

## New OMNIVIEW XL/XE Features

OMNIVIEW XL/XE now has several new features which solve the worst problem associated with the 800XL/130XE: they won't run so much of the existing ATARI software! It does this by having an ultra compatible 400/800 style OS which will copy itself into RAM, freeing up the \$C000 page. In addition, OMNIVIEW XL/XE has resident ramdisk handlers which allow you to use the extra 64K (or more) of RAM in the 130XE compatibles machines as an ultra fast disk drive. Add the other outstanding features of OMNIVIEW XL/XE, namely, 80 column emulation under Letter/Data Perfect, BASIC, MAC65, ATR8000 CPM, etc., and the Fastchip floating point package for significantly faster math operations, and you have an outstanding value for any 800XL/130XE owner!

### Improved 400/800 compatibility:

(Compliments of Cal Com, 5295 Cameron Dr. #505, Buena Park, CA 90620)

The OMNIVIEW XL/XE operating system runs virtually every piece of software written for the ATARI 800 computer. Besides being coded closely to the older OSB, it also has the capability of copying itself into RAM, freeing up the \$C000 page for your applications. This means 4K more RAM for programs like VISICALC, modem programs, word processors, etc. It also means compatibility with highly protected games which look for ROM in the \$C000 page as a part of their misguided protection schemes (e.g., Electronic Arts).

To copy the OS into RAM (from \$D800 to \$FFFF), hold down the SELECT key (and continue to hold it down!) while pressing RESET. To restore the OS to ROM, press RESET by itself. From this point on, the RAM version of the OS will be preserved, even if you switch the OS to ROM and back to RAM. Thus, any changes you may make to the OS in RAM remain in effect as long as you do not power down. In addition, if you hold down the SELECT key during powerup, the OS will be copied into RAM and it will stay in RAM even if you press RESET. Please note that the 80 column emulation is not available when running the OS out of RAM.

There are two other features designed to increase compatibility: the cursor speed and the OPTION key BASIC activation during powerup. The cursor speed is the same as the original XL/XE OS (contrary to what our ads may say) to remain compatible with the SYNAPSE software (SYNCALC, SYNFILE, etc.) which speed up the cursor. Also, the meaning of the OPTION key during powerup is just opposite of the original OS: hold down the OPTION key to activate BASIC. This seems to be the preference of most people.

One other convenience is that CTRL-1 has been replaced by the HELP key.

### Turning on 80 columns:

80 column emulation is activated from the keyboard by typing CTRL-A and hitting RESET. To return to 40 columns, type a key without CTRL and hit RESET. Don't try this if running OS in RAM.

### Changing screen colors:

It is now possible to switch the screen colors in the 80 column mode by holding down the START key while typing a letter. If this does not work (as in Letter Perfect), try holding down the START key while pressing RESET. However, since this combination is also used to install the Ramdisk handlers, read the next section before using this second technique.

### Coldstart from keyboard:

Type HELP and hit RESET. Same as powering up except that the contents of ramdisk are preserved.



### Installing the resident Ramdisk handlers:

The resident Ramdisk handlers in OMNIVIEW XL/XE allow you to use the extra 64K RAM of the 130XE as an ultra fast 512 sector single density disk drive (OMNIVIEW 256 gives double sided single density operation with 256KXL) in conjunction with any DOS which uses standard SIO calls (\$E459 and \$E453) and does not hide itself underneath the cartridge or OS (e.g. ATARI 2.05, MYDOS, SMARTDOS, etc.). In addition you will find it possible to use the Ramdisk with boot programs like Letter Perfect and Data Perfect.

The installation is simple: Type a number (1 to 8) corresponding to the drive number you wish to assign the Ramdisk, hold down the START key (and continue to hold it down!), and press RESET. If you do not hit a number prior pressing START/RESET, drive 1 will be assumed. In Letter/Data Perfect this combination is also used to change the screen colors. Assign the Ramdisk as drive 3 if you do not wish to use it in these environments. For example, in BASIC with any DOS that does not reboot on RESET:

- 1) Type DOS to go to DOS. Now type 2 and START/RESET to install the Ramdisk as drive 2.
- 2) Since you are now back in BASIC, go to DOS again and format and write DOS files to drive 2.
- 3) Now type 1 and START/RESET to install the Ramdisk as drive 1 if you so desire.

