

THE FREE TCS LETTER IS A CLUB PROJECT OF
THE TIDEWATER TRS-80 USERS GROUP

PUBLISHED ON SNOWY WEEKENDS ----- MARCH 1980

WELCOME to another issue of TCS where new meaning is given to the term "packed information". A block of about 200 of you regular readers were accidentally left out of the last mailing in December so we had more copies printed and hope you finally got them. If not, please let us know.

NEWS TIDBITS

It has been reported from several sources that a low cost Japanese replica of the TRS-80, to be called the TRZ-80, will be introduced in this country this year. This may or may not be the same one coming from Nippon Electric Co. Ltd. which sounds similar except that it will support a color display. It is already being shipped in Japanese markets.

That may explain the possibility of a new computer from Radio Shack, to be called a TRS-90 or TRS-80/COLOR, which could appear before the Christmas season this year. A spokesman said there was no firm decision to make the product yet but if so it would probably have color and a built-in floppy like the Model II although compatible with Model I software. Rumors say it will be use a 6809 in place of the Z80 and contain several special function IC's by Motorola. Some say the special chips are to be used to prevent other manufacturers from making add-ons but we think they would be for design simplification, reliability, lower power requirements, smaller size and to keep manufacturing costs down.

The Amateur Radio Research and Development Corporation (AMRAD) is an amateur radio and computer society headquartered in Washington, DC. They are conducting a survey of computer bulletin board type systems in order to publish a directory to sell for \$1 and also to study the possibility of linking systems together via amateur radio. Individuals connected with the operation of existing message systems should request a questionnaire from David Bordon, Pt 2, Box 233B, Sterling, VA 22170

HINTS

POKE 16396,23 will disable the BREAK key in Level II BASIC programs but will hang up the computer in Disk Basic. The magic number to use in NEWDOS+ is POKE 23461,0 although that doesn't work with TRSDOS.... ELSE is stored as two bytes in memory, 58 and 149. 58 is a colon in ASCII so even though it's not printed, you never need to use one before an ELSE statement in a multi-statement line.... If you are bringing your system up to 32K by adding your own memory, use sockets Z9 thru Z16 in the expansion unit. Z1 thru Z8 are for 48K, the reverse of what you would expect.... UBETT is another disk password we've heard about.... For NEWDOS+ users, LBY4 is the password that will allow access to SYS files if you want to kill unneeded ones from new disks.... When does A = .8 + .1 not equal .9? It may look right in a PRINT statement but won't compare in an IF/THEN statement. Try it. But without defining A as double precision, you can say A = .8D0 + .1D0 and it will equal .9 because the D is a Type Declaration character for double precision with the following zero indicating exponential notation. See page A2 of your reference manual.... The print head in the OKIDATA CP110 is an IPM129 made by Victor Business Products of Chicago and the difficult to obtain TIP111 darlington driver transistor can be replaced with a 2N6388.... Early diskettes from Radio Shack which have been reported to cause disk errors have a brownish color. The latest ones having a black color are improved.... "Variables got legs" according to OCTUG's Barry Mulligan. Use each variable at least once (example, A = 0) BEFORE using the VARPTR command. Otherwise it may return an address that could be shifted later to make room for a different variable being used for the first time.... NEWDOS+ users can rename a disk anytime after it is created by using SUPERZAP's DD function. The disk name is located on track 17 (hex 11), sector zero, D0 thru D7 and can be changed to any eight ASCII characters including those previously recognized as delimiters.... The INKEY\$ command is a slick way to input data one character at a time but sometimes it causes randomly blinking half-inch gaps in raster lines which is particularly bothersome when the screen is displaying large blocks of graphics or text. That can be eliminated by writing the INKEY\$ statement like this:

```
100 IFPEEK(14463)=0THEN100ELSEX$=INKEY$:IFX$=""THEN100
```

