



## SEMI E32.1-94 SECS-II SUPPORT FOR MATERIAL MOVEMENT

### 1 Introduction

This document contains the necessary information to implement the Material Movement Management standard using the SEMI E5 SECS-II communications protocol.

### 2 Service to Message Mapping

The table below lists each message service defined in the Material Movement standard with the SECS-II message which should be used to perform that service.

| Service                | SECS-II Msg         | Comments                                                                                    |
|------------------------|---------------------|---------------------------------------------------------------------------------------------|
| TRJobCreate            | S4,F19 <sup>1</sup> |                                                                                             |
| TRJobCreate Response   | S4,F20              |                                                                                             |
| TRJobCommand           | S4,F21              |                                                                                             |
| TRJobCommand Response  | S4,F22              |                                                                                             |
| TRJobAlert             | S4,F23              |                                                                                             |
| TRJobEvent             | S6,F11 <sup>2</sup> | Corresponding messages to enable reporting, create and link reports, etc. are also assumed. |
| GetAttribute           | S1,F19              |                                                                                             |
| GetAttribute Response  | S1,F20              |                                                                                             |
| HOReady                | S4,F27              |                                                                                             |
| HOCCommand             | S4,F29              |                                                                                             |
| HOCCommand Response    | S4,F31              |                                                                                             |
| HOVerify               | S4,F33              |                                                                                             |
| HOVerify Response      | S4,F33              |                                                                                             |
| HOCancelReady          | S4,F35              |                                                                                             |
| HOCancelReady Response | S4,F37              |                                                                                             |
| HOHalt                 | S4,F39              |                                                                                             |
| HOHalt Response        | S4,F41              |                                                                                             |

<sup>1</sup>If the S4,F19 message is multi-block, it will require the S4,F25/F26 multi-block inquire/grant transaction.

<sup>2</sup>TRJobEvent is an unconfirmed service. While the required S6,F12 reply must be transferred by the protocol layer, there is no action required on the part of the host. Therefore, it shall be discarded rather than delivered to the application which employs this service.



### 3 Parameter to Data Item/Parameter Mapping

In the table below, each parameter used in the Material Movement messaging services is listed along with its corresponding SECS-II data item. In some cases, a parameter will correspond to a SECS-II list. These cases are noted.

| Parameter     | SECS-II Data Item                       |
|---------------|-----------------------------------------|
| AtomicSpec    | List Structure                          |
| AttrData      | ATTRDATA                                |
| AttributeID   | ATTRID                                  |
| CmdParameter  | List Structure                          |
| CmdParmName   | CPNAME                                  |
| CmdParmValue  | CPVAL                                   |
| EQName        | EQNAME                                  |
| ErrorCode     | ERRCODE                                 |
| ErrorText     | ERRTEXT                                 |
| HOAck         | HOACK                                   |
| HOCancelAck   | HOCANCELACK                             |
| HOCmdName     | HOCMDNAME                               |
| HOHaltAck     | HOHALTACK                               |
| HOSatus       | List Structure                          |
| ObjectID      | OBJID                                   |
| ObjType       | OBJTYPE                                 |
| Status        | List Structure                          |
| TRAck         | TRACK                                   |
| TRAtomicID    | TRATOMICID                              |
| TRAutoStart   | TRAUTOSTART                             |
| TRCmdName     | TRCMDNAME                               |
| TRDirection   | TRDIR                                   |
| TREventData   | List Structure (See S6,F11 in SEMI E5). |
| TREventID     | CEID                                    |
| TRJobID       | TRJOBID                                 |
| TRJobMS       | TRJOBMS                                 |
| TRJobName     | TRJOBNAME                               |
| TRLINK        | TRLINK                                  |
| TRLocation    | TRLOCATION                              |
| TRObjName     | TROBJNAME                               |
| TRObjType     | TROBJTYPE                               |
| TRPartner     | TRPTNR                                  |
| TRPartnerPort | TRPTPORT                                |
| TRPort        | TRPORT                                  |
| TRRecipe      | TRRCPP                                  |
| TRRole        | TRROLE                                  |
| TRStatus      | List Structure                          |
| TRType        | TRTYPE                                  |

### 4 Collection Event List

The following collection events must be available for reporting from the equipment via S6,F11:

Committed To Transfer  
Waiting for StartHandoff  
Transfer Job Paused  
Transfer Job Resumed  
Atomic Transfer Started  
Atomic Transfer Complete

#### Application Note — SECS-I Equipment-to-Equipment Link

The direct SECS-I link between equipment poses a small problem. That is, it is not clear which partner should be the "SECS-I host" and which the "SECS-I equipment." As a general rule, if one partner is always the primary transfer partner, it should be configured as the SECS-I host. However, this is not a requirement, since in some cases the choice of which is the primary partner may depend upon the situation. Therefore, where SECS-I is used to link the transfer partners, each partner should be user configurable as either "host" or "equipment."

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