



MOS TECHNOLOGY,
INC.

welcomes

NAME WALTER D. EISENHOWER

Manager, Process
Development

COMPANY MOS TECHNOLOGY, INC.

TO THE SCENE
OF THE NEW REVOLUTION



VALLEY FORGE . . . scene of the new revolution

MOS TECHNOLOGY, INC.

VALLEY FORGE INDUSTRIAL PARK, VALLEY FORGE, PENN. 19481 (215) 666-7950

TO OUR GUESTS...

We are pleased to have had you join us today on the occasion of our Open House. This event officially marks the completion of our facilities - unique facilities, designed and constructed exclusively to the requirements of a new technology - MOS.

The infancy of this new electronics in combination with our entirely new company, MOS TECHNOLOGY, INC., that seeks to investigate and perfect it, has directed us to choose the theme:

VALLEY FORGE - THE SCENE OF A NEW REVOLUTION

And, if careful and select planning as well as initial surge of action are two factors in executing a successful revolution, we are confident that MOS TECHNOLOGY, INC. is on its way.

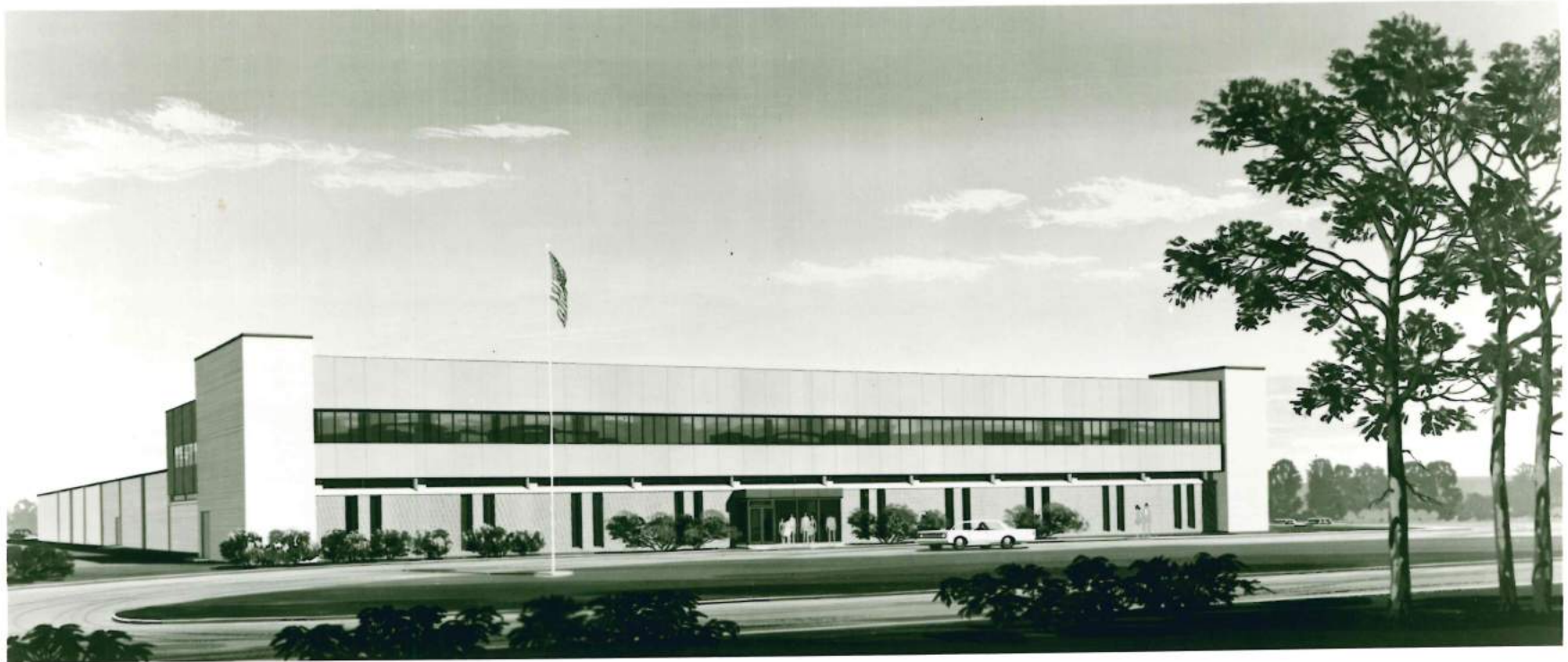
Today, you have seen how we will operate in the future although we have been making use of the building since April 1 of this year. In the southwest corner of the building, we had installed all of the equipment necessary to run our complete process so that we have already achieved prove-out of our techniques prior to the installations of the production equipment. In fact, MOS TECHNOLOGY completed its first part only twelve weeks after the start of equipment installation, with electrical characteristics in excess of our performance specifications. We believe this to be the fastest start-up yet achieved in the MOS industry.

