DAISY-DOT

Near Letter Quality & Font Editor
For Atari 8-Bit Personal Computers

TRANSFORM YOUR EPSON OR STAR
INTO AN NLQ PRINTER!

Copyright 1987 By Roy Goldman

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INTRODUCTION

     Introducing Daisy-Dot, the program that will
revolutionize Atari dot-matrix printing. Daisy-Dot
incorporates the latest and greatest feature of dot-matrix
printing, Near Letter Quality (NLQ), with the flexibility
of software control.

     With up to 4 graphic densities, Daisy-Dot prints at up
to 8 times the density of a printer's normal draft mode by
use of a special technique found in many expensive printer
hardware upgrades. Daisy-Dot makes two passes for each
line, but instead of merely double-striking, the page is
advanced slightly between passes and another set of
formatted dots is printed. The result is very high quality
text, almost indistinguishable from that of a professional
typesetter or typewriter.

     Daisy-Dot requires standard text files without control
characters for printing. This format is an option from
most word processors. In addition, you control the
character spacing for each printout.

     The number of high-resolution, PROPORTIONAL fonts that
can be used by Daisy-Dot is limitless. Five fonts are

included, and the Daisy-Dot Font Editor makes creating new
fonts easy. The editor is joystick controlled and includes
numerous features to speed up your efforts.

SYSTEM CONFIGURATION

Daisy-Dot will work with the following system
configurations:

-- Atari 600XL(64K)/800XL/1200XL/65XE/130XE

-- Epson EX/FX/JX/LX/MX/RX and Star Gemini/SG printers
   Other Epson compatibles may or may not work, depending
   on how "compatible" they are.

-- Atari DOS 2.5, DOS XL, SmartDOS, and MyDOS.

        Daisy-Dot is written in compiled Turbo Basic.
Because of limitations of Turbo Basic, Daisy-Dot will NOT
work with SpartaDos NOR on Atari 400/800 models. The best
substitute for SpartaDos is MyDos.

GETTING STARTED

        The first step is to back-up your copy of Daisy-Dot.
Once you have a back-up copy, decide which DOS you would
like to use with Daisy-Dot. The disk comes with Atari DOS
2.5. For all other DOS's, first boot the DOS you wish to
use. Insert your Daisy-Dot back-up, and choose the "Write
Dos Files" option. The Atari DOS 2.5 system files will be
replaced by those of your choice. Note that the Disk
Utility Package (DUP.SYS) is not needed. If you are using
SmartDOS, you must rename the AUTORUN.SYS file on the
Daisy-Dot disk to AUTORUN.AR1.

        If you are using a RAMdisk, place the needed set-up
file on your back-up disk. If it is an AUTORUN.SYS file,
append the Daisy-Dot AUTORUN.SYS to the RAMdisk file.
There are several ways to place files in a RAMdisk. You
may include an AUTORUN.SYS to copy your favorite fonts to
RAM every time Daisy-Dot boots. Another option is to boot
up DOS from another disk, copy the desired file(s), and
then Binary Load the AUTORUN.SYS on the Daisy-Dot disk.

        Daisy-Dot will work without changes on Epson
RX/FX/JX/LX/EX models. If you use an Epson MX or a Star
printer, you must set up your disk so Daisy-Dot can
configure itself to your printer. MX users must rename
"MX.CNF" to "MX" (without the extender). Star users need
to rename "STAR.CNF" to "STAR" (without the extender).
Each time Daisy-Dot runs, it searches the disk for either
"MX" or "STAR". If it locates one of them, it adjusts

itself for that printer. Actually, Daisy-Dot does not read
any data from these files; it only searches for their
presence. Thus, any file with the right name will work.

        If you have a different Epson compatible, experiment
to see which configuration (if any) suits your
printer.

