

# AlarmDecoder (AD2) Install Guide v2.5

Ademco Vista and DSC Power Series Alarm to Computer interface adapter

Video Install Tutorials are available on our website at <http://www.alarmdecoder.com>

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Before you start...

Please take a moment and read this manual before you install the AD2 to your alarm panel. Rushing into the install of devices like this can result in damage to the device or accidental activation of your alarm and alerting of your alarm company.

Please use caution when using this device. You should notify your monitoring company you are testing your alarm prior to installing this device or when testing with this device.

### Introduction

Thanks for purchasing the AlarmDecoder adapter. The AD2 device was designed to work with a wide range of Ademco Vista as well as the DSC Power Series alarm panels.

The device has different connection options including RS232 Serial, USB serial and 5v or 3.3v uP compatible TTL serial. The AD2USB and AD2Pi serial settings are 115200,n,8,1 and for AD2Serial the baud is 19200. On some models it is also possible to adjust the baud rate via a jumper setting.

### Drivers (AD2USB Only)

If you are running windows you can get the Virtual COM port drivers from FTDI <http://www.ftdichip.com/Drivers/VCP.htm>. In many cases your computer may already have this driver if you have ever used an FTDI based USB2Serial device as many of them are based upon FTDI chips. These drivers are installed for you with our free software keypad installer available on our website.

If you are running Linux you can use the ftdi\_sio driver. This should automatically load when you connect the device if you are using a relatively new distribution of Linux. For OSX and many other operating systems the drivers can be found at <http://www.ftdichip.com/FTDrivers.htm>

### Connecting to the Alarm Panel



The AD2 device requires all four keypad bus wires from the alarm panel to be connected to operate correctly but only consumes ~30mA. Connect all 4 of the keypad bus wires from the panel to your AD2 as shown. We suggest you perform this connection while the alarm panel is powered down and the battery is disconnected. When power is connected to the AD2 the LED indicator will flash a pattern indicating its state. When ground isolation is required the AD2USB version offers 20kv ground isolation between the host controller and the alarm panel.

### Connecting the AD2 to your host computer.

Connect the AD2 to a computer. If using the USB version You may see it install some new hardware or give some indication that a new devices COM port was attached. You can see this COM port under your device manager on windows or using the dmesg command under Linux, OSX or other Unix based operating systems. If this is a TTL Serial or RS232 version your port will be fixed on your host such as /dev/ttyAMA0 on Raspberry Pi. Read the host documentation for the device path details.

Once powered on and connected you can communicate with the device directly using our free Alarmdecoder App for Linux, OSX and Windows and its Debug Log screen. You can also use Putty, tinyserial: <http://brokestream.com/tinyserial.html> or the 'screen' command. For our Raspberry Pi Appliance you can also enable Ser2Sock option and connect directly to the AD2 over a socket connection using telnet or other terminal program. Connect using 115200,8,N,1<sup>#1</sup> and press the = key<sup>#2</sup> to reset the device and verify you can send data to the AD2 correctly.

```
Example AD2 Boot message.
!boot .....
!Ademco Keypad Emulator V2.2a.8.6
!Copyright (C) 2008-2015 Nu Tech Software Solutions, Inc.
!Reproduction without permission is prohibited
!By Sean Mathews <coder@f34r.com>
!For support email AlarmDecoder@support.nutech.com
!www.AlarmDecoder.com
!Reading configuration.
!UART init.
!Ready. Press ! for configuration.
```

<sup>#1</sup>The AD2SERIAL Adapter operates at a different baud rate ( 19200,8,N,1 )

<sup>#2</sup>Some terminal programs require sending a ENTER key. Set term to char mode.

### Alarm Panel Programming

If you have an older SE based panel or DSC panel then addressing is not used and it is not necessary to change any panel programming for the AD2 to operate. For SE set the address to 31 and for DSC set the address to the partition and slot number by default 11.

With other Ademco panels you will need to configure the alarm panel with the address of the AD2 as a new keypad device. In Ademco address mode only one device can be at a given address. See "Configuration your AlarmDecoder" section on how to change this if you already have a device at the default address 18. You can 1) call your security monitoring company and ask them to add in a new keypad - (ask them what address they configured it to); or 2) if you know the Installer Code, you can program it in yourself. You should reference the Programming Guide and Installation and Setup Guide for your unit. (find these at [www.aesecurity.com/manuals.html](http://www.aesecurity.com/manuals.html))

### Configuring Your AlarmDecoder

You may need to set the AD2 devices mode and address. By default the AD2 device is factory configured for Ademco mode at address 18. If you already have a device at 18 or need to change to DSC mode you will need to change the AD2 settings.

To do this just press ! in your terminal program to configure the AD2. You can press ENTER on any configuration options you a don't want to change and it will keep the current setting.

If you press \* into your terminal program your panel should respond as if you hit the same key on your alarms keypad. You will see a message from the AD2 such as this "!Sending.done" if you see "!Sending....done" and it appears to take a long time for the send operation this probably means that the alarm panel is not recognizing the AD2 or a device conflict exists. Confirm that the AD2 address for Ademco and Partition for DSC is configured on the alarm panel. Also on Ademco make sure no other devices exist at the same address on as the AD2.

The AD2 should display all messages from the alarm panel regardless of programming of the panel provided the mode is set to the correct panel type. If you are not seeing messages after connecting the AD2 to your panel you either have a wiring issue, the AD2 is in the wrong mode for your panel type or you have an SE panel and you have not set your AD2 to address 31.

Example Message from DSC panel in programming mode.

```
[0111100100000000D-],064,[00020000000000000001100000000],Enter Section -- "
```

### Post installation

Sample code, example programs and our free Keypad software as well as the API documentation and more is available in the forums and Documentation areas of our website: <http://www.alarmdecoder.com/>

We also now have available to purchase an alarm panel unlocker module for the software keypad. This program when used with this device will determine the master installer code and any other codes on the alarm panel. Other modules are available as well as example code to write your own module.

For questions and support email [ad2usb@support.nutech.com](mailto:ad2usb@support.nutech.com). We try to respond to emails in the same day that we get them.

### DECLARATION OF CONFORMITY WITH FCC RULES FOR ELECTROMAGNETIC COMPATIBILITY

We, Nu Tech Software Solutions, of 11575 SW Pacific Hwy #109, Tigard OR 97223, declare under our sole responsibility that the product: AD2SERIAL,AD2PI,AD2USB to which this declaration relates: Complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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