MOS TECHNOLOGY, INC. - you've been there - on the scene of a new revolution. We hope you found it informative and enjoyable, and will be on hand to witness our success.

Sincerely,



John O. Paivinen, President



MOS TECHNOLOGY, INC. -

strategy for successful development

The development and product strategy of MOS TECHNOLOGY, INC. has been planned in a most precise manner. First, the company's high-voltage process will be complemented by a low-voltage process. Then, with the two in hand, we will develop products for two different market segments.

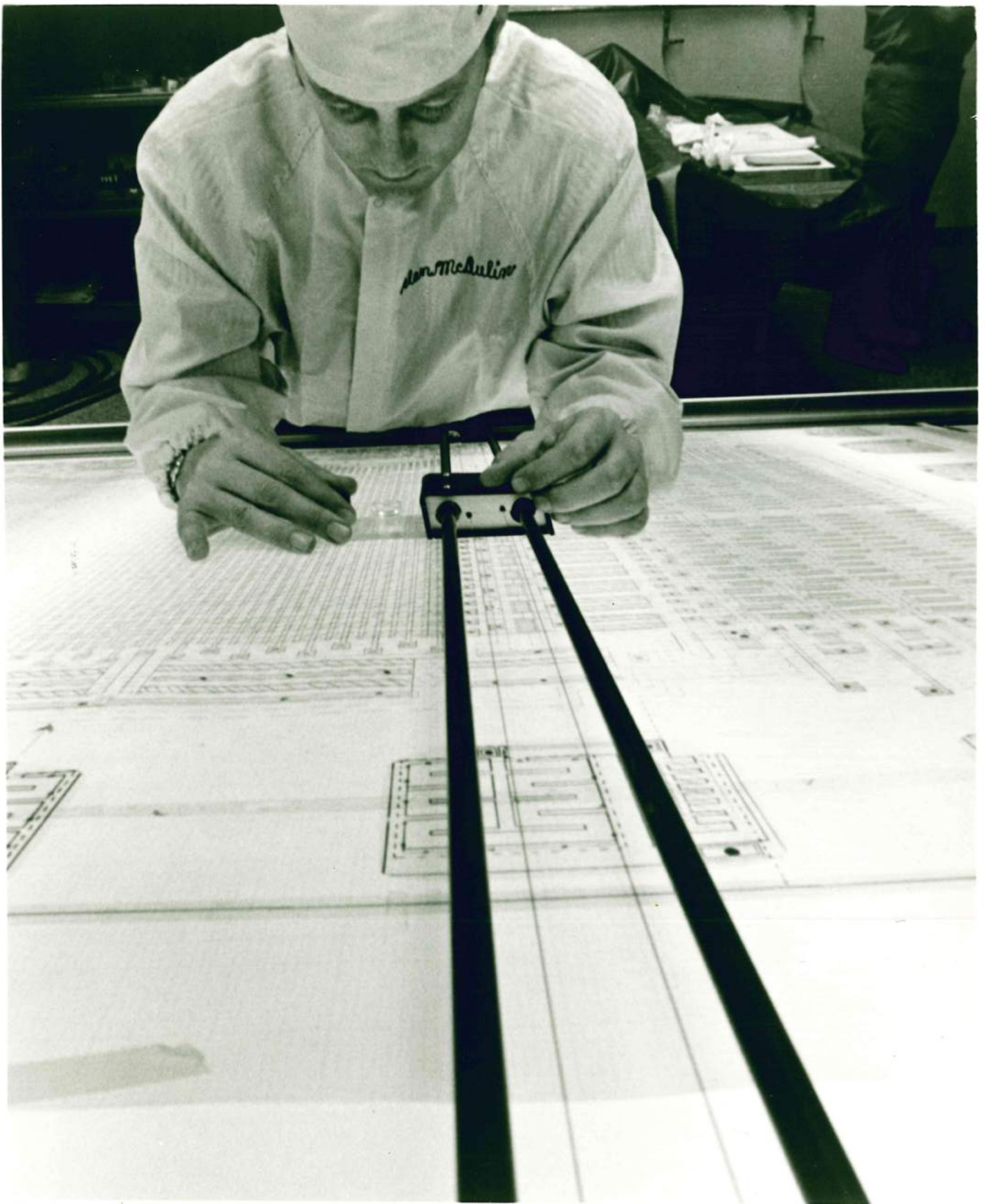
For the data storage market, largely serviced by standard parts, MOS TECHNOLOGY will be developing random access memories, read-only memories, and shift registers. Some of the initial products to be released are:

