



**OPN\_DL  
UTILITY SOFTWARE**

**INSTALLATION AND USER GUIDE - v2.03**

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## **1.0 INTRODUCTION**

OPN\_DL is a simple to use utility program for use with the OPN2001.

The software allows stored data to be collected from the terminals and provides facilities to allow configuration of the OPN2001s.

## 2.0 INSTALLING OPN\_DL AND DRIVERS

**NOTE:** Previous versions of the OPN\_DL application installer automatically installed both the OPN\_DL application and the OPN2001 hardware drivers. This led to differences in the installation procedure for Windows XP (totally automatic), and Vista/ Windows7. For this reason, the OPN\_DL installer no longer attempts to install the hardware drivers automatically. As a result the application and drivers are now installed as 2 separate procedures summarised in sections 2.1 and 2.2 below.

**Note:** Do not connect the OPN2001 data collector onto your PC until after the drivers have been manually installed - see section 2.2 below

## 2.1 INSTALLING OPN\_DL APPLICATION

**NOTE:** The .NET 2.0 Framework is a prerequisite of the OPN\_DL application.

The .NET 2.0 Framework may be downloaded from the [ERS website](#) or direct from [Microsoft](#). (Approximately 22MB download)

To install the OPN\_DL utility execute the Microsoft Installer **OPN\_DL.msi** and proceed as show below:

**Note:** The software must be installed from a logon with full **Administrative rights**

1) Click **Run**

2) Click **Next**

3) Click **Next**

4) Click **Next**

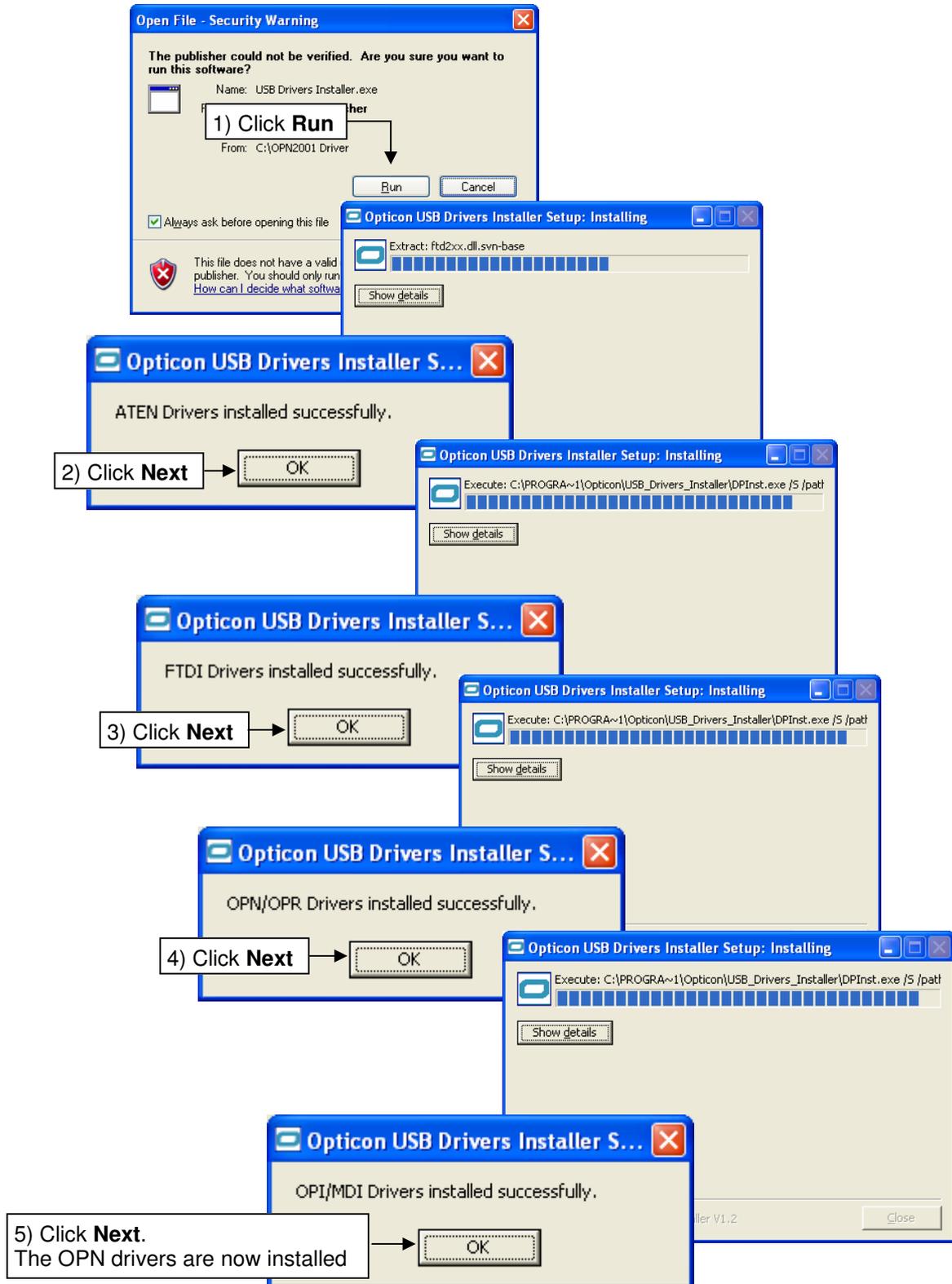
5) Click **Close**.  
OPN\_DL is now installed.

