

People and things

and CERN. Lithium 11 decays through beta-delayed emission of tritons (M. Langevin).

Reflecting the growing contact between nuclear physics and quark physics, the meeting concluded with a session on quantum chromodynamics (QCD), the theory of quark interactions. The understanding of spin-orbit coupling, which governs the shell closures in nuclei, now finally can be understood from the fundamental interaction constant of QCD (K. Bleuler). The masses of nucleons follow from lattice calculations as presented by G. Schierholz.

The new relevance of QCD for nuclear physics revives the old dream of being able to deduce the masses of nuclei from one fundamental quantity — the coupling constant of strong interactions.

However this is not for tomorrow, and in view of the interesting and active nuclear physics programme presented at Seeheim, a continuation of the series of AMCO conferences is planned with AMCO-8 to be held in 1989. At AMCO-7 proposals were made to organize this meeting in Israel, Poland or the USA.

From P. Armbruster and E. Roeckl.

On people

The Soviet State Prize for Science and Technology has been awarded to the renowned field theory team of N. Bogolyubov, A.A. Logunov and D.V. Shirkov for their set of papers 'the renormalization group method in the theory of fields', written in the mid-1950s and which combined the use of perturbation theory with differential group equations.

Sidney Drell, deputy director of the Stanford Linear Accelerator Center and co-director of Stanford's Center for International Security and Arms Control is the recipient of a five-year award from the MacArthur Foundation.

Fermilab Director Emeritus Robert R. Wilson receives the Enrico Fermi

Award, the highest scientific honour of the US Department of Energy, for his 'outstanding contribution to physics, particle accelerator design and construction'.

Theorist Efim Samoilovitch Fradkin of the Lebedev Institute in Moscow recently celebrated his sixtieth birthday. His many contributions to quantum field theory and quantum statistical mechanics cover thirty years and have earned him widespread recognition. Corresponding Member of the Soviet Academy of Sciences, he has been awarded the USSR State Prize and the I.E. Tamm Prize.

The US Department of Energy recently sent some of its officials to CERN to visit the UA1 experiment which has collaborators from Harvard, the University of California at Riverside and Wisconsin University. Left to right, Carlo Rubbia (CERN and Harvard) head of the UA1 experiment, Bernie Hildebrand (DOE), David Cline (Wisconsin) and James Rohlif (Harvard) are seen here in discussion at UA1.



CERN Council President for 1985 is Wolfgang Kummer of Austria (right) seen here with outgoing President Sir Alec Merrison (UK). At the December Council session, tributes were paid to Sir Alec's skill in leading the work of Council over the past three exciting years.

(Photo CERN 211.12.84)

CERN Council

At its December session, CERN Council elected Wolfgang Kummer of Austria as its President for 1985, succeeding Sir Alec Merrison of the UK, President since 1982. J. Rembser of West Germany was reappointed as Vice-President for 1985.

For the Scientific Policy Committee, D. H. Perkins of Oxford was elected Chairman for 1985, and K. Tittel of Heidelberg was reappointed as member for three years. J. Cronin of Chicago becomes a member of the committee for the next three years.

Within CERN, Roy Billinge was reappointed as Leader of the Proton Synchrotron Division for three years and Paolo Zanella reappointed Leader of the Data Handling Division for one year.

IUPAP elections

The General Assembly of the International Union of Pure and Applied Physics (IUPAP) met in Trieste in October. At this meeting the People's Republic of China became a full member of IUPAP. Officers and members of the various IUPAP international commissions were elected for the next term of office (1985-87). The C11 Commission on Particles and Fields which was created in 1957 is responsible for sponsoring the major high energy physics conferences and is the parent body of the International Committee for Future Accelerators (ICFA). The 1985-87 membership of the C11 Commission is: I. Manelli, Italy (and CERN) (Chairman); K. Strauch, USA (Harvard) (Secretary); M. Blazek, Czechoslovakia; A. Donnachie, UK; T. Fujii, Japan;

G. 't Hooft, The Netherlands; P. Lehmann, France; E. Lohrmann, West Germany; P. K. Malhotra, India; V. A. Matveev, USSR; W. K. H. Panofsky, USA; Zhao Zhou Guan, People's Republic of China.

The Executive Council of IUPAP also appointed as associate members to the C11 Commission B. Povh, West Germany, with the task of liaising with the Commission on Nuclear Physics; D. N. Schramm, USA, liaison with the newly created Commission on Astrophysics, and R. C. Shellard, Brazil, as representative of developing countries.

American Physical Society

Last year, voting took place for the new Executive Committee of the Division of Particles and Fields of the American Physical Society. The new composition is: James Cronin (Chicago): Chairman, Stephen Adler (Princeton): Vice-Chairman, Gerson Goldhaber (Berkeley): Divisional Councillor, John Peoples, Jr. (Fermilab): Past Chairman, Maris Abolins (Michigan State), Gary Feldman (SLAC), Robert Palmer (Brookhaven), Chris Quigg (Fermilab), Jonathan Rosner (Chicago), Lawrence Sulak (Michigan), and Thomas Ferbel (Rochester): Secretary-Treasurer.

Meetings

A NATO Advanced Study Institute 'New Vistas in Electro-Nuclear Physics' will be held in Banff, Alberta, Canada, from 22 August to 4 September. Applications to E. Tomusiak, Department of Physics, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, S7N 0W0.

As mentioned in previous editions (see, for example, December 1984 issue, page 442), the 1985 International Symposium on Lepton and Photon Interactions at High Energies is being held in Kyoto from 19-24 August (further information from the Secretariat, Research Institute for Fundamental Physics, Kyoto University, Kyoto 606, Japan). In addition, a symposium celebrating the 50th jubilee of Yukawa's meson theory will be held, also in Kyoto, immediately beforehand. As well as surveying the developments of the past half-century, the symposium, which aims to attract 200 invited participants, will also look to future fundamental theories. Further information from the address above.

A conference on Computing in High Energy Physics will be held at Amsterdam, the Netherlands,

Antiprotons 1984

After a break of more than a year, the CERN SPS Collider started operation at the end of September and when the last colliding protons and antiprotons were dumped on 20 December the integrated luminosity recorded for the period (a measure of the accumulated number of proton-antiproton collisions) attained 395 inverse nanobars (nb^{-1}), compared with 153 nb^{-1} during the historic run in Spring 1983 which discovered the Z^0 particle and produced the first evidence for the 'top' quark.

From the start the energies of the colliding proton and antiproton beams were increased from 270 to 315 GeV as a result of the installation of water booster pumps, providing a new collision energy record of 630 GeV. The squeezing of the beams in the region of the experiments was also improved so that the combined effect even from the initial coasts gave luminosities above $10^{29} \text{cm}^{-2} \text{s}^{-1}$, rivaling the best levels of 1983.

In the initial month of the run, the accumulated luminosity marched steadily forward to the 50 nb^{-1} level, with initial collision luminosities increasing to above $2 \times 10^{29} \text{cm}^{-2} \text{s}^{-1}$. A crop of power supply problems and other glitches hampered progress for a while, but by the eighth week the Collider was progressing again and the skill of the operating teams showed itself as initial luminosities bounded to over 3×10^{29} , reaching a record level of $3.6 \times 10^{29} \text{cm}^{-2} \text{s}^{-1}$, 2.3 times that of the 1983 run.

