IBIS Open Forum Minutes

Meeting Date: December 6, 2013
Meeting Location: Teleconference

VOTING MEMBERS AND 2013 PARTICIPANTS

Agilent Technologies	Radek Biernacki*, Pegah Alavi, Heidi Barnes, Fangyi Rao, Colin Warwick, Tarun Kalwani, Ming Yan, Xingdong Xue, Zaokai Yuan, Xianzhi Zhao, Ming-Chih Lin, Peter Lin, Hiroaki Sasaki, Toshinori Kageura
Altera	David Banas, Hsinho Wu
ANSYS	[Luis Armenta], Ben Franklin, Dan Dvorscak, Steve Pytel, Lan Chen, Timothy (Gang) Chen, Minggang Hou, Jianbo Liu, Roger Luo, Peng Wang, Shulong Wu, Guoli Yi, Daniel Chang, Richard Chen, Naijen Hsuan, Charlotte Wang, Jean Wang, Jerry Wang, Benson Wei, Shigeru Sano
Applied Simulation Technology	Fred Balistreri, Norio Matsui
Cadence Design Systems	[Terry Jernberg], Joy Li, Yingxin Sun, Ambrish Varma, Kevin Yao, Brad Brim*, Aileen Chen, Lanbing Chen, Raymond Y. Chen, Heiko Dudek, Jiayuan Fang, Zhiqiang (Johnny) Fang, Henry He, Jinsong Hu, Li Li, Maofeng Li, Ping Liu, Yubao Meng, Zuli Qin, Aaron Tang, Haisan Wang, Yun Wang, Yitong Wen, Janie Wu, Yanrui (Clark) Wu, Dingru Xiao, Benny Yan, Wenjian Zhang, Zhangmin Zhong, Tric Chiang, Thunder Lay, Jack (Wei-Chang) Lin, Paddy Wu, Candy Yu, Yukio Masuko, Takuya Moriya, Morihiro Nakazato, Watanabe Yasuyuki
Ericsson	Anders Ekholm, Martina Fiammengo, Markus Janis
Foxconn Technology Group	Leo Cheng, Po-Chuan (Eric) Hsieh, Alex Tang
Huawei Technologies	Yu Chen, Xiaoqing Dong, Jing Fu, Chen Han, Peng Huang, Jinjun Li, Lingfei Li, Luya Ma, Xiao Peng, Xinlu Peng, Haili Wang, Shengli (Victory) Wang, Zhengrong Xu, Hongxian Yi, Gezi Zhang, Zhengyi Zhu
IBM	Greg Edlund, Adge Hawes*, Dale Becker
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak, Mohammad Bapi, Stewart Gilbert, Ravindra Rudraraju, Kang Nan, Weifeng Shu, Ming Wei, Jimmy Hsu, Thomas (YiRen) Su
IO Methodology	Lance Wang
LSI	Brian Burdick, Sarika Jain, Xingdong Dai, Anaam Ansari, Min Huang

Maxim Integrated Products	Hassan Rafat, Mahbubul Bari, Ron Olisar
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov
Micron Technology	Randy Wolff*
Signal Integrity Software	Walter Katz*, Mike LaBonte*, Mike Steinberger, Todd Westerhoff
Synopsys	John Ellis, Ted Mido, Scott Wedge, Rinsha Reghunath, Xuefeng Chen, Jinghua Huang, Yu Wang
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Toshiba	Yuui Shimizu, Yoshinori Fukuba
Xilinx	(Raymond Anderson)
Zuken	Masaud Raeisi, Reinhard Remmert, Michael Schaeder, Alfonso Gambuzza, Kiyohisa Hasegawa

