Chapter 2

Drug Layout and Assignment

The robot is designed to fill prescriptions rapidly and reliably. Carefully planning the cell layout in the robotics cabinet assures drugs are assigned to cells that optimize dispensing speed and the overall efficiency of the system.

From time to time, the drug assigned to a cell may need to be changed. The following items may need to be changed as the pharmacy's dispensing practice changes: change a generic drug manufacturer, assign more cell space to a seasonal drug, or modify the drug layout. This chapter provides information for managing cells and drug layout.

This chapter includes the following topics:

Inventory Control Recommendations

The ScriptPro Robotic Prescription Dispensing System houses the tablets and capsules most commonly dispensed in the pharmacy. The system offers tools to manage inventory and streamline the pharmacy practice without requiring an increase in drug inventory.

Cell Capacity and Low Quantity/Refill Management

The maximum number of drug units that fit into a cell varies depending on the shape and size of the tablet or capsule. To allow for greater capacity of a given drug in the system, the drug can be loaded into an extended cell, which occupies two slots in the robotics cabinet and provides up to four times the volume of a single cell. There is no minimum quantity required for the cell to function and dispense units properly. However, a cell running extremely low can require additional time to dispense units if the units are not flowing steadily from the cell. A default quantity of 200 has been set as the low quantity threshold, but can be modified by authorized pharmacy personnel to customize the system to pharmacy needs.

When adjusting the threshold, consider these factors:

- What is the frequency of receiving drug orders?
- What is the daily volume for each drug?

When the number of units available for the drug runs below the low quantity threshold, the system indicates the cell needs to be refilled. The ***Inventory Management Robotic System: Cells to Refill*** report also reflects all drug cells in need of refilling. For information on modifying a low quantity warning, see the *Robotics Operator Guide*.

Lot Number and Expiration Date Tracking

During initial assignment and loading of drug cells and subsequent cell refills, the system tracks the lot number and drug expiration date as they were entered. All drug cell information maintained by the system, including drug lot number and expiration date, can be queried in reports or printed directly on the vial label. The system does not dispense units from a cell containing expired drug units. In the event of a lot number recall, the ***Transaction History: Script Processing Details*** report provides the ability to determine which prescriptions were filled for a specified lot number.

Inventory Reporting Features

The system is capable of generating reports to reflect drug usage over a configurable period of time. One such report, the ***Transaction History: Volume Filled (Top N)*** report, ranks all drugs housed in the system by scripts dispensed or units dispensed, depending on the sort criteria selected. This report also includes data for average units dispensed per day, which could be used to determine the optimal on-hand quantity to stock for a specific drug. This report also can maximize system utilization by revealing which drugs are slow-moving and could be replaced with more frequently dispensed drugs.

Drug Layout Plan

Initial Drug Cell Assignments

During installation, ScriptPro personnel help with initial assignment of drugs to dispensing cells. The cell and script filling processes are driven by barcode verification.

When cells are initially filled with drugs from pharmaceutical stock bottles, a cell location label barcode scan is required, followed by a stock bottle scan. When scripts are filled, the system verifies that the proper cell has been accessed by a cell location label barcode scan.

NOTE: Before a new drug can be assigned to a cell, the drug must be defined as system-supported in the SP Central Pharmacy Product Database.

Location of Drugs in the Robotics Cabinet

During initial setup, the cell location is also an indicator of the type of hub style in the cell. During initial setup, cells are arranged using the following information:

Cell Location	Hub Type	Tablet Types
Cells numbered 1-18	Smooth Hub	Small and Medium Tablets
Cells numbered 19-25	Gear Hub	Large Tablets

NOTE: When SP 200/SP 100/SP 50 robots equipped with Robotic Cell Multiplexor (RCM) cells are initially set up, cells numbered 1, 2, and 10-25 have smooth hubs and cells numbered 3-9 have gear hubs.

A shorter travel distance for the robot minimizes the total time to complete the script. To minimize script filling time, assign the most frequently dispensed drugs to the cells near the bottom, right-hand side of the cabinet, or to RCM cells, if available. Cell hubs can be changed if needed to accommodate placing the most frequently dispensed drugs in the proper location(s).

