WARNING:

While installation of this upgrade is not complicated, you should satisfy yourself that you are competent to perform it before commencing, as incorrect installation may damage your computer or void your guarantee.

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Your Atomwide VIDC Enhancer should contain the following. Check that each is present, and contact Atomwide immediately if you find something missing:

> One copy of these notes
> One 3.5" floppy disc
> One assembled VIDC enhancer PCB,

In addition you will require:

> A medium-sized Phillips head (+) screwdriver
>
> A pair of scissors or side cutters
> Fifteen minutes to spare
> Plenty of common sense

Opening the Archimedes

To install the V1DC enhancer, you will need to remove the top cover from the Archimedes by undoing five screws. Three screws are positioned along the top rear edge, and the remaining two are on either side of the case, a couple of inches from the front. Keep all five screws in a safe place.

Once you have undone the screws, you may proceed to remove the top cover. Firmly slide it towards the rear of the machine, and lift it up. Bear in mind that the Archimedes is quite sturdy enough to survive a little bit of force.

Installing the VIDC enhancer

Remove any podules that you may have, and the backplane if you have one fitted. If you have an A300 series machine, then locate PL3A, or if you have a A410/1 series machine, locate PL4 at the rear of the machine. The VIDC enhancer card needs to be fitted to this connector. The card needs to be positioned so that the crystal is underneath the VIDC enhancer PCB, and is towards the front of the machine. Remove the two links from the pin headers on the main PCB (PL3 on the A300 series machines and PL4 on the A410/1 series machines), position the VIDC enhancer PCB over the pins, and push the unit home.

There are two methods of controlling the VIDC enhancer; either by a manual toggle switch, or by software control.

For toggle switch control

Position the toggle switch either on the front panel of the machine, or on one of the backpanel plates.

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VIDC Enhancer

<u>For software control</u>
This option must be carried out by a component level service centre. Failure to do this may void your warranty!

Before starting you should configure the machine to boot from the Floppy disk system this may be done by typing ' *con. drive 0 <RETURN> from the command line.

Locate the connector AUXIO next to the battery connector. Using a solder and soldering iron, attach the flying wire to the middle pin (pin3) of the AUXIO connector. Cut the cables connecting the switch to the VIDC enhancer card (close to the card itself), and install the card on either PL3a, or PL4, depending on which type of machine you have.

It should be noted that it is not possible to use both software and toggle switch control at the same time. If the switch is not removed when the AUXIO connector is used, then damage will result in both the VIDC enhancer and the Archimedes.

Place the disk that was supplied with the V1DC Enhancer unit in your floppy drive and shift break the disk this will load the control module for the VIDC Enhancer.

PLEASE CHECK NOW THAT YOU HAVE REMOVED THE SWITCH

In both cases of control take the red 1/4" spade connector that is attached to the VIDC card, and connect it to the +5v wire for the backplane. This wire is red, comes from the power supply unit, and goes to a 1/4" spade terminal on the backplane. Re-install the backplane and any podules that you may have.

Installation of the VIDC Enhancer should be done by a registered Acorn Dealer or Service centre. If this instruction is disregarded then the guarantee on either this upgrade or the computer, or both, may be invalidated.

<u>A3000 Installation</u>

Locate LK29 and LK30 in the front right hand corner of the main PCB under the keyboard. Remove the two jumper links and position the VIDC Enhancer over these links with the crystal package above the 74HC04 (IC47). Position the toggle switch either on the internal podule back panel plate of the A3000 or by trailing the switch lead out of the right hand side of the A3000 case by the speaker next to the disk drive. The wire with the 1/4" spade connector should be attached to PL4 which has a spade terminal from the power supply unit attached to it. The remaining wire should be coiled up and positioned so that it does not short out with any of the circuitry of the A3000.

Software support

The support module provides a number of new modes, which make use of the higher pixel rate made possible by the new hardware. The hardware allows the module to switch VIDC between the standard 24MHz dot clock, and the new 36MHz dot clock. At this speed, screens with superior resolution can be produced in a fully RISC OS compatible way.

Because of the very high resolution of the screens, they tend to use a fair deal of memory (up to 320k). Also, since the VIDC chip is now being clocked faster than the MEMC, it is not possible to provide 256 colour modes, as these would request data from MEMC faster than it could be provided. Another side effect of the faster VIDC clock is that all sound output gets transposed up by a perfect 5th (the frequency is multiplied by 1.5).

The support provides modes numbered 96 up to 118. It will be necessary to make sure that no other modules providing modes in this region are loaded. The module will assume that any other modes numbered greater than 96 are very high resolution, and automatically switch in the high speed clock - thus it is possible to write your own very high resolution modes. Any mode extension modules that provide modes numbered less than 96 will be totally unaffected.

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The Atomwide VIDC Enhancer has been designed to gain the maximum performance out of the Eizo range of monitors. If you have a different type of monitor you may experience some minor errors in the size and position of the screen modes. In most cases these may be compensated for by adjusting the various controls that are available on the monitors.

If this is not the case you will be experiencing difficulties with standardidity of the series of monitors that you are using. Any two monitors from the same manufacturer may not be identical when they are driven close to their limits.

To deal with this problem we have developed a mode generating program. This software should be used with great care as it is possible to damage the monitor by generating a mode that has greatly non-standard values in it. The software comes with several demonstration programmes that may be used as a basis for further mode modules.

This software is available from Atomwide by simply returning your master (after making a backup) with a request for the Generation software.

ATOMWIDE ACCEPT NO RESPONSIBILITY FOR ANY DAMAGE CAUSED TO YOUR MONITOR BY THIS SOFTWARE

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New Modes (for 36MHz video)

Mode bpp         Pixels        Logical
96    1          800*600       1600*1200  57.23Hz    36KHz
97    2          800*600       1600*1200
98    4          800*600       1600*1200

100   1          1152*486      2304*1944  53.57Hz    26.785K
101    2         1152*486      2304*1944
102   4          1152*486      2304*1944

104   1          1280*480      2560*1920  47.28Hz    24.590K
105   2          1280*480      2560*1920
106   4          1280*480      2560*1920

108   1          1024*640      2048*1280
109   2          1024*640      2048*1280
110   4          1024*640      2048*1280

112   1          1024*640      2048*2560
113   2          1024*640      2048*2560
114   4          1024*640      2048*2560

116   1           768*576      1536*1152
117   2           768*576      1536*1152
118    4          768*576      1536*1152
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