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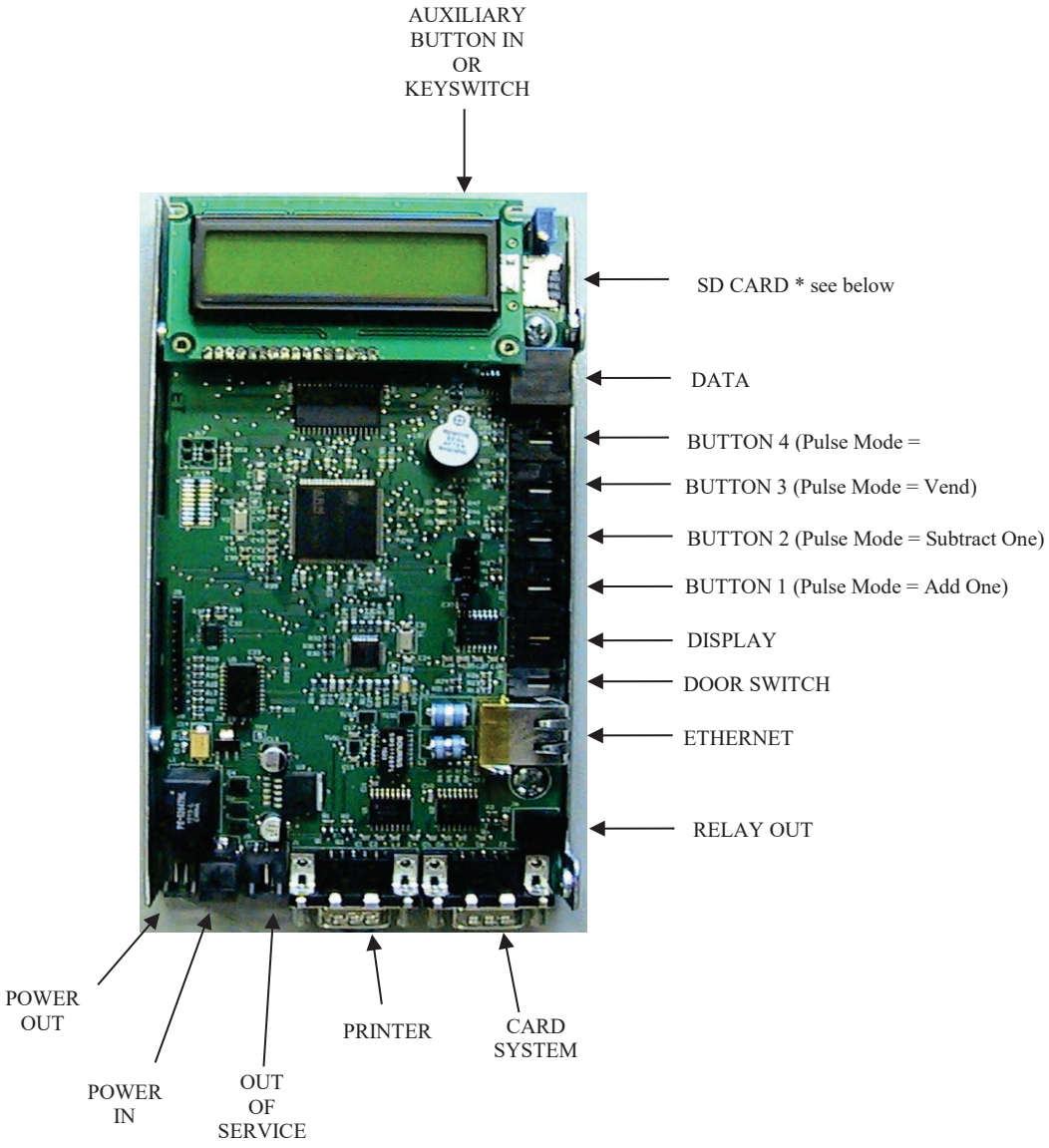
EF+ MODULE

