

NOTES ON BASE
This sheet is one in a series of special shaded relief maps that cover selected quadrangles on Mars at a nominal scale of 1:2,000,000. Viking Orbiters 1 and 2 provided source data for the mapping. A collection of papers describing the Viking mission is contained in the Journal of Geophysical Research (American Geophysical Union, 1977). The series is derived from the 1:5,000,000 topographic series of Mars (Batson and others, 1979).

ADOPTED FIGURE
The figure of Mars used for the computation of the map projection is an oblate spheroid with an equatorial radius of 3393.4 km and a polar radius of 3375.7 km.

PROJECTION
Mercator, Lambert conformal conic, and polar stereographic projections are used for this map series. The scale of the series is 1:2,000,000 at latitudes $\pm 27.476^\circ$, $\pm 35.83^\circ$, and $\pm 59.17^\circ$. The projections have common scales of 1:1,952,947 at latitudes $\pm 30^\circ$ and 1:1,939,394 at latitudes $\pm 65^\circ$.

CONTROL
Planimetric control is provided by photogrammetric triangulation using Viking Orbiter and Mariner 9 pictures (Davies and others, 1978). The first meridian passes through the center of a small crater, Airy-0 (lat 5.19° S, long 0°), located within the crater Airy. At least 66 percent of the image control points on the base mosaic lie within 0.5 mm (1 km) of their published locations.

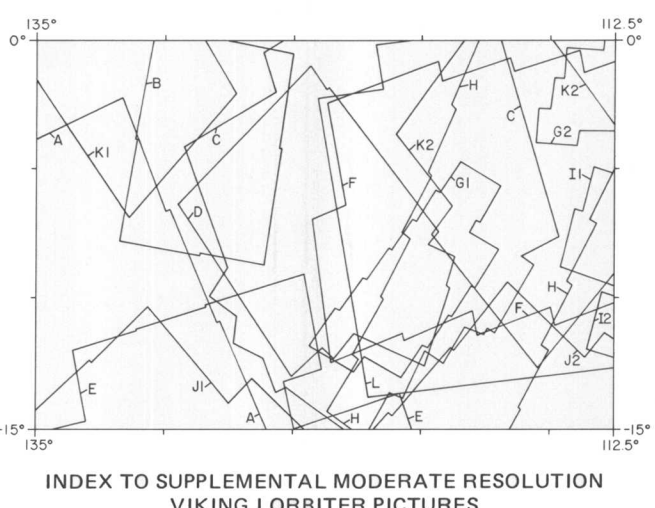
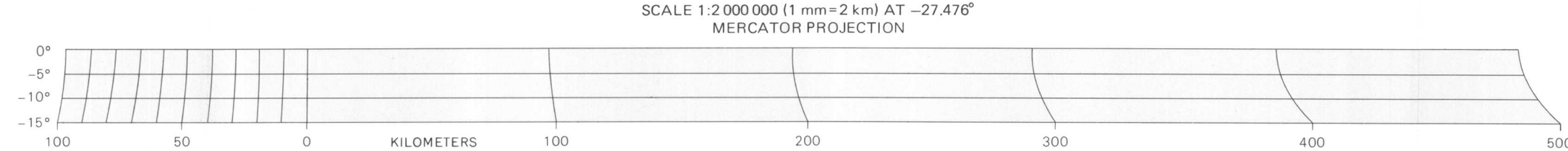
MAPPING TECHNIQUE
A series of controlled mosaics was assembled on the projections described above, utilizing a special set of Viking Orbiter images acquired specifically for systematic global mapping.
Sizes, shapes, and positions of features were taken from the base mosaic using portrayal and interpretation techniques described by Inge (1972) and Inge and Bridges (1976). Surface relief visible on the Viking Orbiter pictures is shown as if illuminated from the west. Many Viking Orbiter pictures, besides those in the base mosaic, were examined in an attempt to portray the surface as accurately as possible. Shaded relief analysis and airbrush representation were made by Patricia G. Hagerty.

COLOR
No attempt was made on the map to duplicate the color of the martian surface, although the color used may approximate it.

NOMENCLATURE
All feature names on the reduced supplemental map are approved by the International Astronomical Union (IAU, 1974, 1977, 1980, and 1983).
M 2M -7/124 R: Abbreviation for Mars; 1:2,000,000 series; center of sheet, lat 7° S, long 124° shaded relief map (R).
MC-17 NW: Abbreviation for Mars Chart 17, northwest quadrant.

