	iMi2785	One of imperforate MS8 + 8 labels, different color	1973	Explorer-17
Ajman State	sMi2782	One of MS8 + 8 labels, small format, different color	1973	Explorer-20
Ajman State	sMi2783	One of MS8 + 8 labels, small format, different color	1973	Explorer-22/27
Ajman State	sMi2785	One of MS8 + 8 labels, small format, different color	1973	Explorer-17
Ajman State	Mi2782SS1	Imperforate SS1	1973	Explorer-20
Ajman State	Mi2783SS1	Imperforate SS1	1973	Explorer-22/27
Ajman State	Mi2785SS1	Imperforate SS1	1973	Explorer-17
Angola	1108c	One of MS6 (1108a-f)	1999	Explorer-42
Angola	1110a	One of MS6 (1110a-f)	1999	Explorer-17
Antigua & Barbuda	2243e	One of MS6 (2243a-f)	1999	Expl.-57 / IUE
Ascension	388		1986	Explorer-59 / ISEE-3 / ICE
Austria	None	Cancel	1966	Expl.-12/14/15 <sup>1</sup>
Belgium	670		1966	Explorer-17
Belgium	670 cancel	Cancel	1966	Explorer-17
Belgium	None	In margin of cinderella of 2 imperforate stamps	196?	Expl.-13/16/23 <sup>2</sup>
Bernera Islands (Scotland)	Local	One of MS8	1978	Explorer-20
Bernera Islands (Scotland)	Local	One of MS8 overprinted in black	1978	Explorer-20
Bernera Islands (Scotland)	Local	One of MS8 overprinted in red	1978	Explorer-20
Burundi	588		1981	Explorer-20
Burundi	588a	MS3 (586-588)	1981	Explorer-20
Cameroun	C99		1968	Expl.-6 image
Central Africa Rep.	663	SS1	1984	Explorer-66 / COBE (first design)
Central Africa Rep.	843		1986	Explorer-59 / ISEE-3 / ICE

Chad	Unknown	SS1	1996	Explorer-17 (not Explorer-23)
Chad	708f	One of MS6 (708a-f)	1997	Explorer-56 / ISEE-1 <sup>3</sup>
Comoro Islands	B4f	One of MS8 (B4a-h)	1988	Explorer-59 / ISEE-3 / ICE
Comoro Islands	BL268	SS1 (B4f)	1988	Explorer-59 / ISEE-3 / ICE
Comoro Islands	737a	In margin of imperf. SS1	1990	Explorer-66 / COBE (final design)
Congo (People's Rep.)	C53		1967	Explorer-6
Dominica	2237a	One of MS6 (2237a-f)	2000	Explorer-14
Dominica	2237d	One of MS6 (2237a-f)	2000	Explorer-16
Egypt	1211		1983	Explorer-32 ?
French Southern & Antarctic Terr.	C53		1977/9	Explorer-52 / Injun-6
Fujeira	Mi71		1966	Explorer-7
Fujeira	Mi150	Mi71 overprinted new currency	1967	Explorer-7
Fujeira	Mi347	Mi71 overprinted "Apollo-8"	1969	Explorer-7
Fujeira	MiA77	Mi71 gold foil	1969	Explorer-7
Gambia	609		1986	Explorer-59 / ISEE-3 / ICE
Gambia	2170		1999	Explorer-66 / COBE (final design)
Gambia	2268a	One of MS6 (2268a-f)	2000	Explorer-42
Gambia	2268a essay	One of MS6 (2268a-f essay)	2000	Explorer-42
Gambia	2268c	One of MS6 (2268a-f)	2000	Expl.-57 / IUE
Gambia	2268c essay	One of MS6 (2268a-f essay)	2000	Expl.-57 / IUE
Gambia	2269f	One of MS6 (2269a-f)	2000	Explorer-18
Gambia	2269f imperf. essay	One of MS6 (2269a-f imperforate essay)	2000	Explorer-18
Ghana	166a	In margin of imperforate SS4 (4x166)	1964	Expl.-13/16/23 <sup>2</sup>