Despite improving the stability of the accelerating system, the luminosity lifetime

(the combined effect of proton and antiproton beam lifetime and emittance growth) was for most of the period no better than in 1983. Then, the consequences of a vacuum leak on a main ring dipole were realized and repaired. Later a resonant kick from the thyristors of the main power supplies transmitted through the main dipoles was eliminated. By the end of the period the luminosity lifetime was as high as 24 hours and increasing even to above 30 hours at the end of long coasts. With coasts lasting this long, the integrated luminosity per coast became regularly 15 nb^{-1} .

The Antiproton Accumulator behaved remarkably well throughout the period and achieved a new record for stacking antiprotons with a maximum of 3.8×10^{11} and regularly achieving more than 3×10^{11} .

First tests on separating the beams in the unwanted crossing points were very successful with the beams behaving remarkably calmly as the protons and antiprotons were moved apart and then brought back again. This bodes well for the future operation with ACOL when six proton bunches will collide with six antiproton bunches and unwanted crossing points need to be avoided to keep the beam-beam non-linear tune spread within the available space of the tune diagram.

Some express data processing enabled physicists to keep score of interesting physics events, promising a good crop of results for the 1985 conference season and ensuring that CERN remains in the world physics spotlight.

University of Amsterdam and will be devoted mainly to three subjects: networking, embedded systems and vector and parallel processing. It may be regarded as a sequel to the conferences held in Padua, Italy, in 1983 and in Guanajuato, Mexico, in 1984. For further information please contact Ms. I. van der Velde, NIKHEF-H, PO Box 41882, 1009 DB Amsterdam, Netherlands.

The Sixth Workshop on Grand Unification is to be held at the University of Minnesota from 18-20 April. This will be the sixth in a regular series of workshops, the latest of which was held at Brown University in Providence, Rhode Island in April 1984. Topics will include grand unified theories and proton decay, supersymmetry, Kaluza-Klein Theories and cosmology.

Further information from the organizers, Serge Rudaz and Tom Walsh, Physics Laboratory, University of Minnesota, 116 Church Street S.E., Minneapolis, Minnesota 55455, USA.

The 1985 CERN/Joint Institute for Nuclear Research (JINR, Dubna, USSR) School of Physics, the ninth in the series, will be held from 1-14 September at Urbino, Italy. The basic aim of these schools is to teach various aspects of high energy physics, especially theoretical, to young experimentalists drawn mainly from CERN and JINR Member States. Further information from Miss D. A. Caton, Scientific Conference Secretariat, CERN, 1211 Geneva 23, Switzerland, or Mrs. T. S. Donskova, Joint Institute for Nuclear Research, PO Box 79, Head Post Office, 101000 Moscow, USSR.

from 25-28 June. It is jointly organized by the section H of the Netherlands National Institute for Nuclear

Physics and High Energy Physics (NIKHEF-H) and the Computer Science Department (FVI) of the

RUTHERFORD APPLETON LABORATORY
RESEARCH ASSOCIATE

There is a vacancy for a Research Associate within the High Energy Physics Division to work on a programme of particle physics experiments associated with the Spallation Neutron Source (SNS) at the Rutherford Appleton Laboratory.

The SNS is an 800 MeV, 200 μ A, 50Hz rapid cycling proton synchrotron scheduled to start operation in 1985. A major low energy neutrino facility is being constructed by KfK, Karlsruhe in association with RAL. An experimental team of German and UK physicists has been formed to exploit this facility. Initially the RA appointed would join this team in a study of neutrino oscillations, inelastic neutrino scattering from nuclei and inverse β -decay. The experiments will be carried out using a 50 ton segmented liquid scintillator detector which is scheduled to be completed and ready to detect neutrinos during 1986. In the longer term it is intended to study neutrino-electron scattering and it is hoped that the RA appointed would participate in the design study for a second 50 ton detector devoted to this interaction.

Research Associate appointments are made for 3 years in the first instance, with the possibility of extensions for a further 2 years.

Please write for an application form quoting VN 304 to

Recruitment Office R20
Rutherford Appleton Laboratory
Chilton Didcot
Oxfordshire OX11 0QX ENGLAND

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The position is limited in duration for three years.

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Written applications together with a curriculum vitae, copies of diplomas and certificates, and a recent photo should be sent to our Department of Personal.

RESEARCH POSITION
HIGH ENERGY PHYSICS
AND ACCELERATOR

National Laboratory
for High Energy Physics (KEK)
Tsukuba, Ibaraki, Japan

National Laboratory for High Energy Physics (KEK) has several research positions in the rank of Assistant (i.e. Research Associate) available starting in or after April 1985. An appointment is for two to five years depending upon the case.

KEK is currently building an e^+e^- collider (TRISTAN) in the total energy range of ~ 60 GeV with a target date of completion in the fall of 1986. Candidates in the accelerator field will have an opportunity to participate in the works for the collider and those in the physics field can participate in the research program at the collider by joining the existing groups, i.e. TOPAZ, VENUS and AMY collaborations.

The salary of regular staff members of KEK is determined according to the rank and the number of years of practical experiences after undergraduate study. The laboratory will respond to an individual inquiry on the salary scale.

Application which includes personal and employment history and past and present research interest, and two letters of recommendation should be sent to

Dr. T. Nishikawa, Director-General,
National Laboratory
for High Energy Physics (KEK),
Oho machi, Tsukuba-gun,
Ibaraki-ken, 305,
Japan.

**ASSOCIATE LABORATORY DIRECTOR
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This position requires a Ph.D. in the physical sciences or engineering combined with a distinguished record of technical management of major accelerator, detector, or fusion energy programs. The successful candidate would be a scientific leader with a strong management background, including excellent scientific judgment, strong administrative skills, creativity in decision making, problem-solving, and the management of human resources.

This position is subject to the financial disclosure requirements of the California Political Reform Act of 1974.

Please submit two copies of resume, including salary history and the names and addresses of three references to:

**Dr. Edward Lofgren, Chairman,
AFRD Search Committee,
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**Assistant Professor
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Physics**

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The Physics Department of Stanford University has an opening for an assistant professor in theoretical physics. A search committee has been established to locate outstanding candidates working at the interface of nuclear and particle theory. Possible areas of interest would include the confinement problem in QCD, transition to the quark/gluon plasma (including properties, formation, and detection), manifestation of the quark/gluon degrees of freedom in nuclear physics, electroweak interactions with nuclei, and the relativistic nuclear many-body problem. This is a regular faculty position and involves both teaching and research. Interested persons should send resume and have at least three letters of recommendation sent to

**Prof. J.D. WALECKA, Chairman,
Search Committee
Department of Physics
STANFORD UNIVERSITY
STANFORD / California 94 305 / USA**

by February 20.

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**Accelerator
Physicists**

Brookhaven National Laboratory

Staff positions for accelerator physicists of all experience levels are open within High Energy Facilities. Successful applicants will be expected to concentrate their investigations along the general objectives of the accelerator physics program at Brookhaven National Laboratory.

