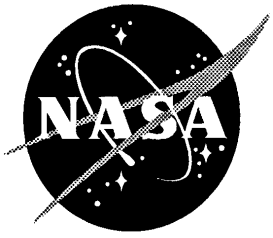
Space Station Inventory Management System Label Specification

International Space Station

Revision A
November 11, 1996

National Aeronautics and Space Administration
Space Station Program Office
Johnson Space Center
Houston, Texas
Contract No. NAS15-10000



REVISION AND HISTORY PAGE

REV	DESCRIPTION	PUB DATE
-	Initial Release (SSCBD 000008R1, Effective 6/3/94)	06-21-98
	SCN 001 Incorporates ECP 000264	07-30-98
A	Revision A (Reference per SSCD 000258, EFF. 07/30/98)	10-16-98

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.

INTERNATIONAL SPACE STATION PROGRAM

SPACE STATION INVENTORY MANAGEMENT SYSTEM LABEL SPECIFICATION

NOVEMBER 11, 1996

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SPACE STATION INVENTORY MANAGEMENT SYSTEM LABEL SPECIFICATION

NOVEMBER 1996

For NASA DATE

N/A

For ASI DATE

NASA/CSA

INTERNATIONAL SPACE STATION PROGRAM

SPACE STATION INVENTORY MANAGEMENT SYSTEM LABEL SPECIFICATION

NOVEMBER 1996

For NASA DATE

N/A

For CSA DATE

NASA/ESA

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NOVEMBER 1996

For NASA DATE

N/A

For ESA DATE

NASA/NASDA

INTERNATIONAL SPACE STATION PROGRAM

SPACE STATION INVENTORY MANAGEMENT
SYSTEM LABEL SPECIFICATION

NOVEMBER 1996

For NASA DATE

Hideo Hasegawa 4/21/94

For NASDA DATE

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

NASA/RSA

INTERNATIONAL SPACE STATION PROGRAM

SPACE STATION INVENTORY MANAGEMENT SYSTEM LABEL SPECIFICATION

NOVEMBER 1996

For NASA DATE

N/A

For RSA DATE

INTERNATIONAL SPACE STATION PROGRAM

DOCUMENT TITLE

LIST OF CHANGES

DATE

All changes to paragraphs, tables, and figures in this document are shown below:

SSCBD	ENTRY DATE	CHANGE	PARAGRAPH(S)
000258	10-02-98	000258	ALL
			TABLE(S)
			ALL
			FIGURE(S)
			ALL
			APPENDIX(ES)
			ALL

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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 forfor 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 Agencia 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.