- 512 Bit Dynamic Shift Register
- Dual 100 Bit Dynamic Shift Register
- Dual 32 Bit Static Shift Register
- 2560 Bit Read Only Memory
- 2240 Bit Read Only Memory
- 2048 Bit Read Only Memory
- 1024 Bit Random Access Memory
- Seven Segment Decoder Driver

In addition to these standard products, the company will also be doing custom engineering to permit use of MOS in specialized digital electronic applications or assistance in this accomplishment, we have installed such specialized equipment as computer-driven test systems and computer-controlled Rubylith cutting equipment. With such at our disposal, MOS TECHNOLOGY is able to minimize engineering design time and manufacture a wide variety of custom parts without prohibitive test set-up costs.

Another major area of investment has been the installation of a complete Photomask facility on the premises. With this equipment under our direct control, MOS TECHNOLOGY will be able to achieve Photomask quality that will permit us the high manufacturing yields which are necessary to compete successfully in the industry.

With the facilities and personnel that have been assembled, it is the belief and goal of MOS TECHNOLOGY, INC. to emerge as one of the major factors in the infant yet infinite industry that is MOS.



"DATA INPUT FOR AUTOMATIC MASK PREPARATION"

the mos technology -
applications unlimited

The semiconductor devices conceived, designed and developed by MOS TECHNOLOGY, INC. contain anywhere from several hundred to many thousands of transistor elements. The many diverse configurations of functions and capabilities fulfill the requirements of the entire range of consumer, commercial, industrial and military electronics. What follows covers a small but very representative cross section of applications for these extremely sophisticated, highly versatile MOS components.

FOR THE CONSUMER...

MOS is presently being utilized in washing machines, dishwashers, automatic dryers, televisions, teaching machines, burglar and fire alarm systems, automatic telephone dialing set-ups... even toys. One of the most lucid examples of an MOS application at work in the home can be found in the operation of a clothes or dishwasher. In the past, such machines contained gears, timing screws, cams and belts, none of which were easily controlled. The motor operated at two or three speeds and the timing was either fixed or arbitrarily controlled. Today's electronic washer is literally as programmed as a computer. In this case, the computer has two programmers: the housewife and the prevailing conditions. The housewife inserts her portion of the program into the machine by identifying the type, relative weight and colorfastness of the material. At this point, the prevailing conditions take effect. Various sensors indicate to the central MOS control device the water temperature, load size, drying temperature, the amount of moisture (humidity), water hardness, etc.

This complete program, the sum of housewife and prevailing conditions, yields the fastest, safest and most effective washing and drying cycles, the proper soap and water quantities, etc. for that particular type of material.

the mos technology -
applications unlimited

OF COMMERCIAL INTEREST...

The applications for MOS in this area range from the field of entertainment with its juke boxes and vending machines to such business requirements as inventory control systems, traffic controls, meter reading systems, burglar alarm systems and innumerable other sophisticated pieces of equipment. One example from the latter group is inventory control in the supermarket. The market is equipped with a special cash register and inventory computer. The only other unique requirement is that a simple code be generated to identify the product by manufacturer and contents (e.g., Ball Fruit Company, pears, could be BF-P). Package size and type are not included as they can be derived from manufacturer, contents and price. The inventory computer receives this information at the time of sale, deducts the product from inventory, adds the cash receipt to the daily profit accumulator, checks the product against the price (checks the checker) and examines the remaining inventory and the minimum balance requirements. If a reorder is necessary, the computer then automatically adds this product to the reorder list. Such a system can be expanded to cover any number of stores.