The high energy physics facilities at Brookhaven are the 200 MeV proton linac, and the 30 GeV Alternating Gradient Synchrotron (AGS). New initiatives are underway in the acceleration of polarized protons and of heavy ions in the AGS; a proposal to build a relativistic heavy ion collider (RHIC); a proposal to build a booster synchrotron for protons and heavy ions; a study of a high intensity upgrade of the AGS, with a stretcher ring; and an extensive research and development effort directed towards a national facility, the Super Superconducting Collider (SSC).

Applicants should send a resume that includes the names of three references to: **Derek I. Lowenstein, Chairman, AGS Department, Bldg. 911B, Brookhaven National Laboratory, Associated Universities, Inc., Upton, L.I., New York 11973** An equal opportunity employer m/f.



**Brookhaven
National Laboratory
Associated Universities, Inc.**

RUTHERFORD APPLETON LABORATORY

**HIGH ENERGY PHYSICS
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There are vacancies for Research Associates to work with experimental groups in high energy physics. Groups from the Rutherford Appleton Laboratory are working on experiments at CERN, DESY, SLAC and FERMILAB.

Candidates should normally be less than 28 years old. Appointments are made for 3 years, with possible extensions of up to 2 years. RAs are based either at the accelerator laboratory where their experiment is conducted, or at RAL depending on the requirements of the experiment. We have in addition home-based programmes on development of detectors, microprocessor systems, etc. Most experiments include UK university personnel with whom particularly close collaborations are maintained.

Please write for an application form quoting VN 303 to

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STAFF POSITION IN ACCELERATOR THEORY GROUP

The Nuclear Physics Institute at ORSAY has opening for high level Accelerator Physics Engineer as a member of the permanent staff of the Institute.

The appointment will be with the National Institute for Nuclear and Particle Physics (IN2P3 - France) which support a large experimental and theoretical research program on nuclear structure intermediate energy, heavy-ion and particle physics.

- Candidates should have a Ph.D or equivalent in Accelerator Physics or Engineering and at least five years of experience in the field of circular accelerators theory design and construction.

The Laboratory might be engaged in the construction of a superconducting cyclotron for light and heavy ions.

- Please send C.V. including a list of publications and the name of 2 references by the 20th of February to,

A. LAISNE – I.P.N. ORSAY – B.P. n° 1, 91406 Orsay Cédex, France

The University of South Carolina invites applications for

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The Department of Physics at the University of South Carolina anticipates filling a faculty position to start in August 1985. The successful candidate will become a member of a research group presently involved in collaborative research with the detector ARGUS at the Electron Positron Storage Ring DORIS at DESY in Hamburg, West Germany. The candidate should have a minimum of two years postdoctoral experience in high energy experimental physics. This will be a regular faculty position with teaching duties at both the undergraduate and graduate levels in addition to research.

Research Associate, Experimental Particle Physics

Beginning in the summer of 1985, the University of South Carolina will have an opening for a postdoctoral research associate. This person will live in Hamburg, West Germany and will work with the ARGUS collaboration at the storage ring DORIS at DESY. Send a summary of experience and interests in particle physics and copies of publications as well as the names of three references and desired starting date. Receipt of these materials will be acknowledged with a more detailed description of the project.

