

DUUG EXECUTIVE OFFICERS FOR 1988

PRESIDENT..Jack Shattuck....302-764-8619
V. PRES....Jim Davis.....302-478-7529
SECRETARY..James Dreibelbis.215-623-8772
TREASURER..Norm Sellers.....215-353-0475
SGTatARMS..Bill McLean.....302-366-1721
DOVER.....Oscar Dawson.....302-697-6343

Librarian..Don Newsom.....609-299-3720

NORMAL MEETING SCHEDULES AND PLACES:

(Note - see Page 1 this issue!)

CHRISTIANA,DE 4th Thurs. 6:30-9:30
DOVER,DE 2nd Monday 7:00-9:00

CHRISTIANA: Delaware's Christiana Mall
on Rte. 7 at I-95, Exit 4-S, Community
Room. Enter inside Mall, between J.C.
Penney and Liberty Travel.

DELMARVA CHAPTER: Kent County Court-
house, Basement Conference Rm. #25, The
Green and State Street, Dover, Delaware.
Use entrance on The Green side.

DUUG BULLETIN BOARD SYSTEMS (BBS)

No. Delaware: (302) 322-3999 24 Hrs.
300 & 1200 Baud
So. Delaware: (302) 734-5830 24 Hrs.
300 Baud

A Delaware Valley Users Group membership
includes printed newsletter, library and
software privileges, plus other special
benefits. Annual membership rate: \$15.

Articles appearing in THE DATA BUS may
be reproduced on BBS, disk or newsletter
as long as DUUG source is acknowledged;
unsigned work is by THE DATA BUS Editor.
DUUG encourages exchange newsletters.

NOTICE TO OTHER USER GROUPS, ON MAILINGS:
TO THE DELAWARE VALLEY USERS GROUP:

We ask that you use the P.O. Box on
THE DATA BUS mast to reach us. In past
years, mail sent to changing individuals
in the organization provided undesirable
delays in reaching others. Thank you.

ADVERTISING RATES IN THE DATA BUS

1/4 Page = \$ 5/issue, or \$ 45/12 issues
1/2 Page = \$ 8/issue, or \$ 75/12 issues
Full Page = \$15/issue, or \$125/12 issues

THE DATA BUS goes to DUUG member homes
in 4 states and over 70 TI User Groups.

Paid-up DUUG members may place a short
notice of their used computer equipment
for sale in THE DATA BUS without charge.

TRANSMIT YOUR NEWSLETTER COPY TO EDITOR
Jack Shattuck, (302)764-8619 or write to
DUUG, P.O. Box 6240, Stanton Branch,
Wilmington, DE 19804-9998. NEWSLETTER
COPY WILL NOT BE ACCEPTED FOR AN ISSUE
AFTER THE 2ND THURSDAY OF EACH MONTH.

Starting Volume 3 (Feb.'85-Jan.'86), an
annual index appears in the first issue
yearly. A Single copy of THE DATA BUS is
available to inquirers who write to the
Editor at DUUG's mailing address. Those
seeking multiple issues or sets should
forward appropriate mail/copy expenses.
All back issues are available. Vol. 1:1
was a single sheet in February, 1983;
most issues since Feb. 1985 are 10 pgs.

YOU CAN REACH THESE INDIVIDUALS WHEN YOU
USE THE NATIONAL BBS DELPHI CONNECTION:

Paul Charlton : TI994A
Mike Dodd : MY9640
J.Peter Hoddie: GENEVE

NEW SOFTWARE OFFERING:

MACFLIX, \$15, in XB, E/A, SuperCart
or on Geneve, runs MACPAINT 8x10 picture
images on your TI, printing to the Epson
or (at least some) ProWriter printers.

Save as a TI-ARTIST screen. If you
have PC-TRANSFER, you can move it from
your TI to an IBM disk. Available from
Genial Computerware, P. O. Box 183,
Grafton, MA 01519.

J. Peter Hoddie created this gem.

RECENT ASSISTANCE ACTIVITY FROM DUUG

Publication of DUUG's existence in
Computer Shopper (BBS, User Groups) has
brought other TI users out of the closet
in the past and continues to do so, even
for folks in our immediate area who had
not known we existed!

