

Barcode Scanning in ECS

Barcode scanning technology offers an effective strategy for eliminating preventable errors and enhancing patient safety. As a handheld barcode reader registers each medication, the software verifies that the medication was ordered correctly, administered on time, and measured in the correct dosage, while simultaneously documenting the actual administration of the medication. Barcoding has been proven to generate measurable clinical and financial benefits in terms of efficiency.

Improvements in patient safety, clinical-care delivery, and patient tracking can be achieved by use of barcode scanners at the point of care, and barcodes on:

- Unit-of-use medications
- Medical devices
- Medical/surgical supplies
- Caregiver, clinician, and resident IDs

It is important to support and educate staff about safe-medication practices and to help develop new barcode-scanning practices.

Device Recommendations and Configuration

ECS currently recognizes linear alphanumeric barcodes, which are common and come in a variety of formats. They can be decoded with virtually any barcode reader. Linear 1D barcode formats encode data by simply alternating black and white spaces in one direction. Note that ECS does not support 2D barcoding at this time.

In order to function with ECS, the scanner must be programmable and must be able to insert what is known as a prefix/preamble character to the beginning of the barcode being scanned. ECS uses the preamble character of '@'. The scanner must also be programmed to add a "Line Carriage" or "Enter/Return" to the end of the barcode.

The most elemental contributor to the success or failure of a barcode system is the accuracy and usability of the scanning device. There are numerous scanner vendors, each with their own set of advantages and limitations. It is important to select the right scanner technology for the task at hand. The exact choice will depend on several factors, including price and operating environment.

Handheld barcode scanners are the most common type, available with many different interfaces and features. Handheld scanners connect directly to a computer's USB port. The USB barcode scanner is popular due to its versatility and ease-of-use. Many customers are also discovering the benefits of wireless barcode scanners. Wireless handheld scanners communicate with a base station or Bluetooth node to send scanned barcodes back to the computer or PDA.

Scanners should be tested thoroughly to ensure they are appropriate for the intended environment. For the clinical environment, durability, size/weight, and ease of cleaning will be major determinants.

Motorola/Symbol®

Although most any programmable barcode scanner will work with ECS, Motorola/Symbol scanners, such as the LS2208 or DS4308, work well for capturing barcodes in healthcare settings. Each device comes with directions for setting scanner parameters using barcode or USB cable. The 123Scan² utility can be used to simplify and streamline scanner configuration, reducing time and cost associated with setup. It can update scanner firmware and parameters, stage large numbers of devices, display bar code data and images, and generate reports.

Barcoded Patient Wristbands

Print Patient Wristband Labels

The importance of positive patient identification should not be underestimated. “Wrong patient” errors occur all too frequently. Scanning a patient’s barcoded wristband is an excellent way to ensure correct patient identification.

ECS has a report you can use to print barcode labels for residents. The patient’s ID number is encoded in the barcode, which tells the software where to look up the patient information. To access the report, click **Report** and select **Labels – Bar Code (Client)**.



Configuring the Resident Scan Feature in ECS

Within ECS, you can decide whether you would like nurses to: 1) first scan the residents wristband to load the resident’s MAR or 2) first manually load the resident’s MAR, then scan the resident’s wristband when ready to administer the medication. Instructions for both options are listed below.

Option 1.

1. Load the desired medication pass task for the residents for whom you are responsible.
2. Go to a resident’s room and scan the resident’s wristband. At this time, ECS will flip to that resident’s MAR with the message “*The scanned resident [name of resident] is now displayed.*”
3. Click **OK** to the message and perform the medication pass.
4. When you scan your next resident’s wristband, the previously loaded MAR will be saved and will be flipped to the newly scanned resident’s MAR.

Option 2.

Setup: In the medication pass task (*Sign icon > Tasks > Edit Task*), select the **Resident Scan** checkbox.

1. Load the desired medication pass task for the resident's for whom you are responsible.
2. Manually select to load the desired resident's MAR.
3. Prepare the resident's medications, then go into the room and scan the resident's wristband to verify you are with the correct resident prior to administration.
 - If the resident is correct (wristband matches MAR), you will get a message that says *"The scanned resident [name of resident] has been verified."*
 - If the resident is incorrect, you will get the message with a red X that says *"The scanned resident does not match."*

Troubleshooting

Programming

If you encounter issues programming the device(s), it can be helpful to test the scanner and its results in a simple Microsoft Notepad text document before attempting to use it with ECS or any other software

Begin by programming the scanner with the parameters necessary for the type of scanning you will be doing. Remember that regardless of the use for which you intend to employ the scanners, they must have a preamble character of '@' inserted at the start of the barcode, and there must be an "ENTER/RETURN" inserted at the end of the barcode in order to function with ECS

Once you have the scanner programmed with the parameters you want, open the Microsoft Notepad and select the Notepad window so you see a blinking cursor waiting for you to type into the .txt document.

Now scan a barcode with the scanner. What you should see is something similar to the following:



If you are unable to achieve these results, it is recommended that you contact the manufacturer of the scanner to assist with device setup.

Medi-Span® Medication Scanning

When using Medi-Span® and you encounter a medication that is not recognized by ECS after scanning, submit those medications to our clinical department (clinical@american-data.com).

Please send an email in the following format:

- Barcode number (ex: 056017470)
- Drug Name (ex: COUMADIN)
- Dose strength (ex: 10.0)
- Dose Unit (ex: MG)
- Dose Form (ex: TABLET)