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PUBLISHED ON RAINY WEEKENDS ----- MARCH/APRIL 1979

Hello,

We got to play with the new Voice Synthesizer (26-1180) that is a little high at \$399. But it works surprisingly well and programming it doesn't appear to be too hard to learn. Each phoneme is programmed separately and a simple word like "zero" has as many as six phonemes: sss eee' ah eh are oh. Combined into a word it sounds very realistic and complete sentences are almost natural, not as halting as expected.... The numeric keypad is now standard on new TRS-80's and older units can be upgraded with this feature by ordering 26-1103 for \$89. We added our own last summer for only \$7 and we will tell you how if you send an SASE.... The Telephone Interface II (26-1171) is a full answer and originate acoustic coupler for \$199 and we've seen it in action with a terminal program talking to a big computer at a college.... We understand that new Expansion Interfaces are being designed with a different printed circuit board layout. They will include the buffers added with the "pregnant" interface cable so it will no longer be needed and the new layout will reduce other glitches discovered in the existing units.

Also from Radio Shack is a factory-authorized modification to eliminate cassette loading problems. Incoming data pulses set a flip-flop which is reset by a delayed count from the computer's timing chain. This chops off the incoming data pulses into 150 nanosecond slices that are automatically synchronized to the computer and is immune to noise, distortion or amplitude variations caused by ground loops or dropouts due to inconsistent oxide deposits on tape. It is a small printed circuit board about one inch square containing two IC's, two diodes and a resistor plus six flying leads to connect to the main computer board. We have it installed in one of our units and it works perfectly. We have both Level I and Level II in our computer and almost any tape can be loaded with any volume setting between 4 and 10 on our CTR-41. So we just leave it on 7 and forget it. Ask for XR-III and your local Radio Shack will have it installed for \$13. It's well worth it.

If any of you find errors in ANY Radio Shack manuals let us know so we can spread the word. Even if it has already been reported widely, we are compiling a list that will be made available to anyone upon request and many newer owners are unaware of errors reported before they bought their units. The latest we have is on page 75 of the Editor Assembler manual (26-2002). In the left column at RR(IY+d) change 00011110 1E to read 1111101 PD. We confirmed that with the Zilog Z-80 Assembly Language Programming Manual on page 187. The member who caught it has been working on improvements to Editor Assembler that can be made by changing a few bytes here and there. For example, if you ever used "B" to exit to BASIC and then tried to jump back you discovered it didn't work right and had to be reloaded from tape. A 30-byte change remedies this. Another 20-byte change allows you to jump back and forth between Editor Assembler and a high memory version of TBUG. For a copy of these changes and more send \$1 for duplication and postage.

We got one of the first TRS-80 ELECTRIC PENCIL's (we're using it for this letter) and think it's great. On the tape following the main program we recorded a short dictionary of the words we have the most trouble spelling like: peripheral, preferred, incidentally, and exaggerated. Then, after loading the PENCIL, we just read in the dictionary if we think we are going to need it.

For those of you waiting for ELECTRIC PENCIL on disk, it is now available for \$150 from Michael Shroyer Software, 1253 Vista Superba Drive, Glendale, CA 91205. It uses some TRSDOS 2.1 routines and comes on cassette which you transfer to disk. The best news is registered owners of the non-disk version can trade it in for an \$85 credit toward purchase of the disk version.... Small System Software, Box 366, Newbury Park, CA 91320 also sells ELECTRIC PENCIL, several machine language monitors, and now, the famous CP/M Operating System for \$145.... CP/M is also available for TRS-80's at \$150 from PMG Corp., Box 16020, Ft. Worth, TX 76133 (817) 738-0251. Their ad also mentions information about FOPTRAN and COBOL.... TRS-80 FORTRAN and Z-80 development software is now available for \$350 from the same people who developed our Level II BASIC. For a free overview write Microsoft, 14800 NE Eighth, Suite 819, Bellevue, WA 98004....

Percom, 318 Barnes, Garland, TX 75042 (800) 527-1592 (toll free) sells a disk drive compatible with the TRS-80 for \$399. One of our members who already had a Radio Shack disk drive bought a Percom unit as a second drive. He reports they work well together and the Percom seems to be faster and quieter. It also allows the use of both sides of the disk. However, he had to buy an extender cable because the electronics are in a different location and the Radio Shack cable was too short to reach the plug without leaving the cover off.

The marketing of TRS-80 compatible peripherals has been slow while manufacturers have waited to see what standard bus Radio Shack would use or develop. Well, they don't seem to be using or developing one. Their Expansion Interface does not contain a motherboard and is merely a universal interface of different kinds of connectors for their own printers and disks plus sockets for memory and an RS-232 board. It has a floppy disk controller and dual cassette relays whether you want those features or not and there is no room for anything else internal. Any further expansion must be plugged into the single expansion connector like the one on the back of the keyboard unit.

