Spare Directory on Track Ø
Use 'C/Ban'b restore.
Backup copy on Side B (Single Sided)

MASTER DESIGN

(C) 1984 BY
DERRINGER SOFTWARE
INC.

REQUIRES A 32K COLOR COMPUTER WITH
AT LEAST ONE DISK DRIVE

M A S T E R D E S I G N 2 . 0

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WAIT JUST ONE MINUTE!

Make a BACKUP of the program disk and then continue with your copy!

CUSTOMIZING THE SCREEN PRINT FEATURE

Included on the MASTER DESIGN diskette are two machine language programs that are used for generating hardcopies of the hi-res display. These are used by the Letter Head Utility also. This section must be completed to assure you'll be able to obtain hardcopies and interface your displays with Telewriter-64 or your own BASIC programs. You will need to refer the section on printing graphics in your printer manual to obtain the needed information used in customizing the screen print routine. You'll have to do this only once!

A LITTLE BACKGROUND INFORMATION ON GRAPHICS

When a printer is used in the graphics mode, codes received are translated into a vertical dot pattern. Any combination of a vertical design of these dots can be produced by sending out the proper code. This is where variations are found between different printers. Some printers can produce combinations of 8 dots in the column where as others can produce only 7. Added to this is the fact that even though two different printers can produce the same number of dots, they may require different codes to produce the same design. These two variables, the number of dots that can be produced and the type of codes needed is what you must define.

FIGURE 1

DOT	CODE
1	0 - 1
2	0 - 2
3	0 - 4
4	0 - 8
5	0 - 16
6	0 - 32
7	0 - 64
8	0 - 128

Program: SP1/BIN

FIGURE 2

DOT	CODE
1	0 - 128
2	0 - 64
3	0 - 32
4	0 - 16
5	0 - 8
6	0 - 4
7	0 - 2
8	0 - 1

Program: SP2/BIN

Figures 1 and 2 illustrate how these codes can be different from printer to printer. For 8 dot printers, figure 1 shows that to have the top dot printed would require that code 1 be sent to the printer while figure 2 shows that code 128 is required for the same pattern. For 7 dot printers, the top 7 dots in figure 1 would be used as a reference while figure 2 would use the bottom 7. In either case, you will notice that figures 1 and 2 are just the opposite of each other.

MAKING THE CHANGES

Place the Master Design diskette in drive 0 and LOAD "MD".

LIST line 60 Okidata users should change this line to read: 60 OK=1

LIST line 70 - If your printer can only produce a column of 7 dots then leave this line as is. If your printer can produce a column of 8 dots then change this line to read: 70 BI=8

LIST line 80 - Some 7 dot printers actually use codes 128 to 255 for producing graphics. If your printer uses these higher codes and it only produces a 7 dot column then change this line to read: 80 AV=128

LIST line 90 - This line contains the variable(s) needed to set your printer in the graphics mode. A table of these codes can be found in your printer's manual. (See listing below)

LIST line 100 - This line contains the variable(s) needed to have your printer exit the graphics mode. A table of these codes can be found in your printer's manual. (See listing below)

LIST line 110 - This line contains a preset tab setting for having your graphics print at any horizontal tab. This value can be changed here or can be entered from the keyboard whenever a hardcopy is printed.

LIST line 260 - If the codes for your printer match figure 1 then you can leave this line as is. If you codes match figure 2 then change this line to read:
260 LOADM "SP2/BIN"

Master Design comes ready to run on most Radio Shack dot matrix printers. The following are suggestions for other printers:

```
EPSON:  60 OK=0
        70 BI=8
        80 AV=0
        90 GM$=CHR$(27)+CHR$(65)+CHR$(8)+CHR$(27)+CHR$(75)+CHR$(0)+CHR$(1)
       100 EG$=CHR$(27)+CHR$(64)
       260 LOADM "SP2/BIN"

C. ITOH:  60 OK=0
          70 BI=8
          80 AV=0
          90 GM$=CHR$(27)+CHR$(83)+"0256"
         100 EG$=CHR$(27)+CHR$(99)+CHR$(27)+CHR$(84)+"16"
         260 LOADM "SP1/BIN"

OKIDATA: 60 OK=1
         70 BI=7
         80 AV=0
         90 GM$=CHR$(3)
        100 EG$=CHR$(3)+CHR$(2)
        260 LOADM "SP1/BIN"
```

MAKING THE CHANGES (cont)

```
GEMINI: 60 OK=0
        70 BI=7
        80 AV=0
        90 GMS=CHR$(27)+CHR$(51)+CHR$(13)+CHR$(27)+CHR$(76)+CHR$(0)+CHR$(1)
       100 EG$=CHR$(27)+CHR$(64)
       260 LGADM "SP2/BIN"
```

*Gemini printers should be set in the uni-direction mode by performing:
PRINT#-2,CHR$(27);CHR$(60) This should be done before you start the program.

