

27. The Pioneer Planetary Series

Don Hillger - SU5200 and Garry Toth

*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 of them went to Jupiter and/or Saturn, and two others 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.

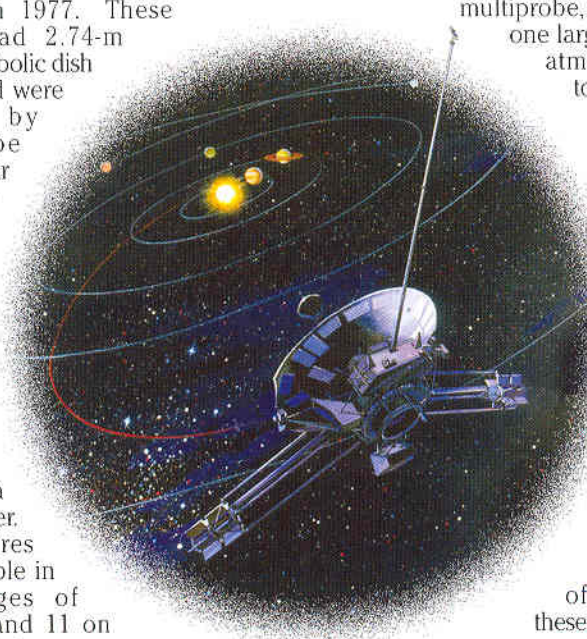
These Pioneers continue to move away from our solar system. They have suffered from reduced power levels as they age, but Pioneer-10 was nevertheless successfully contacted in 2002 by NASA's Deep Space Network (DSN) on its 30th anniversary. However, the signal from the spacecraft is now at the threshold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


detection, even by the DSN. Both Pioneer 10 and 11 carry plaques depicting the location of the sun and 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 list that accompanies this article is probably incomplete. These and other planetary exploration missions are especially popular topics for stamp, even in many countries that have nothing to do with space missions, but issue space-themed stamps because they sell well to stamp collectors.



A checklist appears on the following pages 



Checklist of Pioneer Planetary Series Postal Items

Below is a checklist of **Pioneer-Planetary** series postal items (stamps, souvenir sheets, etc.). If you know of additional information or images on this topic, you are encouraged to contact the authors using the email addresses at the end of the list.

The first part of the Pioneer series, Pioneer-0 through Pioneer-E (which failed), were primarily lunar, solar, and interplanetary satellites, which are NOT covered in this article. Pioneer-10 through Pioneer-13, were planetary exploration crafts, two Pioneers explored Jupiter and Saturn while the other two Pioneers went to Venus. These planetary Pioneer missions are the focus of this article.

COUNTRY	CATALOG #	Description	Issued	Notes
Antigua & Barbuda	1313b	One of MS20 (1313a-f)	1990	Pioneer-11
Antigua & Barbuda	2244e	One of MS6 (2244a-f)	1999	Pioneer-13
Antigua & Barbuda	2361f	One of MS6 (2361a-f)	2000	Pioneer-13
Bulgaria	3153	In margin of MS4 (3153a-d)	1986	Pioneer-12
Canada	New issue	On label of MS16	2006	Pioneer-10/11
Central Africa Rep.	C221	Stamp	1980	Pioneer-12, Pioneer-13
Central Africa Rep.	1174b	One of MS4 (1174a-d)	1997	Pioneer-10
Central Africa Rep.	1177	In margin of SS1	1997	Pioneer-10
Chad	709b	One of MS6 (709a-f)	1997	Pioneer-10
Comoro Islands	277	Stamp	1977	Pioneer-13
Dahomey	C241 (Mi603)	Stamp	1974	Pioneer-11
Dahomey	C241a (BL47)	SS1 (C241)	1974	Pioneer-11
Gambia	2751	SS1	2003	Pioneer-10
Ghana	682	Stamp	1979	Pioneer-12
Ghana	683	Stamp	1979	Pioneer-13
Ghana	684	Stamp	1979	Pioneer-12, Pioneer-13
Ghana	685	Stamp	1979	Pioneer-12 Radar of Venus
Ghana	686	On stamps and in margin of imperforate MS4 (686a-d)	1979	Pioneer-12, Pioneer-13
Grenada	2205f	One of MS6 (2205a-f)	2000	Pioneer-13
Carriacou				(not Giotto)
Grenada	2205f essay	One of MS6 (2205a-f essay)	2000	Pioneer-13
Carriacou				(correct label)
Guinea	1610	Stamp	1999	Pioneer-10
Guinea-Bissau	413 (Mi574)	Stamp	1981	Pioneer-12, Pioneer-13
Guinea-Bissau	413a (BL174)	SS1 (413)	1981	Pioneer-12, Pioneer-13
Guyana	3503b	One of MS6 (3503a-f)	2000	Pioneer-11
Hungary	C361	In margin of SS1	1975	Pioneer-10
Kazakhstan	414	Stamp	2003	Pioneer-10
Malagasy Republic	1048B	In margin of SS1 (1049)	1992	Pioneer-11
Mali	Mi2276	One of MS4 (Mi2275-78)	1999	Pioneer-10/11
Marshall Islands	345r	From MS25 (345a-y)	1989	Pioneer-10
Marshall Islands	345u	From MS25 (345a-y)	1989	Pioneer-11
Marshall Islands	345w	From MS25 (345a-y)	1989	Pioneer-10
Micronesia	344j	From MS20 (344a-t)	1999	Pioneer-10
Micronesia	344m	From MS20 (344a-t)	1999	Pioneer-11
Micronesia	344o	From MS20 (344a-t)	1999	Pioneer-10
Mongolia	951a	From MS9 (951a-i)	1977	Pioneer-10 path
Mongolia	951i	From MS9 (951a-i)	1977	Pioneer-10

