The Z-Letter

Number 2   October 1988

WELCOME

Welcome to The Z-Letter, a monthly newsletter
for the CP/M or CP/M-compatible community.
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The purpose of this magazine is to spread the
news about new developments in the community,
and to help newcomers get the most out of their
machines. So send us the news about your new
software or hardware, your opinion of someone
else's product, that article you've been
meaning to write, your praise, gripes, or just
plain questions! This is the place.

Submitting material for publication

Mail letters, articles, and news to the editor,
address above. The deadline for submission of
material is one full week before the end of the
month. We cannot pay for articles, but for
every article we publish, the author will
receive that issue of The Z-Letter free. If
the author has a subscription (see below), the
subscription will be extended for one issue.

Material may be submitted on 5.25" diskette in
any 48-tpi or 96-tpi format known to UniForm,
or on 8" diskette, or printed or typewritten on
clean white unlined paper. The first
alternative is preferred. Please label the
diskette carefully with your name, address,
phone number, and the format it's written in.
Sorry, diskettes cannot be returned.

Diskette files can be in WordStar format.
However, standard ASCII files, with no control
codes, and carriage returns only at the ends of
paragraphs or marking blank lines, are

preferred. Most word processors can save files in this format. If you have Spellbinder, this is the normal file format.

Letter policy

The editor and the publisher reserve the right to edit letters received to conform to standards of taste, decency, and language. We will NOT distort the meaning of any letter; we'll simply not print it first. If you are not willing to have any letter you send printed, or edited before printing, please say so in the letter. All other letters will be assumed to be for publication and become the property of Alpha Systems Corporation upon receipt.

Subscriptions

Subscriptions will be accepted for 12 or 24 issues. A subscription starts with the first issue after the subscription payment is received. The cost is $24 for 1 year, or $48 for two, for subscriptions mailed to U.S., FPO, or APO addresses. Subscriptions mailed to addresses outside the U.S., including Canada and Mexico, cost $32 for 1 year, $64 for two. Back issues cost 1/12 of an annual subscription; $2 in the U.S., $2.67 foreign. There will be an index to The Z-Letter, updated every issue; its availability and price will be announced after each year of publication.

Subscriptions should be paid by check or international money order in U.S. dollars, mailed to Alpha Systems Corporation.

HOW TO READ YOUR MAILING LABEL

Our apologies on how late last issue was mailed. It was actually ready to print a month before then, but getting quotes from printers, delays in the printing, and getting together a mailing list took a while.

The first issue went out to a handful of subscribers, and their labels said "Subscription expires with issue 12". A single issue went to everyone who has bought products from Alpha Systems, and to everyone who has sent a request for information; these were marked "Sample copy". "Complimentary" copies went to people who could spread the word, such as Bruce Morgen of THE ONE-EIGHTY FILE, and the computer section editor of the local newspaper. Needless to say, we hope everyone subscribes.

In case anyone's interested, Joe does his writing on an ON! computer with a Wyse terminal and WordStar 4.0; I use Spellbinder 5.3, a Televideo 950 terminal, and a Micromint SB180FX. The originals of the magazine are printed with MagicIndex on a QMS KISS laser printer whose top has been changed for an HP LaserJet Plus.

NEWS

Alpha becomes source for CP/M TURBO Pascal

I have good news and bad news, as the joke goes. The bad news is that Borland

International no longer sells or supports the CP/M version of the software that made their fortunes, TURBO Pascal. The good news is that Alpha and Borland have signed a contract whereby Alpha becomes the source and support for TURBO Pascal!

Borland has given Alpha all materials relating to the CP/M version of TURBO Pascal, including the code and the originals of the manuals. Calls to Borland requesting support for the CP/M version are now being forwarded to Alpha. We will shortly announce the price for both the software and the manual, or the manual alone. Purchases of the manual will be applicable towards the price of the complete package.

Borland's contract does not allow Alpha to modify TURBO Pascal, but bundling additional packages with it is permitted. Borland will receive a royalty on every copy sold.

Bad news from MicroPro and L/Tek

Contacted shortly before press time, a sales representative of MicroPro International confirmed that there is no CP/M version of release 5 of its WordStar word processor. Furthermore, although not ruling out a future change of plans, MicroPro said there are no present plans to release any future CP/M versions.

L/Tek, the present owners of the Spellbinder Word Processor and Spellbinder Desktop Publisher packages, also released a new version recently. However, the difference between SWP

5.4 and 5.5 is more cosmetic than real. The two versions differ only in that 5.5 has the MicroSpell spelling checker bundled with it, instead of Electric Webster. New versions of SWP and SDP are in the works and slated for "sometime next year"; as with MicroPro, however, L/Tek plans no further development on the CP/M version of Spellbinder Word Processor.

Good news from ProCode International

A recent release from ProCode International announces a price reduction on their **Waltz Lisp**[TM] product, from $169.00 to $99.95, for both the MS-DOS and CP/M versions. Those who act soon will also receive the full documentation and source code for **Clog Prolog**[TM], a PROLOG language interpreter written in Waltz Lisp. Programmers interested in this product should write to ProCode International, 475 Watchung Avenue, Watchung NJ 07060, or phone (800) 522-LISP.