We have had several letters to the
DUUG P.O. box, from persons both wanting
to sell old TI systems, as well as those
seeking to BUY P-Boxes, etc., to move up
from tape and console basics. The latter
wanted not only hardware, but also to be
able to obtain software no longer found
in area stores. We've been able to play
matchmaker, while of course encouraging
ongoing involvement with DUUG.

Not to be ignored is the chance to
troubleshoot amongst members, as to ways
of resolving software/hardware hassles.
Even when you don't show up at meetings
our retaining you on active membership
means we can provide a neighbor who uses
the same equipment or program or who is
nearby to check an erratic contact.

Recent examples include substitute
use of a fellow member's RS232 interface
to avoid helplessness during a printer
whammy, and the need to reconfigure some
disks into the TI SSSD mode from another
Archived or simply "flippy" version in
which an exchange originally had been
packaged.

There are DUUG members who've been
around since the group started (in 1982,
although organized formally in 1983) and
who are still able to provide help with
some backup for certain programs not in
the DUUG library, or in the case of some
published items that needed a fix. Many
of us have cartridges which have become
dispensable to us, but which are valued
by others.

If you are considering leaving the
TI world, we remind you that there are
DUUG school affiliates - institutional
not just individuals - to whom your TI
donation would be welcome, as well as a
potential tax deduction. Contact us.

TEXAMENTS MOVES; CONTINUES TI SUPPORT; SEEKS SOFTWARE AUTHORS AND BACKS TI BASE DATABASE DEVELOPMENT

Now at 244 Hill Road, Yaphank, NY 11980 (516)345-2134 is Texaments, serving TI users since 1983. They operate a BBS - called TI SOURCE - with ads, news and to take orders for their large retail operation. The 24-hr. BBS number is (516) 475-6463; orders can be called to (516) 475-3480.

They support the new TI BASE, and are seeking program template submissions by users to be developed for package applications, in a similar manner as Dave Rose's CHARACTER SETS & GRAPHIC DESIGNS packages from users have grown. On TI Source is a separate forum for TI BASE users. Possible specialized newsletter publication for that data base is being considered. (TI Base, \$24.95 & \$2.00 w/h.)

Their Summer software listing included (TI-ARTIST) ARTIST'S COMPANION disks #4 through #7, as new, at \$9.95, as are earlier Companions #2 and #3 - each set is a 2-disk series of fonts and small pictures ("instances"). Artist's Companion #1 is a 5-disk set, for \$17.95. Also available: DESIGNER LABELS, to use instances on labels, \$9.95, Disk, 32K, XB or E/A. (TI-Artist, for \$19.95, uses an Epson, Prowriter, Oki 92/93 or Axiom 6P-550A.) Order 2 sets of the Artist Companion series for \$17.90, or 3/\$26.00.

CS&GD Disks #2-6 (Epson, Prowriter) and #7 (for Epson only) are two-disk sets for \$10.95 each; 2/\$19.50; 3/\$28.

Texaments also offers Myarc & Geneve products - order by mail, phone or modem; NO CREDIT CARDS. Add \$2/software and \$4/hardware item; shipped First Class or UPS. Current Myarc Floppy/Hard Disk Controller price: \$309.95.

We quote these prices here because they were sent to our mailbox as an offering to the DVUG as a whole. Most of the time, you can read catalog prices in MICROpendium, to which we've drawn your attention in the past. But ...

Those are individual rates - User Group discounts can provide lower costs for multiple purchases. (That's why we need your input on surveys! ...) If interested, contact your DVUG officers.

UP A TREE? MORE GENEALOGY PROGRAMS ...

No further info, but you can inquire from Ken Barber, 9648 SE Ellis, Portland, OR 97266 about YOUR ANCESTORS, in TI BASIC, \$10 - \$25 (?), or from Hardware, Inc., P.O. Box 241746, Memphis TN 38124; YOUR FAMILY TREE, \$44.95.

FOR THOSE WITH MORE EXPENSIVE TASTES ...