OTHER PARTICIPANTS IN 2013

Abeism Corp	Nobuyuki Kiyota
Accton Technology Group	Ching-Hwei Tsend, Xian-Wei Wang
AET	Norihide Taguchi
AMD	Tadashi Arai
ASE Group	Hink Chung, Jarris Kuo
Astrodesign	Nishi Yoshiaki
ASUSTek Computer	Vincent Lu
AU Optronics Corp	Jason Kuo, Joe Shih
Avant Technology	Elvis Li, Linda Sun, Jyam Huang, Enson Lee
Bayside Design	Elliot Nahas
C-Tech	Hideki Inada
Canon	Yuji Ishikawa, Takamasa Sakuragi
Canon Components	Hisayuki Tamura
Casio Computer	Yasuhisa Hayashi, Ikuo Imada
Celestica	Lei Liu, Fei Xue
Chinese Electronics Technology Company Institute #52 (CETC52)	Shujun Wei, Tianjiao Wu
Chino	Akio Nakanishi
Cisco Systems	Biao Chen, Feng Wu, Iris Zhao
Computer Simulation Technology	Heiko Grubrich
Compal Electronics	Scott C.H. Li
Contech	Zheng Tang
Coriant	Bruce (Zhenshui) Qin
Cybernet Systems	Takayuki Tsuzura, Wataru Nakagawa
Delta Networks	Skipper Liang
Eastwell	Xuanjiang Shen, Xiuqing Ye
ECL Advantage	Thomas Iddings
Elpida Memory	Toshio Oki
Etrain China	Weichun Lu
FiberHome Technologies Group	Shengyao Wan, Xuanjun Xia

Freescale Semiconductor	Jon Burnett, Takahiro Sato
Fuji Xerox	Tadamasa Sakamaki
Fuji Xerox Manufacturing	Rumi Maeda
Fujitsu Advanced Technologies	Yoshiyuki Iwakura, Kazuhiro Kanai, Hikoyuki Kawata, Ryo Mizutani, Syougo Fujimori, Hidenobu Shiihara, Kumiko Teramae
Fujitsu Interconnect Technologies	Hiromi Hayasaka
Fujitsu Laboratories	Toshiki Iwai, Satoshi Matsubara
Fujitsu Microelectronics Solutions	Saharu Kamimura, Jyun Uchita, Yutaka Ide
Fujitsu Semiconductor	Hirokazu Yamazaki, Yu Kamata, Motoaki Matsumura, Shintaro Ohtani, Megumi Oono
Fujitsu VLSI	Shizue Katoh, Hiroki Kubota
Giga Hertz Technology	Ryuji Kawamura
Granite River Labs	Vamshi Kandalla, Miki Takahashi
H3C	Lichen Li, Xiaoxiang Li
Hewlett-Packard	Yongjin Choi, Ting Zhu
Himax Technologies	Falco Chuang, Lee Renee, Austin Wang, Josh Wu
Hisense	Aofeng Qian
Hitachi	Ritsurou Orihashi
Hitachi Information & Communication	Yoshifumi Takada
Hitachi Kokusai Electric	Kunihito Seguchi
Hitachi ULSI Systems Co.	Hiroshi Uematsu, Sadahiro Nonoyama
ILI Technology Corp	Tieyan Chang, Chia-Chen (Trevor) Wu
Inventec	Zhong Peng
Innotech Corporation	Tasuku Kanomata
Japan Aviation Electronics Industry	Norihiro Andou
Japan Radio Co.	Takashi Satoh
JEITA	Atsushi Ishikawa
JVC Kenwood Corporation	Takuo Fujimura, Hidetoshi Suzuki
KEI Systems	Shinichi Maeda
Kyocera Circuit Solutions	Kiyohiko Kaiya, Toshiyuki Kaneko
Kyoden Co.	Shinichi Mochida
Lapis Semiconductor	Yuki Akyama
Lenovo	John Lin, Alan Sun
Marvell Technology Group	Weizhe Li, Fang Lv, Banglong Qian, Yuyang Wang
Mediatek	Gerald Hsu, Fandy Huang
MD Systems	Hidetoshi Ogawa
Megachips Corporation	Yoshimasa Yahata
Meidensha Corporation	Ryu Neruson
Mitsubishi Electric Corporation	Suzuki Yusuke, Takumi Kurihara
Micro-Star International	Ethan Huang, Anthony Liang, PeterTsai, Cloud Tseng
Molex	Davi Correia, Greg Fu, Satish
National Instruments	Lee Mohrmann
Nikon Corporation	Kazuomi Tominaga, Manabu Matsumoto

