

# *PERCEPTION<sup>®</sup> MAT-PAC<sup>™</sup>*

## **Bar Code Processes for Tool Room & Material Control**

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### **VERSION 9**



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## Table of Contents

REMOTE BAR CODE DATA COLLECTION.....	1
<i>Quick Stock Withdraws</i> .....	2
<i>Quick Stock Returns</i> .....	3
<i>Delivery Receiving of Stock Purchases</i> .....	3
<i>Delivery Receiving of Contract Direct Purchases</i> .....	4
<i>Tool Room Withdraw</i> .....	4
<i>Tool Room Return</i> .....	5
VALIDATING IMPORTED BAR CODE TRANSACTIONS.....	5

# Bar Code Processes

Bar code scanners can be used with *PERCEPTION* in basically two different ways:

1. The scanner can be attached directly via a serial port to the PC that is inputting data into *PERCEPTION*. The scanning will then act as if the user is typing in the data. The scanner, when triggered against the bar code, overrides the keyboard and enters the bar code information directly into the *PERCEPTION* data window. Bar code labels can be programmed with tabs characters so that multiple data fields (for example, project number, work center and work order) can be scanned and entered into the data window in one scan operation.
2. The scanner is a remote hand-held device that is programmed to collect “columns” of data for each scan transaction (for example, part number and quantity). The hand-held can transmit transactions via radio-frequency communications to the network server or via plug-in that uploads the transactions to a server file that can be accessed by *PERCEPTION* with an import procedure.

SPAR’s publication, “*Improving Shipyard Production Control Using Bar Codes*” details additional information about the bar code technologies and their benefits to the shipyard and its operations.

## Remote Bar Code Data Collection

Remote bar code data collection devices, such as hand-held units, can be programmed to read bar code and manual entry data. These hand-held devices generate data files that can then be up-loaded into the PC network. *PERCEPTION* has special facilities for importing these files (*Environment/Stores/Imported Transactions*). *PERCEPTION*’s import facility recognizes Comma Separated variable length text files.

The following outlines the transaction record data fields currently supported by the *PERCEPTION* import facility:

1. Transaction Type
2. Employee Clock Number
3. Part ID
4. Location
5. User ID
6. Quantity
7. Date
8. Time
9. Contract Number
10. Project Number
11. SWBS Account Number

12. Purchase Order Number
13. Purchase Order Item Number
14. Packing Slip Number

The comma separated variable length record of each transaction must be provided for processing by the import facility as follows:

A,B,C,D,E,F,G,.....

Where the letters that are separated by commas in the above format are the data fields corresponding to the data items listed above. The characteristics and lengths of the data fields must be as specified for *PERCEPTION*. These characteristics are given in “*Primary PERCEPTION Data Fields.*”

The import facility assumes that all transactions, regardless of type, follow the same format and order of data fields. Data fields that do not apply for any specific transaction type must be left blank separated by commas. For example, “A,B,C,,,E,F,G,....” would indicate that data field “D” is not used for a specific transaction type.

While the order of data within all transactions must be the same, and no data field must be ignored (unless left blank with separating commas), the *PERCEPTION* import facility does provide the user with a mapping process so that the order of data on a transaction record can be changed, as long as this change is reflected in all transaction records. As with other *PERCEPTION* importing facilities, the mapping can be saved by the user.

The following outlines bar code data transactions currently supported by the *PERCEPTION* import facility:

### **Quick Stock Withdraws**

The *PERCEPTION* bar code transaction for quick stock withdraws requires the following information in the order as outlined:

1. Transaction Code (“*SWDRW*”)
2. Employee Clock Number
3. Stock Part ID
4. Part Stores Location
5. User ID
6. Quantity Withdrawn (Unit of Measure assumed as defined with the part on the Parts Catalog)
7. Date of Withdraw
8. Time of Withdraw
9. Contract Number
10. Project Number
11. SWBS Account Number

When importing these transactions, *PERCEPTION* will generate requisition items corresponding for these stock items according to the following business rules:

The requisition number will be set as the current date (format: YYYYMMDD) of the date that the transactions are posted onto the database. This date may be later than the actual date of stock withdraw. If there already exists a requisition number for this date, the system will append the stock item as a requisition item. This requisition item number will be the next higher number in sequence of requisition items already registered for that requisition. If there is not requisition for this date, the system will create a new requisition and add the stock item as requisition item number one.

