Electronic Associates, Inc. News :

Lang Branch, N. J. — The purchase of an EAI 8400 Scientific Computing System by NASA has been announced by Electronic Associates, Inc. The digital computing system will be installed in the Flight Simulation Laboratory at NASA's Ames Research Center, Mountain View, California.

It is expected that the unit will be used initially to form the computational portion of a manned six-degree of freedom simulation of the Supersonic Transport. It will simulate an entire mission — from take-off, through climb, cruise, descent and landing. The system, named « DISC » by NASA for Digital Simulation Computer, may also be applied to mid-course studies for the Apollo project. Installation will be in the early Fall.

The DISC system is the second 8400 scientific computing system purchased by the Ames Research Center. The first system will be installed in the Spring of 1965. Both 8400's have the capability of operating together in a multi-processor configuration. It is expected that this mode of operation will be utilized on a variety of future space/flight simulations as well as on the SST program.

The EAI 8400 is an advanced general purpose digital computing system designed especially for simulation and other real time and faster-than-real-time scientific applications. It is a 32-bit word length system, characterized by high speed floating-point arithmetic, an extremely powerful instruction repertoire, and software with special provisions for real-time operation and on-line man/machine communications.

News from Philbrick :

New electrometer-grade dc operational amplifiers.

Philbrick announces two new all-silicon solid state differential dc amplifiers having input current measured in picoamperes and fractions of picoamperes, common-mode input impedance in the millions of megohms, fully floating differential inputs with common-mode rejection better than 10^6, and voltage noise measured in microvolts. Model P2A is an all-silicon amplifier of new design mounted in the same size case and mechanical configuration as its famous forebear Model P2. Model SP2A is a plug-in amplifier embodying the same circuit as P2A, but having the additional benefit of guarded inputs; the guard may be arbitrarily driven, for example by the output as a follower, providing even higher effective input impedance. Models P2A and SP2A may be used with virtually any gain in the measurement of voltage or current from high impedance sources (as in light, ion, or pH measurements), as integrators or sample-and-hold circuits having exceptional holding ability, as wide-range logarithmic amplifiers (when used with appropriate logaritmic feedback elements, such as Philbrick type PL1 Logarithmic Transconductors), and for precise differential amplification. These amplifiers are designed for feedback applications and are stable (or easily stabilizable) for nearly all closed-loop applications.

Models P2A and SP2A are characterized by typical open-loop dc gain of 25,000, input common-mode range of $\pm$ 200 volts, output range of $\pm$ 10 volts at 2. 0 milliamperes, small-signal open-loop unity gain-bandwidth of 100 kHz, full output to 1. 0 kHz, typical offset current of 1/3 picoampere, noise current less than 100 femtoamperes, adjustable voltage offset drifting randomly less than 20 microvolts per hour typically, voltage noise less than 1 microvolt rms (1-100 cps), temperature sensitivily less than 100 microvolts per degree Centigrade, differential input impedance typically greater than 500 megohms. Power requirements of these amplifiers are quite modest--7 milliamperes at $\pm$ 15 volts average quiescent; i. e., about 200 milliwatts, plus load current (thus suggesting their usefulness in batteriy-powered applications).

Model P2A is mounted in a sturdy die-cast aluminum case measuring 4-1/16 × 1-5/16 × 1-11/16 above chassis. Its connections are glass-insulated solder terminals which protrude through a tin-dipped steel header. Threaded holes are provided for two No. 8-32 screws to mount the amplifier. Model SP2A is wired on an etched-circuit glass board with 15-terminal gold-nickel edge connectors and shielded by an exoskeletal nickel-plated steel case which provides mechanical rigidity, electrical and magnetic shielding, and thermal and optical baffling. The plug-in amplifier is supplied with a mating keyed socket mounted in a bracket which may be used to secure the amplifier in either a vertical or a horizontal position. Without the bracket, the SP2A occupies a space 3-3/16 × 1-1/2 × 2-3/8 above the socket. Weight of P2A is 11 oz. mounted, 1 lb. packed; weight of SP2A is 8 oz. mounted, 17 oz. packed.

New Philbrick Plant in Dedham, Massachusetts.

George A. Philbrick Researches, Inc., has completed a move to its newly constructed 35,000-square foot plant, at the intersection of Allied Drive and Route 128 at Exit 61 in Dedham, Massachusetts. The Company's research, engineering, manufacturing, and warehouse facilities, as well as its analog computing centre and general offices are located in the modern one-story structure, which is designed for future expansion. It was engineered by Chas. T. Main, Inc. and built by Batson Construction Company.

