

ZCPR3™

CP/M-80 Console Command Processor Replacement

ZCPR3 takes CP/M-80 into UNIX domains of flexibility and capability with 8-bit efficiency and speed.

- Shells, including shell variables.
- Aliases, with parameter passing.
- Flow control with IF-ELSE conditional testing and GOTO's.
- Resident command packages which can be selected dynamically.
- Variety of front-ends, including menu-driven types, VFILER and others.
- Multiple commands per line, initialization startup commands.
- Named directories may replace disk and user numbers.
- Search paths locate files on other drives and in other user areas.
- Full multilevel online HELP.
- Terminal install TERM CAP database.
- Complete error trapping with recovery, customizable messages and prompts.
- Redirection of input/output devices.
- Password control of access to drive and user areas. Tree directory structures possible with named directories.
- Uses same 2k space as CP/M CCP. Optimum operation with modified BIOS.
- Lavish documentation contains user guide, installation procedures, concept discussions and rationale. Over 300 pages, typeset.
- Fast and streamlined operations, tailored for either 8080 or Z80 cpu's.
- Reasonable license fees for OEM's and system integrators (starts at \$39).

Supporting utilities (over 70) provide tools for the system integrator, OEM, and personal computer programmer perfectly tailoring operating system characteristics with minimum hassle. In summary ZCPR3 brings new life to 8-bit CP/M software through an operating environment fully configurable to end user requirements without compromise.

Echelon — your single source for ZCPR3 related software, for commercial and non-commercial use. We are interested in marketing programs having a wide appeal that take full advantage of ZCPR3 capabilities. Send us your software in confidence — you'll receive a speedy review and response. Use handy order form to get started using ZCPR3 and its utilities. Our prices, combined with quick order filling, can't be beat.

Trademarks: CP/M, Digital Research; ZCPR3, SYSLIB3, & TERM III, Richard L. Conn; DISCAT, Echelon, Inc.; Z80, Zilog, Inc.; 8080, Intel Corp.; UNIX, AT & T Bell Laboratories, Inc.



Echelon, Inc.

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SYSLIB3™

A Macro Library

SYSLIB3 is a collection of 210 subroutines designed to provide the CP/M 8080/Z80 assembly language programmer with a set of functions to ease programming. The library relieves the programmer from constantly "re-inventing the wheel" while providing an environment that encourages structured programming at the assembly language level. The full power of the computer is harnessed for the forgotten audience of assembly language programmers.

Subroutine Categories

- Directory manipulation • Numeric string evaluation
- Byte-oriented file input/output • CP/M file input/output
- Filename string parser and FCB initialization • Input line editors
- String output • Numeric output • String & value comparison
- Character-oriented input/output • Mathematics • CRC routines
- Random number generation • Disk/User Area manipulation
- Sorting • ZCPR3-specific routines • Direct CP/M control

SYSLIB3 requires Microsoft's M80 and L80 macro relocating assembler and linker. SYSLIB3 itself is a library of object modules created in the Microsoft format.

SYSLIB3 is a significant tool for the experienced programmer to:

1. Solve programming tasks quickly
2. Write space and speed-efficient code
3. Write more maintainable code
4. Reduce overall programming effort

The assembly language programmer is provided many of the advantages of Pascal or C language by using SYSLIB3. Furthermore, the code produced with it is the property of the programmer. For essentially the cost of disk media, this fantastic library is available. Documentation is provided as text files on the library disk pair. (The majority of ZCPR3 utilities were written using SYSLIB3.)

DISCAT™

A Disk and File Catalog Program

Managing floppy disks becomes difficult when the number exceeds about fifty. Trying to remember the disk containing a specific file becomes nearly impossible. DISCAT solves this problem in an elegant and efficient manner.

- All disks and their file names are stored in a master file database. Search routines easily determine the disk containing the desired file(s).
- Each disk receives a unique identification on entering the database.
- Automatic updating with simple commands.
- Merge facility provided to permit multiple catalog files to be combined.
- Space remaining on each disk is stored in database for easy recall.

- Install program provided to handle CRT terminal characteristics. Based on information in UC Berkeley UNIX TERMCAP program.
- Scan disks as well as files.
- Sizing data (disks, files and catalog file sizes).
- Menu or command-completion user interface, fully integrated.
- Send database to printer for hardcopy record.
- Runs on any 8080/Z80 based CP/M-80 computer using ZCPR3.

Fast and very disk-space efficient. A complete disk and file catalog system.

TERM 3™

The Telecommunications Program

TERM 3 is a smart terminal and file transfer program permitting communications between computers of all types. A new-generation integrated system providing:

- Automatic telephone number dialing from library of numbers. Auto redial if busy signal. Editor built-in to create and change libraries.
- Send and Receive files over telephone wirelines and satellite data links. Full error detection (CRC and Checksum) with automatic retransmission on error. Multiple protocols provided: CompuServe CIS, Kermit, Christensen MODEM7/XMODEM, TERM, etc.
- Batch file transfer using wildcards and multiple filenames per command.
- Control remote computer(s) from your local terminal.
- Capture complete transaction between your computer and remote timeshare systems. Data optionally sent simultaneously to console, printer, and disk file. Automatic local memory buffer control permits file lengths limited only by size of disk space available.
- Automatic sending of character strings, command lines, password sequences, all changeable while online using built-in editor.
- Character set translation. Communicate in EBCDIC, BAUDOT, or other 7- or 8-bit character code.
- Full disk manipulation facility built-in and usable while online. Copy, rename, delete, view on console, send text to printer, group tag for deletion and copying, file size and space remaining on disk, all instantly available.
- Installation program customizes program for your modem type and particular CRT terminal. Commands and functions are screen oriented, using cursor positioning, clear screen, erase to end of line, and half intensity for highlighting. Program uses UNIX TERMCAP for terminal control sequence information. No need for Assembly Language knowledge. Works with any terminal.
- Full control of transmission characters for operation with timeshare protocols. Plus full 256-byte translation table.
- Modern dynamic file overlay techniques used to speed program operations. All libraries and major functions are software modules.
- Sizing — memory and disk space tailoring! Features not desired can be omitted.
- ZCPR3 and standard CP/M-80 CCP compatibility.

Program designed for both ease of learning and use. System can be tailored for the novice or made more streamlined as the user becomes more comfortable with the system.



Echelon, Inc.

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Who and What is Echelon?

We're a company of people dedicated to providing software to users of all levels, beginners to experts. Cost effective software that's adaptive to the needs and experiences of the computer console operator. We represent a breath of fresh thinking about software prices, about support before and after sales.



Z SETS YOU FREE!

Free to create computer environments right for you . . . free to automate repetitive tasks . . . free to increase your productivity. Z-System, the high-performance 8-bit operating system that flies! Optimized assembly language code — full software development system with linkable libraries of often needed subroutines —relocating (ROM and RAM) macro assembler, linker, librarian, cross-reference table generator, debuggers, translators, disassembler — ready to free you!

