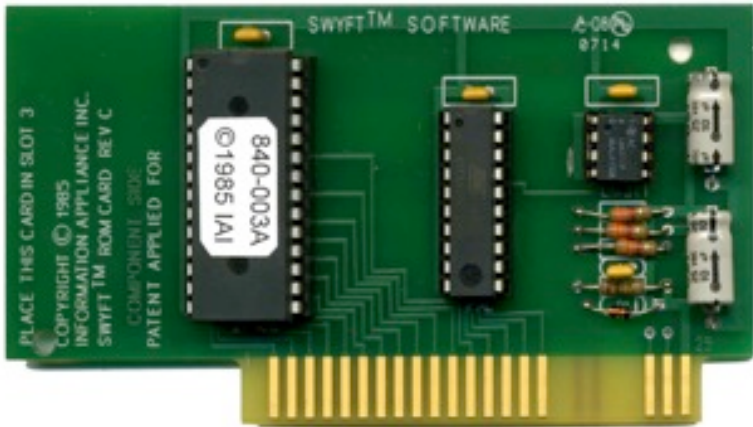


# Reproduction SwyftCard Background, Assembly and Mini Users Manual (version 1.0)



In the early 1980s, Jef Raskin was at Apple Computer, leading a low cost appliance computer project called “Macintosh”. Steve Jobs took over the project and moved it in a different direction. Jef left Apple and helped found a company called Information Appliance, Inc. The first product was the SwyftCard. It plugged into an Apple IIe and it transformed it into a Swyft Computer. The software was centered on a word processor application, which had access to the Applesoft programming language. It also included printing and communications capabilities built in. Information Appliance, Inc, later came out with the Swyft Computer, which ran an evolved version of the SwyftCard software. The design was licensed to Canon – which released it as the Canon Cat.

I don’t think that there is a better way to describe the SwyftCard, than reprint the introduction from the original SwyftCard manual. Also, the leaders of Information Appliance, Inc. were very concerned about providing credit to the contributors to the design. In the spirit of this and also to help provide additional background and history, I’m also reprinting the introduction and the credits page from the original manual. The text of the next two pages are copied from the original SwyftCard User/Reference manual.

Mike Willegal – Spring, 2014

## **Introduction**

### **SwyftCard Meets Apple IIe**

When you plug the SwyftCard into Slot 3 in the interior of your Apple IIe and turn on the power, your computer will be ready to help you.

- Produce written material
- Store and find information (information retrieval)
- Do arithmetic
- Write short programs, and, if you have a modem
- Send and receive information over the phone lines

You will not have to remove your SwyftCard in order to run most Apple software.

### **SwyftCard is Not Just a Word Processor**

If it seems that it is, that's because nearly everything you do with a computer consists of typing to it and having it type back at you. With the exception of graphic or audible output, everything done with a computer is some form of word processing. Much of the manual explains methods of typing and modifying text. This is a useful tool in its own right. But, as you can see from the list above, you can – without leaving the editor – do calculations and (if you are so inclined) write programs; you can communicate with other SwyftCards, computer bulletin boards and commercial data services; and you can move information to and from and among disks.

SwyftCard is perfect for instantly retrieving correspondence, names, addresses, and telephone numbers. You can, for example, find a name anywhere in your text in the blink of an eye. The same goes for a phrase, a word, or a part of a word. And it doesn't matter to SwyftCard whether your text is neatly organized or a disorganized mess.

## Credits

Movies have the fine tradition of giving credit (or blame, in the case of some) to nearly everybody who worked on the project. We can do no less:

David Alzonfon wrote, tested and edited the manuals and on the on-line tutorial. Paul Baker honcho'd the parts and circuit boards through production. Steve Bowling, the president of the company, did what a president does (a lot). His assistant Patti Okoniewski manages to be helping everywhere at once.

Terry Holmes did the initial internal software design and the actual programming of the early versions of SwyftCard, and insisted on making everything run as fast as possible. Richard Krause designed the labels and did manufacturing coordination; Jonathan Sand transformed the prototype software into the final product, adding features and fine-tuning. Dr. David Lavond programmed during the final phase and completed the documentation.

Jim Straus (who banished the company picnic and substituted an annual gourmet lobster feast - not at company expense) and Mino Taoyama\* contributed much to design and debugging; Mino's main contributions were the hardware design of the SwyftCard itself, and the design and implementation of the internal disk routines and ProDOS converter.