NEW HARDWARE PRODUCTS

EVENTIDE CLOCKWORKS of New York is selling a real-time audio spectrum analyzer that works with the TRS-80.... PERCOM DATA COMPANY is offering high resolution color graphics with their Electric Crayon interface which connects to your printer port. It's \$249 and has several options.... VISTA has an Expansion Module for \$239 which will double the amount of data you can fit on a 40-track diskette if used with one of their drives.... OKIDATA has a new 9x9 dot matrix printer which includes exact replicas of your graphics. It's \$945 and we've seen a sample printout. It's beautiful.... Joysticks for \$15, a joystick interface for the TRS-80 at \$65 and programs using them are available from CREATIVE SOFTWARE, BOX 4030, MOUNTAIN VIEW, CA 94030.... 2-1/2 and 4-1/2 port serial interfaces, for \$395 and \$695 respectively, support all aspects of communication modes for each channel and are software programmable. Also available is a cassette tape monitor with some unusual features for \$79.95. Write AES COMPUTERS, 118 SOUTH LOARA, ANAHEIM, CA 92802....

NEW SOFTWARE PRODUCTS

MICROSOFT of Bellvue, Washington is offering TRSDOS-compatible versions of COBOL and BASIC compilers for the Model II TRS-80 for \$750 and \$395 respectively. They are also a distributor now for LISP-79, a programming language widely used in the field of artificial intelligence, and muMATH-79, a sophisticated modular symbolic math package. Those are \$250 each, produced by SOFT WAREHOUSE of Honolulu.... SMARTTERM is a software package that will turn the TRS-80 into an intelligent terminal. It's got a new keyboard driver with auto-repeat and 16 programmable keys, a display driver with multi-page scrolling and special cursors that allows transmission of selected portions of displayed text, and is compatible with TRSDOS, VTOS and NEWDOS. \$79.95 from MICRON, 10045 WATERFORD DR, ELLICOTT CITY, MD 21043.... B17 is a utility program that will save and load tapes at 2125 baud or about 3 times faster than normal. It's \$25 from ABS, PO BOX 8297, ANN ARBOR, MI 48107.... MicroGnome CAIWARE is software that allows teachers to create their own computer aided instruction programs with special techniques. Two versions are \$24.95 and \$44.95 or a manual alone for \$9. Details from FIRESIDE COMPUTING, 5843 MONTGOMERY RD, ELK RIDGE, MD 21227.... Make money in your spare time by processing data for Amway distributors in your area with a series of four programs for \$24.95 that don't require a disk or a printer. Available from BLECHMAN ENTERPRISES, 7217 BERNADINE AVE, CANOGA PARK, CA 91307.... PACKER is a utility program highly recommended by local users. It allows you to break up BASIC programs with multi-statement lines into individually numbered lines for analysis, move blocks of statements around at will, selectively renumber and pack programs by removing every non-essential character, space and remark. A real value from COTTAGE SOFTWARE, 614 N. HARDING, WICHITA, KS 67208....

FROM RADIO SHACK

A new item is the mini-disk library case (26-1452) at \$3.95 for proper storage of your disks.... The new "daisy wheel" printer (26-1157) for letter-quality printing should be available by the time you read this and just in time for SCRIPTSIT (26-1505 for tape or 26-1563 for disk), their new word processor which is better than Electric Pencil according to some who have already switched over.... The Standard & Poor's Portfolio Management and Security Selection program (26-1507) listed in the RSC-3 catalog as being available in December is still not ready and Radio Shack could not provide us an estimated delivery date. When it becomes available, this \$49.95 software package (which requires 32K and two disks) will be capable of being used with the S&P STOCRAK Data Service. A \$200 annual subscription to that service will provide you with a monthly disk containing the latest data in about 30 categories for about 900 common stocks.... The "legal" lowercase mod is finally available for \$99. It uses the same hardware technique as other mods but includes a new character generator in place of the MCM6670P to lower the a, g, j, p, q, y, comma and semi-colon. The numbers on it are 80466Z3 and SCM37530P (or L) and made by Motorola who, by the way, will assign a special part number (starting with the letter S) to an otherwise standard part for the purpose of preventing it from being identified. Whether or not this is the case with the character generator is not yet known but someone will figure it out since Radio Shack will not sell it separately....

MISCELLANEOUS NEW OFFERINGS

Quick reference guides for Level I BASIC and Level II BASIC are available for \$.95 and \$1.95 respectively plus \$.50 P&H from MURNANE AND ASSOCIATES, 1056 METRO CIRCLE, PALO ALTO, CA 94303....