**NOTE:** These screenshots are based on **XP**. Other operating systems may differ in style and detail. For example additional security warnings will normally be presented under Vista and Windows7 )

## 2.2 INSTALLING OPN2001 DRIVERS

To install the OPN2001 drivers run the OPN2001 Driver Installer **USB Drivers Installer.exe** and proceed as follows:

**Note:** Do not connect the OPN2001 data collector onto your PC until after the drivers have been manually installed below



**OPN Hardware Drivers:**

**Note 1:** The drivers automatically allocate a 'virtual' COM port for the OPN2001 allowing it to operate just as if it were plugged into one of the PC COM ports.

The OPN\_DL utility will automatically detect the COM port allocated to the OPN2001, avoiding the requirement for manual configuring of the software.

**Note 2:** If the OPN2001 is subsequently connected to a different USB port on the PC it will be seen as a new device. The Found New Hardware wizard will then automatically run to allow the OPN2001 to be installed to this USB Port. In this case a new virtual COM port will be assigned for the device when used via this USB port.

**Note 3:** OPN\_DL expects that only 1 OPN2001 will be connected to the PC. In the event that multiple devices are simultaneously connected, OPN\_DL will communicate only with the 1st OPN2001 found when searching for devices. If that device is disconnected OPN\_DL will re-enter 'search' mode finding the 'next' connected device.

### 3.0 USING OPN\_DL

OPN\_DL software provides the following facilities:

- Downloading stored data from the OPN2001
- Configuring the OPN2001

### 3.1 Running OPN\_DL

The installation procedure above will create an icon for OPN\_DL on the PC desktop. OPN\_DL can be run from the desktop icon or from the Start menu.