Operating Manual

8M00617 REV. 8

Contents

1.0 EF+ MODULE BASIC INSTRUCTIONS

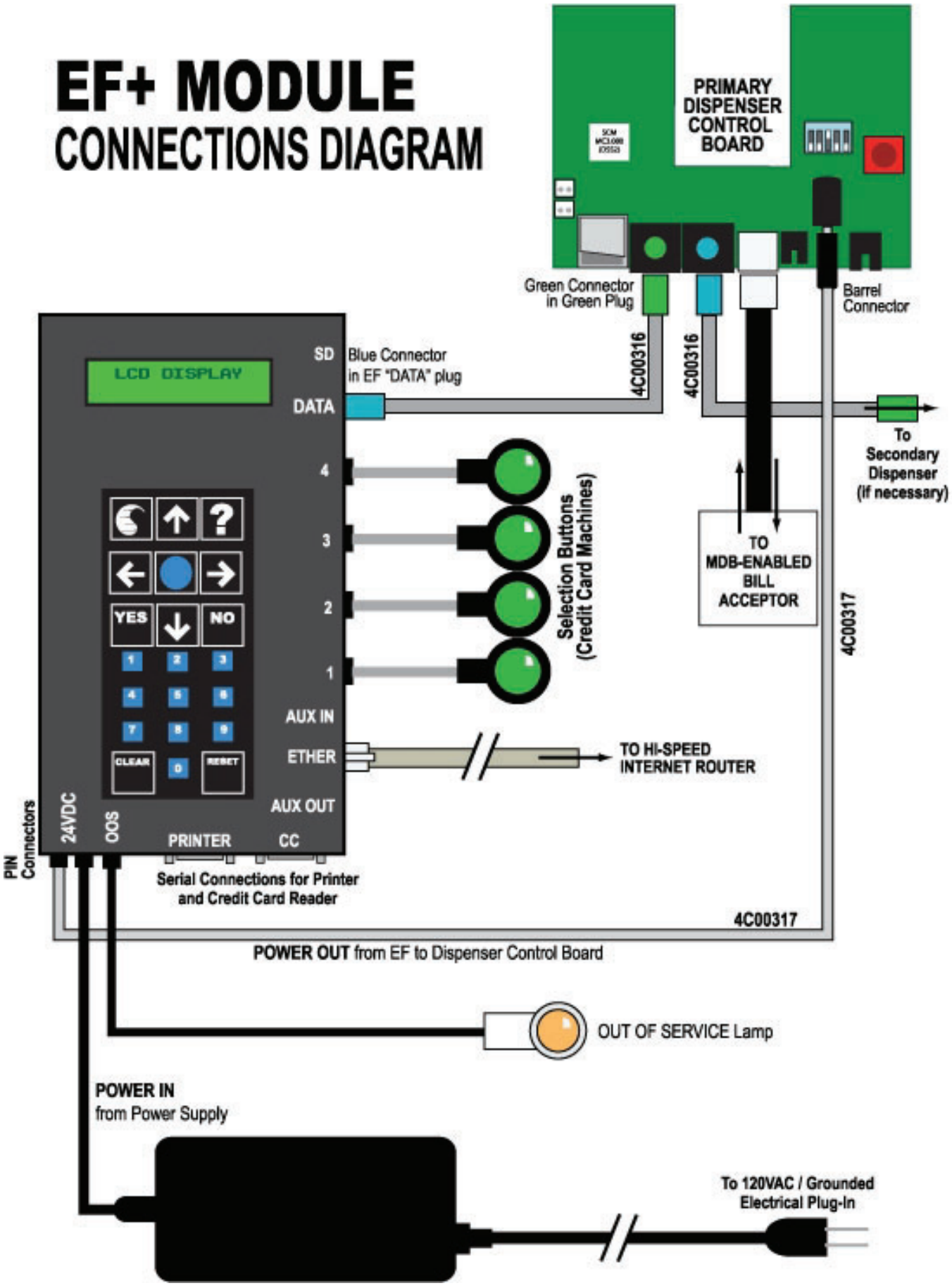


* Note: Used for firmware updates.
SD card is not shipped with EF+.

