

Space Station Inventory Management System Label Specification

International Space Station

Revision A
November 11, 1996

National Aeronautics and Space Administration
Space Station Program Office
Johnson Space Center
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INTERNATIONAL SPACE STATION PROGRAM

**SPACE STATION INVENTORY MANAGEMENT
SYSTEM LABEL SPECIFICATION**

NOVEMBER 11, 1996

PREFACE

The contents of this document are intended to be consistent with the tasks and products to be prepared by the Space Station Program (SSP) participants as defined in SSP 41000. This document is under the control of the Space Station Control Board (SSCB), and any changes or revisions will be approved by the Program Manager.

This document includes the introduction, scope, authority, and responsibilities for the IMS labels with respect to all of the Space Station elements.

This document establishes the IMS label specifications, nomenclature and requirements for the Space Station Program (including International Partners). The IMS label will be for the interior (pressurized) and exterior (unpressurized) regions of the Space Station. This IMS label is designed for tracking and monitoring of loose, stowed, and installed equipment items while on the ground.

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SPACE STATION INVENTORY MANAGEMENT SYSTEM LABEL SPECIFICATION
NOVEMBER 11, 1996
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For NASA

DATE

Hideo Hasegawa

4/21/94

For NASDA

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(Mr. Hasegawa signed this specification before it was removed from the applicable documents list in the SSP 42265 JEM specification.)

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NASA/RSA

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1.0 INTRODUCTION

This specification provides the requirements for the Inventory Management System (IMS) labels for the International Space Station (ISS). Related rationale and background information is found in the Appendices.

1.1 PURPOSE

The IMS labels will be used for identification of consumables, loose equipment, Orbital Replacement Units (ORU), assemblies, and subassemblies, primarily during ground handling inventory management and verification, as well as all loose or ORU equipment items that must be resupplied or refurbished and require handling.

1.2 SCOPE

This specification is applicable to all Space Station Orbital and Ground Segments loose or replaceable equipment requiring handling or processing.

1.3 PRECEDENCE

The requirements in this document are applicable as referenced by the ISS System and Segment Specifications, Prime Item Development Specifications (PIDS), and component specifications. In case of conflict between this document and any of the ISS specifications, the requirements of the referencing specification will take precedence.

1.4 DELEGATION OF AUTHORITY

This Specification is the responsibility of the Space Station Program Office (SSPO) Flight Crew Support and Integration (FCS&I) Analysis and Integration Team (AIT). This document is subject to the Space Station Integrated Control Board (SSICB) change control.

2.0 APPLICABLE DOCUMENTS

The following documents of the date and issue shown are applicable to the extent specified herein. Inclusion of applicable documents herein does not in any way supercede the order of precedence identified in paragraph 1.3. The references show where each applicable document is cited in this document.

| DOCUMENT NO. | TITLE |
|---------------------|--|
| SSP 50005 Rev. B | International Space Station Flight Crew Integration Standard (NASA-STD-3000/T) |
| MIL-STD-1189B | Standard Department of Defense Bar Code Symbology (Ref: B.1.1) |
| MIL-STD-130G | Identification Marking of U.S. Military Property (Ref: 3.1, 3.6.3) |
| SSP 50254 | Operations Nomenclature (Ref: 3.6.3) |
| JSC 27260 | Decal Process Document and Catalog (3.7.1) |
| SSP 30233 Rev. D | Space Station Requirements for Materials and Processes (Ref: B.2.1.3, B.2.2.3) |

3.0 REQUIREMENTS

3.1 GENERAL

- a. An IMS will be used for tracking and monitoring the location and quantity of all loose, stowed, and installed equipment items on the ISS.
- b. The IMS label is separate and distinct from the manufacturer's or vendor labels which contain the nomenclature, manufacturer's code, part number, or batch-serial number, and stock or equivalent number per MIL-STD 130, paragraph 5.3.1.
- c. The IMS label provides information to access the inventory & maintenance databases for maintenance and resupply information.
- d. IMS labels are capable of being read by an automated type reader device.

3.2 IMS LABEL LOCATION REQUIREMENTS

- a. IMS labels shall be secured to all loose equipment and items requiring ground handling (such as trays, racks, consumables, crew equipment, ORUs, etc.) in such a manner that they are readable by the unaided human eye and an automated type reader device without partial disassembly.
- b. The preferred location for the IMS label is adjacent to the manufacturer's or vendor labels (See paragraph 3.4, Exceptions for cases where space limitations prevent the installation of an IMS label). IMS labels will be visible on stowed equipment items (label up) when practical.

3.3 IMS LABEL APPLICABILITY REQUIREMENTS

The following Space Station items shall require IMS labels:

Standard stowage trays

All loose equipment; i.e. - tools, Flight Support Equipment (FSE), and Orbital Support Equipment (OSE).

Consumables (i.e. -food packages, batteries, film, etc)

All ORUs

All parts and equipment involved in resupply & ground handling

- a. Loose equipment is defined as any Extravehicular Activity (EVA) or Intravehicular Activity (IVA) item on a resupply, utilization, or assembly flight. As such, loose equipment would include all consumables, items stowed in stowage trays, replacement.

ORUs, etc., as listed above. Permanently installed hardware will not require a label. Kits normally will require an IMS label. Items inside kits may require labels if they are later removed and used as separate items, such as film.

- b. Equipment suppliers are not prohibited from placing an IMS label on an equipment item of which its intended use or classification is uncertain, according to the above description. The use of labels is optional for user experiment equipment launched on an increment by increment basis.

3.4 EXCEPTIONS

- a. In the case where there is room for only one label, the standard vendor label shall be used on the equipment and the IMS label shall be placed on the package or on a tag attached to the equipment.
- b. A special use (smaller) label shall be available for special applications (see section 3.6.5).
- c. The standard bar code label shall be used unless size limitations require the use of the smaller label.
- d. Small items, such as screws, shall be bagged and IMS labels placed on the bag.
- e. MPLM loose equipment, consumables, and LRU's shall utilize an IMS label placed on the package or on a tag attached to the equipment which is to be removed before use and maintained with the shipping documentation.

3.5 UNIVERSAL IMS LABEL FORMAT AND NUMBERING SYSTEM

Text deleted.

3.6 IMS LABEL FORMAT - GENERAL

The IMS label format shall be as depicted in Figure 3-1. Figure 3-2 provides examples of IMS label numbers and Figures 3-3 and 3-4 depict overall label configuration.

3.6.1 IMS LABEL MACHINE READABLE CODE (MRC)

The IMS label MRC shall consist of a bar code strip which appears at the center of the label with a human readable portion above and below as described in detail in Appendix B of this specification.

