

year we were approached by Micron Technology who said, "We've got a bunch of guys that like to make static RAM's. We only make dynamic RAM's right now, but we heard you're doing this and we'd like to try it." Here's another miracle that occurred because Micron Technology, although it's not a monster company, is getting to be a pretty big one. They got so excited about this opportunity that they took our requirements for pads, facing, etc., and relayed out a new integrated circuit with exactly the pad positions we wanted. They turned it around in 6 weeks and delivered parts. I find that completely unparalleled in the business. 6 months might be an attractive time, but 6 weeks?! They delivered 40,000 units and said, "How many more do you want?" So miracles do happen and they seem to continue to happen every day. If you just keep alert and keep asking the right questions you can find all sorts of things out. Fujitsu, who was here talking about the gallium arsenide said, "Well, how about some memory parts?" They too would like to make them now and they'll be happy to deliver the wafers. What we want is just the wafer. We want to saw them up and bond them ourselves. That goes crosswise in most integrated circuit manufacturers' pictures of things because they like to package, test and feel they're shipping a part that's acceptable. When they give up that whole last part of the process, they feel very queasy about it and for good reason. You have to then have a relationship between vendor and customer which is good enough to overcome all those arguments that you might have about the quality of the product. However, it does seem like there are now a number of suppliers for memory parts willing to accept these rather serious compromises of their integrity so to speak, so those areas all look good.

What paces us right now, I believe, is our ability to assemble our modules. That has to do with the three dimensional interconnections. Miraculously, our printed circuit facility in Chippewa Falls is able to make circuit boards with 3 micron tolerance on the holes. That means that the barrel must be nice and shiny. It's only 6 mils in diameter in some cases, and 5 mils in the other, but it must be perfectly clean and accurate vertically within 3 microns. That wouldn't seem to be anything you could expect to buy. I don't think anybody else is making them, but Cray Research is. What paces us is the robotic assembly of the boards into a three dimensional structure. What we do is manufacture what are called twist ~~pin~~_p