More good news from Spite Software

Anyone looking for sources of CP/M software should write to Spite Software for "A Guide To Products And Services For CPM-80 Computers". Spite is a software publishing house; they sell various people's products, sending the authors a royalty for every copy sold. Their catalog has three sections: CP/M software they sell on that basis, a "DOS Corner", and a section of straight ads, like a regular magazine.

Stuff available from Spite includes the MagicSeries at $69.95 ($89.95 for the laser

version), much cheaper than CES' usual price, a free-form data-base program called Filebase, an information-retrieval system called Free Filer that works with regular text files, and such old favorites as SmartKey, Checks&Balances, Presto!, and Lisp/80. Order their catalog just to show them how many CP/M users there still are, and to get an idea what's still out there that you might want. The address is Spite Software, 4004 SW Barbur Blvd., Portland OR 97201, phones (800) 237-9111 or (800) 423-3500. Tell them you heard about them in The Z-Letter.

SUPERMICRO debuts

The first issue of SUPERMICRO, formerly The S-100 Journal, has been published, and it is a beauty! The new magazine covers VMEbus, Multibus I, and Multibus II systems, and the software that runs on them, as well as S-100 systems. If you are interested in state-of-the-art hardware, or systems not stamped out with a cookie cutter by faceless corporations, you will find SUPERMICRO as exciting as I do! For subscriptions or back issues of The S-100 Journal, write to Octoplus Corporation, 1275 N. University Avenue, Unit 7, Provo UT 84604. Congratulations to Jay Vilhena and his staff for a job well done.

CDS is building the future

One of the three boards featured on the cover of the first issue of SUPERMICRO is an S-100 bus Z280 single-board computer from Computer Design Solutions, Inc. I spoke to Randy Gilleland there, and he gave me quite a bit to chew on.

CDS plans to start shipping their boards in December. At this point, the S-100 board pictured on SUPERMICRO's cover, the CDS ad on page 16, and on page 30, exists in prototype. The STD board shown in the ad is functional, but has no floppy disk controller yet. Things are running a little behind schedule, because the revision J Z280 chips, that fix the rev. G bugs (see page 9 of our last issue), have not yet arrived at CDS.

Presently the boards are running ZRDOS. By agreement with Alpha, CDS is converting ZRDOS to Z280 code. The resulting OS280 will then be the operating system for CDS' computers; others will be able to purchase it from Alpha. OS280 (not to be confused with OS-9 or OS/2) will be 100% compatible with ZRDOS, so that any program that ran under ZRDOS will run under OS280. CDS plans to have the operating system in EPROM, so that turning on the machine boots it up. The primary port of the system is the Z280 serial port, but this is changeable.

With the BIOS is ROM, the TPA can be 60 or even 63K. No banked BIOS is required to achieve this, because the operating system will not reside in the TPA. One of the special features of the Z280 is a system call by which programs can access memory outside the TPA. A Z280 program can use 64K or program space AND 64K of code space; on a Z80, both program space and code space must fit in the same 64K which also contains the operating system. The Z280 can address 16MB of memory in 4K windows, a feature CDS is being very careful with. After all, if you "swap out" the wrong 4K, you could find

yourself stranded with no way to resume operation!

Computer Design Solutions' BIOS will be DMA and interrupt-driven, which means (at least in the Z280 environment) _fast_. Code examples will be published for the community, as CDS realizes that their computers have no future without software to support it. CDS has a C compiler, written in itself, that they sell for MS-DOS for $150. There will be an OS280 version of that compiler. Also, CDS has the source code for Softaid's multi-tasking BASIC, and there will be a Z280 version of MTBASIC, written by either Softaid or CDS. The Z280 is "a hot machine for multi-tasking", says Randy. CDS has some benchmarks showing the Z280 outperforming an Intel 80286, which they have promised to send us for publication in The Z-Letter.

A Z280 assembler is another matter at this point. CDS' MS-DOS cross-assembler is much too big, at over 300K, to consider porting to the Z280. What CDS would like to see is SLR Systems' assembly-language tools rewritten for the Z280, but SLR doesn't seem very interested.

Which leads CDS to make this offer to the 8-bit community: If the authors of Z80 programs will either put the sources in the public domain, so that the programs can be upgraded to the Z280, or upgrade the programs themselves, CDS will give the authors a free copy of CDS' MS-DOS cross-assembler for the Z280, a $150 value as stated earlier.

People interested in this offer should write to Computer Desgn Solutions, Inc., City Center 206 Cooper St., PO Box 127, Statesville NC 28677, or phone (704) 876-2346. OEM and end-user inquiries are also welcome.

Too nice to ignore

OmniPage from Caere Corporation is Macintosh software, but it's too nice not to mention in these pages, even if it doesn't run on our systems. There are lots of programs that can use a Macintosh and a scanner to turn pages into files. However, these files are graphic files; they record a picture of what the page looks like. Using the files for information retrieval is not an option, because they aren't text. Optical character recognition, meaning the ability to scan a page and store its text as text, usually requires specialized hardware and expensive software, and even so has a high error rate. OmniPage, however, uses a Mac II and scanner to read in an enormous variety of stuff and stores the text on the pages as text. For a price of around $800, this is truly amazing. We salute this advance in computer technology.