        You are now ready to run Daisy-Dot. Turn off your
computer. Make sure the Daisy-Dot disk is in the drive.
Holding down the [OPTION] key, turn on the computer. After
Daisy-Dot boots, you are presented with the title screen
and two options. Press '1' to run the Daisy-Dot main
program, from where you can print out text files in NLQ.
Option number 2 takes you to the Daisy-Dot Font Editor.

DAISY-DOT MAIN PROGRAM

        Upon choosing the main program (option 1), you are
first prompted for the name of the font you wish to print
with. Entering 1-8 will show a disk directory. Five fonts
are included with Daisy-Dot: ROMAN.NLQ, SANSERIF.NLQ,
OHIO.NLQ, BLOCK.NLQ, and SCRIPT.NLQ. Enter the font of
your choice (don't forget the 'Dn:' if you are using a
drive other than drive 1). The font will load into memory.

        Next, you will be prompted for the text file you wish
to print. Remember that a text file isn't just a word
processor file, but a file that has been "printed" to disk.
Doing this creates a properly formatted copy of the
document without the extra control codes. The "print to
disk" option is available from most word processors,
including PaperClip and AtariWriter Plus (the original
AtariWriter does not have this feature). For example, with
PaperClip, first either create or load the file you wish to
use with Daisy-Dot. Once it is in memory, use the command
[CTRL] + [SHIFT] O (capital O) to print the document. You
are first prompted for the output device. Type
"D:filename.ext". When it asks whether it should send
control codes or not, answer 'no'. The rest of the
questions may be answered however you wish.

        Daisy-Dot will ignore inverse and control characters
during a printout. If a file isn't text, Daisy-Dot will
most likely not even attempt to print it, returning you to
the beginning of the program.

        Next, enter the graphic density you want Daisy-Dot to
print in: single, double, double-draft, or quadruple.
Epson MX users can only access the first two options (the
configuration file takes care of this). In general, you
may think of single density as 40 columns, double and
double-draft as 80, and quadruple as 160 columns per line.

Double-draft mode prints in the same density as double, but is twice is fast and can't print consecutive adjacent dots. It's a great option when you need a quicker printout.

These densities can be compared with the density of a printer's normal draft operation. Quadruple density prints at 8 times the density of draft (as with double-draft, quadruple density can't fire consecutive adjacent pins, but it is hardly noticed at such high resolution). Double density is 4 times the density of draft mode, and double-draft is twice the density of draft printing. Single density is one-half of draft's horizontal density, but is twice as dense as draft's vertical density.

After selecting the density, you are prompted for the desired character spacing (space between each character). This is one of the most powerful features of Daisy-Dot, as it lets you fully manipulate the printing of a document. Daisy-Dot fonts require no additional blank columns on each end of a character. Instead, this is controlled from the main program, and may be changed for each printout.

Enter the number of blank columns you would like between each character, from 0 to 20. Experiment to see how printouts vary depending on the amount of space. In double density, you should generally use 2-4 blank columns between characters to format the page in 80 columns. Of course, the spacing may be different for some fonts, depending on the size of the characters. More space is useful for adding emphasis to text and also for making quadruple density text practical; large amounts of space between characters will "spread out" text formatted in 80 columns over more of a printed page.

That is all you need to enter for a printout. You are prompted to ready the printer and the text file. Pressing [START] will start the printing. If you want to make any changes to your entries, press [SELECT] to re-enter the information. While the file is being printed, hold down the [START] key to abort the printing. After the file has been printed (or aborted), you are returned to the beginning of the main program to enter information for another printout.

At the prompts, pressing [RETURN] will default to the previous entries if there are any. Since a selected font is stored in memory, it only needs to be loaded once no matter how many times you print with it.

At any time during the main program, you may press [RESET] to return to the title screen and main menu. Daisy-Dot will also scan the disk directory again for the printer files, so make sure you have the desired disk in drive 1 before pressing the key.