### **Quick Stock Returns**

The *PERCEPTION* bar code transaction for quick stock returns requires the following information in the order as outlined:

1. Transaction Code (“*SWDRW*”)
2. Employee Clock Number (optional)
3. Stock Part ID
4. Part Stores Location
5. User ID
6. Quantity Returned (Unit of Measure assumed as defined with the part on the purchase order)
7. Date of Return
8. Time of Return
9. Contract Number
10. Project Number
11. SWBS Account Number

Stock returns require that the user enter into the scanner a negative value for the quantity. This will ensure that corresponding costs for the returned stock can be backed out of the project WBS.

When importing these transactions, *PERCEPTION* will generate requisition items that correspond to these stock return transactions in the same manner as for stock withdraws.

### **Delivery Receiving of Stock Purchases**

The *PERCEPTION* bar code transaction for receiving purchased stock material requires the following information in the order as outlined:

1. Transaction Code (“*SRECV*”)
2. Part Stores Location
3. User ID

4. Quantity Received (Unit of Measure assumed as defined with the purchase order)
5. Date of Receiving
6. Time of Receiving
7. Purchase Order Number
8. Purchase Order Item Number
9. Packing Slip Number

When importing these transactions, the system will identify the stock ID from the originating requisition, the basis for the purchase order.

If the purchased units of measure are different from the units of measure of the stock item on the Parts Catalog, the system will convert the purchased quantity using the units of measure conversion factor defined on the PO item.

### **Delivery Receiving of Contract Direct Purchases**

The *PERCEPTION* bar code transaction for receiving purchased contract material requires the following information in the order as outlined:

1. Transaction Code (“*RECV*”)
2. Part Stores Location
3. User ID
4. Quantity Received (Unit of Measure assumed as defined with the part on the Parts Catalog)
5. Date of Receiving
6. Time of Receiving
7. Purchase Order Number
8. Purchase Order Item Number
9. Packing Slip Number

If the purchased units of measure are different from the units of measure of the originating requisition, the system will convert the purchased quantity using the units of measure conversion factor defined on the PO item.

When importing these transactions, the system will determine if the PO item identifies a bulk purchase that spans requirements across multiple WBS. If this is the case, the system will allocate the received quantities according to the standard system procedure of the earliest Need Date.

### **Tool Room Withdraw**

The *PERCEPTION* bar code transaction for tool room withdraws requires the following information in the order as outlined:



1. Transaction Code (“*TWDRW*”)
2. Employee Clock Number
3. Tool Part ID
4. User ID
5. Quantity Withdrawn (Unit of Measure assumed as defined with the tool on the Parts Catalog)
6. Date of Withdraw
7. Time of Withdraw

### **Tool Room Return**

The *PERCEPTION* bar code transaction for tool room withdraws requires the following information in the order as outlined:

1. Transaction Code (“*TRECV*”)
2. Employee Clock Number (optional)
3. Tool Part ID
4. User ID
5. Quantity Returned (Unit of Measure assumed as defined with the tool on the Parts Catalog)
6. Date of Return
7. Time of Return

### **Validating Imported Bar Code Transactions**

When the import process (*Environment/Stores Management/Tool Room Management Center/Imports*) has been completed, the system sorts the transactions by type and stores them accordingly onto the database. Each of these transaction groups must be validated by the user and posted so that the various elements of the database, including project WBS and the Parts Catalog can be updated.