3.6.2 IMS NUMBERING SYSTEM

- a. **Standard IMS Identification Label.** The IMS number is a nine character number separated into two fields, as shown in Figures 3-1 and 3-2. The significance of the characters is as follows:
- (1) The first eight characters of the number can be either alpha or numeric and is a non-significant number which is sequentially issued as labels are produced. These eight characters will uniquely identify a part (ORU, etc.) to a specific part number, serial number, batch number, etc. These numbers or letters may contain an abbreviation to further identify a system, subsystem, etc. as deemed appropriate per Appendix C of this specification. The use of abbreviations in this field is optional at the discretion of the requesting agency or equipment provider. Examples are found in Figure 3-2.
 - (2) The ninth character shall be the agency or equipment provider code. Each agency or provider has been assigned a code (J = JSC, M = MSFC, 1=PG1, etc.) which forms the ninth character of the catalog number. Besides increasing the capacity of the catalog number itself, this provides intelligence within the number to identify the source of the equipment.
- b. **Special Use (Smaller) IMS Identification Label.**
The IMS number for the special use (Smaller) label is the same as described above for the Standard IMS Identification Label, with the exception that the first two characters of the first field are assumed to be zero (0). The resulting number is a 6 character, non-significant number followed by an agency or equipment provider code (see Figure 3-4).

The following agency/provider codes are established:

- A Ames Research Center (ARC)
- C Canadian Space Agency (CSA)
- E European Space Agency (ESA)
- G Goddard Space Flight Center (GSFC)
- I Agenzia Spatiale Italiano (ASI)
- J Johnson Space Center (JSC)
- K Kennedy Space Center (KSC)
- L Lewis Research Center (LeRC)
- M Marshall Space Flight Center (MSFC)
- N National Space Development Agency of Japan (NASDA)

- P Jet Propulsion Lab (JPL)
- R Russian Space Agency (RSA)
- V Langley Research Center (LaRC)
- W White Sands Test Facility (WSTF)
- 1 Product Group (PG) 1
- 2 Product Group (PG) 2
- 3 Product Group (PG) 3

Other provider, center, or agency codes may be added if required by revision of this document.

3.6.3 ADDITIONAL NOMENCLATURE INFORMATION

Should personnel require more definitive nomenclature, part or serial number information, this is supplied on the standard vendor part label (per MIL-STD-130) which is already on the part and is available to the crew member. In the event that there is no vendor label, or the part requires particular attention by operational personnel, the option exists to print the name and/or part-serial number above the machine readable code for added visibility.

- a. Space shall exist for a fifteen character nomenclature field as shown in Figure 3-1
- b. Appendix C as well as SSP 50254, Operations Nomenclature will be used as a source of Standard Nomenclature to be specified for this field.

3.6.4 STANDARD ABBREVIATIONS

- a. The first three characters in the IMS label code may be used to represent a subsystem abbreviation. A list of ISS, three character abbreviations is provided in Appendix C.

3.6.5 SPECIAL USE IMS LABEL

- a. A special use (smaller) label (see Figure 3-4) is also available for applications where room for installation is limited. In all other cases (i.e. -on bags, open areas, etc.) the larger (standard label) shall be used.
- b. This label shall only have seven characters, as described in 3.2.6.b.
- c. This special use label shall measure 1.42 inches in length as compared to the standard label which is 1.62 inches in length. Space for additional nomenclature information will be available as described in section 3.6.3.

3.7 RESPONSIBILITIES

3.7.1 IMS IDENTIFICATION LABEL MANUFACTURING AND DISTRIBUTION RESPONSIBILITY

IMS labels are provided by the JSC Decal Design and Production Facility (DDPF) to ISS participants as standard labels in accordance with JSC 27260, Decal Process Document and Catalog.

3.7.2 AGENCY AND EQUIPMENT PROVIDER RESPONSIBILITY

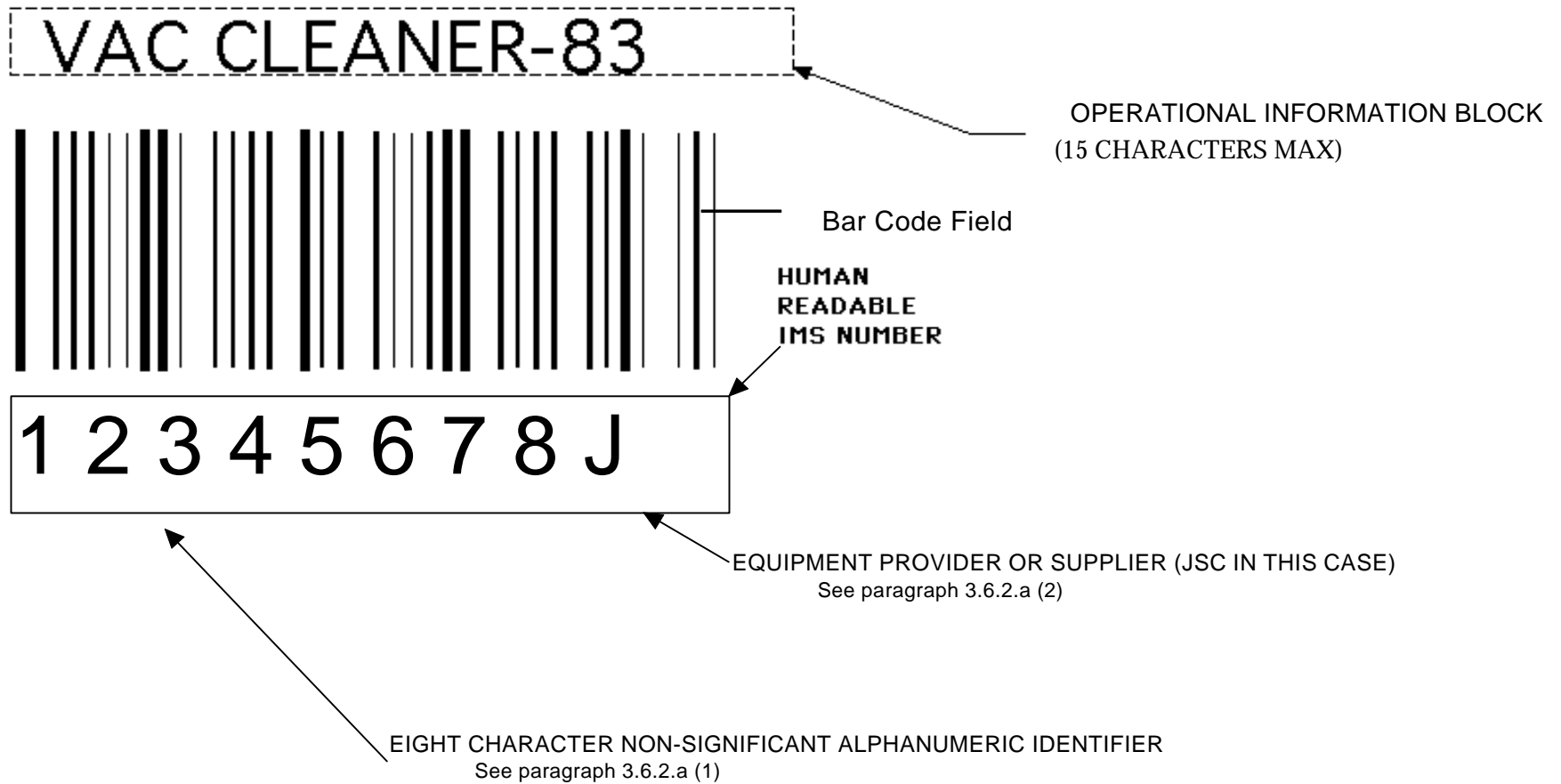
- a. The agency or equipment provider installing the label(s) shall request the required IMS label(s) by submitting for JSC 733 to the JSC DDPF in accordance with the procedures outlined in JSC 27260.
- b. Specific IMS number assignments may be requested by the agency or equipment provider by submitting form JSC 733 IMS Label Request Form along with the basic form JSC 733.