"9640 NEWS" is a diskzine compatible with Geneve but not the TI-99/4A. 5 issues annually are \$25; from Editor Beery Miller, 1561 Galveston, Memphis, TX 38114.

At that same end of the spectrum is McCann Software's AVANTI-TI 99 FORTH CARD, \$595. Write to P.O. Box 34160 in Omaha, NE 68134, regarding this CAD/CAM resource that will process 5 million instructions per second (MIPS) on a TI.

NEWSLETTER RESOURCES: WHAT WE GET EACH MONTH ...

Among 60 DVUG exchange newsletters that span the USA, Canada and across the oceans, these subject areas seem to be covered most successfully on an ongoing basis by the authors or user groups indicated below ... at least, in the opinion of THE DATA BUS Editor. If you want to borrow the files for a month (and return them!), you may want to consult the following:

Assembly Language - Adrian Robinson, ROM Newsletter

BASIC Programming - Walter Blood, KC 99'er Connection

"C", c99 - Donald Mahler, Boston Computer Society, and Don Chick, TI-SIG, San Diego Computer Society

Cassette Tape Tips - Mickey Schmidt, PUG Peripheral

Console/PEB Hardware Designs - John Willforth, West Penn 99'ers

FORTH - Earl Raguse, ROM Newsletter

MiniMem - East Anglia Region (EAR) 99'ers U.G, England

Multiplan - Audrey Bucher, PUG Peripheral

Printer Programs - Tom Freeman/George Steffan, LA 99'ers TOPICS

XBasic - Jim Peterson, TIPS FROM THE TIGERCUB

(Many previous items found in C.O.N.N.I. - the Spirit of 99'er newsletter in Jim's Central Ohio home territory.)

Miscellaneous programs - PUNN Wordplay, Portland, Oregon; Numerous programs each issue (many in fine print)

Miscellaneous program tips - Gathered voraciously by Chick DeMarti from those other newsletters I don't see, and printed in LA 99'ers Topics

That doesn't mean you can't get great gleanings from any other newsletter or author I haven't mentioned, maybe diskazines like the Central Westchester 99'ers, or from an individual article - which may get reprinted many times - but these are some favorite consistently good individuals.

TIGERCUB SUPPORTS US; DO YOU SUPPORT HIM?

Jim Peterson has forwarded a disk with TIPS FROM THE TIGERCUB (columns) #46-#54, and his convenient "PRINTALL" program. Tigercub Software Catalog #8 is also included on his gift disk, available from DVUG chapter libraries, and being given to our SysOps. Thank you, dear Tigercub!

UPDATES TO POPULAR FAIRWARE; ARCHIVER 3.02, JOHNSON "BOOT"

Barry Boone, full-time college student, has provided a more rapid ARCHIVER, VERSION 3.02 (8/16/88), which runs compatibly with Geneve MDOS, and which un/compacts with single passes, as opposed to Archiver II. Additional help occurs with printed catalog options and a quick View Text program. Compression is even tighter than before, saving more space and time for library/modem use.

Barry's Docs state: "Users who have paid over \$20 for Archiver II are not asked to pay for Archiver III although a few dollars or so for the update would certainly be appreciated." He credits five user groups' donations as a group as responsible for achieving release of this version - a reminder that Fairware does NOT come FREE.

To contact Barry Boone, allow time for a school break when you write P.O. Box 1233, Sand Springs OK 74043, even if you use other than green ink to thank him. ARCHIVER III will be available from DVUG sources (Library, BBS).

John Johnson of Florida has written an XB Loader that allows those WITHOUT the Horizon RamDisk or multiple sided and multiple density (i.e., those left with plain TI SSSD) drives to benefit from a quick customized loader.

Options include viewing Directory and files, running an assembly, cartridge or XB program - including a menu of your 6 favorite options, going to TI BASIC, changing print set-up, G/ROM switching, calling the CorComp MGR, and more with a minimal amount of disk space for the program (Over 300 sectors left for your files). Nice documentation, too.

One might ask how many Load programs one can use, but seeing this in action lets you appreciate superb talent as well as utility without being linked into others' program needs (e.g. FUNNELWRITER) you may not share.

