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Editorial:

This is the eleventh newsletter I’ve edited. This one is being edited with the usual newly downloaded copy of the very latest stable version of Libre Office – 5.4.7.2 - which still doesn't necessarily mean that I'll be able to process .docx submissions – if they come in as .docx, they may get translated to .doc.

The headline item in this issue is Sasha's Unite 2018 get-together in August -see page 5. It's an interesting experiment, and we hope it works.

Tensym has been and gone – apparently quite successfully. We'd hoped to get this out early enough to advertise it, but that didn't happen.

I have been told that Circuit needs more content. Anybody who feels like writing a chunk of industry news or a piece on any topical technical subject is welcome to submit a page or two of text.

It may not get published, and unless you write better than most of the people who put stuff in here, I am likely to fiddle with it, but we really do need more content, and I promise to be diplomatic about any corrections I might want to make.
Chairman's Message

As we reach the mid-point of 2018 I would like to thank all IEEE members who have played an active role in contributing to the success of the IEEE.

Contributions take many forms such as involvement in the Section Committee, involvement with IEEE technical societies and affinity groups, reviewing and/or submitting papers to IEEE journals and conferences, undertaking outreach activities, putting on events and simply participating in IEEE events.

Membership value comes from engaging with the IEEE. In order to thank our members who put in substantial time and effort and to encourage others to increase engagement we are launching the inaugural IEEE NSW Section Outstanding Volunteer Awards. Please consider applying or nominating a NSW IEEE Member. See the page 4 below for more details.

At the start of the year the newly elected Section Executive Committee started work on a strategic plan which would reflect on current practice and look to strengthen

1) Section structure - expectations, funding and community.

2) Membership value - communication, engagement, development and recognition.

3) Community and technical contribution.

Over the last five months the section committee has made progress in refining and approving plans but there's still lots of work to be done. Progress can be seen on page 4. One of our goals has been to reach out to our universities to help connect academia and industry. This includes increasing the number and diversity of events (topic and location). In the first half of this year we have already run 28 interesting lectures and workshops across NSW, an average of almost five per month. This month we held the region 10 event TENSYMP and this included an industry day.

In August we hold an inaugural - free - networking and dinner event called UNITE2018 with a purpose of bringing our members together to interact and engage. We are also calling upon our academic and industry members to exhibit their research, product or services for the cost of a donation. For our industry members in particular this is a great way to extract value from membership and show off the work you do to the IEEE community, see page 5 for more details.

In December we are hosting TALE2018 an engineering, technology and education conference focused on engineering the next generation of learning. We call on academics to submit papers that showcase innovative practice and technologies for use in teaching. We call on industry to discuss the issues they face when hiring graduates, upcoming changes to the curriculum to cater for the way work is changing, and to identify technologies that are of particular value. An industry day is also available. See page 6 for details.

Other upcoming major events in NSW in 2018 include the 2018 Nuclear Science Symposium (NSS) and Medical Imaging Conference (MIC) and the 2018 International Telecommunication Networks and Applications Conference, both taking place in November.

We also want to support the development of our members and are sending a student and young professional to the IEEE R10 Student/Young Professional/Women in Engineering/Life Members Congress being held in Bali. In addition we will be supporting four Women in Engineering members (not necessarily women) to attend the Women in Engineering International Leadership Summit being held in Brisbane. See page 7 for details.
Work continues in reviewing our policies to ensure they are fair and transparent and encourage greater engagement with the IEEE. One of the biggest changes has been in the allocation of funding to our student branches. Branch funding is now based on a simple formula that encourages and rewards engagement with the IEEE at local, national and regional levels.

Universities in NSW are looking for members in industry to volunteer some of their time to reach out to students and talk to them about real world engineering/technology jobs, experiences and skills. The IEEE Student Branches are also looking for members in industry to explain the benefits of IEEE membership and how to make the most of such membership. Therefore, if you have a story to tell and would like to engage with students please register your interest and availability. Your knowledge and time would be greatly appreciated. Register here:

https://www.surveymonkey.com/r/IEEEIndustryMembersSupportingNSWUniversities

Communication is important and for this reason we have diversified the notification of section events. This includes starting up Section LinkedIn and Facebook pages, a bulletin styled monthly e-notice and the upgrading of the Section Website. There is no excuse for missing out on our great events! Once again, value comes from engaging with the IEEE.

