

Un-manned Satellites on Postage Stamps : 27

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The Pioneer Series

This is the twenty-seventh in a series of articles about un-manned satellites on postage stamps. This article features the later/planetary part of the **Pioneer**-series of satellites. Pioneer-10 through Pioneer-13 were the planetary Pioneers. They were designed for exploration of the planets: two Pioneers went to Jupiter (and one went on to Saturn), and two other Pioneers went to Venus. This article covers these planetary Pioneers. The earlier non-planetary Pioneers were discussed in the nineteenth article in this series.

Pioneer-10 and 11, launched in 1972 and 1973 respectively, were the first spacecraft to fly by Jupiter (both) and Saturn (Pioneer-11 only), and subsequently became the first man-made objects to leave the solar system. They carried a wide variety of scientific instrumentation and lessons learned from them served in the design of the more sophisticated Voyager probes launched in 1977. These Pioneers had 2.74-m diameter parabolic dish antennas and were powered by radioisotope thermonuclear generators (RTGs) held 3 m away from the spacecraft body on two thick booms angled 120° apart. A third 6.6 m boom held a magnetometer. These features are identifiable in many images of Pioneer-10 and 11 on various postal items.

These Pioneers continue to move away from our solar system. They have suffered from reduced power levels as they age, but Pioneer-10 was nevertheless successfully contacted in 2002 by NASA's Deep Space Network (DSN) on its 30th anniversary. However, the signal from the spacecraft is now at the threshold limit for detection, even by the DSN. Both Pioneer-10 and 11 carry plaques depicting the location of the sun and the earth in our galaxy.

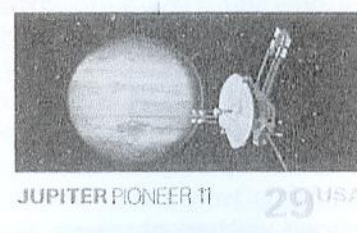
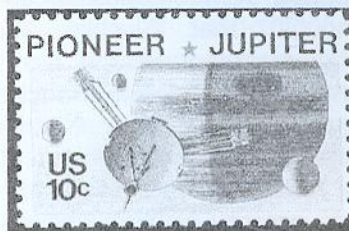
Pioneer-12 and 13, both launched in 1978, were directed to Venus. Pioneer-12 was an orbiter, inserted into an elliptical orbit around Venus to provide the first global maps of the planet's clouds, and radar maps of the planet's surface. Pioneer-13 was a multiprobe, designed to send one large and three small atmospheric probes towards the Venusian surface. The spacecraft body was then sent through the atmosphere to the planet's surface. It was able to send back radio signals from about 110 km altitude before burning up at lower levels.

A large number of stamps feature these planetary Pioneers, so many such items that the checklist that accompanies this article is probably incomplete. These and other planetary exploration missions are especially popular topics for stamps, even in many countries that

have nothing directly to do with space missions, but issue space-themed stamps because they sell well to stamp collectors.

A noteworthy item in the checklist is a banknote (paper currency) issued by Malaysia in 1996. Not many satellites are shown on banknotes. In this case the satellite is identifiable as Pioneer-10/11, but with an interesting anomaly. The image on the banknote shows three identical booms, whereas, as described above, the Pioneer-10/11 contains only two such booms for the RTGs, and a third much-longer but slimmer boom that supports the magnetometer.

A checklist of postal items showing the planetary Pioneer series satellites (<http://www.cira.colostate.edu/ramm/hillger/Pioneer2.htm>) is available on the Website developed by the authors for the un-manned satellites featured in this series of articles (<http://www.cira.colostate.edu/ramm/hillger/satellites.htm>). E-mail correspondence is welcome. Don Hillger can be reached at hillger@cira.colostate.edu and Garry Toth at garry_toth@hotmail.com.



