

About that Card File...

By Carl Warren

"STUFFED in shoe boxes and stacked on shelves, or sometimes just lying around," was the way my friend Jack described his index-card file of model railroad vendors and hobbyists. Jack has, I guess, been fooling around with model trains for at least the 15 years that I've known him. And he always complained that he could never find the right company or address when he wanted it. Well, I've always sympathized with Jack and through the years have tried a number of ways to help him solve the problem.

Before personal computers came on the scene, we worked out a filing

method using punched paper tape and a Teletype reader. It was quite slow but it was the best we could do at the time. We stuck with paper tape until late 1977, when we heard about an audio-tape controller that we could use with our home-brew S-100 bus system. We put all the information on inexpensive audio tape and used BASIC to write some unique programs that gave search capability and a better way of entering and storing data.

Our next step was to purchase a high-speed tape system and use a more sophisticated BASIC. I was able to write a BASIC database-management system that used multiple indexes and provided rapid search functions. We eventually switched to floppies, which, of course, greatly increased the speed of operations. Most recently we dramatically improved the software

end of the system. We implemented Ashton-Tate's database system dBase II.

This is the relational database that I reviewed in this column several months ago. The latest, version 2.03, has a number of enhancements, such as allowing the use of as many as seven index files, memory functions similar to peek and poke, and a function to call machine language subroutines.

Because dBase II's command structure is very straightforward, we were able to translate the bulk of our database management system from BASIC to dBase, and at the same time reduce its size. We also found that we could be extremely elegant in the design.

One problem we had using BASIC, even after switching to a disk system, was queuing up a list of names. Typically, what Jack likes to

do after a model RR convention is enter the names of fellow hobbyists or manufacturers into the database. What happens is that the database ends up with a number of duplicates.

At first we tried to solve the problem by making a copy of the existing database and comparing it with the original, looking for matches on company and contact names. Each time a match was found, we were given the chance to delete it or save it (the desired record was written to a new file). With a clean database, we re-indexed by company name, contact, and zip code, making three separate index files.

But what we finally did was write a new command file in dBase II that would count the number of occurrences of a company name, contact, or zip code and display them as a list. For example:

- (1) A BIG TRAIN CO.  
JOE MONEYBAGS
- (2) HI-HO TRAINS, INC.  
SALLY WHISTLESTOP
- (3) ETC.  
WHICH RECORD DO YOU WISH?

Basically, the dBase structure for this was to use the database and indexes desired, ask for a company, contact, or zip code to search for, count how many times it showed up, set up a loop, display the list, ask for which one you want, find it, skip a record, end the process, and display the information. The way this looks in general form is:

```
USE Mail INDEX Mail, Name, Zip Code
ACCEPT 'Enter Company, Contact, Zip
Code You Want' TO What
WAIT
COUNT FOR Company = &What
.OR Contact = &What
.OR Zip = &What
*Store the count to variable count and
make a loop
*Display the data
ACCEPT 'Which Item Do You Want' TO
Where
```

GET Where  
FIND &What  
\*The above moves the pointer to the top record of the list  
\*Now you move to it  
DO WHILE Where <> 0  
STORE Where - 1 TO Where  
SKIP \*This puts the pointer at the desired record  
ENDDO \*End the process of location  
\*Display the record  
DISP ON #  
DISP ON Company  
DISP ON Contact

DISP Phone

Using dBase, we now have a pretty sophisticated database management system. Recently, both Jack and I implemented our databases on the Otrona Attache personal computer. I use mine when visiting companies and have expanded the system to enter product information. As for Jack, he seems happy with the system now but I'm sure he'll come up with something else that he wants to do with it before too long. ☐

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