

**Working Minutes of the CE-2.0 National Connectors Standards Committee  
28 – 29 April 2009  
New Orleans, LA**

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

Meeting number 44 of the National Connectors and Sockets Standards Committee convened at 9:00 AM on 28 April 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. 43 held in Salt Lake City, UT 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)**

This is the first meeting where the use of a wireless router has been attempted. Frank extended his extreme gratitude to Bob Willis for all his effort and the work of Cecelia Yates to expedite our projects.

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).**

### **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-2.2 Connector and Socket Specifications (was subcommittees CE-2.2, 2.3, 2.4 and 2.9) (Chairman: TBD)

The minutes of the 6 – 7 October 2008 meeting in Salt Lake City, UT were approved. Moved by Kevin Rickard and seconded by Ralph Antonelli. The motion was unanimously moved and approved.

It was determined that there was no need to continue this subcommittee. All future work will be conducted as part of the CE-2.0 committee.

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

Dave Bouzek gave an overview of a new contact design that he is going to present at the next SAE meeting.

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

Nothing new to report at this time.

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 May 2009 meeting. **(See Attachment No. 3 for IEC minutes).**

## 4. CONNECTOR AND SOCKET DETAIL SPECIFICATIONS

### 4.1. Specifications by Project Number

#### A. SP-4965, EIA-540B0AE, Detail Land Grid Array (Carl Fritz)

Carl Fritz reported that he sent letter (mccwil365) to EIA for EDEC ballot to reaffirm on 5 December 2008.

Standard was published as reaffirmed on 13 January 2009 and received by US Mail on 26 January 2009.

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

Sent second letter was sent to EIA to process the EDEC ballot on 6 October 2005.

This will be reissued as a new ballot.

#### C. SP-4971: EIA-700A0AB: 68-pin Memory Card Connector

Sent second letter was sent to EIA to process the EDEC ballot on 6 October 2005.

This will be reissued as a new ballot.

#### D. 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

A second letter (mccwil269) was sent to Cecelia Yates (EIA Staff) EDEC ballot on 14 August 2006.

This will be reissued as a new ballot.

## 4.2 New Business

### A. New Specification (Frank Ruffino)

Frank Ruffino introduced a new connector detail specification for the "Mini-Change A-Size (2-6 pole)" connector.

The unanimously agreed to take this on as a project to create a new Detail Specification. Frank Ruffino has agreed to be project leader. It was moved by Kevin Rickard and seconded by Don Chambers to obtain a project number and send out on letter ballot or SP as determined by the project leader.

### B. 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.

<b>Connector Specifications Past Due for 5-Year Review</b>					
<b>EIA</b>	<b>Rev</b>	<b>Title</b>	<b>Date of last issue</b>	<b>5 Year due date</b>	<b>Years past due</b>
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

Connector Specifications Past Due for 5-Year Review					
EIA	Rev	Title	Date of last issue	5 Year due date	Years past due
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
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	January-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 obsoleted or rescinded

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

C. Obsolete or rescind all Generic, Sectional and Blank Detail Specifications

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.

D. SFF Committee Project Activities

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.

## 5. LIASION REPORTS

A. DSCC, including Army, USAF, Navy; except NAVAIR (Ralph Antonelli)

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

B. NAVAIR (Dwight Tabit)

There was no report. Carl will contact Dwight and see if his report can be added as an attachment following the meeting.  
**(See Attachment No. 5 for NAVAIR report).**

C. SAE (Dave Bouzek)

Dave Bouzek indicated that the next SAE meeting is schedule for 18 – 22 May 2009 in Singer Island, FL.

**(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 5 May 2009 meeting.

**(See Attachment No. 8 for ASTM agenda)**

## **6. OTHER BUSINESS**

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

Activity has been tabled for the time being.

B. Documentation Structure Strategy (Carl Fritz) (Retained for Historical Purposes)

Consensus of the committee is that there is no valid reason to continue to use the generic, sectional and blank details. These documents should be obsoleted at the next review cycle. This has now been actively introduced as a project under new business for connectors and sockets.

This has been addressed in clause 4.2.C of these minutes and is now an active project.

## **7. NEW BUSINESS**

A. 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.

B. Committee Process (Carl Fritz)

Also include a review of the "Official" Process for ballots and resolving negative ballots. I will ask Bob to give us presentation on what we should be doing.

Carl to provide Bob Willis with the sequence of events document as well as the draft of the revised Purple rejection card that were discussed at the meeting.

C. 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.

## **8. FUTURE MEETINGS**

Next meeting is scheduled for Savannah, GA 5 – 8 October 2009

There appears to be a major conflict with the members on the scheduled date. Frank to discuss holding the meeting outside the summit. It appears that the week of 12 –14 October would not cause a conflict.

Respectfully submitted,

Frank Ruffino, Chairman CE-2.0

Prepared by  
Carl Fritz, Secretary CE-2.0