

## PREFACE

This document defines the generic interfaces between the three SPACEHAB module configurations (Single Module, Logistics Double Module, and Research Double Module) and the payload user. References to the Research Double Module, although included in this document, reflect a configuration that currently is not available.

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## LIST OF ACRONYMS AND ABBREVIATIONS

10bT	10baseT
100bT	100baseT
A	Amperes
AC	Alternating Current
ACCU	Audio Central Control Unit
ACS	Audio Communications System
AI	Analog Input
AM	Amplitude Modulation
AMP	Amplifier
ANA	Analog
AOS	Acquisition of Signal
APDU	Aft Power Distribution Unit
ARP	Address Resolution Protocol
ARS	Atmosphere Revitalization Subsystem
ASCS	Aft Suction Cooling System
ASSY	Assembly
ATC	Air Traffic Control
AUX	Auxiliary
AWG	American Wire Gauge
AWHX	Air/Water Heat Exchanger
BCD	Binary-Coded Decimal
BH	Bulkhead
Bldg.	Building
BNC	Bayonet Connector
Btu	British Thermal Units
°C	Degree Celsius
C&W	Caution & Warning
CB	Connector Bracket
cc	Cubic Centimeters
CCB	Configuration Control Board
CCTV	Closed Circuit Television System
ccw	Counter Clockwise
CDMS	Command and Data Management System
CDV	Cabin Depress Valve
CEWL	Centralized Experiment Water Loop

## LIST OF ACRONYMS AND ABBREVIATIONS

c.g.	Center of Gravity
CH	Channel
CHX	Condensing Heat Exchanger
CIP	Carrier Integration Plan
CIP	Connector Interface Panel
CLK	Clock
cm	Centimeter
cmd	command
CNSLDTD	Consolidated
CO <sub>2</sub>	Carbon Dioxide
CRES	Corrosion Resistant Steel
CTS	Clear To Send
cw	Clockwise
CWEA	Caution & Warning Electronics Assembly
CWS	Crew Work Station
DAC	Direct Access Channel
dB	Decibels
DC	Direct Current
DCN	Document Change Notice
DEG	Degree
DIH	Discrete Input High
DIL	Discrete Input Low
DISCNTL	Discrete Control
DMU	Data Management Unit
DOD	Department of Defense
DOF	Degree-of-freedom
DOH	Discrete Output High
DOL	Discrete Output Low
DSN	Deep Space Network
DSR	Data Set Ready
DTA	Data
DTR	Data Terminal Ready
ECS	Environmental Control System

## LIST OF ACRONYMS AND ABBREVIATIONS

EDS	Experiment Data System
EDSMI	Experiment Data System Management Interface
EDSMU	Experiment Data System Main Unit
EGDA	Experiment Ground Data Assembly
EHX	Experiment Heat Exchanger
EIA	Electronic Industries Association
EIU	Experiment Interface Unit
EMC	Electromagnetic Compatibility
EMF	Electromotive Force
EMI	Electromagnetic Interference
EMU	Extravehicular Mobility Unit
EPDP	External Power Data Panel
EPS	Electrical Power System
EPSU	Experiment Power Switching Unit
ESC	Experiment Support Computers
EVA	Extravehicular Activity
EVV	Experiment Vacuum Vent
EWPP	Experiment Water Pump Package
EXCP	Experiment Connector Panel
EXP	Experiment
F	Fahrenheit
F&S	Fire & Smoke
FCE	Flight Crew Equipment
FCT	Flight Control Team
FDF	Flight Data File
FEM	Finite Element Model
FM	Frequency Modulation
FO	Functional Objective
FPV	Flow Proportioning Valve
FSS	Fire Suppression System
FSCU	Fire Suppression Control Unit
FTP	File Transfer Protocol
ft	Foot (feet)
FWD	Forward
GFE	Government Furnished Equipment
GHz	Giga-Hertz