The universal CP/M manual

Alpha has received version 1.0, 1 February 1988, of The UCPM Manual. This worthy project, to quote its introduction, "is intended to serve as a 'universal' CP/M Manual, and represents a compilation of general articles on CP/M programming, machine-specific information collected by way of a survey of CP/M users, and

reference information on CP/M programming." It consists of a number of chapters in WordStar format, a program to convert WS files to ASCII, documentation for that program, and a UCPM survey form. Part 1, Introductory Materials, contains "The Prospects for CP/M Software Development" and "Strategies for Overcoming Compatibility Problems". Part 2 is the CPU survey, or information on basic computer hardware. Part 3 is the terminal survey. Part 4 contains information on disk formats. Part 5 is reference material for general CP/M programming, including CP/M BDOS and BIOS entry points, reference information on ASM, LOAD, DDT, MAC, LINK, and SID, and reference information for Microsoft BASIC.

In particular the compilers are looking for information on more CP/M computers. Right now they have information on the Altair 8800, Altos 8000-10, Amstrad CPC 6128, Apple II with PCPI Applicard, Apple II with Microsoft Softcard I, Big Board I, Cromemco Z2D, CompuPro, Epson Geneva, Epson QX-10, Kaypro II, Multiflex, Northstar Advantage, Osborne 1, Osborne Executive, Stride 440, Sord M-68, Tektronix 4132, Televideo TS803, and Visual Technology 1050. If you have any of these computers, I urge you to get the manual and check its accuracy, as well as see if there's anything you can add, such as a particular model or format.

If you have another computer, I urge you even more strongly to add the information on your computer; after all, the more information the community has on your computer, the more likely

developers are to write software for it. For my own part, as soon as I get a moment Ted Campbell and his colleagues are going to have more information about Eagle computers, including the source code for the operating system, than they know what to do with!

Email is the preferred method of sending information, so that all information will be immediately available in machine-readable form. Get the survey form and return it and any other information via email to: tcamp@ecsvax.bitnet, or tcamp@dukeac.bitnet, or T.CAMPBELL1 on the Genie System. If you can't do that, write to Ted A. Campbell, Raleigh Other Computer Club, 7 Winchester Ct., Durham NC 27707.

Z-Plan details established

The details of the Z-Plan are now available on many Z-Nodes and other bulletin boards as 1011ZPLN.LBR. The Z-Plan is a cooperative deal between any user group that signs on to it and Z-Systems Associates, which is itself a cooperative effort of Joe Wright, Jay Sage, and Bridger Mitchell. The address of Z-Systems Associates is 1435 Centre Street, Newton Centre MA 02159, phone (617) 965-3552, modem (617) 965-7259.

The library file 1011ZPLN.LBR contains Z-DEMO.001 and Z-DEMO.002, the long and short versions of instructions on how to demonstrate the Z-System to a user group, and WHATIS-Z.SYS, an introduction to the Z-System. The files Z-PLAN.MSG and Z-PLAN.FOR are included for uploading to bulletin boards as announcements

of the Z-Plan. Z-PLAN.INF is acollection of
NZ-COM and Z3PLUS announcements, plus some
background information on Alpha Systems
Corporation. Z-PLAN.DOC explains the Z-Plan
for the directors of a user group; Z-PLAN.APP
is the application form by which they join the
plan; and Z-PLAN.FRM is the order form for the
group to order software under the plan.

1011ZPLN.LBR is the October 11, 1988 version of
Z-PLAN.LBR; download the latest version you may
find that is at least that new for your user
group.

LETTERS

September 7, 1988

Dear Joe,

Thanks for the response on Z-Node Central
regarding the new Z-Letter newsletter. I am
enclosing a check for the first year's
subscription, and am looking forward to
catching up on all the happenings in the Z-
world.

I have a further "problem" with my system with
which I need some help. I would have put this
on the Central board, but had to reapply again
for some reason. Maybe Ron is cleaning the
users file again! Oh, well ...

Can you help me set up NDR space for more than
14 names on my hard disk? I am running a
Kaypro 2X with a Mini-Winnie 20MB hard drive

operating under Z-Com (ZCPR 3.3). I would like to "steal" some space from the RCP area and use it for another 14 directory names. I don't want to lose the RCP entirely since I use some poke commands in various shell .cmd and .vmn scripts. (My system revolves around MENU, ZMANG/VMENU, ZFILER and uses many of the shell utilities within them.)

The big problem arises in not having the RCP and NDR areas contiguous in the operating system. With all of that other stuff in between, I don't see how to enlarge the NDR space without rewriting the entire Z3BASE.LIB file and reinstalling Z-Com and then Z33 -- a cumbersome task at best -- perhaps impossible for still other reasons unknown to me. I also don't want to make the system size any larger since WordStar 4.0 barely fits in now. I am already using NuKey for many writing functions, so the IOP area is also needed. What do you suggest?

