Probing the news

firm also may provide complete calculators to be marketed under the customer's name.

American Calculator in Dallas is introducing a unit using Electronic Arrays' chips. It employs eight Monsanto gallium arsenide phosphide light emitting diodes in its display and is designed to sell for $350 to $465. The company also expects to have a smaller unit out by mid-1971 that will sell for about $200, competing with Sharp and Canon units—and is hoping to open up the calculator market to consumers next year.

Another U.S. company, Fairchild Camera and Instrument, also is expected to announce next year a pocket calculator in the $200 range.

Two U.S. companies that are switching from mechanical to electronic units are SCM, which has just introduced a three-chip MOS/LSI machine selling at $495, and Victor Calculator Co., which is test marketing a five-chip unit that can add, subtract, multiply, and divide and includes a memory. It sells for $695. Victor gambled on the state of the art in MOS ICs back in 1967 but couldn't bring out the calculator it had announced because General Micro-electronics Inc., the IC supplier, couldn't make the switch from prototype to production.

"The way to beat the Japanese is in marketing," claims Edmund Burke, vice president of American Calculator. "We deal directly with sales reps who get 10% instead of 40% as dealers do," he notes, adding: "The reason the U.S. firms can't keep up with the Japanese on price is that outmoded sales organizations run up costs and run down profits."

Just how successful U.S. calculator makers will be in turning back the Japanese invasion depends largely on the ability of U.S. semiconductor manufacturers to maintain a lead in MOS/LSI technology, Gregory believes. "Today that LSI technology is centered in the U.S. The Japanese are aggressive about getting that ability, but U.S. companies won't be sitting still in MOS/LSI either. You have to have the knowhow to bring out new functions, and that knowhow isn't automatically transferred with technical assistance agreements," he declares.

Currently, Japanese companies such as Canon, Sharp, and Seiko are buying large quantities of LSI for their calculators from NRMCO, Texas Instruments, and Intersil.

Sales of calculators in the U.S. this year are expected to hit $241 million at the retail level, a 62% rise over 1969 despite current business conditions. And "there's absolutely no sign of a shakeout," says one U.S. manufacturer. "On the contrary," he says, "at least three new units are being introduced each month." The big push now by most makers is to get their lowest-priced units down to the $100-$200 level—low enough to attract the potentially vast consumer market.

While Japanese imports account for 65% to 70% of retail unit sales, they account for only half of dollar sales. But the Japanese hope to raise this total by introducing the more expensive memory-type calculators. Factory shipments to the U.S. from Japan amounted to $35.65 million in 1969, or 112,000 units. Through the first nine months of 1970, these figures rose to $55.89 million and 220,000 units. Total Japanese shipments were 441,000 units, worth $146.4 million in 1969. By the first half of 1970, factory shipments equaled all those of 1969, totaling 519,000 units worth $142 million.

In 1971 Japan's total factory shipments are expected to reach 2.75 million calculators valued at $661 million—up 1.5 million units over 1970 shipments which are estimated to be valued at $330 million. And it expects shipments to the U.S. to increase by 477,000 units and $100 million, reaching 810,000 units valued at $184.5 million in 1971.

This kind of a steamroller is hard to stop, and some U.S. manufacturers feel government action is needed. "If we get fair play, we can beat anybody," says Edward Lesnick, product planning director at Wang Laboratories Inc. "This means that either the U.S. raises tariff barriers against the Japanese or that the Japanese drop their