!!!! CAUTION !!!!

Always disconnect the 24V power supply(s) before adding or removing a module. Failure to do so can result in corrupt data and premature component failure.

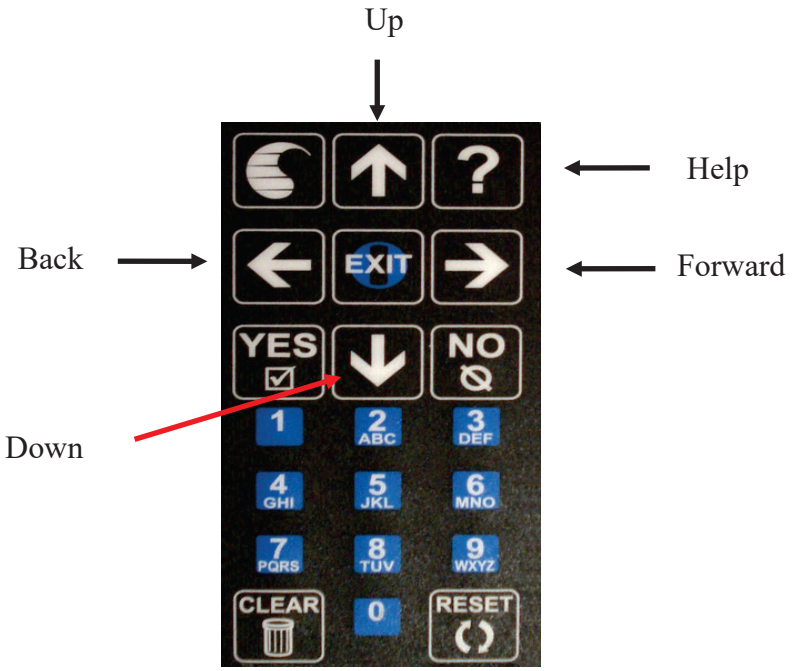
EF+ MODULE
CONNECTIONS DIAGRAM



1.1 Navigating The Available Menus

1. *MAIN MENU ITEMS – Each m*ain menu item relates to either a *Setting* or a *Report* feature.
   a. *Settings* are nothing more than system parameters that can be used to establish the machine behavior. Settings will typically relate to the hardware modules that you have purchased. For example, the "Bills Accepted Settings" menu relates to the bill acceptor and can be used to set the bill denominations to be accepted. As a result, you can change the acceptance and security behaviors of the machine.
   b. *Reports* allow you to view records that are stored in the machine. These records are useful for accounting and troubleshooting. See the "Report And Print Features" (section 1.3) for an explanation of the benefits of each report.

2. *GETTING STARTED* - Always start at the "MAIN MENU" screen. Note – you can return to the Main Menu screen at any time by pressing the EXIT button one or more times. Find the desired Setting or Report by pressing the RIGHT (forward) arrow button. To view the previous main menu, item simply press the LEFT (back) arrow. Once you have found the desired setting or report, you can then go *down* into the *Details List* for this item to view additional details related to it. Note – the main menu headings are in CAPS (all capitalized letters). If the machine has an error the error message will be displayed instead of "MAIN MENU".



3. *DETAIL LISTS* – The UP and DOWN arrow buttons are used to navigate up and down through the list of details for a given *feature group*. You can move down in the list by pressing the DOWN arrow button. You can move up in the list by pressing the UP arrow button.

   When the end of the list is reached, the following message is displayed: "end of list". At this point you can press either the EXIT or DOWN arrow button to get back to the top of the list.

