

ADAM UNIT EXAMPLE

This example takes the Adam-4500 embedded processor, Adam-4018 temperature module, and Adam-4060 relay module to create a thermostat. We used the relay D0 to turn on and off an air conditioner, and D1 to turn on and off a heater. The air conditioner will turn on after the temperature reaches 24 Celsius, and turn off when the temperature goes below 21 Celsius. The heater will turn on when the temperature goes below 19 Celsius, and will turn off when the temperature reaches 21 Celsius.

This code was written in C. Older versions of C and C++ are available for free from Borland at <http://community.borland.com/museum>. When compiling the firmware make sure you have the libraries and header files in the proper directories.

Copy all of the files from the ADAM-4500 Utility Disk onto your host computer hard drive. Once the firmware is compiled and creates an executable file, it needs to be placed in the ALLFILE directory that you copied onto the host computers hard drive, along with AUTOEXEC.BAT, COMMAND.COM, CONFIG.SYS, TRANSFER.EXE, and VDISK.SYS. The AUTOEXEC.BAT must also be modified. Place the name of your program in here, so that the code runs when the Adam-4500 is powered up.

The AUTOEXEC.BAT should look like this:

```
echo off
break on
DIR
prompt $p$g
path=d:\;c:\;
Termast.exe
```

Termast.exe is the name of the compiled program.

1. Hook up the program cable to the Program Port of the ADAM-4500. Red hooks up to RX, white to TX, and black to GND.
2. Run the ADAM4500.exe program to download the code to the module.
3. Chose **COMport** and select the com port the ADAM-4500 is hooked to on the host computer.
4. Choose **Program** and follow the instructions on the screen. This will download all the needed files to the Adam-4500.
5. Connect **DATA+** from the Adam-4500 to **DATA+** of the Adam-4018 to the **DATA+** of the Adam-4060.
6. Connect **DATA-** from the Adam-4500 to **DATA-** of the Adam-4018 to the **DATA-** of the Adam-4060.
7. Attach the thermal couple to the Adam-4018 port 0.
8. Attach Relay D0 of the Adam-4060 to the air conditioner's on/off.
9. Attach Relay D1 to the heater's on/off.
10. Apply power to all three units.

The thermostat will now be up and running.