1) OPN\_DL splash screen

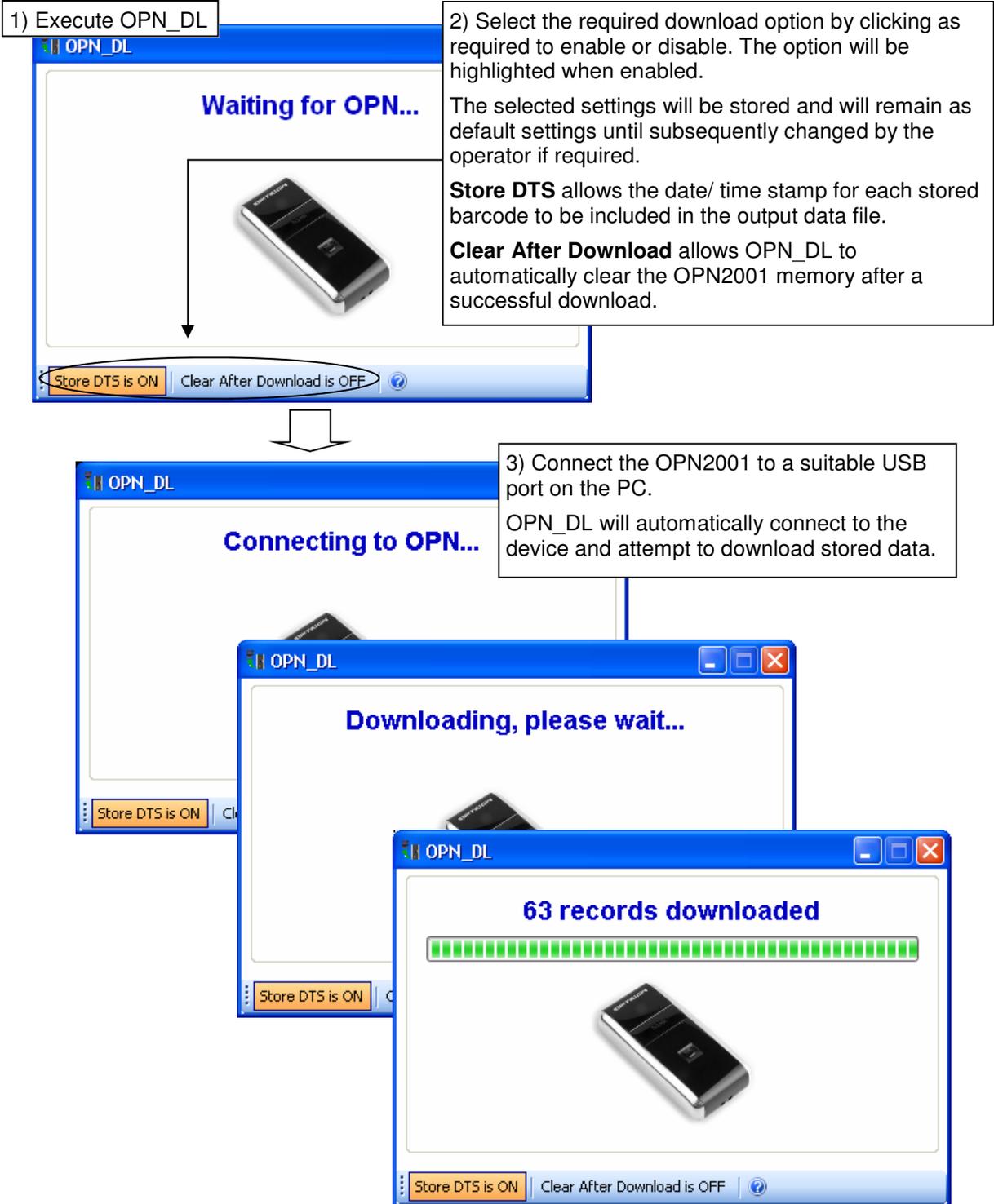
2) Click **OK** to set default operating mode for OPN\_DL  
(This message will be displayed only when running OPN\_DL for the 1st time).

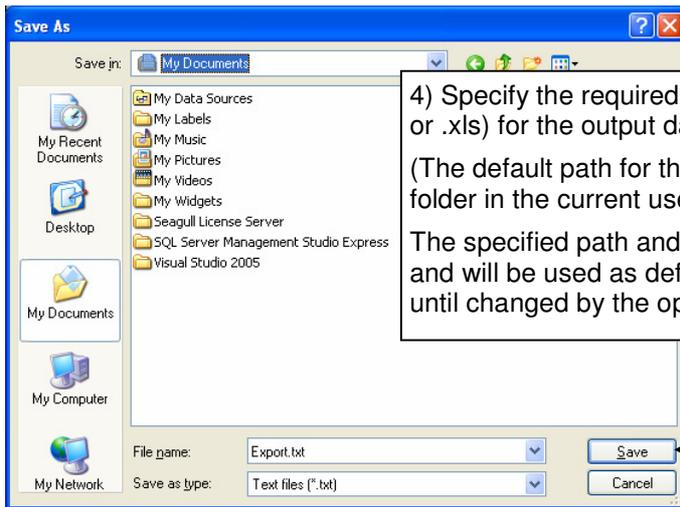
3) OPN\_DL will automatically search for a connected device and will display an appropriate message.  
The example screenshots shown here illustrate the connection of an OPN2001 which currently contains no stored data.

4) The **Change Parameters** facility will only be displayed when a device is connected.

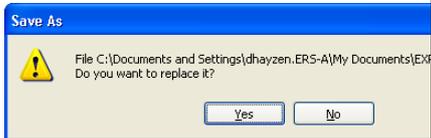
### 3.2 Downloading Stored Data from the OPN2001

To download stored data from the OPN2001 proceed as follows:





4) Specify the required location, name and file type (.txt or .xls) for the output data file and click **Save**.  
 (The default path for the output file is the My Documents folder in the current user profile).  
 The specified path and filename will be remembered and will be used as default for subsequent downloads until changed by the operator.



