

Jim Gunderson

I am Jim Gunderson, director of Data Processing for the Multnomah County Intermediate Education District in Portland, Oregon, to an educational service bureau in Portland. Telephone number is 503/255-1841 and my mailing address is P. O. Box 16657, 97216.

We have recently replaced an IBM 360 model 40 with two HP 3000's. As part of our analysis on the management of a multisystem shop, we came up with the idea of building some switches for the I/O gear so that we could create an I/O pool. In one case, we wanted to share one of our three printers between the two systems. In a second case, a tape drive was to be shared between an HP2000 and an HP3000. Our specific problem was that we had an Op Scan 100 for test scoring, which produces an 800 BPI tape, and an IBM System/7 that we use for touchtone telephone data collection, which has a 1600 BPI tape. In a third case, we wanted to share the card reader between the two HP3000's.

Six years ago, we installed an HP2000 and subsequently a second 2000, each of which had one tape drive. One 2000 was upgraded to an access system. In that environment, we wanted to get by with only one tape on each 3000, and somehow use the 800 BPI tape that was on the 2000. We located an early-retired CE who agreed to build the tape switch initially. HP provided the cable schematics and we proceeded. For simplicity, we used relays rather than solid state components. With pluggable relays, standard electronics, we took a very conservative approach and the switches have worked perfectly for a year. Physically, they are about 6 inches high by 12 inches wide by 18 inches deep.

We did the same for the card reader.

Finally, in order to allow our data control clerks to use either 3000 from a single terminal, we have had several smaller switches built for both the HP2640 and the DEC IA36. It is possible to log on to both systems and use the switch to access either one by simple turning a knob from I to II.

In an environment of multiple systems, it is very feasible to build these little devices in order to prevent loading all systems with all the I/O.

Switches are not particularly inexpensive. Furthermore, HP's CE's get nervous when they see the boxes sitting there because they are not sure where the maintenance is being paid.

We had to buy tape, printer, and card reader controllers for each 3000. We have a card reader controller on each system and a cable which comes out of the back of each controller into the switch and from there to the device. It is still significantly less expensive (perhaps 40%) than buying I/O for all the equipment.

The cables will run from \$300 up to \$1200. To get the switches built, we paid from \$400 to \$500 for the components plus labor. The terminal switches were \$65 apiece. The man who did the work for us is available to build them for anyone who wishes. He is not particularly in business, but he has the resources and the capability to provide the devices. In addition, he can also test them at our shop in a live setting before he sends them on.

We would be happy to provide additional information.