3.7.3 NASA JSC FCSD RESPONSIBILITY

- a. The FCSD shall maintain a log of all IMS numbers assigned to ensure that labels with duplicate numbers are not produced.
- b. The FCSD shall assign IMS numbers sequentially as requests for the labels are received. When requests for specific IMS numbers are received, the FCSD will ensure that the numbers have not been previously assigned. In the event of a duplicate number request, the FCSD will contact the requester to identify alternate numbers available prior to assigning the next sequentially available numbers.

3.8 IMS DATABASE

The IMS database, also identified as the KSC Payload Data Management System (PDMS) provides tracability between the IMS number and the Part number, serial number, cage code, and other manufacturer data. Development of this database to support ground and on-orbit operations is the responsibility of the KSC and JSC Operations community. IMS number entries will be made to establish this database as part of the acceptance process of delivering hardware to NASA.



Not to scale

FIGURE 3-1 IMS LABEL SCHEME

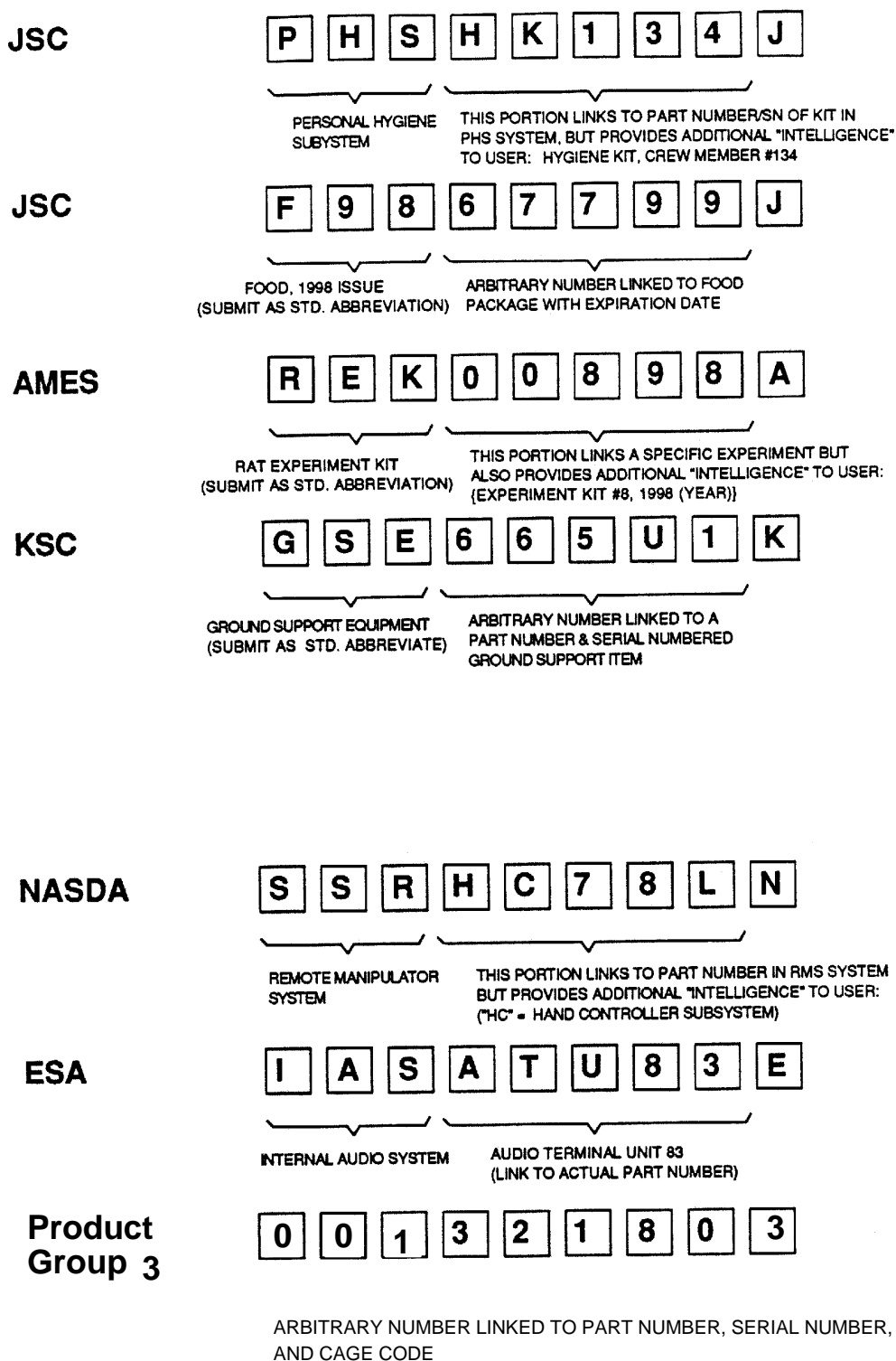


FIGURE 3-2 IMS LABEL NUMBER EXAMPLES

FIGURE 3-3 STANDARD IMS IDENTIFICATION LABEL

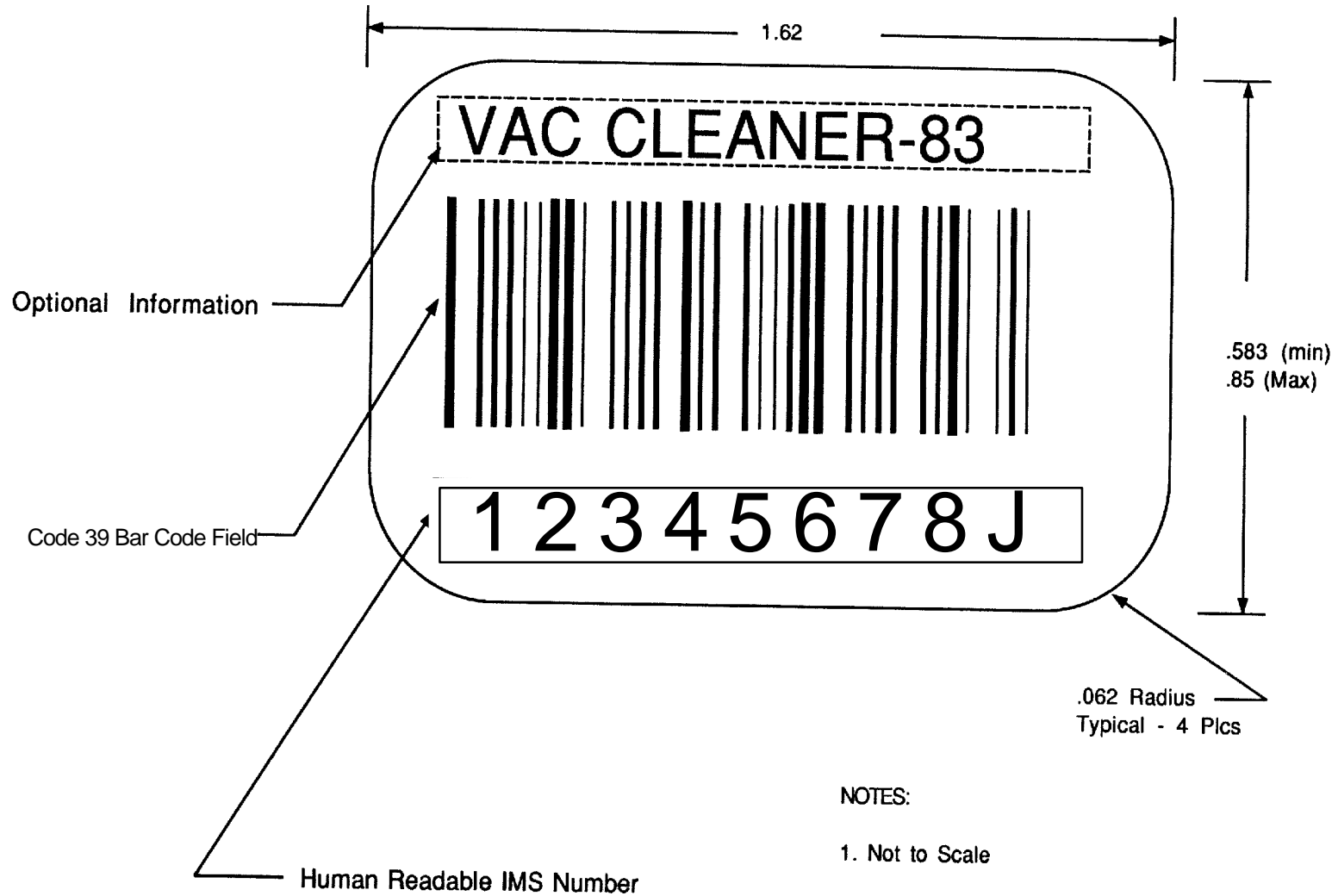
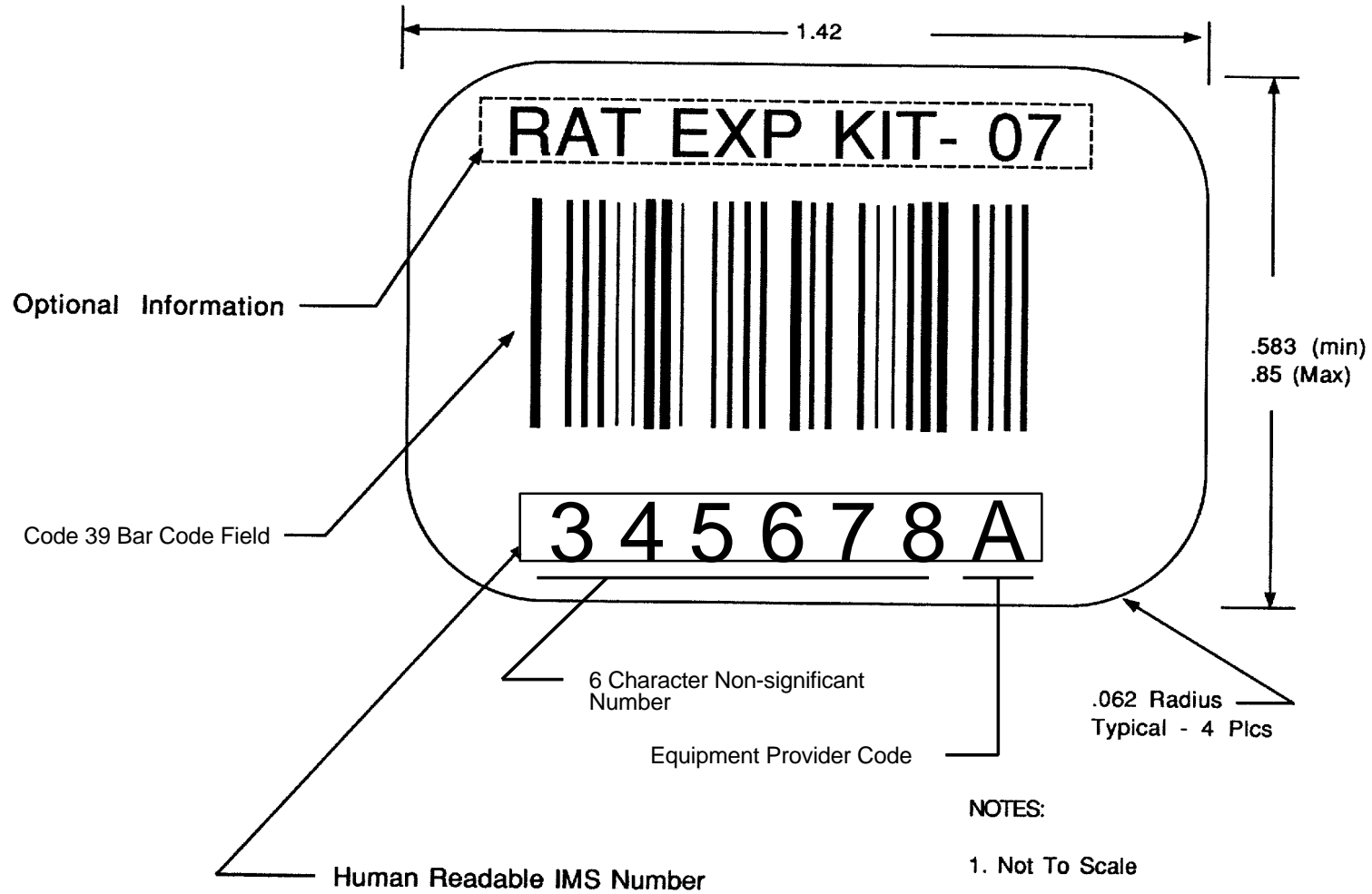


