

## Un-manned Satellites on Postage Stamps : 29

By Guest Contributors Don Hillger and Garry Toth

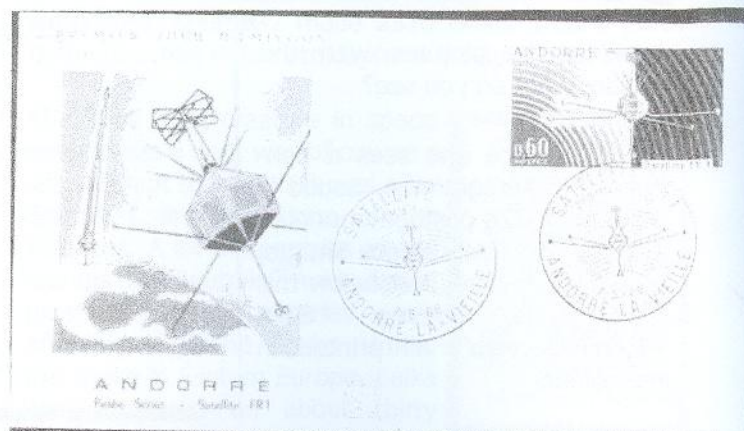
This is the twenty-ninth in a series of articles about un-manned satellites on postage stamps. This article features the French **FR-1** satellite. FR-1 was successfully launched on 6 December 1965.

FR-1 was developed by CNES (Centre National d'Etudes Spatiales) but was launched at Vandenberg AFB in California into a near-circular orbit at 750 km. The spacecraft carried two experiments. One was involved with VLF (very low frequency) signals, and the other was to measure the electron density concentration in the magnetosphere and ionosphere.

The FR-1 spacecraft consisted of two truncated octagonal pyramids, joined at their bases to an octagonal body about 68 cm across and covered with solar cells. A magnetic field antenna extended from the top of the spacecraft on top of a supporting tube, and an electron density probe extended downward from the base. Four relatively-short telemetry antennas extended diagonally upward from near the top of the spacecraft body. Four 2 m long electric field antenna booms extended radially outward from the body.

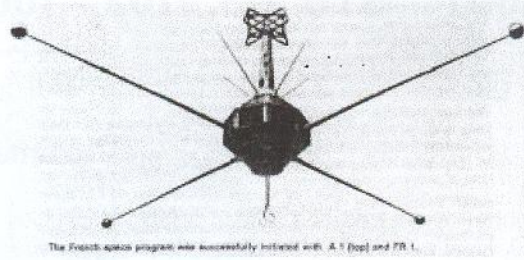
Nearly all the postage stamps showing FR-1 do a nice job of depicting the spacecraft and its features. Apparently the design was well-publicized, since the various stamp designers drew very similar images of FR-1. As with the A-1 satellite featured in the previous installment in this series of articles, the stamps showing FR-1 were issued primarily by France and its former colonies. Most of the stamps were issued in 1966 and 1967, with a few more from 1971 through 1973. The last items known to show FR-1 are a stamp and a miniature sheet (*Scott* 587 and 588a) issued by Burundi in 1981.

A checklist of postal items showing FR-1-series satellites (<http://www.cira.colostate.edu/ramm/hillger/FR-1.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](mailto:hillger@cira.colostate.edu) and Garry Toth at [garry\\_toth@hotmail.com](mailto:garry_toth@hotmail.com).



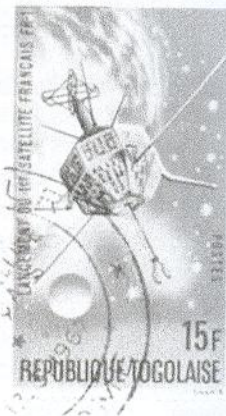
A version of this article first appeared in *The Astrophile* for March/April 2008





The French space program was successfully initiated with A-1 (top) and FR-1.

## FR-1 satellite



Country	Catalog Number*	Type of Item**	Year of Issue
<b>FR-1</b>			
Andorra (French)	171 (Mi197)		1966
Andorra (French)	171 fdc	Stamp and cachet on FDC	
Burundi	587 (Mi1581)		1981
Burundi	588a (BL117C)	On one of MS3 (586-588)	
Dhufar	None c	One of MS8, also imperforate MS8	1972
Dhufar	None c	One of MS8 overprinted "Apollo-17"	1973
Ecuador	756B (Mi1285)		1966
Ecuador	756c (BL29) i756c (BL30)	MS3 (756-756B), changed colors on imperforate	
Gabon	C44 (Mi245)		1966
Mauritania	C46 (Mi268) iC46		1966
Mauritania	C46 proof	Deluxe proof	
Niger	C60 (Mi126)		1966
Niger	C60 fdc	Stamp and cachet on FDC	
Panama	474B (Mi945)	Also on selvedge	1966
Poland	1470 (Mi1734)		1966
Poland	1469-1471 fdc	One of three stamps on FDC	
Romania	1846 (Mi2510)		1966
Senegal	C45 (Mi326)		1966
Senegal	C45 fdc	Stamp and cachet on FDC	
Togo	595 (Mi561)		1967
Togo	C66 (Mi566)		1967
Togo	C66a (BL27)	On one of imperforate MS2 (C65-C66)	
Togo	C145 (Mi848)		
Togo	C145a (BL53)	On one of imperforate MS4 (769-770, C144-C145)	1971
Upper Volta	C29 (Mi187)		1966
Upper Volta	C29 fdc	Stamp and cachet on FDC	
Upper Volta	C37 (Mi215)		1967