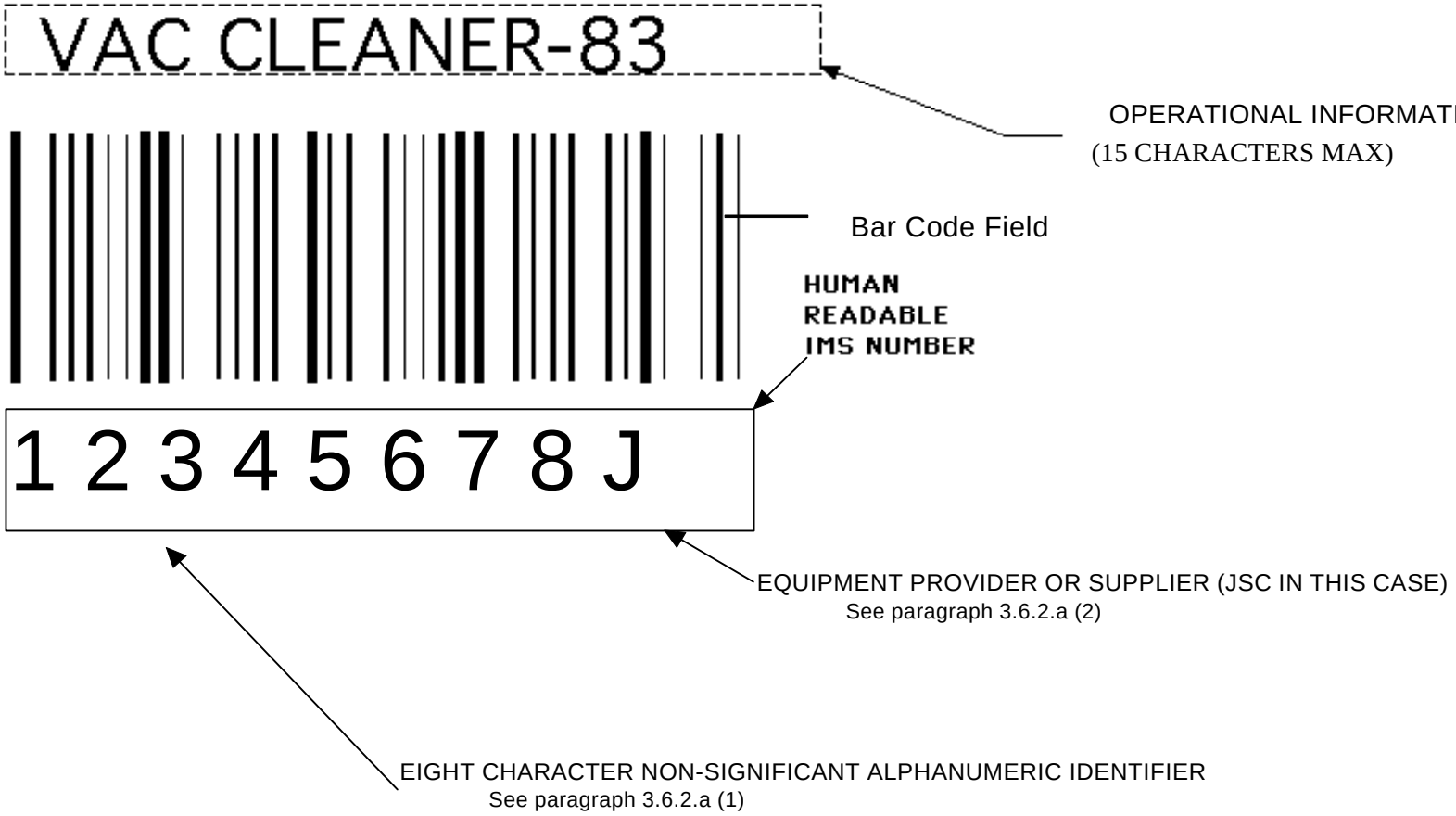


FIGURE 3-1 IMS LABEL SCHEME

