DA3
USER
MANUAL

INTELLIGENCE
IN VALIDATION

Innovative Technology
INTELLIGENCE IN VALIDATION

Automated Transactions
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Bellis Technology
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CONTENTS

1 INTRODUCTION

This manual describes the operation of the DA3 Validator Programming System, programmed with firmware version VPS1001000000000 or later, using the VPS software version 1.0.7 or later.

If you do not understand any part of this manual please contact the factory for assistance, contact details are below. In this way we may continue to improve our product.

This document is intended for those who will:
- Program the DA3
- Program validators using the DA3

Innovative Technology Ltd has a policy of continual product improvement. As a result the products supplied may vary from the specification described here.

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Kit Components
The DA3 Kit comprises of the following:
- DA3 Programming Unit
- USB A to USB B cable
- DA3 to ITL Note Validator Cable
- Support CD

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MAIN HEADQUARTERS	
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2 POWER REQUIREMENTS

When programming the DA3 using the VPS software, power is taken from the USB bus; no external power supply is required.

When programming validators, or using the DA3 card copy functions, power must be applied via the host machine or from a separate 12V DC, 1500mA power supply.

3 GENERAL DESCRIPTION

The DA3 is a programming system designed to enable the programming of ITL Bank Note Validators in the field without the use of a PC (see Appendix 2 for supported products).

Many dataset and firmware files for different validator models can be stored on the DA3. Once the DA3 has been programmed, the user can:

- Update the existing software within a validator using the BNV Match Download Function. For example, a validator already programmed for UK notes can be updated with the latest available UK dataset automatically. All custom settings will remain the same i.e. the number of pulses set and the special interface within the validator will not be changed
- Overwrite the stored software within a validator with pre-selected (tagged) files using the BNV Override Download Function. For example, a validator programmed for UK notes with the Binary interface can be re-programmed for Euro with the ccTalk interface.
- Test the functionality of the validator away from the host machine.

There are also two memory card slots to enable simple reprogramming of the DA3 away from a PC. The memory cards used must be an Atmel Dataflash® card, part number AT45DCB008D (ITL Part Number - IC237)
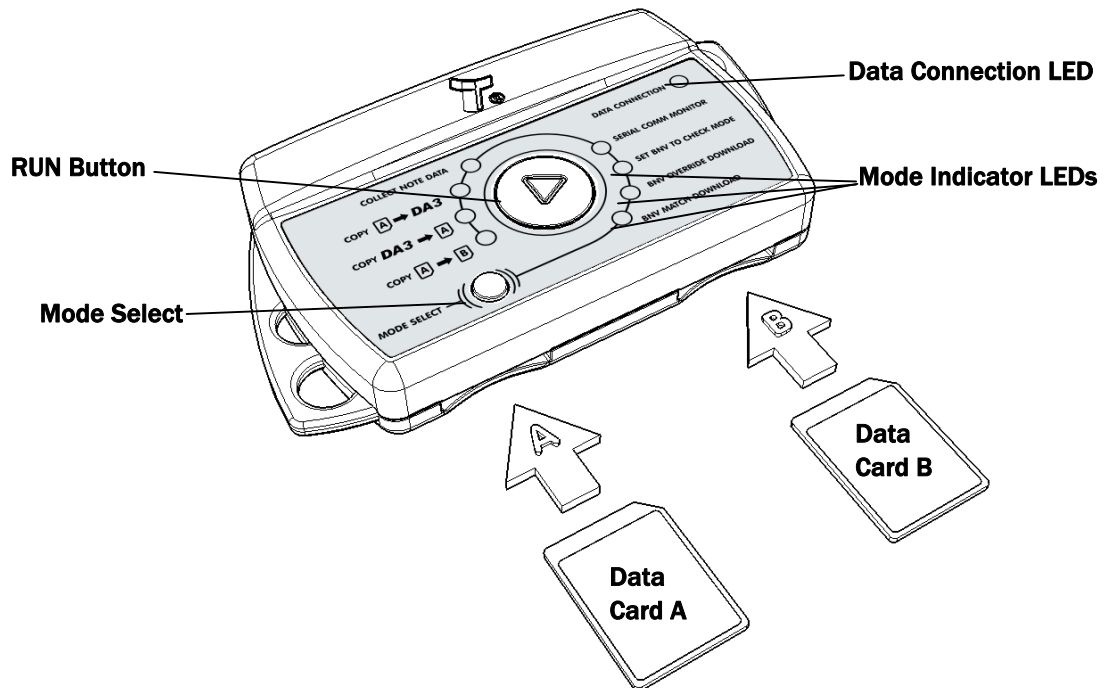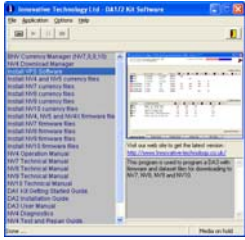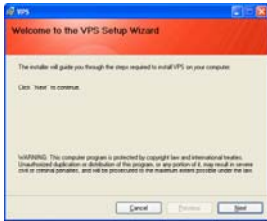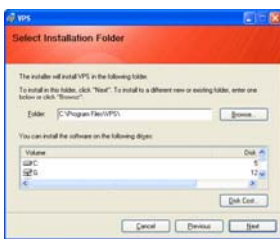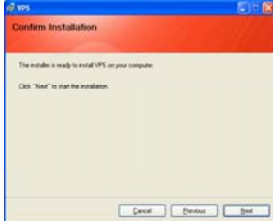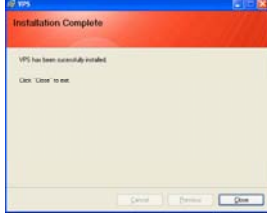

Figure 1 – The DA3

NOTE: - To install the software you will need administrator rights to your PC.
Insert the Support CD into your computers CD Drive. The menu should appear
automatically.

	Double click 'Install VPS Software' from the menu
	The *Welcome to the VPS Setup Wizard* will start Click 'Next'
	The *Select Installation Folder* screen will be displayed. Select the path where you wish to install the software (C:\Program Files\VPS\ is the default path) Click 'Next'
	A *Confirm Installation* screen will be displayed. Click 'Next'
	When the installation is complete you will see this screen. Click 'Close'
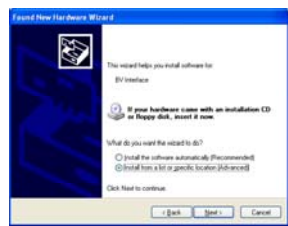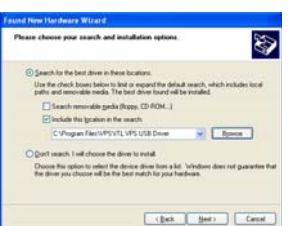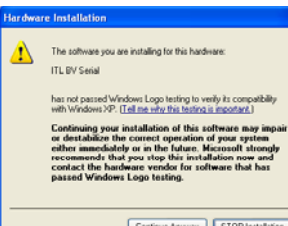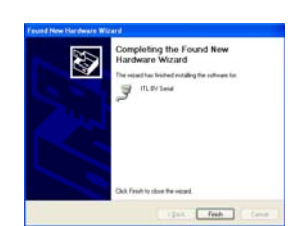
5 CONNECTING THE DA3 TO A PC