FIGURE 3-4 SPECIAL USE IMS IDENTIFICATION LABEL



NOTES:

- 1. Not To Scale
- 2. Dimensions in inches

APPENDIX A SSP 50007 ABBREVIATIONS AND ACRONYMS

| | |
|-------|--|
| AIT | Analysis and Integration Team |
| AMI | Additional Maintenance Item |
| ARC | Ames Research Center |
| ASI | Agenzia Spaziale Italiana |
| CSA | Canadian Space Agency |
| DDPF | Decal Design and Production Facility |
| ESA | European Space Agency |
| EVA | Extravehicular Activity |
| FCSD | Flight Crew Support Division |
| FSE | Flight Support Equipment |
| GSFC | Goddard Space Flight Center |
| HRI | Human Readable Interpretation |
| IMS | Inventory Management System |
| IP | International Partner(s) |
| ISS | International Space Station |
| IVA | Intravehicular Activity |
| JPL | Jet Propulsion Lab |
| JSC | Johnson Space Agency |
| KSC | Kennedy Space Center |
| LaRC | Langley Research Center |
| LCN | LSA Control Number |
| LeRC | Lewis Research Center |
| LSA | Logistics Support Analysis |
| MRC | Machine Readable Code |
| MSFC | Marshall Space Flight Center |
| NASDA | National Space Development Agency of Japan |
| ORU | Orbital Replacement Unit |
| OSE | Orbital Support Equipment |
| PDMS | Payload Data Management System |
| PIDS | Prime Item Development Specifications |
| PG | Product Group |
| QC | Quality Control |
| RSA | Russian Space Agency |
| SDS | Standard DOD Bar Code Symbology |
| SR | Service Request |

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| SSCB | Space Station Control Board |
| SSCCD | Space Station Configuration Control Drawing |
| SSP | Space Station Program |
| SSPO | Space Station Program Office |
| WSTF | White Sands Test Facility |

**APPENDIX B
LABEL SPECIFICATIONS
(For Reference Use Only)**

B.1 IMS MACHINE READABLE SPECIFICATION

B.1.1 SYSTEM DESCRIPTION

Figures B-1, B-2, and B-3 depict the typical label format using a Code 39 bar code number system per MIL-STD-1189. Using an alphanumeric-code, this system has “intelligence” and can provide the user with information about the subsystem and owner. The IMS label number is tied to the part number by entry into the ISS IMS database.

These specifications cover the proper generation and determination compliance of Code 39 symbols per MIL-STD-1189: Equations used to determine specification values are not shown, but are found in MIL-STD-1189.

The specification requirements for both the standard and special labels appear below. The “Standard IMS Label” has 9 characters and is slightly longer in length than the “Special Use IMS label”.

B.1.2 STANDARD IMS LABEL SPECIFICATION

B.1.2.1 BAR WIDTH

The significant parameters are the nominal width (average narrow element width “X”) and the nominal ratio (the ratio of the average wide elements to average narrow elements, designated by “N”). The nominal width and nominal ratio respectively for this bar code shall be .0075 inch (.190 mm) and 2.24:1.

B.1.2.2 SYMBOL SPECIFICATIONS

Code 39 is a variable message length, bidirectional, discrete, self checking, alphanumeric bar code. Its data character set contains 43 characters:

| | |
|-------|----|
| 0 - 9 | \$ |
| A - Z | / |
| - | + |
| . | % |
| space | |

When using Code 39, each character is composed of 9 elements: 5 bars and 4 spaces. Three of the 9 elements are wide (binary value 1) and 6 are narrow (binary value 0). A common character (*) is used exclusively for both a start and stop character. An example of a code 39 symbol including the quiet zones, start and stop characters, the intercharacter gaps and the data string "1A" is shown in Figure B-1.

The letter "O" will not be used since this character is often confused with the zero numeral.

Code Configuration - A message consists of any number of data characters enclosed between a start and a stop character. Figure B-2 gives the specific structure of each Code 39 character which shall be used.

B.1.2.2.1 Symbol Density and Dimensions - Bar code height will be .25 inch (6.35 mm). The density will be 9.4 Characters per inch.

B.1.2.2.2 Element Width Tolerance - The allowable element width tolerance (t) is a function of the narrow element width (X) and the nominal ratio (N). The tolerance for this bar code shall be plus or minus .0017 inches (plus or minus .044 mm).

B.1.2.2.3 Symbol Width - Based on the above parameters, the symbol width, including quiet zones, shall be 1.62 inches.

B.1.2.3 CHARACTER DESCRIPTION AND SET

B.1.2.3.1 Internationally left blank

B.1.2.3.2 Intercharacter gap ("I") - The intercharacter gap has a minimum dimension of one times the average narrow element width minus the absolute value of the tolerance. The maximum dimension of the intercharacter gap shall be 3 times the average narrow element width. In printing, the intercharacter gap should be as close to the average narrow element width as practical.

For this bar code:

| | |
|-------------------|------------------------------|
| I (min) shall be: | <u>.0058 inches</u> (=x-/t/) |
| I (max) shall be: | <u>.0225 inches</u> (= 3X) |

B.1.2.3.3 Start & Stop Delimiters - The asterick (*) is used exclusively for both a start and stop delimiter.