If you believe you know someone that can make a difference and want to nominate somebody for election to the executive committee, do so on page 16.

Make the most of your IEEE membership today!

I wish you all the best for the second half of 2018 and hope to meet you at one of our events, especially at UNITE2018 – register now, as it is free!

Sasha Nikolic
Chair, IEEE NSW Section
**Progress of NSW Strategic Plan**

Adate = Date motion was approved  
Black Square = Proposed milestone deadline  
Complete = Activity for motion complete  
Rdate = Date motion rejected

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<td><strong>Fundamental Three</strong></td>
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**Fundamental One**

- **Goal One: Structure**
  - S1.1 Position decriptions: Approved on A5/2/18
  - S1.2 Review Docs/Policy: Approved on A5/2/18

**Goal Two: Funding**

- S2.1a Review conf funding: Approved on A9/4/18
- S2.1b Income review: Approved on A9/4/18
- S2.2 Student branch funding: Approved on A5/2/18

**Goal Three: Diversification**

- S3.1a Chapter review: Complete
- S3.1b Review inclus. outside eng.: Complete
- S3.1c Review meeting locations: Complete
- S3.1d Review meeting structure: Complete
- S3.2 University research seminars: Complete
- S3.3 Mid year networking event: Complete
- S3.4 Industry relevance review: Complete

**Fundamental Two**

- **Goal Four: Engagement**
  - S4.1a Redevelopment of website: Complete
  - S4.1b Facebook and LinkedIn: Complete
  - S4.1c Social media compliance: Complete
  - S4.2 Inactive branch review: Approved on A2/7/18
  - S4.3 Councillor review: Approved on A2/7/18
  - S4.4 Rising Stars Australia: Approved on A9/4/18

**Goal Five: Membership Value**

- S5.1 Mentoring Program: Complete
- S5.2a Committee junior positions: Complete
- S5.2b Chapter SB connections: Complete
- S5.3 SB and Exec Tri-annual meet: Complete

**Goal Six: Recognition**

- S6.1a Award policy document: Complete
- S6.1b Awards presented: Complete
- S6.2 Investigate award sponsor: Approved on A2/7/18

**Goal Seven: Development**

- S7.1 Review devel. Workshops: Complete

**Fundamental Three**

The table above outlines the progress of the NSW Strategic Plan for the years 2018-2019. Each goal is listed with its respective milestones and dates, indicating whether the motion was approved, rejected, or completed.
The NSW Section is proud to introduce local awards to recognise the contribution of our members. Many members donate enormous amounts of their time on a diverse range of activities that benefit the IEEE membership. Therefore, if you or somebody you know has made a substantial contribution then we encourage you to apply yourself or nominate that somebody you know.

The following awards will be presented at the 2018 NSW Section AGM:
IEEE NSW Outstanding Volunteer,
IEEE NSW Outstanding Young Professional
IEEE NSW Outstanding Student Volunteer.

Nominations close on the 31st of August.

More information: http://sites.ieee.org/nsw/awards-recognition/
IEEE UNITE2018

IEEE NSW Section Presents

UNITE2018
FREE Networking & Dinner Event*

Uniting all NSW IEEE Members:
Academia and Industry Members
Students, Young Professionals, Women in Engineering
and Life Members

Learn, Engage, Share & Network

Exhibit for the cost of a donation*

10 August 2018
6 – 9pm Mercure Sydney Central

More Information & Registration: http://sites.ieee.org/nsw/
* Available to IEEE Members. Join today www.ieee.org

Cost: Free for all IEEE Members and includes a free dinner. Participants must pay for their own drinks.

About: This event aims to unite all IEEE Members (Student, Young Professional, Women In Engineering, Life Members, Academia & Industry etc.) in one place with a free dinner and loads of activities focused on networking and making the most from the IEEE.

Discover the latest trends, discover opportunities provided by the various IEEE societies, discuss membership elevation options, engage with TISP and much more! More details will become available closer to the event.

Date: 10 August 2018

Time : 6 – 9pm

Registration is a must! Numbers are Limited! You must show your IEEE membership card and confirm registration to gain entry.