**USB
Connection**
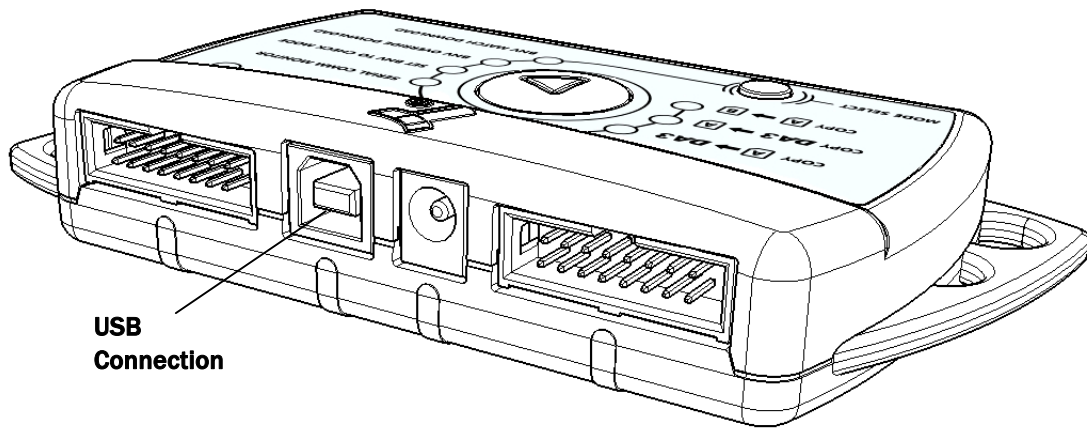
NOTE: - **To install the drivers for the DA3, you will need administrator rights to your PC.**

Connect the DA3 to your PC via the supplied USB cable. (There is no need for a separate power supply when programming the DA3 from your computer). When the DA3 is only connected through the USB, the functions described in Chapter 7 are not available.

	The Windows 'Found New Hardware Wizard' will be displayed. Select 'No, not this time' Click 'Next'
	The wizard will then ask how you want to proceed. Select 'Install from a list or specific location (Advanced)' Click 'Next'
	The *Search and installation options* screen will be displayed. Select 'Include this location in the search'. Click 'browse' and locate the driver files. The driver files are stored within the installation directory of the VPS software which is 'C:\Program files\VPS\ITL VPS USB Driver' by default. Click 'Next'
	A warning will be displayed informing you that the driver *has not passed Windows Logo testing*. Click 'Continue Anyway'
	Windows will then install the necessary software
	When the software has been installed you will see this screen. Click 'Finish'
	A 'Found New Hardware' message will be displayed when the installation is complete. This message will close automatically.

6 PROGRAMMING THE DA3

To use the DA3 you must first save the required datasets and firmware files to the DA3's internal memory. You can do this by either using the VPS Software (this chapter) or copying data from a pre-programmed memory card (see Chapter 7.7).

To use the VPS software, you must select the files you wish to store on the DA3 from the dataset library and the firmware library. When first used the libraries will be empty, you will need to add files as detailed below. You will also need to add new files when re-programming the DA3 with updated datasets or firmware.

6.1 ADDING DATASETS TO THE DATASET LIBRARY

Select the *Dataset Library* tab. The screen will show all the dataset files that are currently stored in the library on your PC.
Click the *Import* button and locate the files you wish to add, the datasets will be added to the library when you click the *Open* button
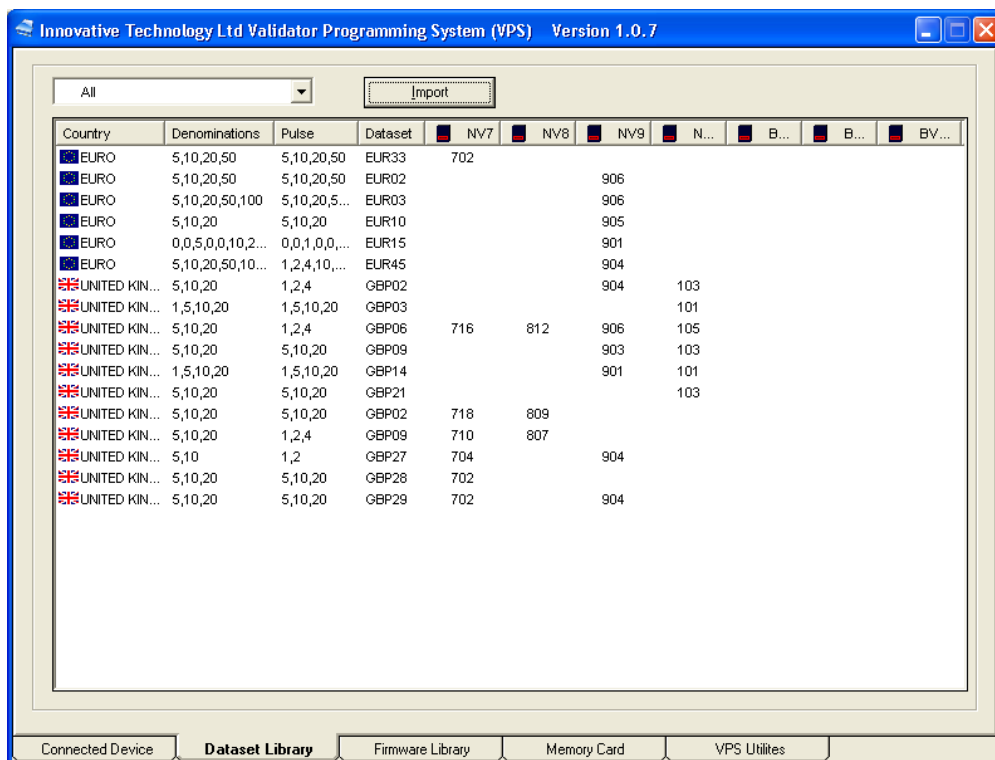
The screen lists the currencies that are stored in your library with the note denominations, number of pulses and the dataset code. The revision code of the dataset is listed under the relevant product heading. If the dataset for any product is not present then the version number will not be listed under the product heading.

To remove a file from the dataset library, select the dataset to be removed and right click the mouse. Select '*Removed Selected Datasets'* from the menu to remove the dataset for all validator models. Alternatively, select '*Remove For Validator'* and then the validator model to remove the file for individual validators.