In this new plant, the Company will continue its career as one of the leading designers, developers, and manufacturers of specialty electronic analog computing equipment, including operational amplifiers, and has just announced a new line of all-silicon solid state electrometer-grade computing amplifiers, available from stock.

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FRANCE

Journées d'Electronique - Toulouse - 22-28 février 1965.

Le Professeur J. Lagasse de la Faculté des Sciences de l'Université de Toulouse, Directeur du Laboratoire de Génie électrique de l'Ecole Nationale Supérieure d'Electrotechnique, d'Electronique et d'Hydraulique de Toulouse, nous communique le texte d'un compte rendu des « Journées d'Electronique » qui se sont déroulées à Toulouse du 22 février au 28 février 1965 :

Il serait vain de vouloir donner ici un tableau complet des manifestations qui se sont déroulées durant les *Journées d'Electronique à Toulouse* du 22 au 28 férvier 1964.

Nous nous bornerons à attirer l'attention des lecteurs sur les colloques et conférences qui se sont plus particulièrement intéressés à l'automatisation et au calcul analogique.

La fonction « mesure » étant en fait l'une des plus importantes de l'Automatisme, le colloque scientifique « l'Electronique des faibles signeaux » organisé et placé sous la présidence de M. Lagasse, Professeur à la Faculté des Sciences de Toulouse, a permis d'apprécier les avantages apportés par les détecteurs et les amplificateurs tant en ce qui concerne leur sensibilité que leur précision.

Les avantages apportés par l'électronique à l'Automatisme devaient être développés dans une conférence intitulée « l'Electronique appliquée à l'Automatisme » conférence prononcée par M. Remillon, Président Directeur Général de la C.I.T.E.C.

Dans sa conclusion, M. Remillon devait insister sur l'influence croissante qu'a pris l'Automatisme Electronique dans les investissements industriels et sur l'immensité de l'effort technique industriel et surtout psychologique qui reste à entreprendre en France.

En dehors de l'apport classique de ses circuits analogiques l'électronique a participé aux développements de l'Automatisme grâce à l'effort qui a été fourni sur la fiabilité des grands ensembles d'automatisation.

Ce problème devait être traité dans le colloque « Fiabilité des éléments semiconducteurs », colloque scientifique organisé par M. Lagasse et placé sous la présidence de M. l'ingénieur en chef Eldin, Président du Comité Fiabilité.

Les perfectionnements apportés aux calculateurs tant analogiques que numériques ont été traités lors du colloque scientifique placé sous la présidence de M. Sevely, Professeur à la Faculté des Sciences de Toulouse, colloque où ont été, par ailleurs, abordés les problèmes posés par la programmation.

Enfin, nous ne voudrions pas passer sous silence l'exposition « Prestige de l'électronique », exposition passionnante par le matériel qui y a été présenté, matériel qui constitue une splendide synthèse de tous les équipements des Laboratoires : oscilloscopes, calculateurs, sélecteurs d'amplitude, enregistreurs magnétiques, générateurs d'impulsions, etc.

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GRANDE-BRETAGNE

Cambridge University. Chair in Control Engineering.

The establishment of a chair in Control Engineering has been recommended at the University of Cambridge. The Council of the Senate proposes the professorship for Mr. J. F. Coales, M.A. of Sidney Sussex College, Reader in the Department of Engineering, and Head of the Control Group in the Department. Mr. Coales is Chairman of the United Kingdom Automation Council and President of the International Federation of Automatic Control.

British Computer Society.

The British Computer Society announces the appointment of Mr. J. G. Mackarness, M.A. as Secretary of the Society. Mr. Mackarness was educated at Radley and at University College, Oxford, and has been connected with the woik of professional societies for twelve years. Since 1959, he has worked with a consultancy team running communications courses for scientists, engineers and management in industry and commerce.

Institution of Eletrical Engineers Formation of Control Engineering and Automation Division.

The I.E.E. is to create a Control and Automation Division. The Council decided at their meeting on 4th March 1965 to modify the learned-society structure to take account of the great and growing significance of control engineering and automation and of the corresponding importance of their place in the-activities of the Institution.

At the same time they will set up a Science and Education Joint Board to provide a guiding and co-ordinating body for the professional groups dealing with basic science and education, which are subjects of common interest to all members and Divisions of the Institution.

The amended learned-society structure will come into effect on 1st October 1965 and will comprise :

Control and Automation Division
Electronics Division
Power Division
Science and Education Joint Board

Each Division will continue to work through specialised professional groups. The professional groups (at present in the Science and General Division) that deal with basic science and education will be constituted as joint professional groups, each being represented on those Divisional Boards that share an interest in its work, their activities being co-ordinated by the Science and Education Joint Board.