5) OPN\_DL will overwrite the data file if it already exists.  
 Click **Yes** to confirm overwrite, **NO** to return to the **Save as** screen above for selection of a new output file.



6) OPN\_DL confirms that the data records have been written to the output data file.



7) To download another OPN2001 simply unplug the device and plug-in another.

**Note:** OPN\_DL will automatically synchronise the real-time clock in the OPN2001 to the PC clock every time the device is connected.

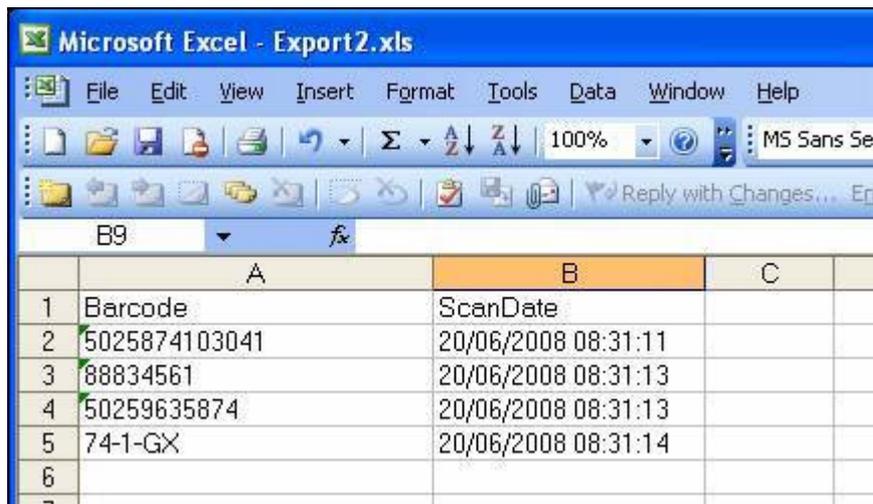
### 3.3 Format of the Output Data File

The data collected from the scanner may be written to a simple ASCII text file or to an .xls spreadsheet.

If written as a text file the data records will be written in the following format::

```
Barcode, ScanDate
5025874103041,20/06/2008 08:31:11
88834561,20/06/2008 08:31:13
50259635874,20/06/2008 08:31:13
74-1-GX,20/06/2008 08:31:14
```

If written as an .xls document the data will be presented in Excel as:



The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Export2.xls". The spreadsheet has two columns: "Barcode" in column A and "ScanDate" in column B. The data rows are as follows:

	A	B	C
1	Barcode	ScanDate	
2	5025874103041	20/06/2008 08:31:11	
3	88834561	20/06/2008 08:31:13	
4	50259635874	20/06/2008 08:31:13	
5	74-1-GX	20/06/2008 08:31:14	
6			

Note that the date/time stamp will only be present in the output data file if the **Store DTS** option from the **OPN\_DL** main screen is set to **ON** when the device is downloaded:



### 3.4 Backup Data Files

In addition to the output data file produced above OPN\_DL also writes a file to a history folder located in the Application Data folder for All Users.

For example for XP the back up data files will be stored at:

C:\Documents and Settings\All Users\Application Data\Electronic Reading Systems Ltd\OPN\_DL\HISTORY

These history files are written in the text file format as shown in section 3.3 above, and are named with the date/time of creation as OPN\_ddmmyyyyhhmmss.txt

