

NCIS GUIDE

Configuring Barcode Scanners for use in NCIS.Med

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Background

NCIS Med can be configured to use a barcode scanner to verify users, patients, products and medications in various steps through the NCIS workflow. A compatible barcode scanner may be configured for each workstation which uses these workflow steps, See appendix 1 for list of recommended barcode scanners.

In the past, computers often used serial data transmission, where data bits are sent one after another. This form of data transmission required serial com ports (e.g.RS-232); these ports have now largely been replaced by USB ports which communicate in parallel. Full NCIS barcode scanning capability requires serial communication. In order to emulate a serial port for a USB connected device, the barcode scanner can be configured on each PC with a COM port setting. This will require the installation of specific drivers and may also involve device specific barcodes found in the Product Manual. Please liaise with the hardware specialist within your own hospital to ensure that the barcode scanner is installed correctly.

It is vital for the correct operation of barcode scanners that the most recent drivers are installed for your scanner. Following installation and configuration ensure that you test the scanner is operating correctly before proceeding.

For certain NCIS functionality, it is also possible to use the barcode scanner setup with keyboard configuration.

Steps to Configure the Barcode Scanner in Device Properties (For Pc)

1. Ensure the most up to date driver for the barcode scanner has been installed on the PC. Note, depending on your local ICT security settings, this may occur automatically for Windows 10 PCs.
2. Connect scanner to PC via USB port
3. Scan the correct configuration barcode from the Product Manual. This configures the scanner to simulate an RS-232 interface using a COM port. The exact code to use will depend on the barcode scanner used.
4. Complete driver installation (this should occur automatically as long as the correct driver is installed on the PC, however ICT administrator permission may still be required at this point)
5. Go to Devices and Printers menu →Barcode Scanner

6. Check correct configuration has been completed

Configuring Correct Interface for the Barcode Scanner as a Serial Scanner

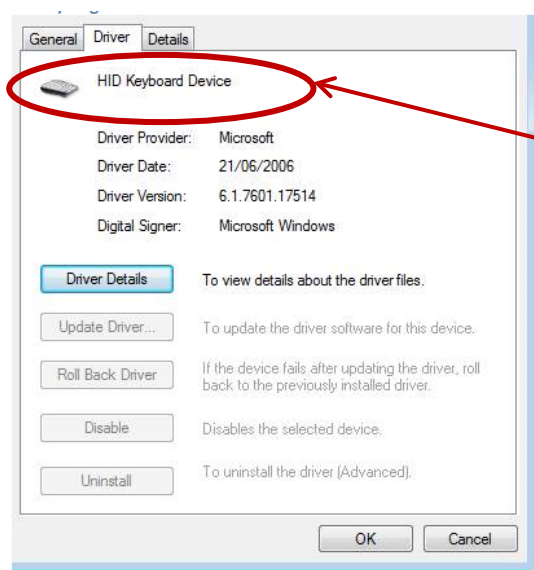
For the scanner to operate optimally in NCIS.Med it must be configured for serial communication e.g. using an USB Com to simulate RS232 standard interface. This is completed by scanning a configuration barcode from the scanners product manual. Below is an example from the Gryphon 4400/4500 series manual of the correct configuration barcode:



Scanning the configuration barcode may prompt an automated installation of the related driver file to the device properties. Installation of the correct driver to each workstation may need to be completed by a person with IT administrative rights to the workstation(s). However for Windows 10 this is normally completed automatically.

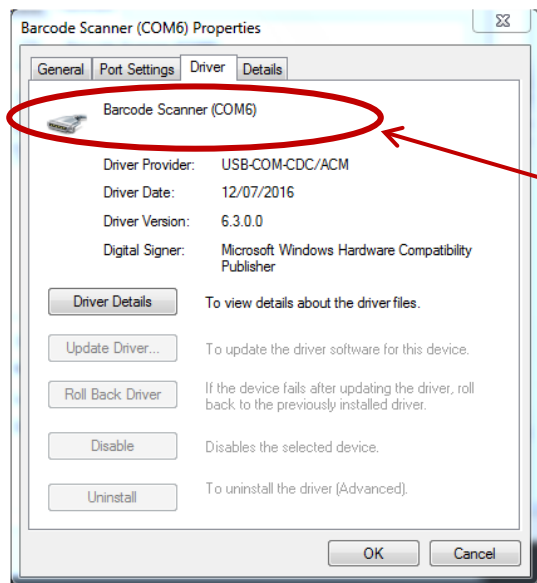


N.B. When viewing the properties of the scanner in Windows, if the device is referred to as a keyboard then **this configuration is incorrect (it is possible to use limited functionality with this setting – see below):**



