



The IEEE

Newsletter

PUBLICATION OF THE NORTH JERSEY SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

NJ Computer Chapter:

Embedded IEEE 488 Solutions

The IEEE North Jersey Computer Chapter will hold a meeting on "Embedded IEEE 488 Solutions" given by Craig Borax, on Thursday, February 11, 1999.

About the Talk

First, Craig Borax will provide an overview of the IEEE 488 or GPIB (General Purpose Interface Bus) standard for communication between test control and instrumentation devices.

Next, he will give an overview of several Embedded GPIB devices his company has developed. He will then review the following test applications implemented using Embedded IEEE 488 (E488) controllers.

1. International Space Station (ISS) Burn-in Station: The MT488 Controls a Boeing burn-in station for the ISS DC to DC Converter unit (DDCU).
2. Densitometer: The MT488 monitors a Kodak densitometer, replacing an HP computer and two IEEE 488 to RS-232 converter boxes.
3. Remote Controlled Oscilloscope: the MT488A-RC infrared remote control interface provides a 30 foot range to control oscilloscopes for training, trade shows and product demonstrations. Recently, this product received a "Best in Test" award from the *Test and Measurement World* trade organization.
4. Bridge: MESCO uses the MT488 as a bridge between a Programmable Logic Controller (PLC) and GPIB instruments in their automated oxygen sensor tester.

Finally, a demonstration will be given of the Windows based 'C' Language

development environment and the IEEE 488 driver interface on Tidal Engineering's SBC488A single board computer.

About the Speaker

Craig Borax, Engineering Manager of Tidal Engineering, has more the 10 years of experience in the application of E488 technology. Tidal Engineering products are marketed by ADI, American Distributors Inc. Tidal Engineering and ADI are co-located in Randolph, NJ. Most of Craig's prior experience combined power electronics with embedded computers. He has developed DSP controlled 60 to 400 Hz power converters and converters for the F-22 aircraft.

He graduated with a BSEE from NJIT in 1980 and with an MSEE from Cal Poly, Pomona, CA, in 1983. As Program Manager for the Space Station Programmable Power Supply at Trilectron Industries in Palmetto, FL, Craig was frustrated with the available Embedded GPIB application solutions and consequently developed better solutions using the E488 technology standards.

All are Welcome!

You do not have to be a member of the IEEE to attend. Bring your friends.

Time: Rescheduled to 7:30 PM, Thursday, February 11, 1999.

Place: GEC-Marconi, Inc., at 150 Parish Road facility, Wayne, NJ, (973) 633-3502.

Directions: Route 46 or I-80 to Route 23 North. Take the exit for Rt 202 South - "Lincoln Park-Boonton". Turn left off the exit ramp onto Mt. View Blvd. Turn right at Ramapo Bank onto Parish Dr. After crossing a railroad bridge, take the first right to Dey Rd. The plant entrance is on the right.

Information: Howard Leach 973-540-4485 or Venugopal Tirumalai 973-367-8281.

Last Call for Student Presentations!

This is a reminder to all local students and faculty that the 1999 Student Presentation Contest is just around the corner. This contest is an excellent chance for students to gain practical experience in making presentations, public speaking, and winning a few bucks! This year's prizes are \$100/\$75/\$50 for the best three presenters.

The deadline for abstract submission has been extended to February 17, 1999. All the details of this year's contest are available at the North Jersey SAC homepage at:

<http://menger.eecs.stevens-tech.edu/~apatel3/ieee.html>

as well as this year's Region I contest at Merrimack College. Remember, topics for presentations can range from research work, to engineering lab projects, to technical hobbies. This year's contest will be held on Saturday, February 20, 1999 from 1:30PM to 4PM at Stevens Institute of Technology, in Hoboken, NJ in the Howe Center, Skyline Room (4th floor).

We are also looking for IEEE members who could serve as judges, so if you are interested please email right away. IEEE members are invited to attend and encourage local students, larger audiences make for better feedback for students to improve talks. Additional information and questions can be directed to Amit Patel, contest organizer. Also abstracts can be emailed to a.j.patel@ieee.org or call 973-284-2708.

February 1999

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NEWSLETTER STAFF

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Business ManagerTheresa Saracinello

Deadline for receipt of material is the 1st of the month preceding the month of publication. All communications concerning editorial and business matters, including advertising, should be sent to the Business Manager via e-mail at k.saracinello@ieee.org or to *The IEEE Newsletter*, c/o Keith Saracinello, 25 Messenger Ln, Ringoes, NJ 08551, (908) 806-6898.