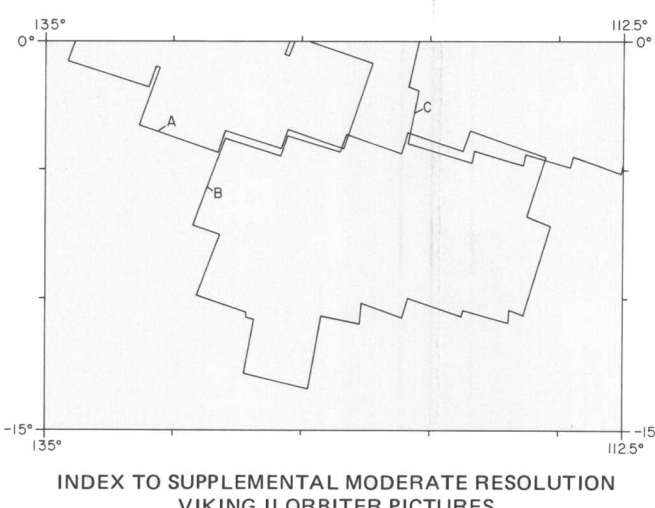
REFERENCES
American Geophysical Union, 1977, Journal of Geophysical Research, v. 82, no. 28, p. 3959-4041.
Batson, R. M., Bridges, P. M., and Inge, J. L., 1979, Atlas of Mars, The 1:5,000,000 map series: National Aeronautics and Space Administration, NASA SP-438, 146 p.
Davies, M. E., Katayama, F. Y., and Roth, J. A., 1978, Control net of Mars: February 1978, The Rand Corporation, R-2309 NASA, 91 p.
Inge, J. L., 1972, Principles of lunar illustration: Aeronautical Chart and Information Center Reference Publication RP-72-1, 60 p.
Inge, J. L., and Bridges, P. M., 1976, Applied photointerpretation for airbrush cartography: Photogrammetric Engineering and Remote Sensing, v. 42, no. 6, p. 749-760.
International Astronomical Union, 1974, Commission 16: Physical study of planets and satellites, and Lunar and martian nomenclature, in 15th General Assembly, Sydney, 1973, Proceedings: International Astronomical Union Transactions, v. 15B, p. 105-108; 217-221.
1977, Working Group for Planetary System Nomenclature, in 16th General Assembly, Grenoble 1976, Proceedings: International Astronomical Union Transactions, v. 16B, p. 321-322, 331-336, 355-362.
1980, Working Group for Planetary System Nomenclature, in 17th General Assembly, Montreal, 1979, Proceedings: International Astronomical Union Transactions, v. 17B, p. 293-297.
1983, Working Group for Planetary System Nomenclature, in 18th General Assembly, Patras, 1982, Proceedings: International Astronomical Union Transactions, v. 18B, [in press].

NOTE TO USERS
Copies of various enhancements of the supplemental and base mosaic pictures are available from National Space Science Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.
Users noting errors or omissions are urged to indicate them on the map and to forward it to U.S. Geological Survey, Building 4, Room 454, 2255 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.



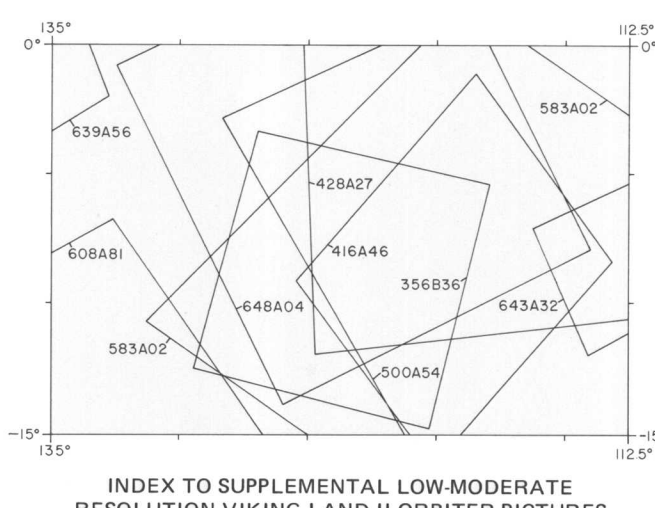
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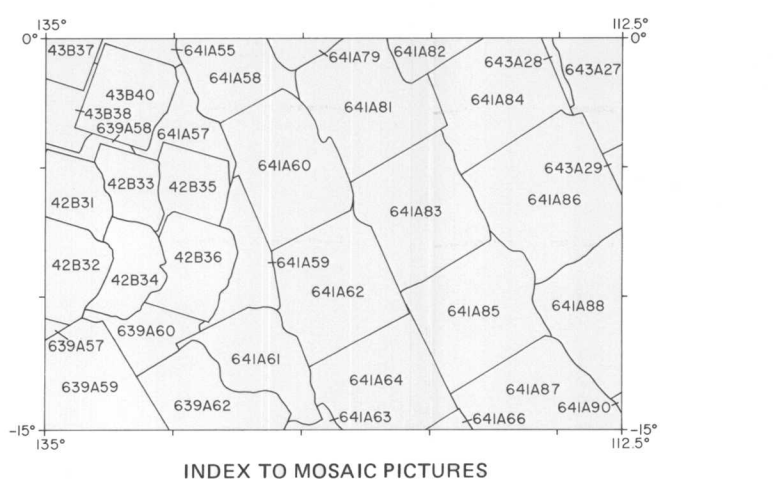


