



International Society of Biomechanics Newsletter

ISSUE Number 108
June, 2009

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AFFILIATE SOCIETIES OF ISB:

American Society of Biomechanics; Australian and New Zealand Society of Biomechanics; Brazilian Society of Biomechanics, British Association of Sport and Exercise Sciences; Bulgarian Society of Biomechanics; Canadian Society of Biomechanics/Société canadienne de biomécanique; Chinese Society of Sports Biomechanics; Comisia de Biomecanica Inginerie si Informatica (Romania); Czech Society of Biomechanics; International Society of Biomechanics in Sports, Japanese Society of Biomechanics; Korean Society of Sport Biomechanics; Polish Society of Biomechanics; Russian Society of Biomechanics; Société de biomécanique (France), Taiwanese Society of Biomechanics.

ISB President's Message

The Cape Town ISB conference is upon us and this event will mark the end of my presidency for the International Society of Biomechanics. Therefore, in this last presidential note I should be reflecting on the 2 year term, and the achievements of the society and the volunteer members of the executive board. But first and foremost I would like to reflect on the role of the ISB in this vast world of scientific societies and organizations and particularly on the word "International" which is the first word in our organization's name.

"International" obviously implies that the organization is led by people from more than one country, and its conference is attended by scientists from all over the world. And this is definitely the case, but upon reflection, the question arises how international are we? Should we represent all parts of the world equally? And should all biomechanists attend our bi-annual conference (something that is clearly not happening).

One aspect of the ISB that I always admired was the affiliation with national and other specialized biomechanics organizations. I view the ISB as the "mother" of these approximately 20 affiliated societies; a resource organization providing educational, financial, philosophical and organizational help. One of the mandates I gave myself two years ago was that I wanted to integrate the affiliated societies into a world-wide net of biomechanics research and education, and make them feel part of the ISB. During my mandate, three new national societies became affiliated with the ISB: The Brazilian, Hellenic (Greek), and the Portuguese Society of Biomechanics (although the last still needs official approval from the executive board). These are positive developments and the goal should be that all national biomechanics organizations become part of the wider network of the ISB. The advantages are obvious: global exposure of our work, strategic planning possibilities, and the sharing of financial, educational, technical and intellectual resources.

As president, I initiated awards for sponsoring a number of keynote lecturers and young scientist awards for affiliated societies and to date, the following organizations have taken advantage of that: The Korean Society of Sports Biomechanics, The Chinese Society for Sports Biomechanics (twice), The Hellenic Society of Biomechanics,

the American Society of Biomechanics (twice), The Brazilian Society of Biomechanics, and the Australian and New Zealand Society of Biomechanics. I hope that the ISB will consider continuing such sponsorship programs with affiliated societies, possibly expanding them to educational workshops, travel grants for students, sponsorship of visiting scientists, etc. Although I am very pleased with the progress we have made in bridging the gaps to our affiliated societies, and much of that credit goes to Veronique Feipel and Jill McNitt-Gray, the current and former board members responsible for the affiliated societies portfolio, there is much that can be done to recruit and actively involve affiliated societies in the educational and scientific aspects of world biomechanics. I believe that ultimately, a loose network of affiliated societies, with leadership from an established, well organized, and generous organizations such as the International Society of Biomechanics, will allow for much faster development of biomechanics around the world and will be particularly useful for emerging biomechanics communities.

Another aspect of the word "International" is the representation of different countries and continents on the executive board of the ISB. The recent elections gave the following distribution: North America 8; Austral-Asia 3; Europe 3; and South America 1. Other international organizations (such as the World Council of Biomechanics) have established a system that requires a certain "equal" distribution of representatives from all parts of the world, and although I agree with such an idea philosophically, it does not make necessarily for an effective executive. I would much rather not impose a geographically-determined distribution of executive members, but would like to encourage scientists from areas not well represented on the executive board to step forward and volunteer their services. In this sense, I would like to thank Dr. Marco Vaz from Brazil who ran in the last election and who, to my best knowledge, is the first representative on the ISB executive board from that country and the first from a South American University. Hopefully, his example will inspire others to step forward in two years from now when new elections will be held.