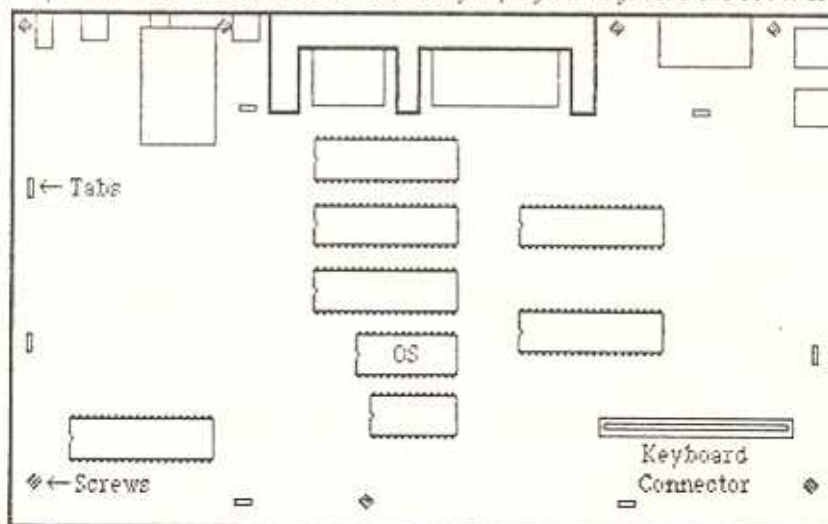
Or from assembly language: LDA #2 (drive #), STA \$94, LDA \$D301, AND #\$7F, STA \$D301,  
JSR \$5FAE, LDA \$D301, ORA #\$80, STA \$D301, RTS.

The binary load files INSTALL1 and INSTALL2 implement this routine for drive 1 and 2 respectively. Use the L option of DOS to load one of these files, especially with a DOS that reboots on RESET like ATARI DOS. Note that any attempt to use more than 512 sectors of the Ramdisk will result in an I/O ERROR (unless you have OMNIVIEW 256 and a 256KXL in an 800XL; in this case, be sure to tell your DOS that the ramdisk is double sided if you wish it to function as such).

## 130XE Installation Instructions

Caution: This installation should be attempted only by a skilled technician! A chip must be desoldered which can lead to destruction of the board if not properly done. If only ATARI had used a socket for the OS chip!

- 1) Turn the computer upside down and loosen the 4 crosspoint screws holding the case together. Carefully turn the computer over and collect the screws as they fall out.
- 2) Lift off the top of the case and set it aside. Carefully unplug the keyboard and set it aside.



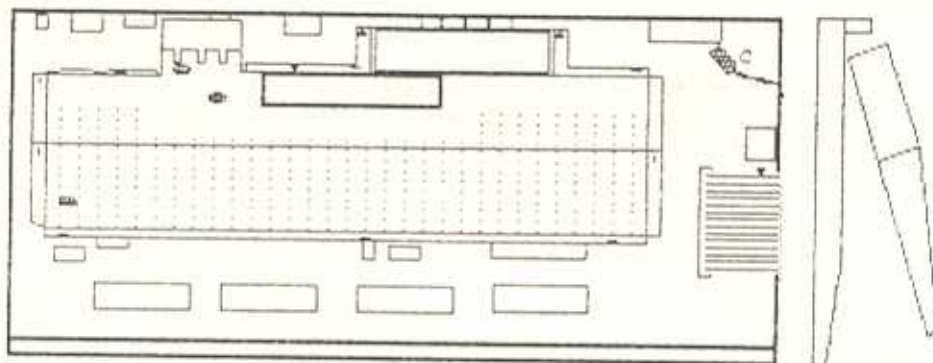
- 3) Straighten the 7 metal tabs around the periphery of the top shield, lift it off and set it aside.
- 4) Remove the 7 screws around the periphery of the motherboard and lift it out of the case.
- 5) The bottom shield can now easily be removed from the bottom of the motherboard. Set it aside.
- 6) Referring to the diagram, locate the 28 pin OS chip. Unsolder the chip. Nobody should attempt to do this unless they have a lot of soldering experience.
- 7) Solder a 28 pin socket in place of the OS chip and, noting the orientation of the notch, plug the OS chip back in. Test the computer by plugging the power and monitor cables back in and turning the computer on. If the screen comes up in BASIC then the socket installation was successful. Unplug the ATARI OS and plug OMNIVIEW XL/XE in its place.
- 8) Complete the installation by reversing the disassembly instructions.



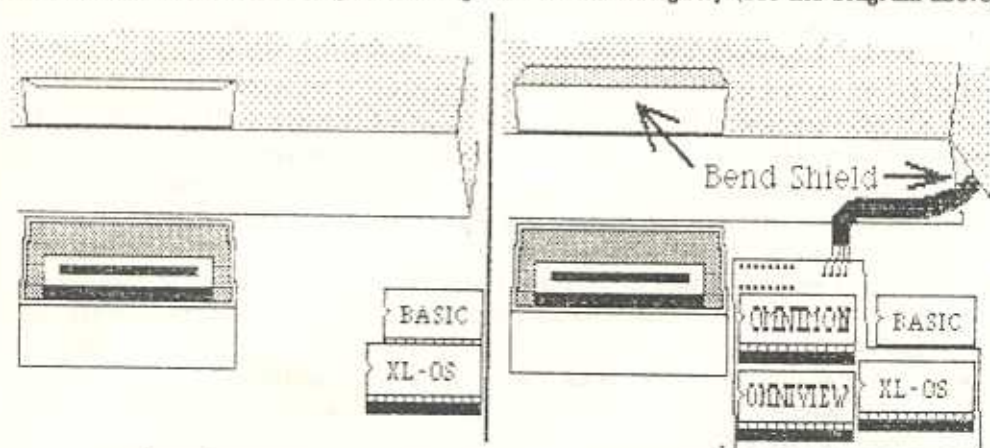
## OMNIVIEW-XL Installation Instructions

