Internal ADE Pro

Thank you for your purchase of the Internal ADE Pro. This device is based on Sean Myers's ADE project and is a hardware-modified variant that was designed by Lundy Electronics. It was Sean's willingness to share his ADE project for all to enjoy that made this possible. This device is **NOT** supported by Sean Myers in any way. All questions and concerns should be addressed to Lundy Electronics on the ADAM Facebook group at https://www.facebook.com/groups/115531017844. More specifics and operational documentation as well as any future code updates can be found on Sean's GitHub page at https://github.com/Kalidomra/AdamNet-Drive-Emulator.

We designed the Internal ADE Pro for fellow ADAM hobbyist who might not have the skill set to create their own ADE unit or would like a turn-key, professionally built unit.

As with many hobbyist projects, it comes with no guarantee for 100% functionality. *We have made every effort to ensure the best compatibility possible through many hours of design and testing. Use this device at your own risk. Neither Sean nor Lundy Electronics can be held responsible for any damage to the device or your ADAM or the loss of data that my occur.*

Thank you.

Lundy Electronics

What is in the box

- Internal ADE Pro
- Documentation
- Optional ADAMnet Pass-through Cable Kit
- Optional ADAMnet Splitter (for sharing the console side ADAMnet connection if needed)
- Optional 3D Printed Dummy Drive Bracket (for use with non-metal version of mounting bracket)

What else is required

The Internal ADE Pro board set requires users to supply their own Dummy Data Drive to act as the housing required for mounting the device into one of the console's DDP drive bays. Two versions of dummy drive mounting brackets exist, one with metal and one with black plastic. The metal bracket version is the best choice when possible for ease of installation. The black plastic version requires the original bracket to be replaced with a 3D printed bracket for mounting the Internal ADE Pro.

Device specifics

The Internal ADE Pro is a combination of features from the standard ADE, original ADE Pro, and ADE Lite all rolled into one unit. Front buttons include DRIVE SELECT, [..][/], UP, DOWN, UN/MOUNT, SWAP, and RESET.

I designed the Internal ADE Pro to connect with ADAMnet in two different ways. It can be connected by the traditional ADAMnet RJ12 cable by tech savvy modders who have installed internal ADAMnet connections in their consoles. It can also be connected by an optional ADAMnet Pass-through Cable Kit that allows ADAMnet signals to pass through the case top vent holes from the side ADAMnet connector of the console to the Internal ADE Pro special header connector J1 on the PCB.

An optional ADAMnet splitter is required to share the side ADAMnet port with a physical disk drive along with the Internal ADE Pro.

The Internal ADE Pro is powered by ADAMnet and doesn't require an additional internal or external power supply.

The Internal ADE Pro will emulate up to four disk drives at once and can be configured to enable or disable any drive combination to allow use with a physical disk drive at the same time. The Internal ADE Pro is compatible with floppy disk images (.dsk), most digital data pack images (.ddp), and Colecovision cartridge ROM (.rom or .col) images 32K in size or smaller. The ADE is able to store 300 images/directories per directory.

All ADE variants support special SD command codes that allow the ADE to auto boot when a boot.dsk image is present and also provide a number of additional functions to help manage your images on the SD card. Be sure to download ADE Commander when you acquire your Internal ADE Pro. More information can be found at https://github.com/Kalidomra/ADE-Commander.

Modification of the ADAM Dummy Data Drive

Tools required

- Phillips screw driver
- Small flat head screw driver
- Flat needle nose pliers
- Dremel or similar device to grind down the melted bracket tabs in the Dummy Drive (*ONLY* for drives that have a black plastic bracket)
- Two #4 3/8" machine screws and washers (*ONLY* if a 3D printed bracket is installed)

Figure 1

Figure 2

Figure 3

Removal of mounting bracket and front panel

Metal version

Remove the two screws and washers securing the Dummy Data Drive from inside the ADAM console and remove it. Place it face down on a flat work surface and use a small, flat head screwdriver to carefully pry two locking teeth up and away from the plastic tube post on one side of each black tinnerman clip. It is important to pry the teeth up just enough for each clip to become adequately loose for removal from the plastic tube post but no more to prevent stress breakage. *See Figure 1*. With both clips loose, pull the aluminum bracket up and out. This will pull the clips out along with the bracket and also make it possible to remove the clear plastic cover. The tinnerman clips can now be bent back to their original shape using needle nose pliers for reuse later. *See Figure 2*. Safely store the clear plastic cover since it is no longer needed.

