

SEMI E98.1-1102 (Reapproved 0309) PROVISIONAL SPECIFICATION FOR SECS-II PROTOCOL FOR THE OBJECT-BASED EQUIPMENT MODEL

This Standard was technically approved by the Information & Control Global Technical Committee. This edition was approved for publication by the global Audits and Reviews Subcommittee on November 19, 2008. Available at www.semi.org in March 2009; originally published March 2002; previously published November 2002.

NOTICE: This Standard or Safety Guideline has an Inactive Status because the conditions to maintain Current Status have not been met. Inactive Standards or Safety Guidelines are available from SEMI and continue to be valid for use.

1 Purpose

1.1 This Document maps the services and data of SEMI E98 Object-Based Equipment Model (OBEM) to SECS-II streams and functions and data definitions.

2 Scope

2.1 This Document applies to all implementations of OBEM that use the SECS-II message protocol (SEMI E5).

2.2 This Specification is provisional. To remove the provisional status, the SECS-II format for the attributes of the remaining object defined in OBEM must be included in § 6:

- EquipmentIODevice

NOTICE: SEMI Standards and Safety Guidelines do not purport to address all safety issues associated with their use. It is the responsibility of the users of the Documents to establish appropriate safety and health practices, and determine the applicability of regulatory or other limitations prior to use.

3 Referenced Standards and Documents

3.1 SEMI Standards and Safety Guidelines

SEMI E5 — SEMI Equipment Communications Standard 2 Message Content (SECS-II)

SEMI E39 — Object Services Standard: Concepts, Behavior, and Services

SEMI E39.1 — SECS-II Protocol for Object Services Standard (OSS)

SEMI E98 — Provisional Standard for the Object-Based Equipment Model (OBEM)

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

4 Services Mapping

4.1 Table 1 shows the specific SECS-II streams and functions that shall be used for SECS-II implementations of the services defined in OBEM.

Table 1 Services Mapping Table

<i>Message Name</i>	<i>Stream, Function</i>	<i>SECS-II Message Name</i>
Abort	S14,F19/20	Generic Service Request/Acknowledge
AddElement	S14,F19/20	Generic Service Request/Acknowledge
AddProcessCapability	S14,F19/20	Generic Service Request/Acknowledge
ChangeService	S14,F19/20	Generic Service Request/Acknowledge
Cleanup	S14,F19/20	Generic Service Request/Acknowledge
GetDateTime	S14,F19/20	Generic Service Request/Acknowledge
GetProgramDirectory	S14,F19/20	Generic Service Request/Acknowledge

<i>Message Name</i>	<i>Stream, Function</i>	<i>SECS-II Message Name</i>
Pause	S14,F19/20	Generic Service Request/Acknowledge
RemoveProcessCapability	S14,F19/20	Generic Service Request/Acknowledge
RemoveElement	S14,F19/20	Generic Service Request/Acknowledge
Resume	S14,F19/20	Generic Service Request/Acknowledge
SelectProgram	S14,F19/20	Generic Service Request/Acknowledge
SetDateTime	S14,F19/20	Generic Service Request/Acknowledge
Shutdown	S14,F19/20	Generic Service Request/Acknowledge
Start	S14,F19/20	Generic Service Request/Acknowledge
Startup	S14,F19/20	Generic Service Request/Acknowledge
Stop	S14,F19/20	Generic Service Request/Acknowledge

5 Service Parameter Mapping

5.1 Table 2 shows the mapping between service parameters defined by OBEM and the data items defined by SEMI E5. All OBEM messages map to Stream 14 Functions 19 and 20. The data item SVCNAME is the text string representation of the service name found in Table 1 and should be assumed as case-sensitive. The name of each parameter is the text string representation of the parameter name as it appears in Table 2. The SECS-II Data Item Reference, where different from SPVAL, provides additional information and restrictions for the value.

Table 2 Service Parameter Mapping Table

<i>Parameter Name</i>	<i>Parameter Range</i>	<i>SECS-II Data Item Reference</i>	<i>SECS-II Format</i>
DateTime	A valid date and time.	L,2 1. <SPNAME> 2. <SPVAL>	SPNAME = 'DateTime' SPVAL = (20,34,30)
DeviceProgramID	0–65,535	L,2 1. <SPNAME> 2. <SPVAL>	SPNAME = 'DeviceProgramID' SPVAL = (51,52)
ErrorCode	Enumerated as defined in SEMI E5 or by supplier.	ERRCODE	5()
ErrorText	1–80 characters	ERRTEXT	20
ObjSpec	0–80 characters	OBJSPEC	20
ProcessCapability	1–80 characters	L,2 1. <SPNAME> 2. <SPVAL>	SPNAME = 'ProcessCapability' SPVAL = (20)
Property	Each property is an attribute name/value pair for some object indicated in ObjSpec. Each attribute name maps directly to ServiceParameterName and each attribute value maps directly to ServiceParameterValue.	L,2 1. <SPNAME> 2. <SPVAL>	-
RequestStatus	Structure	L,2 1. <SVCACK> 2. Status	

<i>Parameter Name</i>	<i>Parameter Range</i>	<i>SECS-II Data Item Reference</i>	<i>SECS-II Format</i>
RequestAcknowledge	Enumerated: 0 = Request performed 1 = Invalid request 2 = Cannot perform now 4 = Will perform when able and report results when complete.	SVCACK	10
Service	Enumerated: 0 = OUT OF SERVICE 1 = IN SERVICE	L,2 1. <SPNAME> 2. <SPVAL>	SPNAME = 'Service' SPVAL = (51)
ServiceParameterName	Text	SPNAME	20
ServiceParameterValue	Depends on parameter used.	SPVAL	10, 20, 34, 40, 51, 52
Status	(list of) Structure	L,m L,2 1. <ERRCODE ₁ > 2. <ERRTEXT ₁ > m. L,2 1. <ERRCODE _m > 2. <ERRTEXT _m >	

5.2 Table 3 shows the data items in SECS II messages that do not have a corresponding service parameter.

Table 3 Additional Data Item Requirement Table

<i>Function</i>	<i>SECS-II Data Item</i>
Used to satisfy SECS-II conventions for linking a multi-block inquiry with subsequent multi-block message.	DATAID
Name of OBEM service. Enumerated: 'Abort' 'Add Element' 'AddProcessCapability' 'ChangeService' 'Cleanup' 'GetDateTime' 'GetProgramDirectory' 'Pause' 'RemoveProcessCapability' 'RemoveElement' 'Resume' 'SelectProgram' 'SetDateTime' 'Shutdown' 'Start' 'Startup' 'Stop'	SVCNAME
A unique number generated by the service requestor to identify a specific operation and connect it to a later completion confirmation.	OPID

#1 The text strings specified in Table 3 for SVCNAME shall be recognized by the equipment as valid, whether the equipment is or is not case-sensitive.