6.2 ADDING FIRMWARE FILES TO THE FIRMWARE LIBRARY

Select the *Firmware Library* tab. The screen will show all the firmware files that are currently stored in the library on your PC. Click the *Import* button and locate the files you wish to add, the firmware files will be added to the library when you click the *Open* button.
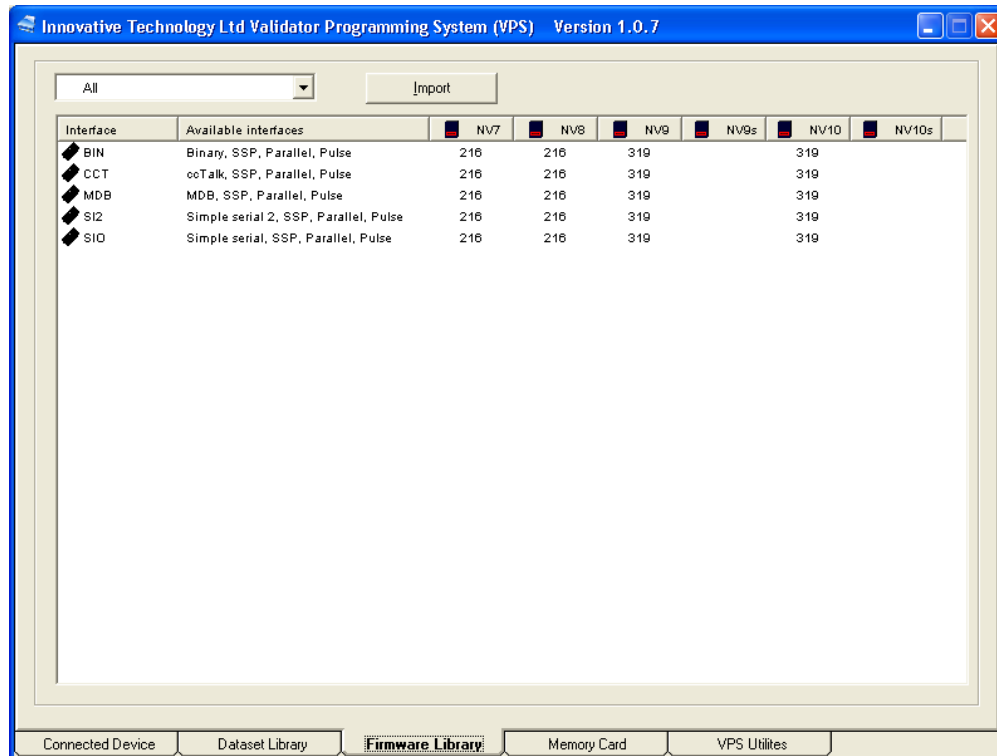
The screen lists the firmware interfaces that are stored in your library with the interfaces that are available by setting the validator switches. The version of the stored firmware file is listed under the relevant product heading. If the firmware for any product is not present then the version number will not be listed under the product heading.

To remove a file from the firmware library, select the interface to be removed and right click the mouse. Select '*Removed Selected Firmware'* from the menu to remove the firmware interface for all validator models. Alternatively, select '*Remove For Validator'* and then the validator Model to remove the file for individual validators

6.3 STORING FILES ON THE DA3

In the dataset and firmware libraries, select the files you wish to save to the DA3. Holding the *Shift* or *Ctrl* keys while clicking the mouse can make multiple selections. Right click the mouse and a menu will appear. *Select 'Add Selected To Device'* to add the file to the *Connected Device* window ready for download to the DA3.
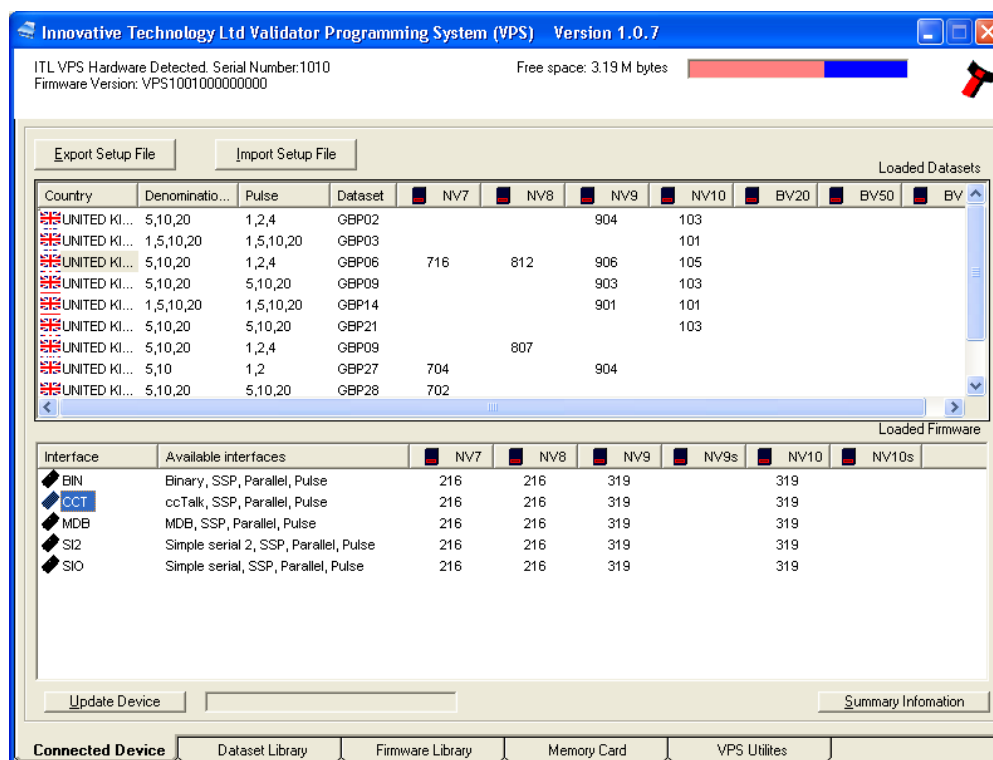
On the *Connected Device* screen, files not yet downloaded to the DA3 will be listed in grey. At this point you can select which files to tag to be used for the *BNV Override Download* function (see Chapter 6.4). Click on the *'Update Device'* button to save the listed files to the DA3 memory.

To remove a file from the DA3, select the files to be removed and right click the mouse. Select *'Removed Selected'* from the menu to remove the files for all validator models, or select *'Remove For Validator'* and then the validator model to remove the file for individual validators. Click on the *'Update Device'* button to update the DA3 memory and remove the files.

6.4 TAGGING FILES FOR OVERRIDE

In the *Connected Device* window, click the revision code under the relevant product heading to tag the required dataset. Each product can have a different dataset tagged. For example, NV7 could be tagged as UK, whereas NV8 could be Euro. The tagged datasets will be highlighted as red text. The same procedure should then be used for tagging the firmware interfaces for each product.

See Chapter 7.3 for details on the BNV Override Download function.
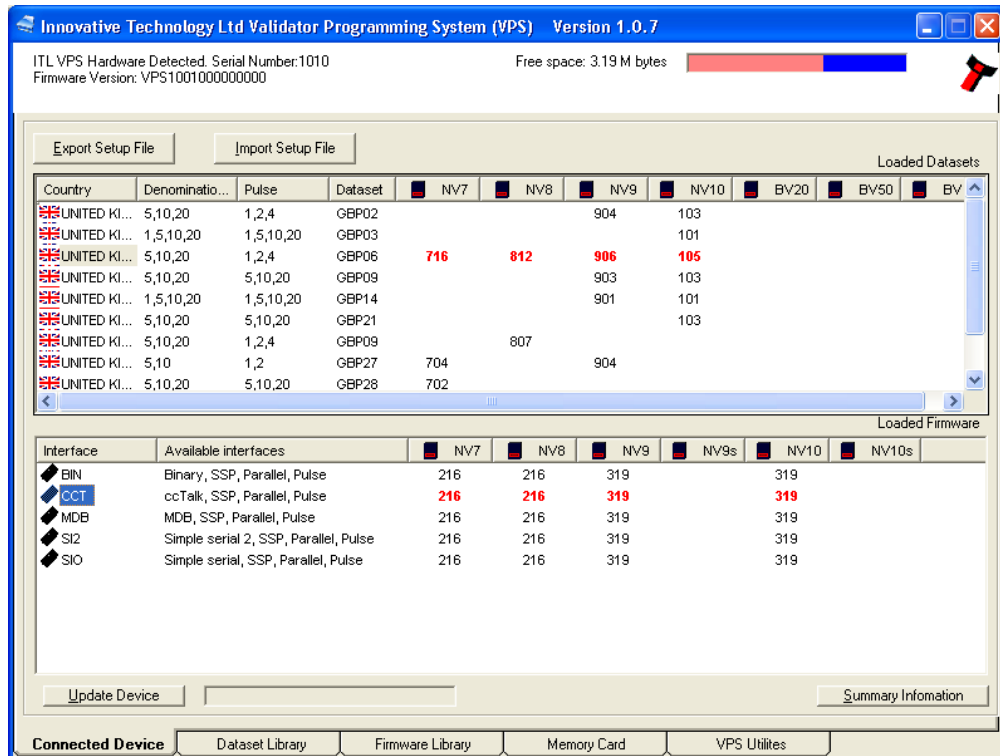
Once the required files are tagged, click the *Update Device* button to save the settings to the DA3 memory.