Make the necessary changes and then save the program by typing:

SAVE "MD/BAS" [ENTER]

Check these settings when the program is first used to make sure it's working properly. If you need to make changes, press [BREAK] while the program is running and then do so. Master Design is written in BASIC, so after making any changes just type in RUN and then press [ENTER]. Once the correct settings have been made for your printer, SAVE the program using the command. SAVE "MD/BAS" [ENTER]

These same variables will be indicated in two other routines so once you get them right, write them down or LLIST them.

Please contact us if you have problems. We would also appreciate hearing from you on how you interfaced MD with your particular printer - either special adaptions or successful settings for printers not listed in this manual.

* *

The screen print routines used in MASTER DESIGN were developed using the powerful COLOR COMPILER from COMPUTERWARE. We highly recommend this software development tool for serious programming.

GETTING STARTED

To start Master Design: RUN "MENU"

This small menu will access the Master Design program and the Letter Head Utility.

Throughout this manual, a key or the name of a key on your keyboard will be referenced by enclosing it between brackets []. A two-key sequence will be indicated by joining the two together with a "+" symbol. For example, [SHIFT]+[CLEAR] indicates to hold down the "shift" key and then press the "clear" while it's being held down. A sequence of key strokes may also be indicated without a "+" mark joining them. This means to press the key as indicated and then release it before pressing the next one.

Press [1] to access Master Design.

MD has two modes in which you can work. The EDIT mode allows you to type text directly on the screen, and the GRAPH mode lets you perform graphic design.

MD automatically begins in the EDIT mode and will generate a flashing cursor bar to indicate screen position. MD will display the title page when you first start so the first step is to press [SHIFT]+[CLEAR] and then [CLEAR].

Now, type the word DESIGN and then press [ENTER]

Perform the following keystrokes: [SHIFT]+[CLEAR] [F] [D] [4] [1]

Now type the word DESIGN

This is only a small sample of the many character styles you can create with MD. If you

aren't prepared to spend the next few hours exploring the features of MD then it's suggested you stop right now!

T E X T M O D E

```
Cursor movement: [ARROW KEYS] - Moves cursor 1 character space.
                 [ENTER] - Advances to next line.
                 [SHIFT]+[ARROW KEYS] - Moves cursor 1 dot space.
```

All characters, except lower-case can be generated simply by pressing the key.

G R A P H I C S M O D E

The graphics mode is accessed by pressing [SHIFT]+[CLEAR] then [G]. The graphics mode utilizes two blinking cursors. One is used as a marker for use in various features while the other is moved using the cursor movement features. Their status can be switched so that each can be moved as needed while the other stays stationary. They will be referred to as CURSOR and MARKER.

```
Cursor movement: [ARROW KEYS] - Moves cursor 1 dot space.
                 [Z]+[ARROW KEYS] - Rapid cursor movement.

                 *These keys will automatically repeat if held down.
```

Each mode, EDIT and GRAPHIC, can access a common sub-menu by pressing [SHIFT]+[CLEAR]. Each one is discussed in more detail later in the manual.

[SHIFT]+[CLEAR] SUB-MENU ACCESSIBLE FROM EDIT OR GRAPHIC MODE

KEY	FUNCTIONS
[CLEAR]	- Erases the screen with the background color.
[SPACE]	- Turns "CLEAR SPACE" on/off
!	Returns to program selection menu
?	Displays current status of the mode being used. [ENTER] is pressed after using this to resume.
B	Allows the line color and background color to be changed. After selecting this, 0 to 4 is pressed to indicate line color, then 0 to 4 is pressed again to select background color.
E	Selects EDIT mode
F	Changes font enhancement. After selecting this, 3 key strokes are made to indicate: 1 - Direction (U,N,D), 2 - Shadow Depth (0-9), 3 - Separation (0-9)
G	Selects GRAPHIC mode.
H	Generate hardcopy of display.
I	File INPUT routine.
M	Change PMODE. Selection: 0 - 4.
O	File OUTPUT routine.
P	Change starting PAGE. Selection: 1 - 8.
S	Change size of EDIT characters. Selection: 2 - 32 (EDIT mode only)
T	Transfers one display page to another.
X	Exits this sub-menu and resumes where you left off.