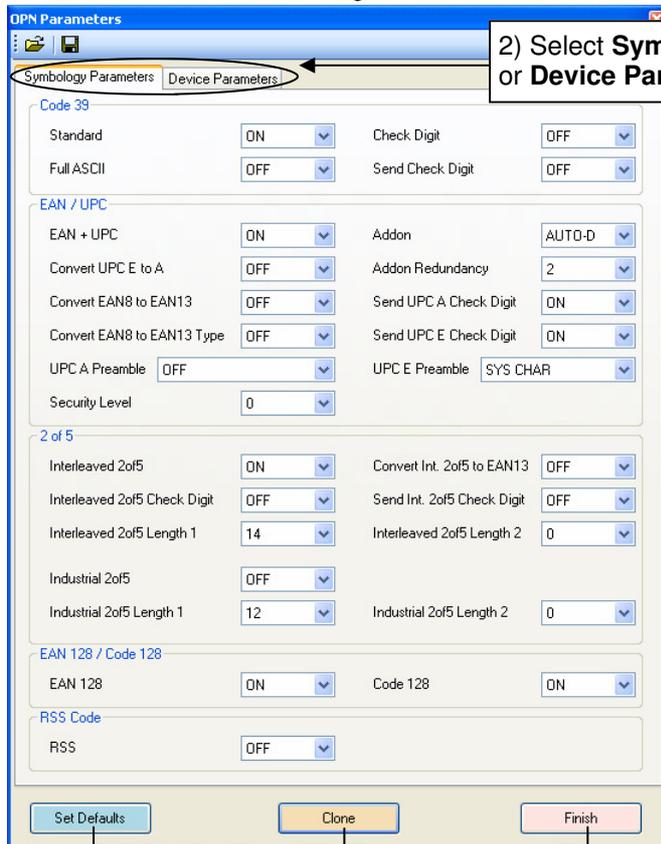
Where ddmmyyyy is the date (day, month and year)  
and hhmmss is the time (hours, minutes and seconds)

For example:

OPN\_20062008083134.txt

## 4.0 CONFIGURING THE DATA COLLECTOR

To configure the data collector connect the OPN2001 and proceed as follows:



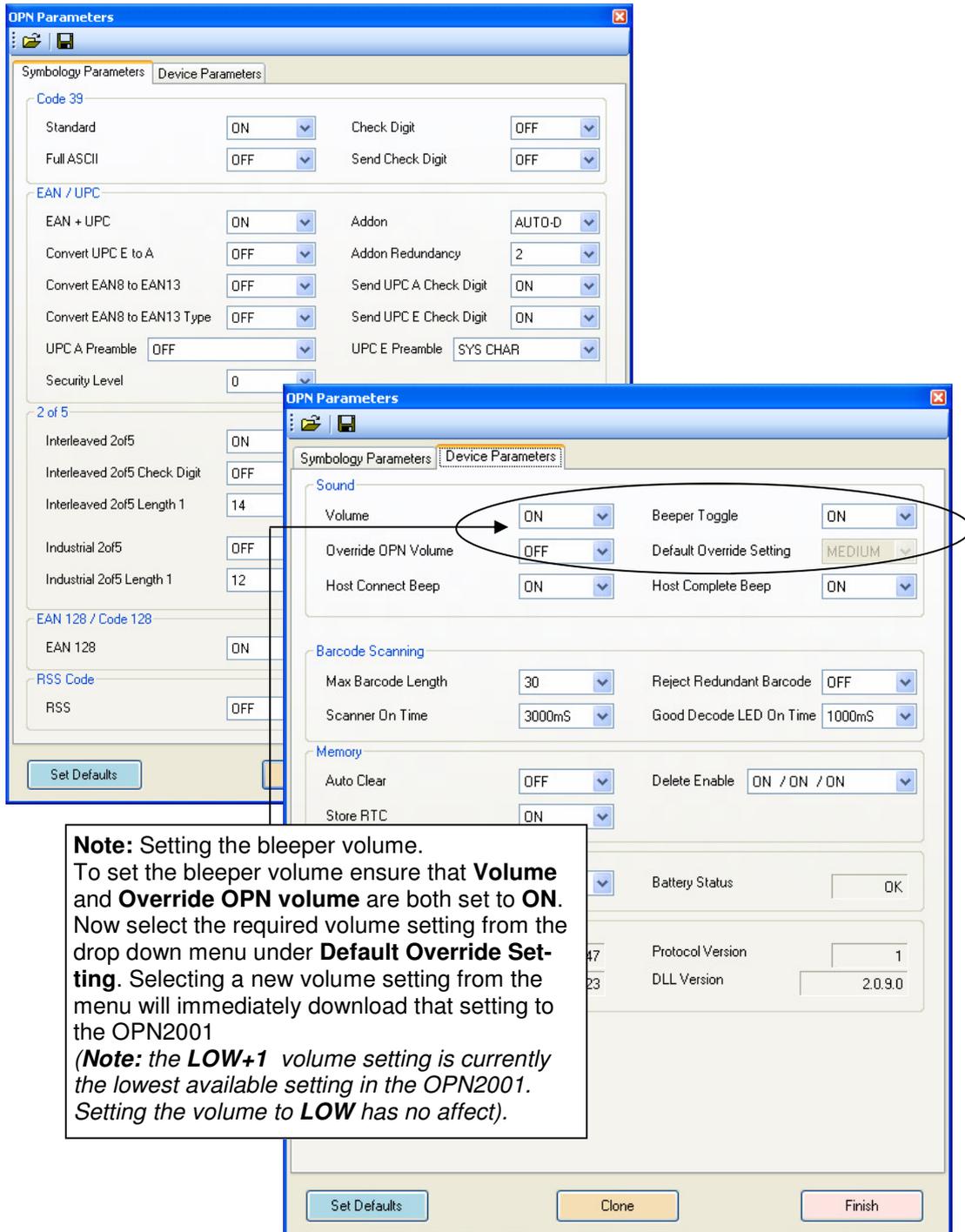
4) To set an OPN2001 into the factory default state click **Set Defaults**.