Ralph Voorhees\*, while mainly working on other projects, kept reminding us that our customers will not put up with the usual computer nonsense; Sharmon Scipio\* kept the paychecks coming and the books in order; John Burmgarnier\* did some coding of the early versions and was a constant source of inspiration, as was he ever-effervescent Scott Kim.

Collaborators who are not currently employees included Dr. Ren Curry, Brian Howard\*, and Michael Raskin, who helped early on with the design and human factors testing. Ren's contribution to the cursor design was especially noteworthy. Deb Clifford worked on the early versions of the on-line tutorial; Charlie Springer contributed his technical know-how, and Cerafin Castillo was our electronics tech; Ron Genise\* did testing and teacher training. For a time Mike Scott, Sonya Hoag, Claire Llewelyn, Bana Witt, Camillo Santomero, and Tina Bracewell ably assisted us. Bruce Cooper extensively tested an early prototype in a publication environment and provided helpful suggestions about formatting.

Mike Ivanitsky and Kevin Thurber tested printers, and Suzanne West of West and Moravec did the graphics.

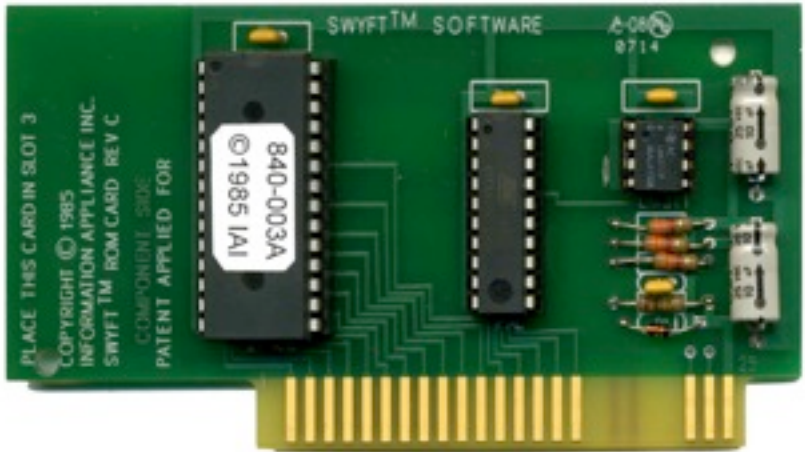
A company is fueled by the money of its investors: we thank them all. The company would not have been possible without the legal advice of James E. Lewis\* and the work of corporate secretary Linda Blum\*. We also thank Gayla Newsome of Orange Micro in Santa Clara for allowing us to test the printer set-ups.

A special note of gratitude is extended to the many people who tested our systems, and to the San Jose and Fremont School Districts for letting us test SwyftCard in an educational environment.

The company grew from discussions between Dr. James Winter\* who invented the DISK command and contributed greatly to the design and the implementation of the software, and Jef Raskin\*, who created the concepts that underly SwyftCard and its implementation, founded Information Appliance, and who is now Chairman and C.E.O. of the company.

\*An asterisk marks a founder of Information Appliance Inc.

# SwyftCard Assembly



## System Requirements

Apple IIe (rev B or later)  
80-column card  
SwyftCard (slot 3)  
single 5 ¼" disk drive (in slot 6)

## Parts List

- Printed Circuit Board
- 3x 3.3K 1/4 watt resistors (orange orange red)
- 100K 1/4 watt resistor (brown black yellow)
- 1n4148 diode
- 28 pin socket
- 20 pin socket
- 8 pin socket
- 4x .1uF decoupling capacitors
- 2x 10 uF electrolytic capacitors
- LM311 voltage comparator (8 pin DIP package)
- 16R4 PAL or 16v8 GAL programmed with SwyftCard hardware equations (20 pin DIP package)
- 27C256 or 27C128 EPROM programmed with SwyftCard software (28 pin DIP package)

## Assembly Instructions

Make sure you can tell the difference between the component side and the back of the PCB. All components are mounted on the component side of the PCB. Using Ohm-meter check power and ground planes to make sure that there is no short circuit.

