Tune in again next month...

"As the CLOAD Corporation Turns" - and flips, and flops, and - boy, am I dizzy! This week we look in as the entire staff breaks down and ends up at General Hospital. Whose idea was it to put out two magazines a month, anyway? Mine? Oops! Well, at least we are finally settled into our new shop with our new address. No, it's not the one on the cassette or on the envelope. There were a lot of old supplies left, and being conservation minded (we hate to throw money away), we decided to use them...

CLOAD MAGAZINE INC.
P.O. Box 1448
Santa Barbara, CA 93102
(805) 962-6271

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Side	Title	Turns Count CTR-41	Turns Count CTR-80
****	6 Line Cover	17 & 263	10 & 155
** **	Wanderer	47 & 285	28 & 168
** **	Music Master Instructions	100 & 324	59 & 191
** **	Music Master	144 & 358	84 & 211
****	Sample Song	238 & 433	140 & 255
**	Fast Graphics Instructions	11 & 261	6 & 153
***	Fast Graphics	68 & 303	40 & 178
**	Jerusalem Adventure	113 & 337	66 & 198
**	Reading	210 & 413	124 & 243
****			

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: (↑, ↓, ←, →) = ([, \,], ^).

6 Line Cover draws a symmetrical pattern on the screen with 6 (count 'em, 6) lines marching in unison.

Wanderer is one of those real-time games that looks so simple you feel embarrassed to be seen playing it. Ten games later the game is still simple, but you no longer feel embarrassed - you are addicted! Note - the program PEEKs the screen memory to see if you have hit something in your 'wanderings'. This may cause problems if you have the R/S lower case mod in your machine. Later in this editorial there will be more (mis)information on this recurring problem.

Playing in the "I'd rather have a piano" department you will find Music Master. Now you can compose and play little ditties on the TRS-80! Irritate your friends. If your composition isn't quite perfect, you can edit it (you can even insert forgotten notes, unlike a certain plug in ROM pack sold by a large corporation for their color computer allows you to do). To send the dog scurrying under the bed right away, load in Music Master and run. One item in the menu allows you to load in previously saved compositions. Choose

that item and load in Sample Song. When that is finished loading, choose the menu item that allows you to play that song. Look at that dog go!

For your convenience, the listings of the note and duration codes from the instructions are listed below:

Scales	Low	Med.	High	Higher
C	n/a	C2	C3	C4
C#/D flat	n/a	C#2	C#3	C#4
D	n/a	D2	D3	D4
D#/E flat	n/a	D#2	D#3	D#4
E	E1	E2	E3	E4
F	F1	F2	F3	F4
F#/G flat	F#1	F#2	F#3	F#4
G	G1	G2	G3	G4
G#/A flat	G#1	G#2	G#3	n/a
A	A1	A2	A3	n/a
A#/B flat	A#1	A#2	A#3	n/a
B	B1	B2	B3	n/a

n/a - not available for use

Note Durations	Codes
Whole	W!
Half	H
Dotted Half	H.
Quarter	Q
Dotted Quarter	Q.
Eighth	E
Dotted Eighth	E.
Sixteenth	S
Thirtysecond	T
Double Whole	WW
Whole and Half	WH
Whole and Quarter	WQ

You will need to plug the large grey recorder plug into an amplifier for Music Master. If you don't have an auxilliary amplifier, you can use the recorder itself. Just push the PLAY/RECORD switches down (you will have to hold in the anti-record protection switch at the back where the cassette goes) and listen through an earphone plugged into the earphone jack on the recorder. Your neighbors will thank you...

Do you ever wonder how some of our authors do those 'fast graphics'? Or do you know how, but it seems too complicated to mess with? Did you tie your shoes this morning? Fast Graphics has nothing to do with tying shoes (or the price of pickles in Belgium, for that matter) but it does make it EASY to generate string variables that contain fast graphic data!

Fast Graphics is a unique program in some ways. You use the program to generate fast graphic strings, then you delete all the rest of the program and build your own program around those strings you generated. The most unusual thing, though, is that you run the program one time to set the dimensions of the block that you will be drawing in, then you RUN the program again to draw in that block and pack your string with the info.

Wait - did I say, "RUN the program again"? That reinitializes all of the variables! Then how does it know the dimensions of the block to draw in? Those dimensions are saved in the program itself! In line 4 there is a string variable (V$) that is 3 bytes long. It holds the width, length, and number of bytes for the block you defined. Listing this line after the program has been run can give some weird results due to the values of the bytes in V$.

The program was done this way to allow you to go in and add your string variables to pack or to change the string variable names (it is initially set up to do G$(1)-G$(10)) after setting the dimensions of the block.

And now, a little lesson on fast graphics - grab a can of spray paint an find a blank wall. Oh, you want to know how to do it on the TRS-80...

If you enter 'PRINT CHR$(89)' into your TRS-80 you will have a 'Y' printed on the screen. You get the same thing if you enter 'PRINT "Y"'. Now, if you enter 'PRINT CHR$(153)' you get a '▌'. But you can't enter 'PRINT "▌"'. Or can you?