6.5 IMPORTING AND EXPORTING SET UP FILES

The files contained within the *Connected Device* window can be exported into a .DA3 file. Another user can then import this file. All dataset and firmware files will be imported, and the appropriate files will still be tagged. This function is useful to ensure other DA3 users have the same files and settings stored.

To export a setup file, click the '*Export Setup File*' button, type in a file name and select the location to store the file, then click the '*Save*' button. To import a setup file, click the '*Import Setup File*' button, locate the file you wish to import and click the '*Open*' button. Once the files are imported, you must click the '*Update Device*' button to save them to a DA3.

6.6 SUMMARY INFORMATION

In the *Connected Device* window, click on the '*Summary Information*' button to run a report of all the files stored on the connected DA3.

6.7 MEMORY CARD FUNCTIONS

Within the VPS software you can copy files to and from Memory card A, Memory card B and the DA3 memory. Also delete files from Memory card A, Memory card B and the DA3 memory.
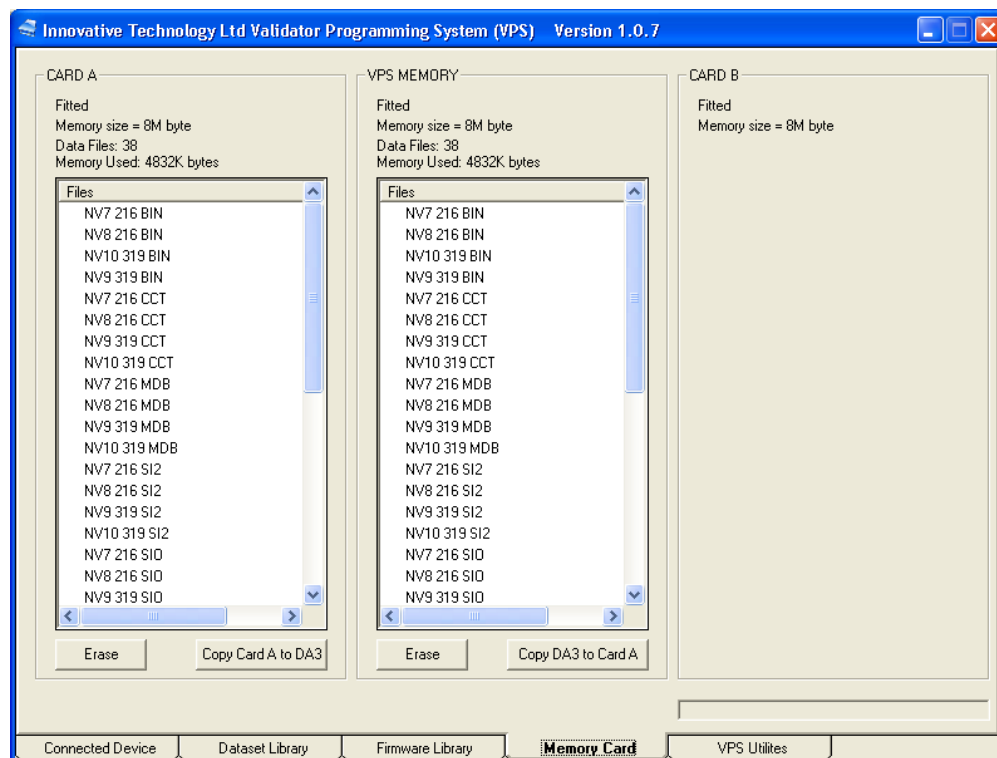
NOTE: - New memory cards may need to be formatted. To format cards, disconnect the DA3 from USB, host connector and power connector. Insert the new card into memory card slot [A] and apply power either through the power connector or the host connector. If the card is not formatted, the centre button will light red and no further operation will be possible. Remove and re-apply the power, the memory card will then be formatted

6.8 VPS UTILITIES

Using the VPS Utilities screen, you can update the operational firmware of your DA3
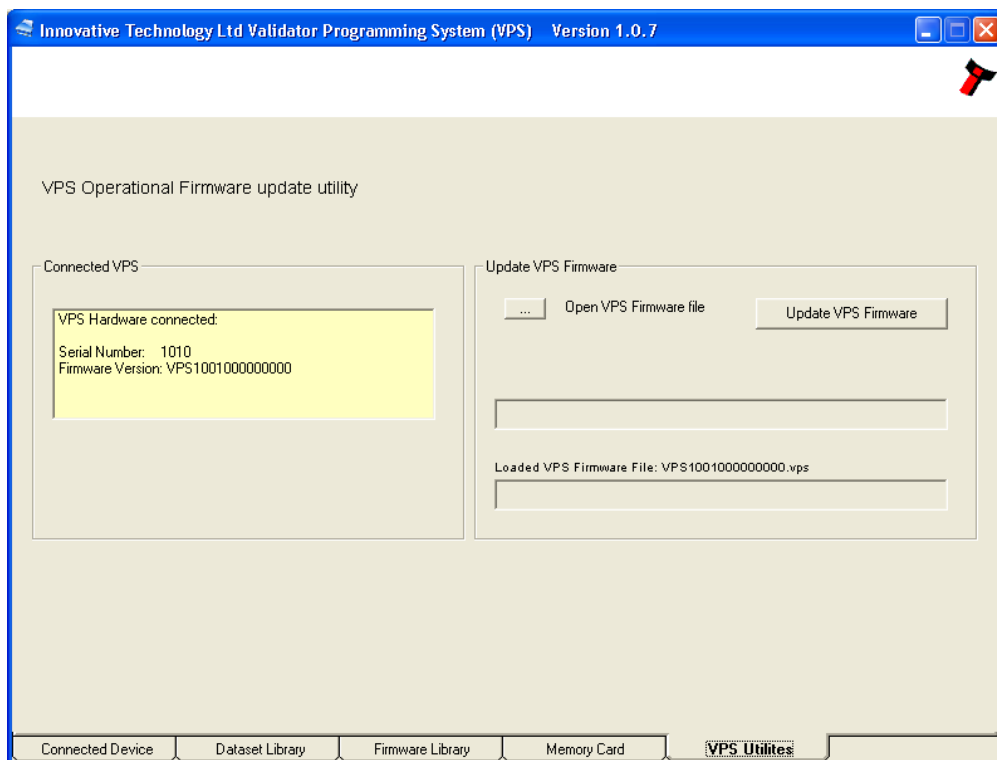
Click the '...' button to browse for the firmware file, and then click the 'Update VPS Firmware'. The DA3 operational firmware will be updated.

DO NOT disconnect the DA3 while the firmware upgrade is taking place. Doing so could permanently damage the DA3.

7 USING THE DA3

7.1 CONNECTING A VALIDATOR TO THE DA3

Connect the validator to the DA3 via the supplied 16way ribbon cable. Power must be applied to the DA3 via a separate 12V 1500mA DC power supply, or from the host machine. The functions described in this chapter will not be available if the DA3 is powered only by the USB cable.