IEEE NJ SECTION HOME PAGE

<http://www-ec.njit.edu/~ieeenj/>

IEEE NJ SECTION NEWSLETTER HOME PAGE

<http://www-ec.njit.edu/~ieeenj/NEWSLETTER.html>

REPORT ADDRESS CHANGES TO:

IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, (732) 981-0060. It is not necessary to inform the North Jersey Section when you change your mailing address. "The IEEE Newsletter" and other section mailings use a list provided by IEEE's national headquarters.

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The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7:00 PM. Meetings are open to all members. For information on meeting agenda contact Secretary Milton Korn (973) 365-2757, miltonkorn@aol.com.

IEEE SARNOFF SYMPOSIUM 1999

"Advances in Wired and Wireless Communications"

DATE: Wednesday, March 17, 1999
TIME: 8:30 AM - 5:30 PM
(Exhibits: 10:30 AM - 5:30 PM)
PLACE: The College of New Jersey (Trenton State College)
Hillwood Lakes, Trenton, NJ

SPONSORS:

IEEE Princeton Section, TCNJ Engineering Department, TCNJ IEEE Student Branch & the Sarnoff Corporation.

REGISTRATION:

Advance/Same Day: \$50/\$75 (\$5/\$10 student; \$0 life members)
(Registration includes entrance to all sessions and one copy of technical digest; additional digest: \$20)

ADVANCE REGISTRATION:

Ms. Desirée McDermott (609) 734-2430, Sarnoff Corporation, CN 5300, Princeton, NJ 08543-5300. Make checks payable to "IEEE Princeton Section/Sarnoff Symposium."

EXHIBITOR INFORMATION:

Please contact Alan Egger at alanegger@representative.com or Sandy Lehrfeld at sandy@microlambda.com.

E-Mail Project Update

During the last few years the North Jersey Section has been working hard to maintain the IEEE North Jersey Section Homepage (<http://www-ec.njit.edu/~ieeenj/>). A significant part of the Section Homepage is the Newsletter webpage. The Newsletter webpage contains everything this paper version does and more including last minute meeting updates. In general, the Newsletter webpage is available at least a week before the paper version is received.

In the first few days of January each North Jersey Section member who supplied a valid e-mail address, as of October 1998, should have received an email with subject "IEEE January '99 Newsletter." This purpose of this email was to announce the posting of the January 1999 electronic newsletter. If you updated your email address in the last few months on your member renewal form, no further steps need to be taken. Otherwise, if you did not receive this email or do not get future monthly announcements, please update your email address by any one of the following:

- Fill out the form on http://www.ieee.org/mem_serv/changeaddr.html
- Send an email to record-changes@ieee.org. Include your new email address and IEEE member #.
- Contact IEEE Member Services at

800-678-4333 or 732-981-0060 (if outside of the US), FAX 732-562-6380

d) Include your name and member # and write to:
IEEE Member Services
PO Box 1331
445 Hoes Lane
Piscataway, NJ 08855-1331

Keep in mind that any updates you make may take up to 2 months to filter down to the North Jersey Section Database Coordinator who supplies the addresses for the emailing.

Of the 5070 North Jersey Section members on record as of December 1998, 2451 have supplied email addresses. Of the 2451 email addresses, approximately 10-15% had an invalid format or were undeliverable.

All members are encouraged to apply for an alias from IEEE at <http://elecomm.ieee.org>. Two kinds are available. There is the general IEEE alias (xxxx@ieee.org), and there is the Computer Society alias (xxxx@computer.org). Both are essentially forwarding services sending mail to wherever you specify. As an added member benefit, all attachments are virus scanned in the process. Good Luck!

*Keith Saracinello -
North Jersey Section Newsletter Editor
and Database Coordinator*

North Jersey Section Activities

February 1999

Jan. 31-Feb. 4—"Power Engineering Society 1999 Winter Meeting" - New York Hilton (6th Avenue at 53rd Street), NY, NY. For more information see <http://www.ieee.org/power/subpages/meetings-folder/winter/99wmpreview.htm>.

Feb. 3—"NJ Section Executive Committee Meeting" – 7:00 PM, ITT, 100 Kingsland Road, Clifton, NJ. Milton Korn (973) 365-2757 or miltonkorn@aol.com.

Feb. 3—"Student Day at the 1999 Winter Power Meeting" – 9:30 AM, New York Hilton (6th Avenue at 53rd Street), NY, NY. <http://www.ieee.org/power> or contact Barney Adler at radler@peco-energy.com or (215) 731-3240.

Feb. 4—"A Fuel Cell Technology Forum" – 8:15 AM, New York Hilton (6th Avenue at 53rd Street), NY, NY. Ralph Tapino (718) 904-4526.