TERM III New generation communications package provides levels of flexibility, functionality, performance not available until now. Replaces BYE and XMODEM . . . master/server local area network capability . . . public or private bulletin board and electronic message handling are integral features . . . auto-dial/answer, menu install . . . XMODEM (CRC/Checksum), MODEM7 Batch, Kermit, CIS, and XON/XOFF protocols . . . 100-page manual **\$99.00**

Z-MSG Rolls Royce of message handling systems . . . mates with TERM III or BYE for most advanced overall electronic mail/file transfer capabilities . . . menu installed . . . extreme configurability . . . many levels of access and security . . . word, phrase editor, field search . . . complete message manipulation and database maintenance **\$99.95**

DISCAT Elegant, menu and command-line driven file and disk catalog manager. Generates and controls multiple master catalogs, working catalog used for update quickness. Nine flexible modules easily altered by user for custom requirements. Works with Z shells (VMENU, VFILER, MENU), aliases, and multiple commands per line **\$39.99**

ZCPR3: The Manual Bound, 350 pages, typeset book describes features of ZCPR3 command processor, how it works, how to install, and detailed command usage. Bible to understand Z-System **\$19.95**

ZCPR3 and I/O PS Loose-leaf book, 50 pages, 8-1/2" by 11", describes ins-and-outs of input/output processing using Z-System. Shows how to modify your BIOS to include I/O redirection . . . complements **The Manual** **\$9.95**

More missing links found — Z Application Programs! Fly with eagles! Our programs promote high performance through flexibility! Productivity results from dynamically changeable work environments, matching operator to tasks and machines.

Above programs require 48K-byte memory, ZCPR3, Z-Com, or Z-System, and Z80/NSC800/HD64180-based computer. Shipping from stock. State desired disk format, plus two acceptable alternatives. As payment, we accept Visa, Mastercard, personal checks, money orders, and purchase orders from established companies. We also ship UPS COD.

Call or write to place order or to obtain literature.



Echelon, Inc. 101 First Street • Suite 427 • Los Altos, CA 94022 • 415/948-3820



ABOUT Z-SYSTEM

Flexibility is key to Z power. Productivity results from optimum organization of human and machine resources. You are free to create the thinking and working environment that you choose! Z permits quick computer system re-organization for varying tasks and controls your application programs from integrated easily produced and changed menus. Generation of aliases permit many commands and keystrokes to be converted to a few. Aliases may be used from within menus. One alias may use another. Control is near absolute using the supplied utilities. Menu generation determines how the computer is used, simplifying and speeding operations. Only single from-menu keystrokes are needed to activate many complex series of commands. Z is a hard worker--a system you use, learn from, grow and live with!

Utilities provided conveniently permit file and disk management, easy coordination of many application programs from chained menus with full security and password protection. Online help assists understanding details of each command available. A summary Command Reference card is also provided with a glossary of computer and Z word meanings.

Z-System (combining ZCPR3 and ZRDOS, completely removing CP/M) is available in two versions: 1) manual-install system using your CP/M MOVCPM, SYSGEN, MAC, and DDT, and 2) auto-install Z-Com version. The installation procedure for Z-Com is detailed on a few lines at the bottom of the Command Reference card. The manual-install version is for two-year or over computer users and programmers; the auto-install is ideal for microcomputer amateurs.

Z-Com is sold in either two or 5-disk set. Dual-disk package is for those who have obtained the manual-install ZCPR3 Core and Utilities software and want now to add auto-install to their collection. The 5-disk set is complete and provides seventy-seven (77) utility files in object form. The source for the utilities is not supplied, as it occupies eight (8) or more additional disks. The manual-install utilities may be used with Z-Com by using the Z3INS.COM, ZCPR3.INS, and ZC.ENV files supplied or auto-produced during the install process.

The #1A disk used for installation has sufficient reserve space to permit creation of five (5) special files during installation. The #1B and #2 disks have remaining utilities not on disk #1A, plus special ZRDOS utilities and online help files. Disks #3 & #4 have online help files used from tree-structure HELP.COM menus.

Z-Com installs on all CP/M 2.2 computers using 8080, 8085, Z80, NSC800, and HD64180 microprocessors. The install menu presently has over 50 terminals and computers to fully handle CRT screen capabilities. We add to the menus as we gain knowledge of additional control and escape sequences.

Future utilities planned for Z-System can be installed and used with Z-Com by adding the utility name to the ZCPR3.INS file with any CP/M editor and then running Z3INS with ZC.ENV and ZCPR3.INS. Installation then occurs automatically. Files named in the ZCPR3.INS list not present on disk being installed are ignored.

Available OEM package permits bundling Z-System with your deliverable hardware. SYSGEN and MOVZSYS, simple text editor, along with a Z-Tools Package (Zas and Zlink relocating marco assembler and linker, and ZDM and DSD debuggers) fully support system development and re-configurations.

Z R D O S Plus

ZRDOS Plus shipments started 5 July 1985. Those who would like to upgrade to a super BDOS and no longer be dependent upon Digital Research can now be fully free. ZCPR3 combined with ZRDOS does it all and with complete software development system (Z-Toolstm) utilities: relocating macro assembler, linker, librarian, cross-reference symbol table generator, two debuggers, five translators (Intel/Zilog/TDL/CDL) and an 8080/Z80 disassembler. Some ZRDOS Plus features:

- Upward compatible with CP/M-80, full ZCPR3 compatibility
- Takes advantage of Z80 Instruction Set
- ZCPR3 Wheel Byte write-protects selected files from non-Wheel users
- Changed Disks automatically logged in
- Read/Only Disk status maintained after warm boot
- Read Console Buffer Function (10) treats rubout (DEL) same as backspace
- File Archive Bit set by Function 30, compatible with MP/M & CP/M 3
- Single-level re-entrance permits compact I/O Packages
- Support Utilities include Copy, useful for archiving and backup, plus Set/Display File Attribute, Dump, Compare, and View programs
- Enhanced Error Handling with non-cryptic announcements
- Added Functions (47, 50 & 52) for get DMA and set/reset warm boot trap
- Z800 version (ZRDOS3) has over 47 non-CP/M Functions added to achieve easy MS-DOS program migration
- Z80/HD64180 version in binary for auto-patching CP/M system @ \$49.50
- Z800 version expected first-quarter '86

Your eyes get wet...and bugs of CP/M have been eliminated, even those in Function 37. Documentation is 35 pages of crisp, unambiguous language describing each DOS function. The Z80/HD64180 Z-Tools software development system package is \$150.00 complete; mainframe-featured screen-oriented dynamic debugger adds \$129.95. Our ZAS and ZDM, marco assembler and debugger, of Z-Tools package, completely support the extended instruction set of Hitachi's HD64180 enhanced 8-bit micro-processor. Z800 version pricing not yet established.

Trademarks: Z80/800, Zilog; MP/M, CP/M, Digital Research; MS-DOS, Microsoft; Z-Tools, Z-Com, ZCPR3 and ZRDOS, Echelon, Richard Conn, Joseph Wright, and Dennis Wright; 8080, Intel; HD64180, Hitachi.

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12 July 1985

ABOUT ZCPR3 AND Z3-DOT-COM

Flexibility is key to ZCPR3 power. Productivity results from optimum organization of human and machine resources. You are free to create the thinking and working environment that you choose! ZCPR3 permits quick computer system re-organization for varying tasks and controls your application programs from integrated easily produced and changed menus. Generation of aliases permit many commands and keystrokes to be converted to a few. Aliases may be used from within menus. One alias may use another. Control is near absolute using the supplied utilities. Menu generation determines how the computer is used, simplifying and speeding operations. Only single from-menu keystrokes are needed to activate many complex series of commands.