However, even if you are not an elected executive board member, one of the privileges of the affiliated societies is that they can send one member to all executive board meetings. Although, these members are non-voting, they can participate and voice their opinions on all issues discussed. Only few of the affiliated societies have sent representatives, and even if they have, none has done so with any consistency. This is another way of being directly involved in the business of leading the International Society of Biomechanics, and I would encourage all affiliated societies to take advantage of this opportunity.

In summary, the ISB with its affiliated societies is setup such that input on all levels is facilitated and welcome. With Julie Steele, the incoming president, and Ton van den Bogert, the president elect, the society is in good hands for the next four years with people of vision and integrity at the helm.

Last but not least, I would like to finish this report by thanking all people on the ISB executive board for volunteering their time and for making this society a great scientific community and an inspiring educational organization for students and trainees.

Among the executive members, I would like to remember the late Alex Stacoff whom I asked to be the secretary-treasurer when I knew that I was elected the incoming president two years ago. I asked Alex because he was a good friend of mine, always ready to volunteer his time and a devoted ISB member. We shared an apartment in Iowa City in 1979/1980 when we were both graduate students with Jim Hay. Alex would get up early in the winter and join me in those cold early morning runs that I was supposed to do as a member of the Iowa track team; he ran with me just so I did not have to brave the cold Iowa winter by myself, as he could have easily gone for his run at a more inspiring time of the day. Later, when I was at the University of Calgary, he joined the Human Performance Lab to finish his PhD under the supervision of Benno Nigg. We continued running together in Calgary and on the many mountain paths of Canmore just behind my place, and we took our running shoes to all scientific meetings we attended. Cape Town will be the first ISB meeting where I head alone for those early morning runs. I know that is when I will really miss him.

Walter Herzog

ISB Council Election 2009 Elected members

President elect: Ton van den Bogert, Ph.D. Lerner Research Institute of the Cleveland Clinic. Associate Professor in the School of Engineering and School of Medicine of Case Western Reserve University,

Darren Stefanyshyn, Associate Professor, Human Performance Laboratory, University of Calgary.

Veronique Feipel, Associate Professor, Anatomy and Research Methodology, Institute for Motor Sciences and Institute of Pharmacy.

John Challis, Biomechanics Laboratory, Pennsylvania State University

Toni Arndt, Associate Professor, Biomechanics, Karolinska Institute, Stockholm, Sweden.

Genevieve Dumas. Professor, Department of Mechanical and Materials Engineering, Queen's University, Kingston, Ontario.

Andy Cresswell. Professor, School of Human Movement Studies and Division of Physiotherapy, University of Queensland.

Marco Vaz. Professor, Physical Education, Federal University of Rio Grande do Sul, Rio Grande do Sul Brazil.

Krystyna Gielo-Perczak. Assistant Professor, Biomedical Engineering Department, Worcester Polytechnic Institute, Massachusetts

David Lloyd. Associate Professor, School of Sports Science, Exercise and Health, The University of Western Australia, Perth, Australia

Robert van Deursen. Director of Physiotherapy and of Research at the School of Healthcare Studies, Cardiff University

Student member: Allison Gruber, PhD student, Department of Kinesiology, University of Massachusetts

President: Julie Steele, Professor, Faculty of Health & Behavioural Sciences, University of Wollongong

Past-President: Walter Herzog, Professor, Faculty of Kinesiology, University of Calgary

Brian Davis



Update from ISB 2009 in Cape Town

ISB 2009 is fast approaching and preparations for the XXIIInd Congress of the ISB in Cape Town in July are well on track.

We decided to use a very new software system called “openconf”, which promised to do most of the programme stuff automatically as long as authors submitted their abstracts correctly as PDF files, and filled in their email addresses properly. But with these new software systems you never know!

With about 300 abstract submissions piling up as the deadline approached, we decided to extend the deadline once and then a second time. Finally, we ended up with slightly more than 600 abstracts. After 60 reviewers had been selected (committee and council members, supervisors and grad students), the “openconf” system provided the first surprise: We assigned 20 abstracts to each reviewer, and two days later when we assigned abstracts to a few new reviewers, we discovered that the system had changed all the assigned abstracts for the first set of reviewers. As you can imagine, they were not so happy about that, as some had already done their job! Fortunately only one reviewer declined to go with the new set of abstracts. The information about acceptance or rejection of the abstracts was sent to all authors by the deadline of the end of March. In the end, 19 abstracts had to be rejected, based on the independent scores of two reviewers per abstract.