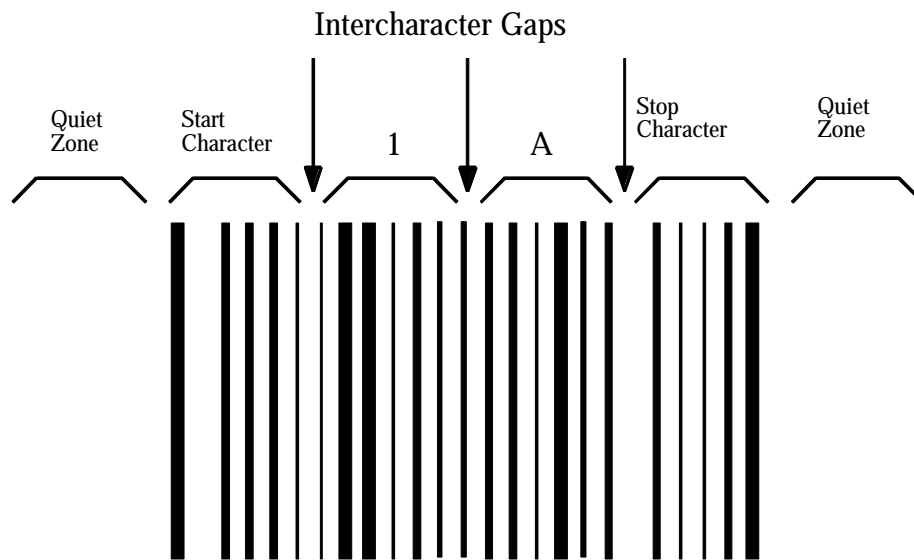


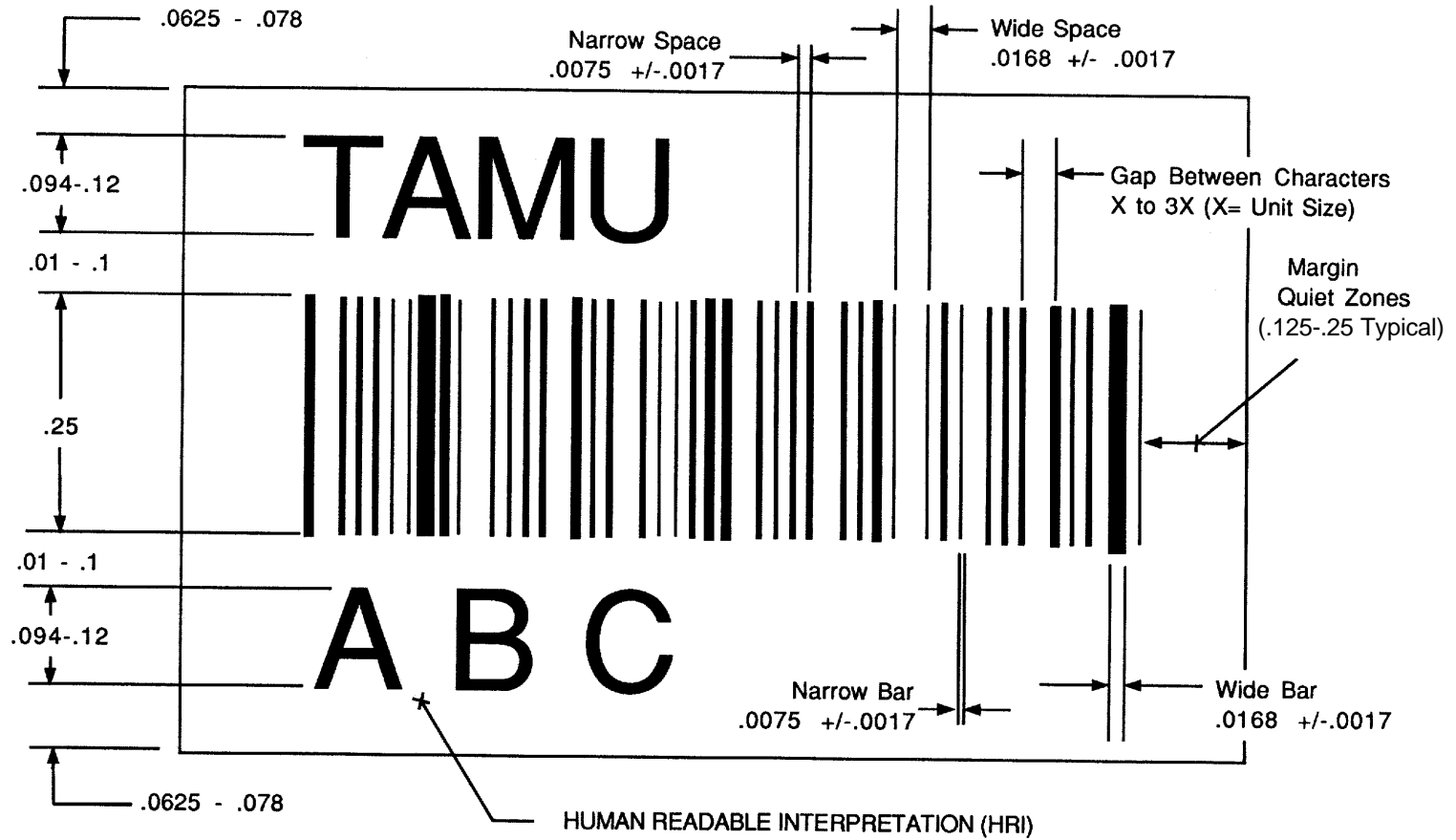
FIGURE B-1 CODE 39 SYMBOL "1A"

| CHAR. | PATTERN | BAR8 | SPACE8 | CHAR. | PATTERN | BAR8 | SPACE8 |
|-------|---------|-------|--------|-------|---------|-------|--------|
| 1 | | 10001 | 0100 | M | | 11000 | 0001 |
| 2 | | 01001 | 0100 | N | | 00101 | 0001 |
| 3 | | 11000 | 0100 | O | | 10100 | 0001 |
| 4 | | 00101 | 0100 | P | | 01100 | 0001 |
| 5 | | 10100 | 0100 | Q | | 00011 | 0001 |
| 6 | | 01100 | 0100 | R | | 10010 | 0001 |
| 7 | | 00011 | 0100 | S | | 01010 | 0001 |
| 8 | | 10010 | 0100 | T | | 00110 | 0001 |
| 9 | | 01010 | 0100 | U | | 10001 | 1000 |
| 0 | | 00110 | 0100 | V | | 01001 | 1000 |
| A | | 10001 | 0010 | W | | 11000 | 1000 |
| B | | 01001 | 0010 | X | | 00101 | 1000 |
| C | | 11000 | 0010 | Y | | 10100 | 1000 |
| D | | 00101 | 0010 | Z | | 01100 | 1000 |
| E | | 10100 | 0010 | - | | 00011 | 1000 |
| F | | 01100 | 0010 | ! | | 10010 | 1000 |
| G | | 00011 | 0010 | SPACE | | 01010 | 1000 |
| H | | 10010 | 0010 | * | | 00110 | 1000 |
| I | | 01010 | 0010 | \$ | | 00000 | 1110 |
| J | | 00110 | 0010 | / | | 00000 | 1011 |
| K | | 10001 | 0001 | + | | 00000 | 0111 |
| L | | 01001 | 0001 | % | | 00000 | 0111 |

NOTE:

The letter "O" will not be used since this character is often confused with the zero numeral.
The asterisk is used only as a Start/Stop code and must appear at the beginning and end of every message.

FIGURE B-2 CODE 39 CHARACTER CONFIGURATION



Notes:

- 1) All dimensions in inches

NOT TO SCALE

FIGURE B-3 IMS LABEL SPACE, BAR, MARGIN, HRI, AND INTERCHARACTER DIMENSIONS

B.1.2.3.4 Quiet Zone - The minimum quiet zones (left and right margins) shall not be less than .125 inches. If material quality permits, the nominal quiet zone will be .25 inches.