ZCPR3 is a hard worker--a system you use, learn from, grow and live with!

Utilities provided permit file and disk management, easy coordination of many application programs from chained menus with full security and password protection. Online help assists understanding details of each command available. A summary Command Reference card is also provided with a glossary of computer and ZCPR3 word meanings.

ZCPR3 is available in two versions: 1) manual-install system using CP/M MOVCPM, SYSGEN, MAC, and DDT, and 2) auto-install Z3-Dot-Com version. The installation procedure for Z3-Dot-Com is detailed in eleven (11) lines at the bottom of the Command Reference card. The manual-install version is for two-year or over computer users and programmers; the auto-install is ideal for the CP/M beginner.

Z3-Dot-Com is sold in either a single or 4-disk set. The single-disk package is for those who have obtained the manual-install ZCPR3 Core and Utilities software and want now to add auto-install to their collection. The 4-disk set is complete and provides seventy (70) utility files in object form. The source for the utilities is not supplied, as it occupies eight (8) or more additional disks. The manual-install utilities may be used with Z3-Dot-Com by using the Z3INS.COM, ZCPR3.INS and Z3.ENV files supplied or auto-produced during install process.

The #1 disk used for installation has sufficient reserve space to permit creation of five (5) special files during installation. The #2 disks have remaining utilities not on disk #1. Disks #3 & #4 have the online help files used from tree-structure HELP.COM central menus.

Z3-Dot-Com installs on all CP/M-80 computers using 8080, 8085, NSC-800 and Z80 microprocessors. The install menu presently has over 50 terminals and computers to fully handle CRT screen capabilities. We add to the menus as we gain knowledge of additional control and escape sequences.

Future utilities planned for the ZCPR3 System can be installed and used with Z3-Dot-Com by adding the utility name to the ZCPR3.INS file with any CP/M editor and then running Z3INS with Z3.ENV and ZCPR3.INS. Installation then occurs automatically. Files named in the ZCPR3.INS list not present on disk being installed are ignored.

If assembly of ZCPR3 batch and flow control processor ZEX is desired after ZEX.COM is installed use ZEX.ZEX to make the process automatic. The CP/M utility programs required to assemble ZEX: 1) MAC, 2) ED, and 3) SID or ZSID. Other file required, RELS.UTL, is public domain and supplied by Echelon.

The additional COM files not on disk #1 must be installed using the Z3-Dot-Com Z3INS.COM command. Z3.ENV, created during the installation process, is specific to your system environment. Copy Z3INS.COM and Z3.ENV from Disk #1 onto this disk #2. Then enter the following command:

```
Z3INS Z3.ENV ZCPR3.INS <cr>
```

If your disk has capacity (both space and directory entries) to hold all the utility COM files at once, then you may copy all the COM files on disk #2 to disk #1 and install all files at once, during the initial first-time install. Retain on your CP/M system disk only those files you have interest in using.

The HLP files on disk #3 and #4 must be placed in the same directory (disk and user area) as HELP.COM, or they may be in current directory with HELP.COM anywhere along the chosen file search path. After you are comfortable with the running system, we suggest you copy all the utility COM files to user area 15 and call that directory ROOT. The default search path is set to always look in A15: directory. And remember, search always starts with the current directory, the one you are presently logged into.

Study the USER'S PERSPECTIVE Manual, written by Richard Conn, to gain a feeling for ZCPR3 command usage. The two-sided Command Reference Card comes in handy to remind you of the more important commands. "ZCPR3: The Manual" is the bible for command descriptions. The GLOSSRY sheet is useful to gain understanding of word meaning. To install, follow the simple Z3-Dot-Com Installation procedure detailed at the bottom of the Command Reference Card.

You, as a customer of Echelon, are now on the mailing list for the fortnightly Newsletter. Current events and tips are passed along in a timely manner. And we try to answer questions in the newsletter before they are asked! We also pose lots of microcomputer industry-important questions having no rational, long-term answers.

If you have problems or questions, call or write: Echelon, Inc.
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BBS Modem: 415/489-2005

P.S. The auto-created file Z3.ENV is identical (except for the name) to the SYS.ENV mentioned in ZCPR3 listings and documentation. Any ZCPR3 MAC file may be assembled and run under Z3-Dot-Com by using the Z3BASE.LIB supplied. After editing Z3BASE by placing your Z3ENV address determined with SHOW or by using Z3LOC Z, assemble MAC files using Microsoft M80 and link with L80, creating an executable COM file. Needed REL files SYSLIB, Z3LIB, and VLIB have been placed on your disks. Also, public domain programs MLOAD, EX, and RELS.WTL are there. We included a few MAC files from the 8-disk Utility Set (\$89.00 purchased from Echelon) to illustrate structured Assembly Language programming techniques.

In order to re-assemble ZEX, the ZCPR3 batch processor, you should use batch file ZEX.ZEX. Edit file Z3BASE.LIB by adding your Z3ENV (Environmental Descriptor) address. This address is determined by running SHOW or Z3LOC Z. Assembly is accomplished with MAC.COM, with ED.COM, RELS.UTL and ZSID.COM or SID.COM. Type: ZEX ZEX<cr>. At completion, ZEX.COM will have been installed. After installing ZEX, use it as your main batch processor. It works correctly with submit file extensions of type ZEX or SUB. The supplied ZEX.COM is auto-installed with Z3INS along with all the other utilities.

If you wish to change the WHEEL password, edit 'ppass' equate in WHEEL.MAC to the password desired and assemble and link to a COM file, using M80 and L80. (Default password is SYSTEM.)

CPY and VID are new ZCPR3 utilities that copy and rename single files, and respectively, display text files with video attributes enabled, e.g. HELLO or Z3HELLO on Z3-Dot-Com disk #1. Remember to use <command> // to get instant command syntax help.

ZCPR3 and the ZCPR3 System of utilities is copyright 1984 by Richard L. Conn. Z3-Dot-Com is copyright 1984 by Joseph Wright and trademarked by Echelon.

Z R D O S 2

ZRDOS2 is extended over ZRDOS for enhanced buffered command line editing, big hard disk usage and improved ZCPR3 I/O Package interfaces. Planned shipments start 28 February 1985. Those who would like to upgrade to a super Z80 coded BDOS and no longer be dependent upon Digital Research can now be fully free. ZCPR3 combined with ZRDOS2 does it all.