Fairware acknowledgment can be sent to the author who describes the program as BOOT! (V3), made by "Brute Force Software". Write to John Johnson, 2981A Vermont Avenue, Homestead AFB, FL 33039, Telephone 305-257-2102.

The above goodies were picked up during August, when the DVUG President (THE DATA BUS Editor) was visting his in-laws in Buffalo, NY. We exchanged 1988 newsletters with the President, Editor, and SysOp, and Librarian (i.e., Bob Coffey, Jr.) from the Western NY 99'ers, and was able to see the nice job Harry Brashear and Elizabeth Seib did for TI-WRITER users, with Harry's publication, "THE WRITERS", described in a previous reference list.

(Thanks to the Cin-Day U.G., by the way, for finding Bob's address for me! You'll see his work in MICROpendium from time to time.)

Bob also passed along another Fairware offering which librarians may wish to consider, a USABLECATalog program with Comment and Sort aspects, also from Harry Brashear. You can write Harry at 2753 Main Street, Newfane NY 14108, or WNY 99'ers c/o 298 Brentwood Dr., No.Tonawanda NY 14120

CALL KEY ROUTINES (BASIC Notes from Earlier Newsletters)
From DVUG's THE DATA BUS, Vol. 3, No. 5, June, 1985

To avoid user release of the AlphaLock, and then have a lower case input ignored, another method might be CALL KEY (3,K,S). This tells the computer to read lower case input as if it were upper case, avoiding user frustration. Another way can be found in lines 3000- below. Type in this listing in BASIC:

```

100 CALL CLEAR
110 GOSUB 1000
120 PRINT "THANK YOU/YES/1st CHOICE"
125 STOP
130 PRINT "NO/2nd CHOICE"
135 STOP
140 PRINT "3rd CHOICE"
145 STOP
150 PRINT "4th CHOICE"
155 END
1000 PRINT "<PRESS ANY KEY>"
1010 CALL KEY(0,K,S)
1020 IF S<1 THEN 1010
1030 RETURN
2000 PRINT "<PRESS ENTER>"
2010 CALL KEY(0,K,S)
2020 IF K<13 THEN 2010
2030 RETURN
3000 PRINT "PRESS <C> TO CON
TINUE"
3010 CALL KEY(0,K,S)
3020 IF (K=67)+(K=99)THEN 12
0 ELSE 3010
3030 RETURN
4000 PRINT "NEED INSTRUCTION
S? (Y/N)"
4010 CALL KEY(0,K,S)
4020 IF K=78 THEN 130
4030 IF K<89 THEN 4010
4040 RETURN
5000 PRINT "CHOOSE 1,2,3 OR
4"
5010 CALL KEY(0,K,S)
5020 IF (K<49)+(K>52)THEN 50
10
5030 ON K-48 GOTO 120,130,14
0,150
5040 RETURN

```

Using a conventional full keyboard scan, CALL KEY(0, ...), this set of BASIC routines provides for a display and response if you:

- 1) Press any key (Lines 1000-).
- 2) Press a particular key. Here the example is the <ENTER> key; it could be any one. To find the key ASCII code number, use the command PRINT ASC("A"), e.g., and you get 65. <ENTER>=13 and the SPACEBAR, a blank character= 32 (Lines 2000-).
- 3) Check for EITHER upper/lower case, i.e., is Alpha Lock on/off? In this example, C=67, c=99 for an Either/Or test (Lines 3000-).
- 4) Look for either Y or N, else wait further (Lines 4000-).
- 5) Select any key from a number menu (Lines 5000-).

After you've saved this listing and RUN it once, then change line 110 to read either 2000, 3000, 4000 or 5000. Then RUN it again.

You may want to build a library of repeatedly-used subroutines... Subroutines can be saved using names, such as SUB PRESSKEY, for recalling by a CALL command, just as in built-in TI subroutines like CALL CLEAR. ...

THE VCR CONNECTION

By John Parkins - Central Ohio Ninety-niners - March, 1988

Have you ever considered or wished that you could hook up your TI COMPUTER to a VCR? Or have you ever thought about the consequences or effects that you might achieve by doing so? Well, I had in the past, but never quite knew how to do it, or what the effect might be until I tried it. And I liked it! Just think about it for a minute and let your mind wander with me for awhile, and we'll see what happens.