This probably sounds like a good opportunity to plug NZ-COM and solve everything easily. I must admit it is very tempting. But, I have worked long and hard on getting my system fine-tuned under Z33 and really like what I have. If I were to switch, would all the old Z33 utilities work with Z34? And, if an RSX were in place, would WordStar overwrite it along with the CCP as it usually does? How would this affect the use of an RSX? (I'll be the first to admit that I don't know much here and have really missed a regular newsletter.)

I really appreciate your time in responding to this "problem". You might even find in it some topics for future installments of Z-Letter.

Sincerely,

Dave Templin
2978 Spruce Ave.
West Sacramento, CA 95691

Dave, thank you for your subscription to The Z-Letter. I hope you like it.

Your difficulty in modifying your system for more NDR space makes my case for NZ-COM better than I usually do. You can freely and easily change the size and location of any of the system segments. RCP and NDR segments need not be contiguous. Simply define the RCP size as 9 or 10 records (if it still fits) and the NDR as 21 or 28 (up to 200, I think) and off you go.

Z34 is based on Z33 and is an enhancement rather than a re-write. All your Z33 stuff will run without problem.

That WordStar trashes an RSX is news to me. I am writing this with WordStar 4.0 with an RSX in place under the CCP. When I quit WordStar, the RSX is still in place. Did I understand you correctly? -- Joseph W. Wright, 25 September 1988

WRITING ABOUT WRITING

The MagicSeries

There has been a lot of publicity given to the MagicSeries from Computer EdiType Systems lately. From the article by Benjamin H. Cohen in the April 1988 issue of _Profiles_ to the glowing writeup in the Spite catalog, everyone seems to be discovering the power this formatter gives them over the printed page.

Last issue I defined some terms, so that when I use words like "formatter", you can know what I'm saying about the software so described. A formatter I defined as software that obeys instructions inserted into a text file, to put the text on paper in a place not directly corresponding to its place in the file. On a typewriter you center a line by counting the characters in the line, subtracting that number from the length of a line, dividing that number by 2, then spacing that many times before typing the line. Using a formatter, you center a line by typing the command that tells the formatter to center the line. A formatter may be built into your word processor, and called automatically when you tell the word processor to print a document, or it may be a separate program.

The MagicSeries is a formatter of the latter kind. You prepare your text by typing it with your word processor, inserting MagicSeries formatting commands where desired. To print the file, leave your word processor and run the

formatter. To print a file called "MY.TEXT",
for instance, type "MAGIC MY.TEXT". The
formatter sends the file to the printer, along
with the necessary printer instructions to
arrange the text on the page as you have
indicated by your use of the MagicSeries
commands.

There are actually 12 versions of the
MagicSeries, depending on what operating
system, printer, and word processors you use.
The MagicSeries runs under CP/M, CP/M-86, and
MS-DOS. There is a version for the Diablo 630
daisy-wheel printer and other printers that use
the same commands, and a version for the HP
LaserJet family and other laser printers with
LaserJet emulations. There is also one version
for WordStar, NewWord, LZED, and similar word
processors, and another for word processors
like Spellbinder, which don't use embedded
control codes and don't require a carriage
return and line feed at the end of every line.
The version I'm using is the CP/M-LaserJet-
Spellbinder version. The differences between
the versions is minimal. Obviously, laser
commands such as downloading a font mean
nothing to any other kind of printer. The
WordStar version signals an embedded command by
preceding it with a Control-A; the Spellbinder
version precedes embedded commands with square
brackets ([).

Once you've chosen the right version for your
operating system, word processor, and printer,
you should know that the MagicSeries is
actually three programs called MagicIndex,
MagicBind, and MagicIndex. If you simply buy

MagicIndex, you get the full capability and the
complete manual, because MagicIndex includes
both MagicPrint and MagicBind. If you buy only
MagicPrint, however, you will get only part of
the capabilities of the full MagicSeries. The
manual you would receive would include the full
table of contents and index, but only chapters
1 through 6. Chapters 7 through 15, describing
the use of MagicBind, and chapters 16 through
21, describing MagicIndex, you wouldn't get
until you upgraded. With the sale price of $70
for MagicIndex that CES was offering CP/M users
until recently, I went ahead and got the whole
thing. Spite Software's price is higher than
that (see "More good news from Spite Software",
under NEWS), but still cheap enough that you'll
want to order MagicIndex, instead of working
your way up.

MagicPrint is the actual formatter, and gives
you complete control over the placement of text
on the printed page, including two-, three-,
and four-column print, separate headers and/or
footers, footnotes, true proportional spacing,
and (in the laser version) commands to switch
from one font to another, download soft fonts
from files on your computer, draw boxes, and
shade areas in various darknesses of grey.

MagicBind adds capabilities connected with
treating separate chunks of text as one file at
print time, such as numbering sections with
variables instead of numbers you type, so that
MagicSeries can number them automatically when
they are printed. That way, you can rearrange
them at will without having to go through and
change the numbers of chapters, or sections and

sub-sections within the chapters. MagicBind also does mail merging and boiler plating. The first means printing a file with blanks over and over, only the blanks are filled with data from another file as each copy is printed. This is how form letters are done. Boiler plating is another kind of form letter, and refers to the practice of inserting standard, much-used paragraphs and phrases into a letter as it's printed. MagicBind also lets you type a book or long text in many separate file, which get combined in the right order when you print the book, magazine, or whatever. Printing labels is made especially easy.