COUNTRY	CATALOG #	Description	Issued	Notes
Moldavia	Local	One of MS6 (a-f)	1997/8	Pioneer-10/11
Moldavia	Local	From MS6 (a-f)	1998	Pioneer-10/11
Moldavia	Local	From MS6 (a-f)	1998	Pioneer-10/11
Niger	970 (BL103)	In margin of SS1	1997	Pioneer-10/1
Niger	968b	One of MS8 (+) + label, also imperforate	1997	Pioneer-13
Niger	1078a	From MS9 (1078a-i)	2001	Pioneer-10
Niger	1078d	From MS9 (1078a-i)	2001	Pioneer-13
Paraguay	1527	SS1	1973	Pioneer-11
Paraguay	1528	SS1	1973	Pioneer-10
Paraguay	C378	In margin of SS1	1974	Pioneer-10
Paraguay	C411	In margin of SS1	1975	Pioneer-11
Ras Al Khaima	Mi850A	Stamp	1972	Pioneer-10
Ras Al Khaima	Mi850 ds	Deluxe sheet (Mi850A)	1972	Pioneer-10
Ras Al Khaima	Mi850B	Deluxe Sheet (white bkgd)	1972	Pioneer-10
Romania	4458	Stamp	2001	Pioneer-10
St. Vincent	2791d	From MS6 (2971a-f)	2000	Pioneer-11
St. Vincent	2791f	From MS6 (2971a-f)	2000	Pioneer-10
St. Vincent	2793b	One of MS6 (2793a-f)	2000	Pioneer-11
Sierra Leone	1072g	From MS6 (1072a-f)	1989	Pioneer-11
Sierra Leone	1072i	From MS6 (1072a-f)	1989	Pioneer-13
Sierra Leone	1904a	From MS6 (1904a-f)	1996	Pioneer-12
Sierra Leone	1904e	From MS6 (1904a-f)	1996	Pioneer-11
Togo	878	Stamp	1974	Pioneer-10
Togo	879	Stamp	1974	Pioneer-10
Togo	C227	Stamp	1974	Pioneer-10
				Launch
Togo	C228	Stamp	1974	Pioneer-10
Togo	C228a	Simulated perforate MS2 (C227-C228)	1974	Pioneer-10
Togo	999	Stamp	1978	Pioneer-13
Togo	C345	Stamp	1978	Pioneer-12
Togo	C345a	MS2 (C344-C345)	1978	Pioneer-12
Uganda	338	Stamp	1982	Pioneer-11
Uganda	1484Ab (Mi1855)	From MS8 (1484Ab-i)	1997	Pioneer-10
Uganda	1484Ae (Mi1858)	From MS8 (1484Ab-i)	1997	Pioneer-12
Uganda	Unknown	One of MS10	2000	Pioneer-12/13
United States	1556	Stamp	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 (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 (3189a-o)	1999	Pioneer-10
United States	None	Cancel	1999	Pioneer-10, Pioneer-11

*Scott catalog number, unless prefixed with MI or BL for Michel; "i" prefix denotes imperforate version.

SS# = souvenir sheet, MS# = miniature sheet # is number of stamps in sheet; numbers in parentheses are catalog numbers of the stamp(s)

Readers are referred to the authors' website for more Pioneer Planetary images, launch covers and postal items at: www.cira.colostate.edu/ramm/hillger/Pioneer2.htm E-mail correspondence is welcome; Don Hillger can be reached at hillger@cira.colostate.edu and Garry Toth at garry_toth@hotmail.com 