Let's just assume for instance that you like to play games on your computer. Or, maybe you have a favorite program that you like and run it quite often, such as one of those cartridges like Personal Record Keeping, or one like Tax Investment Records, or Household Budget Management. As a matter of fact, any kind of a program or game that you can think of that will give you a display that shows up on your screen or monitor, whether or not it can be printed out on a printer will be considered here. One might ask by now, what's the point?

My main point is this. Let's take the person that does not have a printer and only uses the console and monitor, or a TV set for the screen. Once you are done with the program and turn the console off, all is lost and gone forever. Right? OK. Now, let's assume that you have, or can get your hands on a VCR, since there are more households that have VCR's for home entertainment than those that have a printer for their 99/4A computer. Anyway, even if you do not have a friend that will let you use theirs, one can be rented from any of several video tape rental places very cheaply when comparing it to buying one. Just make sure it is a VCR (video cassette recorder), not a VTP (video tape player) for the VTP will not record, only play your tape. Now, with a VCR set up in the record mode and hooked up to your computer, everything that is shown on the screen is then captured or recorded on the video tape and can be played back at any other time that may be convenient for you. In doing so, you can immediately view your files or records, or, you can find out by watching the tape how skillful your keystrokes are in a session such as a TYPE TUTOR, etc. With a program such as a typing tutor, there is no way that you can save or record each lesson as you go to enable you to study it later, or be able to analyze your particular situation. Just imagine watching your mistakes as they happen. Seeing is believing, and I'm a believer. The TOUCH TYPING TUTOR cartridge is one that will not save your lessons to either a cassette tape or to a disk drive, much less give you a printout on paper.

Now, maybe you can envision the importance of the VCR in the scope of an analysis in any type of given situation, even those that have the TI P/BOX with all of the cards in it, can and will find a practical use for their VCRs with the TI-99/4A system. The ones that can benefit most are those of you that are operating with only the bare console and a cassette recorder. And by the way, I might add that if you hook your VCR up right, it can entirely replace the need of your old audio cassette recorder. If you save your program on the VCR tape, you will then be able to reload it into the console from the VCR at a later time. Now you can think of all the possibilities of use for it.

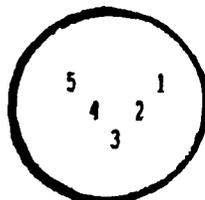
THE GOOD PART comes next!

I can hear the questions rattling in your mind! How in the world can I get mine hooked up? If you are truly interested, read on! If not, you can skip the rest.

I noticed that my VCR had four RCA jacks on the panel, one for video input, one for audio input, one each for video audio output. I had all ready inspected and repaired my video modulator when it malfunctioned and was familiar with what was inside that little box that hangs from the back of the TV. I knew it had a video and audio and the ground connections inside. That's where I had to make the repair to the broken wire. I'm not digressing here, only letting you know how I stumbled onto this in the first place. I had some old 8mm movies of the children taken in the 50's that I wanted to convert to VHS and make copies for the children. A very dear friend and computer enthusiast of mine, Jack Montag, a professional photographer, agreed to make the conversion for me. Another friend in the club, Frank Skinner, had purchased a program from J&KH SOFTWARE called Video Titles II which will make automated sequences of custom titles for in-store advertising or video recordings. Frank had used this program to make a title display for his Computer Robotics Business with great success. I borrowed this program and generated some fancy titles for my homemade movies. My next step was to make a cable to connect it all together. Needed was a plug that was on a spare video modulator from Radio Shack. Now, all I had to do was desolder the plug from the wires. Next, I found a pair of jumper wires with RCA phono plugs on both ends. One happened to be red and the other black. I cut the plugs off of one end of each cable and stripped the insulation back to expose the wrapped shielded wire and the inside solid wire of each cable where the old RCA phono plug was.