Contact

Dr. Frank T. Avignone, III, Chairman
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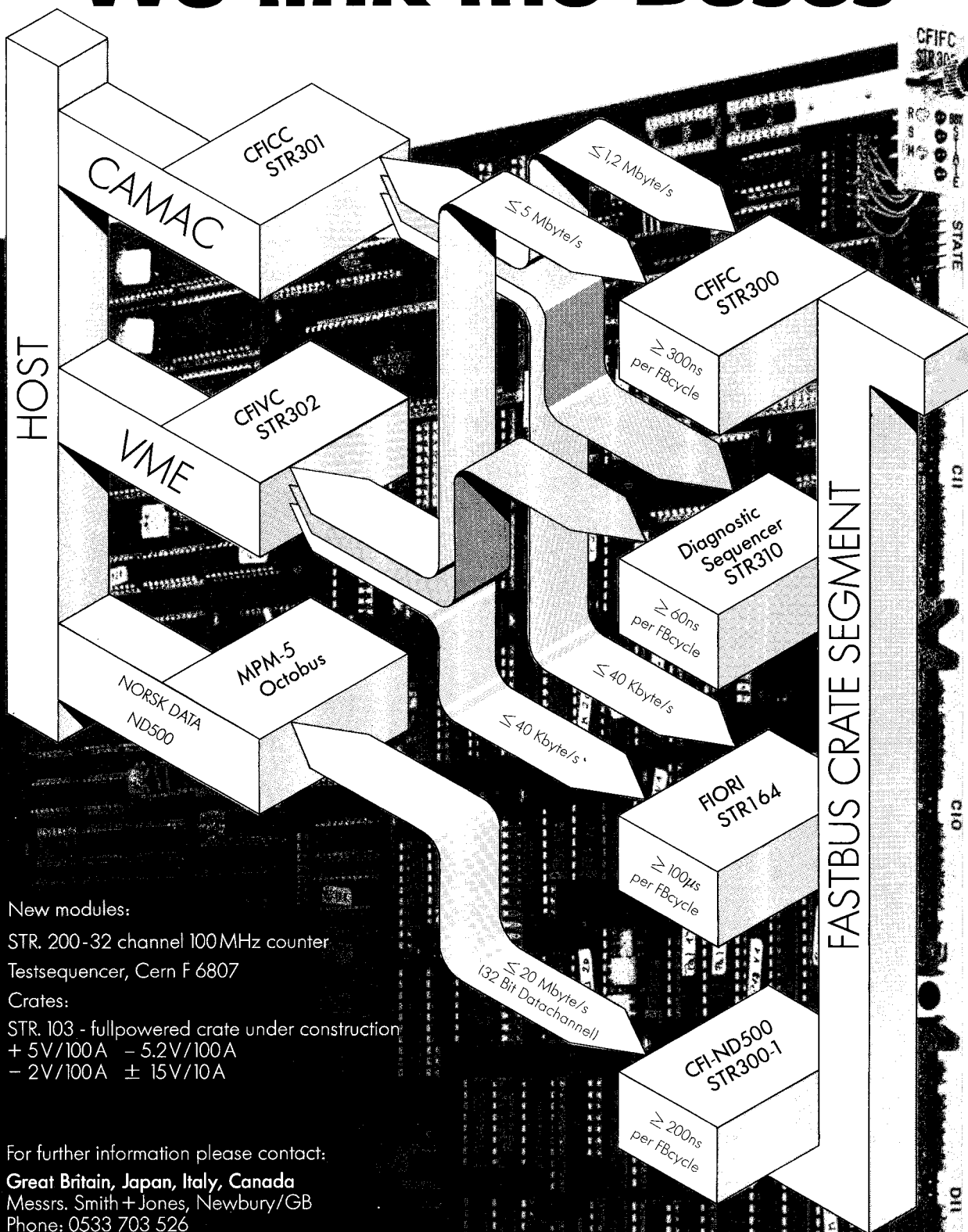
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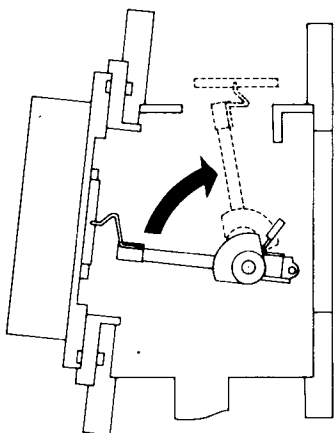
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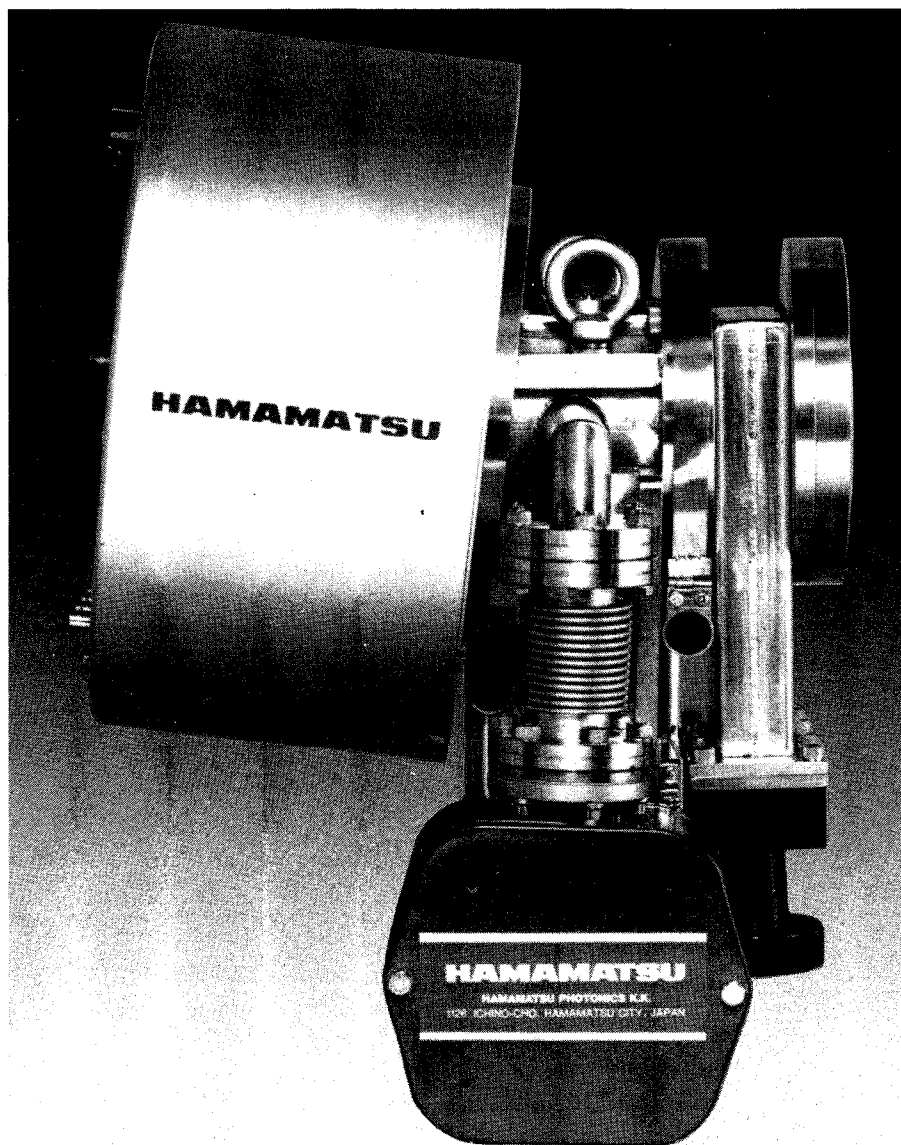
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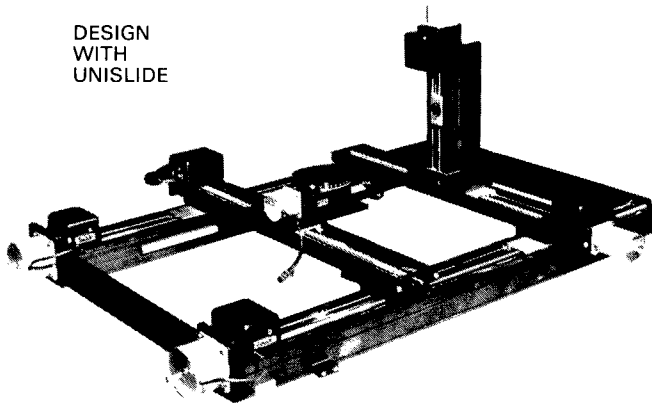
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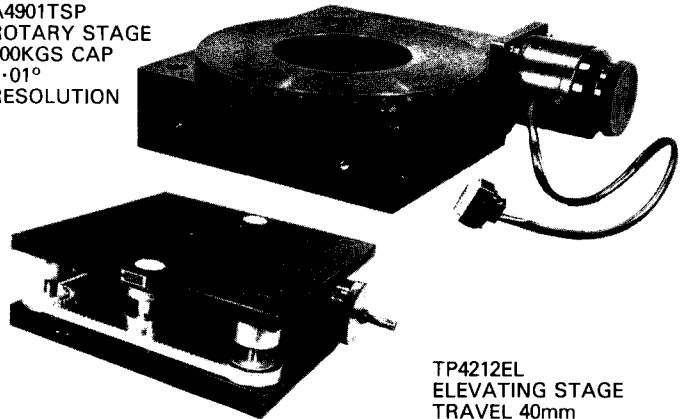
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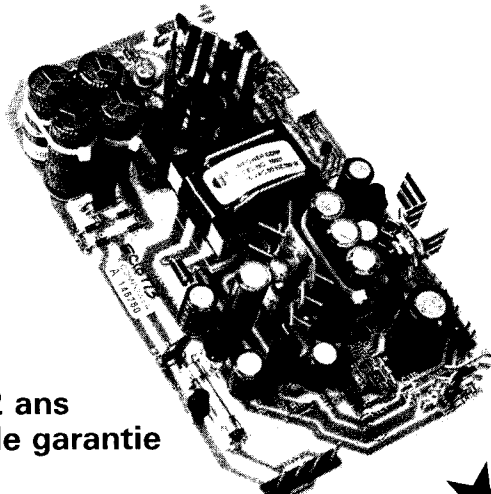
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80005-03	90W	+5V /6A	+12V /1A	+12V /2,5A	-5V /0,5A	
80005-04	90W	+5V /6A	+12V /1A	+24V /1,25A	-5V /0,5A	
80001-01	90W	+5V /7A	+12V /2,5A	+12V /1A	-12V /1A	