Our next step was to shortlist candidates for the awards. Despite some miscommunication between us and the awards committee, we managed to complete the task in early April. In the case of the Young Investigator Awards, we had to reduce the numbers from more than 160 to 20 for oral and 20 for poster. In addition, we also shortlisted 5 abstracts for the Clinical Biomechanics Award.

Unfortunately the “openconf” system could not compose the programme from the abstracts automatically. So we had to put in much hard work and energy to find a system to fit the remaining abstracts into a reasonable programme, without upsetting too many people, as we have only 320 slots for oral presentations. We were still on track and managed to get the preliminary programme on our website by the end of April.

Now, because not everyone had read our remark on the paper acceptance message on 31 March that they could make a request for oral or poster presentation, the requests for changes came in thick and fast! Papers were changed from oral to poster and vice versa (and, in some cases, back again!). Finally, a few days ago, the results from the awards committee arrived, and we got to know which papers would be presented on the Wednesday afternoon 8th July. And that inevitably led to further changes!

But now, after all selected session chairs have agreed to take on this task – some had to be persuaded and convinced that they could do the job – the programme seems to be complete and ready for printing on the CD-ROM.

The conference bags have been ordered, the conference logo has been finalized and the menu for the banquet will soon be decided upon. So everything seems to be falling into place and we are eagerly expecting all you biomechanists in a few weeks' time. Travel safely!

Heidi Schewe and Kit Vaughan

Update on the ISB Sponsored Gait Laboratory in Caracas-Venezuela, and Continuation of the Results of the ISB Sponsored Speaker Series in South America.

Ediuska Laurens, Ph.D. Candidate, ISB Student Representative

As you may remember, ISB embraced the task of sponsoring a Gait Laboratory at the Simon Bolivar University (USB), Caracas-Venezuela, as a continuation of our mission to foster biomechanics in economically developing countries. The Sponsorship comprised the acquisition of the equipment as well as installation and training of the latter. Obtaining the equipment was possible through the generous donations of Motion Analysis (Full Camera System), AMTI (Amplifiers & Mounting rails), Cleveland Clinic (Force Platforms), and Delsys (EMG System).

The journey began two years ago, and I am thrilled to announce that we are at the final step of completing this project! Dr. Susan D'Andrea, who is a long term ISB member and current director of the Gait and Motion Analysis Laboratory at the Center for Restorative and Regenerative Medicine, Providence VA Medical Center-Brown University, has volunteered her time to travel to Caracas-Venezuela at the end of May to install the equipment and train the members of the biomechanics group at USB.

Dr. D'Andrea has set up various gait laboratories from scratch and possesses extensive experience with Motion Analysis and AMTI camera systems and force platforms, respectively. We are thankful and pleased about Dr. D'Andrea's participation, as it took over a year to find an individual with the proper expertise and willingness to take the time to travel to Venezuela.

I would also like to commend the biomechanics group in Venezuela under the direction of Dr. Carmen Müller-Karger since the path has not always been nice and easy. As with everyone else around the world, they were faced by the consequences of the current global economic crisis. The University could not continue to provide the funds promised to finish the renovations of the physical space for the gait lab.

However, this situation did not discourage them, and they immediately began searching for other ways to achieve their goal of completing this project. In the end, after long days of brain storming, meetings, and a great deal of patience, they managed to locate the resources to finish the laboratory on time.

I have mentioned this before, and I will repeat it again, that leading this project on behalf of ISB has been one of the most rewarding experiences for me. This project required plenty of work and organizing, but I enjoyed every minute of it and would not hesitate to do it all over again.

I will gladly report to you about the results of this project in the next ISB newsletter. In the meantime, I would also like to inform the ISB student members, especially those who are attending the International Society of Biomechanics Congress this July in Cape Town- South Africa that the ISB Student Event will focus on "Strategies for getting a job in industry or academia." We encourage all student members to participate in this informative session and take advantage of this great opportunity.

Finally, I am including below the results of the last two workshops that were part of the **ISB sponsored speaker series in South America**. The outcome of the first workshop, which was held at the Universidade Federal do Rio Grande do Sul in Brazil, was published in the previous newsletter. The other two workshops were held at the Andes University, Merida-Venezuela, and at the Simon Bolivar University, Caracas-Venezuela.

