

In the thick of things...

We grew! And outgrew our britches. So we are packin' up and movin' down the road a bit. Right smack dab in the center of Santa Barbara. Are we getting respectable? Not hardly. But I think our jeans and t-shirts will compliment the plethora of ties and skirts that inhabit the rest of the building. We were even approached by a representative of the Chamber of Commerce (she left muttering). Maybe there is a good reason why we were put in the basement...



P.O. Box 1448,  
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CA 93102

February 1983

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*   Side           Title           Filename           Turns Count
*                                   CTR-41           CTR-80
*
*   ****          Cube Cover          A           12 & 267           7 & 155
*   **   **        Meteor              B           118 & 347           68 & 201
*   **   **        Dinosaur             C           157 & 378           91 & 219
*   ****          Fireball (System FIRE /)  FIRE        202 & 413          117 & 240
*
*   **            Tax Deductions        A           15 & 271           9 & 157
*   ***           Compiler Instructions  B            83 & 323           48 & 187
*   **            Compiler (with Super Hustle) C          145 & 373           84 & 216
*   ****          Load/Merge           D           242 & 450          140 & 261
*
*
*   Tape CLOADing Notes - This tape may load at an ODD RECORDER VOLUME. Set the volume LOWER than normal for your first attempt,
*   then increase it slightly until the tape loads. If the first copy of a program won't load, try the second. That is why it is
*   there. Model I only: Put an AM radio very close to the keyboard, tune it to a non-station, and you can listen to the tape
*   loading in. Adjust the recorder volume so the hash from the computer sounds 'cleanest' during a load. Model III only: Load
*   the tapes at the LOW speed (POKE 16913,0).
*
*   Subscribers - The month on the mail label is the last month of your subscription. If you have a cassette subscription, the
*   number next to the month is the amount it would cost to convert the rest of your subscription to the disk version ($4.20 per
*   issue for 0 or less months, $3.75 per issue if more than 6 months).
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*****

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Playin' with blocks... Cube Cover uses machine language routines to spin CLOAD around.

A Meteor shower curtain... Using the spacebar to fire and the arrow keys to move, you must blast a path for your ship through the advancing wall of rocks. Meteor has sound, so connect the large grey AUX plug to an amplifier.

Bring me the egg, Dino. The object in Dinosaur is to steal the reptile's eggs. To do this you must throw rocks at the beast. But watch out, there is an egg-stealing bird about! Note: Dinosaur has sound too.

You must dodge or shoot the erratic missiles in Fireball. Use the arrow keys to move your ship and the spacebar to fire. The program is in machine language, so to load and run it from tape type SYSTEM<enter>, answer the \*? with FIRE<enter>, and answer the next \*? with /<enter>. Notes: This program has sound also. The start, end, and entry addresses are 26000, 32551, and 26000.

Brilliant deduction, Watson. Now you can keep track of your Tax Deductions. You can save the current data to tape or disk, modify it, add to it, throw it at your accountant, etc. Notes: 1) To modify items in categories, choose the menu item, "1-6 Add items to categories". Then answer Y when asked, "Do you wish to modify this data?(Y/N)". Finally, enter 0 for the number of NEW items to add and you will be able to modify existing entries. 2) If you leave or end the program without saving the current data, you can get back into



the program with the data intact by typing **GOTO 900<enter>**.

Disk versioners - There is a sample data file for **Tax Deductions** on your disk called **TAX/DAT**. You can use it to get a better idea of how the program works.

BASIC is too slow for you? Assembly is too foreign? Now you can write programs in BASIC and run them in machine code with **Compiler**. First, you should run **Compiler Instructions** to get an idea what limitations there are (briefly outlined below). Then, you can see how the **Compiler** works by running and/or compiling **Super Hustle** (lines 6-64 in **Compiler**):

- 1) Load **Compiler**.
- 2) Run **Super Hustle** from BASIC just to see how slow it is by simply typing **RUN<enter>** (I recommend changing the **SP=600** in line 12 to **SP=6** for this part).
- 3) Now compile **Super Hustle** by typing **RUN 1000<enter>** (make sure that the **SP=600** is in line 12). Go get a sandwich - it takes 11 minutes or so to compile.
- 4) When it is done compiling, the start/entry (they are the same) and end addresses will be given. Note these if you wish to (and are able to) save the machine language version to disk or tape (ie: through the DUMP utility).
- 5) Hit <enter> to play! What a difference, huh?!!