Additionally, we offer a complete set of software development system tools: relocating Z80 macro assembler, linker, library manager, two debuggers, five translators (to and from Intel/Zilog/TDL/CDL) and 8080/Z80 disassemblers. Some important ZRDOS2 features:

- Downward compatible with CP/M-80, full ZCPR3 compatibility
- Takes full advantage of Z80 Instruction Set with single-level re-entrance
- ZCPR3 Wheel Byte used to write-protect selected files from non-wheel users
- Handles files and disks to 512 megabytes
- Changed floppy disks automatically logged in
- Read/Only Disk status maintained after warm boot
- Read Console Buffer Function (10) has full edit and recall capability plus treats rubout (DEL) same as backspace
- File Archive Attribute Bit set by Function 30, compatible with MP/M and CP/M 3
- Support Utilities include Copy (useful for archiving and backup) plus Set and Display File Attribute programs
- Enhanced Error Messages with non-cryptic announcements
- Extended Functions (47, 50 & 52) get DMA and set/reset warm boot trap
- Z800 (ZRDOS3) version has over 47 non-CP/M Functions added to achieve easy MS-DOS program migration
- Z80 version in hex code to patch existing CP/M system @ \$74.99
- Z800 version pricing not yet established

Function 10 enhanced with full insert edit capability, command recall from buffer area, add new convenience with ZCPR3 multiple commands per line. Documentation is 45 pages of tight, unambiguous language describing each DOS function. We are only handling ZRDOS2 on 8" SSSD disks at present; if demand is high for other formats we will download.

The Z80 development system Z-Tool Packagetm is \$200.00 complete; the super mainframe-featured screen oriented dynamic debugger adds \$195.00. Again, Z800 version pricing not yet established.

Function 10 Control Codes: CTRL-E Set/Reset Insert EDIT MODE
CTRL-R Recall last entered Buffered Line

EDIT MODE Functions (active only in Edit Mode)

CTRL-S move cursor left one character CTRL-D move cursor right one character
CTRL-A move cursor left one command CTRL-F move cursor right one command
CTRL-G delete character at cursor CTRL-K clear to end of line
CTRL-T delete one command entry

ZRDOS2 editing features add new dimensions to multiple command possibilities!

Trademarks: Z80/800, Zilog; MP/M, CP/M, Digital Research; MS-DOS, Microsoft; ZCPR3, Richard Conn; ZRDOS, Dennis Wright.

5916
 5
 24P 0000 H
 600 0806 H
 6100 5600 H
 0900 0900 H

Z R D O S I N S T A L L A T I O N

ZRDOS replaces your existing CP/M 2.2 BDOS with enhanced Z80 code. It occupies same code space (14 pages, 3.5k-bytes) with installation near automatic using the install file: ZRDINS.COM.

ZRDINS contains a relocatable ZRDOS binary image. Relocation to your present BDOS base address is automatic if utility Z3INS.COM is used to install ZRDINS.COM to your ZCPR3 environment. Optionally, you may use Z3LOC.COM to determine your BDOS and Z3WHL addresses and enter them from the keyboard when ZRDINS prompts you for them.

You place a system image (using your SYSGEN program) on same disk containing ZRDINS.COM, along with debugger ZDM, DSD or DDT. You also need your ZCPR3 SYS.ENV (or Z3-Dot-Com Z3.ENV) file and utility Z3INS.COM. Again, optionally, you can use Z3LOC.COM (or SHOW.COM) to determine and your debugger to patch your environmental descriptor base address to location 10AH in file ZRDINS.COM.

Now, run ZRDINS, answer all questions, and get ready to use created file, ZRDOS.BIN, to overlay your ZCPR3/BDOS system image using your debugger. Next, SYSGEN your system from outer disk tracks to RAM. Save as file CPMnn.SYS, then:

```

DDT CPMnn.SYS<cr>      (note number of pages to later save)
IZRDOS.BIN<cr>        (set up file for insert)
R1080<cr>            (offset required)
GO<cr>              (exit)

SAVE n Z.SYS<cr>      (your full-up Z-System file)
  
```

SYSGEN Z.SYS to system tracks and boot--done!

ZRDOS.BIN is installed in Z3-Dot-Com (file Z3.COM) in a similar way:

```

DDT Z3.COM<cr>        (load existing system file)
IZRDOS.BIN<cr>        (set up binary image for insert)
R900<cr>             (read into place)
GO<cr>              (exit)

SAVE 39 Z.COM<cr>     (your Z-Com file)
  
```

ZRDOS support utilities supplied are COPY for file archiving, SFA (set file attribute), DFA (display file attribute), COMP for file comparing, DUMP to display a COM in hex, and VIEW for text file screen viewing as well as sending to the printer. These utilities, as well as all DOS functions, are explained by the online help file system, entered by typing **HELP ZRDOS1**<cr>. The 35-page **Programmer's Manual** covers all aspects of ZRDOS features.

ZRDINS.COM has two screens of installation information to assist in case this sheet is misplaced. Simply type **ZRDINS //**<cr>.



TERM III COMMUNICATIONS SYSTEM

TERM III is a communications system which runs under the Z-System (the ZCPR3 command processor with, optionally, the ZRDOS CP/M BDOS replacement). Over twenty (20) programs provide the following capabilities:

- o interactive communications with remote computer systems
- o reliable file transfer between the user's computer (host) and a remote computer
- o control of an auto-dial/auto-answer modem
- o access control for remote system applications (the user's system can be set up to be dialed into by outside users)
- o rapid and easy reconfiguration of the communications environment for different applications

TERM III is integrated with ZCPR3 and provides the Z-System user with a communications capability adaptable to a wide variety of needs and can be used in conjunction with his other Z-System tools. The TERM III programs return result codes (which indicate the success or failure of their operation) in a manner which can be examined using the IF command. TERM III programs can be employed in menus and aliases that provide commands and applications environments which are tailored to a user's specific needs. TERM III programs rely upon the environment provided by a Z-System for support. Some aspects of this support include:

- o All screen-oriented displays obtain terminal-specific information from the ZCPR3 TCAP
- o Many of the programs return result codes (via the Program Error Message in most cases) through the ZCPR3 Environment Descriptor
- o File references can be prefixed with the ZCPR3 directory reference forms (DIR or DU)
- o Path searches or direct ROOT accesses are employed
- o Messages and other attributes of the ZCPR3 environment are used extensively

The large number of features built into the TERM III System combine to provide the user with flexibility of use and adaptability to different communications requirements. Ease of use and user-friendliness are also key elements of the design. An outline of the features of the TERM III System follows:

1. Interactive Communications

- o terminal mode - the user "feels" like he is directly connected to the remote computer via a terminal
- o conversation mode - the screen is divided, with incoming characters printed in the top half and outgoing characters printed in the bottom half
- o translation tables - all incoming and outgoing characters pass through translation tables, supporting parity transmissions, masking of selected characters (such as escape sequences), and using different character sets (such as EBCDIC)
- o macro tables - ten predefined strings can be transmitted at will, using multiple tables
- o printer output - displayed characters can be queued to the printer
- o buffer load and dump - displayed characters can be stored in a memory buffer and dumped to disk, printer, or the remote computer