4. *BUILT IN HELP* – Help screens have been included in the EF+ module to assist you while you are at the machine. The manual is the best place for detailed information. The help screen for each feature can be viewed at any time by pressing the "?" button. Some help screens will not

fit on a single display screen so it may be necessary to press the question-mark button (**?**) a second or third time in order to view the next help screen. The help screens include detailed information that pertains to the feature you are viewing or setting.

5. *ENTERING TEXT* – some *Settings*, for example setting the header information for a transaction receipt, require that you enter text. The text entry process was modeled after the process used in older cell phones, whereby the numeric keypad also doubles as a text keypad. For example: the #2 button is also used to enter the A-B-C text characters, the #3 button is for the D-E-F characters and so on. Use the picture shown here to determine which text characters are associated with the EF+ Module numeric keys. The lower case text characters are also available. To view these, you will need to press the associated numeric key multiple times.

6. *DEFINITIONS* – In this manual the words value and type will be used to describe dispensers. Such as a 25¢ coin dispenser. The value is 25¢ and the type is coin. The value can be in nickel increments from 5¢ up to $99.95. The type can be coin, token, bill, card and ticket. The type and value are set at the dispenser.

1.2 Main Menu Descriptions And Menu Navigation

Following is a list of the features along with a brief description of how each one is used to enhance the operation of machine. A detailed explanation for each feature along with an explanation for each setting available is also available with the *built in help* feature in the EF+ Module.
Also included in this document is a diagram (flowchart) showing how to step through the detail list for each Menu. Things to remember when using the EF+ Module:

- Pressing the Help button at any time will show display help text explaining more about the Menu item you are looking at.
- If the "Clear" button is pressed at the beginning (top) of a Main Menu, the details for that list will be set to the factory defaults if it is a *Setting,* or cleared if it is a *Report*. Example: pressing the Clear button at the beginning of the *Audit Report menu* will clear (set to zero) all audit totals.
- If you lose track of where you are at in the menu, you can return to the Main Menu screen at any time by pressing the EXIT button one or more times.
- Pressing the "right arrow" or "left arrow" button will step you through the feature groups as illustrated below.
- The machine is disabled anytime the menu is at a report or setting menu item. If the machine has been left in a report menu, the menu will be returned to the Main Menu two minutes after the last key was pressed. This is to prevent the machine from inadvertently being left out of service. If the machine is left at a setting menu item, it will remain out of service until manually returned to the Main Menu.

1.3 Report and Print Features

REPORTS - The Report features available with the EF+ Module are designed to assist with the accounting (tracking money in and out of the machine) and diagnostics (preventative maintenance and troubleshooting) of the machine. These features are particularly useful in route operations or operations where the machine owner does not collect the revenue or service the machine. A list of the reports available and a brief description of the benefits for each are shown below.

- **Perpetual Audit**- can be viewed in detail format or printed in detail or summary format. This audit CANNOT be cleared and therefore is useful in identifying discrepancies in the Resettable Audit.

- **Resettable Audit**- can be viewed in detail format or printed in detail or summary format. This audit can be cleared therefore it is useful in identifying the amount of revenue that was present since the last time the machine revenue was removed. Ideal for daily or weekly route services.

- **Accept Report** – can be viewed or printed. This report will show the last 50 bills, coins or credit cards accepted and when they were accepted. This is useful in settling disputes with users who think they deposited a larger bill denomination than they actually did. This occurrence has become more common with the introduction of new bill designs that look similar at first glance.

- **Event Report** – can be viewed or printed. This report includes a time stamp for any significant events (errors, transfers…) that have occurred. It is useful in diagnosing the source of defective modules or for identifying modules that need preventative maintenance.

