

4.2.1 Lunar Astronautical Chart (LAC) Series (Published by ACIC)

Lunar Astronautical Charts

Scale: 1:1,000,000

Projection: Mercator and Lambert Conformal Conic

Sheet Size: 22" x 29"

The LAC sheet layout which has often been used as a location reference in other lunar maps and publication provides for complete lunar coverage through 144 sheets. Forty-two nearside sheets have actually been published using earthbased telescopic photography and visual observations as basic sources.

The charts are constructed on a Mercator projection (true scale at 11° 00'45") for charts in bands 0° to 16°N and 0° to 16°S; and, on a Lambert conformal conic projection in the following bands:

16°N-S to 32°N-S (standard parallels 21°20' and 42°40')

32° N-S to 48°N-S (standard parallels 21°20' and 42°40')

48°N-S to 80°N-S (standard parallels 53°20' and 74°40')

The ACIC Selenodetic System (1965) was under development during the production of the LAC Series and later data sheets used this System for the selenographic control established from the measures of J. Franz and S. A. Saunders as compiled by D. W. G. Arthur and E. A. Whitaker in the Orthographic Atlas of the Moon. Gradients of major surface undulations were established by interpolating Schrutka-Rechtenstamm computations of J. Franz's measurements of 150 moon craters. The varying control sources used during the course of compilation have sometimes resulted in mismatch of contour information between adjacent sheets.

LAC charts portray lunar topography by shadient relief with a western illumination, approximate contours (300 meter interval), spot elevations, height differences between level features and crater depths. Background coloration is also used to indicate variance in reflectance of lunar areas under full illumination. Contours are omitted from many sheets (generally those covering limb areas) and the reverse side of some sheets contains a printing of the shadient relief portrayal, unencumbered with other chart details.

Chart margin information includes an index of the series and qualifying and explanatory statements on the control, datum, nomenclature, relief portrayal, and elevation data contained.

Feature names were taken from the International Astronomical Union nomenclature system. A dashed limiting line or dotted line is used to identify some features.

The LAC Series was the principal source of available lunar cartographic information prior to the production of lunar maps from orbital photography. Its compilation included derivation of accurate local feature heights and depths through measurement of shadow images on source photography. However, use of the earthbased vertical control and photography have not allowed definition of reliable regional elevation differences. By virtue of its scale, extent of coverage and topographic information contained, the LAC series continues to be of cartographic importance.

The area of coverage provided by individual LAC sheets is reflected in Maps Index I(5).

Chart No.	Chart Name	Edition & Date
LAC-11	J. Herschel	1 st Ed. Mar 1967
LAC-12	Plato	1 st Ed. Jan 1967
LAC-13	Aristoteles	1 st Ed. Jul 1967
LAC-23	Rumker	1 st Ed. Feb 1967
LAC-24	Sinus Iridum	1 st Ed. Sep 1966
LAC-25	Cassini	1 st Ed. Sep 1966
LAC-26	Eudoxus	1 st Ed. Mar 1967
LAC-27	Geminus	1 st Ed. Jul 1967
LAC-38	Seleucus	1 st Ed. Mar 1965
LAC-39	Aristarchus	1 st Ed. Nov 1963
LAC-40	Timocharis	1 st Ed. Oct 1963
LAC-41	Montes Apenninus	1 st Ed. Sep 1963
LAC-42	Mare Serenitatis	1 st Ed. Feb 1965
LAC-43	Macrobius	1 st Ed. May 1965
LAC-44	Cleomedes	1 st Ed. Dec 1965
LAC-56	Hevelius	1 st Ed. May 1963
LAC-57	Kepler	2 nd Ed. May 1962
LAC-58	Copernicus	2 nd Ed. Apr 1964
LAC-59	Mare Vaporum	2 nd Ed. Aug 1966
LAC-60	Julius Caesar	1 st Ed. Sept 1962
LAC-61	Taruntius	1 st Ed. Feb 1963
LAC-62	Mare Undarum	1 st Ed. Feb 1964
LAC-74	Grimaldi	1 st Ed. Apr 1962
LAC-75	Letronne	2 nd Ed. Jun 1962
LAC-76	Montes Rhiphaeus	2 nd Ed. Apr 1964
LAC-77	Ptolemaeus	1 st Ed. May 1963
LAC-78	Theophilus	1 st Ed. Mar 1963
LAC-79	Colombo	1 st Ed. Apr 1963
LAC-80	Langrenus	1 st Ed. Mar 1964
LAC-92	Byrgius	1 st Ed. Feb 1966
LAC-93	Mare Humororum	1 st Ed. Jun 1966

LAC-94	Pitatus	1 st Ed. May 1964
LAC-95	Purbach	1 st Ed. Dec 1964
LAC-96	Rupes Altai	1 st Ed. Apr 1965
LAC-97	Fracastorius	1 st Ed. May 1965
LAC-98	Petavius	1 st Ec. May 1966
LAC-110	Schickard	1 st Ed. Sep 1967
LAC 111	Wilhelm	1 st Ed. Oct 1967
LAC-112	Tycho	1 st Ed. Jul 1967
LAC-113	Maurolycus	1 st Ed. Dec 1966
LAC-114	Rheita	1 st Ed. Oct 1966
LAC-125	Schiller	1 st Ed. Oct 1967
LAC-126	Clavius	1 st Ed. Oct 1967
LAC-127	Hommel	1 st Ed. Nov 1967

Title: The Lunar Cartographic Dossier

Author: Defense Mapping Agency, Aerospace Center; edited by Lawrence A. Schirerman.

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