- o XON/XOFF recording - displayed characters can be stored in a disk file, using XON/XOFF handshaking to ensure no loss of data
 - o dynamic setting and displaying of environment variables for ease of selection of features
2. File Transfer
- o several communications protocols available, including XMODEM with Checksum, XMODEM with CRC, and KERMIT
 - o batch file transfer (sending lists of files using wild cards) available with some protocols
 - o communications server - remote system access and control from the user's system without the need for the user to issue commands to the remote system directly
3. Modem Control
- o answer the telephone and drop into the Z-System environment with a result code (phone rang or user abort)
 - o dial the telephone based on mnemonics or specific telephone numbers, built-in editor
 - o rotary dialing - dial all numbers in a directory file in sequence until one answers
 - o multiple telephone number directories
4. Access Control
- o LOGIN program
 - o selecting the attributes of a user's environment based on the user's ID; attributes include:
 - command search path
 - ZCPR3 System Segments loaded
 - startup command line
 - various Environment Descriptor data
 - wheel byte and quiet flag
 - o loading a TCAP entry based on the user's ID
5. Environment Configuration
- o use of Comm Sets (Communications Sets) which define the aspects of an environment and can be quickly loaded as needed
 - o screen-oriented editors to create and tailor Comm Sets easily
 - o automated program installation procedure with installation configuration files

TERM III was designed to meet the communications needs of the serious Z-System user, and knowledge of that operating system is required to make effective use of the combination. Three books, **ZCPR3: The Manual**, **ZCPR3 and IOPs**, and **ZRDOS Programmer's Manual**, provide detail descriptions of all Z-System functions. Prices:

Term3, with 100-page, loose-leaf manual	\$99.00
ZCPR3: The Manual, 351 pages, bound	19.95
ZCPR3 and IOPs, 50 pages, loose-leaf	9.95
ZRDOS Programmer's Manual, 35-page loose-leaf	8.95

Order from:

Echelon, Inc.
 101 First Street
 Los Altos, CA 94022
 Telephone: 415/948-3820
 Z-Node Central: 415/489-9005



Z-Msg Message Handling Program

The Z-Msg Message Handling Program is used for local and remote electronic mail, as public and private access electronic bulletin boards (BBS), inter-office memo tool and product support aid using available communication channels. Written in C Language (optimized), Z-Msg is configurable without need for recompilation, using multi-function menu for quick and easy installation. Remote communications requires use of public domain program BYE.

Ease of use and state-of-art software functionality are designed into Z-Msg. Message editing by word, phrase and line, string searching, collecting usage statistics, configurability, and security of access are engineered into the program.

From the user's perspective, major features include:

- o Commands to selectively read messages deposited since last access of system.
- o Simple method of replying to and deleting messages being read and addressed to user and also replying to other messages on system.
- o Ability to enter up to 100-line messages containing up to 80 characters per line. Values are set by the System Operator (Sysop) and depend on memory limitations of the computer system.
- o At login, messages addressed to caller/user are announced. Information includes sender's name, status of message (private or public), and if new since last access.
- o Articles and Notes commands allow user to read selected text files placed by Sysop. Extensive system information usually is found in these areas.
- o Ability to search within "fields" of message headers, e. g., find and read messages addressed to all users, those of date 1/23/85, or those having word ZCPR3 within message text.
- o Commands to read messages in reverse order, most recent first.
- o Command to only read or to restore deleted (killed) messages to active state, provided Sysop has not performed a message purge since message were deleted.
- o Automatic screen page pause, optionally turned off.

Major operational features available to Sysop:

- o Commands to add, delete, and edit user database, list of subscribers to system.
- o Save messages to disk and output to a printer.
- o Read standard text files from disk into messages being entering.
- o Flexible purge command permits convenient message database maintenance. Database may be saved to any disk/user area (directory) with automatic creation of backup file.

Matrix and modular design promote high security and access-level flexibility. Eight (8) user access categories are controlled within six (6) major functions:

- o Operating System (OS), Z or CP/M, accessibility.
- o Access of user areas within OS (assuming OS access and system is running remotely under BYE program).
- o Length of time system waits for input from user before automatically disconnecting, BYE operation assumed.
- o Ability to enter messages. All users may leave private messages to the System Operator with special commands.
- o Ability to read and delete private and public messages not addressed to user.
- o Special OS access if system uses ZCPR Console Command Processor Replacement in secure mode (WHEEL byte). Manages OS functions ERA, REN, COPY, PATH, PEEK, POKE, and other commands.

Price for object file package is \$99.95. Source code is an additional \$100. The Z-Msg manual may be purchased separately for \$20.00. \$3.00 covers shipping and handling. If you purchase source and make changes, Manx Aztec C (v1.05g) is required for compilation.

Available directly from:

Echelon, Inc.
101 First Street
Los Altos, CA 94022
Telephone: 415/948-3820

Z-TOOLS DESCRIPTION

Macro Relocating Assembler, Translators, Disassembler, and Debuggers

Z A S

Universal, fast assembler producing Microsoft and Digital Research compatible REL files or Intel compatible HEX files. Linkable REL files allow modular, efficient programming. You're not limited by memory size; you can write extremely large programs, with small modules that are easy to debug. Using proven subroutines from libraries SYSLIB3, VLIB and Z3LIB, structured program generation is made easy.

Compatible with Microsoft and Digital Research assemblers, MAC, RMAC, Macro-80 (M80) and Link-80 (L80), ZAS also handles all Hitachi HD64180 instructions. You have access to Assembly Language programs and macro libraries available through public domain software sources, such as Z-Nodes, RCP/M's and SIG/M. You can write your BIOS using Z80 instructions for faster execution! Generates standard Digital Research SYM files useable by DSD, SID and ZSID debuggers.

Features: handles full Zilog/Hitachi instruction sets; MACLIB and INCLUDE for inserting macro libraries; separate data, program, absolute, and common code spaces for advanced program generation; nested conditional program source options; linking loader generate COM files and full-feature library manager for subroutine control.

Supplied source-code converter permits convenient upgrading of existing programs to use Z80 instructions. By automatically converting 8080 and TDL/CDL mnemonics to Zilog, tedious manual or macro conversion with your editor is no longer necessary. Requires using Z80 or HD64180 microcomputer system.

I T O Z - Z T O I - I T O T - T T O I

Complete set of four (4) translators to convert popular mnemonic sets to that desired: extended Intel, TDL, CDL, Xitan and Zilog.

Most pseudo-ops used by Intel, Microsoft, Digital Research, TDL and Zilog are converted. Those not handled may be added using a supplied utility, thus stopping error reporting (exact one-for-one conversion).

Extremely quick compared to hand translation using program editors. Extremely useful tool for those using many different mnemonic sets.

R E V A S 3

Professional Z80/8080/NSC800 disassembler producing source code from object code!

REVAS3 interactively helps you analyze your software for modification, disassemble files as large as 64k-bytes, assign real labels in process, insert comments, and generate a cross reference listing.

Sixty-page manual shows how the powerful REVAS3 command set gives you instant control over I/O to files, printer, and console. Also shows how to do a disassembly and how the disassembler works. Program has online help, choice of assembler mnemonics, control of data interpretation, and calculation in any number base. Requires Z80 or equivalent microprocessor.

Dynamic Debuggers

Z D M / Z D M Z / Z D M H

Greatly enhanced standard operating system debugger and monitor using familiar command set. The Pontiac of debuggers allows string searches in ASCII or hex with full I/O port communications.

Commands permit showing only branch instructions: jumps, calls, returns, restarts, and PCHL, speeding debug cycles. Able to send all console output also to printer.

Command prompts are used to assist operator in performing functions, reducing mental overhead. Total of twenty-one (21) commands.