Tools Required: Crosspoint screwdriver, flat blade screwdriver

- 1) Turn the computer upside down and remove the six crosspoint screws holding the case together.
- 2) Turn the computer upright and lift the top half of the case from the left, pivoting on the right edge, and lay it upside down to the right of the bottom half.
- 3) Now we wish to gain access to the area underneath the metal shield. If your computer has a single screw and tabs around the edge holding the shield down, go to 3A. If there are screws (with nuts) holding the shield down, go to 3B.
  - 3A) Simply remove the screw and straighten the tabs so that you can lift the shield from the front, pivoting about 30 degrees on the remaining two screws at the back. This will bend the two metal tabs at the back slightly but this is of little consequence (see diagram below). Go to step 4.



- 3B) You will need to remove the motherboard from the bottom half of the case. In this case you will probably want to disconnect the keyboard cable by gently pulling it out of the connector on the motherboard. Remove the remaining screws holding the motherboard to the case (top right and left corners and between the joystick ports) and remove it by lifting from the left side and prying the case around the joystick ports on the right. It is a tight fit but it should pop out. Once the motherboard is free, you can remove the nuts and screws holding the shield to the motherboard. It is recommended that you leave the two at the back on either side of the expansion port. In this way you can lift the shield from the front to about a 30 degree angle, bending the back tabs slightly (see the diagram above).



- 4) Now you are ready to install the OMNIVIEW-XL. Refer to the diagram above. If you have a RAMROD-XL, go to step 5. Else, locate the XL-OS chip, a 28 pin chip about 2 inches to the right of the cartridge slot. Remove it by inserting the flat screwdriver between the chip and the socket and gently prying and rotating the screwdriver. If the OS chip is soldered directly to the board (this should rarely be the case), you will need to have a skilled technician remove the chip and install a socket.
- 5) Insert the OMNIVIEW-XL chip into the empty socket on the motherboard or on the RAMROD-XL. **Make careful note of the orientation of the chip, otherwise you may burn it up!**
- 6) Complete the installation by reversing the disassembly instructions.



## OMNIVIEWXL 80 Column Upgrade by David Young

Requirements: RAMROD-XL OS board for ATARI 800XL

### Installation:

The OMNIVIEWXL chip plugs into one of the free sockets on the RAMROD-XL. The chip may already be installed on the board, in which case you need only follow the instructions for installing the RAMROD-XL into your computer. Otherwise, make note of the orientation of the chips already on the board and plug in the OMNIVIEWXL chip into the spare socket in the same orientation. IF YOU PLUG IT IN BACKWARDS THE CHIP WILL BURN UP!

If you are using a monochrome monitor, be sure to use the composite luminance output (pin 1) instead of the composite video (pin 4). The composite video output is of lower bandwidth and the resulting artifacting is quite annoying. If it is hooked up correctly, every pixel should be distinct and of equal intensity. If you are using a color TV or monitor, turn off the color and adjust the brightness and contrast.

### Overview of OMNIVIEWXL

OMNIVIEWXL takes advantage of the high resolution graphics mode built into the ATARI to generate an 80 column screen editor essentially identical to the ATARI screen editor (E:, S:). Thus, you can use OMNIVIEWXL in any environment where you would normally use the 40 column "E:" (e.g., BASIC, Assembler/Editor, modem programs, etc.). The MAC65 assembler and screen editor work especially well. The character font was specially designed to be legible on an ordinary TV set! A monitor is recommended, but not really necessary for casual 80 column operation. The Bit-3 versions of LJK's 80 column Letter and Data Perfect have been modified to support OMNIVIEWXL and other programs are sure to follow.

### Use of OMNIVIEWXL 80 column E:

Be sure the bank switch is in the position to select OMNIVIEWXL instead of OMNIMONXL or the standard XLOS. You can activate the 80 column mode in most environments (e.g., BASIC, DOS, etc.) by holding down the OPTION and SELECT keys and pressing RESET. This will do a normal warmstart except that 40 column E: and S: will be replaced by 80 column E: and S:. In addition, the 80 column mode can be activated from assembly language with 'JSR \$C001' or from BASIC with 'X=USR(49152)'. Once activated, the 80 column E: acts just like the ATARI 40 column E: except for a few minor points. First, the logical line is 80 characters long (1 physical line) instead of 120. If you wish to edit a line longer than 80 characters, as you might in BASIC, hit SYSTEM RESET to take you back to 40 column mode. Secondly, you cannot set the tabs as you can in 40 column mode. Thirdly, neither split screen nor line drawing is supported. However, there is a feature which will allow a mixture of 80 column text and graphics on the screen. This will be described later.

Thus, any program which uses pure E: in its simplest form (no split screen or line drawing) for its screen I/O should work in 80 column mode. Even programs which reference and manipulate internal E: variables (ROWCRS, COLCRS, LMARGN, RMARGN, OLDCHR, etc.) should work fine because every effort was made to preserve the meanings of these variables in 80 column mode. One possible exception would be a program which relies on characteristics specific to a 40 column screen like, for instance, that the line will wrap at the 40th column. Likewise, programs like VISICALC, ATARIWRITER, MEDIT, etc. will not work because their internal design assumes a 40 column screen.