Grenada Carriacou	2205d	One of MS6 (2205a-f)	2000	Unknown (not Explorer-16)
Grenada Carriacou	2205e	One of MS6 (2205a-f)	2000	Explorer-57 / IUE (not Astro- Challenger)
Grenada Carriacou	2205e essay	One of MS6 (2205a-f essay)	2000	Explorer-57 / IUE (correctly labeled)
Grenada Carriacou	2206d	One of MS6 (2206a-f)	2000	Explorer-16
Grenada Carriacou	2206d essay	One of MS6 (2206a-f essay)	2000	Explorer-16
Hungary	2972		1986	Explorer-59 / ISEE-3 / ICE
Korea (North)	1448		1976	Explorer-6
Malagasy Republic	797		1987	Explorer-59 / ISEE-3 / ICE
Malagasy Republic	BL48	SS1 (797)	1987	Explorer-59 / ISEE-3 / ICE
Malagasy Republic	Unknown	One of MS6	2000	Explorer-59 / ISEE-3 / ICE
Malagasy Republic	Unknown	One of MS6	2000	Explorer-64 / SME
Malagasy Republic	Unknown	One of MS6	2000	Explorer-66 / COBE (first design)
Maldiv Islands	147a	In margin of MS9 (9x147)	1965	Explorer-18
Maldiv Islands	148a	In margin of MS9 (9x148)	1965	Explorer-18
Maldiv Islands	149a	In margin of MS9 (9x149)	1965	Explorer-18
Maldiv Islands	150a	In margin of MS9 (9x150)	1965	Explorer-18
Manama	Mi94		1968	Explorer-14
Manama	BL8	Embossed perforate and imperforate SS2 (like Mi91+94)	1968	Explorer-14
Mauritania	619		1986	Explorer-59 / ISEE-3 / ICE

Mauritania	619a	SS1 (619)	1986	Explorer-59 / ISEE-3 / ICE
Mongolia	C33d	One of MS12 (C33a-l)	1972	Explorer-6
Niger	1078e	One of MS9 (1078a-i)	2001	Expl.-77 / FUSE
Nigeria	143a	In margin of MS12 (12x143)	1963	Expl.-12/14/15 <sup>1</sup>
Nigeria	144a	In margin of MS12 (12x144)	1963	Expl.-12/14/15 <sup>1</sup>
Nigeria	174		1965	Explorer-18
Nigeria	174a	MS12 (12x174)	1965	Explorer-18
Poland	2715		1986	Explorer-59 / ISEE-3 / ICE
Rwanda	136	In margin of SS2 (136a-b)	1965	Explorer-11, Expl.-13/16/23 <sup>2</sup>
Satellite Beach FL (U.S.)	Local	Set-C-8 (blue)	1964	Explorer-16
Satellite Beach FL (U.S.)	Local	Set-D-2 (green)	1964	Explorer-14
Satellite Beach FL (U.S.)	Local	Set-D-4 (green)	1964	Explorer-17
Satellite Beach FL (U.S.)	Local	Set-D-6 (green)	1964	Explorer-20
Satellite Beach FL (U.S.)	Local	Set-D-7 (green)	1964	Explorer-10
Satellite Beach FL (U.S.)	Local	Set-D-9 (green)	1964	Explorer-18
Satellite Beach FL (U.S.)	Local	Set-D-10 (green)	1964	Explorer-9
Satellite Beach FL (U.S.)	Local	Set-C-8 (blue) overprinted new value in gold	1965	Explorer-16
Satellite Beach FL (U.S.)	Local	Set-D-2 (green) overprinted new value in gold	1965	Explorer-14
Satellite Beach FL (U.S.)	Local	Set-D-4 (green) overprinted new value in gold	1965	Explorer-17
Satellite Beach FL (U.S.)	Local	Set-D-6 (green) overprinted new value in gold	1965	Explorer-20
Satellite Beach FL (U.S.)	Local	Set-D-7 (green) overprinted new value in gold	1965	Explorer-10
Satellite Beach FL (U.S.)	Local	Set-D-9 (green) overprinted new value in gold	1965	Explorer-18