So now several companies are developing true expansion units with motherboards of common sockets. Some will use the S-100 bus and others are developing a new bus. We have the pin designations for a 44-pin bus that will be used by at least three manufacturers which we will send you upon request. You can expect to see more TRS-80 add-ons that will fit in these units pretty soon.

CREATIVE COMPUTING now has a monthly column devoted to the TRS-80 and is an excellent source for new products. Their March issue contains a good review of the TRS-80 floppy disk system compared to the MITS system.... KILOBAUD continues to have good TRS-80 articles. The February issue has a nice index for the Level II reference manual and the January and April issues have articles on tape controllers including an automatic dual cassette interface for Level I computers.... The third issue of TRS-80 COMPUTING. (\$15 for 12 issues from CIE, Box 158, San Luis Rey, CA 92068) received this week has 5 whole pages of TRS-80 software titles and sources reprinted from Robert Elliot Purser's Reference List.... CHICATRUG is a dandy new newsletter with some good programming hints from the Chicago TRS-80 User Group. It's available for \$9 a year from Emmanuel B. Garcia & Assoc., Apt. 2310, 3950 N. Lake Shore Drive, Chicago, IL 60613.

Here we are in the new year and it is going so fast we find ourselves getting behind already. Our group has grown so large we've had to do some deep thinking about what new direction, if any, to proceed in. As individuals, we can't afford the costs of mailing our letters as we have been doing in the past and we don't feel the world is ready for another TRS-80 newsletter to subscribe to. So, finding some new volunteer help in the local user group, we have decided to continue on a FREE membership basis as long as there is an interest.

To help keep costs down we need to control our circulation so we are asking you to become a "member" of TCS by returning the enclosed registration form. That way we are sure only TRS-80 owners INTERESTED in receiving our free letters are on our list. There is no cost or obligation and your name won't be sold to anyone else unless you authorize it on the form. If you have been receiving our letters but fail to return the form we will keep your name but at the bottom of our list and you won't hear from us nearly as often.

One of the ways we pay our costs is by mailing flyers for companies selling TRS-80 related products. That's why we need as many "members" as possible so we urge you to make copies of our registration form for your friends or just send us their names and addresses so we can send them one. Also, if you buy any of these products be sure to let them know you got their flyer from TCS.

We are compiling a list of local and national user groups that is updated monthly and is free upon request. Please send us information on your group including the name and address of a representative, meeting location, times and dates, dues, etc. Inform your members about us and send us a roster with addresses if possible. If your group has a newsletter, feel free to reprint any information in our letters that you wish. If you can include us on your mailing list it would be appreciated. We'll make sure you get all our letters and mention you frequently which should be good for business.

Anyone writing for additional information should at least send a self-addressed stamped envelope or, preferably, a dollar bill which would pay for a stamp and help pay duplication costs. Thank you and have a nice day.

If TCS is new to you, let us introduce ourselves....

TCS MEMBER'S BULLETIN BOARD

We are small groups of TRS-80 users who have become a larger group by establishing a network of communication. We would like you to join us, either as a user group or as an individual. We like to think that TCS stands for TRS-80 COMPUTER SOCIETY but actually it is the acronym of a computer services organization which supports our goals, contributes to our efforts, and allows us the use of their facilities.

We communicate with local user groups across the country and share information. We support all the national newsletters and user groups and encourage membership in as many as you can afford. However, we feel there should be at least one FREE group that has no purpose other than serving the basic informational needs of most TRS-80 users without seriously competing with any other group. It is our intention to:

- * inform you of TRS-80 articles in computer magazines so you can go buy the issue if you didn't already see it
- * comment on contents of user group newsletters so you can tell what you're missing if you don't subscribe to all of them
- * inform you of sources of new products and accessories available for the TRS-80
- * inform you of errors in manuals and ROM's
- * provide whatever assistance we can, through personal letters, in applications, programming problems or interfacing

You will notice we do a lot of reporting without going into "details" of things like hardware modifications and software fixes. That can take up a lot of space which we can't afford so we leave the bulk of it to user group newsletters and outfits like TRS-80 COMPUTING and SOFTSIDE who can do a better job. But we will let you know what they are doing and can provide details of some things for those of you who want it and will send SASP's. We are working on summaries of things like errors in Radio Shack operating manuals, ROM's, modifications, etc., and we'll announce them as they become available. By the way, we need inputs for these.

