Warp Speed

"Impulse power is not enough, Mr. Scott"

Review by Malcolm O'Brien

Warp Speed is one of the newest entries in the DOS enhance-
ment sweepstakes and stands poised to become a front runner.
Warp Speed is powerful, flexible and easy to use. A reset but-
ton is built into the cartridge, along with a 64/128 slider
switch. Warp Speed will appeal to a broad base of users due to
the number of devices supported. Warp Speed works with: the
64, the 128 in native mode (40 or 80), the 1541, 1571, 1581,
MSD (!) and some hard drives. An extended DOS wedge is in-
cluded with support for multiple drive systems. All features
are accessible from menus to make things simple for new
users while the long-time hacker can bypass the menus in most
cases and use one or two keystrokes to initiate the magic.

Warp Speed is easier to use than it is to document. It has so
many features that describing them all results in a long review.
It's great to have this kind of power at your command. But it
wasn't always this way...

A little background

The C64 and 1541 seemed like a step backwards to PET users
who had BASIC 4.0 disk commands and quick, parallel dual
drives such as the 4040. At that time the obvious path for drive
enhancement was to interface the C64 with the faster IEEE disk
drives. Many users (including me) are still using IEEE drives
via G-Links, BusCards etc. (To be fair, it must be noted that
the introduction of the serial bus interface did help to keep the
hardware costs down.)

As the flood of C64 software turned into a tidal wave, more
and more commercial (read: copy-protected) programs relied
on 1541-specific drive ROMs. Another step backwards - we
now needed to use 1541s to be able to use some software. And
so it was that the C64 community was offered Kwik Load,
Fast Load, Vorpal, SuperDos, GT-4, Mach and others. You
probably have one (or more) of these yourself.

Fast Load may have been the most popular of these. Even
now, years later, Fast Load is still prominently displayed in ev-
ery computer store I browse and, presumably, is still selling
well. It was an effective solution for the problems described
above but added new problems of its own design (skewed di-
rectories principally). In spite of this, it was parked in my car-
tridge port for three years or so.

But not any more. Warp Speed is how I spell relief now. Warp
Speed has powers and abilities far beyond those of mortal car-
tridges. It's clearly superior to Fast Load and is well worth the
difference in price (about $10 here in Toronto).

What the user will find

First and foremost, the speed increase is not just in the loads.
Saving and verifying also happen at Warp Speed. (Tech note:
Files saved with Warp Speed are saved in a "skew 6" format.
These files will warp load ten times faster than normal 1541
speed.) The DOS wedge includes a quick text file reader, the
ability to set the currently logged drive and single-key entry to
the menu system (British pound key) or the machine language
monitor (pi key).

The text reader is a nice addition. Just type an ampersand (&)
followed by the name of the text file and hit Return. The
screen clears and the text begins to be printed to the screen.
CTRL may not slow it down enough for reading so use the
spacebar to pause and restart the listing. RUN/STOP will exit.
This is similar to the TYPE command in MS-DOS and CP/M. It's
great for reading files or just to take a quick peek to determine
a file's contents. I use this feature a lot and you probably will
too.

Setting the currently logged drive is also common to the MS-
DOS and CP/M environments. This allows you to leave out the
",8" or ",9" when accessing the drive. To switch between the
two, type a number sign (#) and Return. This will toggle be-
tween devices 8 and 9. If you're using more than two drives,
follow the number sign with the device number of the drive
you want to operate on.

Note that Warp Speed will search both/all drives for the file
desired and, if found, will switch the currently logged device
to that drive. Commodore-RUN/STOP will always load the first
file on the disk, *not* the most recently accessed.

The DOS wedge

As usual with the wedge, you preface a disk command with
the at-sign (@) or a "greater than" (>). The at-sign alone will
read the error channel. You use a slash for loading BASIC, a

left-arrow for saving BASIC, a percent sign for ML loads and an exclamation point for a verify. An unusual wedge feature is the "f" command. This will yield a fully verified fast format (22 seconds) and even includes an "Are you sure?" prompt.