B.1.2.3.5 Spacing between bar code and the HRI - The spacing between the bar code and the HRI shall be .1 inches (2.5 mm) maximum and .01 inches (.25 mm) minimum.

B.1.2.3.6 Spacing between edge of label and HRI - The spacing between the horizontal edge of the label and the HRI shall be .078 inches maximum (1.98 mm) and .0625 inches (1.58 mm) minimum.

B.1.2.4 PRINT CONTRAST (SEE TABLE B-1)

Minimum print contrast shall be 75 %.

B.1.2.5 ELEMENTS REFLECTANCE (SEE TABLE B-1)

Minimum Space Reflectance shall be 50%

B.1.2.6 SPOTS AND VOIDS

Spots and voids shall not exceed .003 inches (40% of the average narrow element width) in any dimension.

B.1.2.7 HUMAN READABLE INTERPRETATION (HRI)

The HRI shall represent the alphanumeric described in section 3.0 of the IMS label specification. It shall appear below the bar code symbol. It shall be .12 inches (3.05 mm) in height. The asterisk representing the start and stop characters shall be suppressed in the HRI. Additional human readable information which is not encoded in bar code may also be placed at the top of the label as described in Appendix B section B.2.

B.1.2.8 PRINT QUALITY

Evaluation of the printed bar code symbols shall consist of checking for adequate quiet zones and bar height, proper message encoding, measurement of the print contrast signal, and measurement of bar and space widths for compliance with the tolerances specified in this document. As a minimum, the bar code symbol shall meet the contrast and reflectivity requirements for spectral bands from B633 to B800 as shown in Table B-1.

B.1.2.9 READ RATE - TBD

B.1.2.10 CHECK CHARACTERS

Code 39 is a self-checking and highly reliable bar code symbology. Therefore a check character is not needed.

B.1.3 SPECIAL USE IMS LABEL SPECIFICATION

This label has only seven characters and is .2 inches shorter in length than the standard label. All other label specification data is identical as above.

TABLE B-1 IMS LABEL MACHINE READABLE CODE (MRC) CONTRAST AND REFLECTIVITY REQUIREMENTS

| MRC Contrast and Reflectivity Requirements | | |
|---|-----------------------------------|----------------------------|
| Spectral Band | Wavelength Peak Nanometers | Typical Sources |
| B633 | 633 +/- 5% | Helium - Neon (Visible) |
| B680 | 680 +/- 5% | Visible Laser Diode |
| B800 | 800 +/- 5% | Solid-State Laser Diode |

B.2 OVERALL LABEL SPECIFICATION

The overall IMS label design is shown in Figures 3-3 and 3-4 of the IMS label Specification. The label shall present the IMS number (described in section 3.0 of the IMS Label Specification) in bar code form (described in Appendix B section B.1) and in crew readable text (described in Appendix B section B.1.2.7).

B.2.1 STANDARD IMS LABEL

B.2.1.1 CREW READABLE NOMENCLATURE

This additional nomenclature located at the top of the label shall only appear when there is no vendor label or for unique crew requirements as noted in section 3.0 of the IMS Label Specification. The lettering size and spacing shall be identical to the HRI code specification. This lettering block on the label shall not exceed fifteen characters (including blanks).

B.2.1.2 SIZE / CONFIGURATION

The configuration of the label is depicted in Figure 3-3 of the IMS Specification. The spacing between the bar code symbol, the HRI, and label edge is specified in Appendix B section B.1

B.2.1.3 MATERIAL

All materials (adhesives, label material, etc.) shall be in accordance with SSP 30233

B.2.1.4 SUPPLIER / VENDOR

TBD

B.2.1.5 COLOR

Light Gray: Color# L87.5N

B.2.1.6 PRINTING PROCESS

Direct Thermal Printing

B.2.1.7 APPLICATION

Pressure Sensitive (Adhesive back)

B.2.2 SPECIAL USE IMS LABEL

This label has only seven characters and is .2 inches shorter in length than the standard label. All other label specification data is identical as above.

B.2.2.1 CREW READABLE NOMENCLATURE

This additional nomenclature located at the top of the label shall only appear when there is no vendor label or for unique crew requirements as noted in The IMS Label Specification, section 3.0. The lettering size and spacing shall be identical to the HRI code specification. This lettering block on the label shall not exceed fifteen characters (including blanks).

B.2.2.2 SIZE / CONFIGURATION

The configuration of the label is depicted in IMS Label Specification Figure 3-4. The spacing between the bar code symbol, the HRI, and label edge is specified in Appendix B, section B.1

B.2.2.3 MATERIAL

All material (adhesives, label material, etc.) shall be in accordance with SSP 30233.

B.2.2.4 SUPPLIER / VENDOR

TBD

B.2.2.5 COLOR

Light Gray: Color# L87.5N

B.2.2.6 PRINTING PROCESS

Direct Thermal Printing

B.2.2.7 APPLICATION

Pressure Sensitive (Adhesive back)

APPENDIX C
STANDARD IMS ABBREVIATIONS LISTING

The attached list of ISS 3 character abbreviations may be used for IMS label identification as described in SSP 50007, section 3.6.2.

Requests for additions to this list should be submitted to the ISS Program Office Flight Crew Support & Integration Analysis and Integration Team (FCS&I AIT) for inclusion in future revisions to this document.

SYS ABBREV.

| CODE | DEFINITION | SYSTEM |
|-------------|---|---------------|
| | Sorted by System | |
| FOC | Fiber Optic Cable | C&DH |
| PCS | Portable Computer System | C&DH |
| MDM | MDM (Multiplexer-Demultiplexer) | C&DH |
| MSU | Mass Stowage Unit | C&DH |
| RCN | Ring Concentrator | C&DH |
| TDS | Time Distribution/generation System | C&DH |
| TWC | Twisted Pair Cable (1553B & RS 422 cable) | C&DH |
| IAS | Internal Audio System | C&T |
| KBD | Ku-Band System | C&T |
| SBD | S-Band System | C&T |
| TKS | Tracking System | C&T |
| UCS | UHF Communications System | C&T |
| VDS | Video Distribution System | C&T |
| CHC | Crew Health Care System (CHeCS) | CHECS |
| ACS | Atmosphere Control & Supply | ECLSS |
| ARS | Atmosphere Revitalization System | ECLSS |
| FDS | Fire Detection & Suppression | ECLSS |
| LNS | Lab Nitrogen System | ECLSS |
| THC | Temperature & Humidity Control | ECLSS |
| VES | Vacuum Exhaust System | ECLSS |
| VRS | Vacuum Resource System | ECLSS |
| WMS | Waste Management System | ECLSS |
| WRM | Water Recovery & Management | ECLSS |
| ARJ | Alpha Rotary Joint | EPS |
| BRJ | Beta Rotary Joint | EPS |
| EPS | Electrical Power System | EPS |
| PPS | Primary Power System (160 VDC) | EPS |
| SPS | Secondary Power System (120 VDC) | EPS |
| VTC | Photovoltaic Thermal Control System | EPS |
| EVA | Extravehicular Activity System | EVAS |
| CDM | Canadian Dexterous Manipulator | EVR |
| EVR | Extavehicular Robotics | EVR |

