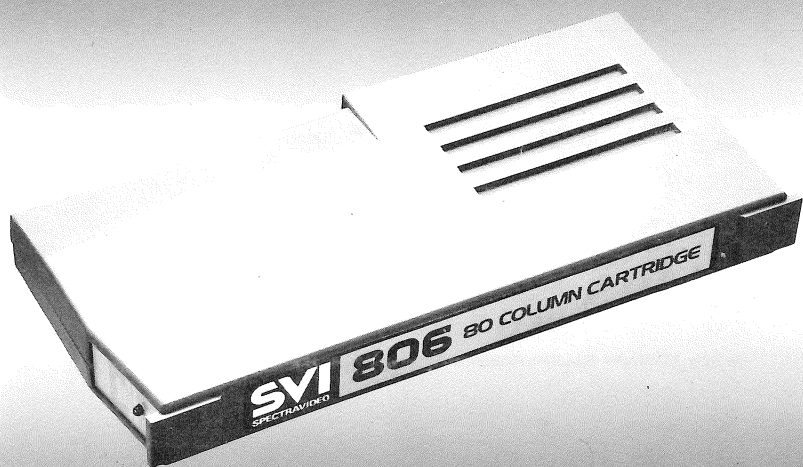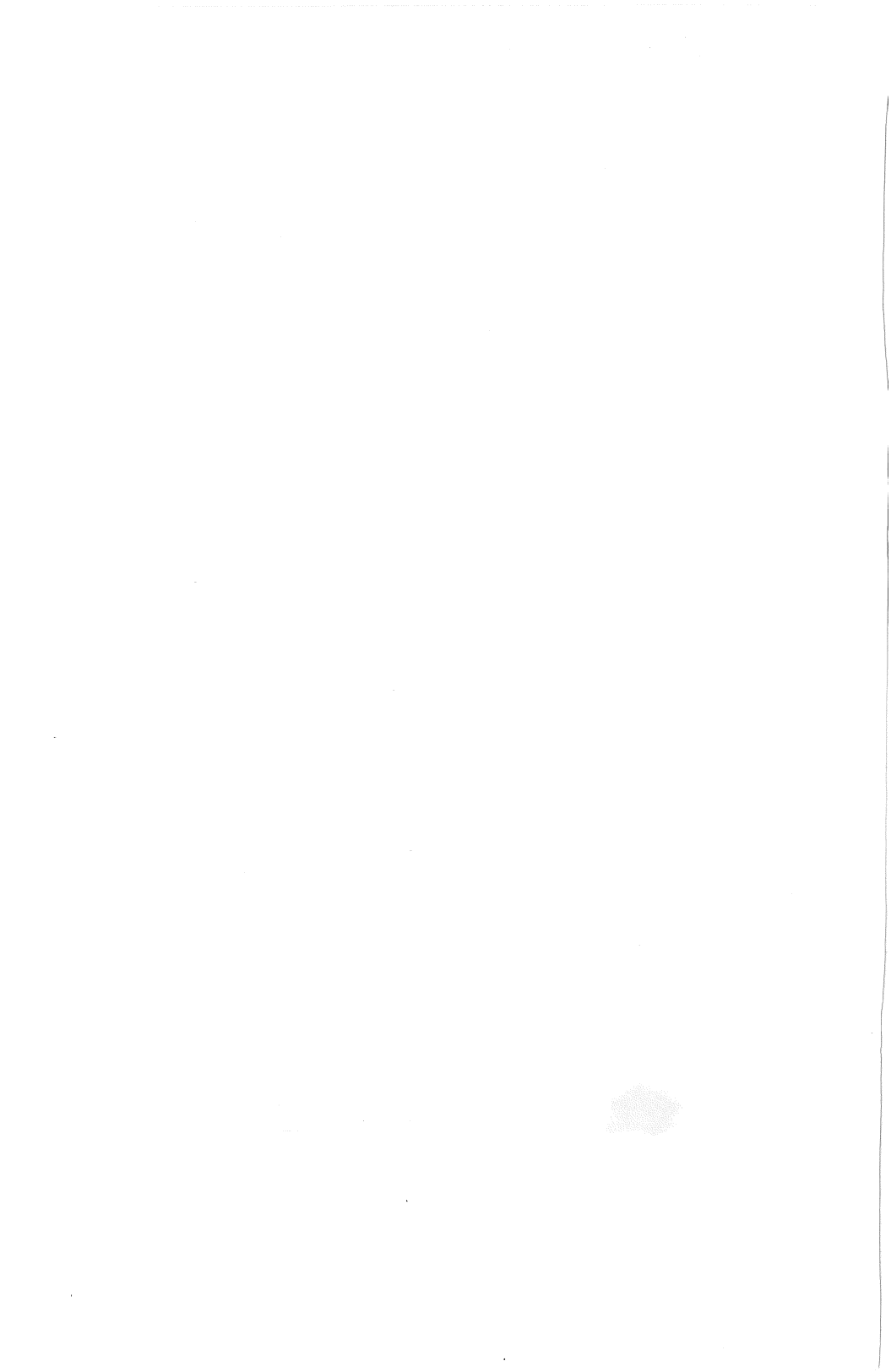# SVI·806

