

**Working Minutes of the CE-2.0 National Connectors Standards Committee
13 – 14 October 2009
Savannah, GA**

Members Present				
Name	Organization or Company	Meeting Present		
		October 2009	April 2009	October 2008
Ralph Antonelli (replaced by Ed Wypasek)	DSCC-VAI		X	X
David Bouzek	Tri-Star Electronics	X	X	X
Don Chambers	Northrop-Grumman	X	X	X
Bob Druckenmiller	FCI	X		
Kevin Rickard	Amphenol	X	X	X
Frank Ruffino (Chairman)	Molex Inc.	X	X	X
Ed Wypasek	DSCC-VAI	X		
Carl Fritz (Vice Chairman)	Contech Research	X	X	X
Members Absent				
H. John Healey, PhD	IBM			X
Arnold Offner	Phoenix Contact			
Bill Peverill	WPA			
Guest				
Ken Lim	Cisco			X
Others Present				
Ed Mikowski	ECA Staff	X	X	X
Bob Willis	ECA President		X	X

Meeting number 45 of the National Connectors and Sockets Standards Committee convened at 8:00 AM on 13 October by Chairman Frank Ruffino. It was noted that for the purpose of this meeting a quorum was met with the members present.

It is noted that the CE-2.0 committee will simultaneously approve all the actions taken by the subcommittees.

1. Approval of the 6 – 7 October 2008 minutes

The minutes of meeting No. 44 held in New Orleans, LA were unanimously moved and approved as published. The motion was made by Don Chambers and seconded by Kevin Rickard.

2. CHAIRMAN’S REPORT AND ANNOUNCEMENTS (Frank Ruffino, Chairman)

Carl reviewed the current EIA Contact Listing with the committee and will revise it based on this meeting. It should be noted that this is only a contact list and not an EIA member listing.

(See Attachment No. 2 for current contact list).

Frank Ruffino reported that a revision is being made for clarification to UL1977, effective date of December 2009 on how a connector is rated. Molex has requested an extension of the effective date to 4 years out. Requested adding a session on safety approval agency related to UL, CSA and ETL.

3. SUBCOMMITTEE MEETINGS

CE-2.1 Test Procedures (Chairman: Carl Fritz, Vice Chairman, Max Peel)

Carl Fritz convened the test procedures subcommittee.
(See Attachment No. 1 for CE-2.1 report).

CE-2.3 Contact Specifications (was subcommittee CE-2.6) (Chairman: Dave Bouzek)

Dave gave an up date on new separable socket designs. Also consideration on performance based plated contacts that allow for either gold, selective gold or palladium as interchangeable.

CE-2.4 Editing Subcommittee (was subcommittee CE-2.7) (Chairman: Carl Fritz)

CE-2.5 International Standards Subcommittee (was subcommittee CE-2.8) (Chairman: Jeff Toran)

Carl Fritz indicated that Jeff Toran would provide a copy of the IEC minutes following the September 2009 meeting.
(See Attachment No. 3 for IEC minutes).

4. CONNECTOR AND SOCKET DETAIL SPECIFICATIONS

A. SP-4970, EIA-540DAAA-A, Detail, DIP

This will be reissued as a new ballot.

B. SP-4971, EIA-700A0AB, 68-pin Memory Card Connector

This will be reissued as a new ballot.

C. SP-5112 as follows:

- EIA-700A0AC: Detail, 88-pin DRAM Connector
- EIA-540A000-A: Sectional, Chip Carrier Sockets
- EIA-540AA00: Blank, Leadless Chip Carrier Sockets
- EIA-540AAAA: Detail, Type A Chip Carrier Sockets
- EIA-540AB00: Blank, PQFP
- EIA-540ABAA: Detail, PQFP
- EIA-540AC00: Blank, PCC
- EIA-540ACAA: Detail, PCC
- EIA-540AD00: Blank, Adaptor QFP to PGA
- EIA-540B000: Sectional, PGA
- EIA-540BA00: Blank, PGA
- EIA-540BAAB: Detail, Non-Mechanical PGA
- EIA-540BAAC: Detail, Flex Carrier PGA
- EIA-540D000-A: Sectional, In-Line Packages
- EIA-540DA00: Blank, DIP (Will be sent out for review)
- EIA-540DAAB: Detail, Flex Carrier DIP
- EIA-540EA00: Blank, Round Sockets
- EIA-540EAAA: Detail, Round Sockets
- EIA-540F000: Sectional, Multi-Package Modules

This will be reissued as a new ballot.