Host Machine
Power Connection
Validator Connection
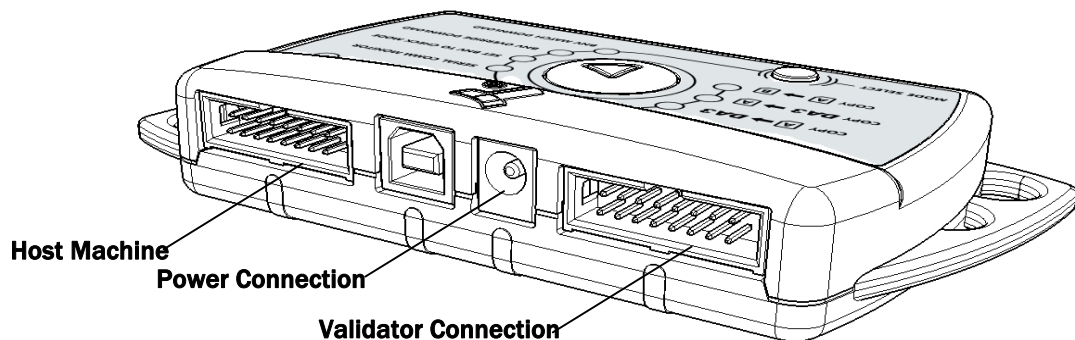
7.2 BNV MATCH DOWNLOAD

This mode will update the connected BNV with the latest version of dataset and firmware currently programmed into the BNV. All custom settings (pulses, special interface etc) will remain the same. Tagging files has no effect when the DA3 is used in this mode. For this function to operate, the versions of firmware and dataset stored within the DA3 memory must be later than that stored within the connected validator.

- Set the BNV to SSP mode as described in the BNV product manual. Depending on the BNV model, this will be either by setting the dipswitches as shown on the product label, or by pressing a download reset button
- Connect the BNV to the DA3 as described in chapter 7.1 and apply power either from the host machine or from a separate 12V power supply.
- Press the *Mode Select* button repeatedly until the blue *BNV MATCH DOWNLOAD* LED is illuminated. The *RUN* button will pulse green to indicate that this function is available.
- Press the Centre *RUN* button.
- The centre RUN button will change colour to pulsing blue, and the Mode Indicator LEDs will rotate back and forth as communication is established and the current BNV settings are determined. The *DATA CONNECTION* LED with flicker as data is transferred to and from the DA3. If there are no matching firmware or dataset files stored on the DA3, the centre *RUN* button will change colour to pulsing red, and the blue *BNV MATCH DOWNLOAD* LED will flash a code as described in Appendix 1.
- If all the files are available on the DA3, the Mode Indicator LED's will rotate in an anti-clockwise direction while the firmware is updated
- Once the firmware update is complete, the Mode Indicator LED's will rotate in a clockwise direction as the dataset is updated.
- When the firmware and dataset are successfully updated, the centre *RUN* button will change to a pulsing green light and the BNV will reset.
- If necessary, reset the BNV dipswitches to their original positions before re-connecting the BNV to the host machine.

7.3 BNV OVERRIDE DOWNLOAD

This mode will overwrite the BNV with pre-selected (Tagged) firmware and dataset files. For this function to operate, the DA3 must have dataset and firmware files tagged for the attached BNV model. See Chapter 6.4 for details on tagging files.

- Set the BNV to SSP mode as described in the BNV product manual. Depending on the BNV model, this will be either by setting the dipswitches as shown on the product label, or by pressing a download reset button.
- Connect the BNV to the DA3 as described in chapter 7.1, and apply power either from the host machine or from a separate 12V power supply.
- Press the *Mode Select* button repeatedly until the blue *BNV OVERRIDE DOWNLOAD* LED is illuminated. The *RUN* button will pulse green to indicate that this function is available.
- Press the Centre *RUN* button.
- The centre RUN button will change colour to pulsing blue, and the Mode Indicator LEDs will rotate back and forth as communication is established. The *DATA CONNECTION* LED with flicker as data is transferred to and from the DA3. If there are no files tagged for the connected BNV, the centre *RUN* button will change colour to pulsing red, and the blue *BNV OVERRIDE DOWNLOAD* LED will flash a code as described in Appendix 1.
- The Mode Indicator LED's will rotate in an anti-clockwise direction while the firmware is updated
- Once the firmware update is complete, the Mode Indicator LED's will rotate in a clockwise direction as the dataset is updated.
- When the firmware and dataset are successfully updated, the centre *RUN* button will change to a pulsing green light and the BNV will reset.
- If necessary, set the BNV dipswitches to their required positions before re-connecting the BNV to the host machine.

7.4 SET BNV TO CHECK MODE

This function enables the validator to accept notes so that testing can take place outside of the host machine.

- Set the BNV to SSP mode as described in the BNV product manual. Depending on the BNV model, this will be either by setting the dipswitches as shown on the product label, or by pressing a download reset button.
- Connect the BNV to the DA3 as described in chapter 7.1, and apply power either from the host machine or from a separate 12V power supply.
- Press the *Mode Select* button repeatedly until the blue *SET BNV TO CHECK MODE* LED is illuminated. The *RUN* button will pulse green to indicate that this function is available.
- Press the Centre *RUN* button.
- The centre RUN button will change colour to pulsing blue, and the *DATA CONNECTION* LED with flash as data is transferred to and from the DA3. If communications can not be established the centre *RUN* button will change colour to pulsing red, and the blue *SET BNV TO CHECK MODE* LED will flash a code as described in Appendix 1.
- When notes are inserted and accepted, the *Mode Indicator* LED will switch off a number of times according to which channel the note has been credited. For example, if a note from channel 3 has been inserted, the *Mode Indicator* LED will switch off and back on again 3 times

7.5 SERIAL COMM MONITOR
This function is not yet implemented. The centre *RUN* button will not illuminate to indicate that this function is not available.

7.6 COLLECT NOTE DATA
This function is not yet implemented. The centre *RUN* button will not illuminate to indicate that this function is not available.

7.7 COPY A TO DA3
This function copies the contents of the memory card in slot A to the internal memory of the DA3. All files stored in the DA3 memory will be overwritten. Note that new memory cards may need formatting, see chapter 6.7 for more details.

- Press the *MODE SELECT* button until the COPY [A] ➜ DA3 LED is illuminated
- Press the *RUN* button – the *RUN* button will change colour from pulsing green to solid blue, and the *MODE SELECT* button light will switch off.
- Press the RUN button again within 3 seconds to confirm.
  - If the RUN button is not pressed a second time within 3 seconds, the colour of the button will revert to green, and the *MODE SELECT* button will re-light blue.
  - If there is no memory card in slot A, or the memory card is blank, the centre *RUN* button will pulse red, and the blue COPY [A] ➜ DA3 LED will flash a code as described in Appendix 1.
- The Mode Indicator LED's will rotate in an anti-clockwise direction while the entire contents of the memory card in slot A are be copied to the internal memory of the DA3. All files stored in the DA3 memory will be overwritten.
- When the copy is complete, the centre *RUN* button will pulse green.

7.8 COPY DA3 TO A
This function copies the contents of the internal memory of the DA3 to the memory card in slot A. All files stored on the memory card will be overwritten. Note that new memory cards may need formatting, see chapter 6.7 for more details.