80001-02	90W	+5V /7A	+24V /1,25A	+12V /1A	-12V /1A	
80008-01	150W	+5V /15A	+12V /3A	+12V /2A	-12V /1A	-5V /150mA
80008-03	150W	+5V /15A	+24V /3A	+12V /2A	-12V /1A	-5V /150mA
80008-05	150W	+5V /15A	+12V /3A	+24V /2A	-12V /1A	-5V /150mA
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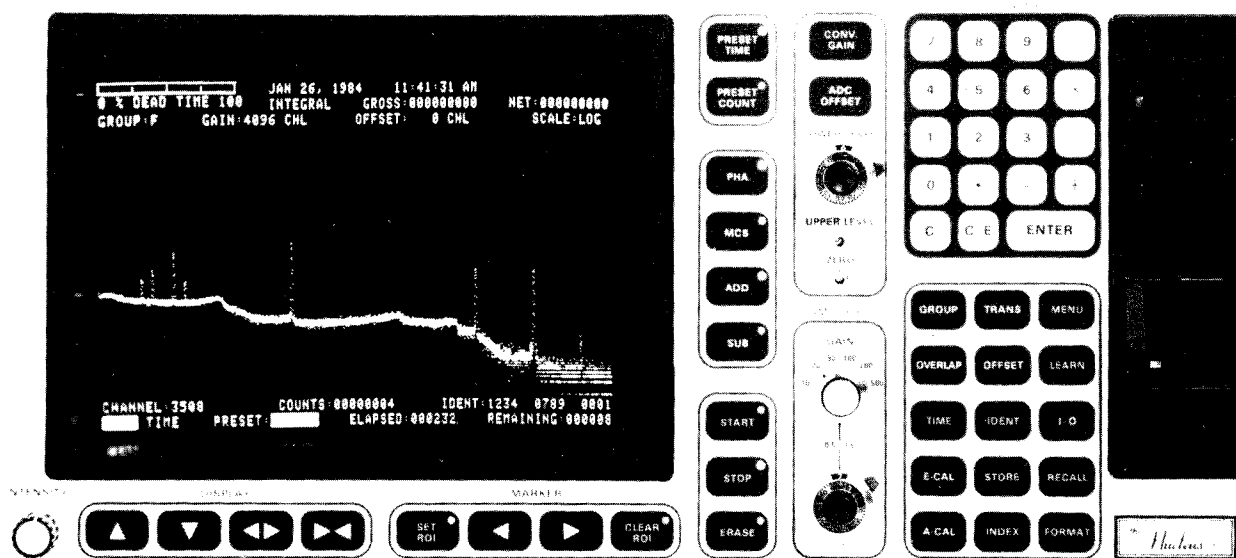
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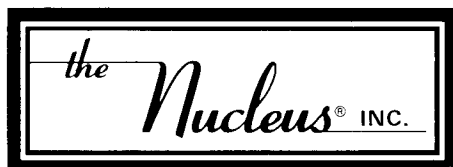
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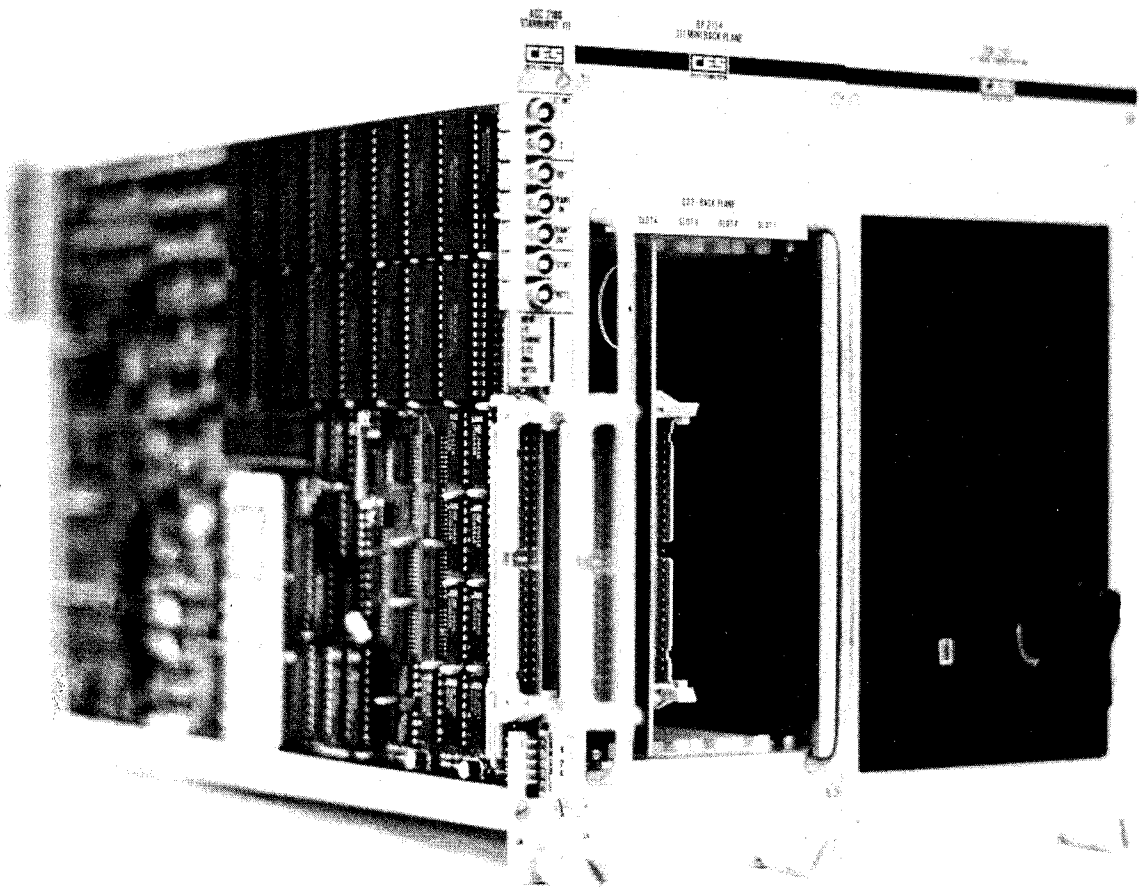
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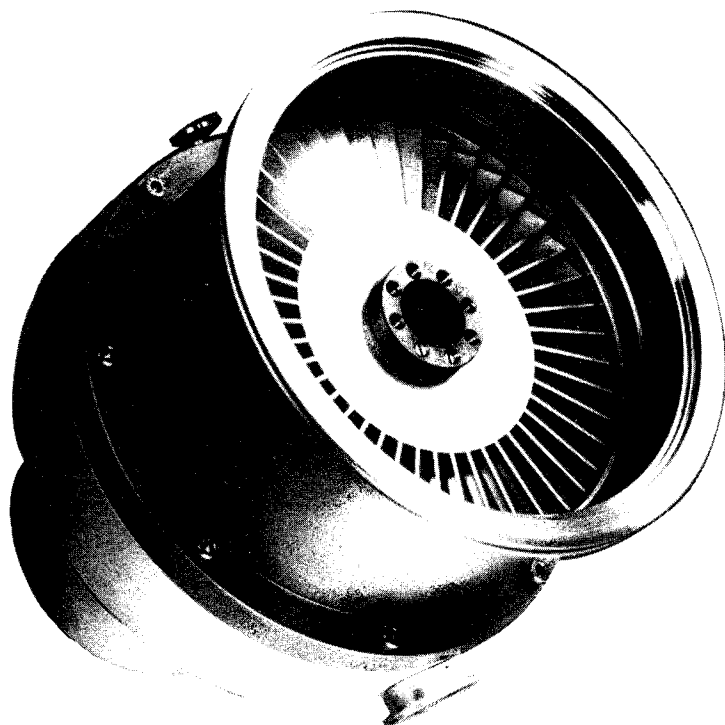
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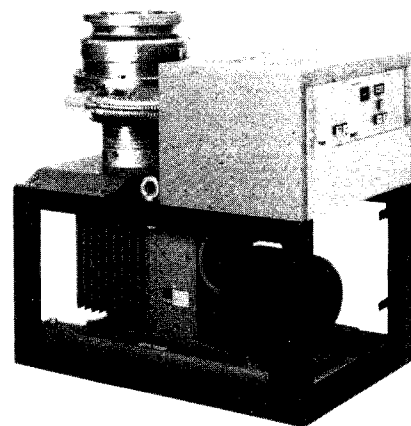
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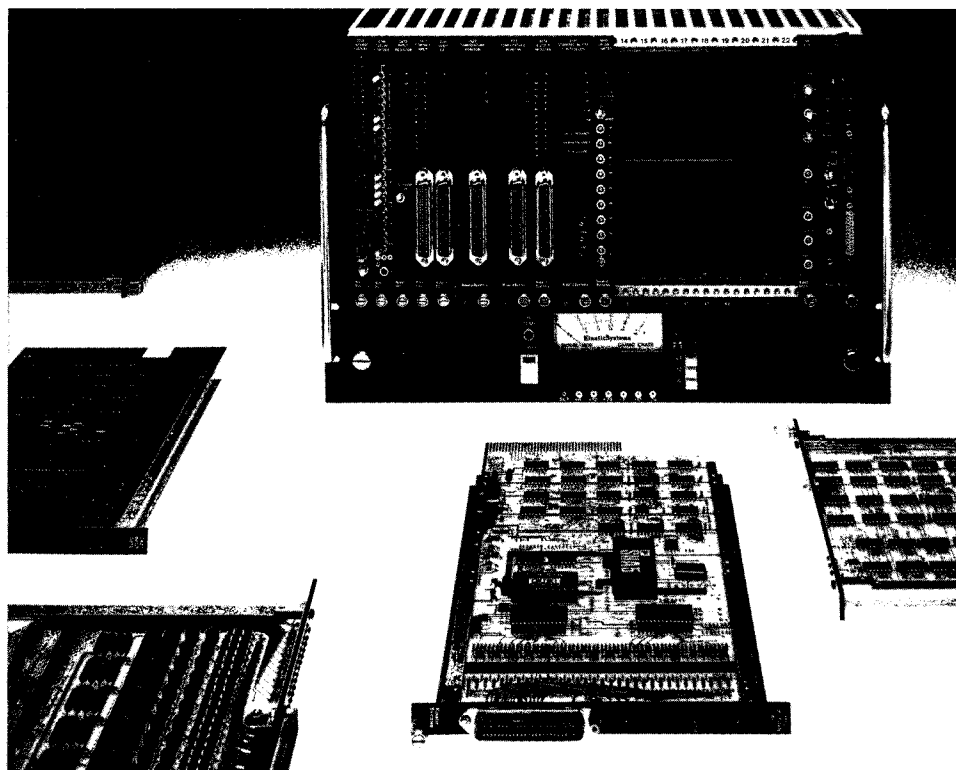