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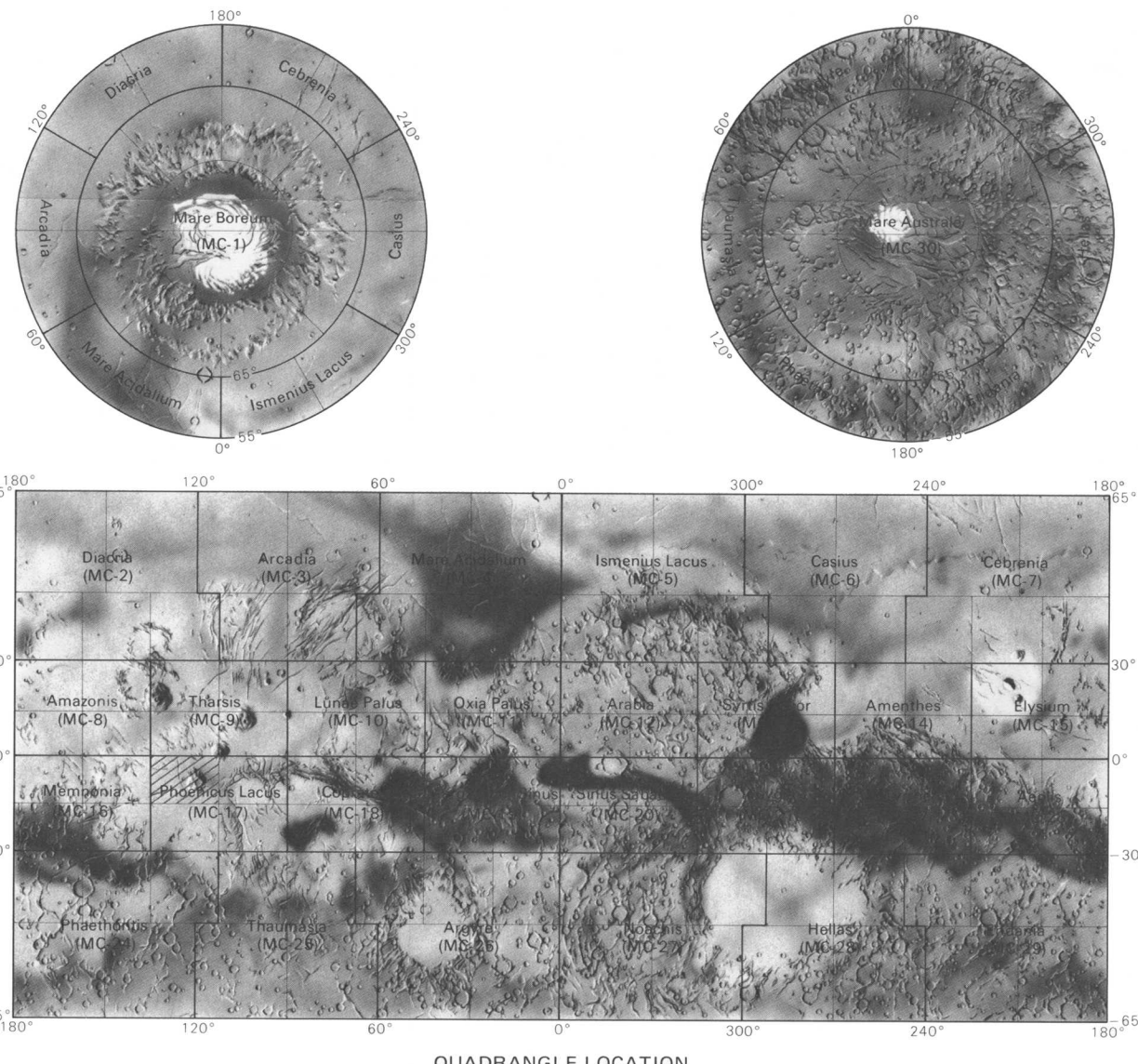
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INDEX TO MOSAIC PICTURES



LOCATION OF SELECTED FEATURES



QUADRANGLE LOCATION

SHADED RELIEF MAP OF THE PHOENICIS LACUS NORTHWEST QUADRANGLE OF MARS

M 2M -7/124 R

MC-17 NW

1982

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