GRAPHIC COMMANDS ACCESSIBLE BY SINGLE KEYSTROKE WHILE IN GRAPHIC MODE ONLY

KEY	FUNCTION
[SPACE]	- Allows cursor to be moved without erasing or drawing.
B	Creates a box as indicated by the MARKER and CURSOR locations.
C	Used for creating a circle. The heigth/width ratio is then entered, 0 - 255; the start point, 0 - 1; then the ending point 0 - 1. Each entry is indicated by pressing [ENTER]. Fractions accepted.
D	Draw mode. Cursor movement or function selected will generate design.
E	Erase mode. Cursor movement or function selected will erase design.
F	Fill area as indicated by the MARKER and CURSOR locations with either diagonal, vertical or horizontal lines; or fills area with color as specified by the color set. [D] and [E] have an affect on this function.
G	GET area as indicated by the MARKER and CURSOR locations into an array.
I	Inverts (turns upside down) the entire display.
L	Draws line from MARKER position to CURSOR. [D] and [E] have an affect on this function.
M	Move mode. Allows the CURSOR and/or MARKER to be moved without destroying any design. Will also generate design if B,F,C, L or [.] is selected.
O	Flips the entire display over backwards.
P	PUT the contents of the array acquired by the [G] starting at the CURSOR's position. Sub-selections: A - And, O - Or, N - Not, P - Pset.
?	Displays the position of the MARKER and CURSOR while being held down.
R	Creates a reflection of the area as indicated by the CURSOR and MARKER. The MARKER is placed at the top left and the CURSOR is placed at the bottom right. A second entry, -3 TO 3, is made to indicate a "cast" factor.
S	Squishes the area indicated by the MARKER and CURSOR. The MARKER is placed at the bottom right of the area and the CURSOR is placed at the top left. [V] or [H] is pressed after [S] to squish vertically or horizontally.
U	Moves the MARKER to the same position as the CURSOR.
W	"Washes" area with a color within the boundaries of another color.
X	Switches MARKER to CURSOR - CURSOR to MARKER postitions.
Z	Rapid movement of cursor while any of the arrow keys are depressed.
.	(Period) Creates dot pattern within area indicated by the MARKER and CURSOR. Sub-selection: 1 - 9 Sets spacing of dots.

Any of the selections made can be exited at anytime simply by pressing [X].

[CLEAR] - Erases the screen using the current background color.

[SPACEBAR] - Reverses the current state of the "clear space" function. When the "clear space" is on, the area where a character is to be printed will be erased before the printing is performed. Turning the "clear space" off will allow characters to be typed directly on top of other characters or graphic designs. A blank space will be generated if the [SPACEBAR] is pressed regardless of the "clear space" status. This can be checked by using the ? selection (see below).

! - Returns to the MENU program to allow access to the Letter Head Utility.

? - Displays the current values for pmode, page start, color set, mode (TEXT or GRAPHIC), character size, font values, "clear space" status, cursor X,Y position, marker X,Y position and graphics mode (D, E or M). The display will reflect the mode that you're in. TEXT mode will not display values for the GRAPHIC mode and vice-versa. This option can be used at anytime without affecting the graphic display.

B - Changes the values for the Color set. After [B] is pressed, a number from 0 to 4 is pressed to indicate the color that will be used in drawing graphics or typing characters. A second selection from 0 to 4 is made to indicate the background color.

```
Example:  [SHIFT]+[CLEAR] [B] [2] [3]   Sets the line color to yellow (2) and
                                        the background color to blue (3).
```

E - Switches from the GRAPHIC mode to the EDIT mode.

F - Changes the font style of the characters. Three keystrokes are made after this selection to set the font:

1. a. [U] - Sets shadowing in the up direction
   b. [N] - Sets shadowing in the neutral direction (left to right)
   c. [D] - Sets shadowing in the down direction.

2. 0 thru 9 - Sets the depth of the shadowing. The higher the number, the deeper the shadowing will be.

3. 0 thru 9 - Sets a spacing factor. [0] will cause the shadowing to be either straight up, down or sideways; depending on the first selection. [1] Will made the shadowing solid. Numbers higher than 1 will generate open space letters (depending on the PMODE that you're in).

```
Example: [SHIFT]+[CLEAR] [F] [U] [3] [1]  Sets the font to Up shadowing
                                          of a thickness of three and solid, 1, spacing.
```

The back of the manual has a table for suggested font styles and how they were generated.

G - Switches from the EDIT mode to the GRAPHIC mode.

H - Produces a hard copy of the current screen display. A second selection is then made to indicate for the printout to be normal (as it appears in PMODE 4) or reversed (white is printed as black and vice-versa). The tab setting can also be changed by entering a new value or left as is by pressing [ENTER] without keying in any characters.

I - Input routine to load a graphic display from disk or cassette. A second selection is made to indicate if the input is to be from disk or cassette. [D] inputs from disk, [C] from cassette.

For cassette input, the filename can be entered or [ENTER] can be pressed without typing in any text to have the first file it encounters loaded. A second prompt will ask for verification to continue with the loading. [N] will exit and [Y] will continue. [RESET] will have to be pressed if you need to abort the loading process. If this is done, type RUN and press [ENTER] to restart the program.

For disk input, a question (?) mark can be entered to have the directory of the diskette displayed. A drive spec can be placed after the ? to indicate a drive number other than 0. Example: ?1 displays the directory of drive 1.

The filename does not need to have an extension if the extension is BIN. Keying in the filename and pressing [ENTER] will return to the hi-res display screen and have the file loaded.