Satellite Beach FL (U.S.)	Local	Set-D-10 (green) overprinted new value in gold	1965	Explorer-9
Satellite Beach FL (U.S.)	Local		19??	Explorer-30
Sharjah	45		1964	Explorer-13
Sharjah	45A	45 overprinted new currency	1967	Explorer-13
Sharjah	46		1964	Explorer-12
Sharjah	46A	46 overprinted new currency	1967	Explorer-12
Sierra Leone	1074d	One of MS9 (1074a-i)	1989	Expl.-57 / IUE
Staffa (Gr. Britain)	Local	One of MS8	1974	Explorer-47
Umm Al Qiwain	Mi85		1966	Explorer-10
Umm Al Qiwain	Mi96	Mi85 overprinted new currency	1967	Explorer-10
United States	None	One of INTERPEX MS4	1962	Expl.-13/16/23 <sup>2</sup> (not Explorer-S6)
United States	None	One of INTERPEX MS4	1962	Explorer-12 (Explorer-S3, folded solar panels)
United States	None	One of INTERPEX MS4	1962	Explorer-S45
Yemen Arab Republic	Mi906Mi913	Perforate and imperforate. Note changed colors on imperforate.	1969	Explorer-6
Yemen Arab Republic	Mi909Mi916	Perforate and imperforate. Note changed colors on imperf.	1969	Expl.-12/14/15 <sup>1</sup> (not Explorer-7)
Yemen Arab Republic	Mi910ms12	In margin of imperforate MS12 (12xMi910)	1969	Explorer-6
Yemen Arab Republic	Mi911ms12	In margin of imperforate MS12 (12xMi911)	1969	Explorer-6
Yemen Arab Republic	Mi912ms12	In margin of imperforate MS12 (12xMi912)	1969	Explorer-6
Yemen Arab Republic	Mi913ms12	On stamp and in margin of imperforate MS12 (12xMi913)	1969	Explorer-6
Yemen Arab Republic	Mi914ms12	In margin of imperforate MS12 (12xMi914)	1969	Explorer-6
Yemen Arab Republic	Mi915ms12	In margin of imperforate MS12 (12xMi915)	1969	Explorer-6

Yemen Arab Republic Mi916ms12	On stamp and in margin of imperforate MS12 (12xMi916)	1969	Expl.-12/14/15 <sup>1</sup> (not Explorer-7), Explorer-6
Yemen Arab Republic Mi922Mi929	Perforate and imperforate. Note changed colors on imperforate.	1969	Explorer-10
Yemen Arab Republic C87C87_ds	Also imperforate deluxe sheet	1982	Explorer-13
Yemen Arab Republic C91C91_ds	Also imperforate deluxe sheet	1982	Expl.-12/14/15 <sup>1</sup>
Yemen Arab Republic C141	C91 overprinted	1993	Expl.-12/14/15 <sup>1</sup>

- \* *Scott* catalog number, unless indicated with Mi or BL for *Michel*, "i" prefix denotes imperforate version; "s" prefix denotes smaller version.
- \*\* 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.

<sup>1</sup> Explorer-12/14/15 are Electrostatic Particle Explorers (EPE)-A/B/C, all basically identical.

<sup>2</sup> Explorer-13/16/23 are Explorer-S55-A/B/C, all basically identical.

<sup>3</sup> Two satellites stacked together (ISEE-1 / Explorer-56, and ISEE-2).



Clockwise from top left:  
Ascension 388, Fujeira Mi71,  
Grenada Carriacou 2205e, United  
States Interpex '62 version A,  
Mongolia C33d, and Sharjah 45



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