Setting 80 columns turned on may be a little tricky in some environments. In the case of a boot disk, you will need to add a 'JSR \$C001' somewhere in the initialization part of the program. Finding the right place and scrounging 3 bytes can be difficult, but if the program is designed to run with the Bit-3 board, then it may only be a matter of replacing the 'JSR \$D623', which would turn on the Bit-3 board, with 'JSR \$C001' to turn on OMNIVIEWXL instead. A binary load file is easier to deal with because you need only append the following bytes either at the beginning or the end: E2 02 E3 02 01 C0. If you find this discussion confusing, read the OMNIMONXL User's Guide, particularly the sections entitled 'READ DISK' and 'Binary Load Files'.



## Theory Behind OMNIVIEWXL

OMNIVIEWXL uses ANTIC mode F (BASIC GR.8), which gives you a resolution of 320 by 192 pixels. If you use a 4 by 8 character cell, this gives you exactly 80 columns by 24 rows. One drawback to this scheme is that it uses \$1E00 bytes (almost 8K) of memory for the screen data alone. This is rarely a problem and, when it is, you can always drop into 40 column mode anyway. Another drawback is that the format of the screen data is not nearly so convenient as BASIC GR.8 (which is essentially stored as ATASCII). Each character must be translated to pixel data represented by bits in noncontiguous bytes in screen memory. This gets especially tricky when E: goes to read a character from the screen! This requires a search of the character data table to find a match for the pixel data representing that character. You can see how this could be quite slow, but this part of the code has been optimized for speed and the small delay is hardly noticeable. For example, it will take a fraction of a second longer for the machine to respond when you type a line of BASIC and hit RETURN.

### Technical Details

When you activate 80 column mode with OPTION/SELECT/RESET, 'JSR \$C001', or 'X=USR(49152)', OMNIVIEWXL initializes the 80 column screen and installs the 80 column E: and S: in the handler address table at \$31A (HATABS). Afterwards, all CID calls to E: and S: will get vectored into OMNIVIEWXL. By the way, when OMNIVIEWXL's E: GET CHAR routine fetches a character from the keyboard, it vectors through the K: entry in HATABS instead of cheating like the OS does and calling the keyboard handler directly. This would allow you to redirect the keyboard input if you so desire.

As mentioned earlier, there is a way to mix 80 column text and graphics on the same screen. While the first line of text is always the top row, the last is set with the variable BOTSCR (\$2BF), which ranges from 0 to 23. If you were to set BOTSCR to anything less than 23 then you could use the remaining lower part of the screen for anything you wanted by simply modifying the display list. Also, since OMNIVIEWXL uses graphics 8 to generate the 80 column characters, there is nothing to keep you from drawing on the screen directly. This opens up all sorts of exciting possibilities which were inconceivable with the other dedicated 80 column boards for the ATARI. For example, wouldn't it be nice to have a word processor which would allow you to draw diagrams in with the text? Some software developer ought to jump on that one and, by the way, OMNIVIEWXL source code is available for a fee. This would allow your program to run 80 columns independent of special hardware.

Here is a memory map of the screen data area:

```
RAMTOP+256      -> RAMTOP HOLDS THE NUMBER OF PAGES OF RAM
RAMTOP+256 - $126 -> FUTURE BUFFER FOR LAST LINE DELETED (LINBUF)
RAMTOP+256 - $1F0 -> BEGINNING OF DISPLAY LIST
RAMTOP+256 - $1FF0 -> BEGINNING OF DISPLAY DATA (SAVMSC)
RAMTOP+256 - $2001 -> LAST BYTE OF FREE RAM (MEMTOP)
```

Here are the definitions of OMNIVIEWXL variables:

```
DSTAT  $4C  USED TO SAVE STATUS
TEMP   $50  TEMPORARY REGISTER
HOLD1  $51  TEMPORARY REGISTER
LMARGN $52  LEFT MARGIN (#-79)
RMARGN $53  RIGHT MARGIN (#-79)
ROWCRS $54  ROW CURSOR IS ON (#-23)
COLCRS $55  COLUMN CURSOR IS ON (#-79); DISCERNS BETWEEN ODD AND EVEN CHARS
LFTMSK $56  INVERSE VIDED MASK FOR EVEN COLUMNS
RGTMSK $57  INVERSE VIDED MASK FOR ODD COLUMNS
SAVMSC $58  2 BYTE POINTER TO BEGINNING OF DISPLAY DATA
OLDCHR $5D  INTERNAL FORMAT OF CHARACTER UNDER CURSOR
OLDADR $5E  2 BYTE POINTER TO CURRENT CURSOR POSITION (ALSO SEE COLCRS)
ADRESS $64  2 BYTE POINTER TO CURRENT CHARACTER
```