Pressing [ENTER] without typing text will exit the disk input routine and return you to the mode currently being used.

M - Changes the PMODE setting. A number from 0 to 4 is pressed after this selection to select the PMODE.

Example: [SHIFT]+[CLEAR] [M] [3] Selects PMODE 3

O - Output routine for saving a hi-res display on disk or cassette. A second selection is made to indicate if the output is to be sent to disk or cassette. [D] sends it to disk, [C] to cassette. After this selection, the number of pages (1-8) you want to save is entered. The saving starts with page 1 and saves the number of pages as indicated. If you are unfamiliar with how graphics are stored then enter 8 to store everything!. The filename is then keyed in and [ENTER] is pressed.

For cassette, you'll be prompted to press record & play on your cassette recorder then press [C] to continue or [X] to exit.

For disk drive, the file will be saved upon pressing [ENTER] after the filename.

```
Example: [SHIFT]+[CLEAR] [O] [D] [ENTER] [4] [ENTER] GRAPH1/BIN [ENTER]
         Saves pages 1 - 4 under the name of GRAPH1/BIN on disk.

         [SHIFT]+[CLEAR] [O] [C] [ENTER] [4] [ENTER] GRAPH1 [ENTER]
         Saves pages 1 - 4 under the name of GRAPH1 on cassette.
```

P - Changes the starting page of the hi-res display. A second selection is made to indicate the page number from 1 to 8.

Example: [SHIFT]+[CLEAR] [P] [5] Starts the hi-res display on page 5.

Acceptable entries:

PMODE	PAGES
0	1 - 8
1	1 - 7
2	1 - 7
3	1 - 5
4	1 - 5

S - Changes size of the text characters. A second entry is made to indicate the size (2 - 32) of the character. Single digit entries (2 - 8) have to be terminated with [ENTER]. The entry also has to be an even number (e.g. 2,4,6,8,10...).

```
Example:  [SHIFT]+[CLEAR] [S] [4] [ENTER]  Selects size 4
          [SHIFT]+[CLEAR] [S] [1] [2]  Selects size 12
```

T - Transfers (PCOPY) one hi-res page to another. The source page (1 - 8) is selected and then the destination page (1 - 8). The source page will remain intact. This function remains active until [X] is pressed.

Example: [SHIFT]+[CLEAR] [T] [1] [5] [X] Transfers page 1 to page 5 and exits.
[SHIFT]+[CLEAR] [T] [1] [5] [2] [6] [3] [7] [4] [8] [X]
Tranfers pages 1 to 5, 2 to 6, 3 to 7, 4 to 8 and then exits

The second example would be used to make a copy of the display of PMODE 3 or 4.

COMMANDS AVAILABLE WHILE IN THE GRAPHIC MDOE

[SPACEBAR] - This will in effect "pick-up" the cursor while in the draw or erase mode so that it can be repositioned without drawing or erasing. This is the same as being in the Move mode but is much faster than switching from mode to mode. The mode being used, Draw or Erase will be resumed when the [SPACEBAR] is released.

B - Forms a box using the position of the CURSOR and MARKER as adjacent corners. The color of the lines will be determined by the current values of the color set. (See B under [SHIFT]+[CLEAR] menu). The lines will be drawn if you are in the Draw or the Move mode. If you are in the Erase mode and make this selection, the lines will be drawn using the current background color as indicated in the color set values. This can be used to erase the box if it is not exactly as you want.

C - Create a circle. The MARKER is placed at the center of where the circle is to be drawn. The CURSOR is then moved horizontally on the same line to the desired radius. This is done before selecting [C]. After the CURSOR and MARKER are postioned, [C] is selected and three entries are made:

```
1.  Height / Width ratio: 0 - 255
          0          Flat
       .1 to .9      Wider than high
          1          Normal
         >1          Higher than wide

2.  Starting point: 0 - 1  (Any fraction between 0 and 1)
          0          3:00
        .25          6:00
        .50          9:00
        .75         12:00
          1          3:00

3.  Ending point:   0 - 1  (see starting point)
```

Each entry has to be terminated with [ENTER]

Example: [C] [.][5] [ENTER] [.][2][5] [ENTER] [.][7][5] [ENTER]

This will create half a circle starting at 6:00 (.25) and ending at 12:00 (.75). It will also be twice as wide (.5) as it is tall.

D Draws in the color as specified in the color set. This has effect on the Line, Box, Form, . (dot) and Circle commands. It will also generate design when the CURSOR is moved.

E - Erases points. The current background setting as indicated in the color set value is used for this. Therefore, the background color set must match the background color of the screen being worked on. This has effect on the Line, Box, Fill, . (dot) and Circle commands. It will also erase design when the CURSOR is moved.