## LIST OF ACRONYMS AND ABBREVIATIONS

GMT	Greenwich Mean Time
GND	Ground
GSE	Ground Support Equipment
GTS	Ground Teleoperations Systems
Hab	SPACEHAB Module
HEMI	Hemispherical
HMST	Hazardous Material Summary Table
hr	Hour
HRM	High Rate Multiplexer
HSV	Huntsville
Hz	Hertz
I/O	Input/Output
IACO	Integration and Check Out
IACUC	Institutional Animal Care and Use Committee
ICA	Interface Control Agreement
ICD	Interface Control Document
ICMP	Internet Control Message Protocol
IDD	Interface Definition Document
IEEE	Institute of Electrical and Electronics Engineers
in	Inch
IP	Internet Protocol
IRB	Institution Review Board
IRIG	Inter-Range Instrumentation Group
ISO	International Organization for Standardization
ISS	International Space Station
IVT	Interface Verification Test
JIS	Joint Integrated Simulation
JPEG	Joint Photographic Experts Group
JSC	Johnson Space Center
k $\Omega$	Kilo-ohm
kbps	Kilobits Per Second
kg	Kilograms

## LIST OF ACRONYMS AND ABBREVIATIONS

KHB	KSC Handbook
kHz	Kilo-Hertz
KuSP	Ku-band Signal Processor
L	Launch
lb	Pounds
lbm	Pounds Mass
LCD	Liquid Crystal Display
LDM	Logistics Double Module
LiOH	Lithium Hydroxide
LOS	Loss of Signal
LSB	Least Significant Bit
LV	Local Vertical
$\mu$	micro
M $\Omega$	Mega-ohm
m	Meters
m	milli
mA	milli-Amps
MAPTIS	Materials and Information Technical Information Service
max	Maximum
Mbps	Megabits Per Second
MCC	Mission Control Center
MCP	Monitor & Control Panel
MDC	McDonnell Douglas Corporation
MDM	Multiplexer-DeMultiplexer
MDP	Maximum Design Pressure
MESS	Maximum Envelope Stowage System
MET	Mission Elapsed Time
$\mu$ F	micro-Farads
$\mu$ s	micro-seconds
MAC	Modal Assurance Criteria
MHz	Mega-Hertz
MII	Medium Independent Interface
min	Minimum
min	Minute(s)
MIUL	Materials Identification Usage List
MLI	Multi-Layer Insulation

## LIST OF ACRONYMS AND ABBREVIATIONS

MLVE	Middeck Locker Volume Equivalent
mm	millimeters
mmHg	millimeters of Mercury
MOC	Mission Operations Computer
MOSFET	Metal-Oxide Semiconductor Field-Effect Transistor
MRN	Mean Radiant Node
ms	milliseconds
MSDS	Materials Safety Data Sheet
MSFC	Marshall Space Flight Center
MSS	Maximum Segment Size
MTU	Master Timing Unit
MUX	Multiplexer
N/A	Not Applicable
NASA	National Aeronautics & Space Administration
NASCOM	NASA Communications Network
NASTRAN	NASA Structural Analysis Program
nF	nano-Farads
NM	Nautical Mile
NRZ-L	Non Return to Zero – Level
ns	nanosecond
NSTS	National Space Transportation System
NTP	Network Time Protocol
NTSC	National Television System Committee
$\Omega$	Ohms
O <sub>2</sub>	Oxygen
OCWS	Orbiter Caution and Warning System
OD	Operational Downlink
OH	Output High
OH	Overhead
OL	Output Low
OS	Operating System
P/L	Payload
P/N	Part Number