Nisoul Co.	Kaoru Tazaki
Nokia Siemens Networks	Xuhui (Helen) Chen, Gino Guo, Gang Zheng
Novatek Microelectronics Corp	Jasper Cheng, Willy Lin, Frank Pai
Nvidia	Eric Hsu, David Chen, Alan (Chia Yuan) Hsieh, MT Lin, Chih Wei Tsai
Oki Electric Industry Co.	Atsushi Kitai, Kenichi Saitou
Open Silicon	Norman Chang
Pegatron Corp	Lawrence Ting
Polar Instruments	Tetsuya Koizumi
Qualcomm	Scott Powers
QLogic	James Zhou
RDA Microelectronics	Ke Cao
Ricoh Company	Daisuke Koya, Kazuki Murata, Kazumasa Oaki, Mitsuo Kaibara, Miyoko Goto, Toshihiko Makino, Yasuhiro Akita
Rohm Co.	Noboru Takizawa
SAE	(Chris Denham)
Sanei Hytechs Co.	Hiroyuki Kai
Seiko Epson Corporation	Minoru Kozaki
Semiconductor Manufacturing International Corp.	Sheral Qi
Shanghai Microsystem and Information Technology Institute	Chi Xu
Shanghai United-Imaging	Xi Huang, Yuan Liu, Jirui Lu, Chun Yuan, Yi Zhao
Shibaura Institute of Technology	Seiju Ichijo
Spreadtrum Communications Shanghai	Lily Dai, Steven Guo
Signalkhobho	Atsuhito Noda
Silvaco	Kunio Hitomi
Sony Corporation	Haruhiro Saito, Sachio Iida
Sony Engineering Corporation	Atsushi Yoshimoto
Sony LSI Design	Naoyuki Morinaga
Stanley Electric Co.	Motoharu Kishi
Success International Corporation	Tatsuo Futai
Sunplus Technology	Forest Hsu, Yi-Tzeng Lin
TDK-EPC Corporation	Katsufumi Ehata
TechAmerica	[(Chris Denham)]
Tektronix	Hitoshi Hatakeyama
Teledyne LeCroy	Xuanfeng Wu, Ting Zhao
Teradyne	Raymond Yakura
Test Research	Mike Wang
TFF Corporation	Katsuhiko Suzuki
Toshiba Information Systems	Mari Kuroki
Toshiba Microelectronics	Junya Masumi
Toshiba Semiconductor & Storage	Yasunobu Umemoto

Towa Electronics	Yoshikazu Suzuki
Université de Brest	Mihai Telescu
University of Illinois	Tom Comberiate, José Schutt-Ainé, Xu Chen
VeriSilicon	Tina Xu
VIA Labs	Sheng-Yuan Lee
VIA Telecom	Jen-Hung (Eddie) Lin, Jacky Liu
Vitesse Semiconductor	Sirius Tsang
Wadow	Kazuhiko Kusunoki
Winbond Electronics Corp	Albert (Cheng-Han) Lee, Marko (Chien-Cheng) Lin
YDC Corporation	Yoshiaki Manabe
YDK Co.	Yoshio Takemura
Zhejiang Uniview Technologies	Huanyang Chen, Fei Ye
ZTE Corporation	Huifeng Chen, Fengling Gao, Tao Guo, Hui Jiang, Zhi Zhou, Shunlin Zhu

In the list above, attendees at the meeting are indicated by *. Principal members or other active members who have not attended are in parentheses. Participants who no longer are in the organization are in square brackets.

UPCOMING MEETINGS
The bridge numbers for future IBIS teleconferences are as follows:

Date	Meeting Number	Meeting Password
January 10, 2014	205 475 958	IBIS
January 31, 2014	DesignCon IBIS Summit – no teleconference	

For teleconference dial-in information, use the password at the following website:

> https://ciscosales.webex.com/ciscosales/j.php?J=205475958

All teleconference meetings are 8:00 AM to 9:55 AM US Pacific Time. Meeting agendas are typically distributed seven days before each Open Forum. Minutes are typically distributed within seven days of the corresponding meeting. When calling into the meeting, follow the prompts to enter the meeting ID. For new, local international dial-in numbers, please reference the bridge numbers provided by Cisco Systems at the following link:

> http://www.cisco.com/web/about/doing_business/conferencing/index.html

NOTE: "AR" = Action Required.