MLTTMP	\$66	2 BYTE POINTER WHERE NEXT CHAR WILL BE OUTPUT (ALSO SEE COLCRS)
RAMTOP	\$6A	NUMBER OF 256 BYTE PAGES OF RAM AVAILABLE
BUFCNT	\$6B	BUFFER GOUNT DURING E: GET CHAR
BUFSTR	\$6C	RETAINS START OF LOGICAL LINE DURING E: GET CHAR (ROW/COL)
DILIST	\$70	TEMP 2 BYTE PTR USED DURING GENERATION OF DISPLAY LIST
TEMP1	\$79	TEMPORARY REGISTER
INSDAT	\$7D	TEMPORARY REGISTER
LINBUF	\$7E	2 BYTE POINTER TO A LINE BUFFER JUST PAST DISPLAY LIST
GPRIOR	\$26F	PRIORITY SELECTION REGISTER
HOLD3	\$29D	TEMPORARY REGISTER
ESCFLG	\$2A2	ESCAPE FLAG; USED TO DISPLAY CTRL CODES
TMPROW	\$28B	TEMPORARY STORAGE FOR ROWCRS
SCRFLG	\$2BB	SCROLL FLAG; SET IF SCROLL OCCURRED
SHFLOK	\$28A	FLAG FOR SHIFT AND CTRL KEYS
BOTSCR	\$2BB	THE NUMBER OF TEXT ROWS AVAILABLE FOR PRINTING
MEMTOP	\$2E5	2 BYTE POINTER TO THE TOP OF FREE MEMORY
CRSINH	\$2F0	CURSOR INHIBIT FLAG; NON-ZERO TURNS CURSOR OFF
ATACHR	\$2FB	LAST ATASCII CHARACTER READ OR WRITTEN
CH	\$2FC	INTERNAL HARDWARE VALUE OF THE LAST KEY PRESSED
DSPFLG	\$2FE	DISPLAY FLAG; NON-ZERO WILL DISPLAY CTRL CHARS
SSFLAG	\$2FF	START/STOP FLAG; NON-ZERO WILL SUSPEND SCREEN OUTPUT

## Use of OMNIVIEWXL with LJK's Letter Perfect

Any version of Letter Perfect which supports the Bit-3 board can, with the appropriate patches, be made to work with OMNIVIEWXL. Some special fixed entry points were added to OMNIVIEWXL to provide the necessary hooks and these can be used in your own software if needed:

CURSNJ	%CFB1	TURN ON CURSOR @OLDADR (%5E)
CURSFJ	%CFB4	TURN OFF CURSOR @OLDADR (%5E)
DELRTJ	%CFB7	CLEAR TO EOL BASED UPON MLTMP (%66) AND COL # IN REG Y
DUTCHJ	%CFBA	OUTPUT CHAR IN ACC TO SCREEN @MLTMP (%66) AND COLCRS (%55)
SCROLJ	%CFBD	SCROLL SCREEN UP
SCRLDJ	%CFC0	SCROLL SCREEN DOWN

Here are the patches to the 80 column side of Letter Perfect Version 3.0. Use OMNIMON or any sector editor to modify a backup copy of the original disk (use any sector copier to make the backup). DO NOT MODIFY THE ORIGINAL DISK! For \$10.00, CDY will do the patches for you. Simply send a backup copy of the 80 column side of the disk along with a check to CDY. For patches to other versions, contact CDY Consulting (214-235-2146).

SECTOR \$2D BYTE \$30:	
WAS %EC	NOW %D9
SECTOR \$2D BYTE \$53:	
WAS %65 EA 48 0A 0A 0A 0A 05	NOW %EA EA 05 64 A9 00 05 65
%64 68 4A 4A 4A 4A 05 65	%8A 48 20 06 25 68 AA 60
SECTOR \$2D BYTE \$72:	
WAS %A5 EA 69 04 29 7F 05 EA	NOW %8A 48 20 0D CF 68 AA A5
%20 06 25 20 0F 25	%58 05 64 A5 59 05
SECTOR \$2E BYTE \$00:	
WAS %20 40 25 4C 0F 25 A5 EA	NOW %65 4C F7 25 0F 25 A2 06
%20 55 25 A9 00 0D 00 05	%06 64 26 65 CA D0 F9 A5
%A5 64 0D 01 05 A9 0C 0D	%50 10 65 64 05 64 A5 59
%00 05 A5 65 0D	%65 65 05 65 60
SECTOR \$2E BYTE \$47:	
WAS %A9 00 20 FF 25 C0 50	NOW %8A 48 20 07 CF 68 AA A0
%90 F3 60 A4 55 98 10 65	%50 38 60 A4 55 98 4A 18
%64 05 66 A5 65 69 00 05	%65 64 05 66 A5 65 69 00
%67 A9 13 0D 00 05 A5 66	%00 13 05 EA 98 48 0A 40
%0D 01 05 A9 12 0D 00 05	%A5 EA 20 0A CF EA EA EA
%A5 67 0D 01 05 A9 1F 0D	%60 AA 60 A0 60 05 67 60
%00 05 AD 00 05 10 F0 60	%20 0F 25 4C 40 25 EA 60
SECTOR \$2F BYTE \$00:	
WAS %40 70 60 0D 05 20 F9	NOW %40 70 60 20 E1 25 20 60
%25 20 60 20 02 25 A9 0F	%25 20 60 20 02 25 20 15
%0D 00 05 A5 66 0D 01 05	%26 20 01 CF 60 A5 66 05
%A9 0E 0D 00 05 A5 67 0D	%5E A5 67 05 5F 60 67 0D
%01 05 A9 09 40 A9 0A 0D	%01 05 A9 09 20 0A CF 60
SECTOR \$2F BYTE \$40:	
WAS %A2 10 BE 00 05 CA 0E 00	NOW %20 01 C0 A5 50 05 9E A6
%05 0D CF 13 0D 01 05 CA	%59 CA CA 06 9F EA EA EA
%10 F4	%A2 FF
SECTOR \$2F BYTE \$72:	
WAS %20 06 25	NOW %EA EA EA