80 COLUMN CARTRIDGE
USER'S MANUAL

SVI™
SPECTRAVIDEO

SPECTRAVIDEO'S
USER'S MANUAL STATEMENT

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual,may cause interference to radio communjcations. It has been tested and found to comply with the limits for a Class A computing dervice pursuant to subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

INTRODUCTION

Spectravideo's 80 column card is specially for use iwth the SV-601 and SV-605 Super Expander in connection to the SV-318 or SV-328 basic unit. This card allows the user to swtich from 40 column to 80 column display.
With the card, user may run any of the sophisticated CP/M programs already available in the market.
Read the instruction manual thoroughly to become familiar with the 80 column card. It is your guide to proper installation and operation.

SPECTRAVIDEO
SV806 80 COLUMN CARD
INSTRUCTION MANUAL

CONTENTS

1. ACCESSORIES   The package of SV806 80 column card should contain the following items:

(A) The 80 column card you have purchased

(B) Instruction Manual
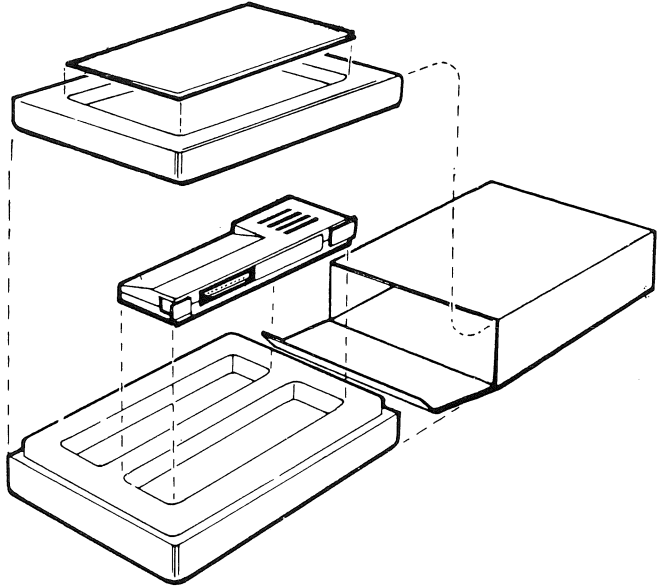
2. LAYOUT
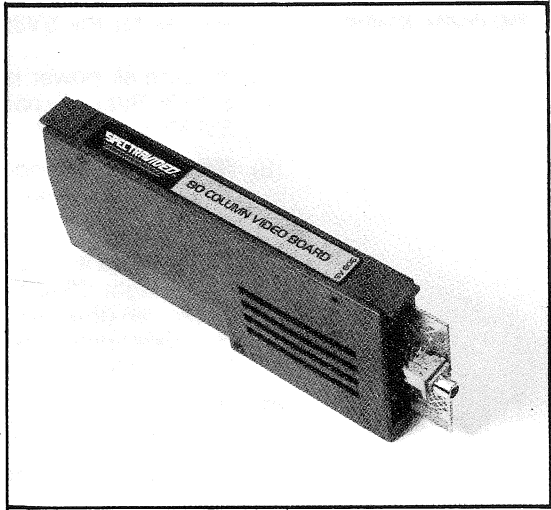
3. MAIN FEATURES

(A) The main feature of SV806 80 column card allows you to have a 80 column display instead of a 40 column display on the screen. The diaplay becomes 24 × 80 characters.

(B) With the purchase of the SV-806 together with your SV-318 or SV328 computer system, you can run any of the sophisticated CP/M programs already available in the market.

(C) A LED indicator on the front of the card shows you that it is in operation.