DAISY-DOT FONT EDITOR

        Option 2 from the main menu is the Daisy-Dot Font
Editor. From this program, you can create new
high-resolution fonts or edit previous ones. This
full-featured font editor is joystick controlled.

        The left side of the Font Editor screen contains the
character window. The current font, character, and
character width is at the top-right corner of the screen.
The input window is at the bottom-right corner of the
screen.

        The command menus are displayed at the middle-right of
the screen. There are 2 menus of 7 commands each, for a
total of 14 commands. Pressing [SELECT] will toggle
between menus. Note that ALL commands are available from
either menu. The menus are just displayed for your
convenience.

        Daisy-Dot fonts are made up of 91 ASCII characters.
These values are 32-95, 97-122, and 124. Inverse and
control characters are not included.

        You control the cursor with a joystick plugged into
port 1. Pressing the button will either draw or erase,
depending on the editing mode.

        Here is a list and explanation of the Daisy-Dot Font
Editor commands:

    [SPACE] - Toggles between DRAW and ERASE mode.

    [<] [>] - Adjusts the width of the character window. Its
              limits are a minimum of 1 column and maximum of
              19.

    [-] [+] - Lets you edit an adjacent character. For
              example, if you are editing the letter 'A',
              pressing [+] will take you to the letter 'B'.

    [S] - Saves the font in memory to disk. Specify the
          drive and filename.

    [L] - Loads a font from disk into memory. Specify the
          drive and the filename.

    [G] - Lets you edit a specified character. For example,
          if you are currently editing the letter 'A' and
          wish to edit the letter 'Z', type [G] and then type
          [Z] in the input window.

[T] - Transcribes a specified character into the current
       window. This command will save you time and effort
       when two characters are similar.

[R] - Restores a character to its form from when it was
       last registered (saved, printed, or exited to edit
       another character). This is a variation of the
       'UNDO' command found in many applications.

[W] - Clears the window for the current character. This
       command will execute without requesting
       confirmation, so be careful with its use. If you
       clear the window by mistake, use the [R] command to
       restore the character.

[M] - Erases the entire font from memory. Confirmation
       is asked for before execution.

[P] - Prints the current font, character and width. It
       also prints a grid of the character and a row of
       what the character will look like when printed from
       Daisy-Dot.

[1-8] - Displays the corresponding disk directory in the
        input window. Press any key to proceed from one
        file to another. Pressing [ESCAPE] will abort
        the listing.

[RESET] - Scans drive 1 for printer configuration files
          and then returns you to the Daisy-Dot title
          screen and main menu. This command will erase
          any font in memory, so be careful.

        There are a few guidelines to keep in mind when
designing a font. Staying consistent is important. Before
you start, decide on things like the average width of a
character, the thickness of each line, the amount of space
to to allocate for descenders, etc.

        Remember that you do not need to add blank columns to
the sides of characters. Character spacing for each
printout is controlled from the main program.

        There are 2 values that can not be successfully sent
to a printer. These are '155' and '13'. 155 is the
ATASCII code for carriage return, and 13 is the ASCII code
for a carriage return. All Atari interfaces automatically
convert 155's into 13's, so the printer receives a 13
instead of the 155 you initially sent. Upon receiving the
value 13, some printers automatically override the graphics
mode and cause a carriage return.

If a character you have created contains a bit arrangement that would result in the computer trying to send a 155 or a 13, Daisy-Dot will alert you when it registers the character and request that you alter the specified column slightly. You probably won't run into this very often, since characters containing 155's or 13's are rather uncommon in Daisy-Dot font design.

CONCLUSION

I hope everyone will enjoy using this program. And don't be too rough on all the Macintosh owners you know when you demonstrate your "game machine."

If you have any questions or comments, write to me. My CompuServe ID# is 72347,3705. I can also be reached on Atari BBS's in Colorado, including Pro-Cyber Perimeters, (303) 722-2633; and The Fishery, (303) 756-3813, which includes a sub-board for Daisy-Dot support.