D. New Specification for Mini-Change A-Size (2-6 pole) Connector (Frank Ruffino)

Frank reported that work is on going.

E. Connector and Socket Specification Status

Carl Fritz gave a presentation on the status of all connector and socket specification that he extracted from the EIA database that appear to be the responsibility of CE-2.0. He will coordinate review of the accuracy with EIA. The following tables reflect his findings.

Connector Specifications Past Due for 5-Year Review					
EIA	Rev	Title	Date of last issue	5 Year due date	Years past due
7000000	A	Generic Specification for Electronic and Electrical Connectors of Certified Quality (for Frequencies Essentially Below 3 MHz)	August-96	July-01	7
270		Tools, Crimping, Solderless Wiring Devices - Recommended Procedures for User Certification	January-62	December-66	42
280	C	Solderless Wrapped Electrical Connections	May-92	May-97	12
297	A	Cable Connectors for Audio Facilities for Radio Broadcasting-Correction Sheet	June-70	May-75	34
380	A	Electrical Connectors, Small Contact Standard for	January-78	December-82	26
406		General Document for Connectors, Electric, Printed-Wiring Board-IPC-C-405A	January-74	December-78	30
429		Connectors, Electrical Flat Cable Type-IPC FC-218B	January-76	December-80	28
616	A	Detail Specification for 2 Millimeter, Two-Part Connectors for Use with Printed Boards and Backplanes	November-02	November-07	1
622	A	Glossary of Electrical Connector Related Terms	August-07	August-12	-4
700A0AA		Detail Specification for 1.27 mm Pitch, Ribbon Contact, Trapezoidal Shaped, Shielded I/O Connector	April-96	April-01	8
700A0AC		DETAIL SPECIFICATION FOR 1.00 MM PITCH, 88 CIRCUIT DRAM MEMORY CARD INTERCONNECT SYSTEM	August-96	August-01	
700A0AD		Detail Specification for the Interface of the 1.27 mm Pitch, Ribbon Contact (Leaf Spring), Trapezoidal Shaped, Self-Locking I/O Connector	November-97	October-02	6
700A0AE		Detail Specification for Trapezoidal Connectors with Nonremovable Ribbon Cable Contacts on 1.27mm Pitch Double Row Used with Single Connector Attachments (SCA2)	January-00	December-04	4
700A0AF		Detail Specification for Trapezoidal Shielded Connector 0.8 mm Pitch Used with Very High Density Cable Interconnect (VHDCI)	July-00	June-05	4
700AAAB	A	Detail Specification for 1.0 mm, Two-Part Connectors for Use with Parallel Printed Boards	January-96	December-00	8
700B000		Sectional Specification for Rectangular/Trapezoidal Connectors of Certified Quality	May-99	May-04	5

Connector Specifications Past Due for 5-Year Review					
EIA	Rev	Title	Date of last issue	5 Year due date	Years past due
700BA00		Blank Detail Specification for Rectangular/Trapezoidal Connectors of Certified Quality	September-98	September-03	5
700BAAD		Detail Specification for Shielded Rectangular Connectors for Universal Serial Bus Plus Power Connectors Series "A"	May-00	April-05	4
700BAAE		Detail Specification for Shielded Rectangular Connectors for Universal Serial Bus Plus Power Connectors Series "B"	May-00	April-05	4
700C000		Sectional Specification for Circular Multicontact Connectors of Assessed Quality (for Frequencies Essentially Below 3 MHz)	January-97	January-02	7
700D000		Sectional Specification for Discrete Contacts of Certified Quality (for Use in dc/Low Frequency Analog Applications and in Digital Applications Employing High Speed Data Rates)	January-98	January-03	6
710		Requirements Guide for Space Grade Electrical Connectors	October-97	October-02	6
IS-47		Contact Termination Finish Standard for Surface Mount Devices	July-87	June-92	17
IS-753		Two-Part High Density Blade and Backplane Tuning Fork Connector	February-98	February-03	6
IS-84		Interim Detail Specification for 2.5 mm Two Part Connector for Use in Electronic Equipment	April-92	April-97	12

