



SPACE CITY COVER SOCIETY

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SCCS UNMANNED COVERS

Since the loss of space shuttle Challenger, the U. S. has been without a commercial launching capacity. The U. S. has used unmanned Delta Rockets to lift a few medium-weight military satellites, but the supply of those rockets has hit the bottom. The Air Force has aggressively moved to order dozens of new Titan rockets but it will be quite some time before they are ready. But none of these will be for commercial use.

The West's "other" commercial launcher is the French Ariane rocket which is launched from Kourou, French Guiana. However, they suffered a major setback in their launch capacity three months after we lost Challenger. But, with a successful launch of a European-built rocket carrying two satellites on September 15, 1987, the West is back in the business of launching commercial satellites.

Arianespace's main competition, apart from U. S. companies, could come from the Soviet Union's Proton rocket and the Chinese Long March rocket. And Japan will begin commercial satellite launches in 1992.

With so much interest now in unmanned launches, the SCCS is making it easy for collectors to collect covers of U. S. unmanned launches. On this sheet, you will find a proof sheet of three pages of our SCCS Catalog of unmanned covers. If you were not with us in the early 1970's, then these covers have not been previously offered.

This catalog gives background information and will make for easy identification...plus it can be used for a write-up on your album pages.

FOR YOUR CONVENIENCE

Most space cover dealers just list all unmanned covers in one category and by date only. We listened to collectors and that is not the way they collect these covers. So, we have these in categories as listed by NASA and other launch organizations...and then by date.

This makes it easy for you to collect, and to add the covers to your collection.

The prices shown on these proof sheets are what we have determined to be a fair retail price for the SCCS covers. But, to give you the "jump on other collectors" in adding these to your collection now, we are making a special price of only \$2.00 each. This should enable you to add these to your collection in a convenient manner. And to make it easier for you to order, we are enclosing a special order form with the SCCS unmanned cover numbers and special price.

THE EXPLORER SPACECRAFT PROGRAM

All of the Explorer satellites were designed for scientific research and built by NASA or other research organizations. The Explorer Spacecraft Program has been the most extensive in the history of American space exploration. Rivalled in size only by the Soviet Cosmos Program, the Explorer Program started before Cosmos and spanned nearly two decades.

Explorer satellites are comparatively small and vary in size and shape. They carried a limited number of experiments into the most suitable orbits.

The Explorer designation has been assigned not only to small satellites conducting space science missions but also to those whose primary mission is in either satellite applications or technological research.

This booklet provides information on the SCCS covers devoted principally to Explorer satellites that pertain to the U. S. space science programs.

EXPLORER 1

Explorer 1, the first American satellite to achieve orbit, was launched from Cape Canaveral on January 31, 1958. It completed 58,000 orbits and stayed in space for 12 years. Designed to measure and transmit data on temperature, meteorites and cosmic rays, the spacecraft confirmed the existence of the Van Allen radiation belt 600 miles above the earth.

#UNMSS-1 (Jan 31, 1973) 15th anniv of launch, machine
cancel Cape Canaveral \$2.50
#UNMSS-2 (Jan 31, 1983) 25th anniv of launch, Houston
MPP hand cancel \$2.50

ASTRONOMY EXPLORERS

NASA began its long range program to probe the universe's secrets that are veiled by earth's atmosphere in April 1961. These explorer satellites included Explorer 49, one of the longest satellites ever launched, to the International Ultraviolet Explorer, a cooperative satellite. The IUE was a joint effort by NASA, the European Space Agency (ESA) and the British Science Research Council (SRC).

EXPLORER 49 (RADIO ASTRONOMY EXPLORER)

With the launch of Explorer 49 on June 10, 1973, it carried the record of being the longest satellite ever launched. The tiny body of the satellite was crossed with two antennas that were about three times as long as the Washington Monument is high. The antennas were unreeled to form a vast "X" in space where they received natural radio signals that do not ordinarily reach earth, thus filling a gap in our radio astronomy knowledge.

Explorer 49 was placed in lunar orbit where it conducted investigations of low-frequency signals from galactic and extragalactic sources from the sun, Earth and Jupiter. This was also the final moon shot planned by NASA at that time.

#UNMSS-3 (Jun 10, 1973) launch, machine cancel Cape Canaveral \$3.00

INTERNATIONAL ULTRAVIOLET EXPLORER (IUE)

The IUE satellite was launched from Cape Canaveral on January 26, 1978. This cooperative effort by NASA, ESA, and Britain's Science Research Council provided scientists from 17 countries thousands of images of astronomical objects that could not be obtained by ground-based instruments. This satellite helped to answer the most basic questions in astronomy... what stars, nebulae and galaxies are and how they develop.