TCS FREE BULLETIN BOARD

Free ad space is donated by TCS. A small percentage of any profits that result will be appreciated to help continue this service but there is no obligation.

WANTED - SOFTWARE FOR HELPING HANDICAPPED PEOPLE. We are searching for teaching aids for handicapped kids like our son who is retarded due to Cerebral Palsy. Does anyone know of a way to allow the computer to respond to unintelligent sounds and convert them into intelligent speech via Computalker CT-1? All info must be free to all handicapped people. Thank you. BRUCE KOPCSO, 3970 GLORIA LANE, CARLSBAD, CA 92008

PERSONAL AND SMALL BUSINESS COMPUTER INSURANCE - Protect your investment from unforeseen disaster. Details from EDMUND F. LEES INSURANCE, 413 W. MAPLE AVE, MERCHANTVILLE, NJ 08109

TRS-80(tm) SYSTEMS - Used/New - Buy/Sell - Reasonable prices - Money-back Guarantee. Discounts on all new units. Immediate CASH available for used units. OMNI SYSTEMS ASSOCIATES, BOX 632, W. CALDWELL, NJ 07006. (201) 226-9185 evenings.

PROGRAMS FOR SALE OR EXCHANGE - Following \$1 each if you supply a good original program, else \$3 each + \$2 for cassette if you don't include one: RENUMBER, VARIABLE FINDER, VARIABLE CHANGER, CHECKBOOK BALANCER, AUTO PHONE DIALER, BINARY-DECIMAL-HEX CONVERTER, MORSE CODE GENERATOR, OTHELLO, Z-80 DISASSEMBLER (BASIC). All Level II 4K. JACK DECKER, 1804 W. 18TH #155, SAULT STE. MARIE, MI 49783

BUILD THE E-Z LOADER - a data pulse reprocessor that solves most Level II tape loading problems, completely external to computer because it's merely inserted between tape machine's output and computer's tape input. Etched & drilled glass epoxy circuit board plus full instructions & diagram, \$6 + SASE. PAUL GOELZ, 2228 MADISON PL, EVANSTON, IL 60202

CUSTOM BUSINESS PROGRAMMING - contact for details. L. LANGELEIR SR., 737 ISLINGTON ST, PO BOX 422, PORTSMOUTH, NH 03801

COMPLETE PROFIT-SHARING & MONEY-PURCHASE PROGRAM - Accepts all employee data, determines eligibility and vesting, allocates contributions, provides all info for final reports. 100% guaranteed or money back without question. JAMES H. POLLARD AND ASSOC., INC., SUITE 306, ONE INVESTMENT PLACE, BALTIMORE, MD 21204. (301) 825-8181.

BOWLSTAT - A disk version of my previous BOWLAVG for tape systems but with additional features. Creates, lists and graphically displays accumulative records of personal league bowling performance for self-evaluation using some fancy BASIC programming techniques. Supplied on tape for \$15 or send \$1 for documentation and sample displays. LES LOGAN, 436 WARNER CIRCLE, NORFOLK, VA 23509

TRS-80 machine language driver program for Heath H14 printer using standard Radio Shack RS232 Interface. Control size of print and lines per inch by software. Automatically moves itself to top of memory and protects itself. Compatible with 16, 32 or 48K. Prints the up arrow correctly. \$15 for cassette or disk version. BAF SOFTWARE, PO BOX 5105, VIRGINIA BEACH, VA 23455

MODEL II USER GROUP has been started. Contact PETER DALY, 430 JEAN ST, MADISON, WI 53703

ORIGINAL PERSONAL PROGRAMS FOR SALE - RESISTOR INVENTORY: 3 program set for electronic shop or hobbyist, 4K, \$29.95; **COMMODITY POINT & FIGURE GRAPH:** for line printing X & O format of data derived from open, hi, lo, close figures, 16K, \$120; **INTERPOLATION CURVE X,Y PLOT:** selectable division markers, multiple curves, expandable or compressible, 4K, \$18; **OPEN PEN SUMMARY:** for cattlemen or feed lot yards, inventories, averages, estimates, hedge price, etc, format options for printouts, 32K disk, \$49.95; **SHORT/LONG TERM CAPITAL GAINS & LOSS:** provides printout, 4K, \$14. DAVE WOOD, 917 W. COLORADO AVE, COLORADO SPRINGS, CO 80905

USER GROUPS - Send us a flyer (or we'll make one up from information you provide) and make copies for anyone who contacts us from your area. It should include the time and dates of your meetings, the meeting place, the phone number of a contact and anything else you want to say in it. This is a free service of TCS.