MagicIndex adds the ability to produce tables of contents and indexes easily. In-line commands are used to mark the actual text to be printed. These commands are not printed when the file is printed, but when you request an index, they tell MagicIndex what to index, and how. This produces a separate file, sorted in alphabetical order, with duplicate entries eliminated and multiple references to the same thing on different pages combined into a single entry. This index file can then be edited; MagicSeries commands to print it in three columns with a fancy header could be inserted, for example. Tables of contents work similarly; chapter, section and sub-section headings tagged for automatic numbering are extracted in order to a separate file, which can be then formatted however you desire.

The MagicSeries manual is excellent; well-written, very clear, very thorough, and produced entirely with MagicSeries. Besides

the numerous excellent examples throughout, the manual itself is one big example, as many of the chapters have different headers and footers for that purpose. Footnotes are used throughout, and OF COURSE there's a table of contents and an index. I have yet to be unable to find what I needed in the index, by the way, usually under the first place I look.

The formatting commands themselves are of two kinds, dot commands and in-line commands. The dot commands are commands beginning with two dots (such as ..C) to distinguish them from WordStar's and Spellbinder's dot commands, which begin with a single dot. This is a wise arrangement. WordStar interprets lines beginning with two dots as remarks, so you could have both WordStar and MagicSeries formatting commands in a file, and print it either way. More to the point, you could take an old file with WordStar or Spellbinder dot commands in it, and print it with the MagicSeries without having to go through and remove all the old commands first. You can combine any number of dot commands on a single line; the line "..m7 1120 c+", for example, sets the left margin at 7, the line length at 120 characters, and centers all lines from here to a "..c-" command or the end of the file, whichever comes first.

Embedded or in-line commands are commands that you can turn on and off in a single line. They control effects that can happen anywhere, not just one line at a command, so dot commands are inappropriate. For instance, you underline a string of text in the MagicSeries by preceding

it with an underline and following it with an underline; "_underline this_" prints out as underline this. Other embedded commands are signaled by a square bracket in the Spellbinder version, or an embedded Control-A in the WordStar version; "H[B2[BO", for instance, prints as H_2O. If you want to print one of the symbols used as embedded commands, you do so by preceding it with a square bracket. For instance, < is used to backspace so that you can print one character over another. You can print an actual < by preceding the < with a square bracket, as [<.

I bought the MagicSeries on the strength of the Profiles article and a few questions over the phone to CES, and I think you can tell I'm enthusiastic about it! I do two newsletters every month, in two very different formats, and I use the MagicSeries on both of them.

The Eagle Computer Users Group newsletter is printed in portrait orientation (8.5" wide, 11" tall), two-column print, with a header like "page 2 ... ECUG Newsletter June 1988" on pages with even numbers, and "ECUG Newsletter June 1988 ... page 3" on odd-numbered pages. This is possible with Spellbinder's built-in formatter, but much easier with the MagicSeries, where a simple "..k" turns on two-column print until further notice. Since acquiring the MagicSeries, I have added grey boxes over section headings in the ECUG newsletter, and open boxes around the page headers. I can also switch from two-column to no-column (text all the way across the page) at will, and back. In addition, I purchased a

very nice proportional font from CES called
MagicDelite, and I use the 8-point size for the
ECUG newsletter text, and the 10-point size for
headers.

The Z-Letter, on the other hand, is printed in
landscape orientation (11" wide, 8.5" tall),
using the non-proportional landscape courier
font built into the LaserJet printer. After
printing, it is folded and stapled. What the
MagicSeries contributes to The Z-Letter is the
ease of producing the originals from which the
printing is done. Take last issue, for
example, which had 32 pages. To make the pages
print right, page 2 and page 31 have to be
printed on the same sheet, page 3 and page 30
on the same side of the same sheet, page 4 and
page 29 on the same side and sheet, etc. The
"traditional" solution is to print each page
separately, then cut them out and tape page 2
and 31 together for the printer, and so forth.

With the MagicSeries this is not necessary.
One of the things it asks you for is an
"offset" for odd and even pages. This offset
is added to the left margin of odd-numbered
pages, and subtracted from the left margin of
even-numbered pages. To print the odd and even
pages on the right and left halves of the
sheet, the left margin of the text is set at
39, which prints the pages in the middle of the
sheet, with 3.5 inches on either side. An
offset of 33 prints the even pages 3/4 inches
from the left edge of each sheet, and the odd
pages 3/4 inches from the right edge of the
sheet.

To print the originals for The Z-Letter requires two passes through the laser. Another question MagicPrint asks you is whether you want to print just the even pages or just the odd pages. Answering that you want to print just the odd pages, and giving an offset of 33, produces a stack of sheets with just the odd pages printed in their proper places. These are stacked face down in the printer in the order 31, 29, 27, etc. Then MagicPrint is run again, with an offset of 33 and telling it to print only the even pages. Finally, the return address and bulk-rate notice is printed on the original with the first page. At this point we're ready for the printer!