Register here: https://meetings.vtools.ieee.org/m/173728

Exhibit at the cost of a Donation:
We are offering IEEE members an opportunity to exhibit products or services for the cost of a donation. An exhibit space consist of a single table. No power or signage will be provided. Access will be provided to the hall from 5:30pm for setup. Important: All exhibitors attending must be IEEE members. If you are not one register for a 2018 membership before August with a 50% discount at https://www.ieee.org/

Why Exhibit: Showcase your products, research and services; Connect your company, school or faculty with the IEEE network; Engage with IEEE members, especially student members with future job opportunities (IEEE Members that attend such events are engaged and motivated individuals); – Discover new opportunities; and Showcase your support to the IEEE

Register an exhibition here: https://www.surveymonkey.com/r/2018IEEEUNITEExhibitRegistration
TALE is the IEEE Education Society’s flagship Asia-Pacific (IEEE Region 10) conference, catering to researchers and practitioners with an interest in science, technology, engineering and mathematics (STEM) education – with a particular emphasis on electrical and electronic engineering, telecommunications, computer engineering, computer science and allied disciplines – as well as those interested in the innovative use of digital technologies for learning, teaching and assessment in any discipline. We also invite industry to showcase technologies and provide feedback on capability and future needs of graduates.

**FINAL DEADLINE FOR PAPERS:** 24th August 2018

The theme of this year's conference is Engineering Next-Generation Learning.

This year’s tracks include:
1. Engineering Education
2. Computing & IT Education
3. STEM Education (K-12)
4. Technology-Enhanced Learning
5. Online & Flexible Learning
6. Laboratory Learning (All forms - F2F and Online)
7. Workplace & Industry-Based Learning
8. Community-Based & Informal Learning
9. International & Transnational Education
10. Equity, Diversity & Widening Participation
11. Engineering of Technologies for Learning: An Emerging Discipline (org. w/ IEEE ICICLE)
12. X-Reality & Immersive Learning Environments
13. Big Data Analytics & Machine Learning in Education

More information [https://tale2018.org](https://tale2018.org)
The WIE International Leadership Summit will be held in Brisbane from the 26th to 27th of November 2018.

The summit was launched as a part of IEEE WIE’s portfolio of global initiatives that focus on Inspiration, Leadership, Empowerment and Entrepreneurship mid to senior women in technology. Summit provide opportunities for networking, mentorship, and collaboration. At the June Section meeting on the 4th of June 2018 financial sponsorship of up to $750 was approved for four NSW WIE members (male or female).

NSW WIE members can apply for the financial sponsorship using the electronic form linked below. The four best applications will be selected. The summit is for both male and female WIE members and if applicable at least one male will receive sponsorship. For the four NSW IEEE WIE members selected, the financial sponsorship will take place as a rebate for all expenses related to the event up to the value of $750. Invoices will need to be provided for all costs claimed. In order to receive the rebate the member must provide the NSW Section with a YouTube video, blog or other engaging media that showcases the benefit of participation at the event, and the benefit of being an IEEE member that can be promoted on the sections website and other platforms.

Applications for funding is conducted electronically via the following link: https://www.surveymonkey.com/r/2018IEEEENSWWIEInternationalLeadershipSummitFunding

Nominations close of the 17th of August 2018.

Successful applicants will be notified in early September 2018.
On 12 April 2018 Brett Cleaves, Director of Engineering Safety at Engineering Safety Pty Ltd., presented an excellent lecture to Engineers Australia at Chatswood.

The Topic was - The High-Power Arc Fault Hazard: Legislation, Standards and Guidelines.

Brett presented statistics on number, types and severity of injuries resulting from arcing faults, as well as their various causes. He showed graphical evidence of arcing faults and the damage caused to equipment, clothing and subjects in tests and described mechanisms for the control of the hazard. The relevant Acts, Regulations and Standards (US, Australian and ENA) were thoroughly treated. He outlined the American Standards on Arc Flash NFPA 70E and IEEE 1584 for the calculation of the Arc Flash Hazard and selection of protective Equipment. The requirements of AS3000 relating to Heavy Current Switchboards and AS2067 as regards safety in Substations were highlighted and examples of Arc Fault Hazard Analysis presented.

A modified copy of the PowerPoint Presentation was generously made available to those that attended the lecture.