#UNMSS-4 (Jan 26, 1978) launch, machine cancel Cape Canaveral \$3.00

ATMOSPHERE EXPLORERS

Atmosphere Explorers have confirmed or redrawn our conception of earth's tenuous upper atmosphere. The first explorer satellite confirmed that temperatures of electrons in the upper ionosphere are higher by day than by night. It also discovered that oxygen predominates in the ionosphere up to an altitude of about 650 miles where helium predominates.

Explorer 55 was the final spacecraft in the numbered Explorer series.

EXPLORER 55

The Explorer 55 was the final spacecraft in the numbered Explorer series that spanned nearly two decades. This satellite was also the final one in a sub-set of three. It was launched from Cape Canaveral on November 19, 1975. Up until this sub-series, the thermosphere, a region of the upper atmosphere, was believed to be relatively stable. These spacecraft were equipped with on-board propulsion systems that enabled them to dip deep into the atmosphere and pull out again, taking measurements and providing extensive data about the upper thermosphere. The finding was that the thermosphere behaved unpredictably with winds 10 times stronger than was normally found at earth's surface. They discovered abrupt and constantly changing wind shears. The data contributed significantly to knowledge about energy transfer mechanisms and photochemical processes (such as those that create the ozone layer) in the atmosphere.

#UNMSS-5 (Nov 19, 1975) launch, machine cancel Cape Canaveral \$3.00

GEOPHYSICAL EXPLORERS

INTERPLANETARY MONITORING PLATFORMS (IMP EXPLORERS)

These satellites added significantly to knowledge about how earth's magnetic field and the Van Allen Radiation Region fluctuate during the 11-year cycle.

In the early 1970s, the final three satellites in the IMP series were launched. Part of their main duties was to monitor the turbulent interplanetary space environment. These three provided warnings of any possible solar flare radiation hazards to astronauts during Apollo missions to the Moon.

IMP-J (Explorer 50) was the final spacecraft in the IMP series. It carried 12 experiments similar to those of the previous IMP spacecraft as well as an experimental solar panel

with COMSAT labs violent solar cells, and a new type of experimental data multiflex unit.

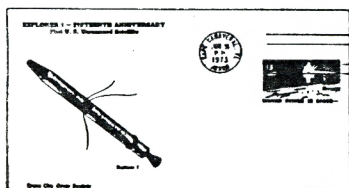
- #UNMSS-6 IMP-I (Explorer 43) (Mar 13, 1971) launch machine cancel Cape Canaveral \$3.00
- #UNMSS-7 IMP-H (Explorer 47) (Sep 22, 1972) launch machine cancel Cape Canaveral \$3.00
- #UNMSS-8 IMP-J (Explorer 50) (Oct 25, 1973) launch machine cancel Cape Canaveral \$3.00

INTERNATIONAL SUN-EARTH EXPLORERS (ISEE)

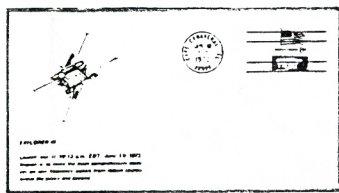
Two spacecraft were launched by a single rocket on October 22, 1977 from Cape Canaveral. Called ISEE-1 and ISEE-2, the related satellites were launched into looping trajectories around the Earth, ranging in distance from 140,000 (87,000 miles) to 280 kilometers (174 miles).

As part of a cooperative program by NASA and the European Space Agency (ESA), the goal was to understand how the Sun controls the Earth's near space environment. ISEE-1 was managed by NASA and ISEE-2 was managed by ESA. The mission involved 117 scientific investigators, 35 universities and 10 nations. The twin-launched satellites gave us a better understanding of a variety of solar-terrestrial phenomena, including weather and climate, energy production and ozone depletion in the atmosphere.

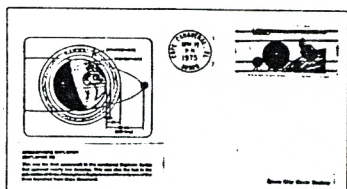
- #UNMSS-9 (Oct 22, 1977) launch, machine cancel Cape Canaveral \$3.00



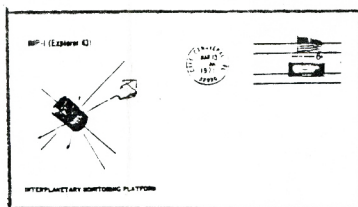
UNMSS-1
and 2



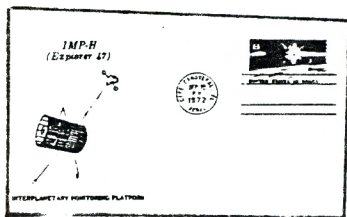
UNMSS-3



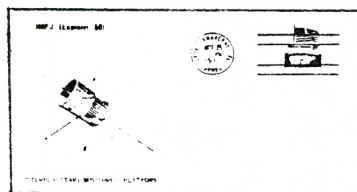
UNMSS-5



UNMSS-6



UNMSS-7-



UNMSS-8