| | | |
|------|---|-----------|
| MBS | MRS (Mobile Remote Servicer) Base System | EVR |
| MMD | MSS (Mobile Servicing System) Maintenance Depot | EVR |
| MTE | Mobile Transporter Element | EVR |
| SSR | Space Station RMS (Remote Manipulator System) | EVR |
| CWQ | Crew Quarters/Crew Privacy Provisions | FCE |
| FOD | Food | FCE |
| GAL | Galley | FCE |
| HKG | Housekeeping & Trash Management | FCE |
| IMS | Inventory Management System | FCE |
| LTG | Lighting | FCE |
| OOM | On-orbit Maintenance | FCE |
| OPE | Operational & Personal Equipment | FCE |
| PAR | Partitions & Closeouts | FCE |
| PEP | Portable Emergency Provisions | FCE |
| PHS | Personal Hygiene System | FCE |
| RMA | Restraints & Mobility Aids | FCE |
| STO | Stowage | FCE |
| WDR | Wardroom | FCE |
| GNC | Guidance, Navigation & Control | Prop/GN&C |
| GPS | Global Positioning System | Prop/GN&C |
| PRP | Propulsion | Prop/GN&C |
| CBM | Common Berthing Mechanism | S&M |
| HCH | Hatch | S&M |
| MPLM | Mini-Pressurized Logistics Module | S&M |
| PAS | Payload Attachment System | S&M |
| PMA | Pressurized Mating Adapter | S&M |
| PVR | PhotoVoltaic Radiator | S&M |
| RCK | Rack | S&M |
| SAS | Segment Attachment System | S&M |
| SAW | Solar Array Wing | S&M |
| TRS | Thermal Radiator System | S&M |
| UBA | Unpressurized Berthing Adapter | S&M |
| ULC | Unpressurized Logistics Carrier | S&M |
| WIN | Window | S&M |
| CAW | Caution & Warning | SM&C |

| | | |
|-----|--|-----|
| ETC | External Active Thermal Control System | TCS |
| ITC | Internal Active Thermal Control System | TCS |
| PTC | Passive Thermal Control System | TCS |
| TRJ | Thermal Rotary Joint | TCS |

SYS ABBREV.

| CODE | DEFINITION | SYSTEM |
|-------------|---|---------------|
| | Sorted by Code | |
| ACS | Atmosphere Control & Supply | ECLSS |
| ARJ | Alpha Rotary Joint | EPS |
| ARS | Atmosphere Revitalization System | ECLSS |
| BRJ | Beta Rotary Joint | EPS |
| CAW | Caution & Warning | SM&C |
| CBM | Common Berthing Mechanism | S&M |
| CDM | Canadian Dexterous Manipulator | EVR |
| CHC | Crew Health Care System (CHeCS) | CHECS |
| CWQ | Crew Quarters/Crew Privacy Provisions | FCS |
| ETC | External Active Thermal Control System | TCS |
| EVA | Extravehicular Activity System | EVAS |
| EVR | Extravehicular Robotics | EVR |
| FDS | Fire Detection & Suppression | ECLSS |
| FOC | Fiber Optic Cable | C&DH |
| FOD | Food | FCS |
| GAL | Galley | FCS |
| GNC | Guidance, Navigation & Control | Prop/GN&C |
| GPS | Global Positioning System | Prop/GN&C |
| HCH | Hatch | S&M |
| HKG | Housekeeping & Trash Management | FCE |
| IAS | Internal Audio System | C&T |
| IMS | Inventory Management System | FCS |
| ITC | Internal Active Thermal Control System | TCS |
| KBD | Ku-Band System | C&T |
| LNS | Lab Nitrogen System | ECLSS |
| LTG | Lighting | FCS |
| MBS | MRS (Mobile Remote Servicer) Base System | EVR |
| MDM | MDM (Multiplexer-Demultiplexer) | C&DH |
| MMD | MSS (Mobile Servicing System) Maintenance Depot | EVR |
| MPLM | Mini-Pressurized Logistics Module | S&M |
| MSU | Mass Stowage Unit | C&DH |
| MTE | Mobile Transporter Element | EVR |

| | | |
|-----|---|-----------|
| OOM | On-orbit Maintenance | FCS |
| OPE | Operational & Personal Equipment | FCS |
| PAR | Partitions & Closeouts | FCS |
| PAS | Payload Attachment System | S&M |
| PCS | Portable Computer system | C&DH |
| PEP | Portable Emergency Provisions | FCS |
| PHS | Personal Hygiene System | FCS |
| PMA | Pressurized Mating Adapter | S&M |
| PPS | Primary Power System (160 VDC) | EPS |
| PRP | Propulsion | Prop/GN&C |
| PTC | Passive Thermal Control System | TCS |
| PVR | PhotoVoltaic Radiator | S&M |
| RCK | Rack | S&M |
| RCN | Ring Concentrator | C&DH |
| RMA | Restraints & Mobility Aids | FCS |
| SAS | Segment Attachment System | S&M |
| SAW | Solar Array Wing | S&M |
| SBD | S-Band System | C&T |
| SPS | Secondary Power System (120 VDC) | EPS |
| SSR | Space Station RMS (Remote Manipulator System) | EVR |
| STO | Stowage | FCS |
| TDS | Time Distribution/generation System | C&DH |
| THC | Temperature & Humidity Control | ECLSS |
| TKS | Tracking System | C&T |
| TRJ | Thermal Rotary Joint | TCS |
| TRS | Thermal Radiator System | S&M |
| TWC | Twisted Pair Cable (1553B & RS 422 cable) | C&DH |
| UBA | Unpressurized Berthing Adapter | S&M |
| UCS | UHF Communications System | C&T |
| ULC | Unpressurized Logistics Carrier | S&M |
| VDS | Video Distribution System | C&T |
| VES | Vacuum Exhaust System | ECLSS |
| VRS | Vacuum Resource System | ECLSS |
| VTC | Photovoltaic Thermal Control System | EPS |
| WDR | Wardroom | FCS |

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| | | |
|-----|-----------------------------|-------|
| WIN | Window | S&M |
| WMS | Waste Management System | ECLSS |
| WRM | Water Recovery & Management | ECLSS |