Feb. 11—"Embedded IEEE 488 Solutions" - NJ Computer Chapter, 7:30 PM, GEC-Marconi, 150 Parish Road, Wayne, NJ. Howard Leach, 973-540-4485, or Venugopal Tirumalai at 973-367-8281.

Feb. 20—"1999 Student Presentation Contest - Call for Papers!" – NJ Section, 1:30 to 4:00 PM, Stevens Institute of Technology, Howe Center, Skyline Room (4th Floor). Amit Patel (973) 284-2708, a.j.patel@ieee.org.

Feb. 22-May 10—"C/C++ Windows Programming" – North Jersey Section, Monday Evenings, 10 sessions, 6:30-9:00 PM, Smiths Industries, 7-9 Vreeland Road, Florham Park, NJ. Bhanu Chivakula (973) 751-4879 (leave message) or Gabe Silberman at silberman@ieee.org.

Feb. 23-Apr. 6—"Visual Basic 6.0" – North Jersey Section, Tuesday and Thursday Evenings, 6:30-9:00 PM, GEC-Marconi, Plant 11, 164 Totowa Rd, Totowa, NJ. Bhanu Chivakula (973) 751-4879 (leave message) or Gabe Silberman at silberman@ieee.org.

Feb. ?—"Microwave Manufacturing Techniques" – MTT/S/AP-S Chapter, time and location TBD. Dr. Edip Niver (973) 596-3542 (NJIT), Willie Schmidt (973) 492-0371, or Dr. Chandra Gupta (973) 633-4469 (GEC-Marconi).

Upcoming Meetings

Mar. 3—"NJ Section Executive Committee Meeting" – 7:00 PM, ITT, 100 Kingsland Road, Clifton, NJ. Milton Korn (973) 365-2757 or miltonkorn@aol.com.

Mar. 15 - Fellows Nomination Deadline – Contact Sandy Schumacher, IEEE-Piscataway for forms and other information at (732) 562-3843.

Mar. 17—"IEEE Sarnoff Symposium 1999 - Advances in Wired and Wireless Communications" – 8:30 AM - 5:30 PM, The College of New Jersey (Trenton State College), Hillwood Lakes, Trenton, NJ. Ms. Desireé McDermott (609) 734-2430.

Apr. 25—"NJ Section Awards Reception"—3:00 to 5:00 PM at the Birchwood Manor, 111 North Jefferson Road, Whippany, NJ. Anne Giedlinski (973) 377-3175.

Members and Non-Members Welcome

PLEASE POST

Anyone? Anyone?

Volunteers are requested to speak to North Jersey IEEE student member groups on campus. We need folks that are willing to speak on just about any topic relating to engineering. Communicating well, or other "soft skills" are especially sought, as well as any technical topics. Volunteers must be willing to go to student meetings, usually on campus. If interested, please contact NNJ Student Activities Chair Amit Patel at a.j.patel@ieee.org or phone 973-284-2708.

Only 28 Days to Apply for Senior Member Grade This Month

Send your name and mailing address to me to get the application for advancing to Senior Member grade. Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201) 461-0900, ext 234, mornings, or email don@kulite.com.

PES Volunteers Winter Power Meeting NYC

Volunteers are needed to assist in various administrative duties during the 1999 Power Engineering Winter Power meeting to be held in New York City at the Hilton Hotel (6th Avenue at West 53rd St) January 31 through February 4, 1999. Volunteer services are especially needed on Monday February 1 and Tuesday, February 2. Contact Ken Oexle, 973-386-1156, for additional information and details.

Buyer's Edge Available On-Line!!!

About the Buyer's Edge

The Buyer's Edge is a consumer buying service that guarantees the lowest prices on most major purchases for our 2.5 million members in the tri-state area of NY, NJ, CT and Greater Philadelphia.

The Buyer's Edge has negotiated with, and maintains, a network of selected vendors. These vendors have agreed to give substantial discounts and the ironclad lowest price guarantee because, when dealing with a Buyer's Edge member, they do not have the normal advertising sales costs or other expenses.

The Buyer's Edge offers Buy-By-Phone program and, in certain categories and areas, a Buy-In-Person program.

Unique Features of the Buyer's Edge

- ◆ Guaranteed Lowest Prices on Major Consumer Purchases
- ◆ Convenient Buy-By-Phone or Buy-In-Person Programs
- ◆ Members call our vendors directly for price quotes and orders
- ◆ Our lowest price guarantee even extends to other buying services, advertised sales and other types of discount buying
- ◆ Member protection department immediately responds to reports of "less than superior service"
- ◆ Constant expansion and improvement of services

Check It Out Today!