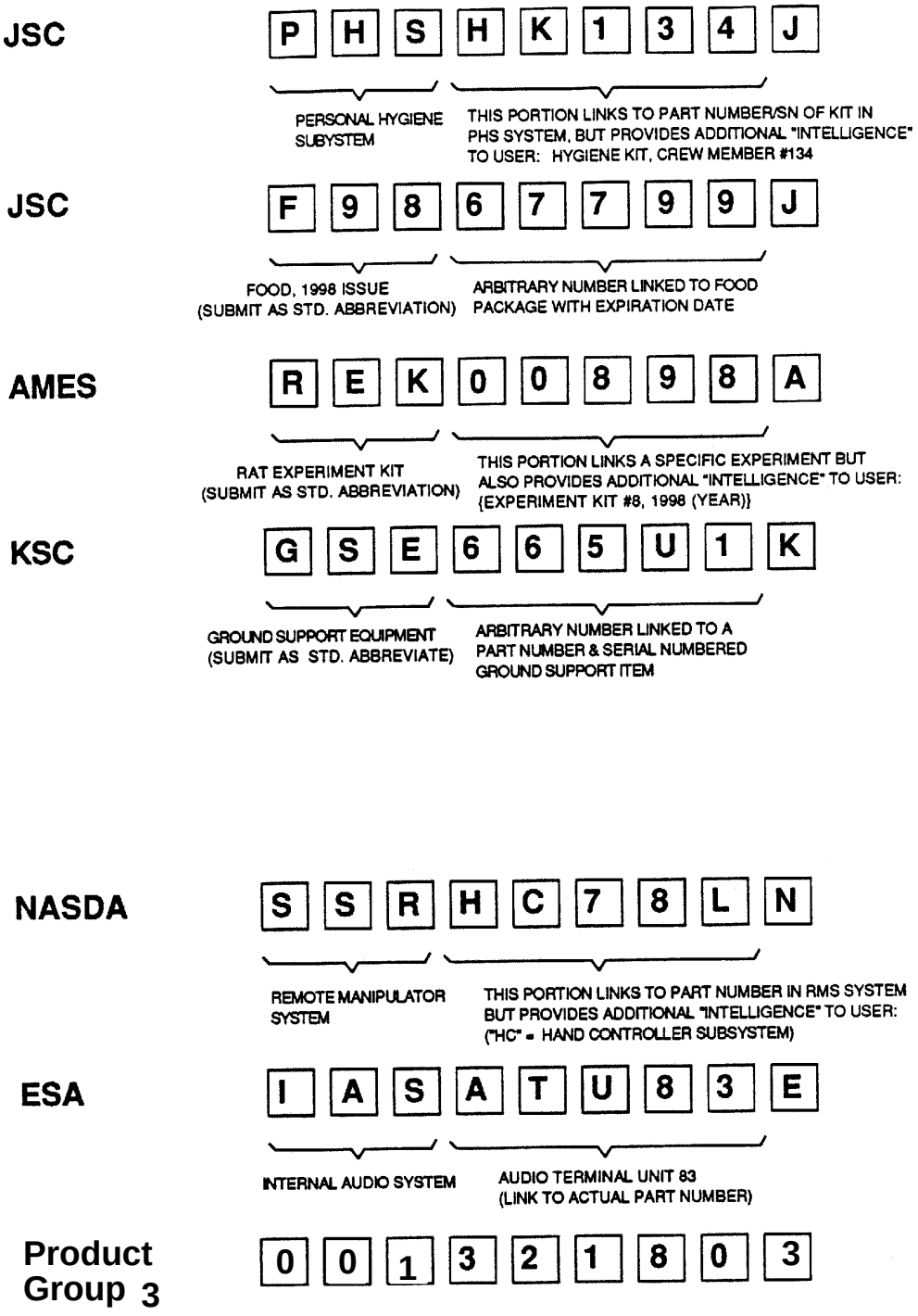


FIGURE 3-2 IMS LABEL NUMBER