F - Fills the "form" as indicated by the CURSOR and MARKER positions. The form can be filled using 4 different selections.

```
1 - [F] - Fills form with background color then exits.
2 - [D] - Selects a diagonal line
3 - [V] - Selects a vertical line
4 - [H] - Selects a horizontal line
```

Selections [D], [V] and [H] require a second selection to indicate a skip factor to generate the lines at specific intervals from [0] to [9]. The forming of the lines will start at the CURSOR's position and progress towards the MARKER.

```
Example:  [F] [F]  - Fills form with background color and resumes.
          [F] [D] [3] - Fills form with diagonal lines at every 3rd interval.
          [F] [H] [5] - Fills form with horizontal lines at every 5th interval.
```

G - Gets box area as indicated by the MARKER and CURSOR postions into an array for placement somewhere else. The MARKER or CURSOR is placed at the top left of the area and the other is placed at bottom right. This is done before you press [G].

I - Turns entire display upside down.

L - Draws a line from the CURSOR to the MARKER. The line color is used in the Draw mode and the background color is used in the Erase mode.

M - Allows the movement of the CURSOR and MARKER without destroying any design already on the screen.

O - Turns the entire display over from left to right.

P - Puts the contents of an array on the screen starting at the CURSOR's location. The CURSOR is placed at the location where the top left of the array is to start before you press [P]. A second entry can then be made to have the area placed flush left, centered or placed flush right.

[L] - The array will be placed flush left on the screen.
[C] - The array will be centered horizontally on the screen.
[R] - The array will be placed flush right on the screen.

After selecting L, C or R, the next entry indicates how to "PUT" the array on the screen.

[A] - "And" the array contents with what is on the screen.
[O] - "Or" the array contents with what is on the screen.
[N] - "Not" the array contents with what is on the screen.
[P] - "PSET" the contents exactly how it looked when it was "got".

If one of the four selections above is made after pressing [P], then the array will be placed using the CURSOR's location as the top left corner. Once a design is Gotten into the array, it can be Put as many times as you need until another design is Got.

Q - Switches to low-res display and shows the screen position of the CURSOR and MARKER. The CURSOR is indicated by the white box and the MARKER by the blue. If only the white box is present then the MARKER is within 6 spaces of the CURSOR. The display will switch back to hi-res whenever the [Q] is released. This is usoful if you lose track of the position of the CURSOR and/or MARKER.

R - Creates a mirror reflection of the area as indicated by CURSOR and MARKER. The MARKER is placed at the top left of the area and the CURSOR is placed at the bottom right before you press [R]. After [R] is pressed, a selection of -3 to 3 is made to indicate a "cast" factor. A cast factor of 0 will cause the relection to be straigt down. .1 - 3 will cause the reflection to fall to the right; -3 to -.1 will causo it to fal, to the left. [ENTER] must be pressed after indicatng the cast factor.

```
Example: [R] [.] [5] [ENTER]  (Falls to the right with a cast factor of .5
         [R] [-] [2] [ENTER]  (Falls to the left with a cast factor of 2
```

S - The area is indicated by placing the MARKER at the bottom right and the CURSOR at the top left. After [S] is pressed, [V] can be pressed to squish the area vertically (up and down) or [H] for horizontally (left to right). The MARKER will automatically move to the bottom left of the area and the remaining part of the display will be erased.

U - Updates the MARKER's position to the CURSOR's postion.

W - Wash (paint) an area with a certain color within the boundaries of another color. Place the CURSOR at the location where the washing is to begin before you press [W]. Two entries are made after you press [W].

1. Color to wash with (0 - 4)
2. Color of the boundary line to stay within (0 - 4)

Example: [W] [2] [3] washes the area yellow (2) within a blue (3) boundary.

You must make certain that you select the proper color boundary or the entire display could be destroyed. Also, the boundary cannot contain any "cracks" or the same could happen. It is best to use this feature in the color modes of PMODE 1 or 3.

. - Fills in area as indicated by the CURSOR and MARKER position with dots. A second entry is made after pressing [.] to indicate a spacing value of 0 - 9. This sets the spacing of the dots vertically and horizontally. More dots are generated with a low number.

Example: [.] [1] Makes dots one space apart in both directions.

Several different spacing values can be used within the same area to create various designs.

X - Swithces the MARKER and CURSOR positions with each other.

Z - Will have the cursor move at a more rapid pace while holding down any of the arrow keys.

PROBLEMS

MD may stop execution if an FC error is encountered while trying to perform various features. This will most likely occur if you try to Get a large area of the display using the G option. You might also mis-spell a filename in the disk input routine which will cause an NE error to occur. In any event, simply type RUN and then press [ENTER]. MD will not erase anything on the graphics pages once the program has been used, hence nothing will be lost!

