UPSTATE UPSTATE UPSTATE UPSTATE UPSTATE UPSTATE UPSTATE UPSTATE UPSTATE UPSTATE

OUR NEXT MEETING will be on Thursday

JULY 16,1986 at 7:30 pm

THE SEPTEMBER MEETING will be

September 18, 1986 at 7:30 p.m.

PLACE: CAPITAL DISTRICT PSYCHIATRIC CENTER

New Scotland Ave. Next to Albany Medical Center

THERE WILL BE NO MEETING IN AUGUST BUT A NEWSLETTER WILL BE PUBLISHED.
The agenda for the July meeting is as follows:
A pictorial display on the 99/4a.
New products from Databiotics will be shown.
The Software Library Club will be present.

A NOTE to other Users Groups: The articles printed in the Upstate Newsletter
may be reprinted if proper credit is given to the author and to the Upstate New
York 99/4 Users Group.

ALBANY TEXAS INSTRUMENTS BULLETIN BOARD SERVICE (TIBBS)-out of service

UPSTATE 99/4A USERS GROUP
P.O. BOX 13522
ALBANY, N.Y. 12212

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>iGROM0: TITLE SCREEN REDESIGN
by Walter Howe, CIS 70277,3530

With the help of the GRAM KRACKER manual, "TI99/4A INTERN" by Heiner Martin,
and my own poking around, I have put together this partial guide to modifying
GROM 0, particularly the title screen and character sets. I can see that a lot
more than this can be done as I begin to unravel the Graphic Programming
Language code contained in GROM 0, but this guide will concentrate on the
changes that can be made by changing nothing more than data tables and text
strings.

TEXT MODIFICATIONS:
Most of the text on the title screen and the following menu screen appears in a
single string beginning at (or near) memory address g04BF. The string begins
with the copyright symbol (hex 0A). For the sake of illustration here, I will
use the "" in its place. The complete string is '1981 TEXAS INSTRUMENTSHOME
COMPUTER". The copyright character will not appear in the GRAM KRACKER editor
in ASCII mode. You have to switch to hex mode to see the 0A character.The
copyright symbol itself is defined at g0998 - more about this later. If you do
not want to keep the copyright symbol, you can overwrite it with whatever
character you want or even redefine the symbol. The top text line on the
screen uses the 8th through 24th characters of the string. The second line
uses characters 25 through 37. The bottom line on the screen uses characters 1
through 24. Count spaces as characters, of course, and notice that there are
two spaces after "1981". The top two lines are repeated on the following menu
screen. The main things to realize are that any modifications to the string at
g04BF will appear in three different places, and that your replacement string
cannot be longer than the given one. Other text appears as follows:

g014B - READY-PRESS ANY KEY TO BEGIN
g025D - PRESS
g094D - FOR

GRAPHICS CHANGES:
The Texas Instruments logo - the state of Texas with the embedded "t" and "i" -
is defined beginning at or near g0950. Nine special graphics characters are
designed which fit together in a 3x3 pattern to create the logo. The pattern
is as follows:

            123
            456
            789

The logo appears on the title screen, the menu screen, and is sometimes used by
cartridge based programs, as well. If you substitute your own design, be
prepared to find it appearing in unexpected places. The nine characters are
defined by eight hex character pairs each or by 16 hex characters just as they
are in basic/xbasic. In case you have one of the slightly different operating
systems, look at or near g0950 for hex characters beginning 01 03 03 03 03 03
03 03 03 FC... . Immediately after the logo patterns appear 8 hex pairs at or
near g0998 defining the copyright sign. This pattern begins 3C 42 99 A1... .
As indicated above, you can use this, ignore it by substituting a text
character in your own character string, or substitute your own pattern for your
own purposes. It is identified in text by the hex pair 0A. It will not show
up on screen in the GRAM KRACKER editor ASCII mode - only the hex mode.