Works with both extended Intel (TDL/CDL/Xitan), Zilog, and Hitachi mnemonics. Runs with Z80 and HD64180 microprocessors and only uses 4k-bytes of memory!

D S D

The Cadillac of debuggers--none better! Full-screen debugging for NSC800, Z80, 8085, and 8080 microcomputers with simultaneous instruction, register, stack and two memory displays. Symbols and labels are used along with terminal screen highlighting indicating where registers point! Auto-installation to ZCPR3 TCAP file.

Integral Software In-Circuit-Emulator provides many capabilities of expensive hardware I.C.E. but with no wires to attach. You can single step or breakpoint in ROM, write protect RAM, set code execute only, protect the stack from overflows, catch illegal instructions, and watch memory locations and registers. The emulator can do some things that even hardware I.C.E. can't do, like breakpoint on arbitrary conditions or identify when a LDIR instruction is going to overwrite protected memory locations before it occurs.

Provides complete support for symbol files generated by ZAS, MAC, RMAC and Macro-80 (M80) assemblers. You may enter or delete new symbol definitions on the spot, works with large symbol files.

Superset of ZDM and DDT commands, no need to learn new basic functions. Ready to be used effectively in minutes after installing.

Other features: In-context online help, save memory into a file, single step over subroutines, configure to use any RST as breakpoint, string searches, port I/O, view disk files, and uses only 16k-bytes of memory.

Works with extended Intel (TDL/CDL/Xitan) and Zilog mnemonics and runs on 8080, Z80, NSC800, and HD64180 computer systems.

Notes: Echelon Z-Tools are updated at nominal charge to handle the extended instruction sets of Hitachi HD64180 and when available, Zilog Z800. (Program names are trademarks of their respective authors and owners.)

Rev. 7/15/85



Echelon, Inc.

101 First Street • Suite 427 • Los Altos, CA 94022

Dynamic Debuggers

Z D M / Z D M Z

Greatly enhanced standard operating system debugger and monitor using familiar command set. The Pontiac of debuggers allows string searches in ASCII or HEX with full I/O port communications.

Commands permit showing only branch instructions: jumps, calls, returns, restarts, and PCHL, speeding debug cycles. Able to send all console output also to printer.

Command prompts are used to assist operator in performing functions, reducing mental overhead. Total of twenty-one (21) commands; requires Z80 microprocessor.

Works with both extended Intel (TDL/CDL/Xitan) and Zilog mnemonics. Runs with Z80 microprocessor and only uses 6k-bytes of memory!

D S D

The Cadillac of debuggers--none better! Full-screen debugging for Z80, NSC800, 8085, and 8080 microcomputers with simultaneous instruction, register, stack and two memory displays. Symbols and labels are used along with terminal screen highlighting indicating where registers point!

Integral Software In-Circuit-Emulator provides many capabilities of expensive hardware I.C.E. but with no wires to attach. You can single step or breakpoint in ROM; write protect RAM; set code execute only; protect the stack from overflows; catch illegal instructions and watch memory locations and registers. The emulator can do some things that even hardware I.C.E. can't do, like breakpoint on arbitrary conditions or identify when a LDIR instruction is going to overwrite protected memory locations before it occurs.

Provides complete support for symbol files generated by ZAS, MAC, RMAC and Macro-80 (M80). You may enter or delete new symbol definitions on the spot, works with large symbol files.

Superset of ZDM and DDT commands, no need to learn new basic functions. Ready to effectively in minutes after installing.

Other features: Online help, save memory into a file, single step over subroutines, configure to use any RST as breakpoint, string searches, port I/O, view disk files, and uses only 16k-bytes of memory.

Works with extended Intel (TDL/CDL/Xitan) and Zilog mnemonics and runs on both 8080 and Z80 microprocessor systems.

Note: All Echelon Z-Tools will be updated at nominal charge to handle the extended instruction sets of Hitachi HD64180 and Zilog Z800 superchips. (Program names are trademarks of their respective authors and owners.) 2/18/85



101 First Street • Suite 427 • Los Altos, CA 94022

Z-TOOLS DESCRIPTION

Macro Relocating Assembler, Translators, Disassembler, and Debuggers

Z A S

Universal, fast assembler producing Microsoft and Digital Research compatible REL files or Intel compatible HEX files. Linkable REL files allow modular, efficient programming. You're not limited by memory size; you can write extremely large programs, with small modules easy to debug. Using proven subroutines from SYSLIB3, VLIB and Z3LIB, structured program generation is made easy.

Compatible with Microsoft and Digital Research assemblers, MAC, RMAC, Macro-80 (M80) and Link-80 (L80). You have access to Assembly Language programs and macro libraries available through public domain software sources, such as Z-Nodes, RCP/M's and SIG/M. You can write your BIOS using Z80 instructions for faster execution! Generates standard Digital Research SYM files useable by DSD, SID and ZSID debuggers.

Features: handles full Zilog instruction set; MACLIB and INCLUDE for inserting macro libraries; separate data, program, absolute, and common code spaces for advanced program generation; nested conditional program source options; linking loader for creating executable COM files and library manager for complete subroutine control.

Convenience source code converter supplied permits upgrading existing programs to use Z80 instructions. By converting 8080 and TDL/CDL mnemonics to Zilog automatically, tedious manual or macro conversion with your editor is no longer necessary. Requires using Z80 microcomputer system.

I T O Z - Z T O I - I T O T - T T O I

Complete set of four (4) translators to convert popular mnemonic sets to that desired. Extended Intel, TDL, CDL, Xitan and Zilog, plus many undocumented Z80 instructions are correctly handled.

Most pseudo-ops used by Intel, Microsoft, Digital Research, TDL and Zilog are converted. Those not handled may be added using a supplied utility, thus stopping error reporting (exact one-for-one conversion).

Extremely quick compared to hand translation using program editors. Extremely useful tool for those using many different mnemonic sets.

R E V A S 3

Professional Z80/8080/NSC800 disassembler producing source code from object code!

REVAS3 interactively helps you analyze your software for modification, disassemble files as large as 64k-bytes, assign real labels in process, insert comments, and generate a cross reference listing.

Sixty-page manual shows how powerful REVAS3 command set gives you instant control over I/O to files, printer, and console; how to do a disassembly; and how the disassembler works. Also received is online help, choice of assembler mnemonics, control of data interpretation, and calculation in any number base. Requires Z80 microprocessor.

21 January 1985

Z-NODE CONCEPTS

Z-System has introduced increased performance from 8-bit Z-80 microcomputers, while maintaining absolute CP/M-80 compatibility. Z-Node is conceptually mind expanding. Each node runs secure ZCPR3 and ZRDOS with Term3 and Emsg for auto-handling of global (Earthly) message distribution (post electronic mail).

Nodal communications system is implemented in three phases:

- 1) Use Z-System (ZCPR3 and ZRDOS, or Z-Com if more convenient) as operating system. Any message handling package is acceptable in this phase, although we recommend METAL from Delphi Data Systems (Mountain View, CA). METAL is by far the best BBS system at this time. We are presently in this phase and software is off-the-shelf.
- 2) Add Term3 as the telephone answering module replacing the ubiquitous BYE. And when available add Emsg (having geography tables for off-hour automatic node-to-node message relay) to replace existing CBBS, RBBS, RIBBS, Oxgate, DataTech, or METAL. Half of this phase should be completed in about two months. Emsg will likely take until near end of summer.
- 3) Connect with ham radio packet network and its new data relay satellite to be operational in about 18 months. This phase will be completed (using existing ham microwave packet networks) as fast as interfaces are understood between radio and dial-up telephone circuits.