TRS-80* HARDWARE - SOFTWARE - SUPPLIES

DISKETTES

10 Per Box

Mini-Disks

Scotch	\$36.50
Verbatim	33.50
Memorex	34.50

MOD II Maxi-Disks

Verbatim FD 34-8000 \$56.50

DISK DRIVES

MPI-51 40-Track Drive with auto-eject, door lock, Power Supply, and Cabinet. Runs all 35-track software. \$365.00

PRINTERS

Anadex DP-8000 112 CPS tractor-feed bi-directional printer with Model 1 connecting cable. \$945.00

Comprint 912-GP 225 CPS friction-feed printer with built-in cable for Model I. \$595.00

Eight-Inch wide electro-sensitive paper for Comprint. \$9.65/roll

PRINTER PAPER

Tractor-feed
8½ X 11 Inches Fan-Fold
500 Sheets Per Pack
\$12.95/Pack

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3½ X 15/16 Inches
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5000 labels per box
\$18.95/Box

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Five-Screw Shells
Plastic Boxes
C-12's \$16.00/Dozen

PROGRAMMING

Write For Brochure

TERMS

Cash With Order

SHIPPING

UPS Freight Collect

COMPUTER GENERATED DATA
700 Baker Road Suite 115
Virginia Beach, Virginia 23462
804-497-1185

*TRS-80 is a trademark of Tandy Corp.

PUBLICATIONS

TRS-80 DISK AND OTHER MYSTERIES by Pennington (132 pg. \$22.50 + 1.00 P&H) is a big favorite around here. This is what you need to understand disk operation, how to recover "lost" data, etc. At computer stores or direct from IJG, INC., 569 NORTH MOUNTAIN AVE - SUITE B, UPLAND, CA 91768.... TRS-80 DISASSEMBLED HANDBOOK by Richardson has been favorably reviewed by several sources. It is intended to simplify assembly language programming for those experienced in Level II BASIC with only a "smattering" of assembly language knowledge. Spiral bound, ten chapters, \$10 from RICH CRAFT, DRAWER 1065, CHAUTAUQUA, NY 14722.... If you are having trouble going from Level I to Level II, you should have LEARNING LEVEL II by Lien (352 pg. \$15.95 + 1.45 P&H). It explains the differences and includes examples. It even has pages that can be cut out and pasted into the Level I manual to make it current. Another useful book is THE BASIC HANDBOOK by Lien (360 pg. \$14.95 + 1.35 P&H). It's an encyclopedia of BASIC statement variations encountered in 21 different computers, what they mean, how they're used, and what alternatives can be used in their place when converting a program written for one computer so it will run on another. Both available from COMPUSOFT PUBLISHING, 8643 NAVAJO RD, SAN DIEGO, CA 92119.... A computer book club aimed at professionals offers discounts but involves returning a dated card 16 times a year. If you are interested you can save up to \$70 with their introductory offer. Write THE LIBRARY OF COMPUTER AND INFORMATIONAL SCIENCES, RIVERSIDE, NJ 08370....