#### **Compiler** notes (lots of 'em):

1) The compiled code resides between 28000 and 32767. If you are using a **disk system**, you must run the following loader program to move the start of BASIC above 32767 BEFORE loading **Compiler** (disk versioners - this loader, called **COMPDISK/BAS**, is on your disk and is accessed by the **Away** menu):

```
5 CLS:PRINT"FREE MEMORY HAS BEEN CREATED FROM";PEEK(16548)+256*PEEK(16549);"TO 32767.
10 FOR I=0 TO 5:POKE-32768+I,0:NEXT
20 POKE 16633,3:POKE 16634,128:POKE 16548,1:POKE 16549,128:CLS:REM NOW LOAD OR CLOAD COMPILER
```

2) Memory Size is automatically set to 27999 if you are using a tape system.

3) To compile your own programs, load **Compiler**. Delete lines 6-64. Save your simple compiler to tape or disk. Load or write the program you wish to compile (use line numbers 0-999 ONLY). Add the simple compiler to your program (tape people - see **Load/Merge** below). Save a copy of this combination to tape or disk (ah, security!). Finally, type **RUN 1000** to compile.

4) If your program has a byte with a value of 195 or 205 imbedded in a PRINT statement, the compiler will probably crash (those are the codes for JUMPS and CALLS, and they are searched for and adjusted at the end of the compilation).

5) Reserved words accepted (EXP = number, variable, or expression):

REM	At the beginning of a line only	
END	Returns to BASIC (if all GOSUBs have been RETURNed)	
PRINT	Strings up to 127 bytes long and/or EXP	
PRINT @	Strings up to 127 bytes long and/or EXP	
IF-THEN	Not ELSE	
GOTO ###	GOSUB ###	RETURN
PEEK(EXP)	POKE EXP,EXP	
SET(EXP,EXP)	RESET(EXP,EXP)	POINT(EXP,EXP)
CLS	CHR\$(EXP)	LET

6) Operations are done in the order written (no order of precedence) unless enclosed in parenthesis. Integer arithmetic only. Division by zero is not protected. Operators:

AND OR NOT + - \* / = > < => =< <> ( )

7) Multiple statement lines are accepted (and encouraged).

8) You can simulate many of the commands not accepted. I.e:

<u>Command</u>	<u>Code</u>	<u>Simulation</u>
FOR-NEXT	10 FOR J=1 TO 10 20 PRINT J 30 NEXT J	5 J=0 10 J=J+1 20 PRINT J 30 IF J<10 THEN 10
INT(EXP)	10 A=INT(Y/3)	10 A=(Y/3) AND -1
IF-THEN-ELSE	10 IF C<0 THEN C=0: GOTO 20 ELSE C=C+1	10 IF C<0 THEN C=0: GOTO 20 15 C=C+1

9) Disclaimer - Compiler is a simple compiler written in BASIC. It will work on most programs that follow the rules listed above. However, I have no doubt that there are programs it will choke on for no apparent reason. And I hereby REFUSE to go looking for reasons why YOUR program won't compile right. Unless a well documented (by you) out'n'out bug or enhancement is found in Compiler, you get the program as is without further modifications.

Putting 1 and 1 together - Load/Merge makes it easy to append a BASIC program on tape to a BASIC program in memory. First, you need two BASIC programs, one of them with the highest line number lower than the lowest line number of the other. Second, load Load/Merge and run it. Third, load the program with the LOWER line numbers. Fourth, type LOAD<enter> and then CLOAD the program with the HIGHER line numbers. Last, type MERGE<enter> and your programs will be combined.

Load/Merge notes: 1) Do not change the length of line 0. 2) Disk users can use the program. However, after appending your programs together and saving them onto disk, be sure to reboot the system so that the Disk BASIC commands LOAD and MERGE work as they were intended to work.

An adventure in debugging...

If you get an OM error in last month's Alexis Adventure, you can try deleting line 0 or renumbering the program by 1 before running the adventure. We have heard of this problem but have not been able to duplicate it, so these 'fixes' may not.

Taxing bugs...