Echelon will give you Z-System if you commit to use it on your existing (or planned) system, fully replacing CP/M. We will also give you Term3 and Emsg as they become available. For this to happen you must sign (a license agreement) a statement you will not pass along to others the software we provide for your system: neither give, trade nor sell to anyone.

If you are interested in supporting Z-System activities and agree to general principles noted above, please write (and we do prefer you write) or call:

Echelon, Inc.
101 First Street
Los Altos, CA 94022
Telephone: 415/941-2219



Z-System LIST PRICES -- effective 17 January 1985

Operating System Modules

<u>Item</u>	<u>Price</u>
01. ZCPR3 tm Core Starter Kit contains source to permit manual installation of ZCPR3 CCP (console command processor) and its buffers using MOVCPM, DDT, MAC and SYSGEN. Loose leaf 173-page Installation Guide (Sampler) included, with 20 utility programs in binary form (6/1/84)	\$39.00
02. ZCPR3 Utilities Package consists of 70 programs in both binary and source code form. Combined with Item 01 forms complete command processing subsystem. Online (over 400k-byte) help system included (6/1/84)	\$89.00
03. Z3-Dot-Com tm is the auto-install version of ZCPR3. Package contains all binary utility programs released to date, complete system. Secure versions available. Installs in four minutes or less; full online help files, 52-page loose leaf tutorial (9/15/84)	\$149.00
04. Z3-Dot-Com on one disk for those who already have Item 02 and wish to add auto-install to their collection (9/15/84)	\$49.95
05. Z-Com tm same as Item 03 but with Item 09 added (1/28/85).....	\$199.00
06. Z-Com same as Item 04 but with Item 09 added (1/28/85)	\$99.00
07. Z-Com same as Item 03 but with Item 10 added (3/8/85)	\$224.00
08. Z-Com same as Item 04 but with Item 10 added (3/8/85)	\$124.00
09. ZRDOS tm improved BDOS in hex, with six support utilities: copy for file backup and archiving, set and display file attributes; file compare, dump, and bi-directional viewing. Upward compatible with CP/M-80. 66k-bytes of online help for both functions and utilities, plus 35-page loose leaf manual for programming system functions (1/9/85)	\$49.50
10. ZRDOS2 same as Item 09 but with single level re-entrance, function 10 full command line editing and buffer recall, get DMA address, and 512-megabyte maximum file and disk sizes, 45-page loose leaf manual (2/28/85) ...	\$74.99
11. ZRDOS3 for Z800, multi-tasking, large memory address space usage, permits easy application program migration from MS-DOS, etc. (prices not yet established, are controlled by release date of Z800 microprocessor chip)	

Z-Toolstm (Software Development System Utilities)

20. Relocating Z80 Macro Assembler (ZAS tm) for Zilog mnemonics, includes linker (ZLINK tm) and librarian (ZLIB tm), compatible with ASM, MAC, RMAC, M80, and L80; supports ZCPR3 flow control conditional assembly error testing; 55-page loose leaf manual	\$95.00
21. Z80 Debugger and Monitor (ZDM/ZDMZ tm) dynamic trouble-shooting, patching in both Intel and Zilog code; DDT command compatible, 12-page loose leaf manual (1/25/85)	\$50.00
22. Translators (ITOZ tm) convert Intel to/from Zilog and CDL/TDL mnemonics; automatic conversions, table design permits easy pseudo-op additions with utility supplied; doc files on disk (1/25/85)	\$51.00
23. Disassembler (REVAS3 tm) handles 5 popular Intel and Zilog mnemonic sets, best and easiest disassembler to use, with 60-page manual showing how to disassemble and how disassembler works (2/1/85)	\$90.00
24. Z-Tools tm Package of Items 20 thru 23 above; \$286 value	\$200.00
25. Dynamic Screen Debugger (DSD tm), a full screen symbolic debugging program; shows flags, cpu registers, stack and memory; software In-Circuit-Emulator; DDT upward compatibility and other useful features; with 53-page loose leaf manual	\$195.00

<u>Item</u>	<u>Price</u>
26. Syslib3 tm Library contains over 210 assembly language subroutines used to write ZCPR3 utilities. Designed for use with macro assembler and linker. Full online help describes use of each subroutine and makes a printed manual unnecessary; source code provided (6/1/84)	\$29.00

Input/Output Package Segments

40. Input/Output Recorder (I/OR tm), redirector outputs to/from console or to printer to default file, controlled by ZCPR3 RECORD command, 1.5k-byte segment, ZRDOS2 req'd (3/7/85)	\$69.95
41. Print Spooler (BPrinter tm), deluxe background single-file printing with no change in TPA size, 1.5k-byte segment, ZRDOS2 req'd (3/7/85)	\$39.50
42. Key Translator (PKey tm) key strokes converted to command strings, saved as loadable files; programmable function key generator works with either ZRDOS or ZRDOS2; 1.5k-byte segment (1/28/85)	\$39.95

Lasting-Value Softwaretm (Applications)

60. Discat tm efficiently maintains and catalogs floppy and hard disk files for easy recall; modular, menu-driven, 67-page instruction manual, fancy and easy to use (8/24/84)	\$49.00
61. Term3 tm provides full facilities for communicating with other computers, terminals, and information services. Modular, menu-driven with extreme flexibility for automatic operations; phone auto-answering	\$99.00
62. Document Maintenance Manager (MaintMan tm) audits trail of text changes, disk space efficient and menu-driven	\$99.99
63. Emsg tm permits mail, message management and data transfers between two or more sites using Z-System	(price not yet established)

Documentation

80. Sampler is an Introduction to ZCPR3 and Installation Guide, 173 pages, loose leaf (6/1/84)	\$12.00
81. ZCPR3: The Manual is bible of ZCPR3 and its utilities, over 300 pages, typeset, bound book. Recommended purchase. \$24.00 if ordered alone, but includes fortnighter Newsletter; without Newsletter	\$19.95
82. ZCPR3: The Libraries describes VLIB, Z3LIB, and SYSLIB3, three libraries of assembly language subroutines used to write ZCPR3 utilities. Very powerful; teaches structured, quick-writing of programs (no price yet)	
83. Z-System Fortnighter Newsletter (Z-News) automatically received for 6 months by EI customers ordering \$39.00 or more software, or for one year with \$35.00 user-support (free-ware) donation. Newsletter per year after complementary period or per direct order (7/23/84)	\$24.00

Notes:

- a. Some Items not available on some 5" disk formats.
- b. Date in parentheses is Item first shipment date; if none, shipment not presently scheduled, but soon will be.
- c. Items 05 thru 10, 20 thru 24 require use of Z80 computers.
- d. Programs with "tm" superscript are copyrighted by, and trademarks or registered trademarks of, Echelon or their authors; CP/M, DDT, MAC and RMAC, are of Digital Research; M80 and L80, of Microsoft.