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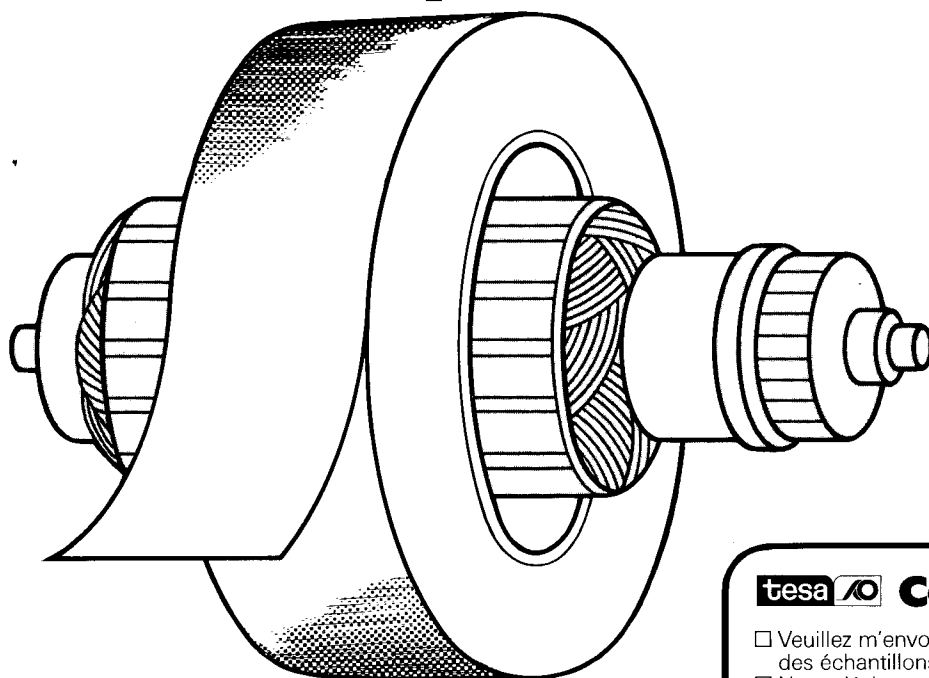
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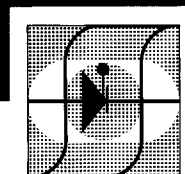
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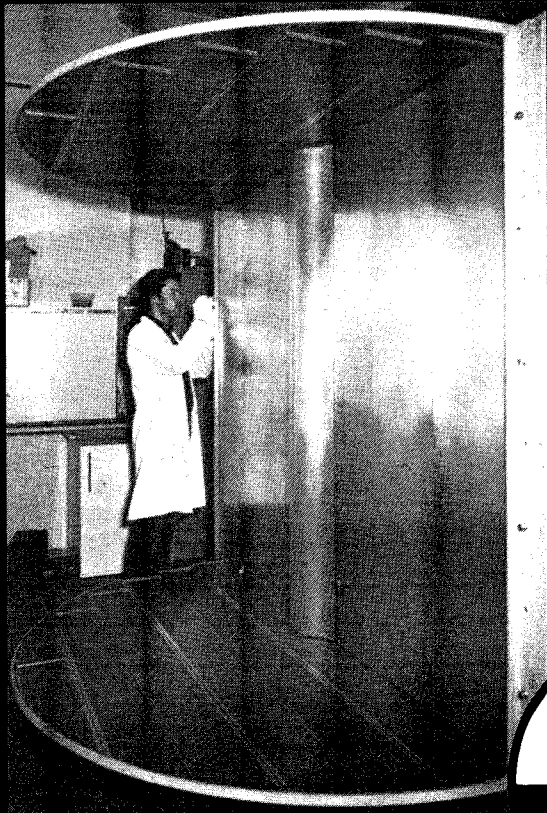
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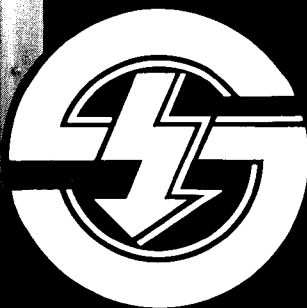
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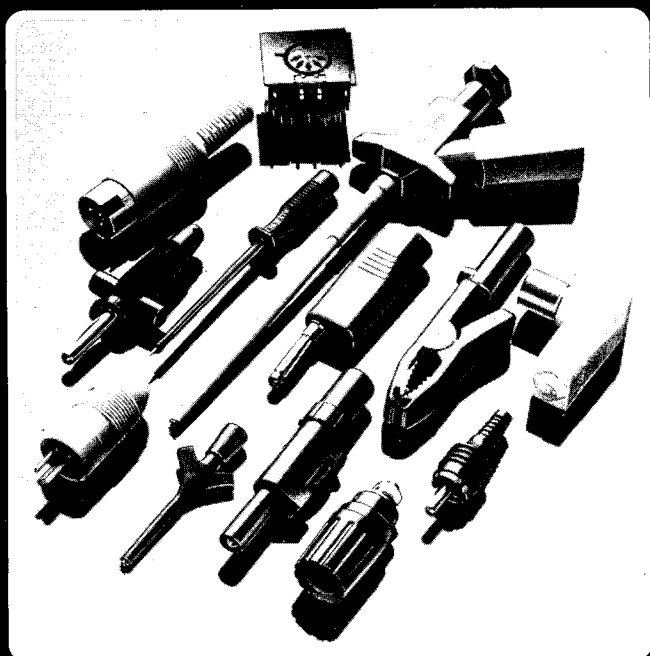
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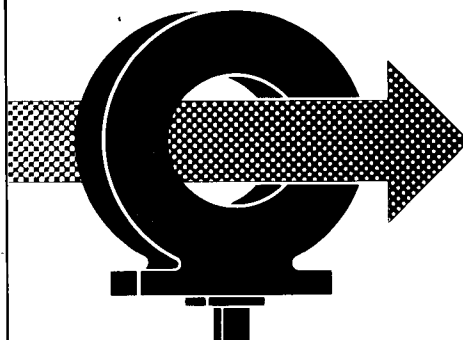
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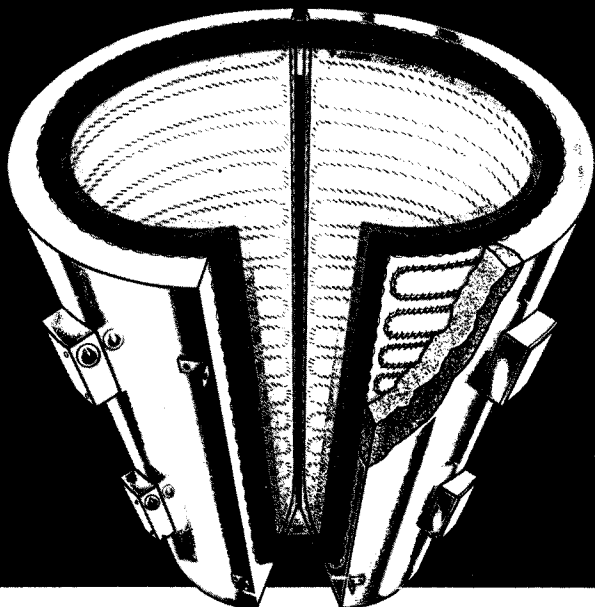
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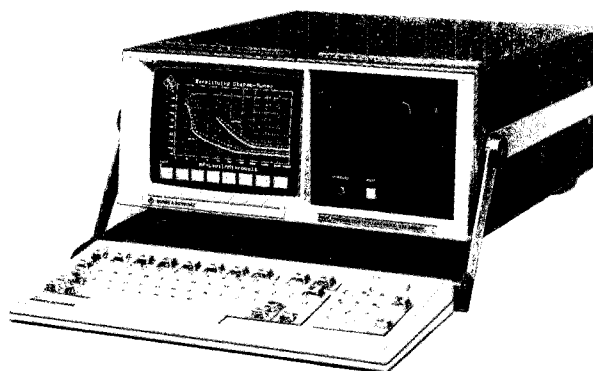
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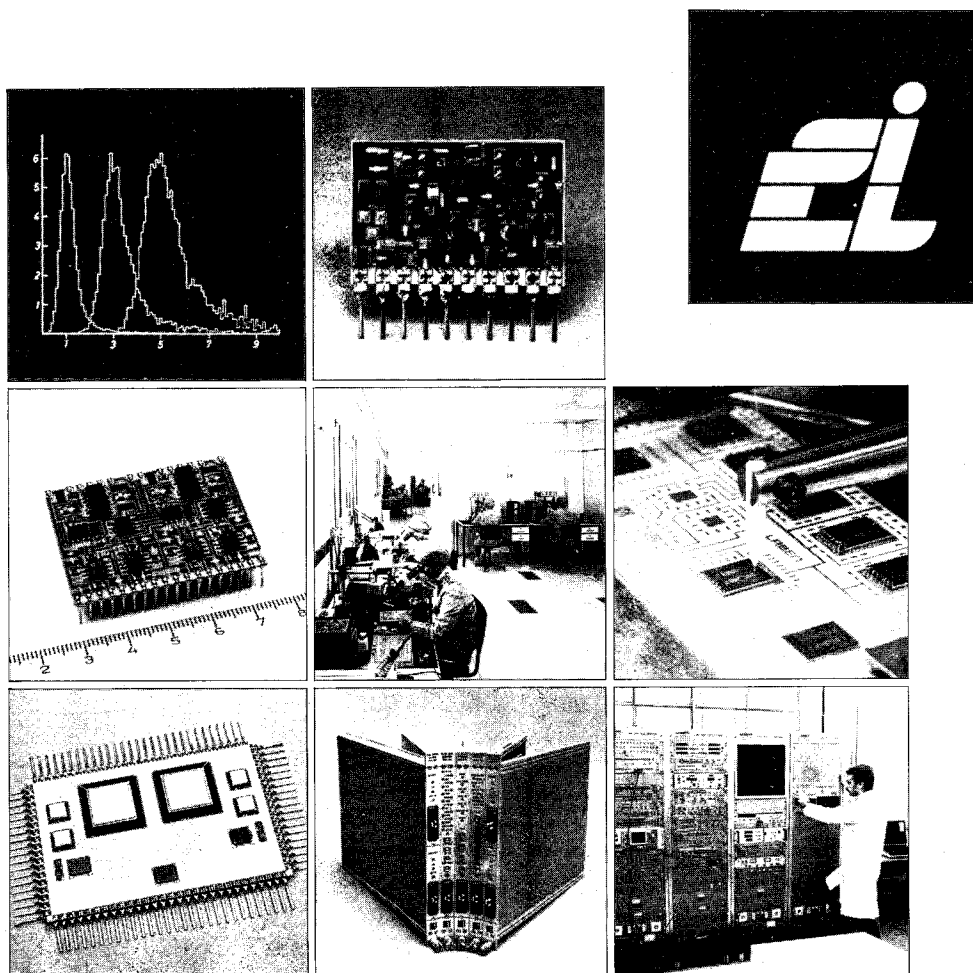