Black plastic version

Remove the two screws and washers securing the Dummy Data Drive from inside the ADAM console and remove it. Place it face down on a flat work surface for rework to allow a replacement 3D printed bracket to be fitted later. The two melted plastic tabs need to be ground down just enough to free the bracket while allowing as much of the tube posts to remain intact. Tube posts my need to be carefully cleaned out to remove any melted plastic remnants. Be careful to keep the inside diameter of the tube posts intact to allow screws to be inserted later. *See Figure 3*. Safely store the clear plastic cover and black plastic bracket which are no longer needed.

Installation of Internal ADE Pro board set

With the front Dummy Data Drive bezel now empty, the Internal ADE Pro board set is ready to be fitted into the bezel. Note the three alignment holes in the Internal ADE Pro front panel of the board set. These will align with the tabs inside the Dummy Data Drive bezel for correct orientation/placement. *See Figure 4*. While carefully holding the bezel in your hand, place the Internal ADE Pro panel into the bezel and the aluminum or 3D-printed bracket in the original position around the plastic tube posts. The metal version requires the original tinnerman clips to be pushed back

Figure 4

into place around the plastic tube posts as far as possible. Using both thumbs is usually all it takes to push them all the way down. *See Figure 5*. A 3D-printed bracket requires two #4 3/8" machine screws and washers to fasten down into each tube post and secure the bracket to the front bezel. You can also add hot glue to insure the screws and bracket can't work loose. *See Figure 6.*

A freely downloadable STL file of the 3D printable bracket can be found at the following link to print your own if it was not originally purchased along with the Internal ADE Pro.

Figure 5

https://www.facebook.com/groups/115531017844/permalink/10159250447377845/

Installation of the Internal ADE Pro in the ADAM

Attach the ADAMnet connection. Modified consoles with internal ADAMnet connections will connect to connector X1 of the Internal ADE Pro. The optional ADAMnet Pass-through Cable Kit will connect to J1 of the Internal ADE Pro and out through the case to the left outside ADAMnet connector of the console. See *Figures 7 and 8.*

With the Internal ADE Pro assembly connected to the ADAM and loosely placed in the drive bay, power up the ADAM and verify the Internal ADE Pro displays the ADE version boot screen. If you do not see the boot screen, power off the ADAM and double-check all cable connections. Once the Internal ADE Pro has booted successfully, securely mount the Internal ADE Pro using the original screws and washers.

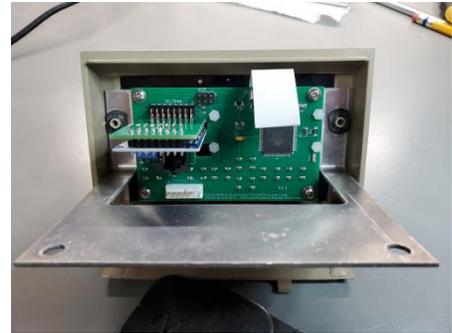Congratulations. You successfully installed your Internal ADE Pro!
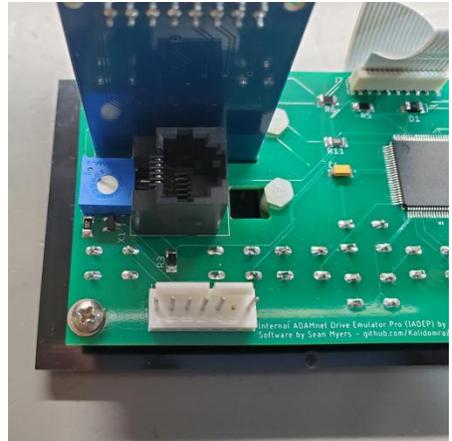

Figure 6

Figure 7

Figure 8

Figure 9