CES also sells MagicFont, a font compiler, and a number of HP-format soft fonts. I can't say much about MagicFont yet, because I haven't used it much so far. The only soft fonts I have so far I bought from CES, and I don't have the original template files for them. After I finish the UNFONT program I've been working on, which turns a soft font into a template file such as MagicFont uses, I'll be able to generate template files to modify and compile with MagicFont.

CES doesn't sell a lot of fonts, because there are a lot out there already (another subject I'll cover in future columns). They have a set of 11 diskettes which includes a symbol font (MagicSymbol) in 10 and 18 points, a sans-serif font (MagicDelite) in 8, 9, 10, 12, 18, 24, 36, 48, 54, 60, and 72 points, and a serif font (MagicRoman) in 36, 48, 54, 60, and 72 points. These disks cost $50 apiece, and how many fonts

each has depends on the size of the font (large
fonts make larger files). The complete set is
$250 for all the portrait fonts, or $250 for
all the landscape fonts; for $300, you can get
all the portrait fonts and all the landscape
fonts at once, which works out to $8.33 per
font. All the fonts are proportional.

The address of CES is Computer EdiType Systems,
509 Cathedral Parkway 10A, New York, NY 10025,
phone (212) 222-8148. The regular price for
MagicIndex (which includes MagicPrint and
MagicBind) is $245. CES has an arrangement
with Spite where Spite covers the overhead and
sells MagicIndex for less (see page 6), but as
near as I can tell, Spite doesn't sell
MagicFont or the font disks.

Next issue I'll begin a comparison of WordStar
4.0 and Spellbinder 5.3, the latest CP/M
versions of two word processors. -- David A.J.
McGlone

A TYPE 4 ZEX

(Note to new Z-System users: ZEX is a utility
of our operating system which allows batches of
commands to be stored in batch files; like SUB
in CP/M. For this reason, such utilities are
often called batch processors. Both programs
allow often-repeated sets of commands to be
stored as files which can be run as though they
were single commands. A set of commands to
erase all files ending in .BAK and all files
ending in .WRK, and then copy all the files on
drive A: to drive B:, for instance, might be

written with your text editor in a file called BACKUP.SUB or BACKUP.ZEX. You would execute this set of commands by typing SUB BACKUP in CP/M, or ZEX BACKUP in the Z-System. For more information on this subject, see your CP/M manual, or the references quoted in the Bibliography section of your NZCOM or Z3PLUS manual. If you have HELP.COM and ZEX.HLP on your system, you can get more information by typing "HELP ZEX".)

by Joe Wright, 21 October 1988

Inadvertently, I left ZEX.COM out of the original NZ-COM release. After some complaints about this oversight, I picked up Jay Sage's NZEX-D from Z-Node Central and tried it out. Although admittedly still under development, NZEX didn't seem to work right. I then examined the ZEX 3.2 release version and found it even worse. My button was pushed.

Over the past four weeks or so I have re-written ZEX more to my liking. ZEX is now a Type 4 utility for NZ-COM and Z3PLUS. I have added the controls Jay mentions in NZEX-D.DOC, and one or two of my own.

A minor change was made to ZCPR34 so that intrinsic (GET) and resident (POKE) commands can get their arguments from ZEX script. Previously, ZCPR34 turned off ZEX redirection for all but transient (.COM) commands. Now Z34 enables ZEX for all CPR, FCP and RCP commands as well as transients.

The major change to ZEX was in the CONST, CONIN and CONOUT departments; ZEX may now be used to 'drive' dBASE II, WordStar and MultiPlan. These programs (and others) attempt to flush keyboard input from time to time and really gave the old ZEX a fit. These programs run correctly with ZEX Type 4.

Another problem with old ZEX was that it required a call to CONIN to do anything. Many programs call CONST to see if a key is down and, if not, go about their business. With old ZEX, the ^"_ user input command would not go into effect until CONIN was called. The ^"_ command has no data to return. What to do? Old ZEX waited for the user to press a key. But what if he doesn't? Old ZEX simply hung up and waited for it, even if it wasn't necessary for the program. So much for unattended operation!

ZEX Type 4 has a look-ahead feature to find the ^"_ command and execute it before returning the previous character. Subsequent calls to CONST yield real keyboard status (ZEX input is suspended). When ZEX is turned on again (with the 'trigger' or a new command) it will pick up with the character following the ^"_ command and continue normally. Note that almost any character may be used as the User Input Trigger except 'space' and 'tab'.

ZCPR34 and ZEX Type 4 are very closely coupled and leave messages for each other. ZCPR34 controls ZEX through the ZEXINP flag at Z3MSG+7. ZEX checks and may change the ZEXINP flag for its own purposes as well. ZEX

maintains pointers to the current byte of the
ZEX input string and to the beginning of the
string at Z3MSG+9 and Z3MSG+11, respectively.