If we let 'A$="Y"', and then 'PRINT A$', we get a 'Y' on the screen (again!). Now, we 'PRINT ASC(A$)' and we get '89' (the ASCII value of 'Y'). If we could change that value to 153 (89+64), then A$ would equal "▚" and we could 'PRINT A$' to print a '▚'! Well, the value of A$ ('Y') is stored in memory somewhere. We just have to find out where it is stored and change the ASCII value from 89 to 153 using the POKE command. And to find out where it is stored we have the VARPTR instruction. Without going too far into the VARPTR instruction and how it is used to find the location of A$'s value (that is another whole lesson), below is a little routine to show how fast graphics strings can be created:

```
10 A$="@ABCDEFGHIJKLMNOP"
20 PRINT A$ : ' ORIGINAL STRING
30 PRINT VARPTR(A$) : ' LOCATION IN MEM OF 5 BYTE STRING DESCRIPTOR
31 '                    FOR A$.  THE 2ND AND 3RD BYTES GIVE THE
32 '                    ACTUAL LOCATION IN MEM OF A$ VALUE.
40 X = PEEK(VARPTR(A$)+1) + PEEK(VARPTR(A$)+2) * 256
41 '        X CONTAINS LOCATION OF FIRST CHAR IN A$ (@)
42 '                X = LSB + MSB * 256
50 L = PEEK(VARPTR(A$)) : ' GET THE LENGTH OF A$
60 FOR I = X TO L-1 : ' LOOK AT EVERY CHAR IN A$
70 POKE I,PEEK(I)+64 : ' ADD 64 TO ASCII VAL OF EACH CHAR IN A$
80 NEXT I : PRINT A$
```

After entering and running the above routine, list line 10. In the Model I, A$ will look like gobbledegoop, and in the Model III, A$ will be filled with graphic characters. You have just created a fast graphic string! Armed with this technique (or the Fast Graphics program), you can create pictures that are drawn on the screen in a flash!

Now for a pilgrimage to the Holy Land. Jerusalem Adventure puts you there - and won't let you out! The BREAK key is disabled just to make it a little harder for you to cheat. You can enter 3 character abbreviations for the commands (OPE DOO for OPEN DOOR) and you can save and load the current game status with the SAVE and LOAD commands. If you really need to leave Jerusalem, try QUIT.

A bit of warning - if you find yourself stuck and you need a hint on how to get past a certain obstacle (like how to get off the streets of Jerusalem), don't call here! I take a sadistic pleasure in NOT giving clues to adventure games. I consider that part of the FUN (?) of the game.

When it takes you 2 1/2 hours to read the Sunday comics, it's time to practice up on your reading. Reading flashes words and phrases on the screen for a preset length of time. Improve your reading speed, and you may find enough time to tackle the sports section...

In the uPPeR And loWEr CAse...

I try not to harp on certain topics (sure, sure), but the way Radio Shack designed their Model I lower case mod really BUGS me.

I do not have this mod in our machine and I don't have access to a TRS-80 that has one, so I'm just relaying what I've heard from users out there. If you PEEK or POKE the screen memory, the values received or the characters displayed on the screen are different for a lower case machine than for the standard upper case only machine. Some programs (last month's Disk Catalogue and this month's Wanderer, for examples) don't digest these differences well.

All is not lost - rather than modifying programs (adding 32 to each value returned when PEEKing the screen memory), just load in your upper-lower case

driver ('ULCDVR') first. This seems to work in most cases, but you may have to use capital letters to answer questions that the program asks. Thanks to William Richrath of Elmhurst, IL (among others) for this info.

The users speak again...

There is a stack of notes here from many of you with one thing in common - they all tell of ways to get last month's Breakthrough on disk. The most common suggestion is to use 'TDISK' from Acorn Software (634 N. Carolina Ave, S.E., Washington D.C. 20003). Stewart Schiffman of Pegasys Systems (4005 Chestnut St., Philadelphia, PA 19104) suggested this method:

1) Place this code in memory starting at A000 (40960 decimal):

HEX	ASSEMBLY	DECIMAL
21 00 40	LD HL,4000	33 0 64
11 00 80	LD DE,8000	17 0 128
01 99 0F	LD BC,0F99	1 153 15
ED B0	LDIR	237 176
C3 00 00	JP 0	195 0 0

Use a monitor program or POKE the values from BASIC.

2) Go into Level II BASIC (not DOS BASIC) and load Breakthrough. When it is through loading, type '/40960'<enter>.

3) You are now in DOS again. Add the following code starting at 8F9A (36762 decimal):

HEX	ASSEMBLY	DECIMAL
F3	DI	243
21 00 80	LD HL,8000	33 0 128
11 00 40	LD DE,4000	17 0 64
01 99 0F	LD BC,0F99	1 153 15
ED B0	LDIR	237 176
C3 1C 48	JP 481C	195 28 72

4) Dump the program to disk: start = 8000, end = 8FA8, and entry = 8F9A (decimal: 32768, 36776, and 36762).

Note: the instructions for Breakthrough will not be saved to disk using either method.

Alien fans (March, 1981)! If you are running TRS-DOS, you can run Alien from disk by naming it 'ALIEN/CMD', then typing 'CMD"I","ALIEN"' from DOS BASIC.

Stay tuned next month (I think) for a program that allows you to save any system program to disk and run it from disk.

Later,

Dave

ed.

IBM PRINTER

IBM I/O Selectric (15"), Printec port, driver program and word processor for use with TRS-80, 16K or 32K Level II. Prints upper/lower case - used - excellent condition! $600 & shipping. E. Zoltanski, 2463 Nebraska Avenue, Toledo, Ohio 43607.