

SEMI E171.1-1215

SPECIFICATION FOR SECS-II PROTOCOL FOR PREDICTIVE CARRIER LOGISTICS

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1 Purpose

1.1 The purpose of this Standard is to provide a mapping of the services and data of SEMI E171, Specification for Predictive Carrier Logistics to SECS-II message protocol.

2 Scope

2.1 The scope of this Standard is to map the services and data of SEMI E171 to SECS-II streams, functions, and items.

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

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

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

SEMI E87 — Specification for Carrier Management (CMS)

SEMI E171 — Specification for Predictive Carrier Logistics (PCL)

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

4 Terminology

4.1 None.

5 Mapping of CFJ Services

5.1 *Services Message Mapping* — The following table defines the relationships between SEMI E171 CFJ services and SECS-II messages.

Table 1 CFJ Service Messages Mapping

Service Message Name	SEMI E39 Object Service Message Name	Stream, Function	SECS-II Name
GetCFJList	GetAttr	S14F1,F2	GetAttr Request/Data
GetCFJData	GetAttr	S14F1,F2	GetAttr Request/Data
PutAMHSArrivalInfo	ObjectAction	S14F19,F20	Generic Service Request/Acknowledge

6 Mapping of CFJ Service Message Parameters

6.1 *Parameter Mapping* — The following table defines the relationships between SEMI E171 CFJ service parameters and SECS-II data definitions.

Table 2 CFJ Service Parameters to SECS-II Data Item Mapping

CFJ Service Parameter	SEMI E39 Object Service Message Parameter	Range	SECS-II Data Item
GetCFJList	GetAttr		
---	ObjSpec		OBJSPEC [20]
---	ObjType	OBJTYPE: 'CarrierFlowJob'	OBJTYPE [20]
---	AttrName	ATTRID 'ObjID'	ATTRID [20]
GetCFJListResp CFJlist	List of ObjSetting	OBJID 1–80 characters ATTRID 'ObjID' ATTRDATA for ObjID 1–80 characters	1. L,n n = number of CFJ 1. L,2 1. <OBJID ₁ > 2. L,1 1.L,2 1. <ATTRID ₁₋₁ > 2. <ATTRDATA ₁₋₁ > : n. L,2 1. <OBJID _n > 2. L,1 1.L,2 1. <ATTRID _{n-1} > 2. <ATTRDATA _{n-1} > OBJID [20] ATTRID [20] ATTRDATA [20]
	ObjStatus	OBJACK 0=Successful completion 1=Error ERRTEXT: 1–120 characters	1. L,2 1. <OBJACK> 2. L,p 1. L,2 1. <ERRCODE _i > 2. <ERRTEXT _i > : p. L,2 1. <ERRCODE _p > 2. <ERRTEXT _p > OBJACK [51] ERRCODE [5()] ERRTEXT [20]
GetCFJData	GetAttr		
---	ObjSpec		OBJSPEC [20]
---	ObjType	OBJTYPE: 'CarrierFlowJob'	OBJTYPE [20]
CFJID	ObjID	OBJID: 1–80 characters	OBJID [20]

CFJ Service Parameter	SEMI E39 Object Service Message Parameter	Range	SECS-II Data Item
CFJData	AttrName	ATTRID 'CFJData'	ATTRID [20]
GetCFJDataResp CFJData	ObjSetting	OBJID 1-80 characters ATTRID 'CFJData' ATTRDATA for CFJData CLJ attributes: Defined in CLJ	1. L, i = number of CFJ 1. L, 2 1. <OBJID _i > 2. L, 1 1. L, 2 1. <ATTRID _{i-1} > 2. <ATTRDATA _{i-1} > : i. L, 2 1. <OBJID _i > 2. L, 1 1. L, 2 1. <ATTRID _{i-1} > 2. <ATTRDATA _{i-1} > OBJID [20] ATTRID [20] ATTRDATA [0] Refer to CLJ attributes
	ObjStatus	Same ObjStatus range with GetCFJListResp	Same ObjStatus Data Item structure with GetCFJListResp
PutAMHSArrival Info	ObjectAction service		
---	OperationID		OPID [5()]
---	ObjSpec		OBJSPEC [20]
---	ObjectAction	'PutAMHSArrivalInfo'	SVCNAME [20]
AMHSArrivalInfo	ObjectActionParameter Request	SPNAME 'CFJID' 'CLJID'	L, m = number of CFJ 1. L, 2 1. <SPNAME _i > 2. L, a = number of CLJ in specified CFJ 1. L, 2 1. L, 2 1. < SPNAME ₁₋₁₋₁ > 2. <SPVAL ₁₋₁₋₁ > 2. L, 2 1. < SPNAME ₁₋₁₋₂ > 2. <SPVAL ₁₋₁₋₂ > : a. L, 2 1. L, 2 1. < SPNAME _{1-a-1} > 2. <SPVAL _{1-a-1} > 2. L, 2 1. < SPNAME _{1-a-2} > 2. <SPVAL _{1-a-2} >
	ObjectActionParameter Result	'EstimatedArrivalTime' SPVAL: for CLJID, CFJID 1-80 characters for EstimatedArrivalTime Defined in SEMI E171 TimeReport	

CFJ Service Parameter	SEMI E39 Object Service Message Parameter	Range	SECS-II Data Item
			: m.L,2 1.<SPNAME_m> 2.L,b b=number of CLJ in specified CFJ 1. L,2 1. L,2 1.< SPNAME_{m-1-1}> 2.<SPVAL_{m-1-1}> 2. L,2 1.< SPNAME_{m-1-2}> 2.<SPVAL_{m-1-2}> : b. L,2 1. L,2 1.< SPNAME_{m-b-1}> 2.<SPVAL_{m-b-1}> 2. L,2 1.< SPNAME_{m-b-2}> 2.<SPVAL_{m-b-2}> SPNAME [20] SPVAL [20]
AMHSArrivalInfo Resp	ObjectActionStatus	SVCACK 0=Acknowledge, service has been performed 1=Service does not exist 2=Cannot perform now 3=At least parameter is invalid 4=Acknowledge, service will be performed with completion notified later with parameters for response 5=Service is not completed or prohibited 6=No such object exists ERRTEXT: 1-120 characters	L,2 1.<SVCACK> 2. L,n 1.L,2 1.<ERRCODE₁> 2.<ERRTEXT₁> : n.L,2 1.<ERRCODE_n> 2.<ERRTEXT_n> SVCACK [10] ERRCODE [5()] ERRTEXT [20]
---	ObjectLinkID		LINKID [54]

7 Mapping of CLJ Services

7.1 Services Message Mapping — The following table defines the relationships between SEMI E171 CLJ services and SECS-II messages.