I am pleased to see progress is being made in dealing with the effects of Arcing Faults although it is going a bit slower than I would like. I have been privileged to have worked in an environment (NSW PWD M&E in late 70s and early 80s) where the issue of Arcing Faults was taken relatively seriously and at a time the problem was given considerable attention by Supply Authorities such as Prospect and Sydney County Councils. As a result, we used Arc Fault Containment tested switchboards where fault levels were higher and the safety measures recommended by the relevant standards. In addition, Remote Operation of 11kV Switchgear was implemented to further reduce the risk of injury to Operating personnel.

I wish to thank the Presenter and I look forward to the implementation of a unified approach in Australian Standards (Containment, Protective Equipment and Control Measures) and hope it happens sooner rather than later.

Submitted by Tony Zaglas
IEEE NSW Power and Energy Section Past Chair
IEEE EDUCATION SOCIETY WORKSHOP

IEEE Education Society, NSW Chapter organized a workshop titled ‘Publishing a good scientific paper’ on 5th April. This workshop was intended for the post-graduate research students. It is crucial for all researchers to report their work and to share their findings with their peers in their respective fields. Writing a good scientific paper is often found challenging by researchers and is a problem for most post-graduate students. This lead us to think about organising a workshop on scientific paper writing.

The speaker at the workshop was Prof. Subhas Mukhopadhyay from Macquarie University. He has an association with IEEE over 30 years and a Fellow of IEEE, Fellow of IET, Fellow of IETE, Topical Editor for the IEEE Sensors Journal and an associate editor of IEEE Transactions on Instrumentation and Measurement. He shared his personal experience in the workshop.

We had many (more than 100) registrations for the workshop. The workshop was attended by researchers from different universities across NSW such as University of Sydney, University of New South Wales, University of Wollongong and Macquarie University.

ABSTRACT OF THE WORKSHOP:

Conducting high quality research may be the fundamental job of the scientist but the research is worthless until it is shared with the rest of the field by writing good papers, articles, and reports and publishing them - ideally in highly ranked journals. The writing process can be intimidating to many researchers, even to experienced professionals. According to IEEE Member Matthias Reumann, a postdoctoral Fellow at the IBM Thomas J. Watson Research Center in Yorktown Heights, “Writing requires discipline, organization, thoroughness, understanding of the background and consequences, and planning.”

This seminar presented some ground rules on writing and publishing good scientific papers in IEEE transactions and journalism based on personal experience with the IEEE over 30 years, as an associate editor (16+ years with IEEE Sensors Journal, 11+ years with IEEE Transactions on Instumentation and Measurement and 3 years with IEEE Mechatronics) which involved dealing with over 1300 papers.

We would like to share a couple of photographs from the workshop:

Submitted by Sudipta Chakraborty
**Awards**

Syed Muzahir Abbas – our webmaster and young professionals chairman - recently won the 2018 Young Scientist Award which he would have received if he’d got to the International Union of Radio Science Atlantic Radio Science Meeting (URSI AT-RASC) 2018, which was held in Gran Canaria, Spain, 28 May - 1 June 2018.

Mohamed Awadallah – and Peter Tawadros, Paul Walker, and Nong Zahang - all from the University Of Technology Sydney, Australia recently won the IES Student Paper Travel Assistance prize at the ISIE 27th International Symposium on Industrial Electronics which took place on June 13 - 15, 2018 at Cairns, Australia.

Their paper was “Hardware-In-The-Loop Simulation For The DesignAnd Testing Of Motor In Advanced Powertrain Applications”. I’ve got a copy, if anybody wants to read it, but it's for the specialist, rather than the general reader.

**SSIT Australia (Social Implications of Technology)**

We have been a little quiet after our massive effort hosting ISTAS 2017. For those who want more of that, the fun lives on this year in Washington DC in November.

Meanwhile, we are back with more activities in NSW. First off the rank is a very important talk on “Ethics for the 21st Century” by Tiberio Caetano.