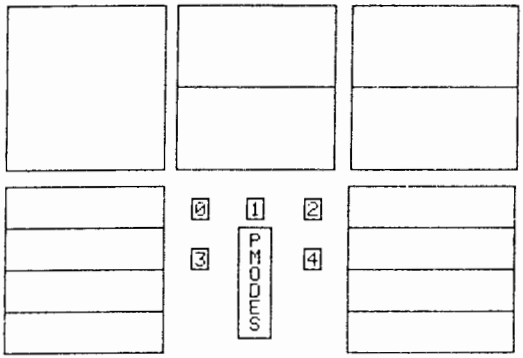
SUGGESTIONS

Different effects can be created if you design a graphic in one pmode and then look at it in another. For example, typing in pmode 3 with a color set 1,2 and the "clear space" on will produce solid letters on a striped background when printed in Pmode 4. Pmode 4 will only recognize "off" or "on" colors when being used. You should have a color set of 0,1 while working in pmode 4 or the cursor and marker may not be visible. Typing a title in pmode 1 and then switching to pmode 4 will "squish" the letters. Pmode 4 will produce sharper edges than any of the others and so the best results are obtained if you produce hardcopies while in pmode 4.

If you're going to be creating a letter head graphic, be sure to have it positioned at the top of the screen.

PMODE AND PAGE NUMBERS

If you are new to graphics, you may find the PMODE and PAGE functions a little confusing. The Color Computer has 8 "pages" that can be used for producing graphic design. There are also 5 different modes that can be utilized when working with the graphic features of the computer. These PageMODEs have an affect on how sharp a graphic can be. The diagram below shows a representation of each of these 5 PMODES (0 to 4). The five boxes represent the screen display and those boxes having divisions are indicating how "pages" are being shown in that PMODE. PMODE 0 is the lowest resolution of the 5. Since it only displays 1 "page" at a time, there isn't much room for fine detail. PMODE's 1 and 2 actually show 2 "pages" at a time and so therefore offer finer detail over PMODE 0. PMODE's 3 and 4 both use 4 "pages" to show their displays which gives the highest resolution of any of the others. Whichever "page" you indicate to start the graphics display will always be the top of the screen display. If you select page 3 while in PMODE 4, you will actually be looking at pages 3, 4, 5 and 6. If you leave the page set to 3 and change to PMODE 2, you'll be seeing only pages 3 and 4. Don't despair if this doesn't make much sense it will come to you all of a sudden.



LETTER HEAD UTILITY

INTRODUCTION

Normally, to obtain a hardcopy of a hi-res display requires that it be loaded in the graphics area and then have a machine language program produce a hardcopy on a dot matrix printer. LHU will take any hi-res display and store it in a special file that can be read back in and sent straight to a printer witnout having to load the entire display at one time. Any hi-res display that has been saved on disk can be read in by LHU and then stored in a special file for future use.

Two utility programs will let you interface this feature with your own programs or be called from Telewriter-64 while working on a document. This means you can design a letter he d using MASTER DESIGN and then have it printed out on your correspondence.

A LITTLE CUSTOMIZING

If you are in MD, exit back to the program selection menu by pressing [SHIFT]+[CLEAR] [1]. When the menu appears, select [2] and then when the Letter Head Utility menu appears press [BREAK].

This is the program that you will use to convert your hi-res binary files to one that can be accessed from BASIC programs or Telewriter-64. The same variables that you defined in the MD program must be defined here before you begin using the program. These are the same as those mentioned on pages 1 and 2.

Type: LIST 50-110 [ENTER]

Line 50 should correspond with what you entered for line 260 in the MD program. Lines 60 - 110 will be the same as what was entered for the MD program.

Once you've defined these variables, SAVE the program back to your disk by typing: SAVE "LHU/BAS" [ENTER].

USING LHU

If you've just completed the customizing and have saved the program to disk, type RUN and then press [ENTER]. If you have a customized copy on disk and have just turned on the computer, type RUN "MENU" [ENTER] and then select [2].

There are 8 selections that can be made from the master menu:

1. LOAD HI-RES GRAPHIC
2. DEFINE AREA TO USE
3. CHANGE GRAPHICS MODE
4. SEND CODES TO PRINTER
5. OBTAIN HARDCOPY
6. SAVE HI-RES GRAPHIC
7. CHECK ADDRESS UTILITY
8. EXIT

[8] Will exit back to the program selection menu.

CHECK ADDRESS UTILITY

Graphic displays that have been saved to disk using a graphics editor may or may not load at the same memory location each time. This stems from the FILES command which indicates where in memory the graphics will start. LHU has to have the hi-res display LOAD at HEX E00. You should check this address before you load the display into the computer using this selection. To check the load address of the hi-res graphic, select [7] and then type the filename of the graphic. You must include the extension!

Example - FILENAME: GRAPHIC/BIN

LHU will then display the LOAD, END addresses and LENGTH of the file in hexadecimal. If the LOAD address is E00 then everything is okay and you can return to the main menu. If this address is not E00, you will be prompted to approve the changing by pressing [Y] or exiting by pressing [N]. [Y] will have LHU change the address of the hi-res graphic and then return to the main menu. You can then use that hi-res graphic.