## LIST OF ACRONYMS AND ABBREVIATIONS

PC	Personal Computer
PCC	Payload Control Center
PCD	PCC Capabilities Document
PDI	Payload Data Interleaver
PDM	Processed Data Message
PED	Payload Element Developer
pF	Pico-Farad
PGSC	Payload General Support Computer
PHX	Payload Heat Exchanger
PIP	Payload Integration Plan
pk-pk	Peak to Peak
PLR	Payload Recorder
PM	Pulse Modulation
PMP	Payload Mounting Plate/Panel
pnp	Positive-Negative-Positive
POCC	Payload Operations Control Center
PROM	Programmable Read-Only Memory
PRR	Payload Readiness Review
PRR	Preliminary Requirements Review
psi	Pounds per Square Inch
psia	Pounds per Square Inch Absolute
psid	Pounds per Square Inch Differential
PSK	Phase Shift Keying
PSP	Payload Signal Processor
pT	Pico-Tesla
PTA	Payload Transfer Agreement
PTB	Payload Timing Buffer
PTC	Passive Thermal Control
PWR	Power
QD	Quick Disconnect
QPSK	Quadrature Phase Shift Keying
RAM	Random-Access Memory
RDM	Research Double Module
RDU	Rack Distribution Unit
REALMS	Research and Logistics Mission Support
rev	Revolution

## LIST OF ACRONYMS AND ABBREVIATIONS

RF	Radio Frequency
RFC	Request for Change
Rm	Room
RMS	Remote Manipulator System
rms	Root-Mean-Square
RSCS	Rack Suction Cooling System
RSSUIP	Rack Support Structure Utility Interface Panel
RTN	Return
RTS	Request To Send
RUIP	Rack Utility Interface Panel
RXD	Receive Data
s	second
SCCS	Standard Cubic Centimeters Per Second
SCFM	Standard Cubic Feet Per Minute
SCS	SPACEHAB Control Station
SCU	Serial Converter Unit
SEU	Single Event Upset
SGLS	Space Ground Link System
SH	SPACEHAB
SHiP	SPACEHAB Interface Processor
SHOD	SPACEHAB Operations Director
SI	Solar Inertial
SIA	Stowage Interface Agreement
SID	Serial Input Data
SINDA	Systems Improved Numerical Differencing Analyzer
SOD	Serial Output Data
SPAH	Spacelab Payload Accommodations Handbook
SPG	Single Point Ground
SPL	Sound Pressure Level
SPPF	SPACEHAB Payload Processing Facility
SSP	Space Shuttle Program
SSP	Standard Switch Panel

## LIST OF ACRONYMS AND ABBREVIATIONS

STAT	Statistical
STBD	Star Board
STDN	Space Tracking and Data Network
STP	Shielded Twisted Pairs
STS	Space Transportation System
SW	Switch
SWS	Silly Window Syndrome
TBD	To Be Determined
TCP	Transmission Control Protocol
TDRSS	Tracking and Data Relay Satellite System
TIA	Telecommunications Industry Association
TRASYS	Thermal Radiation Analysis System
TSP	Twisted Shielded Pair
TTL	Time to Live
TTL	Transistor-Transistor Logic
TV	Television
TXD	Transmit Data
UCS	User Clock Signal
UDP/IP	User Datagram Protocol / Internet Protocol
UHF	Ultrahigh Frequency
USDA	United States Department of Agriculture
UTP	Unshielded Twisted Pair
V	Volts
V <sub>DD</sub>	Voltage Drain power supply
V <sub>OL</sub>	Voltage Output Low
V <sub>OH</sub>	Voltage Output High
V <sub>PP</sub>	Voltage, Peak-to-Peak
V <sub>SS</sub>	Voltage Source power supply
VA	Volt Amps
VAB	Vehicle Assembly Building
VAC	Volts Alternating Current
VCLA	Verification Coupled Loads Analysis
VDC	Volts Direct Current
VEGI	Video Experiment Ground Interface
V <sub>rms</sub>	Volts, Root Mean Squared
VSU	Video Switch Unit

## LIST OF ACRONYMS AND ABBREVIATIONS

VV	Velocity Vector
W	Watt
WCCS	Wireless Crew Communications System
WFCEU	Water Flow Control Electronics Unit
WP	Water Pump
WPP	Water Pump Package
wrt	with respect to