(D) The card is designed for ease of insertion and for durability.

4. CONNECTIONS/ The following is a guide to the proper hook-up
POWER SUPPLY procedures for the SV806 80 column card.

(A) Be sure all power is "OFF" for both the SV-806 Super Expander and the SV-318 or SV-328 basic unit.

(B) Remove the top cover of the SV-601 Super Expander to reveal its seven peripheral slots.

(C) These slots are numbered 0 through 6 from left to right. Plug the card into any slot except #6 (this slots is for the floppy disk controller only). Insert card into slot gently. Do not force.

(D) Be certain the card is fully seated in the slot and double check all connections.

(E) Connect one end of the cable to the socket on the 80 column card and the other end to a monitor.

(F) Replace the top cover of the SV-601 Super Expander.

(G) All the peripheral and interface cards that attach to the SV-601 Super Expander, including the 80 column card described in this manual, receive their power directly from the expander.
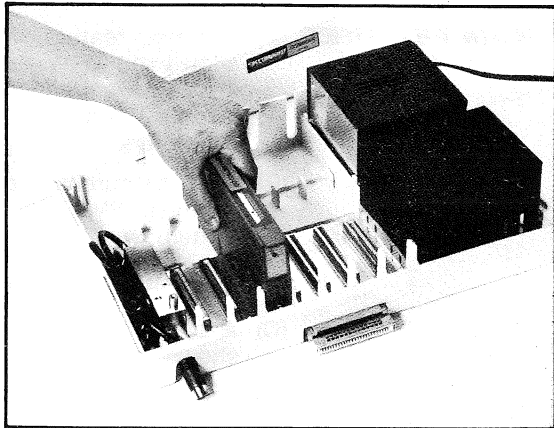
5. OPERATIONS

The SV-318 and SV-328 computer unit can only provide display of 24 rows × 40 columns on the video monitor. However with the installation of the SV-806 80 column card in the SV-601 Super Expander and just type in "WIDTH 80" to the computer memory, visual display of 24 rows × 80 columns will appear on the screen.

It can readily switch back to 40 columns display by typing in "WIDTH 40"

When CP/M diskette is used, it auto defaults to 80 column, it can be easily shifted back to CRT display by typing in
          "STAT CON: = CRT:"
and typing in
          "STAT CON: = UC1:"
back to the video monitor.

6 I/O ASSIGNMENT

PIN	NAME	PIN	NAME
1	+5V	2	CNTRL2
3	+12V	4	-12V
5	CNTRL1	6	WAIT
7	RST	8	CPU CLK
9	A15	10	A14
11	A13	12	A12
13	A11	14	A10
15	A9	16	A8
17	A7	18	A6
19	A5	20	A4
21	A3	22	A2
23	A1	24	A0
25	RFSH	26	EXCSR
27	M1	28	EXCSW
29	WR	30	MREQ
31	IORQ	32	RD
33	D0	34	D1
35	D2	36	D3
37	D4	38	D5
39	D6	40	D7
41	CSOUND	42	INT
43	RAMDIS	44	ROMDIS
45	BK32	46	BK31
47	BK22	48	BK21
49	Gnd	50	Gnd

* SV-318/328 EXPANDER BUS SIGNAL DESCRIPTION *

PIN: NAME: I/O: DESCRIPTION:

1	+5V	O	+5V power supply, 300mA current is available for all peripheral cards.
2	CNTRL2	I	Spectravideo game adapter for Coleco™ games. CONTROL signal (normally held HIGH by a 3.3K ohm resistor). This signal, when the game adapter is in use, controls the data transfer between the CPU and the adapter during the external I/O addressing.
3	+12V	O	+12V power supply. Maximum current is 100mA for all peripheral cards.
4	−12V	O	−12V power supply. Maximun current is 50mA for all peripheral cards.
5	CNTRL1	I	Spectravideo game adaptor for Coleco™ games CONTROL signal (normally held HIGH by 1K ohm resistor). This signal, when pulled LOW (i.e. when the adaptor is in use), disables all internal (i.e. SV-318/328) I/O address decoding, and inverses A15.
6	WAIT	I	Indicates to Z80A CPU that the addressed memory or I/O devices are not ready for data transfer.
7	RST	I	When this signal is pulled LOW the CPU begins a RESET cycle. During this RESET cycle, the address and data bus enter a high impedance state and the control signals enter the inactive state.
8	CPUCLK	O	Buffered system clock of frequency 3.58 MHz.
9-24	A15-A0		Buffered ADDRESS BUS. This is a 16-bit address bus providing addresses for memory data exchange and I/O device data exchange.
25	RFSH	O	Buffered REFRESH signal for the dynamic RAM expanders only. This signal indicates that the lower 7 bits of the address bus contain a refresh address for the dynamic RAM.
26	EXCSR	I	This is the external CPU-from-VDP READ select signal, and is used by Spectravideo game adaptor for Coleco™ games only.
27	M1	O	Buffered MACHNINE ONE CYCLE signal. This signal indicates that QP code fetch cycle is the current machine cycle.
28	EXCSW	I	This is the external CPU-to-VDP WRITE select signal, and is used by Spectravideo game adaptor for Coleco™ games only.
29	WR	O	Buffered WRITE signal. This signal indicates

