

Indivision ECS short manual

Dear customer,

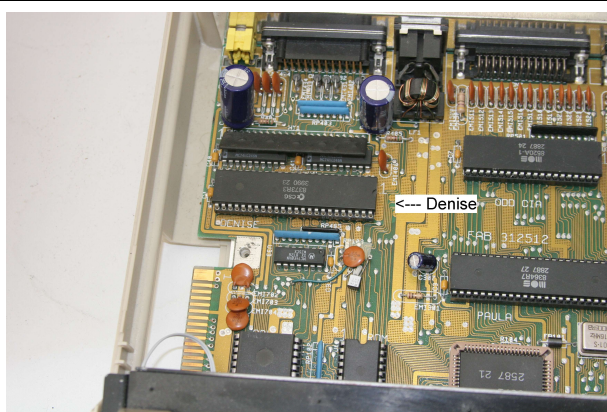
thank you for purchasing a product from Individual Computers. We're sure that your new flickerfixer will satisfy all your needs. However, we would like to emphasize that installing the product in an Amiga is very complicated. The required steps require a lot of experience and skills. Please read this manual throughly to ascertain if you can perform the installation process. If you have any doubts regarding installation, please seek help from an expert. Your reseller will be glad to help you.

Please read this guide carefully before commencing installation. Ensure you take suitable anti-static precautions. Serious damage may result from failure to accurately follow this guide. Both Individual Computers and your authorised reseller cannot be held responsible for incorrect installation of this product, including bent/broken pins, damaged motherboard or damage to the Indivision ECS unit itself.

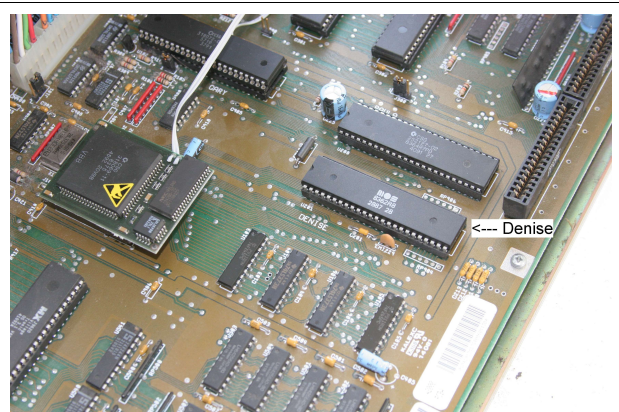
A PDF-version of this short manual is available on our homepage www.icomp.de, and you reseller's homepage. This online version of this manual contains high-resolution colour pictures. The zoom-function of a PDF reader will give you a lot more detail in the pictures of this manual.

Step 1: Open the computer and locate the Denise-chip

Open the computer and remove everything that may cover the Denise-chip, such as Zorro-cards or the RF-shield. The following pictures show the most common Amiga models:



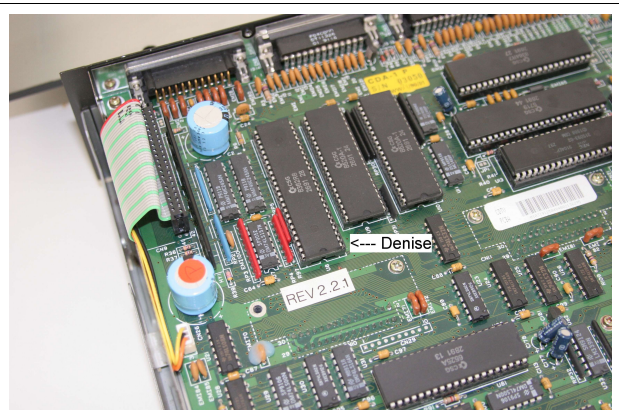
Amiga 500



Amiga 2000



Amiga 3000



CDTV

For installation in an A3000T, A1000 and A600, additional parts are required that are not included in the normal Indivision ECS package. If you want to install the flickerfixer in one of these computers, please download the respective manual from our website www.icomp.de. Please understand that we cannot cover these extremely rare Amiga models in this short manual.

Step 2: remove obstacles

Indivision ECS is already trying to avoid as many obstacles as possible in as many Amiga models as possible. However, a fully universal shape is impossible due to the diversity in design of Amiga revisions, so a few motherboard revisions require modifications to accommodate Indivision ECS.