The Barcode Scanner is being recognised as a Keyboard Device rather than a scanner. This indicates that the correct driver is **not** installed for the scanner device or it has not been configured to simulate RS-232 interface

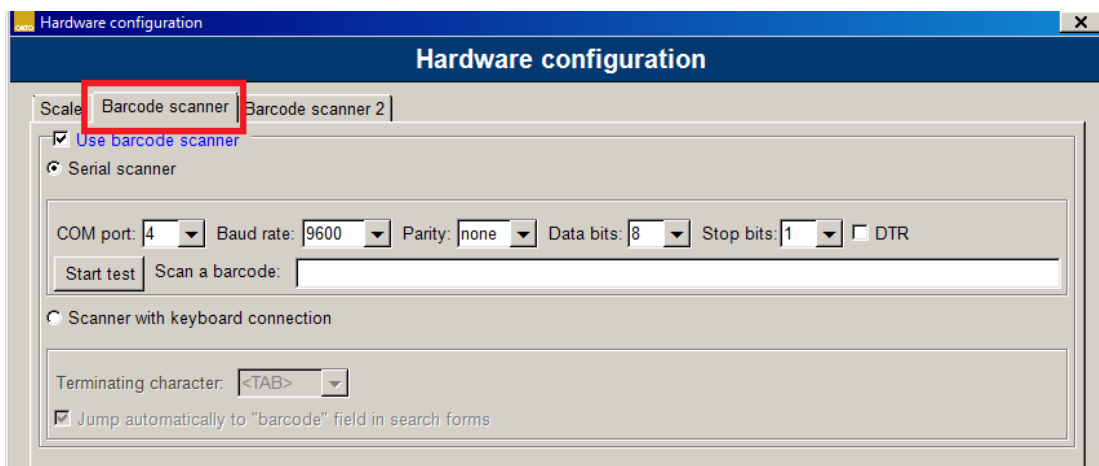
The correct configuration is evident where the driver is referred to as a Barcode Scanner (COM #), see below:



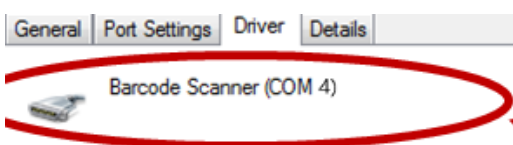
The Barcode Scanner is being recognised as a Barcode Scanner associated with a COM Port. This is the correct configuration

Steps to Configure the Barcode Scanner as a Serial Scanner in NCIS.Med

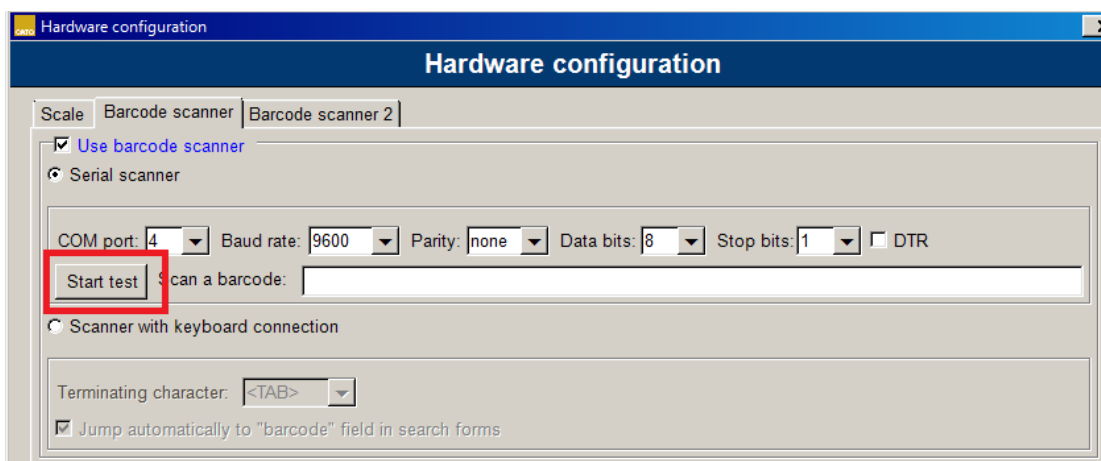
1. Log into NCIS MED with appropriate user account
2. Go to Administration → Hardware Configuration
3. Select Barcode Scanner from the top of the form.