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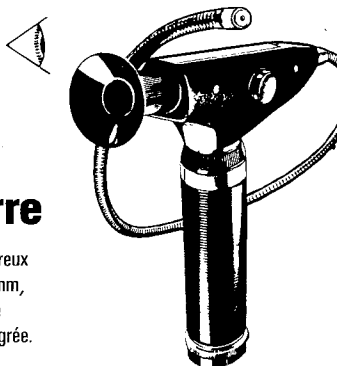
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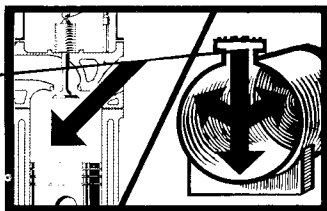
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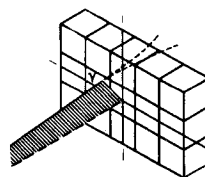
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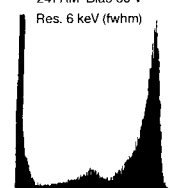
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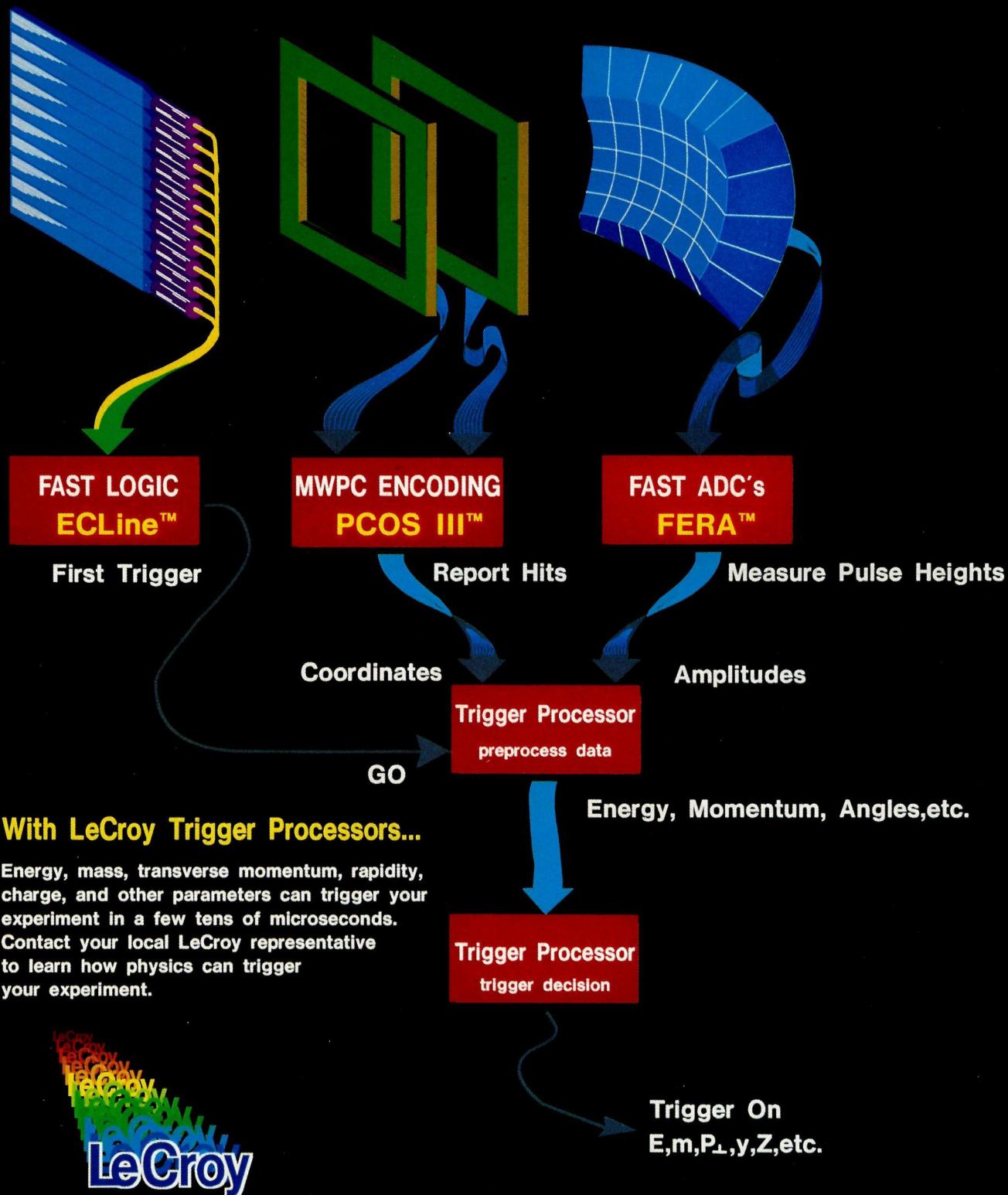