- Press the *MODE SELECT* button until the COPY DA3 ➜ [A] LED is illuminated
- Press the *RUN* button – the *RUN* button will change colour from pulsing green to solid blue, and the *MODE SELECT* button light will switch off.
- Press the RUN button again within 3 seconds to confirm.
  - If the RUN button is not pressed a second time within 3 seconds, the colour of the button will revert to green, and the *MODE SELECT* button will re-light blue.
  - If there is no memory card in slot A the centre *RUN* button will pulse red, and the blue DA3 ➜ [A] LED will flash a code as described in Appendix 1.
- The Mode Indicator LED's will rotate in an anti-clockwise direction while the entire contents of the DA3 are copied to the memory card in slot A. All files stored on the memory card will be overwritten.
- When the copy is complete, the centre *RUN* button will pulse green.

7.9 COPY A TO B

This function copies the contents of the memory card in slot A to the memory card in slot B. All files stored on the memory card in slot B will be overwritten. Note that new memory cards may need formatting, see chapter 6.7 for more details.

- Press the *MODE SELECT* button until the COPY [A] ➔ [B] LED is illuminated
- Press the *RUN* button – the *RUN* button will change colour from pulsing green to solid blue, and the *MODE SELECT* button light will switch off.
- Press the RUN button again within 3 seconds to confirm.
    - If the RUN button is not pressed a second time within 3 seconds, the colour of the button will revert to green, and the *MODE SELECT* button will re-light blue.
    - If there is no memory card in slot [A] or [B], or the memory card in slot [A] is blank, the centre *RUN* button will pulse red, and the blue COPY [A] ➔ [B] LED will flash a code as described in Appendix 1.
- The Mode Indicator LED's will rotate in an anti-clockwise direction while the entire contents of the memory card in slot [A] are copied to the memory card in slot B. All files stored on the memory card in slot [B] will be overwritten.
- When the copy is complete, the centre *RUN* button will pulse green.

APPENDIX 1 – ERROR CODES

The table below shows an explanation of the error codes displayed on the Mode Indicator LED's if the centre *RUN* button changes colour to red.

The flash code is shown by a long flash then a number of short flashes. The number of short flashes indicates the cause of failure.

Number of flashes	Cause of failure
2	No validator connection found
3	No valid download files found
4	Download fail
5	Memory card fail

APPENDIX 2 – SUPPORTED NOTE VALIDATORS

The DA3 will operate with the following ITL products
- NV7 programmed firmware 1.09 or later (October 2003)
- NV8 programmed firmware 1.09 or later (October 2003)
- NV9
- NV10
- BV20
- BV50
- BV100

REVISION HISTORY

INNOVATIVE TECHNOLGY LTD			
TITLE:	DA3 USER MANUAL		
Drawing No:	GA339	**Project**	
Author	RJS	**Date**	04/01/2007
Format	MS WORD 2000		
Issue	**Release Date**	**Modified By**	**Comments**
Issue A	04/01/2007	RJS	First draft
Issue B	22/01/2007	RJS	Second draft - reorganised chapters
Issue C	08/02/2007	RJS	Third draft - addition of memory card formatting
Issue 1	13/02/2007	RJS	Initial release
Issue 2	20/02/2007	RJS	Updated Appendix 2
Issue 3	19/03/2007	RJS	Updated Appendix 2
Issue 4	17/11/2008	RJS	Updated Appendix 2

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In line with continued product development Innovative Technology Ltd. reserves the right to change specifications without prior notice. The data used in this document may be used as a guideline only.

DA2
INSTALLATION
GUIDE

INTELLIGENCE
IN VALIDATION

CONTENTS

1 DA2 KIT CONTENTS

You will have received the following items in your *DA2* kit.

- *DA2*
- USB type-A to type-B cable
- *DA2* to NV7/8/9/10 cable
- Power cable
- ITL Support CD-ROM

If any of these items are missing please contact Innovative Technology Ltd to arrange for replacement.

If you do not understand any part of this guide please contact the factory for assistance, contact details are below. In this way we may continue to improve our product.

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2 SYSTEM REQUIREMENTS

2.1 OPERATING SYSTEMS

To use the *DA2* kit you must ensure that your PC's operating is one of the following

- Windows 98 *
- Windows 98SE *
- Windows 2000 *
- Windows XP Home
- Windows XP Professional
- Windows Vista

Windows 95 and Windows NT do not support USB devices. However you can use a DA1 kit – this will allow you to use any of the current Innovative Technology Bank Note Validator download tools.

* NB: Windows 98, 98SE and 2000 are unsupported operating systems

2.2 HARDWARE

The *DA2* is a Universal Serial Bus (USB) device. It must be connected to a USB port on your PC.

A USB type-A to type-B cable is included with the *DA2*. The type-A plug connects to your PC. The type-B plug connects to the *DA2*. The USB ports on your PC will be marked with the following symbol.
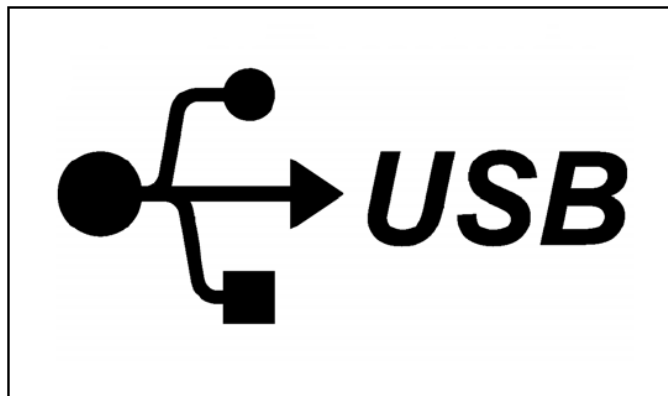
3 WINDOWS INSTALLATION

To install a *DA2* you do not need to connect a Bank Note Validator or a power supply. Simply connect the *DA2* to the PC with the included USB cable.

3.1 WINDOWS 98/WINDOWS 98SE

Before connecting your *DA2* insert the ITL support CD-ROM into your PC.

Once you have connected your *DA2* the *Add New Hardware Wizard* will start and the following screen will be displayed.

Click on **Next >**

The following screen allows you to select a method for finding the driver for the DA2. Make sure that "Search for the best driver for your device" is selected.

Click on **Next >**

Make sure that "specify a location" is checked. In the location box type "[Drive]:\drivers" where [Drive] represents your CD-ROM drive letter (usually D).

Click on **Next >**

The *Add New Hardware Wizard* will show that the *ITL USB (high speed) Serial Controller* has been found.
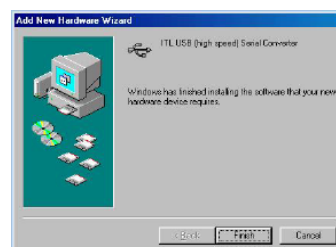
Click on **Next >** to load the driver

The following screen will be displayed when the driver is loaded.

Click on **Finish**

Your *DA2* is ready for use.

Before connecting your *DA2* insert the DA2 CD-ROM
into your PC. Once you have connected your *DA2*
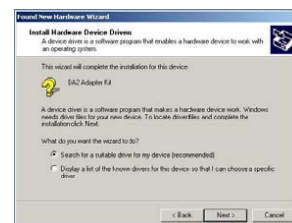a window open showing your PC has found a new device.

When the *Add New Hardware Wizard* starts the
following screen will be displayed.

Click on **Next >**

Make sure that *Search for a suitable driver for my
device* is checked.

Click on **Next >**

On the following screen make sure that *Specify
a location* is checked.

Click on **Next >**

A browser window will open to allow you to select the
driver's location. In the location box type
"[Drive]:\drivers" where [Drive] represents your
CD-ROM drive letter (usually D).