ZEX can also control the operation of ZCPR34 by
manipulating the QUIET flag. ZCPR34 is
assembled with its ZEXNOISE (and SUBNOISE)
equal to 1. This means the Z34 command prompt
(A0:BASE>) may be suppressed under ZEX (or SUB)
by setting the QUIET flag. This begs a new
command for ZEX (^-).

If the QUIET flag is set, ZEX will also
suppress the echo of the command line from Z34.
Further, if the ^# (Suppress ZEX messages)
command is also in force, ZEX and Z34 are
completely silent and the batch commands
execute as if from the multiple command line or
alias script, with no extraneous reports to the
console.

There are a number of 'flag' options which tell
ZEX how to act while executing:

```
    ^=    XSUB     Enable ZEX input to COMmand
    ^-    QUIET    Set ZCPR3 Quiet flag
    ^#    MSUP     Suppress ZEX messages
    ^.    PSUP     Suppress all Console output
    ^&    IPSUP    Suppress Console if false
```

ZEX Type 4 defaults to all flags OFF and
invites the user to specify his options on the
command line or to specify them in the batch
file. (These flags, and others, may be
'patched' ON with ZPATCH or by other means, to
customize ZEX if you so desire. See PATCHES
below.)

    zex batch parm1 parm2 ^- ^# ^.

ZEX Type 4 will pick up the two parameters and
the ZEX controls before processing the batch
file, thus establishing 'defaults'. In this
case, ^- sets the QUIET flag, ^# turns ZEX
messages off, and ^. suppresses console output.
Then the batch file is executed.

Note that ZEX Type 4 treats all 'flag' commands
as 'toggles' such that the first ^# will
suppress ZEX messages and the next ^# will turn
them on again. A third one will turn them off,
etc.

You can probably use ZEX Type 4 with most of
your old NZEX scripts with little or no change
(^[and ^] controls of NZEX are not supported
because there is no discernible need for them).

I have added the XSUB (^=) flag which allows
ZEX to supply input to the running program. ^=
and ^% are used in combination to control ZEX
input. Note that they are complementary. ^=
will turn on ZEX input for the remainder of the
file except for those commands which begin with
^%. Conversely, if ^= (XSUB) is not active,
ZEX input is turned OFF after each command
except for those preceded by ^%.

The normal state of ZEX Input is ON. ZCPR34
sets ZEX Status to 01 when prompting and to 00
when executing the COMmand. In both cases, ZEX
Input is ON. It is up to ZEX, and no simple
matter, to set ZEX Status to 02 to suspend ZEX
Input at the end of the command or as the
situation may require. It is safer to assume

ZEX Input ON and turn it off selectively than
to turn it OFF with XSUB=0 and assume that it
stays off.

Consider that ZEX may execute an alias and the
programmer wants user input at the end of its
execution. ZEX will execute ALIAS.COM and
politely turn itself off. The alias, however,
causes Z34 to execute yet another command which
ZEX knows nothing about. Z34 then turns ZEX
input back on. This is not what you might
expect. For this reason, I have defaulted the
XSUB flag ON for my purposes. I have done
extensive testing with XSUB off and find that
it works perfectly well except for the case of
multiple command aliases, as explained above.

ZEX Type 4 starts up with ZEX Input (XSUB)
active and requires the ZEX OFF command ^% at
the beginning of the line or the User Input
command ^"_ to suspend ZEX. If ZEX input
should be suspended for the entire command,

        ^%DDT [parms]

for instance, will turn ZEX off until DDT
quits. More elaborate ZEX on/off controls use
the user-input command and its trigger. There
is one 'gotcha' with the ^"_ however. The
user-input command cannot immediately follow a
command invocation. This is because even
though ZEX has turned itself off, the command
processor will turn ZEX back on while executing
the command. There must be at least one
intervening character or control between the
carriage return which executes the command and
the ^"_ which suspends ZEX input. Consider the
ZEX script:

```
ddt|d100,17f|^"~g0
```

ZEX Type 4 finds the user-input command, executes it, and moves its pointer past it before returning the carriage return to DDT. When the user types the trigger (~ in this case) ZEX resumes with the g0 command, causing DDT to quit.

```
ddt|^"~d100,17f|^"~g0
```

This form will not work. As before, ZEX does turn on user input, but Z34 will turn it off as it executes DDT.COM. There must be at least one intervening character. Knowing that DDT uses BDOS function 10 to read its commands, and knowing that a backspace is ignored as the first character of the line, suggests

```
ddt|^h^"~d100,17f|^"~g0
```

which works perfectly. Some programs, WordStar for example, continue testing the keyboard even as they quit. It is therefore necessary to set user input immediately following the quit commands, so that WordStar won't try to read the ZEX commands while quitting:

```
ws file.ws|^q^fDear||^"~^k^x^"
```

The first UI command suspends ZEX until the user types '~'. The second UI suspends ZEX until WordStar actually quits.

Command line parsing of the TAB and SPACE characters has changed. Tabs and spaces at the beginning of a command line are ignored.

Subsequent tabs are converted to spaces.
Subsequent spaces before the carriage return
that ends the line are removed.

