Tech Notes

TN - 0001

A&D MERCURY PTY. LTD.

HOW TO UPDATE THE FIRMWARE IN AN AD4402/AD4404

Hardware Connections

The AD-4402/04 standard RS-485 serial I/O needs to be connected to the RS-232C serial port of your Computer via a Communication Converter or RS485 Serial Output (*PCMCIA or ISA/PCI Card*).

Please Note:
a) Firmware update has to be made via the standard RS-485 connection.
b) Option 03 RS-485 and Option 04 RS232 can NOT be used.
c) Ensure all parameters are backed up before updating the firmware, as **all will be initialised** to factory defaults.
d) Before reading or writing parameters, follow STEP 2 below to change the operation mode. Select "Data" NOT "Software".
e) To Read all data, using WinST, open each of the parameter files for the AD-4402, i.e. "MaterialCode.prm" or for the AD-4404, "AD4404_all_read.prm", ensure the operation mode is "Data", check communication then click the "Read" button. Once read, save the file with an appropriate file name.
f) After firmware update, initialisation and country setting, open the parameter file saved in the previous note, change the operation mode to "Data", check communication then click the "Write" button.

STEP 1: Communication settings in the AD-4402/04

rS F-02(Communication mode) = 6 (Command)
rS F-03(Baud rate) = 7 (38400bps)
rS F-04(Parity check) = 0 (Not used)
rS F-05(Character length) = 8 (8bits)
rS F-06(Stop bits) = 1 (1bits)
rS F-07(Terminator) = 2 (<CR><LF>)
rS F-08(Address) = 0 (No address)
rS F-09(Response timer) = 0.00 (0.00s)

Direct Setup: If WinST fails during upgrade, Direct Setup may be required to reconnect to WinST. With power off: Press & Hold;
AD-4402: [SHIFT] + [F1] + [1] + [·]
AD-4404: [SHIFT] + [START] + [1] + [·]
now re-apply power, display should show **"Download V2.1 Update Prg 38400bps 8Bbit Non Stop1"**
If Download V1.4, use old ControlCommand.ini File.

STEP 2: Change the AD-4402/04 operation mode

While pressing the [ENTER] key, press [⤵] key, then the sub-display shows the menu functions.

Select "SystemMgmt" and press the [ENTER] key.
Select "RemoteSetup" and press the [ENTER] key.
Select "Software" and press the [ENTER] key.
Select "Yes" and press the [ENTER] key.

STEP 3: Operation of the WinST Software Package

Change the communication parameters of WinST to be the same as the settings in the AD-4402/04 the other settings can remain as their initial values. (**38400bps, 8bits, No Parity, 1 Stop**)

From the Menu Bar select "File", "Update" ¨Open file ", Now select the required new HEX file. You will need to agree to the "Software Update Agreement".

Select "0" as the Address setting (result), and now press the [Check communication] button.

Check that "0" at the Address setting (result) turns to **BLUE**.

*If address "0" is pink, "Comms Failed" some older AD-440204 units will require WinST comms to be set at **38400, 7bits, Even Parity, 1 Stop**.*

WinST/Communications State
? REQ STS 00
! ANS 00 OK

Now you can press the WinST [Update] Button,

WinST will first Erase the AD-4402/04 software, the Address setting (result) turns to **BROWN** if successful

If address "0" is orange "erase failed", some older AD-4402/04 units will require WinST to use an older version of ControlCommand.Ini file.

WinST/Communications State
? REQ ERS 00
! ANS 00 OK

When Writing to the AD-4402/04 starts a [0% to 100%] Horizontal bar will appear. It will take approximately 10 minutes to update the AD-4402 Software.

0%   100%

After the AD-4402/04 software has been downloaded, you will notice that the "0" at the Address setting (result) block has changed colour to **LIGHT GREEN** "Write Completed".

If address "0" is Yellow "Write failed", some older AD-4402 units will require WinST to use an older version of ControlCommand.Ini file.

WinST/Communications State
? REQ ERS 00
! ANS 00 OK
ZWRI CHK 00

STEP 4: Factory setting of the AD-4402/04

Turn the AD-4402/04 **OFF** and then back **ON**.

"Flash memory data area FF" is displayed in the sub-display. - Press the [ENTER] key. Initialization will be displayed in a few seconds, then the display will automatically reset and re-start.

STEP 5: Country setting of the AD-4402/04

While pressing the [ENTER] key, also press the [⤵] key, the sub-display becomes the function menu display.

Now select "SystemMgmt" and press the [ENTER] key.   (*The word* **INIT** *will be blinking*)
Now Key in [1] [5] [2] in order, then Press [⤵] key.   (*This is the Special Password*)

Now select "Factory" and press the [ENTER] key.
Then again select "Factory" and press the [ENTER] key also again.

Factory function setting "Choose Country" "FCtF – 1" is now displayed

Press the [ENTER] key, Sub-display becomes "Universal 0"

Press the [2] key, the Sub-display becomes "OIML 2". Now Press the [ENTER] key.

Country setting is now initialized as "OIML" and the AD-4402/04 automatically resets and re-starts.

* If all the data from the AD-4402/04 was backed up previously, the backed-up data can now be returned to the AD-4402/04 after the country setting was completed.

CONGRATULATIONS !!! YOU HAVE UPDATED THE AD-4402/04 FIRMWARE.

Attention: *In case you input the password incorrectly, please try again after turning off/on the AD4402/04 once. Don't move on to the next procedure unless the "0" at the Address setting (result) has become blue.*