INTRODUCTIONS AND MEETING QUORUM
Randy Wolff declared that a quorum was reached and the meeting could begin.

Bob Ross noted that Mike LaBonte is conducting the meeting as Michael Mirmak is unable to attend.

CALL FOR PATENTS
Mike LaBonte called for any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.1, IBIS 6.0, Touchstone 2.0 or ICM 1.1 specifications. No patents were declared.

REVIEW OF MINUTES AND ARS
Randy Wolff called for comments regarding the minutes of the November 1, 2013 IBIS Open Forum teleconference. The minutes were approved without changes. He then called for comments regarding the minutes of the November 15, 2013 IBIS Summit in Shanghai. He noted that minutes incorrectly show Stephen Guo associated with Cadence when he actually is associated with Spreadtrum Communications. The minutes were approved with the noted change. Randy then called for comments regarding the minutes of the November 19, 2013 IBIS Summit in Taipei. The minutes were approved without changes. Finally, Randy called for comments regarding the minutes of the November 22, 2013 IBIS Summit in Yokohama. The minutes were approved without changes.

MISCELLANY/ANNOUNCEMENTS
None.

CALL FOR NEW ISSUES
Walter Katz requested time to give a short presentation on interconnect modeling.

MEMBERSHIP STATUS AND TREASURER'S REPORT
Bob Ross reported that we may have 22 members. We have accumulated a large amount of money ~$14,500 from summits, parser payments and an additional membership. This puts us in good shape for 2014 activities.   Bob will be inquiring with SAE about sending out membership invoices for 2014. If anyone needs an invoice in 2013, contact Bob for help. There may also be one additional membership payment for 2013 coming in.

Mike LaBonte asked if the $14,500 was purely from Summits. Bob responded that no, this includes other payments. Mike asked if the accounting is from SAE. Bob responded that no, this is his own accounting. Radek asked if we can we move forward with parser development using this money. Mike noted that we'd like to get other payments first, as this money is more of a backup. Bob responded that some of this money will also be used for the DesignCon IBIS Summit.

WEB PAGE AND MAILING LIST ADMINISTRATION
Mike LaBonte reported that the IBIS home page has a DesignCon promotional banner on it due to our contract with DesignCon. There are 413 subscribers on the mailing list and this is the third largest on eda.org. He is doing some checking to make sure there are not broken links on

the web page. The upcoming event page was updated to move the Asia Summits down the list.

MODEL LIBRARY UPDATE
No update.

INTERNATIONAL/EXTERNAL ACTIVITIES
- Conferences
None.

- Press Update
Bob Ross noted that Michael Mirmak sent a link to a paper recently mentioning IBIS-AMI modeling. The paper is "Advancements in High-Speed Link Modeling and Simulation (An Invited Paper for CICC 2013)". The paper was presented at the Custom Integrated Circuits Conference by authors Mike Peng Li, Masashi Shimanouchi, and Hsinho Wu of Altera. The abstract for the paper can be viewed at:

      http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6658462

SUMMIT PLANNING AND STATUS
- Asia Events
Mike LaBonte thanked Lance Wang for his role in facilitating the Summits. Bob Ross summarized the Summits. They were all successful. The Shanghai meeting had 109 participants, Taipei had 64 participants and Yokohama had 107 participants. Lance conducted meetings in Shanghai and Taipei, and Michael Mirmak conducted the meeting in Yokohama. Attendance was a bit lower than expected, so some sponsorship money was not used. Extra funds will be carried over to 2014.

Sponsors of the Shanghai event included Huawei as the major sponsor and cosponsors including Agilent, ANSYS, Cadence, Intel, IO Methodology, Teledyne LeCroy and Synopsys. For the Taipei event, ANSYS was the major sponsor and cosponsors included Cadence, Intel, IO Methodology and Synopsys. For the Yokohama event, JEITA and the IBIS Open Forum were major sponsors and cosponsors included ANSYS, Cadence, Mentor Graphics and Zuken.

- DesignCon 2014
Mike reported that the Summit is scheduled for Friday, January 31, 2014. IBIS is an official co-sponsor of DesignCon. The first call for papers should go out mid-December. Mike noticed a few companies giving presentations during the morning of our Summit meeting, so he hoped that some of those papers would be presented in the afternoon.