I then twisted and soldered the shielded wires of both red and black cables together. This left the center wire of each cable to be dealt with. (This one has the small plastic covering on it. Trim only a small portion of this plastic off of each cable so that only a very short portion of wire is extending from it. The next step is to find your plug from the old video modulator. If you were to hold the plug in your hand and look into the open end, you would see 5 pins, arranged in what could be determined to look like a (happy face without eyes). The pin arrangement makes the big smile. Looking at them from right side to the left, we will call the right-most pin #1. It is the audio pin, where the red audio wire is to be soldered to. The very center or bottom pin is the common ground, where the twisted shielded pair is to be soldered to. The black wire is the only remaining wire and is to be soldered to pin #4, located just to the left of the center pin. This is the video pin. After the solder joints have been completed, replace the plug hood and it is ready for use. Just plug this plug into your console, and place the other ends into your VCR where the black RCA phono plug goes into the Video-In Jack and the red RCA phono plug goes into the Audio-In Jack of the VCR. From the VCR, you then connect your regular cable from VCR to the TV in the normal manner. (This would depend on the type of connectors whether they be twin flat leads or cable-ready which uses the 75 Ohm resistor.)

- #1 AUDIO-OUT
- #2 NOT USED
- #3 COM-GROUND
- #4 VIDEO-OUT
- #5 NOT USED



From DVUG's Norm Sellers, 15 Dorset Drive, Broomall, PA 19008 (215)353-0475:

The MUSIC PREPROCESSOR consists of 2 SSSD disks (or a SSSD floppy). Please send a donation of \$10.00 with disks and mailer or \$12, and I'll furnish the disks, mailer and postage.

In response to many requests for additional music samples, I am making the music that I have coded available for a suggested donation of \$5.00 for each disk, or \$9.00 for a double sided floppy of music toward my efforts and expenses. The music itself is free. Of course, my original offer to "trade music disks that you have coded" still stands.

1. SONGSEZ-1: The Impossible Dream
The Anniversary Waltz
Let's Sing Another Old-Time Song
Autumn Leaves
Beautiful Ohio
Theme from Love Story
Wonderful One
You Ain't Heard Nothing Yet

AND AN EXTRA YOU CAN'T AFFORD TO BE WITHOUT:
SAVEXT, a BASIC program.

DESCRIPTION: A BASIC program to recover an Extended Basic program that is in memory when the system crashes. This is done by searching high memory for the program's line number table. When found, the program displays the CALL LOAD that may be entered to fully recover the program so it may be saved.

REQUIREMENTS: You do need the Editor/Assembler and Extended Basic cartridges and 32K extended memory. NOTE: This program will not work if you have a special system that uses high memory in initializing Extended Basic or Assembler Editor menus such as automatic disk manager functions upon cold start.

2. SONGSEZ-2: Somewhere in Time
Stardust
Exodus
Silent Night with Travelers
Dueling Banjos
Nadia's Theme
My Love She's But a Lassie Yet (An attempt to play the Bag Pipe)
Aquarius

3. MUSICSPEB1: (CONTAINING BARBERSHOPPER MUSIC ONLY)
Dear Little Pal
You Ain't Heard Nothing Yet
The Spaniard That Blighted My Life
Adelviz
Jean

ASSEMBLY LANGUAGE by Adrian Robinson
From The ROM Newsletter, August, 1988

Some of our favorite programs are using "windowing" and reverse video displays and users generally seem to like these enhancements. I have, therefore, chosen to discuss methods of using these techniques in your programs. They are, in fact, very easy to use.

As usual in Assembly Language there are several possible approaches to every problem. I have chosen what I believe to be the simplest and most direct way to go. In the accompanying programs, I have broken out three programs at the bottom of the listing, CHRS2, WINDO and INURS. The first of these, CHRS2 should not be a subroutine since it is executed only once in a program. I broke it out only to bring together the three "tools" necessary for the job. It would usually be executed in-line early in a program.

CHRS2 reads the pattern definition table for the standard character set, ASCII codes 32 thru 127, inverts each byte of the pattern definition and writes these inverted definitions to the table for ASCII codes 128 thru 223. Thus we have two complete character sets, separated by an offset of 96 (>60), the second of which is inverted, i.e., foreground and background patterns are reversed.