5) To clone OPN2001s see section 4.4 below.

6) Click to exit Configuration Mode.

## 4.1 Configurable Parameters

The configurable parameters for the OPN2001 are displayed under two tabs grouping together those parameters related to the barcode symbology and those associated with the operation of the OPN2001 itself:



**Note:** Setting the bleeper volume.  
To set the bleeper volume ensure that **Volume** and **Override OPN volume** are both set to **ON**. Now select the required volume setting from the drop down menu under **Default Override Setting**. Selecting a new volume setting from the menu will immediately download that setting to the OPN2001  
*(Note: the **LOW+1** volume setting is currently the lowest available setting in the OPN2001. Setting the volume to **LOW** has no affect).*

Further details of the configurable parameters follow:

<b>SYMBOLGY PARAMETERS</b>			
<b>PARAMETER</b>		<b>COMMENTS</b>	<b>DEFAULT</b>
<b>CODE 39</b>	Standard	Enable/ Disable (ON/ OFF)	ON
	Full ASCII	Enable/ Disable (ON/ OFF)	OFF
	Check Digit	Verify check digit (ON/ OFF)	OFF
	Send Check Digit	Transmit Check digit (ON/ OFF)	OFF
<b>EAN/ UPC</b>	EAN +UPC	Enable/Disable (ON/OFF)	ON
	Convert UPCE to A	ON/ OFF	OFF
	Convert EAN8 to EAN13 Type	Add zeroes + change code type to EAN13 (ON/ OFF)	OFF
	Convert EAN8 to EAN13	Add zeroes. Do not change code type (ON/ OFF)	OFF
	UPC A Preamble	NONE/ SYSTEM CHR/ SYSTEM + COUNTRYCODE	SYSTEM CHR
	Security Level		0
	Addon	NO ADDON/ ADDON ONLY/ BOTH	NO ADDON
	Addon Redundancy	# times to decode UPC/ EAN barcode without addon (2—20)	2
	Send UPC A Check Digit	ON/ OFF	ON
	Send UPC E Check digit	ON/ OFF	ON
	UPC E Preamble	NONE/ SYSTEM CHR/ SYSTEM + COUNTRY CODE	SYSTEM CHR
	<b>2 of 5</b>	Interleaved 2 of 5	Enable/ Disable (ON/ OFF)
Interleaved 2 of 5 check digit		Verify Check Digit (ON/ OFF)	OFF
Convert Interleaved 2 of 5 to EAN13		ON/ OFF	OFF
Send Interleaved 2 of 5 Check Digit		Transmit Check digit (ON/ OFF)	OFF
Interleaved 2 of 5 Length1/ Length 2		1 Discrete Length (L1= length, L2 = 0) 2 Discrete Lengths (L1 > L2) Length within Range (L1 <L2) Any length (L1 = L2 = 0)	L1 = 14 L2 = 0
Industrial 2 of 5		Enable/ Disable (ON/ OFF)	OFF
Industrial 2 of 5 Length1/ Length 2		1 Discrete Length (L1= length, L2 = 0) 2 Discrete Lengths (L1 > L2) Length within Range (L1 <L2) Any length (L1 = L2 = 0)	L1 = 12 L2 = 0
<b>EAN128/ Code128</b>	EAN128	Enable/ Disable (ON/ OFF)	ON
	Code128	Enable/ Disable (ON/ OFF)	ON
<b>RSS Code</b>	RSS	DISABLED/ RSS LIMITED/ RSS14/ RSS EXPANDED	DISABLED

