

the program works, the drives are indeed, so other software should work with no problem.

The software is packaged exactly like a record album, with a 22-page user's manual in the album jacket. Besides a list of songs to play on the computer, there is an on-screen tutorial, demo program showing differences in tempo and other enhancements of "Red over Valley," a help screen and a full-screen editor.

When songs are played, a piano keyboard is illustrated at the bottom of the screen, and both treble and bass clefs are shown at the right-hand side, with the note(s) moving along the notes. Forty function keys are used to edit songs and increase or decrease tempo, raise or lower octave, play or stop music, change playmode and select for monitor background, foreground and border. Word processing functions control the cursor, erase and insert characters and move between bars and measures in the song.

It is a bit more difficult to compose music using BASIC play statements, other than seeing a musical score on screen and choosing notes like the software program *PC Musician* does. However, if it's been a long time since you had piano lessons, and if you are composing music by ear rather than by sheet music, the play statement features shouldn't bother you.

A nice feature of this software is the ability to program two "voices" to play at the same time. The Tandy computer keyboard has one voice function, but *TimeSmith* figured out a way to enter words that play along with the melody. The lower notes are programmed to sound a fraction of a second before higher notes, and that fools the user's ear into hearing both the melody and the accompaniment at the same time.

A useful section in the software manual is instructions on how to wire an external speaker to the computer. There is also a schematic diagram to connect the computer to a stereo amplifier, using \$2 worth of parts from Radio Shack. Other attachments to the computer, such as delays, phasers or reverb boxes can be added to make computer sound like a rock band.

There's a good music reference manual in the user's manual that reviews musical symbols, BASIC play statements such as note or pause lengths, rests, and music foreground and

background are explained very clearly. Programming chords or adapting scores is simple with *TimeSmith*, and the manual has excellent instructions.

This music program will amaze your friends, and is a nice break from business software. Perhaps Mozart could have written his music a lot faster using *TimeSmith*.

— M.J. Betham

(Blackhawk Data Corporation, 307 N. Michigan Avenue, Chicago, IL 60601, (312) 236-8473, 249-35)

## SOFTWARE

### DATA/SORT Sorted Databases with User-Definable Forms

By Jay Halcomb

*DATA/SORT* is an attractive, easy-to-use and efficient tool. The package creates and maintains sorted database files in RAM, and can send database records to a variety of destinations: RAM text files, other computers (directly or via phone lines), the printer, or the cassette recorder (or copy the entire database to disk via the disk-video interface). One can merge databases with form letters to print the ubiquitous personalized form letter. Finally, users can design their own data entry forms, and enter data manually or with the bar code reader.

The product comes in the usual Tandy packaging: a vinyl case containing a cassette with the necessary files (nine of them), an instruction manual of 42 pages and a pocket reference guide. The manual is well-done, and covers the steps of loading and running the programs very explicitly. As a result, the program seemed quite easy to use upon first running it, despite a few fumble-fingered mistakes on my part.

Of the nine files on the cassette tape, the user will normally be concerned only with two programs: either *DATA* (about 6.5K) or *DATA W* (about 7.5K), and *SORT* (about 2.5K). The other files are example files, and programs con-

# PCM



## Back Issue Availability

Back copies of many issues of PCM are still available.

All back issues sell for the single issue cover price. In addition, there is a \$2 charge for the first issue plus 50 cents for each additional issue shipped in the U.S. When possible, issues are shipped UPS. The postage cost in Canada and Mexico is \$3 for the first issue and \$1 for each additional issue.

VISA, MasterCard and American Express accepted. Kentucky residents please add 5 percent state sales tax. We do not bill and no COD orders accepted.

We suggest you order back issues you want now while supplies last.

To order, just fill out the form on the next page and mail it with your payment to:

PCM  
The Falsoft Building  
Prospect, KY 40059