The non-destructive directory that is initiated by typing a dollar sign followed by a Return can be paused and restarted with the spacebar or aborted with RUN/STOP. All pattern matching and multiple parameters are supported; i.e. "$*=seq" or "$p*,t*,s*" will work properly. Beats me why they never document this stuff!

Utility commands

The other directory function is one of the Utility Commands. All of these begin with an up-arrow. When followed by a "$", the disk auto menu is enabled. This will load in the directory and allow you to scroll through it with the cursor keys. Pressing Return will warp co load the highlighted file and run it. I was pleasantly surprised to discover that if you decide not to load a file and abort the auto menu with the STOP key, your BASIC program is still in memory. Note, however, that if the BASIC program in memory is very large, the directory load will corrupt BASIC.

Here's a quick description of the rest of the Utility Commands (each preceded by an up-arrow):

k - Kill: fast loader only. Other functions are unchanged
e - Enable: resets the Warp Speed load, save and restore vectors
u - Unnew: restores BASIC after a NEW or pressing the reset switch
r(n) - Renumber: assign current drive device number **n** (default is 8 to 9)
h - Hardcopy: dump text screen to printer (upper-case/graphics)
s - Single side: put 1571 into 1541 mode
d - Double side: put 1571 into native mode

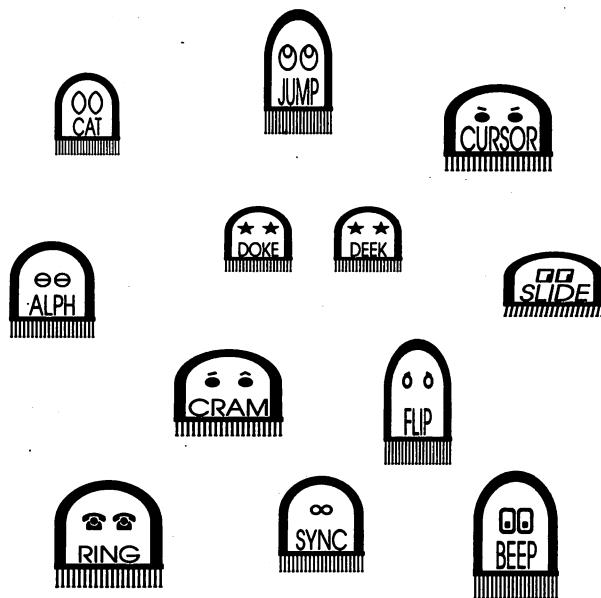Note that both format commands function in accordance with the 1571's current mode.

Multi-file/whole disk operations

These operations are selected from the Main Menu which is brought up by entering the British pound key. Selections are made from the menu by number or by cursoring. Functions include single drive copier, two drive-nibble copier and the ability to copy or scratch multiple files. (Typing an "a" will select all files. An "r" will select remaining files below the cursor. Home will move the cursor to the top of the directory. An "s" starts the function when selections are completed. Operation status is indicated throughout.)

The two drive copier will duplicate a single-sided disk in 30 seconds! This copier uses write verification and will report any errors encountered during copying. Although the documenta

tion states that this is not as reliable as the fully verified single copier, it has worked perfectly for me every time and is a wonder to behold!

The manual suggests using the single copier if the dual copier should fail. A great feature of the single copier is compression of the read data. You may be able to copy a not-full disk in just one or two passes!

As you are probably beginning to surmise, these functions will allow you to re-organize your disk library with a minimum of time and trouble. And you *do* need to reorganize, don't you?

For the programmer

The monitor and sector editor are integrated and function synergistically. A lot of thought has gone into them and the environment at the low level is quite nice.