Ethics is the philosophy of human conduct. How should we act? That's the question of ethics. Today we have a globalised economy run by a network of cybersystems comprised of people, software, data, algorithms, AIs, companies, and very few modern empires, whose tentacles touch billions of people in over 100 countries. So, what is ethics today, and what will it be in the future? This talk by will reflect upon this question on Wednesday 22 August at 6pm at UNSW Sydney (Kensington). For more information and to register (for free!), visit https://www.eventbrite.com.au/e/ethics-for-the-21st-century-tickets-47287604498.

Also, if you want to get involved or have ideas for future events, please contact ssit.australia@gmail.com. Finally, we encourage everyone who cares about the world impacted by technology to join SSIT when they renew their IEEE membership. One small step …
IEEE IMS NSW Chapter, Sydney
2nd Annual Workshop on
Sensors, Instrumentation and Measurements: Theory and Applications

Date: July 18, 2018
Venue: E6B 149, Macquarie University, Sydney, Australia

Purpose: The IEEE Instrumentation and Measurement Society New South Wales Chapter would like to invite researchers, scientists, engineers and practitioners to discuss and present their latest research findings, ideas, developments and applications in the area of Sensors, Instrumentation and Measurement Technologies and their applications in all areas of everyday life.

Objective: The objective of the workshop is to bring together industry and academia to learn about the work of fellow colleagues, share ideas and vision about the present challenges and opportunities in a number of industry sectors and identify common areas for collaboration.

Sensors, measurements and instrumentation are core to everyday life ranging from healthcare, to transport, energy, manufacturing and food. The fields of sensors, measurements and instrumentation are strongly cross-disciplinary and provide opportunities to scientists and engineers from different discipline backgrounds to contribute up-to-date knowledge of applications, technology and solutions to improve the quality of life. There is a need for interactions among researchers, scientists, engineers and practitioners to discuss their research findings and activities.

In the regular sessions there will be an opportunity for participants to present their research works. During the workshop there will be many opportunities for networking.

Schedule: A tentative schedule is as follows:

9:30 – 10:00 am - Tea
10:00 – 10:15 am - Opening remarks
10:15 – 12:00 am - Session 1
12:00pm to 1:00 pm - Lunch (Committee meeting)
1:00pm to 2:30 pm - Session 2 (Industry people)
2:30pm to 3:00pm - Tea
3:00 pm to 4:30pm - Session 3
4:30 – 4:45pm - Closing remarks and Evening Tea.

Registration: Free

For more information, please contact:
Dr. Subhas Chandra Mukhopadhyay, Subhas.Mukhopadhyay@mq.edu.au
Dr. Mohsen Asadnia, Mohsen.Asadnia@mq.edu.au
Mrs. Nasrin Afasrimanesh, afsarimanesh.n@gmail.com
IEEE participates in the 2018 UNSW EE&T Industry Night
The student societies of the School of Electrical Engineering and Telecommunications at UNSW Sydney (ELSOC and TWEET) organised, on the 18th of April, the 2018 EE&T Industry Night. In a packed Scientia Hall, IEEE was present (Antony Zaglas, Bill Sloman, Colin Elston and Georgios Konstantinou) to promote IEEE activities, student chapters, share experiences and engage with future engineers.

R10 PES meeting and APPEEC 2018
The 10th Annual Asia-Pacific Power and Energy Engineering Conference (IEEE PES APPEEC 2018) which will co-host the R10 PES Chapter meeting will take place from the 7th to the 10th of October 2018 in Kota Kinabalu, Sabah, Malaysia. The theme of the conference is “Embracing Challenges for Power Engineering Sustainability”.

Introducing the NSW PES Outstanding Undergraduate Thesis Award for 2018
The NSW Power and Energy Chapter is introducing the “NSW PES Outstanding Undergraduate Thesis Award” for outstanding undergraduate thesis projects completed in a NSW university in 2018. In order for applications to be eligible, the student must i) be an active PES member for 2018 and ii) completed and submitted his thesis in 2018 in a NSW university on a topic relevant to the scope of the Power and Energy Society. The winner will receive a $300 award and a certificate from the chapter. Applications will open later in the year and the winner will be announced in the November AGM.
PES NSW Chapter Outstanding Engineer Award
Each year the IEEE Power & Energy Society New South Wales Chapter presents the Outstanding Engineer Award (OEA) to a PES NSW Chapter member judged to have made a significant contribution to the engineering profession. For further information, please refer to the PES OEA PDF.