The jukebox represents another product and area where MOS electronics has replaced mechanics to the advantage of the consumer. A jukebox must operate reliably under many adverse conditions of environment and handling.

The electronics package developed to meet these conditions is superior in reliability to what was used formerly as well as being virtually impervious to shock, vibration, humidity, dust and grease. And this is just the beginning. Electronic jukeboxes allow mixed pricing for singles, long plays and various album sizes and employ extras such as bonus accumulators that compute the proper bonus regardless of the coins inserted (i.e., 25 cents brings a bonus, it needn't be a quarter).

mos technology -

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IN THE INDUSTRIAL/MILITARY COMPLEX...

In this category, MOS is employed in hundreds of applications such as process control, calculators, executive call boxes, depth sounders, intercoms, computers and computer terminals, printers, information displays, instrumentation, etc.

Process control provides an interesting view of the versatility provided by utilizing MOS. Consider the baker about to make 100 gross of doughnuts. His recipe calls for the measuring and/or counting of 2400 eggs, 400 cups of sugar, 200 cups of milk and shortening, 2100 cups of flour and so on. All of the measuring, counting, mixing, cooling and cutting can be accomplished electro-mechanically with an MOS "brain". The baker simply fills his bins and pushes the start button (the unit could actually "push its own button" by sensing when the bins are full). MOS electronics now takes command. Utilizing sensors and counters, it performs the necessary operations in proper sequence, and observing temperatures, times and measurements, turns out perfect doughnuts every time. When finished making the product, it will be counted and packaged in predetermined lots.

THE INTERESTING AND UNUSUAL...

One of the classic examples in this group is the Drunkometer. Designed to keep intoxicated drivers off the roads, it can, with slight modification, function quite well as a burglar proof ignition and alarm. The unit is attached to the ignition system of an automobile and operates as a switch. The ignition key is inserted into the meter and a button is pushed on the panel. This causes a set of lamps to momentarily display an arbitrary number pattern. The individual being examined must retain these numbers long enough to match them on a set of switches. If he remembers, the ignition turns on, if not, it remains off. The unit can be

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applications unlimited

bypassed in an emergency. The results, however, are easily noticeable. The lights start blinking and the horn commences beeping.

Another interesting application is the Audio Synthesizer which requires the MOS electronics to have several outputs (the more outputs used the better the sound), each connected to a unique tone generator. Messages are stored in a memory within the MOS electronics and signals sent to this unit cause the message to change from electronically stored intelligence to audio sound. Take, for example, how it could be used in an airplane. Through heat sensors mounted on the wings, signals could be sent indicating a dangerously high temperature, the signal would then be converted to a sound message saying, "Fire, Starboard Wing, Fire". The advantage of such a system is that lights oftentimes are not noticed and standard buzzers lack communication ability except to note that a problem does exist. With buzzers of unique tones, there could be enough discernible difference to communicate the intelligence. This, however, requires experience on the part of the observer and priceless time could be lost with inexperienced personnel.

MOS APPLICATIONS SEEMINGLY HAVE NO BOUNDS. EACH NEW DAY UNWRAPS APPLICATIONS TO BE EXPLORED AND DEVELOPED. THE ADVANTAGES OF RELIABILITY, DENSITY AND RUGGED DURABILITY CAUSE THESE UNIQUE LITTLE DEVICES TO BE UTILIZED IN AREAS WHICH DID NOT EXIST PRIOR TO THEIR ADVENT. THEIR INFINITESIMAL SIZE ALONE CAN STAGGER THE IMAGINATION. THE ELECTRONIC PORTION BEFORE PACKAGING IS SO SMALL THAT IN THE AREA THE SIZE OF A HOME-STYLE ICE CUBE, MOS TECHNOLOGY, INC., CAN PUT THE ELECTRONICS FOR APPROXIMATELY 50,000 WASHING MACHINES.



"MASK ALIGNMENT STATIONS"

MOS -

questions most often posed

about the technology and our company

Q. What does MOS stand for?

A. MOS originally was the acronym for Metal-Oxide-Semiconductor. The meaning has expanded over the years to include all semiconductors made with enhancement mode, insulated gate, field effect transistors (FET'S). MOS is, from a manufacturing standpoint, an infant technology. The MOSFET was conceived in the 1920's but wasn't turned from a laboratory curiosity into production reality until the late 1960's. MOS TECHNOLOGY was formed during this period with a large nucleus of the pioneers of design and production from various companies throughout the United States.