WINDO is simply a multiple-line display subroutine which reads text and displays it in normal screen colors in a block, or window, according to the numbers of rows and columns specified in the DATA following the BL instructions.

The INURS subroutine does the same thing as WINDO except that it applies a >60 offset to the text, thus accessing the second character set and displaying the window in inverse video.

That is all there is to it. See how easy it is?! Try it. You'll like it. One quick note. WINDO and INURS each contain an instruction: AI R0,40 to go to next screen line in Text Mode. In Graphics Mode change to AI R0,32.

```

*****
* WINDOWS and INVERSE VIDEO *
*   Adrian Robinson   *
*   June 1988         *
*****
      DEF START
      REF USBR,UMBR,USBW,UMEW,UWTR
      REF KSCAN,GPLWS
KEYADR EQU >8374
KEYVAL EQU >8375
STATUS EQU >837C
MYWS BSS 32
SCRBUF BSS 960
FRAME DATA >1818,>1818,>1818,>1818 91
      DATA >0000,>001F,>1F18,>1818 92
      DATA >0000,>00F8,>F818,>1818 93
      DATA >1818,>181F,>1F00,>0000 94
      DATA >0000,>00FF,>FF00,>0000 95
      DATA >1818,>18F8,>F800,>0000 96
MSG TEXT '
      TEXT ' SIMULATE CURRENT SCREEN '
      TEXT '
W1 TEXT '\_____]'
      TEXT '[ This is a Sample ['
      TEXT '[ of a Window ['
      TEXT ' _____'
W2 TEXT '\_____]'
      TEXT '[ Another['
      TEXT '[ Window ['
      TEXT '[ Sample ['
      TEXT ' _____'
MENU TEXT '\_____]'
      TEXT '[ MENU ['
      TEXT '[ ['
      TEXT '[ 1. See Munchkinland ['
      TEXT '[ ['
      TEXT '[ 2. Travel Road to Oz ['
      TEXT '[ ['
      TEXT '[ 3. Visit the Wizard ['
      TEXT '[ ['
      TEXT '[ 4. Return to Kansas ['
      TEXT ' _____'
ENTER BYTE 13
      EVEN
START LMP! MYWS
      LI R0,>01F0
      BLMP >WATR Set Text Mode
      SWPB R0
      MOVB R0,>8304 Save UDP Reg. 1
           >8304
           >8304
           >8304
      LI R0,>07F4 White on Blue
      BLMP >WATR Set Screen Colors
      CLR R0 Put up simulated
    
```

```

LI R1,>5800 screen
BLMP >USBW All 'X'
INC R0
CI R0,960
JLT $-10
BL WINDO Put Screen MSG
DATA MSG,407,26,3
LI R0,2776 PTR Adr of ASC 91
LI R1,FRAME
LI R2,48
BLMP >UMEW Redef Frame Chars
BL >CHRS2 Def Inverse Charset
CYCLE CLR R0
LI R1,SCRBUF
LI R2,960
BLMP >UMBR
BL >KSCAN
BL >WINDO Write Window 1
DATA W1,162,20,4
BL >KSCAN
BL >WINDO Write Window 2
DATA W2,588,10,5
BL >KSCAN
BL >WINDO Write Menu
DATA MENU,248,24,11
BL >KSCAN
BL >INURS Write Menu in
DATA MENU,248,24,11 Inverse Video
BL >KSCAN
BL >WINDO Flag Menu Entry
DATA MENU+121,449,22,1
BL >KSCAN
CLR R0 Restore
LI R1,SCRBUF Current Screen
LI R2,960
BLMP >UMEW
JMP CYCLE Recycle until ENTER
SCAN CLR >KEYADR Keyboard Scan
      CLR >STATUS
      BLMP >KSCAN
      MOVB >STATUS,R0
      JEQ $-8
      CB >KEYVAL,ENTER
      JEQ RETURN
      RT
RETURN LMP! GPLWS Return to Caller
      CLR >STATUS
      B >70
*
CHRS2 LI R2,768 Read Pattern
      LI R0,0900 Definitions for
      BLMP >USBR ASCII 32 - 127
      INU R1
    
```

(Continued on next page)