- Approved to be obsoleted or rescinded

Socket Specifications Past Due for 5-Year Review					
EIA	Rev	Title	Date of last issue	5 Year due date	Years past due
540ADAA		Detail Specification for Adaptor-Carrier Quad Flatpack to Pin Grid Array Sockets for Use in Electronic Equipment	February-92	January-97	12
540B0AA	A	Detail Specification for Production Ball Grid Array (BGA) High Pin Count (1089 Pins and Greater) Socket for Use in Electronic Equipment-Revision	October-01	September-06	2
540BAAA	A	Detail Specification for Mechanically Actuated (Zero and Low Insertion Force) Sockets for Pin Grid Array Devices with 2.54 mm X 2.54 mm (0.1 in X 0.1 in) Spacing for Use in Electronic Equipment	August-96	August-01	7
540CAAC	A	Detail Specification for 2 Pole, 10 A Relay Sockets	November-98	November-03	5
540CAAD	A	Detail Specification for 2 Pole, 5 A Relay Sockets	August-99	August-04	4
540CAAE	A	Detail Specification for 3 Pole, 10 A Relay Sockets	August-99	August-04	4
540DB00		Blank Detail Specification for Decoupling Capacitor Dual In-Line Package Sockets	June-93	December-97	11
540DB00		BLANK DETAIL SPEC FOR DIP SOCKETS W/DECOUPLING CAP	June-93	June-98	11
540DBAA		Detail Specification for Decoupling Capacitor Dual In-Line Package Sockets for Use in Electronic Equipment	January-94	December-98	10
540E000		Sectional Specification for Round-Style Sockets for Use in Electronic Equipment	February-93	February-98	11
540FA00	A	Blank Detail Specification for Multi-Package Module Sockets for Use in Electronic Equipment	April-92	March-97	12
540FAAA		Detail Specification for Multi-Package 100 Mil Pitch, Vertical Mounting Format Module Sockets for Use in Electronic Equipment	January-92	December-96	12
540FAAB		Detail Specification for Multi-Package 100 Mil Pitch, Angled Mounting Format Module Sockets for Use in Electronic Equipment	January-92	December-96	12
540FAAC		Detail Specification for Multi-Package 50 Mil Pitch, Vertical Mounting Format Module Sockets for Use in Electronic Equipment	January-92	December-96	12
540FAAD		Detail Specification for Multi-Package 50 Mil Pitch, Angled Mounting Format Module Sockets for Use in Electronic Equipment	January-92	December-96	12
540G000		Sectional Specification for Burn-In Sockets for Use in Electronic Equipment	January-93	December-97	11
540GA00		Blank Detail Specification for Burn-In Sockets for Chip Carrier Packages with Molded Carrier Rings for Use in Electronic Equipment	January-93	December-97	11
540GAAA		Detail Specification for Burn-In Sockets for Chip Carrier Packages with Molded Carrier Rings for Use in Electronic Equipment	January-93	December-97	11

