Pushin' to the end again...

What day is it? It can't be that late!!?? But January's issue should go out in January, don't you think? This will not be a good week. Well, 6 or 7 14-hour days should do it - plus a little overtime. It's a good thing this has to be done every month, otherwise we would put out about 2 issues a year (ah, procrastination). And we wouldn't make any money (ah, poverty). And Tom and Grady could goof off a lot (some things never change)...

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Side	Title	Turns Count CTR-41	Turns Count CTR-80
****	Machine Cover	18 & 274	10 & 159
** **	Soloman Adventure	60 & 305	35 & 177
** **	Tape Directory	190 & 404	110 & 234
****	Disk Timer (Model I DOS only)	244 & 447	141 & 259
**	Survival	12 & 266	7 & 154
***	World Cities	147 & 368	85 & 213
**	Variable Dump	237 & 439	137 & 255
****			

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 notes - Load the tapes at the LOW speed (POKE 16913,0). An occasional program will NOT run. There may be upper and lower case goofs in some programs. Arrow keys often are translated as follows: (↑, ↓, ←, →) = ([, \,], ^).

'Run that by me again, I missed it the first time' department. See the speed of machine language by running Machine Cover. Fast stuff, eh?

Goin' back to the jungle - part two of Jungle Adventure, anyway. In Soloman Adventure you have to locate King Soloman's mines (I don't suppose they are of the pyrotechnic variety). As with last month's Elephant Adventure, your input must be in upper case, you can use one letter abbreviations for directions ('N' instead of 'GO NORTH'), and you can use four letter abbreviations for commands ('READ LETT' instead of 'READ LETTER'). Also, to save your current game status (in order to sleep or eat), you just have to 'SAVE GAME', and to load it back in you just 'LOAD GAME' (what else?).

Which of those 49 tapes has 'Astro Blaster' on it? If your tape software library is getting a bit too big to handle, Tape Directory is for you. You can enter the tape names, the program titles that are on the tapes, save the info to tape, list the info on a printer, etc. With little or no editing (sounds like an ad for oven cleaner) the program could be used to catalog record albums, softball teams, old shoes, etc. If you have more than 16K of RAM - you can change the CLEAR and 'MT' values in line 140 to something greater in order to catalog more tapes (you're limited to 27

tapes with up to 16 programs per tape right now):

For 32K - Try 'CLEAR 23000' and 'MT=70'.
For 48K - Try 'CLEAR 32767' and 'MT=103'.

Disk Timer does just that - times the speed of your disk as it spins in the drive. The screen displays the actual speed, the average deviation in speed, as well as a graph of the speed - and updates this data constantly. If you have more than one drive, then all of your drives are tested and displayed at once. If you want to test just one particular drive, hold down the 0, 1, 2, or 3 key corresponding to the drive you want tested. To test all the drives again, just hold down any other key. Hold down the <clear> key to reset the counters and start the testing all over again. Note - you must hold a key down until it is recognized.

The author of Disk Timer wrote that the variable 'I' in line 14 can be set up to 5 to cause each measurement to measure more than one revolution of the disk (the deviation values won't be as meaningful, however). He also explained that the disk is timed by counting a minimum loop of instructions between index pulses and computing how many Z-80 clock cycles were used. This programmer knew what he was doin'...

Survival is one of those rare real-time BASIC games that is truly fun! The object is to move yourself (the hero) around the board and get to the treasure without getting caught by one of the many monsters. The instructions are good, there is a little demo that runs constantly when you are not playing the game, and there is a step-by-step simulation for those who don't quite get the hang of the game after reading the instructions. And I have yet to survive until the end...

Where the heck is Godthaab? Why, it's in Denmark! Didn't you know that? Then you should run World Cities. This program gives information on the major cities of the world, including the country they are in, the currency used there, the principle language spoken there, etc. Then you get quizzed on the whole mess. Not a program for isolationists...

I know that when you write programs, you never have to debug them, right? So Variable Dump is of no interest to you (note - sarcasm). What this little utility does (in case you are interested, anyway) is allow you to find out what variables have been used in your program so far, and what their current values are. What a tool! To use it you first load and run Variable Dump. You will lose 175 bytes off the top of memory (for the machine language routine). Then you load in any BASIC program to be debugged (or that you are just curious about). After running the new BASIC program to the spot giving you trouble, just hit <break> and type 'LINE'<enter> from the keyboard. All of the variable info gets dumped to the screen! If you want it dumped to a printer, type 'LINE*'<enter> from the keyboard.

Can't trust your relatives...

Clyde O. Boothe, Bob's 'brother' (I think Bob is really an only child), sent a note on last month's Caterpillar. It seems that Bob got sneaky and embedded a logo in the program. When you are asked to type in your three initials at the end of a game, just hold down the 'B', 'C', and 'D' at the same time and poof - a Bob Booth (note misspelling) logo appears! He also mentioned that there is a hidden one in Breakthrough (June 1981) that can be brought up using the same three keys, but he left it as an exercise to find it. So I will do the same...

Big Brother....

I think IBM ought to take a hard look at how to market a personal computer. You DO NOT sell a simple, do-nothing system and make the user buy a whole bunch of options to make the bugger work. What standardization is there in that method? Who wants to write software that takes into account all of the possible permutations of the system? So I'm predicting (never predict - it always comes back to haunt you) that Radio Shack will really hurt IBM with their announcement of the Model II's new relative: the Model 16.