1. Bend leads of 100K resistor to match hole spacing on board
2. Insert into board and bend protruding leads outward a bit to hold in place
3. Solder 100K resistor onto board and cut off protruding leads
4. Repeat this procedure with the three 3.3k resistors
5. Find the end of 1n4148 diode with the black stripe - **this end must go to right side of board**
6. Orienting correctly, using same procedure as resistors, soldering into place
7. Find pin 1 end of 28 pin socket - this end normally has a cutout that doesn't exist on other end. Pin 1 end sometimes may be marked "1"
8. Insert into position with pin 1 toward top end of board and solder only the 2 corner pins
9. Check that socket is seated fully into board
10. Solder remaining pins
11. Repeat procedure for 20 pin socket
12. Repeat procedure for 8 pin socket
13. Insert .1uF caps into holes and bend leads slightly outward to hold in place
14. Solder into position and cut off leads
15. Find positive end of 10uF electrolytic capacitors. This end usually has a groove in package. The positive end of the electrolytic capacitors supplied with kits is indicated by the arrows/plus sign. **The positive end must be oriented toward top of board.**
16. Orienting correctly, using the same procedure as with resistors, solder into position and cut off leads
17. Repeat the check for shorts between power and ground
18. Check for solder shorts or bad solder joints
19. Using isopropyl alcohol, clean resin from back side of board - rinse off with water and let dry
20. Finding the cutout at the end of the LM311 package that indicates the pin1 end
21. Orient correctly and insert into 8 pin socket. If pins don't fit well, you can bend them in a bit to make insertion into socket easier.
22. Repeat for 20 pin PAL/GAL IC
23. Repeat for 28 pin EPROM IC
24. Check to make sure that there are no bent under leads on the ICs
25. Power off your computer and carefully plug the SwyftCard into slot 3
26. Turn on your computer and you will be running the SwftCard system

# SwyftCard Mini User Guide

<b>Keys</b>	<b>Description</b>
ESC	Ends page, starts new page – Sends an ESC after a CONTROL-Z
TAB	LEAP again when used in conjunction with an APPLE key. Tabs if pressed by itself. Tab stops in columns 5,10,15,...,75
RETURN	Ends line, starts new line
CONTROL	Is used with certain keys to give SwyftCard commands
DELETE	Deletes whatever is highlighted. DELETE operates to the left after typing, to the right after leaping or creeping
OPEN-APPLE	Is held down while you type a pattern to which you wish to have the cursor LEAP. Will “creep” backward if typed.
SOLID-APPLE	Is like “LEAP BACKWARD” but the search goes forward through the text. Will “creep” forward if typed.
RESET	If the system is not responding, hold down CONTROL and tap the RESET key to resume normal operations,

## Selecting Text

Cursor	The blinking “cursor” shows where the next letter will appear when you type
Highlight	The unblinking “highlight” is usually alongside the cursor and shows what will be deleted if you press the DELETE key
To Highlight	Move the cursor from one end of the chunk to the other and press both APPLE keys down at the same time.
Extend Highlight	You can move the cursor after highlighting by “creeping” with either APPLE key.
Re-Highlight	Hold down both APPLE keys together

The following keys perform the indicated SwyftCard command when typed while you hold down the CONTROL key.

<b>Key</b>	<b>Function</b>
CNTL-A	INSERT - inserts the last chunk of text that was DELETED
CNTL-D	SEND - transmits the highlighted text via the super serial card
CNTL-G	CALCulate - evaluates or executes the highlighted text as a BASIC program
CNTL-N	PRINT - delivers the highlighted text to the printer interface
CNTL-L	DISK - directs the disk to do the appropriate disk operation
CNTL-Z	Sends next key press as a control character to super serial card

## **Underlining**

To create underlines in text that will be printed, place an underline character instead of a space in front of the word or words you want to underline. Then place a second underline character after the word or words you want to underline to indicate the end of underlining. Enter three underline characters in a row to indicate a single isolated underline. Two return characters in a row will turn off underlining.

## **Disk Operations**

Whenever you place a disk in the drive, use the DISK command (CONTROL-L). Before you take it out, use the DISK command. To force a disk to load, DELETE the entire text and enter the DISK command. When you change from one disk to another, anything highlighted on the first disk will be automatically inserted onto the second disk: To clear a disk irreversibly, type and highlight CALL 3600 and use the CALC command. This is dangerous, and should be used with due care.

## **Calculations**

The CALC command sends the highlighted text to the Applesoft BASIC. Programs over 20 or so lines long may not work.