that the CPU data bus holds valid data for storage in the addressed memory or I/O device.

30	$\overline{MREQ}$	O	Buffered MEMORY REQUEST signal. This signal indicates when the address bus is holding a valid memory address.
31	$\overline{IORQ}$	O	Buffered INPUT/OUTPUT REQUEST signal. This signal indicates the lower 8 bits of the address bus are holding a valid I/O device address, and is at HIGH state (i.e. inactive) during the INTERRUPT cycle.
32	$\overline{RD}$	O	Buffered READ signal. This signal indicates that the Z80A CPU is wanting to read data from memory or an I/O device.
33-40	D0-D7		Buffered bidirectional DATA bus. This is an 8-bit bidirectional data bus for data exchange between memory and I/O devices.
41	CSOUND	I	AUDIO input signal from the Spectravideo game adaptor for Coleco™ games.
42	$\overline{INT}$	I	Generated by I/O devices to request interrupt to Z80A CPU.
43	$\overline{RAMDIS}$	I	Pulling this signal LOW disables the SV-318/328 user RAM. This line is held high by a 1K ohm resistor to +5V.
44	$\overline{ROMDIS}$	I	Pulling this signal LOW disables the SV-318/328 BASIC ROM on board.
45	$\overline{BK32}$	O	Buffered MEMORY BANK CONTROL signal. Pulling this signal LOW enables the bank 32 portion of the memory (32K, Addr. — 8000H-FFFFH), and disables the user RAM on board through the RAMDIS signal.
46	$\overline{BK31}$	O	Buffered MEMORY BANK CONTROL signal. Pulling this signal LOW enables the bank 31 portion of the memory (32K, Addr. — 0000H-7FFFH), and disables the BASIC ROM on board through the ROMDIS signal.
47	$\overline{BK22}$	O	Buffered MEMORY BANK CONTROL signal. Pulling this signal LOW enables the bank 22 portion of the memory (32K, Addr.— 8000H-FFFFH), and disables the user RAM on board through the RAMDIS signal.
48	$\overline{BK21}$	O	Buffered MEMORY BANK CONTROL signal. Pulling this signal LOW enables the bank 21 portion of the memory (32K, Addr.— 0000H-7FFFH) which is the lower portion of SV-328 user addressable memory, and disables the BASIC ROM on board.
49-50	GND		System electrical ground.

7. CAUTIONS

Proper caution should be observed when handling the SV-806 80 column card and all other interface.

(A) Never remove or insert a 80 column and or any peripheral card with the power "ON". This could cause serious damage to your system.

(B) Never remove the protective casing surrounding the printed circuit board.

(C) Never bang or drop the card. This could cause irreparable damage to its circuit board.

8. MAINTENANCE

The performance of preventive maintenance on any Spectravideo Card is essential to the life of the card. The following is a description of preventive maintenance you may perform on your 80 column card.

(A) Use a cleaning solvent, preferably freon based, to clean the bus fingers located at the bottom of the card.

(B) The use of a wire brush is also recommended when cleaning bus fingers.

(C) Never smoke, eat or drink anything near the cartridge. Particles of food and dust can get lodged in the printed circuit board, affecting performance and perhaps cuasing damage.

(D) When not in use, store card in a dark place well away from sunlight.

9. SPECIFICATION

Character: 5 × 7 dot matrix
Characters (column & row) Total: 80 × 24
Display characters total: 176 (128 ASCII characters + 48 graphic characters)
Graphic: SV-318/SV-328 graphic character comparative
Video output: composite video 2Vp-p

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