Echelon, Inc.

101 First Street • Suite 427 • Los Altos, CA 94022

MEMORANDUM

11/11/85

Date: 21 October 1985
To: Z-Node Resellers (Downloaders)
From: Echelon, Inc.
Subject: Downloader Central Established

Hereby, New and old alike, Richard Rodeheaver, Z-Node #14, in Reynoldsbury, Ohio, has been chosen as Z-Node Downloader Central. What this means is you have a central location from which to obtain the latest Echelon proprietary software by downloading.

This should prove more cost effective from our standpoint, and more timely for you, though you will incur some line costs you don't have now, everything should be less frustrating and more efficient. We have not been able to keep you updated by direct mail with disks--we've simply been too busy with customers or potential customers, especially potential OEMs (original equipment manufacturers). We have determined that for us to survive we must have at least ten (10) major computer makers (like Micromint) supply Z-System with their hardware. We have three presently: Appro, Onasac, and Micromint. We believe we will have two more by December. More on them as we can tell of them.

Several value added resellers (VARs) handle our product. We have a full-time distributor in Europe, Wild West (Europe) S.A.R.L., owned by Robert Kubram, Z-Node #26, who speaks about five languages (and has a beautiful French wife, Nicole. Wonder if they take white Zinfandel). IT is on the move!

So from now on, dial Rich at 614/864-2873, and enter password **RAVEN** when requested. From there you will receive a special individual password for access to the Echelon proprietary directory where the LBR files for each download "disk" is kept. For example, if you need ZAS and all its support files, look for ZAS.LBR. TERM3.LBR has two libraries, TERM31.LBR and TERM32.LBR. The libraries will be 250K-bytes each or less, depending on the subject.

If you wish to speak to Rich on voice, call 614-864-2835.

We appreciate his every effort to assist you and us. He says he is having fun, as we are! Rich also believes in the 8-bit renaissance that appears to be starting. We have worked hard for that day, but even if it never comes we will have done what we had to do. You all have been already part of significant history. Your names are written on the skin of time.

Mark

ORDER FORM

1. Name _____ Date _____

Street _____ Telephone _____

City _____ State _____ Zip _____

2. Z80 CP/M based computer? (yes/no) Computer type/brand _____

3. Disk Format: 8 inch SSSD IBM 3740 standard (yes/no)
or
5 1/4 inch, 40 tracks, soft-sectored, single-sided double-density: (yes/no)

Computer format: Kaypro Osbornel Epson QX-10 Heath/Zenith 89/90/100
(check one) Ampro Morrow Apple CP/M Northstar CP/M (hard)

Any special instructions? _____

4. Ordering: (see LIST PRICES Sheet)

Item Number & Name	Quantity	Unit Price	Extension
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Subtotal \$ _____

If California, add 6.5% sales tax _____

Shipping & Handling charges: add \$3.00 if continental USA; \$5.00 for Hawaii, Alaska, Canada or Mexico; or \$12.00 if International address.

S&H \$ _____

Payment: Money Order, Check or Credit Card (UPS COD's acceptable) **TOTAL \$** _____

VISA/MC _____ Expiration date _____

Bank number if MC _____ (Please print order clearly, thank you.)



Echelon, Inc.

101 First Street • Suite 427 • Los Altos, CA 94022



Rev. 01/17/85

VOLUME DISCOUNT SCHEDULE

Quantity:	1-4	List Price	\$100.00 (example)
	5-49	30%	70.00
	50-249	50%	50.00
	250-999	55%	45.00
	1000-4999	60%	40.00

Exceptions: **ZCPR3: The Manual and The Libraries** (no discount on **Sampler**)

5-49	25%	of prevailing list price		
50-249	33%	"	"	" "
250-4999	40%	"	"	" "

General Terms and Conditions

1. Discounts based on yearly volume with any mix. Minimum order of five (5) for quantity discount to apply. Dealer inquiries welcomed.
2. Special quantity prices may be negotiated for software without media, labels, serialization, documentation, or with binders. Write with detail requirements to receive our proposal. OEM and VAR Agreements available.
3. Echelon software is licensed on "per computer" basis. Syslib3 is licensed for non-commercial distribution only, not to be resold with other software and not to be sold, bundled with hardware. No restrictions on binary code produced with SYSLIB3.
4. Terms FOB Los Altos, CA. Payment by cashier's check, money order, Visa or Mastercard. Personal and company checks cause delivery delay. (COD's collected by UPS accepted.)
5. Shipments via US Postal Service (Priority) unless special request. Orders are completed on business day following receipt, if product is in stock. Allow 10 days from date of shipment for delivery in continental USA and Canada; other areas may take longer.
6. Prices may change without notice.

Echelon, Inc.
101 First Street
Los Altos, CA 94022
Order Desk Telephone: 415/948-3820

Technical Assistance: 415/941-2219, 2 - 8 pm Pacific Time only, please.

Your CP/M-80 becomes THE definitive 8-bit Operating System

ZCPR3 SETS YOU FREE!

- Command Line IF-ELSE-GOTO, Job Flow Control Automation
 - File, Disk, Memory, and System Status Utilities, all online
 - Named Directories, each with optional password access
 - Dynamically loadable Resident Command Packages
 - Error Handling Packages, graceful recoveries
 - Screen-oriented Menu Generators
 - Complete online HELP system
 - SHELLS, with shell variables
 - File Search Paths, organize your system
 - Multiple Commands per Line, program chaining
 - Aliases, eliminates complex keystroke entries, nestable
 - Shell generator, make any application program a SHELL
 - Terminal Install utility, uses UC Berkeley TERMCAP database

ZCPR3 permits highest productivity while providing flexible system control and maximum usability. It's terrific! The utilities create a tool-set environment that's hard to beat even by large main-frame machines. You are free to do what you want in the way you want. Try it and see if you don't agree. Newsletter, User Group and 24-hour bulletin board report ZCPR3 community activities.

VISA/MASTERCARD, check or money order accepted. Specify disk format desired. Add \$3.00 shipping and handling. Calif. add 6.5% sales tax. Phone or send order now to Echelon, Inc. — your single source for ZCPR3 related software, support and documentation. We market programs taking full advantage of ZCPR3 capabilities; send us yours for evaluation and report.

1. CORE CP/M CCP REPLACEMENT MODULE

Starter-kit utilities on 2 disks, plus 173-page SAMPLER documentation only \$39.00

2. ZCPR3 UTILITIES

Complete, full source on 8 disks \$89.00

3. Z3-DOT-COM

Auto-install ZCPR3. Load-and-go, complete full-up ready-to-run system on 4 disks \$149.00

4. ZCPR3: THE MANUAL

Lavish, typeset, over 300 pages \$19.95

5. SYSLIB3 MACRO LIBRARY

Used to write most ZCPR3 utilities, documentation and full source on 4 disks \$29.00

6. DISCAT

Menu-driven disk and file catalog system under ZCPR3 ... \$49.00

Trademarks:
CP/M, Digital Research
ZCPR3, SYSLIB3, Richard L. Conn
Z3-Dot-Com, Alpha Systems Corp.
DISCAT, Echelon, Inc.



Echelon, Inc.

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