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Pioneer-series satellites (planetary: Pioneer-10 — Pioneer-13)

Below is a checklist of Pioneer-series (planetary) satellite postal items (stamps, souvenir sheets, aerogrammes, postal cards, etc.). Catalog numbers, years of issue, and notes on the satellites featured are given when available. If readers know of additional information or images, please contact the authors using the e-mail addresses at the bottom of this page.

The first part of the Pioneer series, Pioneer-0 — Pioneer-E (which failed), were primarily lunar, solar, and interplanetary satellites. Those earlier/non-planetary Pioneers are *not* covered in this checklist. The later part of the series, Pioneer-10 — Pioneer-13, were for exploration of the planets, including specific missions of two Pioneers to Jupiter/Saturn and two Pioneers to Venus. **Only these later/planetary Pioneer missions are included here.** For planetary Pioneer launch information and covers see the Pioneer-series table on the planetary and lunar satellites page.

Country	Catalog Number*	Type of Item**	Year of Issue	Notes on Content
Antigua and Barbuda	1313b (Mi1369)	One of MS20 (1313 (a-t))	1990	Pioneer-11
Antigua and Barbuda	2244e (Mi2932)	One of MS6 (2244 (a-f))	1999	Pioneer-13
Antigua and Barbuda	2361f (Mi3192)	One of MS6 (2361 (a-f))	2000	Pioneer-13
Bulgaria	3153 (BL162)	In (lower-right) margin of MS4 (3153 (a-d))	1986	Pioneer-12
Canada	2160a (Mi2344)	On one label of MS16 (16x 2160 + 4 labels)	2006	Pioneer-10/11
Central Africa Republic	C221		1980	Pioneer-12, Pioneer-13
Central Africa Republic	1174b	One of MS4 (1174 (a-d))	1997	Pioneer-10
Central Africa Republic	1177	In (lower-left) margin of SS1	1997	Pioneer-10
Chad	709b	One of MS6 (709 (a-f))	1997	Pioneer-10
Comoro Islands	277		1977	Pioneer-13
Comoro Islands	277a	SS1 (277)	1977	Pioneer-13
Dahomey	C241 (Mi603)		1974	Pioneer-11
Dahomey	C241a (BL47)	SS1 (C241)	1974	Pioneer-11
Gambia	2751	SS1	2003	Pioneer-10
Ghana	682		1979	Pioneer-12
Ghana	683		1979	Pioneer-13
Ghana	684		1979	Pioneer-12, Pioneer-13
Ghana	685		1979	Pioneer-12 radar image of Venus
Ghana	686	On stamps and in (upper-right) margin of imperforate MS4 (686 (a-d))	1979	Pioneer-12, Pioneer-13
Grenada Carriacou	2205f	One of MS6 (2205 (a-f))	2000	Pioneer-13 (not Giotto) ¹
Grenada Carriacou	2205f essay	One of MS6 (2205 essay (a-f))	2000	Pioneer-13 (correctly labeled)
Guinea	1610		1999	Pioneer-10
Guinea-Bissau	413 (Mi574)		1981	Pioneer-12, Pioneer-13
Guinea-Bissau	413a (BL174)	SS1 (413)	1981	Pioneer-12, Pioneer-13
Guyana	3503b	One of MS6 (3503 (a-f))	2000	Pioneer-11
Guyana	Unknown d (new issue)	One of MS9	2007	
Hungary	C361	In (right) margin of SS1	1975	Pioneer-10
Kazakhstan	414		2003	Pioneer-10
Lesotho	527		1986	Pioneer-13
Malagasy Republic	1049B	In (left) margin of SS1 (1049)	1992	Pioneer-11
Malaysia	P39	2 ringgit (banknote)	1996	Pioneer-10/11 ²
Mali	1039b (Mi2276)	One of MS4 (1039 (a-d)) (Mi2275-2278)	1999	Pioneer-10/11
Marshall Islands	KM55	\$50. (coin)	1989	Pioneer-11
Marshall Islands	KM56	\$50. (coin)	1989	Pioneer-10
Marshall Islands	KM57	\$50. (coin)	1989	Pioneer-10
Marshall Islands	345r			Pioneer-10
Marshall Islands	345u	From MS25 (345 (a-y))	1989	Pioneer-11
Marshall Islands	345w			Pioneer-10
Micronesia	344j			Pioneer-10
Micronesia	344m	From MS20 (344 (a-t))	1999	Pioneer-11
Micronesia	344o			Pioneer-10
Mongolia	951a	From MS9 (951 (a-i))	1977	Pioneer-10 path
Mongolia	951i			Pioneer-10
Mordovia	Local_a	One of MS6 (a-f)	1997/8	Pioneer-10/11
Mordovia	Local_c	From MS6 (a-f)	1998	Pioneer-10/11
Mordovia	Local_e			
Niger	970 (BL103)	In (upper-left) margin of SS1	1997	Pioneer-10/11