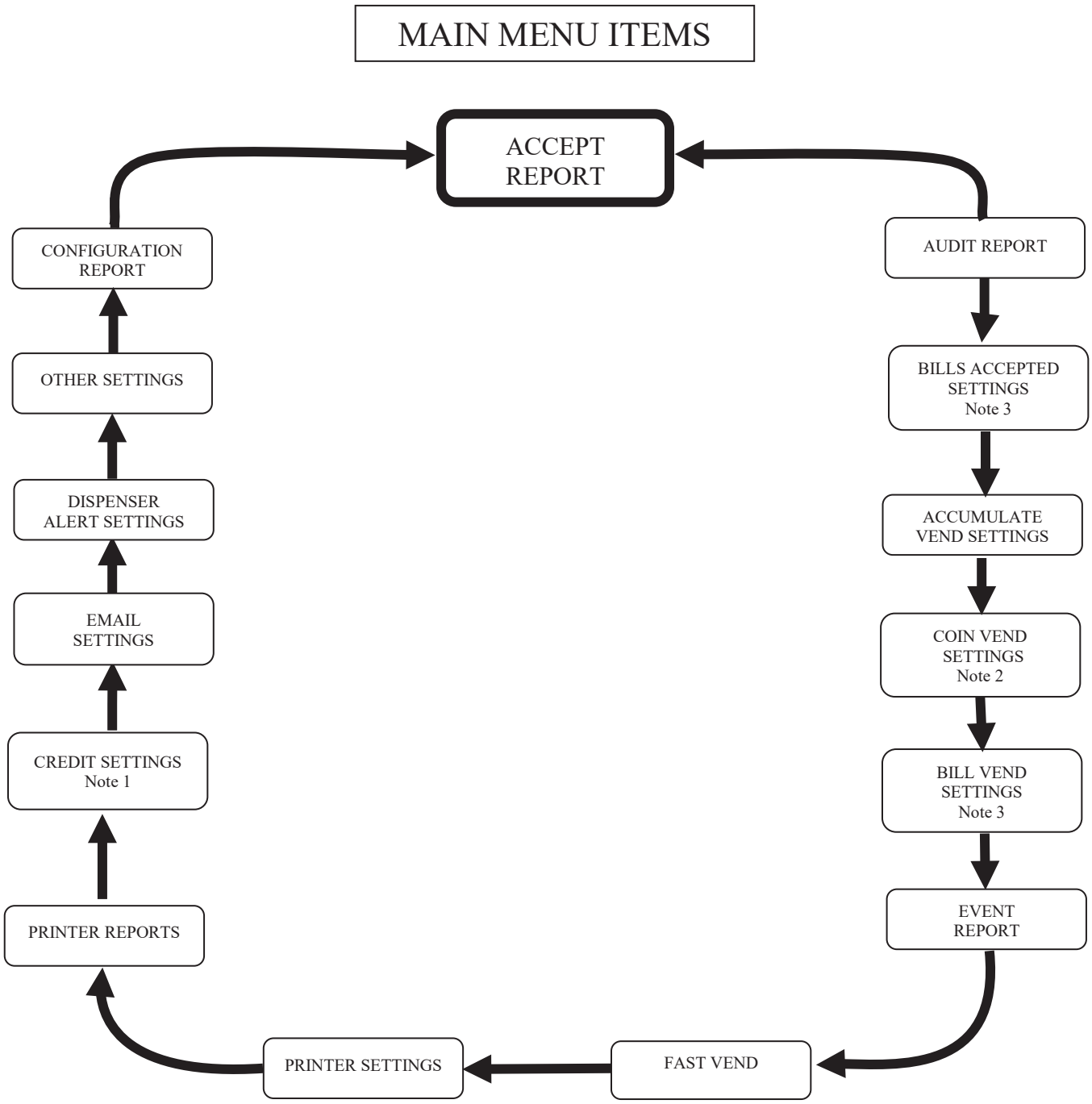
PRINTED REPORTS - Printed copies of the audit and diagnostic reports can be used to track the flow of money through the machine. For example, a printed copy of the audit can be returned with the collected revenue each time the machine is serviced. The printed report will include an itemized total of all money deposited/dispensed, as well as a time/date stamp showing when the report was printed.
Printed reports are also useful in determining when preventative maintenance is needed. For example, a printed copy of the Event Report (error report) can be obtained by the person collecting the revenue and then submitted to a technical person for early failure analysis. This report identifies any significant machine events that can contribute to an error and each *event* is time/date stamped.