Sponsorship opportunities for all upcoming IBIS summits are available, with sponsors receiving free mentions in the minutes, agenda, and other announcements. Contact the IBIS Board for further details.

QUALITY TASK GROUP

Mike LaBonte reported that the group is doing two things recently including working on the ibischk6 parser and a document describing the parser operation. Work is progressing slowly. The group is continuing to meet weekly on Tuesdays at 8:00 am PT.

The Quality Task Group checklist and other documentation can be found at:

  http://www.eda.org/ibis/quality_wip/

ADVANCED TECHNOLOGY MODELING TASK GROUP
Arpad Muranyi reported that the group is meeting regularly on Tuesdays at 12:00 p.m. PT. They are discussing how to implement package modeling using IBIS-ISS.

Task group material can be found at:

  http://www.eda.org/ibis/macromodel_wip/

NEW ADMINISTRATIVE ISSUES
None.

BIRD125.1: MAKE IBIS-ISS AVAILABLE FOR IBIS PACKAGE MODELING
Discussion was tabled.

BIRD128: ALLOW AMI_PARAMETERS_OUT TO PASS AMI_PARAMETERS_IN DATA ON CALLS TO AMI_GETWAVE
Discussion was tabled.

BIRD145.3: CASCADING IBIS I/O BUFFERS WITH [EXTERNAL CIRCUIT]S USING THE [MODEL CALL] KEYWORD
Discussion was tabled.

BIRD147: BACK-CHANNEL SUPPORT
Discussion was tabled.

BIRD157: PARAMETERIZE [DRIVER SCHEDULE]
Discussion was tabled.

BIRD158.3: AMI TOUCHSTONE ANALOG BUFFER MODELS

Discussion was tabled.

BIRD161.1: SUPPORTING INCOMPLETE AND BUFFER-ONLY [COMPONENT] DESCRIPTIONS
Discussion was tabled.

IBISCHK5 PARSER AND BUG STATUS
Bob Ross reported no new bugs.

IBISCHK6 PARSER PLANNING
Bob Ross reported that we are reviewing the development contract. The parser contract is scoped to include two open bugs and at least 6 BIRDs. If everything gets signed and approved, delivery will be in April. There are sufficient funds in the bank account, so we will be able to pay the developer when he is done. There are commitments for payments for at least four licenses. All that is needed is to finalize the contract, get the legal verbiage approved by SAE and start the signature process. Bob noted that one request in the contract was to have source code work with the GCC 4.1.2 compiler, but 4.2.1 is the earliest version the developer can work with. The contract will be modified for this. Mike LaBonte noted that it would be good to get some feedback from parser purchasers if they have any specific compiler requirements.

NEW TECHNICAL ISSUES
Walter Katz showed a presentation he gave at the ATM task group meeting on Tuesday related to on-die and package interconnect modeling. A decision was made about what types of models will be supported with EMD and what models could be supported within the .ibs file by enhancing [Component]. The most significant decision meant that for signal (I/O) pins, there is a one-to-one correspondence between pin number, die pad and buffer. Upcoming decisions include: will we support touchstone files directly without requiring they be wrapped in a subckt, port naming options, and support of corners for parameters. Developing a port naming protocol will be critical to supporting all the modeling options. Walter hoped a presentation could be given at the DesignCon Summit that would show a nearly complete syntax.

NEXT MEETING
The next IBIS Open Forum teleconference will be held January 10, 2014 from 8:00 a.m. to 10:00 a.m. US Pacific Time. The DesignCon IBIS Summit will be held January 31, 2014. No teleconference will be available for the Summit meeting.

Radek Biernacki moved to adjourn. Brad Brim seconded the motion. There were no objections.

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NOTES

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This meeting was conducted in accordance with ANSI guidance.