Click on **Next >**

A box will be displayed indicating that the
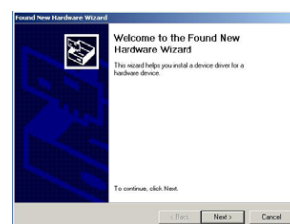driver has been found.

Click on **Next >**

When the driver has been successfully installed, the following screen will be shown.
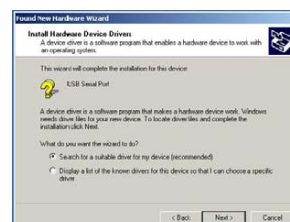
Click on **Finish**

A second *New Hardware Wizard* will open.

Click on **Next >**

Make sure that *Search for a suitable driver for my device* is checked.

Click on **Next >**

A browser window will open to allow you to select the driver's location. In the location box type "[Drive]:\drivers" where [Drive] represents your CD-ROM drive letter (usually D).
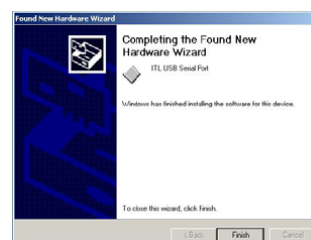
Click on **Next >**

A box will be displayed indicating that the driver has been found.

Click on **Next >**

When the driver has been successfully installed, the following screen will be shown.

Click on **Finish**

3.3 WINDOWS XP (HOME AND PROFESSIONAL)

Before connecting your *DA2* insert the **DA2** CD-ROM into your PC. Once you have connected your *DA2* a message bubble will appear informing you that a new device has been connected.

After a few moments the *Add New Hardware Wizard* will start and the following screen will be displayed. Make sure that *Install the software automatically* is checked.
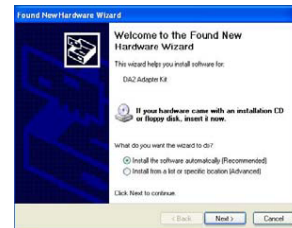
Click on **Next >**

The following screen will be displayed while the Wizard searches for the driver. If you have already inserted the DA2 CD-ROM Windows XP will automatically find the driver.

When the driver has been found a message will be displayed informing you that the driver *has not passed Windows Logo testing*.

Click on **Continue Anyway**

When the driver has successfully loaded you will see the following screen.

Click **Finish**

A second *Found New Hardware Wizard* will now open. Make sure that *Install the software automatically* is checked.

Click on **Next >**

.

The search window will again be displayed

When the driver has been found a message
will be displayed informing you that the driver
has not passed Windows Logo testing.

Click on **Continue Anyway**

When the driver has successfully loaded you
will see the following screen.

Click **Finish**

Your *DA2* is now ready for use.

## 4 VERIFYING INSTALLATION AND IDENTIFYING THE DA2 COM PORT

4.1 WINDOWS 98/98SE/ME

1. Right Click on the **My Computer** icon, then select **Properties**.
2. Click on the **Device Manager** tab.
3. Locate the **Port (Com & LPT)** icon and click on the + sign next to it.
4. You should see a list of your PC's RS232, LPT (Parallel) and the DA2 port (which will be labelled as *ITL USB Serial Port (Com λ)* where λ indicates the Com Port number the DA2 had been installed to).
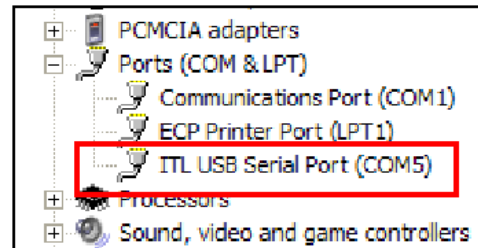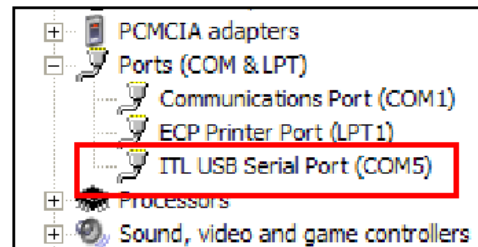
4.2 WINDOWS 2000

1. Right click on the **My Computer** icon, and then select **Properties**.
2. Click on the **Hardware** tab then the **Device Manager** button.
3. Locate the **Port (Com & LPT)** icon and click on the + sign next to it.
4. You should see a list of your PC's RS232, LPT (Parallel) and the DA2 port (which will be labelled as *ITL USB Serial Port (Com λ)* where λ indicates the Com Port number the DA2 had been installed to).
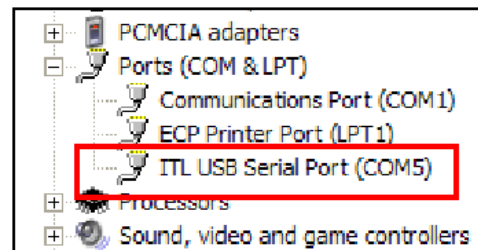
4.3 WINDOWS XP (HOME AND PROFESSIONAL)

1. Right click on the **My Computer** icon, and then select **Properties**.
2. Click on the **Hardware** tab then the **Device Manager** button.
3. Locate the **Port (Com & LPT)** icon and click on the + sign next to it.
4. You should see a list of your PC's RS232, LPT (Parallel) and the DA2 port (which will be labelled as *ITL USB Serial Port (Com λ)* where λ indicates the Com Port number the DA2 had been installed to).

5 INSTALLING ADDITIONAL DA2S

To install additional DA2s follow the instructions for installation for your Operating System. You will not need to insert the DA2 CD-ROM for additional DA2s if you are using Windows XP (Home or Professional).
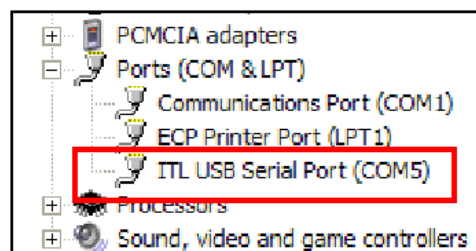
6 UNINSTALLING THE DA2

6.1 WINDOWS 98/98SE/ME
1. Right Click on the **My Computer** icon, then select **Properties**.
2. Click on the **Device Manager** tab.
3. Locate the **Port (Com & LPT)** icon and click on the + sign next to it.
4. You should see a list of your PC's RS232, LPT (Parallel) and the DA2 port (which will be labeled as *ITL USB Serial Port (Com λ)* where λ indicates the Com Port number the DA2 had been installed to).
5. Click on the *DA2* (it should now be highlighted).
6. Click on the **REMOVE** button.
Follow the on screen instructions.
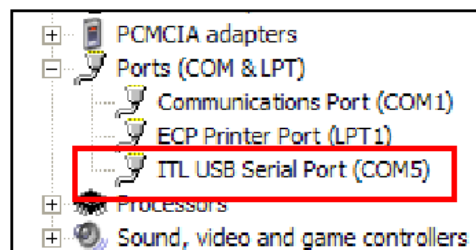
6.2 WINDOWS 2000
1. Right click on the **My Computer** icon, and then select **Properties**.
2. Click on the **Hardware** tab then the **Device Manager** button.
3. Locate the **Port (Com & LPT)** icon and click on the + sign next to it.
4. You should see a list of your PC's RS232, LPT (Parallel) and the DA2 port (which will be labeled as *ITL USB Serial Port (Com λ)* where λ indicates the Com Port number the DA2 had been installed to).
5. Click on the *DA2* (it should now be highlighted).
6. Right click on the *DA2* and select uninstall.
Follow the on screen instructions.

