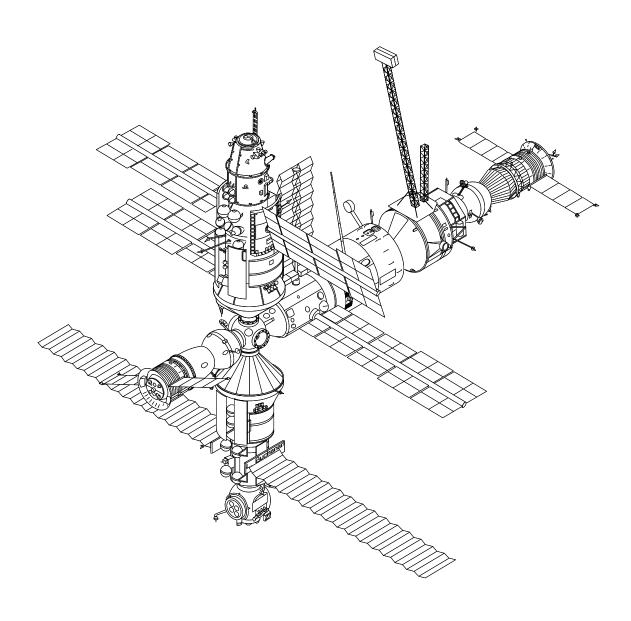


Mir Hardware Heritage

David S. F. Portree



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Johnson Space Center Reference Series



Preface

This document was prepared by the Information Services Division, Information Systems Directorate, NASA Johnson Space Center, in response to the many requests for information on Soviet/Russian spaceflight received by the Scientific and Technical Information Center in the division's Information Management Branch. We hope this document will be helpful to anyone interested in Soviet/Russian spaceflight. In particular, we hope it will provide new insights to persons working on the Shuttle-Mir missions and International Space Station Alpha.

As a look at the sources listed at the end of each part will show, this work is based primarily on Russian sources, usually in English translation. Unfortunately, these sources often conflict. In this work preference is given to sources which contain abundant details, verifiable or otherwise; are corroborated in whole or in part by at least one other Russian source; and are the product of persons or organizations that can be expected to have intimate knowledge of the hardware and events described.

This is an exciting time to study Soviet/Russian spaceflight. New light is thrown regularly on mysteries decades old. But there has not yet been time to tell all the old secrets. Because of this, new revelations still occur frequently. Most of this work will likely remain an accurate account; however, specific interpretations and details will as likely prove inaccurate as new information is revealed. So it is with any book on Soviet/Russian spaceflight written in this time of transition.

Some readers may note what they perceive to be an undue emphasis on Soviet/Russian mission and hardware anomalies. This is partly a result of the document's focus, which is, after all, on Soviet/Russian hardware history. (The reader will note that, where appropriate, U.S. anomalies are mentioned as well.) In addition, in the Soviet era, anomalies were often the chief (or only) way new information about secret hardware emerged. All countries have had their share of problems on the space frontier. Mention of anomalies in this document should not be construed as criticism of hardware or management in any country.

This document is an updated and corrected edition of document JSC 26770 (October 1994). New material updates the Soyuz-TM, Progress-M, Mir Career, and Comparative Chronology sections to November 15, 1994. Sundry corrections and additions have been made at the suggestion of readers of the JSC edition or on the basis of information unavailable when the JSC edition was written. Readers should also note the addition of an index.

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