The following e-mail addresses are used:

majordomo@eda.org
In the body, for the IBIS Open Forum Reflector:
subscribe ibis <your e-mail address>

In the body, for the IBIS Users' Group Reflector:
subscribe ibis-users <your e-mail address>

Help and other commands:
help

ibis-request@eda.org
To join, change, or drop from either or both:
IBIS Open Forum Reflector (ibis@eda.org)
IBIS Users' Group Reflector (ibis-users@eda.org)
State your request.

ibis-info@eda.org
To obtain general information about IBIS, to ask specific questions for individual
response, and to inquire about joining the IBIS Open Forum as a full Member.

ibis@eda.org
To send a message to the general IBIS Open Forum Reflector. This is used mostly for
IBIS Standardization business and future IBIS technical enhancements. Job posting
information is not permitted.

ibis-users@eda.org
To send a message to the IBIS Users' Group Reflector. This is used mostly for IBIS
clarification, current modeling issues, and general user concerns. Job posting
information is not permitted.

ibis-bug@eda.org
To report ibischk parser BUGs as well as tschk2 parser BUGs. The BUG Report Form
for ibischk resides along with reported BUGs at:

http://www.eda.org/ibis/bugs/ibischk/
http://www.eda.org/ibis/bugs/ibischk/bugform.txt

The BUG Report Form for tschk2 resides along with reported BUGs at:

http://www.eda.org/ibis/tschk_bugs/
http://www.eda.org/ibis/tschk_bugs/bugform.txt

icm-bug@eda.org
To report icmchk1 parser BUGs. The BUG Report Form resides along with reported
BUGs at:

http://www.eda.org/ibis/icm_bugs/
http://www.eda.org/ibis/icm_bugs/icm_bugform.txt

To report s2ibis, s2ibis2 and s2iplt bugs, use the Bug Report Forms which reside at:

http://www.eda.org/ibis/bugs/s2ibis/bugs2i.txt
http://www.eda.org/ibis/bugs/s2ibis2/bugs2i2.txt
http://www.eda.org/ibis/bugs/s2iplt/bugsplt.txt

Information on IBIS technical contents, IBIS participants and actual IBIS models are available on the IBIS Home page:

http://www.eda.org/ibis

Check the IBIS file directory on eda.org for more information on previous discussions and results:

http://www.eda.org/ibis/directory.html

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IBIS – SAE STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	November 15, 2013	November 19, 2013	November 22, 2013	December 6, 2013
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Inactive	-	-	-	-
ANSYS	User	Active	X	X	X	-
Applied Simulation Technology	User	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	X
Ericsson	Producer	Active	X	X	X	-
Foxconn Technology Group	Producer	Inactive	-	X	-	-
Huawei Technologies	Producer	Inactive	X	-	-	-
IBM	Producer	Inactive	-	-	-	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	-
IO Methodology	User	Inactive	X	X	-	-
LSI	Producer	Inactive	-	-	-	-
Maxim Integrated Products	Producer	Inactive	-	-	-	-
Mentor Graphics	User	Inactive	-	-	-	X
Micron Technology	Producer	Inactive	-	-	-	X
Signal Integrity Software	User	Inactive	-	-	-	X
Synopsys	User	Inactive	X	-	-	-
Teraspeed Consulting	General Interest	Inactive	-	-	-	X
Toshiba	Producer	Inactive	-	-	X	-
Xilinx	Producer	Inactive	-	-	-	-
Zuken	User	Inactive	-	-	X	-

CRITERIA FOR MEMBER IN GOOD STANDING:

- MUST ATTEND TWO CONSECUTIVE MEETINGS TO ESTABLISH VOTING MEMBERSHIP
- MEMBERSHIP DUES CURRENT
- MUST NOT MISS TWO CONSECUTIVE MEETINGS

INTEREST CATEGORIES ASSOCIATED WITH SAE BALLOT VOTING ARE:

- USERS - MEMBERS THAT UTILIZE ELECTRONIC EQUIPMENT TO PROVIDE SERVICES TO AN END USER.
- PRODUCERS - MEMBERS THAT SUPPLY ELECTRONIC EQUIPMENT.
- GENERAL INTEREST - MEMBERS ARE NEITHER PRODUCERS NOR USERS. THIS CATEGORY INCLUDES, BUT IS NOT LIMITED TO, GOVERNMENT, REGULATORY AGENCIES (STATE AND FEDERAL), RESEARCHERS, OTHER ORGANIZATIONS AND ASSOCIATIONS, AND/OR CONSUMERS.