OMNIVIEWXL with LJK's Letter Perfect Version 3.2,3.3

Here are the patches to the 00 column side of Letter Perfect Version 3.2 or 3.3. Use OMNIMONXL or any sector editor to modify a backup copy of the original disk (use any sector copier to make the backup). DO NOT MODIFY THE ORIGINAL DISK! For \$10.00, CDY will do the patches for you. Simply send a backup copy of the 00 column side of the disk along with a check to CDY. For patches to other versions, contact CDY Consulting (214-235-2146).

SECTOR \$2D BYTE \$39:	
WAS \$EC	NOW \$D9
SECTOR \$2D BYTE \$5C:	
WAS \$65 EA 48 0A 0A 0A 0A 05	NOW \$EA EA 85 64 A9 00 85 65
\$64 68 4A 4A 4A 4A 85 65	\$8A 48 20 8F 25 68 AA 60
SECTOR \$2D BYTE \$7B:	
WAS \$A5 EA 69 04 29	NOW \$8A 48 20 8D CF
SECTOR \$2E BYTE \$00:	
WAS \$7F 85 EA	NOW \$68 AA A5
\$20 8F 25 20 C8 25	\$58 85 64 A5 59 85
\$20 54 25 4C C8 25 A5 EA	\$65 4C 00 26 8F 25 A2 06
\$20 5E 25 A9 0D 8D 00 D5	\$06 64 26 65 CA D0 F9 A5
\$A5 64 8D 81 D5 A9 0C 8D	\$58 18 65 64 85 64 A5 59
\$00 D5 A5 65 8D	\$65 65 85 65 60
SECTOR \$2E BYTE \$50:	
WAS \$A9 00 20 00 26 C8 C0 50	NOW \$8A 48 20 87 CF 68 AA A0
\$90 F3 68 A4 55 98 18 65	\$50 38 60 A4 55 98 4A 18
\$64 85 66 A5 65 69 00 85	\$65 64 85 66 A5 65 69 00
\$67 A9 13 8D 00 D5 A5 66	\$D0 13 85 EA 98 48 8A 48
\$8D 81 D5 A9 12 8D 00 D5	\$A5 EA 20 8A CF EA EA EA
\$A5 67 8D 81 D5 A9 1F 8D	\$68 AA 68 AB 60 85 67 60
SECTOR \$2F BYTE \$00:	
WAS \$80 D5 AD B0 D5 10 FB 60 00	NOW \$20 C8 25 4C 54 25 EA 60 00
\$48 78 68 8D 85 D5 20 02	\$48 76 68 20 EA 25 20 60
\$26 28 60 20 DB 25 A9 0F	\$25 28 60 20 DB 25 20 1E
\$8D 80 D5 A5 66 8D 81 D5	\$26 20 81 CF 60 A5 66 85
\$A9 0E 8D B0 D5 A5 67 8D	\$5E A5 67 85 5F 60 67 8D
\$81 D5 A9 09 48 A9 0A 8D	\$81 D5 A9 09 20 B4 CF 60
SECTOR \$2F BYTE \$49:	
WAS \$A2 10 8E 00 D5 CA 8E 80	NOW \$20 01 C0 A5 58 85 9E A6
\$D5 BD CF 13 8D 81 D5 CA	\$59 CA CA 86 9F EA EA EA
\$10 F4	\$A2 FF
SECTOR \$2F BYTE \$7B:	
WAS \$20 8F 25	NOW \$EA EA EA



OMNIVIEWXL with LJK's Letter Perfect Version 6.00,6.05

Here are the patches to Letter Perfect Version 6.01. Use OMNIMONXL or a sector editor to modify a backup copy of the original disk (use any sector copier to make the backup). DO NOT MODIFY THE ORIGINAL DISK! For \$10.00, CDY will do the patches for you. Simply send a backup copy of the disk along with a check to CDY. For patches to other versions, contact CDY Consulting (214-235-2146).