Last month's Income Tax showed 1981 U.S. Income Tax in line 260. The title was wrong! The tables were for 1982 (whew!). Line 420, however, should have read:

```
420 IF C>SCH*100 THEN EXC=SCH*100 ELSE EXC=C
```

Thanks to the author, Charles W. Evans, for noting these.

Frequently a problem...

If you only have 16k, last month's Frequency Analysis may have given you fits unless you set the Memory Size to 32511.

Alpha to omega...

Dennis Lo, the author of Falling Aliens (Oct. '82) and Star Fortress (Jan. '83), sent in a couple of patches to make those programs work with the Model III Alpha joystick:

Load Falling Aliens and go to BASIC. Enter and run the following lines:

```
10 FOR X=31905 TO 31911: READ A: POKE X,A: NEXT
20 DATA 245,62,16,211,236,241,201
30 POKE 29269,205: POKE 29270,161: POKE 29271,124
```

Then type SYSTEM<enter> and answer the \*? with /29184. Note: The new start, end, and entry addresses are 29184, 31911, 29184.



Load Star Fortress and go to BASIC.

For Level II BASIC enter and run:

10 OUT 236,16: POKE 16526,0: POKE 16527,114: PRINT USR(0)

and for Disk BASIC enter and run:

10 OUT 236,16: DEFUSR=29184: PRINT USR(0)

One final note....?

Ward P. Ferguson, the author of November 1982's Loan Amortization, wants to lay that program to rest so he sent in the following mods to the original version to make it LPRINT correctly:

```
51 INPUT"MONTH (COMMA) YEAR OF FIRST PAYMENT";M$,RY:YR=RY:PRINT
68 YR=RY:P=U1:P1=0:M1=0:A1=0:B1=0:A2=0:M=U3:LL=0
75 LPRINTCHR$(27);CHR$(14);" ";A$;CHR$(27);CHR$(15): REM FOR LP VIII
77 LPRINT"PRINCIPAL: ";P;"
MONTHS: ";L;"
RATE (YEAR):";R;"%"
117 INPUT"YEAR OF FIRST PAYMENT";RY:YR=RY
125 IFY$<>"Y" YR=RY: GOTO 172
156 Take the RY=YR fix out that was given in a past yellow sheet.
```

## HIGH CLASS PROGRAMS (on tape or disk) AT POOR MAN PRICES

Movin' out,

*Dave*  
ed.



## THE ALTERNATE SOURCE

### Spellbound

Shoot-em-ups not your style? Consider Spellbound, a sophisticated word game that will both "please" and "astound"; "please" because you will always have a capable partner at the flip of a switch and "astound" because you can demonstrate the superior capabilities of your TRS-80. Spellbound conducts a word search using its 12,000 word on-line dictionary in less than a minute. Words are extracted from a matrix of random letters by both you and your TRS-80. One to six humans can play; the word matrix is designed using a unique graphic configuration. The ideal demonstration program for your pedantic friends. Spellbound is written in a combination of Z80 and Fortran; original purchasers can also purchase the source code for an additional \$10. Sorry, this program only comes on disk. Both Model I and III versions are included for \$19.95. Because of critical real-time task processing, this program will not work with Newdos/80.

### TASORT The Alternate SORT

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Need a top quality terminal program that works under a variety of environments? Modem 80 and its support packages have the TRS-80 talking with dozens of systems, both micros and mainframes. A special protocol permits easy and reliable communication with CP/M systems, too! Modem 80 allows you access to DOS commands while online, route screen displays to your printer, change all local communication parameters at any time, upload and download, send files larger than memory (if the other system recognizes XON and XOFF protocol), and even includes a HOST program so that you may access your unattended TRS-80 from a remote site. Four separate translation tables are included for communication output, video, printer and disk files. These are user modifiable. The Modem 80 package of seven programs and user's manual is \$39.95. This program is one of our best buys!

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small BASIC program generated by your response to prompts (this allows your printer to work at the fastest possible speed and reports only need be defined ONCE); reports support titles, page numbers, column headings, footers, literals, end of file totals, special control characters LPRINTed before the report and more; documentation has been expanded to cover items such as error trapping, utilization of disk space, sample user sessions and information about how ISAR stores the information necessary to access a file (making conversions between ISAR and other data base managers easier). ISAR I, Version 2.0, complete with all enhancements and documentation, \$39.95. (Unregistered ISAR Expanded Users: Upgrades available!)

### The Alternate Source Programmer's Journal

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