THE PROCEDURE

LOAD HI-RES GRAPHIC

If you have just created a design with MD then you won't need to load if from disk. Simply continue with step 2. To load a graphic, select [1] and then enter the filename of your hi-res graphic. The extension can be left off if it is BIN. The graphics mode will be entered and your hi-res graphic is loaded. After loading, press [X] to return to the main menu.

DEFINE AREA TO USE

Select [2]. Your graphic will be displayed and you will notice a flashing bar across the screen. This bar is moved up and down the screen by pressing the [UP] and [DOWN] arrow keys. Position the bar on the screen to indicate the bottom of the area you want to use. You can use the entire screen or just a selected section. The entire display from left to right is used automatically. Press [X] after doing this to return to the main menu.

CHANGE GRAPHICS MODE

Select [3]. The current PMODE (0 - 4) will be indicated and a ? will be out beside it. Type the PMODE that you want to use and press [ENTER] or simply press [ENTER] without typing anything to leave it as is. The page number (1 - 8) that the graphics is starting on is then displayed with a ? out beside it. Type the page number that you want to have the display start on and then press [ENTER] or simply press [ENTER] without typing anything to leave it as is. You will be returned to the main menu.

SEND CODES TO PRINTER

Select [4]. This selection is to send out additional codes to your printer for experimentation. You may have indicated the start and end graphics codes when you customized the program, so this section lets you send out codes for condensed, elongated or whatever your printer is capable of doing. Type in the decimal code (0 to 255) that you want sent to the printer and then press [ENTER] You can repeat this as many times as necessary or key in an [X] to exit. You may want to write down the codes you send so that you can go back and customize the program again. This selection is optional.

OBTAIN HARD COPY

Select [5] This allows you to see exactly how your display will appear when it's printed from the special file. A prompt will appear:

CURRENT TAB:
NEW TAB?

Enter a TAB setting or press [ENTER] to leave it set as is. Another prompt will appear:

0 - REVERSE
1 - NORMAL

Key in 0 if you want the display reversed (black is white, white is black), or key in 1 if you want the printout to be exactly how it appears. You can exit the printing by pressing [X] at anytime.

SAVE LETTER HEAD

Select [6]. This section will store your graphic design in a special file so that it can used later by one of the sub-routines included with LHU. A prompt will appear.

FILENAME:

Type in the filename (with or without an extension) that you want it filed under and then press [ENTER]. The default extension is DAT. If you type in a filename that already exists, you will be prompted:

NEW APPEND OR Exit

Pressing [A] and then [ENTER] will have the display appended to the end of the display that was previously stored. This allows any number of displays to be stored in one file for obtaining one long printout. For instance, you might save pages 1 to 4, change the page start to 5 and then have pages 5 to 8 appended to the end. This would in effect create a file of pages 1 to 8.

Pressing [N] and then [ENTER] will have the old file on the diskette killed and the new one put in its place.

Pressing [E] and then [ENTER] will exit the FILE SAVE and return you to the main menu. Another prompt will appear:

0 - REVERSE
1 - NORMAL

Key in 0 if you want the display reversed (black is white, white is black), or key in 1 if you want the display to be exactly how it appears. You can exit the saving routine by pressing [X] at anytime.

That is the procedure for converting your hi-res displays to a file for later use in your own programs or in Telewriter-64. The sub-routines that follow will show you how to access these special files for either purpose. Don't worry if this isn't making total sense right now, you'll see how it all ties together once you've been through the whole process.

CUSTOMIZING THE SUB-ROUTINE PACKAGE

If you have just finished using the LHU or MASTER DESIGN program, exit back to the program selection menu and press [3] to exit.

Type: LOAD "SUB/BAS" [ENTER]

This sub-routine package can be merged with any BASIC program to generate hardcopies of your letter head. It contains the same variable names as mentioned at the begining of this instruction guide. You must define these variables before using the sub-routine.

Type: LIST 9120 - 9200

9120 OK- (Same as what you entered for line 60 in MD)
9140 GM$- (Same as what you entered for line 90 in MD)
9160 EG$- (Same as what you entered for line 100 in MD)
9180 TB - (Same as what you entered for line 110 in MD)
9200 F$-""

Line 9200 can contain a default filename that you might use most often or can be left equal to a null string. This filename will be what you used to store the design with using LHU only. In either case, you'll be able to change the filename when the sub-routine is used by input from the keyboard.

Example: 9200 F$-"DESIGN1/DAT"

After you've defined the variables, the program is saved back to the disk using the ASCII option. By saving this sub-routine module with the ,A option will allow it to be MERGEd with other BASIC programs and accessed by inserting the command GOSUB 9000 anywhere within the program.

Type: SAVE "SUB/MRG",A [ENTER]

TRYING OUT THE SUB/MRG ROUTINE

Try this little exercise to see how the sub-routine SUB/MRG can be utilized.