SECTOR \$62 BYTE \$1A:

WAS \$31 02 CA

NOW \$E6 02 EA

SECTOR \$63 BYTE \$8D:

WAS \$65 CF 48 0A 0A 0A 0A 05  
\$64 68 4A 4A 4A 4A 05 65

NOW \$EA EA 05 64 A9 00 05 65  
\$8A 48 28 C6 08 68 AA 68

BYTE \$2C:

WAS \$A5 CF 69 04 29 7F 05 CF  
\$20 C6 08 20 F2 07 20 05  
\$07 4C

NOW \$8A 48 20 BD CF 68 AA A5  
\$58 05 64 A5 59 05 65 4C  
\$E0 07

BYTE \$42:

WAS \$A9 13 0D 00 05 98 10 65  
\$64 05 66 0D 01 05 A9 12  
\$0D 00 05 A5 65 69 00 05  
\$67 0D 01 05 A9 1F 0D 00  
\$05 AD 00 05 10 F0

NOW \$98 4A 10 65 64 05 66 A5  
\$65 69 00 05 67 60 05 CF  
\$98 48 0A 48 A5 CF 20 0A  
\$CF 68 AA 68 AB 60 20 F2  
\$07 4C 05 07 EA EA

BYTE \$78: WAS \$00

NOW \$20

SECTOR \$64 BYTE \$66:

WAS \$8D 05 05

NOW \$20 00 07

BYTE \$6A: WAS \$4C

NOW \$60

BYTE \$70:

WAS \$A0 0F 0C 00 05 A5 66 0D  
\$B1 05 0B 0C 00 05 A5 67

NOW \$20 77 08 20 01 CF 60 A5  
\$66 05 5E A5 67 05 5F 60

SECTOR \$65 BYTE \$0C:

WAS \$A9 A0 A0 0A

NOW \$20 04 CF 60

BYTE \$17:

WAS \$A2 10 BE 00 05 A2 0D 0E  
\$00 05 0D 02 08 0D 01 05  
\$CA 10 F4 E0

NOW \$20 01 C0 A9 01 05 0C A9  
\$C0 05 0D EA EA EA EA EA  
\$EA EA A2 00

If you want to install the Ramdisk automatically on bootup, change the 7 EA's at byte \$22 to: A9 drv# 05 94 20 24 CF, where drv# = Ramdisk drive # (from 01 to 05).

BYTE \$3D:

WAS \$20 C6 08

NOW \$EA EA EA

BYTE \$46:

WAS \$20 E3 07 29 20 F0 F9 A0  
\$0C 0C 00 05 A5 CF 20 0F  
\$07 0D 01 05 C8 0C 00

NOW \$A2 06 06 64 26 65 CA D0  
\$F9 A5 58 18 65 64 05 64  
\$A5 59 65 65 05 65 60

SECTOR \$6A BYTE \$4D:

WAS \$0D 04 0C

NOW \$08 04 0A

SECTOR \$79 BYTE \$48:

WAS \$42 69 74 20 33 20 66 75  
\$6C 6C 2D 76 69 65 77 20  
\$38 30

NOW \$4F 4D 4E 49 56 49 45 57  
\$20 38 30 20 43 6F 6C 75  
\$6D 6E

BYTE \$6B:

WAS \$63 6F 6C 75 6D 6E

NOW \$52 2E 49 2E 50 2E

Due to an error in production on LJK's part, the newest version of Letter Perfect (6.06) may not work with the patches contained in this manual.

If you have this version, contact LJK and complain.

If you wish CDY to resolve the problem, send us a copy of your disk with \$10.00 and we will patch to make it work.

CDY  
421 Hanbee  
Richardson, TX 75080

There have been reports that 6.06 does work in some cases with the 6.00-6.05 patches. Be sure and compare your disk to the "was" column of the patches. If they match then the patches will work.



OMNIVIEW with LJK's Data Perfect Version 2.01,2.02,2.03

Here are the patches to Data Perfect Version 2. Use OMNIMON or any sector editor to modify a backup copy of the original disk (use any sector copier to make the backup). DO NOT MODIFY THE ORIGINAL DISK! For \$10.00, CDY will do the patches for you. Simply send a backup copy of the disk along with a check to CDY. For patches to other versions, contact CDY Consulting (214-235-2146).

