SEMI SMT-ELS: SMT Equipment Link Standards
- The Standard Suite to Make SMT Assembly Line Smarter -

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SEMI has developed "SEMI SMT-ELS (Equipment Link Standards)" the Standard suite for SMT assembly line, which replaces SMEMA and adds data communication capabilities to make assembly line smarter. SEMI SMT-ELS was proposed by SMT assembly equipment suppliers and uses the general purpose advanced M2M interface "SEMI A1/A1.1" as the base protocol. SEMI A2 SMASH (Surface Mount Assembler Smart Hookup) is newly developed for SMT assembly line operations. SEMI Standards are global standards that have been supporting semiconductor and related manufacturing lines for many years and its development process is open for those who are interested.

Benefits of SEMI SMT-ELS

SEMI SMT-ELS provides higher level of connectivity and control capabilities of SMT assembly line including:

- ➢ Host-equipment Communication
  - ✧ M2M Network setting
  - ✧ Production route setting
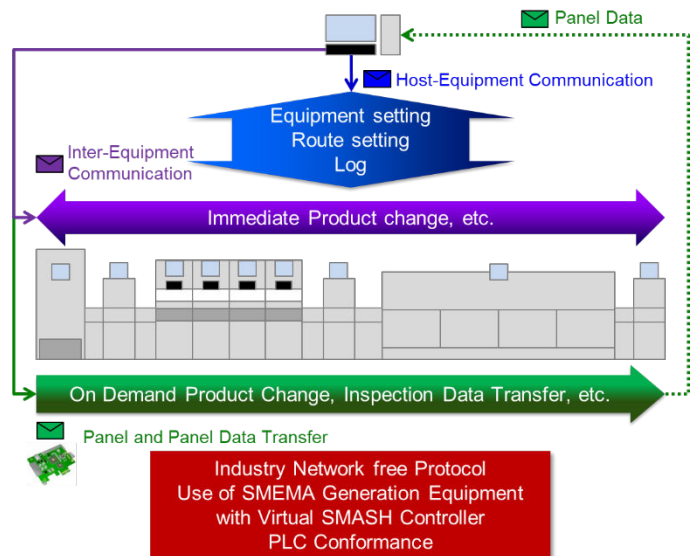- ➢ Inter-equipment Communication Direct communication between equipment which performs:
  - ✧ Immediate product change
  - ✧ Panel Data usage mode setting
- ➢ Panel and Panel Data Transfer Object Oriented panel transfer which simultaneously transfers a panel with its data.
  - ✧ On Demand product change
  - ✧ Panel handoff exception handlings (Pause – Recovery)

SEMI SMT-ELS is highly extendable in its structure for the future requirements.

SEMI Standards used for SEMI SMT-ELS

SEMI SMT-ELS consists of the following SEMI Standards.

- ➢ SEMI A2   Specification for Surface Mount Assembler Smart Hookup (SMASH)
- ➢ SEMI A1   Specification for Horizontal Communication (HC) Between Equipment for Factory Automation System
- ➢ SEMI A1.1   Specification for Media Interface for A Horizontal Communication (HC) Between Equipment

SMT Applications (Host / E2E Interfaces)		
SEMI A2 SMASH		
SEMI A1 HC		
SEMI A1.1 Media Interface		
TCP/IP		

Published Standards are available through "SEMIViews" a license to access the Standard documents. Please ask SEMI Staff for SEMIViews.

To access up-to-date revisions being developed in the SEMI Standards process and not published yet, please join SEMI Standards activity below.

SEMI Standards Standardization Activity

SEMI Standards Automation Technology (AT) committee is responsible for development and improvement of these standards, and task forces under the committee are responsible to each document. The activity is open for everyone with free Program Member registration. Please ask SEMI Staff for the registration.

SEMI Standards Application Activity

SEMI Flow Manufacturing (FM) Forum is the forum prepared for collaborations to apply the Standards. The forum is open for any users and suppliers of SEMI SMT-ELS suite. Please ask SEMI Staff for the registration.

Participation and Endorsement

The following companies are participating the SEMI activities and endorse the application of SEMI SMT-ELS.

Homepage

For more information, visit:
http://www1.semi.org/jp/Standards/SmartManufacturing/FlowShopLine/SMT

About SEMI

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