Niger	968b	One of MS8 (968 (a-h + label)), also imperforate MS8	1997	Pioneer-13
Niger	1078a			Pioneer-10
Niger	1078d	From MS9 (1078 (a-d))	2001	Pioneer-13
Paraguay	1527	SS1	1973	Pioneer-11
Paraguay	1528	SS1	1973	Pioneer-10
Paraguay	C378	In (lower-left) margin of SS1	1974	Pioneer-10
Paraguay	C411	In (lower-left) margin of SS1	1975	Pioneer-11
Ras Al Khaima	Mi850A			
Ras Al Khaima	Mi850A ds	Deluxe sheet (Mi850A)	1972	Pioneer-10
Ras Al Khaima	Mi850B	Deluxe Sheet (white background)		
Romania	4458		2001	Pioneer-10
St. Vincent	2791d			Pioneer-11
St. Vincent	2791f	From MS6 (2791 (a-f))	2000	Pioneer-10
St. Vincent	2793g	One of MS6 (2793 (a-f))	2000	Pioneer-11
Sierra Leone	1072g			Pioneer-11
Sierra Leone	1072i	From MS6 (1072 (a-f))	1989	Pioneer-13
Sierra Leone	1904a			Pioneer-12
Sierra Leone	1904e	From MS6 (1904 (a-f))	1996	Pioneer-11
Togo	878		1974	Pioneer-10
Togo	879		1974	Pioneer-10
Togo	C227		1974	Pioneer-10 launch
Togo	C228		1974	Pioneer-10
Togo	C228a	Simulated perforate MS2 (C227-C228)	1974	Pioneer-10
Togo	999		1978	Pioneer-13
Togo	C345		1978	Pioneer-12
Togo	C345a	MS2 (C344-C345)	1978	Pioneer-12
Uganda	338 (Mi325)		1982	Pioneer-11
Uganda	1484Ab (Mi1855)			Pioneer-10
Uganda	1484Ae (Mi1858)	From MS8 (1484A (b-i))	1997	Pioneer-12
Uganda	Unknown	One of MS10	2000	Pioneer-12/13
United States	1556		1975	Pioneer-10
United States	1556 fdc	Stamp and cachet on FDC	1975	Pioneer-10, Pioneer-11
United States	1916	One of block of 8 (1919a (1912-1919))	1981	Pioneer-11
United States	2573	One of booklet pane of 10 (2577a (2568-2577))	1991	Pioneer-11
United States	3189i	One of pane of 15 (3189 (a-o))	1999	Pioneer-10
United States	None	Cancel	1999	Pioneer-10, Pioneer-11

* Scott catalog number, unless prefixed with Mi or BL for Michel; KM = Krause and Mishler coin catalog number; P = Pick banknote catalog number.

** FDC = first day cover; 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.

¹Pioneer-13, *not* Giotto as indicated on this item.

²Image of the satellite on this item has three identical booms, whereas Pioneer-10/11 have only two such booms, the third boom being much longer and slimmer.