If you must precede a command with a space, use
the ZEX literal '$ ' to do so. This allows
more freedom to format the input file for
readability. ZEX Comments ';;' can be used on
any line. For example:

;; Take a letter, Miss Jones.

```
ws $1.ltr          ;; Create the letter file
   ^krform.ltr     ;; Read in the standard form
   ^kfDear         ;; Find the salutation
```

;; Position the cursor and start UI until
;; '~', resume ZEX to tell WordStar to save
;; the letter and start UI again.
^qd^"~^kx^"

;; End of this letter

We can also make logic flows more readable this
way:

```
    ; Assemble $1 Source File
    ;; Echo from Z34 controlled by QUIET

    ^-^#                ;; Quiet, no messages
    if ex $1.z80        ;; Test .Z80 first
       ^%z80asm $1      ;; ZEX off for z80asm
    else
       if ex $1.mac     ;; Then
         .MAC m80 =$1
       else             ;; Assume .ASM
          asm $1
```

```
    fi
  fi

  ; End of $1 Assembly
```

Note again that Z80ASM is one of those programs that periodically check for keyboard input so ZEX must be turned off until Z80ASM quits. M80.COM and ASM.COM don't seem to ask anything.

There are generally three sources for console output: (1) the Z34 prompt and command echo, (2) ZEX with its various messages, and (3) the running program.

With ZEXNOISE equal to 1 (Z34HDR.LIB), ZCPR34 uses the QUIET flag to determine whether to print the command prompt before requesting the next command (QUIET = no prompt). ZEX will also suppress the echo of the command tail from Z34 if QUIET. The state of the QUIET flag is toggled by the new ^- ZEX command. ZEX Type 4 will restore the QUIET flag to its original value when done.

ZEX has a number of messages of its own, ZEX:, Done, etc. ZEX messages are controlled by the ^# (MSUP) toggle. The ^# control suppresses ZEX messages until the next ^#.

Any console output may be suppressed during a false flow state with the ^& (IPSUP) toggle. All console output may suppressed with the ^. (PSUP) toggle.

In various combination, these toggles should give the .ZEX programmer full control of what might be printed on the screen.

Patches

ZEX Type 4 has a patch area right after the Z3ENV header at 0200h. Each patchable byte is preceded by its name and a '>' for easy identification.

KDEL> 05 CDEL> 0F

ZEX can successfully drive programs that would otherwise eat the keyboard input string because we lie to them about keyboard status. Having delivered a character, ZEX will report CONST false a number of times before shipping the next character. This allows 'smart' programs like dBASE II to think they have flushed the keyboard or that a human is typing.

KDEL represents the number of false responses between normal characters and CDEL the number of lies after Carriage Return. In the scheme of things, the values are decremented before testing so that a value of 1 would return good status immediately and a value of 0 would return false status 255 times between characters. These values were chosen by trial and error and seem to work fine.

For the following flags, 00 is false and FF is true.

XSUB>	00 or FF	ZEX Input Mode (FF)	^=
MSUP>	00 or FF	Suppress ZEX messages	^#
PSUP>	00 or FF	Suppress Console Output	^.
IPSIP>	00 or FF	Suppress Conout IF false	^&
QUIET>	00 or FF	Initial Z3 quiet flag	^-

The following have to do with finding the ZEX input file. If no explicit DIR: is invoked, ZEX will check the following flags to determine where to look for it. ZEX may be forced to search a specific directory for input files by declaring it here.

```
ZEXDU> 00 00      No ZEX directory declared;
ZEXDU> 03 01      Search directory A3: only
ROOT>  00 or FF   Search Root directory only
CURDU> 00 or FF   Search Current directory only
```

If none of the above, ZEX will search for the file along the External Path.

TRADEMARKS

Mini-Winnie, Advanced Concepts E&C; Macintosh, Apple Computers; NuKey, NZ-COM, OS280, Z33, Z34, Z-Com, ZCPR, ZCPR34, The Z-Letter, Z-Node, Z-Node Central, Alpha Systems Corporation; dBase, Ashton-Tate; TURBO Pascal, Borland International; OmniPage, Caere Corporation; CES, MagicSeries, MagicPrint, MagicBind, MagicIndex, MagicFont, MagicDelite, MagicSymbol, MagicRoman, Computer EdiType Systems; CP/M, CP/M-86, ASM, DDT, LINK, LOAD, MAC, SID, SUB, Digital Research; LaserJet, LaserJet Plus, Hewlett Packard; OS/2, IBM Corporation; Spellbinder, Spellbinder Word Processor, Spellbinder Desktop Publisher, L/Tek Inc.; SB180FX, Micromint; WordStar, NewWord, MicroPro International; MS-DOS, MultiPlan, MicroSoft; UniForm, Micro Solutions Inc.; OS-9, Microware; Z3PLUS, Bridger Mitchell; THE ONE-EIGHTY FILE, Bruce Morgen; ON!, ON!

Systems; Waltz Lisp, Clog Prolog, ProCode
International; KISS, QMS; MTBASIC, Softaid;
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A limited supply of the original printing, in the original size, is still availble at the regular back-issue price.