EDITING COLORS, INCLUDING COLOR BARS:

The color table for the title screen and follow-on menu screen is located at or
near g0459, beginning with a series of 12 hex 17's. The 17's define the
character set colors (black on cyan). You can, of course, change these to any
other preferred text and background colors. Following the 17's, the next 16
hex pairs, all beginning with 0, define the different colors that appear in the
color bars. Change these to substitute your own color patterns as you wish.
If you make them all the same color, the bars will be a solid color instead of
a pattern of colored squares, for example. Whatever you select will appear in
both the top and bottom color bars. Finally, the edge color is defined as the
second digit of hex location g045B, which is F7. Change the 7 (cyan) to
anything else you want.

CHARACTER SETS:
There are three character sets in GROM 0 - the large eight dot high capitals
(with numbers and symbols - ASCII 32 through 95 or hex >20 through >6F), the
7-dot high capitals (likewise), and the so-called lower case characters, which
are really small capitals. The NEWCHARS utility provided with the GRAM KRACKER
alters the last two sets, but (_not the title screen capitals set. The eight
dot set begins at g04B4 with a series of 8 00's, which is the space character,
of course (ASCII 32 or hex >20). The smaller capitals begin immediately
following the large capitals at g0684 with 7 00's for the space character. The
lower case begins at g0874 with 00 20 10 08 00 00 00 representing the grave
accent (`) or ASCII character 96 (>60) and continuing through character 127
(>7F). The set concludes at g094C, just before text "FOR" and the TI logo
set.

SUMMARY OF KEY ADDRESSES:

HEX
ADDR   BEGINS...   TEXT OR PURPOSE
====   ===========   =====================
014B   52 45 41 44   READY--PRESS ANY KEY
025D   50 52 45 53   PRESS
045B   F7   7 is cyan edge color
0459   17 17 17 17   Black on cyan chars.
0466   06 03 01 0B   Color bar colors
048F   0A 31 39 38   1981 TEXAS INSTRUM
04B4   00 00 00 00   Large capital set.
0684   00 00 00 00   Regular capital set.
0874   00 20 10 0B   Lower case char set.
094D   46 4F 52   FOR
0950   01 03 03 03   TI logo definition
0998   3C 42 99 A1   Copyright definition

IF YOU WOULD LIKE TO EXPLORE FURTHER:
It is fairly easy to move the color bars, change their size, and change and
move text and graphics, but the systems of numbering screen locations are
complex and far from obvious at first look. (Yes, I meant systemS.) One of the
systems is the consecutive numbering of locations in hex that is used in
Assembly language. Another is to specify row and column addresses, but the
addresses as they appear in hex code (the way you see it from the GRAM KRACKER)
are a different story. Row addresses begin with A0 and column addresses begin
with 80. A third system is to specify row and column offsets from the last
address. If you have the book "TI99/4A INTERN", this should be enough to help
you figure out the addressing systems. If you do not, I don't advise your
trying to touch this area unless you are a very knowledgable programmer. To
explain the uses of the different systems used by the GPL would approach book
length (and I hope someone writes it!).

PRESIDENTS'S COMPUTER CORNER

This month we will have three software products from DATABIOTICS to demonstrate

    (1) Supercartridge with disk utilities.
    (2) Diskmaster I — disk manager with much more ability.
    (3) BITMAC — a grpahics/artist program .

In the future we should have some products from Pilgrim's Pride to show.

FOR SALE

One PE box with ss/sd disk drive, TI disk controller, and 32k ($325.00) — call
Nick at 372-1178.

One 32k memory sidecar — ($50.00) — call Art at 370-5215

Andy Lawton has the following for sale — call 829-7067 after 5 pm:
    1 — TI 32K card for peb $75.00
    1 — Foundation 128k card w/Disk Emulator — $150.00
        Software and all available free
    1 — Shugart (TI) ss/dd disk drive — $50.00
 Will consider best offers.

Do you have something to sell? See me at the meeting .

                                                Arthur F. Payeur