We've provided personal assistance to fellow users since late 1977 but, becoming aware of a continuing need, we have only formalized and intensified our efforts in the past few months. Essentially, our service is PRFF. All we ask is that you register with us so we know you want to receive our letters. If you belong to a local user group please send us a roster or make copies of our registration form for your members so we can include them in our mailings. This goes for anyone else you know of who has a TRS-80.

We can't afford to include everyone in every mailing so, unless you represent a group, we rotate the names on our list. We are attempting to reach more people each time by raising additional money for printing and postage with sales of software and cooperative mailing with manufacturers. If you sell any TRS-80 related product or service, please inform us so we can include you in an index we are preparing. If you advertise by direct mail, we can save you money mailing your flyers first class. Write for details and next mailing date. If you buy from advertisements we send you please let them know TCS was responsible.

In the next column of this sheet you will find individual member's ads, a new service which we welcome anyone to participate in. There is no charge for placing an ad. If any sales result we would appreciate a small percentage (you determine the amount) as a commission to help pay future printing costs for this space. But you're not obligated so send in a short ad for some program or subroutine and see if anybody needs it. You've got nothing to lose. If you need something, we accept "want ads" also.

Almost all of the ads this time are from local people to help kick off the ad column but next time we want to see some from other people. If no address is given just order through TCS. Some items are ours and some we will just take orders for. If more than one item marked with an asterisk (*) is ordered, it will be contained on a single cassette and their combined price may be reduced 25%.

If you have any questions, write. We'll answer.

SOFTWARE

SATTRK

An amateur radio operator satellite tracking program for Oscar 7 and Oscar 8 adapted to the TRS-80. Level II 16K, \$5.00 - John Blair, 122 Dumont St., Norfolk, VA 23505

PRINT

A 225 byte machine language printer driver utility routine that allows you to select number of characters per line, lines per page, spaces between lines, head delay for certain printers and generate form-feeds, if desired, when using Level II printer commands. Specify 4K, 16K, 32K or 48K version, \$5.00 - John Blair, 122 Dumont St., Norfolk VA 23505

* DICE

A craps game demonstrates this sophisticated graphics routine of rolling dice which can be incorporated into your own game programs. Level I or II, 4K. \$5.00 - TCS

* HAPPY

Single alphanumeric characters selected at random are displayed in large block form for young children. When matching key is pressed acknowledgement is given by appearance of large, winking "happy face". Level II 16K \$5.00 - TCS

* DOODLER

First letters of commands left, right, up, down and angle plus numerical length draws graphic patterns on display to quickly evaluate ideas or entertain kids. Level I or II, 4K. Three versions included for \$5.00 - TCS

* GRAPH

Utility subroutine that accepts keyboard entry of data and displays 12 month vertical bar graph with scale automatically calculated or selected by preset inputs. A second version displays 24 months by offsetting two 12 month periods for comparisons. Starts with any month. Level I or II, 4K. Both versions included for \$5.00 - TCS

* DEMO

A full 16K demonstrator to show off TRS-80 to friends. Includes guessing game, random math problems with automatic grading, price/quantity comparison for shopping, and cost analysis using home insulation as example. Level I or II, 16K, \$5.00 - TCS

* WATER

Of interest to water systems engineers. Calculates open channel flow (trapezoidal or circular cross-section), normal flow, critical flow, normal depth, critical depth, backwater or drawdown by direct step method, pressure pipe flow (Darcy Weisbach) and multiple reservoir flow from or to single junction. In 3 parts for Level I, 4K systems. \$5.00 - TCS

CALENDAR

Creates 1979 wall calendar on a printer having 10 characters/inch and 6 lines/inch. Features nude girl 28" high formed by standard typewriter symbols. Level II 16K, \$10.00 - TCS

* BOWLAVG

Stores bowling scores on data tape and displays entire season graphically. Also calculates series required to increase average by one pin. Level II 4K, \$5.00 - TCS

HARDWARE

BUFFER BOX

Connects in series with cassette recorder to prevent relay failures in computer due to high current load. Also provides pushbutton override control of recorder. \$20 + \$2 postage - Art Bosshart, c/o TCS

PLUGS

Expansion port connectors for keyboard unit will accept 40-wire ribbon cable, \$7.50 - TCS

RS-232 INTERFACE SCHEMATICS

For use without expansion unit. Indicate equipment to be used. \$5.00 - TCS

LEVEL I ROM'S

For those who wish they had kept their ROM's when they had Level II installed and now want both I and II in their computer. \$20.00 when available. Write TCS to put your name on the waiting list. If you want to sell your ROM's, let us know and we'll send you the name of a buyer. Please indicate whether it is a one-chip or two-chip ROM set.