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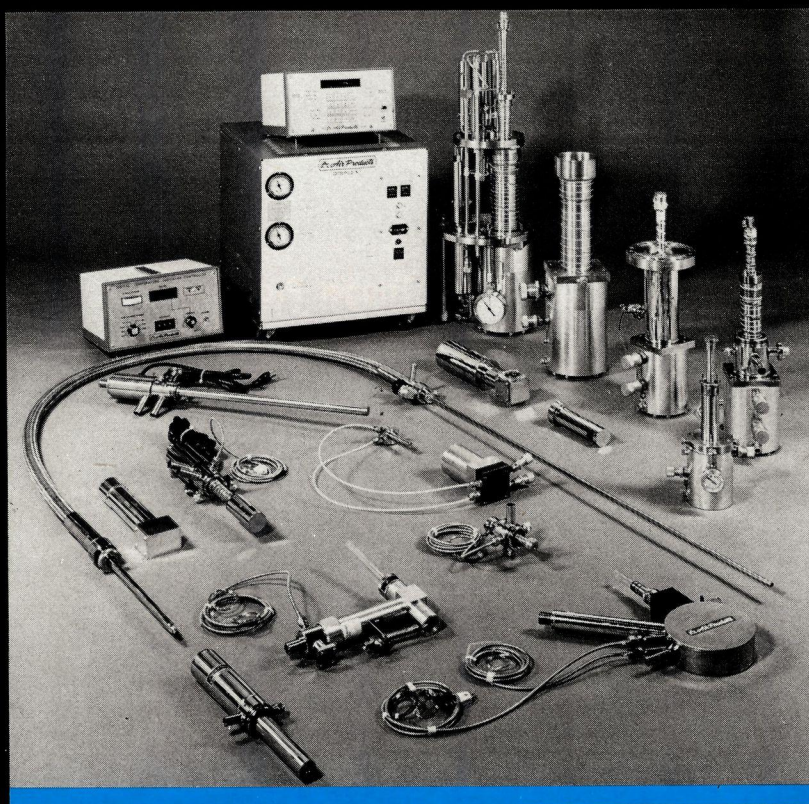
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