For those with medical interests, be advised that articles with TRS-80 applications have appeared in July issue of SOUTHERN PHARMACY, September issue of LOUISIANA PHARMACIST, and Sept/Oct issue of USAF MED. SER. DIGEST.... Jan/Feb issue of RECREATIONAL COMPUTING contains an article on a walking graphics display which may be interesting in a program for kids. Also an article on S-100 interfaces.... The first issue of THE ALTERNATE SOURCE looks promising. Their main target is "intermediate and advanced" TRS-80 programmers as can be seen with the article on how to pack up to 15 information inputs into a single byte for storage.... The January POPULAR ELECTRONICS describes a simple timer program that will activate a circuit from the cassette port. The March issue has an article on using the TRS-80 as a combination lock.... The January RADIO-ELECTRONICS finishes up with Part III of the TRS-80 Breadboard Interface project covered in the two previous issues and includes some experiments to demonstrate its use.... The January KILOBAUD has a couple of articles on how to build TRS-80 printer interfaces covering parallel, serial, 5-level teletypes and driver routines. Another article on TRS-80 graphics in the February issue and an Uppercase/Lower case utility program in the March issue along with another S-100 Interface review.... The January S-80 BULLETIN discusses Percom's Electric Crayon, a high resolution color graphics interface for the TRS-80, and Vista's new Expansion Module which doubles the amount of data that can be stored on a standard floppy diskette....

To save space, we aren't including addresses of these newsletters anymore but will be happy to provide them for an SASE.... Our favorite continues to be OCTUG (Orange Co. Calif.) which seems to have more than their share of nationally known talent. Their January newsletter gives all the details of patches for allowing fast disk operations when a clock speedup kit is installed in the keyboard. Their February issue reviews the BASE2 printer, Soundex, the 3G Light Pen and in great detail, Radio Shack's Lowercase modification.... Among the nuggets in MBUG NEWS (Monterey Bay, Calif.) we learned that a new mail order catalog devoted exclusively to EDUCATIONAL software is being published by QUEUE, 5 CHAPEL HILL DR, FAIRFIELD, CT 06432.... Saw our first issue of READY, the Central Alabama Microcomputer Society's newsletter. Very impressive, hope we stay on their list.... THE BIT BUCKET from Wichita Falls contains some neat ideas using rubber cement. Attach labels to disk covers with it so they will come off cleanly when necessary. Also, use it to tack letterhead to pin-feed paper if you don't have friction capability. Or cut diagonal slits in pin-feed paper to hold letterhead, envelopes, labels, etc.... The VENTURA COUNTY club newsletter is looking good, December's issue had a lot of valuable info on comm systems plus sample operator displays of FORUM-80.... Cincinnati's CINTUG newsletter for February contained a good idea for other clubs to take note of. Offer to record serial numbers of your members equipment, in case it is ever stolen, right on their membership forms so they will never be misplaced.... We are happy to see MCTUG (Marin Co. Calif) getting bigger and better. Their latest newsletter contained a good, detailed review of Radio Shack's new word processing program SCRIPSIT.

THE EIGHTY is a new publication from the publishers of SOFTSIDE which they say will be FREE to anyone who asks to be placed on the mailing list. Intended, we believe, to be predominately an advertising medium with reasonable rates and a large circulation of TRS-80 owners, the first issue was 24 regular magazine sized pages. The only article was a useful one about using data statements effectively but there was the impression that future issues would have more. We hope so and that it will include news briefs like we provide because we can't reach as many people and as often as we would like. It wouldn't take up many pages if they pack it the way we do. Why not encourage them to do that when you send them your name?

ERRORS

LEVEL III by "G2", manual: Page 14 change "EDIT," to read "EDIT,,"; Page 15 shift T needs a space before and after; Page 24, 2nd paragraph, the hours "01 to 24" should read "00 to 23", the morning hours "01 to 12" should read "00 to 11", and the afternoon hours "13 to 24" should read "12 to 23"; Page 66, a filename is required after LOAD? to keep from getting a "BAD" response; Page 66, SYSTEM tapes cannot use the Break key to stop the recorder as done with LOAD and SAVE... In LEARNING LEVEL II it has been reported that there are several errors in Chapter 20 ARRAYS although we have not been able to determine what exactly there are yet.... LNW RESEARCH EXPANSION INTERFACE schematic identifies U32 as a 74LS04 hex inverter while their parts lists identifies it as a 74LS14 hex schmitt trigger. Pinout is the same so either could probably be used although we opted for the 74LS14. Another slip-up on the schematic is R58 which was incorrectly identified as U58....