Q. What are the advantages of MOS?

A. There are many good reasons for MOS utilization. Among those most frequently stated, the following are of special note:

1. An appreciable savings in cost.
2. Extremely small and light in weight, they eliminate space and bulk.
3. Their use requires very little electricity.
4. They offer extreme reliability.
5. They consume very little power.
6. In many instances, MOS is the only method of performing a function because of some or all of the above reasons. In space applications, for example, the attributes of size, power and reliability are virtually a necessity and, for a given space vehicle, MOS allows many more capabilities and operations than older technologies or approaches.

MOS -

questions most often posed

about the technology and our company

Q. Why was Valley Forge chosen as the site for MOS TECHNOLOGY, INC.?

A. The founders of MOS TECHNOLOGY started with a charter that only excellence of product is acceptable. To persuade the unique talent required to accomplish this aim necessitated a two pronged approach:

1. A facility engineered exclusively for MOS design and fabrication. To this end is our building in Valley Forge, the only edifice of its type in the world. Everything the electronics, manufacturing or production engineer could desire has been accommodated.
2. A location for such a structure in a community which has the social, scholastic, economic and aesthetic appeal most desired by these very professional individuals. Valley Forge became the logical choice after many sites were explored.



"WAFER PROCESSING"

backgrounds in brief

THE FOUNDERS
AND PRINCIPALS OF
MOS TECHNOLOGY, INC.

JOHN O. PAIVINEN
MOS TECHNOLOGY PRESIDENT

Mr. Paivinen, a recognized leader in the electronics and computer-oriented technologies, brings to the company some 20 years of executive level experience. The recipient of three academic degrees including a Master's in electrical engineering, as well as the holder of seven patents, Mr. Paivinen's most recent emphasis has been on MOS as a Vice President and General Manager.

DONALD L. MC LAUGHLIN
VICE PRESIDENT - ENGINEERING

Mr. McLaughlin's resume combines 14 years of experience with an educational background that counts a Bachelor's Degree in Electronic Physics as well as numerous courses at the Graduate level. His main areas of concentration include micro-electronic and digital data processing programs as well as all elements of MOS design from prototype through manufacturing.

JAMES R. PEOPLES
VICE PRESIDENT - MANUFACTURING

Mr. Peoples, a chemist who for a decade was associated with Texas Instrument, has extensive experience in semiconductor process engineering, integrated circuit (TTL) manufacturing, and most recently, in operation management of MOS.

backgrounds in brief

WALTER D. EISENHOWER, JR.
MANAGER - PROCESSING

Mr. Eisenhower's full title is actually Manager, Advanced Process Development for MOS Integrated Circuits. A chemical engineer who has been in the forefront of semiconductor technology since the mid 50's, he has served previously in a supervisory capacity for hybrid and monolithic integrated circuit design and fabrication.

ERNEST R. HELFRICH
SENIOR PROCESS ENGINEER

Academically, Mr. Helfrich's credentials include a BS in Chemistry and Mathematics (Summa Cum Laude) and a MS in Chemistry. He presently has several patents pending. His eight years of engineering experience has been with world-wide firms and includes technical staff responsibilities, materials and advanced process engineering in semiconductors, and chemist and consultant on integrated circuit materials.

DONALD W. DRUM
DIRECTOR - QUALITY AND
RELIABILITY ASSURANCE

Most recently involved in programs pertaining to the reliability of MOS integrated circuits, Mr. Drum has a 12-year record in the selection, application and qualification of transistors and integrated circuits.