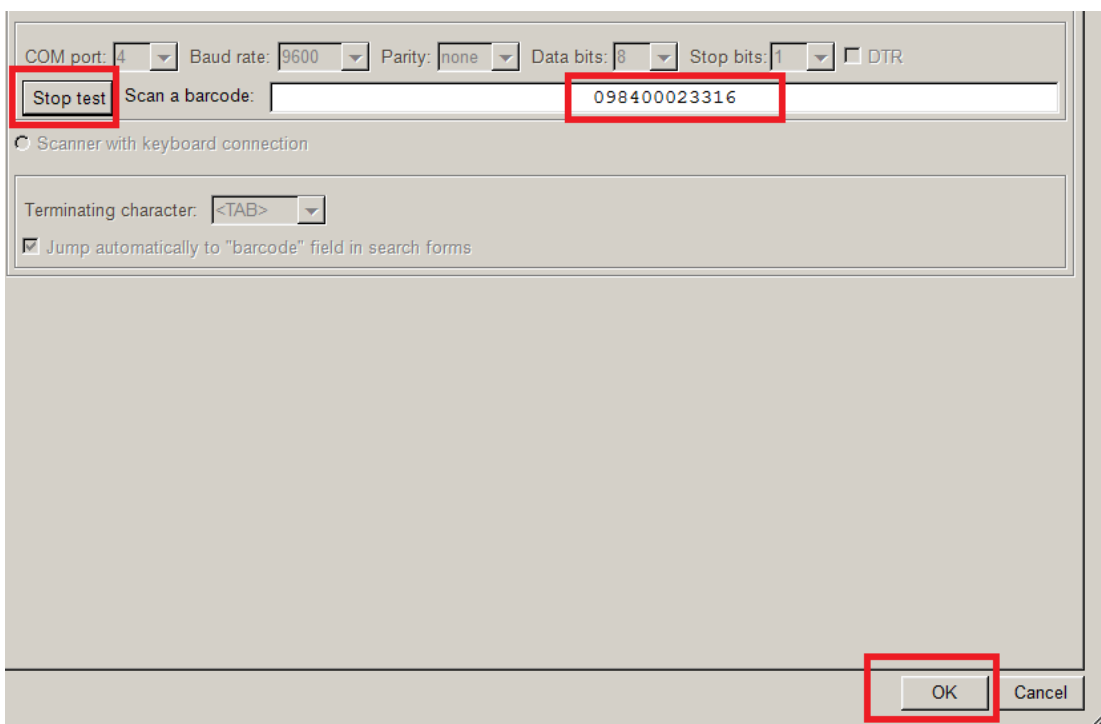
4. Tick "Use barcode scanner" – It is essential to click "Use barcode scanner" on all PCS where administration is occurring, even if not using a barcode scanner. This will ensure the three point checks – user, medication, patient appear.
5. Select the correct Com Port number as per device properties