Please, let me know if you have any questions or comments about the above activities.

Best wishes,

*Ediuska Laurens
ISB Student Rep.*

BIOMECHANICS OF BIOMATERIALS WORKSHOP AT LOS ANDES UNIVERSITY, MERIDA-VENEZUELA.

By Dr. Herman Finol
- "CPTM" - "CITEC-ULA" - "PIM-ULA"

The **Biomechanics of Biomaterials workshop** was taught this past March 3rd 2009, for a period of 3 days, in the Department of Engineering at Los Andes University (ULA), Merida-Venezuela.



The invited speaker was Dr. Alvaro Mata, who is an ISB member and current director of the Department of Biomaterials and Nanotechnology at Parc Scientific Barcelona, Spain. The speaker was sponsored by the International Society of Biomechanics (ISB), whose main objective is to promote and support the knowledge and study of Biomechanics at the international level, and that through Ediuska Laurens, current ISB Student Representative, has offered and made possible this great event.



*Dr. Alvaro Mata in lectures
at ULA*

The regional hosts of this scientific event were the Graduate School of Mechanical Engineering (PIM) at ULA, the Center of Innovation Technology at ULA (CITEC-ULA), and the Corporation Park Technology of Merida (CPTM), which partners with ULA to implement biomechanics projects.

This event had and will have unprecedented impact in the actualization and acquisition of knowledge in areas as important and influential as the World of Biomechanics, and in this especial case, the Biomechanics of Biomaterials and Nanotechnology.

Approximately 47 invitations were delivered to the deans and directors of the different departments, not only within ULA, but also to other nearby universities, which resulted in registration and attendance of **95 persons** in total. The distribution was 21 professionals, 43 graduate students, and 31 undergraduate students. The interaction with Dr. Mata was of the highest level, creating an atmosphere of discussion and exchange of opinions, questions and answers, which went on beyond the stipulated time in every session, both in and outside the auditorium.