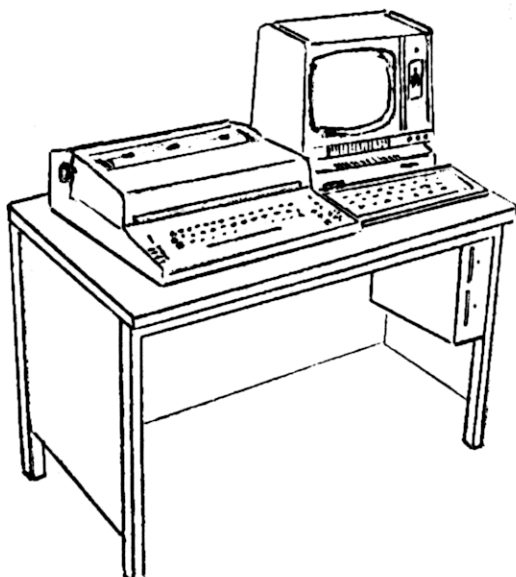
ODDS 'N ENDS

Can't stand empty sockets just sitting there not doing anything in your new line filter? Add a line cord to a new 115 VAC Stewart Warner elapsed time meter (up to 99999.9 hours) which will run every time the master power switch is turned on. The meter is cat. no. 92CU6218 for \$8.88 plus shipping for 5 oz. from POLY-PAKS, PO BOX 942, SO. LYNNFIELD, MA 01940.... Looking for computer bargains? ON-LINE has sold out to COMPUTER SHOPPER, PO BOX F, TITUSVILLE, FL 32780 which is a monthly classified ad paper for \$10 a year and may still be accepting half rate subscriptions to get going.... If any company not connected with Radio Shack repairs TRS-80's, please contact us. We've had a couple of inquiries from owners apparently dissatisfied with Radio Shack service.... If MICRO MANAGEMENT SYSTEMS of Cairo, GA provided very prompt service and discount prices to a customer in Colorado who was impressed enough to write.... THE CPU SHOP in Boston has been very favorably commented on, especially for fast delivery....

A special note here about LNW RESEARCH of Irvine, CA. We ordered their Expansion Interface board from a vague ad and are only upset because it took about a month to arrive so we didn't know which parts we needed to order until then. That took another 6 weeks thanks to the slow response of some mail-order parts houses like Hobby World who need constant reminding by phone and then don't have parts they said they had in stock when you ordered so you have to start all over with another company. But we can report that the LNW board is extremely well made and well designed, the ample documentation is well written, and even though we reluctantly used some substitute parts as an interim measure, we are going to leave them in because the interface performs flawlessly. It has all the features of the Radio Shack Expansion plus on-board RS-232 circuitry and connector. An advantage is that you don't have to add the parts for features you don't need so our configuration only cost us about \$275. That includes the disk interface, clock and two sets of used memory we found advertised in ON-LINE for \$50 per set to bring us up to a 48K system. It will take about \$25 more to add the RS232 parts for our modem. Quite a bargain if you can solder.

To keep costs of wasted postage and unwanted mailings to a minimum, please re-register if you haven't done so in the last 4 months or so. That effort tells us you really WANT to receive our letters and justifies the priority on our list (user groups, contributors, current registrations, previous registrations, and so on). It also gives us confidence that your mailing address is current and correct.

Thanks for all the nice, complimentary letters you've taken time to write. We don't have the time or the staff to answer them all but we really appreciate knowing you think our project is worthwhile.



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Alpha Technology has now developed a new interface which contains its own 8085 microprocessor and allows use of all the features designed into these machines. Our interface may be used with Parallel (Centronics Equivalent), Serial (RS232 Bi-directional), and 20 or 60 ma loop I/O ports. Baud rates are dip selectable to 1200 and may use either 1 or 2 stop bits with even, odd or mark parity as required. The interface translates ASCII to Correspondence code allowing use of any standard Selectric typing elements. The terminal may also be used off-line as an office typewriter. The user may also select buffered or non-buffered send/receive modes of operation (buffered receive allows up to 4K* to be retained and printed while the computer is being used for other operations). Printing may also be interrupted for use in "Local" mode and the unit will maintain a "message waiting" status for further computer operations. These units may also be featured for automatic carriage return and automatic forms feed.

*BASIC MODEL (500 Character Buffer).....\$1095

2K MODEL (2000 Character Buffer).....\$1195

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