IEEE North Jersey members can access Buyer's Edge online at <http://www.buyersedgeinc.com>. The North Jersey Section ID (also referred to as group #) and password are "1431" and "member1".

Earn Credit on Your Membership Dues by Recruiting New Members

Recruit	Credit
1 - 2 New Members	\$5.00
3 - 5 New Members	\$10.00
6 - 9 New Members	\$20.00
10 or More New Members	Free Membership for Year 2000

Get complete information and as many of the applications you will need, by contacting: Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201) 461-0900, Ext. 234, mornings, or email: don@kulite.com. This program runs through August 15, 1999.

"Letters to the Editor" on the Web

Letters to the Editor can now be viewed exclusively via the North Jersey Section Homepage at <http://www.wec.njit.edu/~ieeenj>. If interested in voicing your thoughts on a controversial IEEE issue (including H1-B Visas) or any IEEE related topic, send an email to Keith Saracinello at k.saracinello@ieee.org.



IEEE AWARDS RECEPTION

*North Jersey Section
April 25, 1999
Birchwood Manor, Whippany NJ*

*A time to relax, unwind and enjoy --
A time to pay tribute to our new Fellows --
A time to honor our Award Winners --
YES it's time for the Annual Section Reception*

The Annual Section IEEE Awards Reception will be held at the Birchwood Manor, 111 North Jefferson Road, Whippany again this year. The affair is scheduled for **Sunday, April 25, 1999** from 3 to 5 PM. Tickets are \$35.00 each and include a complete prepaid, two-hour open bar, hors d'oeuvres, buffet, and dessert. Spouses and guests are welcome. We are limited to 90 attendees, so please make your reservations early.

Reservations are required by April 17, 1999. Complete the reservation form and return it with your payment. If you would like tickets mailed back to you, please enclose a self-addressed **stamped** envelope. Otherwise, your tickets will be held at the door for you. If any additional information is required concerning the reception, contact Anne Giedlinski at (973) 377-3175.

Use this form for Reception reservations. **ENCLOSE A SELF-ADDRESSED STAMPED ENVELOPE to receive tickets in advance.** **Reservations are required by April 17, 1999.** Mail reservation request to:

Anne Giedlinski
299 Brooklake Road
Florham Park, NJ 07932

Enclosed is _____ for _____ ticket(s) at \$35.00 each (make check payable to **North Jersey Section IEEE**) for:

NAME: _____

ADDRESS: _____

IEEE North Jersey Section Course

on

VISUAL BASIC 6.0

Tuesday and Thursday Evenings, February 23 – April 6, 1999

GEC Marconi

Plant 11, 164 Totowa Road, Totowa, NJ

The IEEE is offering an evening course entitled "Visual BASIC 6.0." This comprehensive course is intended for programmers migrating from procedural languages to "Visual BASIC." Prerequisites for the course are a familiarity with Windows 95, knowledge of a procedural language such as BASIC or C, and programming concepts, access to Microsoft Visual BASIC as well as Microsoft Windows 95 and Office 97. Upon completion, students will understand event driven programming; standard control objects and their associated properties, methods and events; have the ability to design application solutions. The course will run for 6 weeks. Each session will run for 2 ½ hours with a short break approximately in the middle. A textbook with a CD ROM and all text materials will be provided.

TOPICS

1. Introduction to Visual BASIC; Naming conventions; Creating a Graphical User Interface (GUI); Properties, Events and Methods for forms; Text Boxes, Command buttons and labels; Event procedures; Variable declarations; Environment options; Saving programs.
2. Scope; Code modules; Variables and constants; Built-in functions; Expressions and statements; Finite and dynamic arrays; Static variables; Procedures and functions; Passing data by reference or value; Program flow constructs.
3. Debug tools; Properties, events and methods for lines, shapes, check boxes, option buttons, frames, picture boxes and images; Toolbar; Status bar; Z Order; Control arrays.
4. Properties; events and methods for list boxes and combo boxes.
5. Properties, events and methods for horizontal/vertical scroll bars and timers.
6. Multiple form projects; Error trapping and handling.
7. Data manager and the data control; Data-aware controls; Grid control.
8. Multiple Document Interface (MDI) Forms; Menu design.
9. Keyboard events; Dynamic Link Libraries (DLL).
10. Clipboard; Shell function; Dynamic Data Exchange (DDE).
11. Object Linking and Embedding (OLE), OLE automation.

Class size will be limited to a maximum of 30 and minimum of 15. Early application is recommended. Telephone reservations will NOT be accepted. Applications postmarked after February 12th will require an additional late fee of \$25. No application will be accepted after February 23rd.