We are not aware of any Amiga 500 or CDTV version that requires modifications. In this case, you can skip to step 3 of this manual.

In A3000 desktop computers, the rechargeable battery must be removed to make space for Indivision ECS. This has already been done on many computers, because the batteries are already years beyond their lifecycle. Leaking batteries are a danger to the whole computer, so any NiCad cell should be removed from all Amiga computers. We recommend to use high-quality 3V cells as a replacement.

Removing the battery should be done by an expert (such as a radio- and television engineer). Breaking away the contacts of the battery could lead to serious damage of the mainboard and is not recommended.

On A2000 versions 4.1 and 4.3, the electrolytic cap C225 (near the Paula chip) must either be replaced by a physically smaller type (max. 8.5mm height), or moved to a different place by using short wires (max. 2 inches). We recommend using a new radial type with 470 μ F and 16V. Since low-profile capacitors are extremely hard to find, we recommend using an 8mm diameter type that can be mounted flat (for example Digi-Key part number P5141-ND). This job should only be done by an expert, for example a radio- and television engineer. Please take the time to completely remove the board from the case. Removing the capacitor by force from the top side may damage the mainboard and is not recommended.

Step 3: installation of Indivision ECS

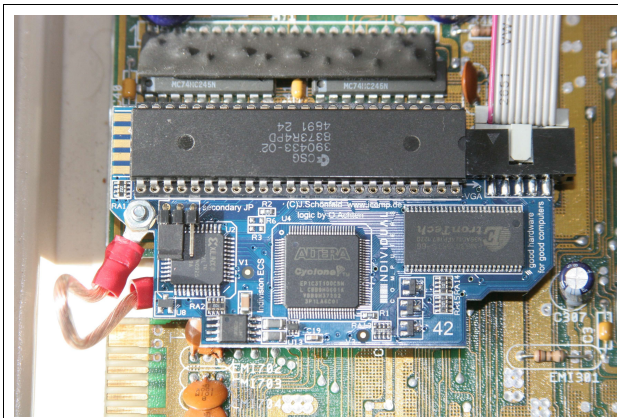
Carefully remove the Denise chip from it's socket, for example by using a flat screwdriver as a lever. Ensure to only gently lever one side a few millimeters at a time. The Denise chip is extremely delicate, and pins easily bend or break away. If a pin is broken off, it normally cannot be fixed, so you should be extremely careful with this step.

Now insert the chip into the socket of Indivision ECS. The correct orientation is indicated by the notch in the socket, which must face into the same orientation as the chip's notch.

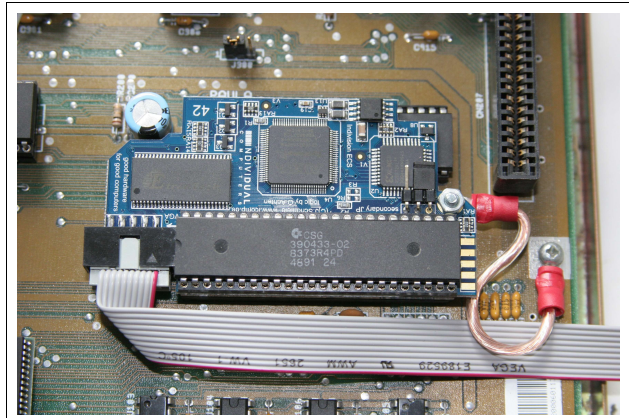
Carefully insert the flickerfixer into the empty socket of the mainboard. Once again, the notch indicates the correct orientation. The notch orientation is printed on the mainboard, but it's mostly covered by the socket itself, so it may not be visible on all board revisions. The following pictures should provide all necessary information.

It is important to ensure that you do not displace the flickerfixer when you insert it into the socket. Displacing the unit by one pin can cause maximum damage to both the computer and the flickerfixer. **There is no protection against this possible fault. It's your responsibility to ensure proper connection between the motherboard and the flickerfixer before switching the computer back on.**