The winners in the past four years were:

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<th>Year</th>
<th>Name</th>
<th>Contributions</th>
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<tr>
<td>2017</td>
<td>Danny Sutanto</td>
<td>For contributions to power system analysis and power engineering education.</td>
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<tr>
<td>2016</td>
<td>Trevor Blackburn</td>
<td>For service to the PES NSW Chapter and for contributions to power engineering, engineering education and standards development.</td>
</tr>
<tr>
<td>2015</td>
<td>John Robinson</td>
<td>For service to the IEEE PES New South Wales Chapter</td>
</tr>
<tr>
<td>2014</td>
<td>Vic Gosbell</td>
<td>For contributions to the field of electric power quality and to power engineering education</td>
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Nominations for the 2018 OEA will remain open to the end of September 2018. Members are asked to nominate an individual via e-mail to the PES chapter chair at g.konstantinou@ieee.org
TENSYMP2018

TENSYMP2018 was held on the 4 – 6 of July 2018 at the Mercure Sydney Central.

A large contingent of section members played some role in organising this event, led by Stefan Mozar as General Chair.

The participants had a great time and found the open and friendly nature of the NSW Section and Australia Council members welcoming, leading to a positive experience. The symposium had some great discussions, keynotes, workshops and above all else most importantly lots of laughs!

Special thanks go to Stefan, Eddie, Tony, Bruce, David, Trevor, Abbas, Mohammad, Zia, Pina and the rest of the team (there are too many names to mention) for all the time they put into the event. As everyone is a volunteer, all time and resources committed to the event is appreciated.

Some photos from the event:
Nomination Form for one position in the IEEE NSW SECTION

Section Executive Officers to be elected by electronic vote (by the Members);

Elected positions by Chapters and Affinity Groups (Chair/Vice Chair/Secretary/Treasurer);

Non-elected positions (appointed Officers).

Closing date Friday 31 August 2018 midnight

NOTE: Chapter and Affinity Group Committee Executive positions are elected by the respective Chapter Members.

Nomination Form Instructions:
Before completing the form, review the following guidelines for nominating a volunteer Candidate:
(a) Nominators must contact their nominee before submitting the form and confirm their acceptance of the time and other commitments required for the position.
(b) Nominees must have had at least 2 years on the Committee to nominate for the key positions of Chair, Vice Chair, Treasurer and Secretary.
(c) Nominees for Section Executive positions should be Senior Member or higher
(d) Self nominations require the submission of additional information e.g. CV or SMIEEE referee
(e) If you are nominating for more than one position, separate forms should be submitted.
(f) Please note the closing date, completed forms to be emailed to:
    
    Greg Andrews
    Email:  greg@computer.org
    or snail-mailed to     PO Box 114, French’s Forest NSW 1640

Nominee Contact Information
First Name:
Surname:
IEEE Email or other address
Address Line 1:
Address Line 2:
Address Line 3:
IEEE Member No.
POSITION/S REQUESTED:

Nominator Contact Information
First Name:
Surname:
IEEE Email or other address
Address Line 1:
Address Line 2:
Address Line 3:
IEEE Member No.
New and upgraded Members of the NSW branch of the IEEE

The old SAMIEEE database was taken off-line on the 31st May 2018 and Bruce Poon couldn't use it extract the lists of names.

He is learning to use new SAMIEEE (OU_Analysis) but it has taken longer than he had hoped and expected. He has had to ask the IEEE MGA for assistance.

The deadline for publishing the July CIRCUIT meant that we have had to skip the information on new members but we will include them in the October Circuit, in an even longer list of names than usual.
Circuit is currently provided electronically from the IEEE NSW Section web site http://sites.ieee.org/nsw/newsletters/
Members will be notified by email when a new issue is posted on the Website. Future copies of Circuit will only be sent by paper mail on request.

If you require Circuit to be mailed to you in 2018 please complete the form below:
Don't bother if you were already getting it by mail in 2017.
Please Detach

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Yes, I want to continue receiving future editions of Circuit by post

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Tel: (H)........................................ (W)........................................ (M)................................. FAX........................................
Email: ..............................................................................................................
Post to: Bill Sloman, Circuit Editor, Unit 60, 1Tewkesbury Avenue, Darlinghurst NSW 2010

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