<u>SECTOR \$02 BYTE \$06:</u>	
WAS \$31	NOW \$E6
<u>SECTOR \$04 BYTE \$02:</u>	
WAS \$30	NOW \$E5
BYTE \$07:	
WAS \$31	NOW \$E6
<u>SECTOR \$05 BYTE \$1E:</u>	
WAS \$42 69 74 20 33 00 33 3E	NOW \$4F 4D 4E 49 56 49 45 57
\$20 20 41 75 73 74 69 6E	\$20 38 30 00 33 3E 20 20
\$20 46 72 61 6E 6B 6C 69	\$41 75 73 74 69 6E 20 38
\$6E	\$30
<u>SECTOR \$09 BYTE \$46:</u>	
WAS \$30	NOW \$E5
BYTE \$4B:	
WAS \$31	NOW \$E6
<u>SECTOR \$0F BYTE \$57:</u>	
WAS \$4B 4A 4A 4A 4A 05 E1 68	NOW \$05 E0 A9 00 05 E1 90 48
\$0A 0A 0A 0A 05 E0	\$20 6D 0D 68 08 60
BYTE \$6F:	
WAS \$8D 85 D5 20 67 0D	NOW \$20 54 0D EA EA EA
<u>SECTOR \$90 BYTE \$51:</u>	
WAS \$00	NOW \$20
BYTE \$59:	
WAS \$F8 60 20 44 0D AD 03 D5	NOW \$F6 60 20 44 0D 0D 00 04
BYTE \$65:	
WAS \$A0 0F 0C 00 D5 A5 66 0D	NOW \$A5 66 85 5E A5 67 85 5F
\$01 D5 00 0C	\$20 01 CF 60
BYTE \$70:	
WAS \$A9 20 A0 0A	NOW \$20 04 CF 60
<u>SECTOR \$91 BYTE \$0D:</u>	
WAS \$70	NOW \$03
BYTE \$46:	
WAS \$A9 13 0D 00 D5 90 10 65	NOW \$90 4A 10 65 E0 05 66 A5
\$E0 05 66 0D 01 D5 A9 12	\$E1 69 00 05 67 60 05 56
\$0D 00 E5 A5 E1 69 00 05	\$90 48 0A 48 A5 56 20 BA
\$67 0D 01 D5 A9 1F	\$CF 68 AA 68 A8 60
BYTE \$6D:	
WAS \$70 50 5B 39 19 04 10 10	NOW \$A0 06 06 E0 26 E1 00 D0
\$70 09 20 09 00 00 A2 10	\$F9 A5 58 65 E0 05 E0 A5
\$0E 00 D5	\$59 65 E1
<u>SECTOR \$92 BYTE \$00:</u>	
WAS \$CA BE 00 D5 0D 6D 0D 0D	NOW \$05 E1 60 20 01 C0 EA EA
\$01 D5 CA 10 F4	\$EA EA EA EA EA

If you want to install the Ramdisk automatically on bootup, change the 7 EA's at byte \$06 to: A9 drv# B5 94 20 24 CF, where drv# = Ramdisk drive # (from 01 to 05).

## Use of OMNIVIEWXL with ATR8000

OMNIVIEWXL has a built in terminal emulator for use with the ATR8000 which provides a serial interface for communication with the ATR and most of the standard cursor controls necessary for operation with CPM programs. The terminal emulator, which will be referred to as 'ATRMON' from this point on, can be called up at any time and it is even possible to switch back and forth between the ATARI and CPM environments.

### Turning on ATRMON

First of all you must activate the 80 column OMNIVIEWXL screen editor (e.g., with SELECT/OPTION/RESET). Then hold down the START, SELECT, and OPTION switches and type any letter on the keyboard. You should hear the drive(s) reset and the ATRMON header should appear after a couple of seconds. Now put in your CPM system disk and type 'B(return)' to boot up CPM. While ATRMON is active, the START switch will allow you to switch screen colors. [By the way, even in ATARI mode you can switch screen colors by holding down the START switch and typing any key. This also holds true of powerup, if you press the START switch after the disk boot process has begun and hold it down until the boot is finished. This allows you to change the screen colors of Letter Perfect.]

### Leaving ATRMON

Leave ATRMON in almost the same way you entered it, i.e., by holding down the START, SELECT and OPTION switches, but this time it is not necessary to type another key. You will then see the command 'GOATARI' appear on the screen. This is to fetch the extrinsic command 'GOATARI.COM' which is used to reset the ATR from CPM so that the drives can once more be accessed in the ATARI environment. To create this file, use DDT as follows:

- 1) Under CPM, insert a disk with DDT on it and type 'DDT(return)' to enter DDT.
- 2) Type 'A100(return)JMP #F000(return)(return)G#'
- 3) Back at the command level, type 'SAVE 1 GOATARI.COM(return)'

The short file 'GOATARI.COM' will have to be on any CPM disk from which you might want to return to the ATARI environment. The alternative is to reach behind the ATR and reset it whenever you return to the ATARI environment.

### Technical Details

The ATRMON portion of OMNIVIEWXL resides in what was the diagnostic portion of the XL operating system. This gets mapped in from \$5000 to \$57FF whenever ATRMON is active, but is otherwise deselected. The serial input buffer starts at \$5800 and runs to @MEMTOP, which points just below the 80 column screen area. The serial input buffer is as large as possible to prevent the ATR from overrunning the OMNIVIEWXL screen output, which is relatively slow compared to the serial baud rate. This however has a nice side effect: whatever was last printed to the CPM console (CON:) will remain in the buffer when you return to the ATARI mode. If, for example, you were in DOS when you went to CPM, you will return directly to DOS when you leave CPM. You could then do a binary save on memory starting at \$5800 until the end of user memory if you so desire. Thus, if you had just TYPED a text file under CPM, you would now have the text in an ATARI file. All that remains is to clean it up with a text editor. OMNIVIEWXL further simplifies the task by converting all \$0D's and \$0A's (CRLF's) to \$00 and \$0B, respectively, when it leaves ATRMON.

ATRMON implements almost all of the CTRL codes and ESC sequences listed in the ATR8000 manual. In fact, the ones not implemented are CTRL->, ESC 7, and ESC In. If anyone sees a reason why these or any other features should be incorporated in the ATRMON of OMNIVIEWXL, please contact CDY Consulting (214-235-2146) and we will be happy to see about adding them.