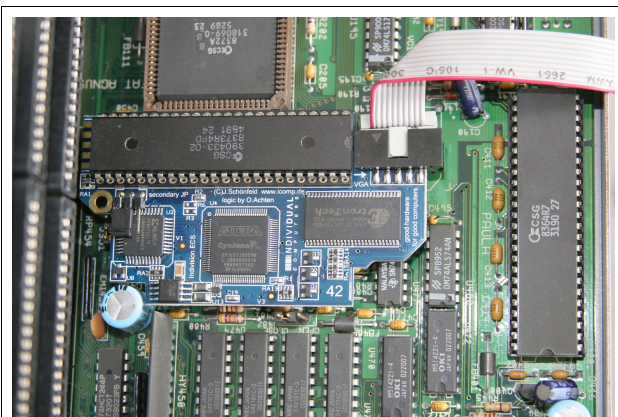
Please bear in mind that the sockets of Commodore computers are very low-quality. Frequent insertion/removal cycles may lead to contact problems that can only be solved by exchanging the socket on the mainboard. Even for an experienced technician, this takes a fairly long time, so this should be avoided by all means.



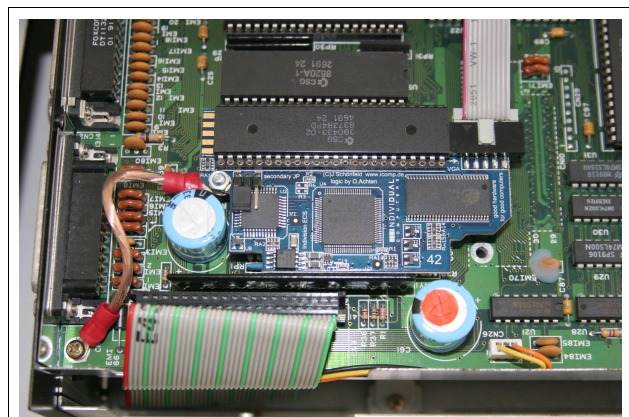
Amiga 500



Amiga 2000



Amiga 3000 desktop



CDTV

Step 4: connect the VGA-cable

Plug the included cable into the black VGA-connector of your Indivision ECS. When routing the cable through your computer, please ensure that the cable cannot be damaged upon re-assembly of the computer. For best picture quality, the 15-pin VGA connector should be mounted on a grounded metal part.

We recommend the use of the included grounding cable, especially on A500 and A2000 computers. As you can see in the pictures above, there are motherboard screws near the Denise-socket that can be used for an additional ground connection. On CDTV and A3000 computers (including towers), the ground connection is already sufficient, because these computers have multilayer mainboards. For the A3000D, there's even the danger of a short to a nearby jumper, so use of the ground cable is not recommended for the A3000D.

If you decide not to use the ground cable, please remove it completely from the computer. Don't leave it in the computer unconnected, as it may short out and damage other components.

If you want to install a second Indivision ECS, please download the corresponding manual from our website www.icomp.de. For using a single Indivision ECS, the jumper should be left at the factory default setting (middle-left). The jumper setting (primary or secondary) is displayed in the bottom right of the power-up screen.

You do not need a driver to operate Indivision ECS, therefore we haven't included a disk. For adjustments, general configuration and possible flash-updates, we're providing programs and documentation on our website www.icomp.de under „support“.

Indivision ECS is configured at the factory to output a PAL screen at about 60Hz refresh rate, and NTSC screens at 75Hz refresh rate. These rates are common with modern VGA monitors and flatscreens, so the output of an Amiga can be displayed on a normal monitor without any adjustments.

You can set almost any screenmode by using the screenmode application in the Amiga Workbench's Prefs drawer. There's currently only the exception of A2024 monitor types, but we're hoping to provide a flash update soon that also includes support for this screenmode.

When operated on a flat screen, it might be helpful when the Amiga does not display the overscan-area in the background colour, but in black. The tool “BorderBlank” is suitable for this, you can find it on Aminet under `util/boot/BBlank.lha`. This will even work if you don't have an ECS-Denise chip!

In addition to the standard screenmodes, Indivision AGA supports the HighGFX driver with higher resolutions. HighGFX can be found on Aminet under `util/wb`.

We recommend downloading the tool “Indivision_ECS_config” from our website. It allows you to select the refresh rate and lets you toggle a scanline emulation mode. Some settings can be saved in the non-volatile memory of Indivision ECS, so they remain available after a reset or power-cycle of the computer. You will also find further documentation in the program archive, such as documentation about the Graffiti emulation mode. A full description of the tool would go beyond the scope of this short manual. **Please carefully read the readme documentation files and note the specific order of running the config/flash tools when updating the flash rom!**

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 **INDIVIDUAL**
C O M P U T E R S
Good hardware for good computers.