WHERE: GEC-Marconi, Plant 11, 164 Totowa Rd, Totowa NJ.

WHEN: Tuesdays and Thursdays, February 23 – April 6, 1999, 6:30-9:00 PM (no class April 1st).

COST: IEEE members \$265; Non-members \$380 including text book.

CONTACT: Bhanu Chivakula (973) 751-4879 (leave message) or Gabe Silberman at silberman@ieee.org.

REGISTRATION: VISUAL BASIC 6.0

To: Mr. Naz Simonelli, 68 Woodmont Drive, Randolph, NJ 07869-3740

Name: _____

☐ Nonmember

☐ IEEE Member Member #: _____ Member of _____ technical society

Employer: _____

Address: _____

Home Address: _____

Business (day) telephone #: _____ Home telephone #: _____

Please enclose required fee payable to: **North Jersey Section IEEE**

Registration status will be mailed after Feb. 13, 1999. Phone inquiries concerning registration will NOT be honored. In general, the effective date of the application corresponds to the date when BOTH a fully completed application & payment are received.

☐ Tuition receipt will be mailed only if this box is checked Signature: _____

IEEE North Jersey Section Seminar C/C++ WINDOWS PROGRAMMING

Monday Evenings, February 22 – May 10, 1999

Smiths Industries

7-9 Vreeland Road, Florham Park, NJ

The IEEE is offering an evening course entitled "C/C++ Windows Programming." This course will cover the creation of Microsoft Windows programs without needing the large compilers or the object libraries for Windows. You will require only Windows 3.1 or 95 and any Windows-compatible compiler. All programs will be compatible with C but C++ will also be used to simplify the interface.

This is a Windows course, not a programming course. Knowledge of C or C++ is a prerequisite. The emphasis is on other aspects of Windows application: standard look-and-feel, the design of help and make files, graphics (creating icons and cursors), program interlinking (cut and paste, DDE and OLE), and program installation (DDL's, INI, REG). We will also develop software tools to tame the complicated Windows environment interface and simplify the repetitive aspects of the development job. There will be 10 weekly lectures which will be quite interactive. Homework will be assigned and corrected. The specific topics listed below will be covered.

TOPICS

1. Review of Microsoft Windows from a developer perspective: The desktop metaphor. Constituents of a window. The mouse. Characteristics of different kinds of window objects. Use of the file manager. Use of the application window.
2. Nature of an interactive Windows program: winMain, event handlers. Files that make up a Windows program package. Constraints on a Windows program. Microsoft variable naming conventions.
3. Kinds of boxes: The dialog box, menu, accelerator keys, buttons (radio, check boxes, bitmapped buttons). Designing your own control boxes.
4. Other aspects of a Windows program package: creating icons. Creating Help. Concept of hypertext. Creating new cursor shapes. Saving program state from one execution to the next.
5. Creating output in your program: The device context. Print output. Pixel output. Bitmap files. Choosing, sizing, and using fonts.
6. Communication between tasks or applications: Passing data, the clipboard. More general communications, Dynamic Data Exchange (DDE). Using parts of one Windows program in another. Object Linking and Embedding (OLE).
7. Creating software tools to help development: Getting help on the windows interface itself. Creating repetitive code automatically.
8. How to create an install package for your Windows program. Special Windows 95 topics. Introduction to use of object libraries.

Class size will be limited to a maximum of 25 with a minimum of 15. Early registration is recommended. Phone reservations will NOT be accepted. Reservations accepted after February 12 will require a late fee of \$25. No reservations will be accepted after Feb. 22.

WHERE: Smiths Industries, 7-9 Vreeland Road, Florham Park, NJ.

WHEN: 10 Sessions, Monday, February 22 through May 10, 1999, 6:30-9:00 PM.

COST: With text book only: IEEE members \$255; Non-IEEE members \$355.

CONTACT: Bhanu Chivakula (973) 751-4879 (leave message) or Gabe Silberman at silberman@ieee.org.

REGISTRATION: C/C++ WINDOWS PROGRAMMING

To: Mr. Naz Simonelli, 68 Woodmont Drive, Randolph, NJ 07869-3740

Name: _____

☐ Nonmember

☐ IEEE Member Member #: _____ Member of _____ technical society

Employer: _____

Address: _____

Home Address: _____

Business (day) telephone #: _____ Home telephone #: _____

Please enclose required fee payable to: **North Jersey Section IEEE**

Registration status will be mailed after Feb. 12, 1999. Phone inquiries concerning registration will NOT be honored. In general, the effective date of the application corresponds to the date when BOTH a fully completed application & payment are received.

☐ Tuition receipt will be mailed only if this box is checked

Signature: _____