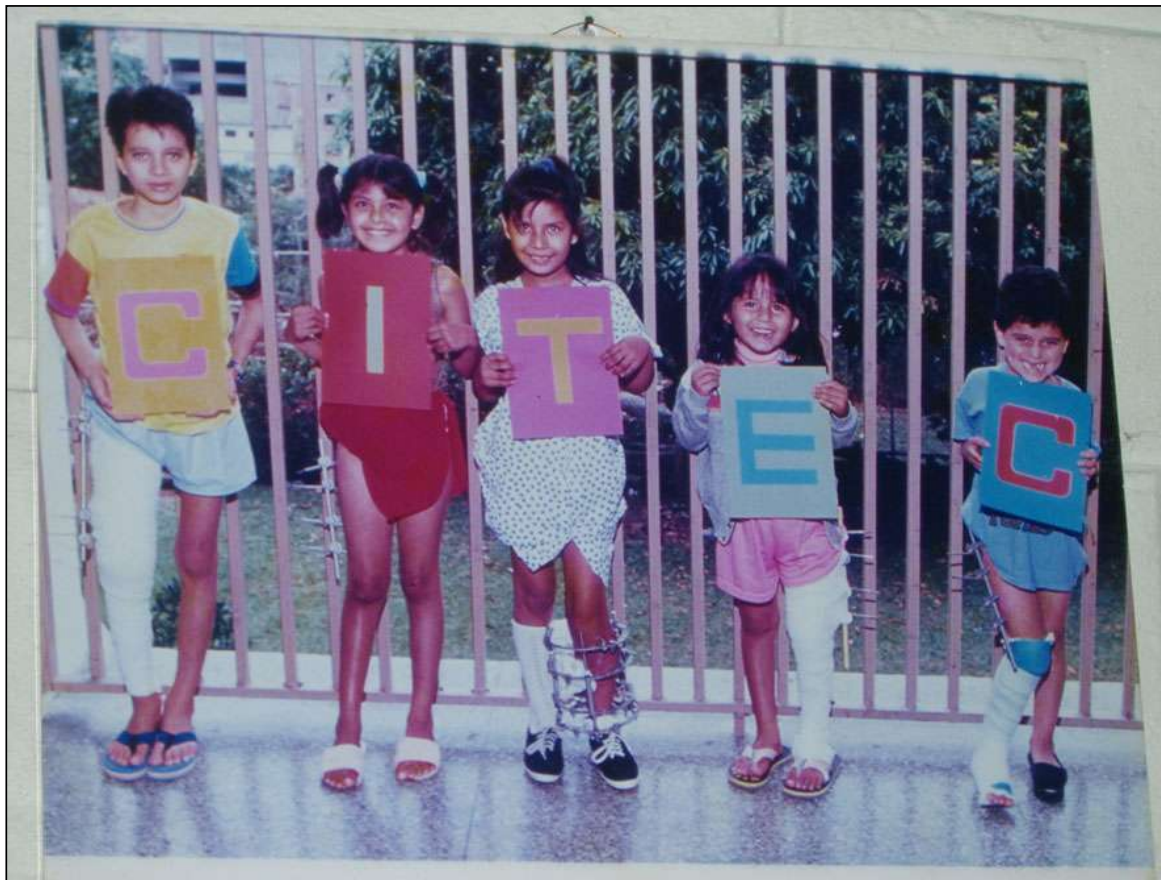


The ULA campus located at the start of the Andes Mountains at 1600 m above sea level. The Bolivar peak can be seen at the left (with snow), is the highest mountain in Venezuela (5000 m)



Display of some of the implants fabricated at ULA

This scientific event planted the seed and the inquisitiveness for this type of technology and the concept of Biomechanics in all of the students who were present, accomplishing the foreseen goals. Without a doubt, there are no words to thank ISB for the great work executed through its distinguished representatives. ISB truly promotes Biomechanics around the world, which opens doors and interaction among frontiers.



Some of the thousand of beneficiaries of CITEC's work at ULA

The pictures are courtesy of Dr. Mata and Dr. Finol

FINITE ELEMENT ANALYSIS OF SOFT TISSUES WITH HIGH DEFORMATION WORKSHOP AT THE SIMON BOLIVAR UNIVERSITY, CARACAS-VENEZUELA

Dr. Carmen Muller-Karger

Professor Jose Felix Rodriguez, from the University of Zaragoza, taught a short course with the title "Finite Elements Analysis of Soft tissues with high deformation", at the Simón Bolívar University, between the 1st and 5th of December 2008. This course had 16 participants from the Simón Bolívar University (USB) and the Central University of Venezuela (UCV). Among the participants there were professors, doctoral and masters students of both institutions. All participants were researchers in the area of simulation of biomechanical systems, particularly bone and soft tissues.



Dr. Jose Felix Rodriguez

All the participants and the Biomechanics Group at the Simón Bolívar University are very grateful to the International Society of Biomechanics for making the visit of Professor J.F. Rodriguez possible.

The course was also supported, by the Graduate Studies Dean who kindly collaborated with the coffee break supplies every afternoon.



Lecture at Workshop

The content of the course included the theory of modeling continuous systems, concepts and formulation of hyper-elasticity, non linear simulation, finite element formulation of these equations, and applied examples.

The Biomedical graduate programs of these institutions (USB and UCV) collaborate regularly. This was a great opportunity to meet and exchange knowledge as well as to take advantage of Professor Rodriguez's expertise on the subject and help to clarify various uncertainties.



Coffee Break

All participants received a certificate of attendance with the ISB and the Biomechanical Group logos.

Student ISB Grant Recipients

Peter Milburn, Student Grants Program Chair

Congratulations to all the successful applicants. As you can see on the list below, this year they are truly "international".

ISB Congress Travel Grants

Christopher Ball	University of Wollongong,	Australia
Cyril Donnelly	University of Western Australia	Australia
Suzi Edwards	University of Wollongong,	Australia
Daniel Haufle	Frederick-Schiller University	Germany
Suzanne Lipfert	Frederick-Schiller University	Germany
John Wannop	University of Calgary	Canada
Thierry Laroux-Chevalier dom	Staffordshire University	United King-

Dissertation Grants

Deepak Kumar	University of Delaware	USA
Vipul Lugade	University of Oregon	USA
Shashank Raina	University of Southern California	USA

International Travel Grant

Erica Beaucage-Gauvren	Queens University	Canada
Rodrigo Bini	Universade Federal de Rio Grande de Sol	Brazil
Tiffany Edgecombe	University of Calgary	Canada
Nellie Langarek	University of Cape Town	South Africa
Robyn Newell	University of British Columbia	Canada
Grace Smith dom	Liverpool John Moores University	United King-

Affiliate Development Grant

Mohammed Lawani	University of Abomey-Calavi	Benin
Ncedo Ludada	Tumani University	Tanzania
Solomon Mmomelu	National Orthopaedic Hospital	Nigeria
Gurgeet Singh	Alizarh Muslim University	India

The deadline for applications for the round 2010 will be the end of November, 2009. Note there will not be any Congress Travel Grants awarded in this coming round.