6. Click on Start Test

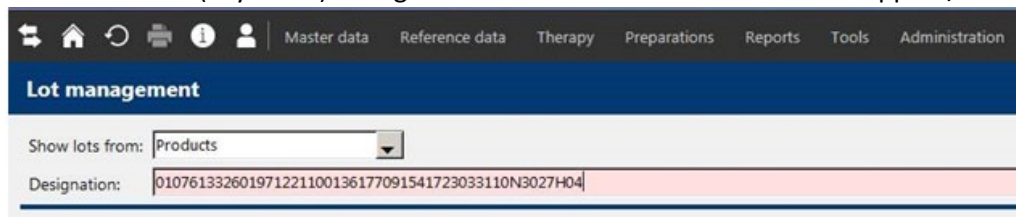


7. Use the barcode scanner to scan a barcode



8. The barcode should read into the box on screen indicating that the test is successful. If the barcode does not read in this box check the following:
 - i. The barcode scanner has been configured for serial communication e.g. with an RS-232 standard interface setting.
 - ii. Ensure to start your Citrix session with the barcode scanner plugged in. If you have started Citrix without the scanner plugged in, logout of Citrix, plug in the scanner and log back in to Citrix.
9. Click on Stop Test
10. Click on OK
11. Also complete configuration in the Training environment to confirm patient barcode scanning is working correctly.
12. To verify that the configuration has been successful, it may be useful to check the scanning behaviour in NCIS.MED at this point. If when scanning a SACT product package barcode (e.g. Herceptin) in Lot Management you find that rather than a menu option being offered, that the barcode content populates the Designation field (see figure below and refer to NCIS Quick Guide for

using barcodes in ACU), then it is likely the incorrect driver is installed. This is how parallel communication (keyboard) configuration of the barcode scanner would appear/behave in NCIS.



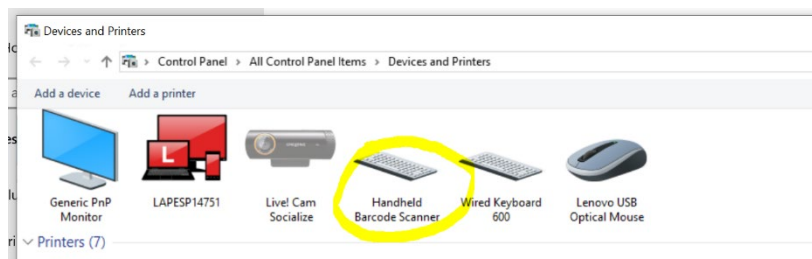
Configuring Correct Interface for the Barcode Scanner as a Keyboard Scanner

For user, medication and patient identification it is possible to use the scanner set up as a keyboard. **Note – it is not possible to complete pharmacy lot management with the scanner set this way.**

Scan the USB Keyboard configuration barcode from the barcode manual. Below is an example from the Gryphon 4400/4500 series manual of the keyboard configuration barcode:



The scanner will then appear as a handheld barcode scanner with a keyboard symbol in Devices and Printers



Steps to Configure the Barcode Scanner as a Keyboard Scanner in NCIS.Med

1. Log into NCIS MED with appropriate user account
2. Go to Administration → Hardware Configuration
3. Select Barcode Scanner from the top of the form.

4. Tick "Use barcode scanner" – **It is essential to click "Use barcode scanner" on all PCS where administration is occurring, even if not using a barcode scanner. This will ensure the three point checks – user, medication, patient appear.**
5. Select "Scanner with keyboard connection"
6. It is recommended to select "Jump automatically to "barcode" field in search forms so users don't have to select them, and also change the Terminating Character from Tab to Enter.
7. Click on OK
8. This is a setting specific to each PC. Therefore if a user logs into a computer that has the scanner set up as a serial scanner and their session follows them, the barcode scanner settings will follow them also.
9. The user ID boxes will now look slightly different as it will include a barcode field. The cursor will move automatically to the barcode field so the user can scan their barcode to login as normal.

10. In the patient search box it is possible to scan the medication barcode as long as the medication number box is selected and the cursor is in the search box. However you can't scan the patient barcode.