DEVICE PARAMETERS					
PARAMETER		COMMENTS	DEFAULT		
<b>SOUND</b>	Volume	Enable/ Disable beeper (ON/ OFF)	ON		
	Override OPN Volume	Enable/ Disable (ON/ OFF). When enabled OPN_DL will send the Default Override Volume Setting.	OFF		
	Default Override Volume Setting	OFF/ HIGH/ MEDIUM/ LOW/ LOW+1/LOW+2	OFF		
	Host Connect Beep		ON		
	Beeper Toggle	Enable/ Disable feature allowing operator to toggle beeper ON/ OFF using scan key (ON/ OFF)	ON		
	Host Complete Beep	ON/ OFF	ON		
<b>BARCODE SCANNING</b>	Max Barcode Length	1 - 30	30		
	Scanner on-time	1 - 10 Secs. (100mS increments)	30 (3 Secs)		
	Reject Redundant Barcode	OFF - Any code will be accepted Mode1 - A code will be rejected if identical to previously scanned code Mode 2 - A code will be rejected if identical to any previously scanned code	OFF		
	Good Decode LED On-time	250mS - 1 Sec (250mS increments)	4 (1 Sec.)		
<b>MEMORY</b>	Auto Clear	Clear Barcodes after download (ON/ OFF) (Overrides the <b>Clear After Download</b> setting in OPN_DL)	OFF		
	Store RTC	Store real-time clock data (ON/ OFF)		ON	
		Store RTC	Store DTS		Output File Result
		OFF	OFF		No DTS in file
		OFF	ON		DTS = 01/01/0001 00:00:00
ON		OFF	No DTS in file		
ON	ON	DTS = scanned date/time			
Delete Enable	Determines operation of recessed Delete key. Clear All function (ON/OFF)/ Delete Barcode (ON/OFF)/ Set all to default (ON/OFF) Thus a setting of ON/ OFF/ ON will enable Clear All, and Delete Barcode but disable Set All to default		ON/ON/ON		
<b>BATTERY</b>	Low Battery Warning	Determines how low battery condition will be handled. 0 = No operation 1 = Ignore low battery 2 = Indicate, laser turned off 3 = Indicate, operate normally	3		

## 4.2 SAVING DISPLAYED CONFIGURATION TO DISK

To save the displayed configuration to disk click the diskette icon from the menu bar

The image shows the 'OPN Parameters' software window with the 'Device Parameters' tab selected. A callout box points to a diskette icon in the menu bar, with the text: "1) Click the Diskette icon to save the displayed configuration to disk".

Below the main window, a 'Save As' dialog box is open. The 'Save in:' field shows 'OPN\_DL'. The 'File name:' field contains 'Parameters.opn' and the 'Save as type:' is set to 'OPN Files (\*.opn)'. A callout box points to the 'Save' button, with the text: "2) Specify the required location and name for the file and click **Save**".

Section	Parameter	Value
Code 39	Standard	ON
	Full ASCII	OFF
	Check Digit	OFF
	Send Check Digit	OFF
EAN / UPC	EAN + UPC	ON
	Convert UPC E to A	OFF
	Convert EAN8 to EAN13	OFF
	Convert EAN8 to EAN13 Type	OFF
	UPC A Preamble	OFF
	Security Level	0
	Addon	AUTO-D
2 of 5	Interleaved 2of5	ON
	Interleaved 2of5 Check Digit	OFF
	Interleaved 2of5 Length 1	14
	Interleaved 2of5 Length 2	0
EAN 128 / Code 128	EAN 128	ON
	RSS Code	OFF

### 4.3 RETRIEVING THE CONFIGURATION FROM DISK

To load a configuration from disk click the windows 'folder' icon from the menu bar:

1) Click the Windows 'Folder' icon to retrieve a saved configuration from disk

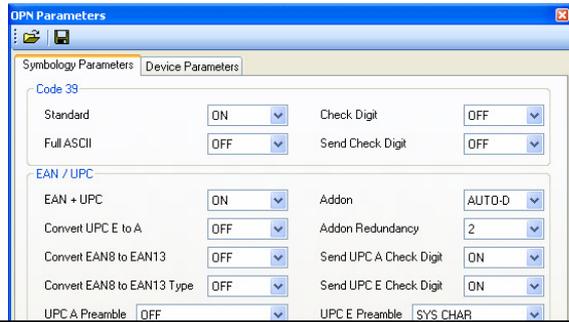
2) Select the file to be retrieved and click **Open**. This will load the configuration into the OPN2001. The display will be updated to reflect the new settings.