backgrounds in brief

DONALD R. SCHNEIDER
MICROELECTRONIC
DESIGN ENGINEER

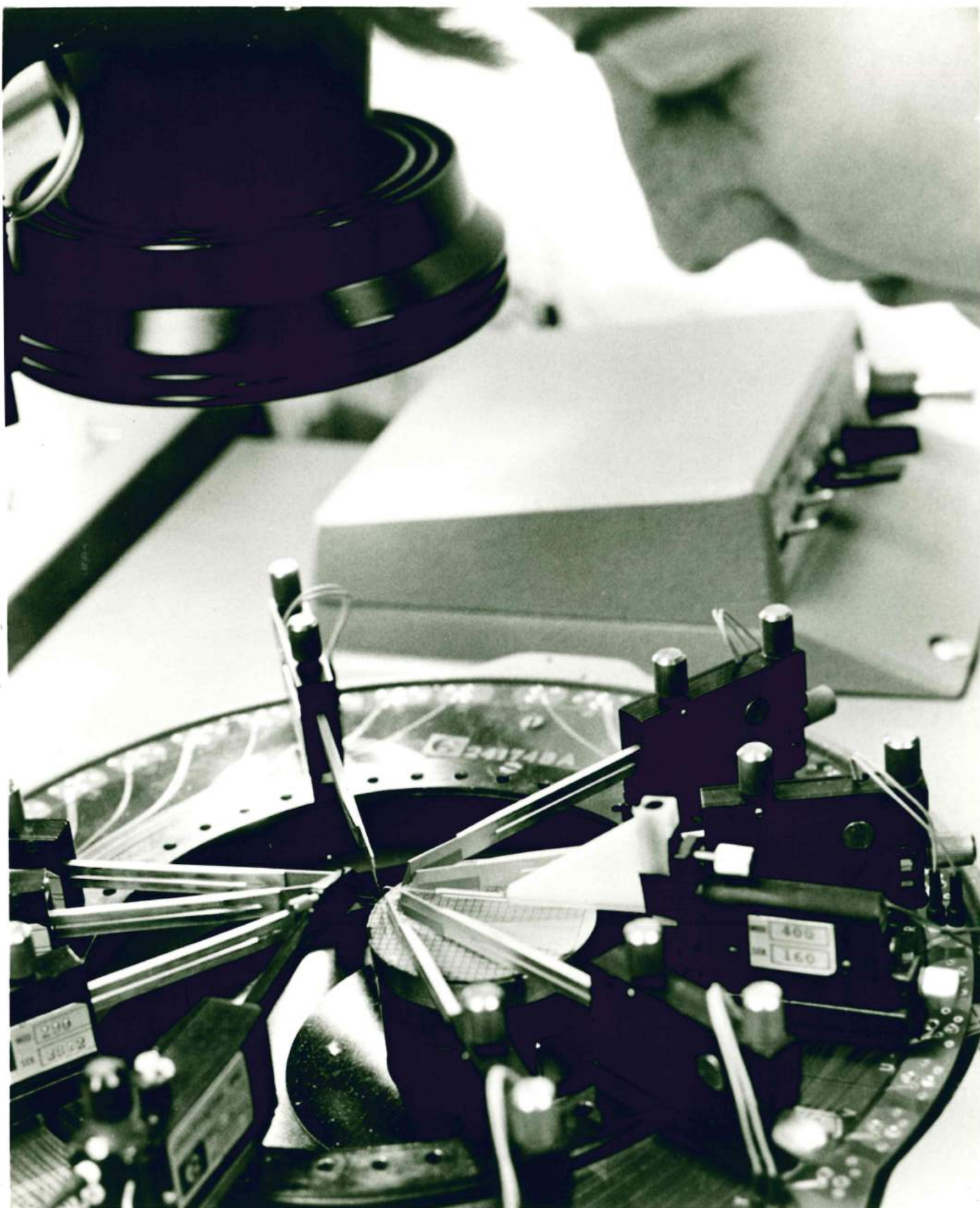
An EE with both Bachelor's and Master's degrees, Mr. Schneider is a designer of high density MOS logic circuits. He can also be credited for the development of innovative techniques in the design of synchronous MOS circuits.

EDWARD H. ARNOLD
SENIOR DESIGN ENGINEER

A design engineer with several complex arrays including RAM, ROM and Random logic circuits to his credit, Mr. Arnold has also been instrumental in the design of special test equipment and the initiation of test programs from conception to completion.

RONALD W. STREIBER
SENIOR ENGINEER

Previous to his joining MOS TECHNOLOGY and assuming responsibilities for the design and evaluation of the company's complex digital computer systems, Mr. Streiber spent a trio of years in engineering management for the design and development of MOS circuits. He holds a Bachelor's Degree in Electrical Engineering.



"ELECTRICAL PROBING OF WAFER"

MOS TECHNOLOGY
SALES REPRESENTATIVES THROUGHOUT THE COUNTRY

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