EXAMPLES

FIGURE 3-3 STANDARD IMS IDENTIFICATION LABEL

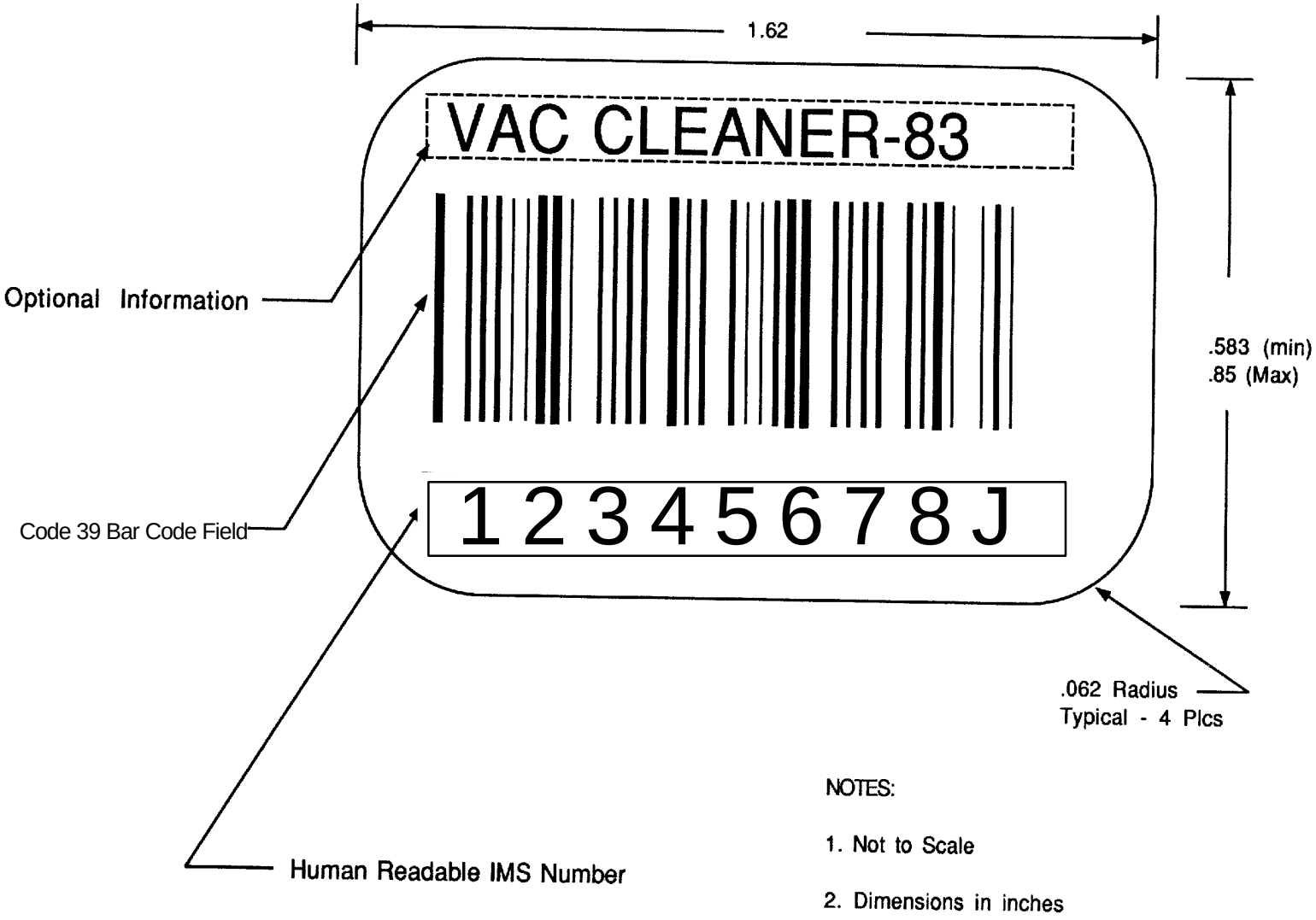
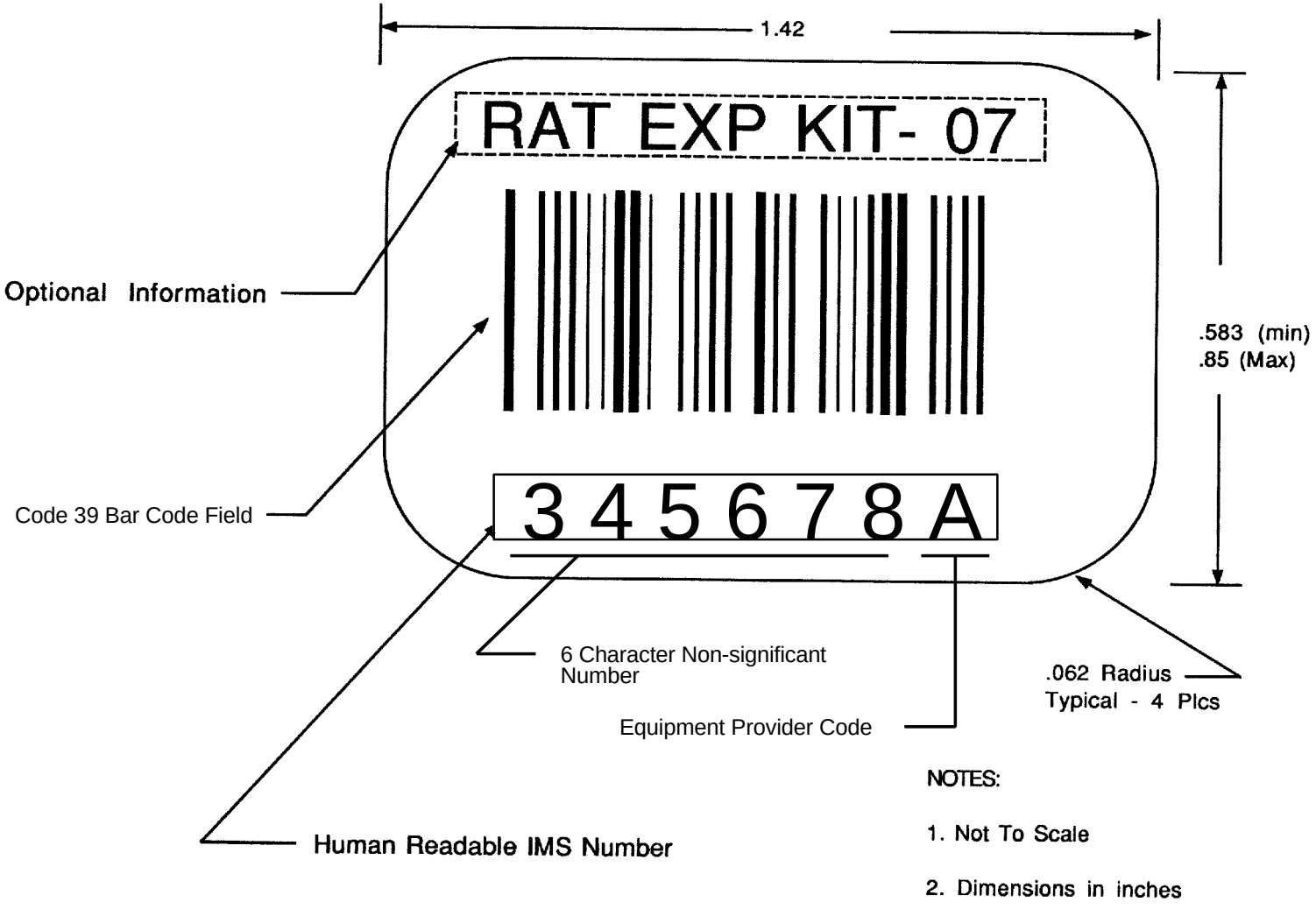