Welcome to the ninth Footwear Biomechanics Symposium in Stellenbosch, South Africa! During the three-day meeting (July 10 – 12, 2009), biomechanists, clinicians, engineers, designers and manufacturers will gather and communicate their most recent research work on footwear biomechanics. With more than 65 submitted abstracts, the symposium will provide the most diverse venue for academic and industry practitioners to discuss practical and theoretical work in the field of footwear biomechanics.

The symposium will take place in the heartland of the Cape Winelands at the five star [Lanzerac Manor & Winery](#). Located on the outskirts of the historical university town of Stellenbosch, this 300 year old country estate is one of the region's most distinguished examples of Cape Dutch architecture, and is still a fully functioning winery!



Three outstanding researchers in the field of footwear biomechanics, Dr. Peter Cavanagh, Dr. Benno Nigg and Dr. Martyn Shorten, have agreed to give keynotes during the symposium. In addition, we will also have an informal question and answer session with these three distinguished guests so everyone will have an opportunity to ask their burning footwear biomechanics questions. Additional highlights also include an invited Soccer Footwear session organized by Dr. Thorsten Sterzing to coincide with the upcoming World Cup in South Africa. Also, to celebrate his retirement, Dr. Bart van Gheluwe has agreed to give a personal overview on “Foot Biomechanics and Podiatry: Research Meets the Clinical World”.

Five US\$1,000 awards from our sponsors (Adidas, Li-Ning, Nike, RSscan and Taryn Rose) will be presented for outstanding research. In addition, the prestigious Nike award (US\$ 25,000) will be announced.

For detailed information regarding registration, program and accommodation, please visit our symposium website – <http://2009.footwearbiomechanics.org>.

“Almost past” editors note

Karen Sjøgaard



This letter is a bit nostalgic to write. So much has changed since I, six years ago, agreed to take over the responsibility of the Newsletter. And this is now the end of my last term for the ISB council and therefore also my last Newsletter. Three presidents have come and gone, but Graeme Wood has stayed as a steady rock. Including students in the council have been a refreshing new source of stories for the Newsletter, so laborious, that they will be hard to live up to for the followers to come. The Newsletter is no longer sent to print, but just uploaded. No more yellow envelopes reminding us about ISB! And actually, most of the urgent information that earlier was the justification of a Newsletter are now handled from the webpage (<http://isbweb.org>) or in E-mails.

So is there a reason for having a Newsletter? Well, every time I have asked the question, the answer has come from the webpage statistics showing that the Newsletter is still one of the most popular features. And personally, I do believe that an international society needs a place to listen to the President, share the stories, remind us of the history and see the names of the future coming up. Nevertheless, it may now be time for a change for the ISB-Newsletter... it really needs new ideas and new energy!

With these words, I would like to welcome and give way for the coming Newsletter editor. And finally, all my greetings to all the ISB Newsletter readers, and specifically to those members that I have been in touch with over the years. It has been so much fun and worth all the work.....

I hope you will enjoy Newsletter 108!

Almost former Newsletter editor

Karen Sjøgaard

New members to ISB

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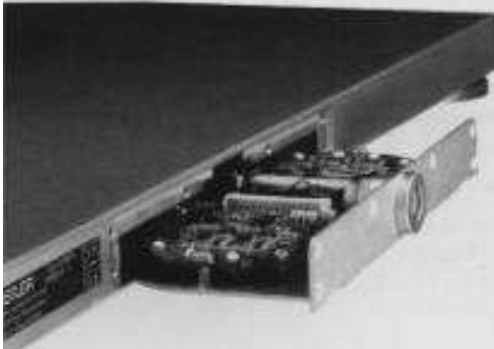
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