SEMI E90.1-0303
PROVISIONAL SPECIFICATION FOR SECS-II PROTOCOL SUBSTRATE TRACKING

This provisional specification was technically approved by the Global Information & Control Committee and is the direct responsibility of the Japanese Information & Control Committee. Current edition approved by the Japanese Regional Standards Committee on January 10, 2003. Initially available at www.semi.org January 2003; to be published March 2003. Originally published March 2001, previously published November 2002.

1 Purpose

1.1 This document maps the services and data of SEMI E90 to SECS-II streams and functions, and data definitions.

2 Scope

2.1 This is a specification covering equipment supporting automated substrate tracking.

2.2 This document applies to all implementations of SEMI E90 that use the SECS-II message protocol (SEMI E5). Compliance to this standard requires compliance to both SEMI E90 and SEMI E5.

2.3 This standard does not purport to address safety issues, if any, associated with its use. It is the responsibility of the users of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2.4 This standard is provisional. To have the provisional status removed, the following must be completed:

- Table 1, Services Message Mapping Table
- Table 3, Services Parameters to SECS-II Data Items Mapping

NOTICE: This standard does not purport to address safety issues, if any, associated with its use. It is the responsibility of the users of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

3 Referenced Standards

3.1 *SEMI Standards*

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

SEMI E30 — Generic Model for Communications and Control of Manufacturing Equipment (GEM)

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

SEMI E53 — Event Reporting

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

4 Mapping

4.1 This section shows the specific SECS-II streams and functions that shall be used for SECS-II implementation of the services defined in SEMI E90, as well as the parameter mapping for data attached to services.

4.2 *Message Mapping*

4.2.1 *Services Message Mapping* — Table 1 defines the relationships between SEMI E90 services and SECS-II messages.

4.2.2 *Event Message Mapping* — Table 2 defines the relationships between SEMI E90 collection events and SECS-II messages.

Table 1 Services Message Mapping Table

Service Name	*Stream, Function*	*SECS-II Message Name*
change substrate state	(not yet defined)	(not yet defined)
register substrate	S14,F9/10	Create Object Request/Acknowledge (E39.1)
remove substrate	S14,F11/12	Delete Object Request/Acknowledge (E39.1)

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Table 2 Event Message Mapping Table

Event Name	*Stream, Function*	*SECS-II Message Name*
All state model transitions	If SEMI E30 style events: S6F11/12 If SEMI E53 style events: S6F11/12 S6F13/14	If SEMI E30 style events: Event Report Send/Acknowledge If SEMI E53 style events: Event Report Send/Acknowledge Annotated Event Report Send/Ack

4.3 *Parameter Mapping* — Table 3 defines the relationships between SEMI E90 service parameters and SECS-II data definitions.

Table 3 Service Parameters to SECS-II Data Items Mapping

Parameter Name	*Range*	*SECS-II Data Item*
ErrorCode	Enumerated	ERRCODE
ErrorText	1 to 80 characters	ERRTEXT
STAcknowledge	0 if success; 1 if error (Conforms to ObjAck in SEMI E39.1)	OBJACK
Status	List of error information	L,n n = number of errors 1. L,2 1. <ErrorCode$_1$> 2. <ErrorText$_1$> . . n. L,2 1. <ErrorCode$_n$> 2. <ErrorText$_n$>
STStatus	STAcknowledge and Status	L,2 1. <STAcknowledge> 2. <Status>
SubstID	1–80 characters (Conforms to ObjID in SEMI E39.1)	OBJID
SubstIDList (ordered list of)	List of Substrate ID's	L,n n = number of substrate identifiers 1. <SubstID$_1$> . . n. <SubstID$_n$>
SubstLocID	1–80 characters (Conforms to ObjID in SEMI E39.1)	OBJID
SubstLocIDList (ordered list of)	List of Substrate Location ID's corresponding to the SubstIDList (ordered list of).	L,n n = number of substrate identifiers in SubstIDList (ordered list of) 1. <SubstLocID$_1$> . . n. <SubstLocID$_n$>
SubstProcState	Enumerated per Variable SubstProcState.	U1
SubstProcStateList (ordered list of)	List of Substrate Processing States corresponding to the SubstIDList (ordered list of).	L,n n = number of substrate identifiers in SubstIDList (ordered list of) 1. <SubstProcState$_1$> . . n. <SubstProcState$_n$>
SubstState	Enumerated per Variable SubstState	U1

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