Appendix 1 – Recommended Barcode Scanners

Please ask the NCIS Office to advise the latest recommended barcode scanners. The following scanners have been tested and utilised by the NCIS office

- Datalogic Gryphon 4400 or 4500 Series (most extensive testing completed)
- Zebra DS8108 (less commonly utilized)

Appendix 2 – Barcode Scanner setup checklist

Setting up a Serial Scanner - complete the following steps on each PC

Complete Yes/No	Configuration Step
	Ensure NCIS is not running and Citrix sessions are closed
	Plug barcode scanner into PC and allow drivers to install (Windows 10)
	Scan USB COM to simulate RS-232 configuration barcode
	If scanner will not configure, then manually install most up to date drivers (ICT admin may be required)
	Open NCIS.Med (BD CATO) and login as an administrator
	Open Hardware Configuration
	Select Use Barcode Scanner
	Select Serial Scanner
	Choose COM port that matches the COM Port in Devices and Scanners in Windows
	Test the scanner
	Click OK

Setting up a Keyboard Scanner - complete the following steps on each PC

Complete Yes/No	Configuration Step
	Ensure NCIS is not running and Citrix sessions are closed
	Plug barcode scanner into PC and allow drivers to install (Windows 10)
	Scan USB Keyboard configuration barcode
	If scanner will not configure then manually install most up to date drivers (ICT admin may be required)
	Open NCIS.Med (BD CATO) and login as an administrator
	Open Hardware Configuration
	Select Use Barcode Scanner
	Select Scanner with a keyboard connection
	Change Terminating character to <ENTER> (recommended)
	Select Jump automatically to barcode field in search forms (recommended)
	Click OK

Appendix 3 - Troubleshooting

Issue	Possible Resolution
Medication and Patient check does not appear when administering a medication	<p>Ensure “Use barcode scanner” is ticked on the PC</p> <p>Ensure the Citrix session has not taken setting from another PC. Close NCIS and log off Citrix to resolve</p>
Barcode scanner appears as “Barcode scanner not ready”	<p>Ensure the scanner is configured as a serial scanner</p> <p>Ensure the COM port in Hardware Configuration in NCIS.Med matches the COM Port in the PCs settings</p> <p>Ensure you have the scanner configured as the desired scanner in Hardware Configuration, this screenshot indicates the scanner is set as a serial scanner in NCIS.Med</p> <p>Ensure the Citrix session has not taken setting from another PC. Close NCIS and log off Citrix to resolve.</p>
Scanning in Lot management does not behave as expect, and appears as below	<p>Ensure the scanner is configured as a serial scanner</p> <p>Ensure you have the scanner configured as a serial scanner in Hardware Configuration, this screenshot indicates the scanner is set as a keyboard scanner in NCIS.Med, which will not work for lot management.</p>
The scanner will not scan the configuration barcode, for example no sound or a “chirping” sound are heard	<p>Ensure the most up to date drivers are installed for your scanner</p>
Pulling the trigger on the scanner has no effect	<p>Ensure the most up to date drivers are installed for your scanner</p> <p>Ensure the scanner has power, either plugged into an active USB port or if using a docked scanner ensure the battery is charged</p>
When scanning a barcode in NCIS.Med a “chirp” rather than a “beep” is heard	<p>Ensure the scanner is configured as a serial scanner</p> <p>Ensure the COM port in Hardware Configuration in NCIS.Med matches the COM Port in the PCs settings</p> <p>Ensure you have the scanner configured as the desired scanner in Hardware Configuration, and</p>

	<p>that this matches the configuration of the scanner itself.</p> <p>Ensure the Citrix session has not taken setting from another PC. Close NCIS and log off Citrix to resolve</p>
When checking Hardware configuration the COM port has changed	<p>Ensure the Citrix session has not taken setting from another PC. Close NCIS and log off Citrix to resolve.</p> <p>To prevent this it is recommended to use the same COM port on all PCs in a clinical area</p>
When checking Hardware configuration the scanner has changed to a keyboard scanner or vice versa	<p>Ensure the Citrix session has not taken setting from another PC. Close NCIS and log off Citrix to resolve.</p> <p>To prevent this it is recommended to use the same scanner setup on all PCs in a clinical area</p>

Note:

The Citrix session can take a setting from another PC if the same person logs into their Healthirl account on two different PC's, this will pull the settings from one PC to another which means it could change the COM port for the scanners.