1. Type: LOAD "TEST/BAS" [ENTER]
2. Type: LIST [ENTER]

Notice that it is only a small BASIC program that allows a keyboard selection and contains the command GOSUB 9000. Now to merge the sub-routine SUB/MRG with this one.

3. Type: MERGE "SUB/MRG" [ENTER]
4. Type: LIST [ENTER]
5. Type: RUN [ENTER]

Press [1] to print the letter head. If you entered a filename at line 9200 in the SUB/MRG program, it will be printed on the screen after FILENAME. The black cursor can be backed up by pressing the [LEFT ARROW] to allow a different filename to be entered. As in MD and LHU, a [?] can be entered to have the disk directory displayed. After pressing [ENTER], the TAB SETTING will be displayed and can be changed by using the [LEFT ARROW] to erase and re-type. The graphic will be printed after pressing [ENTER] on the TAB SETTING prompt. Try out your SUB/MRG routine to make sure your codes have been entered correctly and that it prints the way you want it to. If changes have to be made, LOAD "SUB/MRG" and make your changes. Be sure it's SAVED with the ,A option.

INTERFACING WITH TELEWRITER-64

This section will show you to access your letter head while using Telewriter-64.

1. Place your copy of MD in drive 0 and Type: LOAD "TW/BAS" [ENTER]
2. Type: MERGE "SUB/MRG" [ENTER]
3. Place your copy of Telewriter-64 in drive 0
4. Type: SAVE "PLH/BAS" [ENTER]

Now you must COPY your letter head display to the Telewriter-64 diskette.

FOR A 1 DRIVE COPY

1. Place the MD diskette in drive 0
2. Type: COPY "filename/ext" [ENTER]
   filename/ext = name you used for saving the letter head with LHU
3. You will be prompted to LOAD DESTINATION DISK THEN ENTER
4. Remove the MD diskette and load the Telewriter-64 diskette
5. [ENTER]

FOR A 2 DRIVE COPY

1. Place the MD diskette in drive 0
2. Place the Telewriter-64 diskette in drive 1
3. Type: COPY "filename/ext:0" to "filename/ext:1" [ENTER]
   filename/ext = name you used for saving the letter head with LHU

CHANGING TELEWRITER-64

1. Place the Telewriter-64 diskette in drive 0
2. Type: LOAD "S/XXX" [ENTER]
3. Type: 38 IF AS="L" THEN RUN"PLH/BAS" [ENTER]
4. Type: SAVE "S/XXX" [ENTER]

ACCESSING THE LETTER HEAD FROM TELEWRITER-64

Printing your letter head from Telewriter-64 is accomplished by pressing [L] when the BINARY DISK I/O menu is displayed. This will access the "PLH" program that you created. Once the "PLH" program is loaded, you can print the letter head as many times as you need and then return to Telewriter-64 by pressing [2].

Do Not press [BREAK] while in the PLH program or you will have to reset the machine!

* Derringer Software, Inc. does not guarantee the compatabilty of this program with all versions of Telewriter-64. It has been used on various computers with good results.

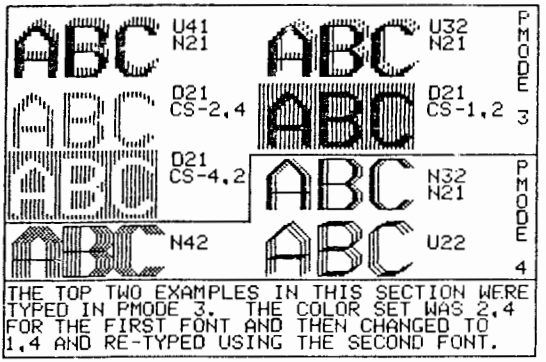
S A M P L E F O N T S T Y L E S

Shown below are some samples along with the font setting used. The top display was created entirely while in PMODE 4 and with a size 8 character. The letter/numbers beside each one represents the font setting used to achieve that style.

In the bottom display, the technique of typing over characters with different fonts settings and color sets is exhibited. Note how the top two examples in the bottom display have a striped shadow. Here are the exact keystrokes made:

```
[SHIFT]+[CLEAR] [M] [3]                    'Get into mode 3
[SHIFT]+[CLEAR] [B] [2] [4]                'Color set 2,4
[SHIFT]+[CLEAR] [F] [U] [4] [1]            'Font setting U41
[A] [B] [C]                                'Type ABC
[LEFT ARROW] [LEFT ARROW] [LEFT ARROW]     'Move cursor to "A"
[SHIFT]+[CLEAR] [B] [1] [4]                'Color set 1,4
[SHIFT]+[CLEAR] [F] [N] [2] [1]            'Font setting N21
[A] [B] [C]                                'Type over ABC
[SHIFT]+[CLEAR] [M] [4]                    'Get into mode 4
```

This display is on your disk under the filename: FONTS/BIN



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