Socket Specifications Past Due for 5-Year Review					
EIA	Rev	Title	Date of last issue	5 Year due date	Years past due
540HA00		Blank Detail Specification for Burn-In Sockets Used with Ball Grid Array Devices for Use in Electronic Equipment	May-00	April-05	4
540HAAA		Detail Specification for Burn-In Sockets Used with Ball Grid Array Devices for Use in Electronic Equipment	June-00	May-05	4
540J000		Sectional Specification for Battery Holders for Use in Electronic Equipment	May-00	April-05	4
540J0AA		Detail Specification for Cylindrical Battery Holders, Standard Profile, for Use in Electronic Equipment	May-00	April-05	4
540J0AB		Detail Specification for Coin Cell Battery Holders for Use in Electronic Equipment	June-01	May-06	3
674	A	Specification for Dimensions and Connectors Locations of Small Form Factor 45 millimeter (1.8 inch) Disk Drive	August-06	August-11	-3
675		Specification for Small Form Factor 33.0 mm (1.3 in) Disk Drives	January-96	December-00	8
676	A	Specification for Parallel 1.8 inch Drive Form Factor (78 millimeter x 54 millimeter)	June-06	June-11	-2
677		Specification for Small Form Factor Power Connector Pin Dimensions	June-97	June-02	7
740		Specification for Small Form Factor 88.9 mm (3.5 in) Disk Drives	July-99	June-04	5
741		Specification for Small Form Factor 133.35 mm (5.25 in) Disk Drives	May-01	April-06	3
773		Check List for Document Development and Revision	May-00	April-05	4
CB-5-1		Recommended Test Procedure for Semiconductor Thermal Dissipating Devices-Addendum to CB5	May-71	April-76	33
IS-701		Production Ball Grid Array (BGA) Socket Test Specification	July-96	July-01	7

- Approved to be obsolete or rescinded
- Duplicate listing

The unanimously agreed to obsolete all Generic, Sectional and Blank Details Specifications. Carl Fritz has agreed to be project leader. It was moved by Don Chambers and seconded by Bob Druckenmiller to obtain a project number and send out on SP ballot. If there no objections or negative received the document shall be sent to EIA to rescind (withdraw). The motion was unanimously approved.

It was moved by Frank Ruffino and seconded by Ed Wypasek to obtain a project number and send out all detail specifications that are more than 10 years past due to have them “Stabilized” on an SP ballot. If there no objections or negatives received the document shall be sent to EIA to be listed as “Stabilized”. The motion was unanimously approved.

It was note that all specifications labeled as “Stabilized” are NOT subject to the 5-year review process in the future; however, they may be revise at anytime.

Unknown Connector Documents						
EIA	Rev	Title	Date of last issue	5 Year due date	Years past due	Comments
51		EMISSION LIMITATION AM BROADCAST TRANSMISSION	September-88	August-93		Number unidentifiable
5810000		GENERIC SPEC RECTANGULAR CONNECTOR FOR FREQUENCIES BELOW 3 MHZ				Number unidentifiable
5880000		GEN SPEC PRINTED BD CONNECTORS OF ASSESSED QUALITY				Number unidentifiable
437-1		ADDENDUM NO. 1 TO EIA-437 BASIC SENSITIVE SWITCHES	September-78	August-83		Number unidentifiable
437-2			May-78	April-83		RESCINDED 9/25/89
437-3			September-78	August-83		RESCINDED 9/25/89
437-4			September-89	August-94		RESCINDED 9/25/89
437-5		20 AMP DOUBLE BREAK SENSITIVE SWITCHES	March-81	February-86		Number unidentifiable
437-6		15 AMP DOUBLE BREAK SENSITIVE SWITCHES	March-81	February-86		Number unidentifiable
437-7		10 AMP DOUBLE SENSITIVE SWITCHES	June-80	May-85		Number unidentifiable
437-8		8 AMP DOUBLE SENSITIVE SWITCHES	June-80	June-85		Number unidentifiable
64		INTERIM STD, 2MM TWO-PART CONN FOR PRINT WIRING BD	March-91	March-96		Number unidentifiable
700A000		SECT SPEC FOR PRINTED BOARD CONNECTORS ESSENTIALLY BELOW 3MHZ				No record that specification was ever issued
700A0AG		DT SP TRAPEZOIDAL PIN-AND-SOCKET CONN FIBER CHANNEL APPLICATIONS				No record that specification was ever issued
700AAAA		DT SP 1.27 mm PITCH RIBBON CONTACT TRAPEZOIDAL SHIELDED I/O CONNC				No record that specification was ever issued
700BAAA		CONNECTOR ELECT RECTANGULAR SCOOP-PROOF LOW FORCE SUBMINIATURE				No record that specification was ever issued
700BAAB		CONNECTORS, ELECTRICAL, RECTANGULAR, BLIND-MATE, SCOOP-PROOF				No record that specification was ever issued
700BAAC		DT SP BLIND-MATE, SCOOP PROOF EVA LOW EARTH ORBIT LEO CONNECTOR				No record that specification was ever issued
700D0AA		HIGH DENSITY TUNING FORK COMPONENTS				No record that specification was ever issued
700DA00		DISCRETE CONTACT BLANK DETAIL SPECIFICATION				No record that specification was ever issued