## **Documentation Note**

In original SwyftCard documentation, the following keys are given unique Swyft software names.

CONTROL = FRONT  
OPEN-APPLE = LEAP BACKWARD  
SOLID-APPLE = LEAP FORWARD

## **For More Information**

The Original SwyftCard Manual

[http://apple2online.com/web\\_documents/swyftcard\\_manual.pdf](http://apple2online.com/web_documents/swyftcard_manual.pdf)

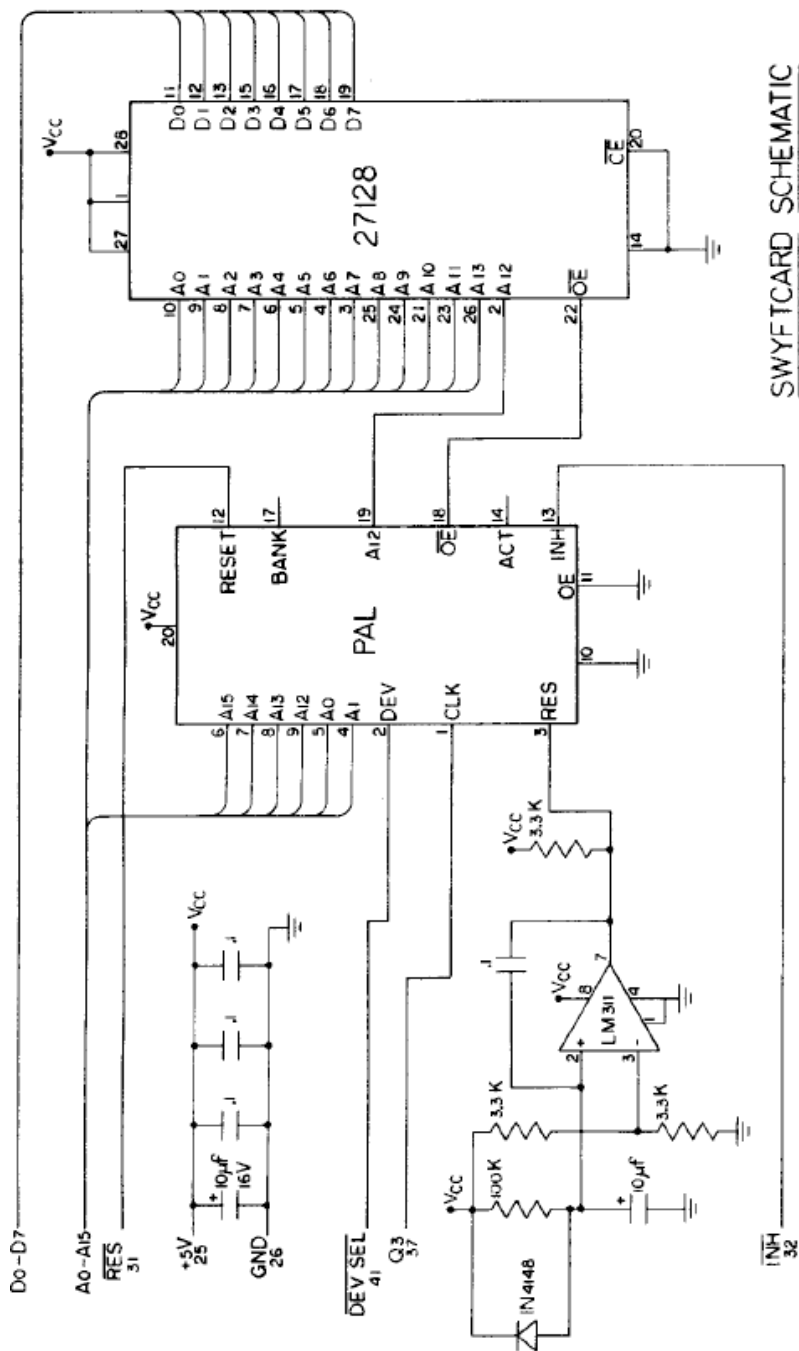
Canon Cat User Group

<https://groups.google.com/forum/#!forum/canon-cat>

More Information on Mike Willegal's Vintage Computing Projects

[http://www.willegal.net/appleii/appleii-first\\_page.htm](http://www.willegal.net/appleii/appleii-first_page.htm)

Schematics taken from original SwyftCard manual



SWYFTCARD SCHEMATIC