The vertically scrolling monitor has several unusual features that set it apart. The I/O command, for example. Enter "o 08" and you'll be working in drive RAM! An "o" by itself will return you to the computer. While in drive RAM you can assemble, disassemble, execute or dump (in ASCII or hex). Also valuable is the option of setting the configuration or bank select register to a new value. Use the left-arrow followed by the desired value. On a C64, a value of $34 in $01 will allow you to work in the RAM under the ROMs and the I/O block at $D000. On a C128, a value of 00 or 01 can be presented to $FF00 to select bank 0 or bank 1.

Another handy feature is the transfer command. This is a smart transfer, i.e. the two blocks of memory can overlap and the transfer "will not turn into an accidental fill command." In addition, you can transfer to and from drive memory with the "td" and "tc" options or toggle output to the printer with the "p" command.

All wedge and utility commands are also available from the monitor. All the other standard monitor commands are included with a couple of variations in their functioning. For example, you can specify an alternate load address when loading or saving a program. A "d" without an end address will disassemble to the end of memory; once again, pause and resume with spacebar, abort with STOP. The hex and ASCII dumps work the same way. Scroll up or down as desired. Overtype an address at the top or bottom of the screen and the monitor will obediently begin displaying from the target memory segment.

Time to leave the monitor now and there are five ways of doing it! The "q" command will exit and restore the break vector to normal, i.e. Commodore's monitor in the 128, warm start in the 64. The "x" command will return to BASIC with the break vector pointing to the cartridge monitor. Switch to the sector editor with "xs" and to the main menu with "xm". The "xc" command will return to BASIC via a cold start which will also clear the break vector. These extra conveniences are part of the reason why Warp Speed is such a joy to use.

The sector editor uses memory from $7E00 to $7EFF as the editing buffer. The default editing mode is hexadecimal but pressing "t" will enable text mode. If you exit to the monitor, the editing buffer and current track and sector values are retained. This allows the option of editing the sector at the opcode level.

Type an "r" to read a sector if the default track and sector is OK; otherwise enter the values in hex. Up and down scrolling will move the cursor through both pages of the sector. Type a "p" if you'd like to dump the block to your printer.

Extra editing features are available while working within a sector. Pressing "SHIFT-CLR/HOME" will fill the buffer with zeros from the current cursor position to the end. HOME will move your cursor to the top of the screen editing area. A second HOME will place the cursor at the top of the sector. From this position, you can get the next sector in the file by typing a "j" which will jump to the track and sector under the cursor. To step through the file from any other position, type an "n" for next. The plus and minus keys will move you one sector forward or back. When used with SHIFT they move you one track forward or back.

Before you write that block back with "w", remember that you have source and destination drives set! If you really want to write back to the source disk, press the spacebar to flip the drive settings. The usual cautions with respect to sector editors apply. Be careful....

Some small problems

The only problems I had while using Warp Speed occurred while using one 1541 and one 1571. I must lay the blame at the rubber feet of the 1571. This is an "old ROM" 1571. The docs for Warp Speed clearly state that you should be using the upgrade ROMs. And you should - even if you're not using Warp Speed. Despite this discrepancy, Warp Speed functioned beautifully with the old ROM 1571 when it was the only drive attached.

I should also mentioned that some software will not fare well with Warp Speed installed. The Q-Link software refused to boot but GEOS disables Warp Speed to use its own turboDisk and you can boot Q-Link from the deskTop. I encountered a different problem while using Sixth Sense on the C128. After a period of time online (full buffer?) I would be dropped into BASIC with garbage characters on the screen. Typing RUN restarted Sixth Sense which then cleared my buffer and hung. On the other hand, the performance improvement with something like SpeedScript is nothing short of remarkable.

All in all, Warp Speed offers much more than fast loading. It's helped a lot in the matter of producing the *Transactor* disk, which requires more work than you would imagine. Users group librarians know something about this too. But the bottom line is that, with its numerous features and great speed, Warp Speed has something for everyone.