The screenshot shows the 'OPN Parameters' application window with the 'Symbology Parameters' tab selected. The 'Code 39' section includes options for Standard (ON), Full ASCII (OFF), Check Digit (OFF), and Send Check Digit (OFF). The 'EAN / UPC' section includes options for EAN + UPC (ON), Convert UPC E to A (OFF), Convert EAN8 to EAN13 (OFF), Convert EAN8 to EAN13 Type (OFF), UPC A Preamble (OFF), Security Level (0), Addon (AUTO-D), Addon Redundancy (2), Send UPC A Check Digit (ON), Send UPC E Check Digit (ON), and UPC E Preamble (SYS CHAR). The 'Interleaved 2of5' section includes options for Interleaved 2of5, Interleaved 2of5 Check Digit, and Interleaved 2of5 Length 1. The 'EAN 128 / Code 128' section includes options for EAN 128. The 'RSS Code' section includes the option for RSS. A 'Set Defaults' button is located at the bottom left of the software window.

The 'Open' dialog box is overlaid on the software window, showing the 'OPN\_DL' directory. The file 'Parameters.opn' is selected in the file list. The 'File name' field is empty, and the 'Files of type' dropdown is set to 'OPN Files (\*.opn)'. The 'Open' and 'Cancel' buttons are visible at the bottom right of the dialog box.

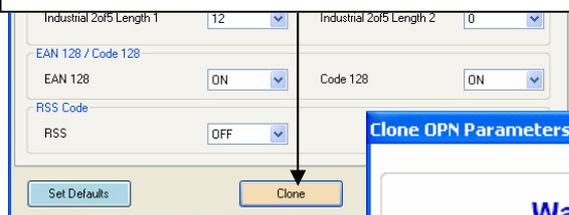
## 4.4 CLONING DEVICES

To clone devices to the displayed configuration proceed as follows:



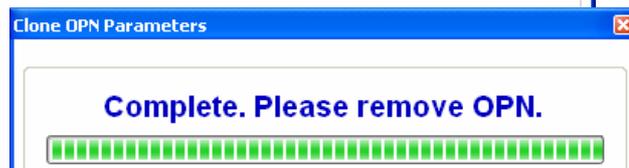
### 1) Click **Clone**

This will prevent OPN\_DL from automatically extracting the configuration from connected devices, allowing the displayed configuration to be loaded to successive OPN2001s.



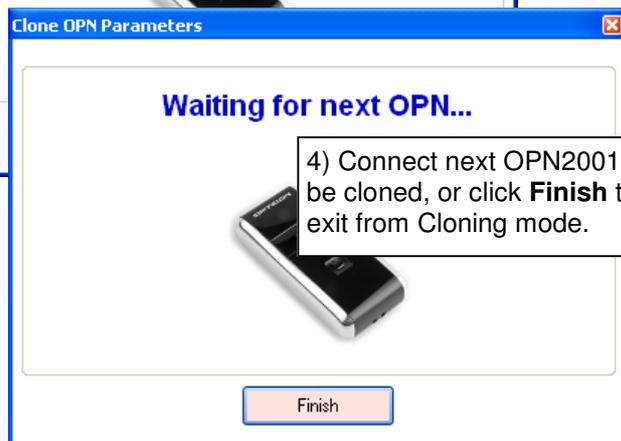
2) Connect the 1st OPN2001 to be cloned. The displayed configuration will automatically be loaded to the device

Waiting for first OPN...



3) Configuration successfully loaded. Disconnect the OPN2001

Waiting for next OPN...



4) Connect next OPN2001 to be cloned, or click **Finish** to exit from Cloning mode.

**Note - Cloning device volume:** The OPN2001 does not report its current bleeper volume to OPN\_DL. This means that when cloning a device to a set of configuration parameters extracted from a 'master' device, all settings in the cloned device will match the master except for the bleeper volume, which will be set to a default level.

The default level is set using the volume override parameter (see section 4.1). This allows a default volume level to be configured into the OPN\_DL software which will be used when cloning devices.

## 5.0 Shutting Down OPN\_DL

It is necessary to disconnect the OPN2001 before closing the application.