Changing the hub for a cell is a simple procedure. The system tool kit contains additional smooth and gear hubs. For additional information, see the *Hardware Maintenance Guide*.

NOTE: Cells marked with a small red sticker indicate a rotary flowgate is in use. Rotary flowgates are used for large, chalky, oblong pills that might need an extra push through the flowgate.

Multiple and Extended Cells

It can be advantageous to assign frequently dispensed drugs to an extended cell to increase cell capacity. Extended cells occupy two slots in the robotics cabinet and provide approximately four times the capacity of a single cell.

If all extended cells are in use, a drug can be assigned to multiple single cells. The system chooses which cell to use based on cabinet location and drug lot expiration. To automatically fill a script from a second cell when the first cell runs out and the drug lots are different, change **Custom Options** settings. The **Allow lot mixing** check box on the **Prescription Filling, Fill Verify** page allows the system to dispense different lot numbers for a single script.

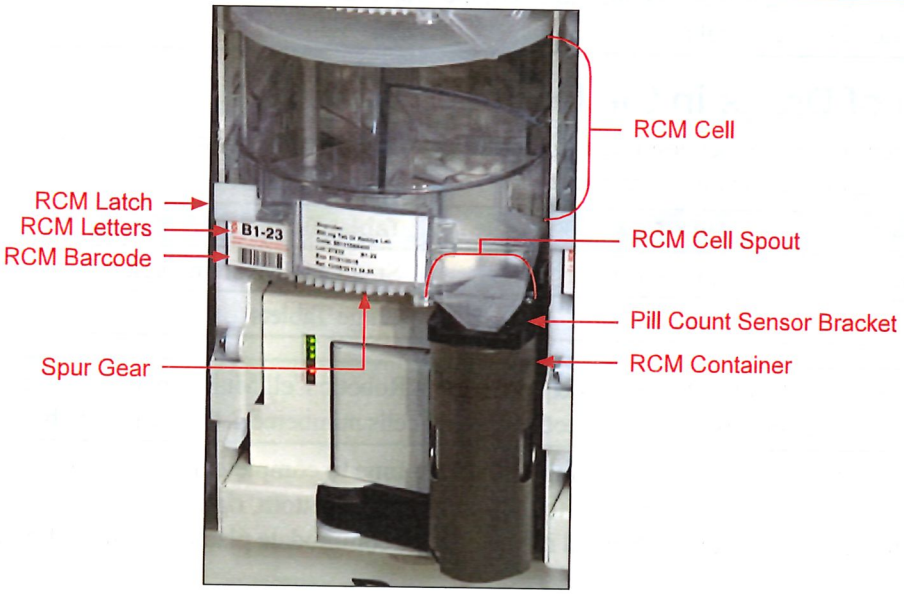
For more information on adding extended cells, see the *Robotics Operator Guide*.

Robotic Cell Multiplexor

SP 200/SP 100/SP 50 robots can be equipped with one or more Robotic Cell Multiplexor (RCM). The RCM is a retrofittable mechanism that boosts the speed of the robot and allows filling of two or more scripts simultaneously.

When a script is entered for a drug in an RCM cell, the RCM counts and holds the script quantity in the RCM container. All scripts from non-RCM cells continue to fill as normal. When the RCM script is at the top of the **Pending** list, the robotic transport arm moves to the container with the previously counted drugs, and empties the units into the vial.

NOTE: The robotic transport arm scans RCM cells when they are removed from the robotics cabinet and when the system powers up, preventing the robotic transport arm from needing to scan the cell for every script fill.



RCM Assembly

The RCM requires an adapted extended cell. These cells have a modified spout, and two holes in the back. An RCM barcode is used on these cells, indicated by red RCM letters on the left-hand side of the barcode. The RCM and cell occupy four or five locations—two locations for an RCM cell and either two locations for a standard RCM engine or three locations for an extended RCM engine.

The RCM has a holding container. The container will telescope smaller or larger depending on the size of the vial, and will hold approximately 42 drams at full capacity for a standard container, and 66 drams at full capacity for an extended container.