As many of you know, I have my bones to pick with R/S. But I have to admit that those Good ol' Boys in Texas make some darn good equipment. And (usually) one can be reasonably sure that the software one writes for a particular machine will work on all versions of that machine. The Model 16 is no different.

The Model 16 is a BUSINESS machine. It uses a MC68000 processor for processing information and addressing the up 512K of RAM you can have (you start with 128K). And it uses a Z-80A to do all of the I/O functions, letting the 68000 compute away. It uses double-sided, double-density 8-inch disk drives with 1.25 MEGABYTES of storage each (not the little 5 1/4 inch drive that the IBM machine supports). Want more goodies? You will be able to hook two remote terminals to it and have them run different programs SIMULTANEOUSLY (timesharing on a micro!!). And you can run existing Model II software on it (using the Z-80A) or upgrade your Model II to a Model 16.

The single disk, 128K system runs $4999 and delivery is 6 weeks to 4 months (depending on the source of information).

Checkin' it out...

An error (oh, no!) has been discovered in May 1981's Checkers. If you choose to play level 2, the computer will eventually 'hang up' and do nothing. To fix it just change the 'THEN3750' at the end of line 3751 to 'THEN3760'. This fix seems to work, but it is not guaranteed since it was 'fixed' during a five minute phone call with the author.

Up the lower (stair)case...

Those of you with lower case capabilities have probably noticed that most of our programs are written in upper and lower case. However, most of the programs we receive are written in upper case only. There is no way I'm gonna retype all of that stuff in upper and lower case just to make it look nicer! But a little software routine could do 99% of the work, and I'd be willing to do a little editing. The following routine is what I use to take almost all of the upper case letters inside double quotation marks and make them lower case. The first upper case letter after a double quote, a period, an exclamation point, or a question mark is left alone (this usually saves a bit more editing). To save time there are no REMark statements, but I have commented the routine to help you understand what is going on (don't type the comments in, however):

```
65500 ON ERROR GOTO 65523
65501 CLS: DEFINT I,J,X
    ** 'I' starts at the beginning of the program and is incremented
       to point to every character in the program
65502 I=PEEK(16548)+PEEK(16549)*256-2
    ** Here we look for a new line or a new string
65503 I=I+1
65504 X=PEEK(I): IF X=0 THEN 65518  ** X=0 is a new line
```

```
65505 IF X<>34 THEN 65503  ** Look for left double quote
    ** A new sentence has been found.  We now ignore everything up to
       and including the first upper case character
65506 I=I+1
65507 X=PEEK(I): IF X=34 THEN 65503  ** Check for right quote
65508 IF X=0 THEN 65518  ** Check for new line
65509 PRINT CHR$(X);
65510 IF X<65 OR X>90 THEN 65506  ** Look for 1st upper case char
    ** Now we walk through and make the upper case lower case until
       some end of sentence marker is found
65511 I=I+1
65512 X=PEEK(I)
65513 IF X>64 AND X<91 THEN POKE I,X+32  ** Make upper case lower
65514 IF X=46 OR X=33 OR X=63 THEN 65506  ** Look for ., !, or ?
65515 IF X=34 THEN 65503  ** Look for right double quote
65516 IF X=0 THEN 65518  ** Check for new line
65517 PRINT CHR$(PEEK(I));: GOTO 65511  ** Get next char
    ** Skip first four bytes of a new line but get the line number
       from the second pair of the four.  If 2 zeros in a row
       found in first two bytes, then end of program
65518 Q=0: FOR J=1 TO 2: I=I+1
65519 Q=PEEK(I)+Q: NEXT  ** Skip 1st 2 bytes and inc Q for 0 check
65520 IF Q=0 THEN END ELSE I=I+1  ** End of program check
65521 Q=PEEK(I): I=I+1  ** Get low order byte of line number then
                           get rest of line number below
65522 Q=PEEK(I)*256+Q: PRINT: PRINT"LINE";Q: GOTO 65503
    ** To recover from 'I' (an integer) going over 32767
65523 IF ERR/2=5 THEN I=-32768: RESUME
65525 ON ERROR GOTO 0
```

Some little routine, huh? Ok, in order to use it you should have a version of the routine on tape or on disk (save it in ASCII format onto disk - ie: 'SAVE"SMALL/BAS",A'). Now load in your BASIC program to be converted to lower case. If you are using tape then append the above routine to your BASIC program by using the method outlined in last month's editorial. If you are using disk, use the MERGE command (ie: 'MERGE"SMALL/BAS"') to merge the above routine with your BASIC program. In either case, be sure that your BASIC program DOES NOT have any line numbers larger than 65500 or non-fun will result.

Now just type 'RUN 65500'<enter>, sit back, and watch as the BASIC program is converted to lower case. When the routine is through converting, then type 'DELETE 65500-65525'<enter> to get rid of the routine, save your BASIC program to tape or disk (for insurance), then proceed to lightly edit the BASIC program to make the upper and lower case stuff syntactically correct.

Counting on the tapes...

The numbers on the cassette label correspond to the counter on the CTR-80A recorder. However, these numbers are only rough approximations (due to variances in the CTR-80's and in our own duplication decks), and with only 9 seconds between some programs, trusting those numbers too much can cause problems. So to get to a particular program, just fast forward to the counter value, remove the black plug and the little gray plug from the recorder, and play the tape. If it is not blank at that point, do a little fast forward and/or rewind shuffle until you get to a blank spot. Then plug the plugs back in and CLOAD away.

Enough said, Dave