FIGURE 3-4 SPECIAL USE IMS IDENTIFICATION LABEL



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

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: .0058 inches (=x-/t/)
	I (max) shall be: .0225 inches (= 3X)

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

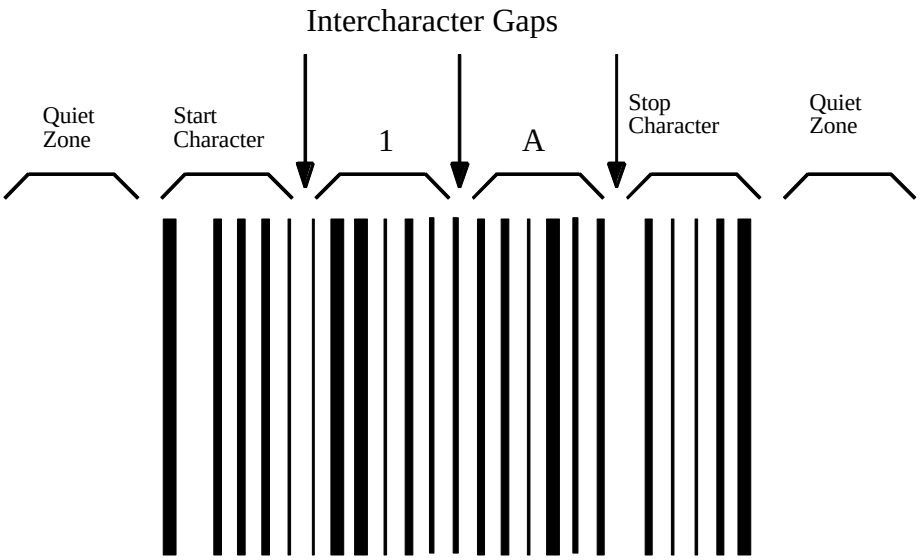


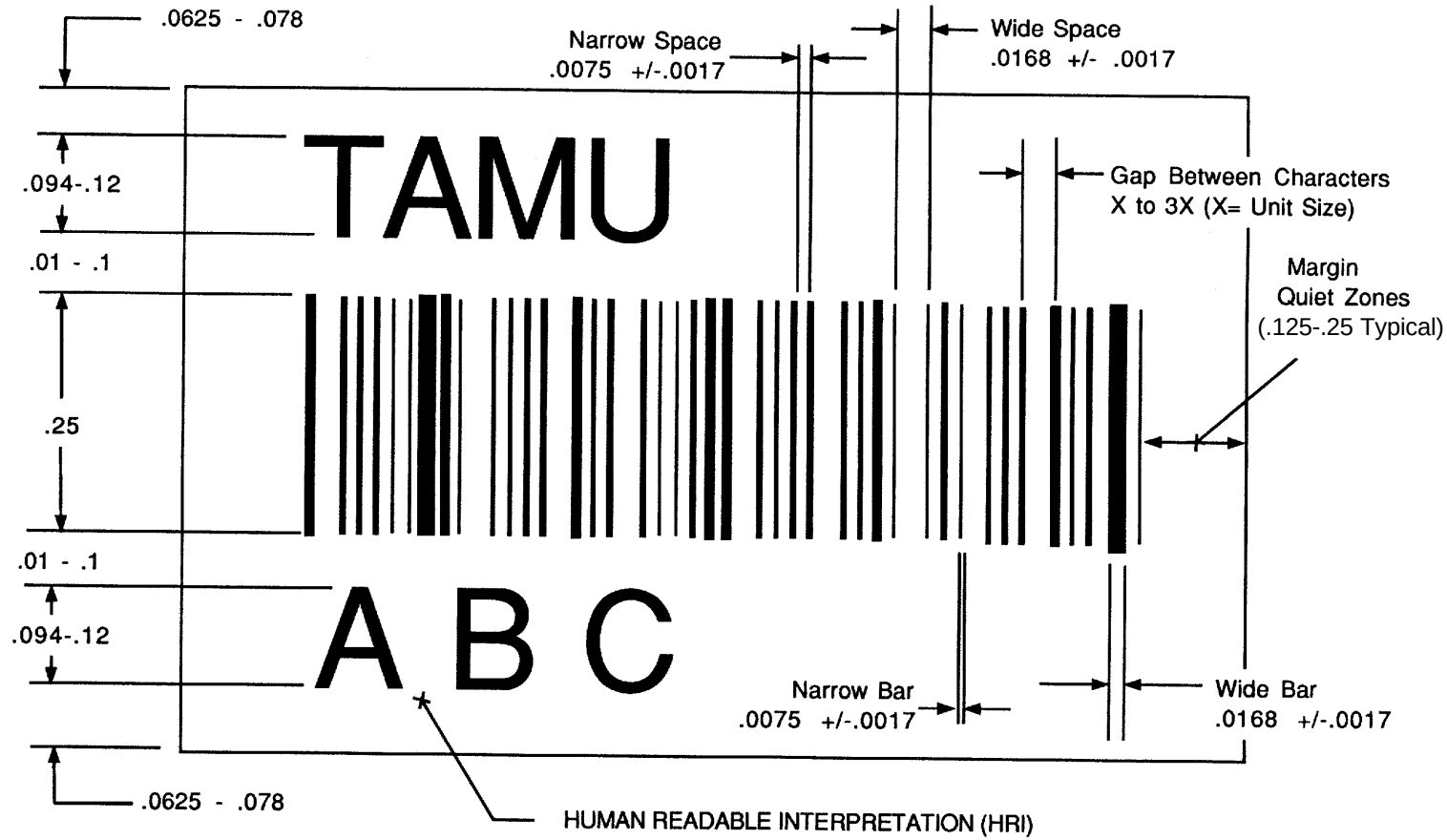
FIGURE B-1 CODE 39 SYMBOL “1A”

CHAR.	PATTERN	BARS	SPACES	CHAR.	PATTERN	BARS	SPACES
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	1101
K		10001	0001	+		00000	1011
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
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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 Robitics	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
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OOM	On-orbit Maintenance	FCS
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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
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SBD	S-Band System	C&T
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VTC	Photovoltaic Thermal Control System	EPS
WDR	Wardroom	FCS

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