Unknown Socket Documents						
EIA	Rev	Title	Date of last issue	5 Year due date	Years past due	Comments
540B0AB		Low Pin Count BGA				Sent letter to EIA to cancel project on 13 May 2008
540D0AA		DET. SPEC - SOCKETS FOR DUAL...PACKAGES	January-90	January-95		No record that specification was ever issued
540F0AG		DETAIL SPEC-SMALL OUTLINE DIMM DUAL-IN-LINE MEMORY MODULE SOCKETS				No record that specification was ever issued
540FAAE		DT SP DUAL IN-LINE MEMORY (DIMM) SOCKETS 1.27 MM VERTICAL MOUNT				No record that specification was ever issued
540FAAF		DT SP 8-BYTE 168 POSITION DUAL IN-LINE MEMORY MODULE SOCKET 1.27				No record that specification was ever issued
540JAAA		DT SP BURN-IN SOCKETS USE W/BALL GRID ARRAY DEVICE USE IN ELEC EQ				No record that specification was ever issued

F. Obsolete or rescind all Generic, Sectional and Blank Detail Specifications (Carl Fritz)

The unanimously agreed to obsolete all Generic, Sectional and Blank Details Specifications. Carl Fritz has agreed to be project leader. It was moved by Don Chambers and seconded by Frank Ruffino to obtain a project number and send out on SP ballot.

G. SP-5193, EIA-7000000, EIA-700B000, EIA-700BA00, EIA-700C000, EIA-700D000, EIA-540DB00, EIA-540E000, EIA-540FA00, EIA-540G000, EIA-540GA00, EIA-540HA00 and EIA-540J000 “Electrical Connector and Socket Specifications” (Carl Fritz)

Carl reported that he sent cover memo (mccwil382 and PINS form to EIA requesting a project number on 25 June 2009.

Received project numbers 25 June 2009.

Sent letter (mccwil385) and prepared SP ballot to EIA to rescind on 23 July 2009.

Ballot issued 23 July 2009 with a ballot expiration date of 23 September 2009.

Confirmation with EIA on 30 September 2009 verified that there were 6 approved ballots received by the 21 September 2009 ballot expiration date. There were no rejections or abstentions.

It was moved by Bob Druckenmiller and seconded by Don Chambers to go to EDEC ballot to rescind (withdraw) the listed standards. The motion was unanimously approved.

5. SFF COMMITTEE PROJECTS

There has been a request received to prepare approximately 22 detail specifications on behalf of the SFF Committee. The committee unanimously agreed to take this on as a project to create new detail specifications. Frank Ruffino has agreed to be project leader. It was moved by Don Chambers and seconded by Kevin Rickard to obtain a project number and send out on letter ballot or SP as determined by the project leader. The motion was unanimously approved.

A. Active Projects (Frank Ruffino)

Carl reported that he sent cover memo (mccwil381 and PINS form to EIA requesting a project number on 11 June 2009 on behalf of Frank Ruffino.

Received project numbers 11 June 2009 as follows:.

SP or PN-5190, EIA-964, Detail Specification for QSFP+ Copper and Optical Modules (formerly SFF-8436) (Frank Ruffino)

SP or PN-5191, EIA-965, Detail Specification for Mini Multilane Shielded Integrated Connector (formerly SFF-8642) (Frank Ruffino)

