REVISIONS

Letter	ECO No.	Description	Checked	Approved	Date
A		INITIAL RELEASE	WFM		

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Drawn: Brian Klatt	12/18/90
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MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CENTER FOR SPACE RESEARCH

DRAWINGS AND SPECIFICATIONS

Size	Code Identification No.	Drawing No.	Rev.
T	80230	**99-01002**	**A**

Scale: NONE

Sheet: 1 of 4

PROCEDURES FOR CSR
DRAWINGS AND SPECIFICATIONS

1.0 SCOPE

This procedure establishes the general standards and conventions used by MIT/CSR personnel for the preparation of engineering drawings and procurement specifications.

Configuration is controlled on MIT Sponsored Research Projects by the Project Configuration Management Plan.

2.0 APPLICABLE DOCUMENTS

The following documents form a part of this procedure as defined herein.

SPECIFICATIONS	TITLES
MIL-STD-12	Abbreviations for use on Drawings, Specifications, Standards, and in Technical Documents
MIL-STD-490	Specification Practices
MIT Documents	
64-02014	Configuration Management Plan
Industry Standards	
ANSI Y14.1-1980	Drawing Sheet Size and Format
ANSI Y14.5M-1982	Dimensioning and Tolerancing
ANSI Y14.15-1966	Electrical and Electronic Diagrams
ANSI Y32.2-1975	Graphic Symbols for Electrical and Electronic Diagrams

3.0 ENGINEERING DRAWINGS - MECHANICAL

3.1 FORMAT

The basic format of all Mechanical Engineering Drawings, shall conform to the requirements detailed in ANSI Y14.1 - 1980. This generally refers to the title block, its location, content, size, line width, and lettering, and is applicable to sheet drawings as well as roll drawings. Format also includes drawing arrangements, lettering, and zoning.

3.2 SHEET SIZE

Standard drawing sheet sizes shall conform to table 1 of ANSI Y14.1 - 1980, allowing for the capability of the Computer Aided Design (CAD) driven plotter. In the case of a few of the larger drawings, the sheet size is standard but the area inside the borders is very slightly undersize.

3.3 Dimensioning and Tolerancing

Dimensioning and tolerancing shall clearly define the engineering intent. Each dimension shall have a tolerance, except for those dimensions specifically identified as reference, maximum, minimum, or stock (commercial stock size). The tolerance may be applied directly to the dimension (or indirectly in the case of basic dimensions), indicated by a general note, or located in a supplementary block of the drawing format. All dimensioning and tolerancing shall conform to ANSI Y14.5M - 1982.

4.0 ENGINEERING DRAWINGS - ELECTRICAL

4.1 Electrical and Electronic Diagrams

The standardized drawing practices of ANSI Y14.15 - 1966 shall apply to all flight hardware schematic diagrams.

4.2 Graphic Symbols

Graphic symbols used in electrical and electronic diagrams shall conform to IEEE STANDARD 315 and ANSI Y32.2 - 1975.

5.0 PROCUREMENT SPECIFICATIONS

5.1 Style and Format

The style and format of procurement specifications shall conform to paragraph 3.2 of MIL-STD-490.

5.2 Abbreviations

Abbreviations used in procurement specifications shall conform to MIL-STD-12

5.3 Content

The content of procurement specifications shall conform to paragraph 4.0 of MIL-STD-490.

6.0 NUMBERING AND FILING OF ENGINEERING DRAWINGS

6.1 Drawings generated with AutoCAD are filed under the CSR home directory. The file name is of the form bccdd_eeff**S**k**.r**n and is write-protected from all access but that of the configuration officer.

a. The first digits (b through f in the example above) are the same as those in the Configuration Data Base. The project designator is missing, and the dot is replaced with an underscore.
b. In the case of a multi-sheet drawing, a capital **S** followed by a page number *k* precedes the **.r**n suffix.
c. The suffix contains the revision number n of the drawing as an upper-case alphanumeric--e.g. **01** or **C.** Typically, all revisions, past as well as current, are kept on file.