6.3 WINDOWS XP (HOME AND PROFESSIONAL)
1. Right click on the **My Computer** icon, and then select **Properties**.
2. Click on the **Hardware** tab then the **Device Manager** button.
3. Locate the **Port (Com & LPT)** icon and click on the + sign next to it.
4. You should see a list of your PC's RS232, LPT (Parallel) and the DA2 port (which will be labeled as *ITL USB Serial Port (Com λ)* where λ indicates the Com Port number the DA2 had been installed to).
5. Right click on the *DA2* and select uninstall.
Follow the on screen instructions.
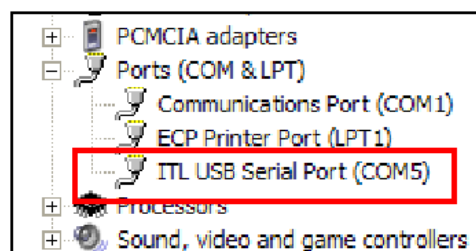
INNOVATIVE TECHNOLGY LTD			
TITLE:	DA2 INSTALLATION GUIDE		
Drawing No:	GA338	**Project**	
Author	MH	**Date**	10/12/2003
Format	MS WORD 2000		
Issue	**Release Date**	**Modified By**	**Comments**
Issue 1	10/12/2003	MH	Pre-release development issue
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DA1 KIT
QUICK START GUIDE

INTELLIGENCE
IN VALIDATION

CONTENTS

1 INTRODUCTION

The DA1 Kit is designed to be used for the following:
- Connection of any ITL note validator to a PC, to allow note data and firmware to be upgraded.
- Allow testing of a NV2, NV3, NV4, NV4X or NV5 note validators independently of the host machine.

2. KIT COMPONENTS

The DA1 Kit comprises of the following components:
1. DA1 adapter board.
2. Adapter to Validator cable (for NV2, NV3, NV4, NV4X and NV5).
3. Power Cable.
4. Quick Start Guide.
5. ITL Support CD-ROM *(optional)*.

Please check that you have received all the parts. If any of these items are missing please contact Innovative Technology Ltd to arrange for replacement.

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3 CONNECTING THE DA1 TO TEST A VALIDATOR.

The DA1 can be used to test the acceptance of a validator independently of a host machine. This is useful for determining if the validator is faulty or if the host machine is inhibiting some of the channels. The connections are made as shown in figure 1. The cable with a 15-way connector on one end and a 5-way connector on the other is used to connect the validator to the DA1. The cable with a 3.5mm jack plug and 2 banana plugs is used to supply power to the DA1. Connect +12 volts to the red banana plug and GND (0V) to the black plug. When using the DA1 to test note acceptance it should not be connected to a PC.
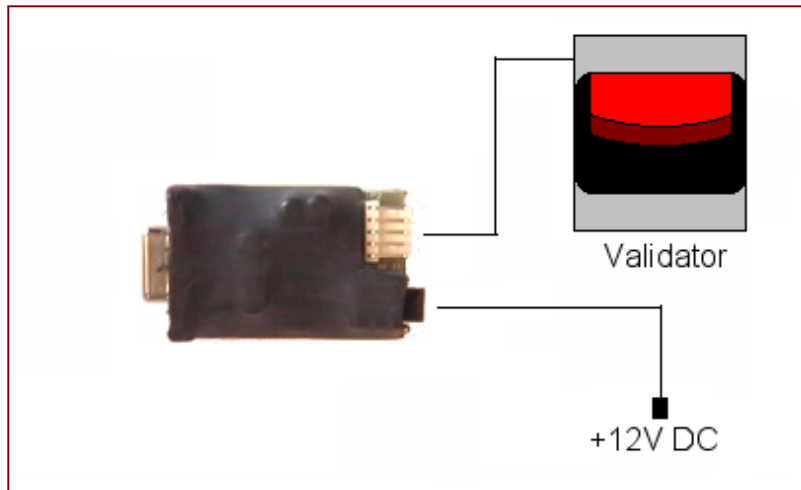
Figure 1 - Connecting a DA1 to a validator for testing

To test the validator insert the notes as normal, if the note is accepted the channel the note was accepted on is displayed on the display lights on the validator. NV2 and NV3 validators will flash the LED corresponding to the channel. NV4, NV4X and NV5 validators will flash a binary pattern (as shown below) on the display lights on the validator. In this mode all channels are enabled (not inhibited).

Number	LED Display 1 2 3 4	Number	Led Display 1 2 3 4
1	● ○ ○ ○	8	○ ○ ○ ●
2	○ ● ○ ○	9	● ○ ○ ●
3	● ● ○ ○	10	○ ● ○ ●
4	○ ○ ● ○	11	● ● ○ ●
5	● ○ ● ○	12	○ ○ ● ●
6	○ ● ● ○	13	● ○ ● ●
7	● ● ● ○	14	○ ● ● ●

4 CONNECTING A VALIDATOR TO A PC USING THE DA1.

The connections are made as shown in figure 2. The cable with a 15-way connector on one end and a 5-way connector on the other is used to connect the validator to the DA1. The cable with a 3.5mm jack plug and 2 banana plugs is used to supply power to the DA1. Connect +12 volts to the red banana plug and GND (0V) to the black plug. The 9-way D-type connector should be plugged directly into the serial port of the PC, taking note of the number of the serial port, as this will be required later when configuring the software. Once the connections have been made, the appropriate software for the validator you are using will need to be installed.
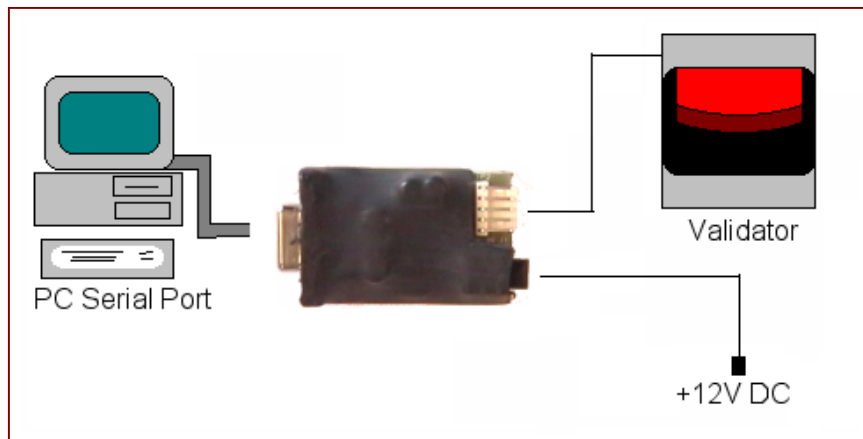

Figure 2 - Connecting a DA1 to a validator and PC for upgrading.

5 SOFTWARE INSTALLATION

To install the software required to upgrade datasets and firmware, insert the optional CDROM into the CDROM drive. An installation menu will appear, select the product that you wish to download, and then select the software you wish to use. Follow the onscreen instruction to complete the installation. Instructions for configuring and using the software you have installed can by found in the online help for that software.

REVISION HISTORY

INNOVATIVE TECHNOLGY LTD			
TITLE:	DA1 QUICK START GUIDE		
Drawing No:	GA151	**Project**	
Author	PD	**Date**	17/08/2000
Format	MS WORD 2000		
Issue	**Release Date**	**Modified By**	**Comments**
Issue 1	17/08/2000	PD	Production release

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