B. Future Projects (Frank Ruffino)

- SFF-8087: Mini Multilane Series Connector: Unshielded
- SFF-8088 Mini Multilane Series Connector: Shielded
- SFF-8482 Internal Serial Attachment Connector
- SFF-8431 SFP+'
- SFF-8432 IPF (Improved Pluggable Formfactor
- SFF-8433 IPF (Improved Pluggable Formfactor) Cage
- SFF-8436 QSFP Copper and Optical Transceivers
- SFF-8484 4-Wide Internal Serial Attachment Connector
- SFF-8642 Mini Multilane Series: Shielded Integrated Connector
- SFF-8079 SFP Rate and Application Selection
- SFF-8089 SFP Rate and Application Codes
- SFF-8416 Measurement & Performance Requirements for HPEI Bulk Cable
- SFF-8460 HSS Backplane Design Guidelines
- SFF-8100 Suite of <2.5" Form Factor Specifications
- SFF-8200 Suite of 2.5" Form Factor Specifications
- SFF-8300 Suite of 3.5" Form Factor Specifications
- SFF-8500 Suite of 5.25" Form Factor Specifications
- SFF-8448 SAS Sideband Utilization
- SFF-8485 Serial GPIO (SGPIO) Bus

6. LIASION REPORTS

A. DSCC, including Army, USAF, Navy; except NAVAIR (Ed Wypasek)

Ed presented his report.
(See Attachment No. 4 for DSCC report).

B. NAVAIR (Dwight Tabit)

Carl presented Dwight's report.
(See Attachment No. 5 for NAVAIR report).

C. SAE (Dave Bouzek)

Dave Bouzek indicated that the next SAE meeting is schedule for 18 – 21 May 2010 in Nashville, TN.

The fall meeting is 26 - 29 October 2010 in Savannah, GA.

Dave sent me the agendas for the October 2009 meeting.
(See Attachment No. 6 for SAE agenda and Attachment No. 7 for SAE – AE-8C2 agenda).

D. ASTM (Frank Ruffino)

Frank Ruffino has agreed to provide a copy of the agenda for the November 2009 meeting in Atlanta.
(See Attachment No. 8 for ASTM agenda)

7. OTHER BUSINESS

A. Review of questionnaire for CE-2.0 (Frank Ruffino)

Frank reviewed the survey that he has prepared with the committee. It was unanimously approved to send the survey to all current member as well as to those that have participated in the past.

B. Scope (Frank Ruffino)

Review our CE-2.0 Committee Scope. I think it needs adjustments and this has not been done after we merged CE-3.0. Frank agreed to prepare a revised scope of the committee.

Frank presented the revised scope for the ECA web site. Frank will forward to Cecelia. It was moved by Carl Fritz and seconded by Kevin Rickard to approve the revised scope. The motion was unanimously approved.
(See Attachment No. 9 for Scope)

C. Committee Process (Carl Fritz)

It was moved by Frank Ruffino to approve the revised Standard Proposal Ballot Disapproval Resolution Card (purple card) and seconded by Kevin Rickard. The motion was unanimously approved.

(See Attachment No. 10 for Purple Card)

D. WEB Database Review (Carl Fritz and Frank Ruffino)

Discussed updating the database with Bob Willis. Carl has agreed to provide Bob with a listing of all standards and specification that he is aware of that are the responsibility of the CE-2.0 committee for review. Bob to provide Frank with a copy of the database for suggestions on layout and content. Carl will provide Ed Mikoski with a copy of the files he has following the meeting.

8. New Business

Joint Standard J-STD-075 Update by Mr. Paul Krystek (IBM)

Mr. Paul Krystek has requested about 30 minutes in the Connector Committee agenda to share the activity that is going on with regard to the new Joint Standard J-STD-075; "Classification of Non-IC Electronic Components for Assembly Processes". This specification establishes worst case Wave and Reflow profiles for which suppliers then classify their parts as fully compliant or as "Process Sensitive". This includes both leaded and lead-free considerations. There was some participation from the connector commodity during the formation of this specification, however as a follow on technical activity the J-STD-075 joint committee felt that increases participation from the ECA Connector committee members is critical to this specifications effective usage (e.g. there might need to be some unique specification content added to J-STD-075 for solderable connectors).

(See Attachment No. 11 for IBM Presentation)

9. FUTURE MEETINGS

Next meeting is tentatively scheduled for Orlando, FL 27 – 28 April 2010, or 20 – 21 April 2010

Respectfully submitted,

Frank Ruffino, Chairman CE-2.0

Prepared by
Carl Fritz, Secretary CE-2.0