PRINTING FEATURES – The printing of reports is made simple and *quick* using the printing features of the EF+ Module. For a complete list of the printing features available, step through the “Printer Settings” menu of the EF+ Module in section 1.15. One example of a handy feature is the *Quick Print* feature. This feature allows you to group a set of reports that can to be printed all at once each time a single button on the keypad is pressed; the Zero (0) button

PRINTER OPTIONS – The *Printer* option kit can be purchased and used with any MC machine model. Some machine models, primarily those with Credit Card acceptance capability, can include a *Printer*. This printer is also capable of printing reports in addition to printing a customer transaction receipt.

1.4 Navigating The Main Menu List

Important Note – some Main Menu items may not be available based on the configuration of your machine. For example, if you do not have a coin acceptor, Coin Vend Settings will not be present. These menu items apply to a basic changer configuration.

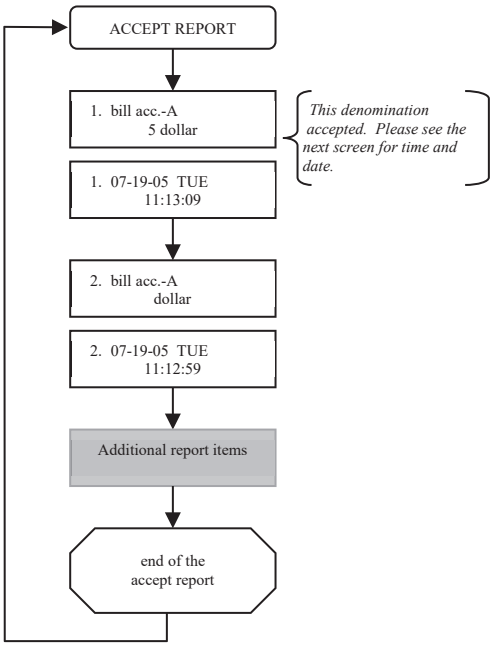


Note 1: If credit card acceptance in machine.
Note 2: If coin acceptor in machine.
Note 3: If bill acceptor in machine.

1.5 Accept Report

Use this menu to view a list of the most recent bills and coins accepted, in the order they were accepted, and with the time and date they were accepted. This list will store up to 50 bill and coin deposits. The most recent deposit will be first in list. If the machine has two bill acceptors (-DA) models) the report will distinguish between BILL ACC –A and BILL ACC –B.

This information can also be printed if an optional printer was purchased with the machine



1.6 Audit Report

Use this menu to view or print a list of all revenues accepted and dispensed. A resettable and a perpetual audit are available. If you select the perpetual audit a "P)" will be displayed at the left side of the display as a reminder.

The resettable and perpetual audits will roll over at 99,999,999 for amounts or counts and $99,999.95 for values or money.

```
/------------------------------\
| DETAIL AUDIT                 |
| location id 0                |
| 11/24/15 TUE 3:20 PM         |
\------------------------------/
last cleared on
11/24/15 TUE 11:15 AM

revenue in=$0.00
coins in = $0.00

5c coins = 0
10c coins = 0
25c coins = 0
$1 coins = 0

Select sales=$0.00
SEL 1 $1.00x0=$0.00
SEL 2 $2.00x0=$0.00
SEL 3 $3.00x0=$0.00
SEL 4 $4.00x0=$0.00

revenue out

UNPAID
---------------------------------


/------------------------------\
| END OF REPORT                |
\------------------------------/
```

If a rollover has occurred in the resettable audit of an amount or money the printed audit will inform you with a message. This message will be removed when the audit is cleared.

Some machines are equipped with option accessories that have an associated audit record. For example: if your machine is equipped with a Select Module, additional audit information showing the number of times each selection was used, will be included.

This information can also be printed if an optional printer was purchased with the machine

1.7 Bills Accepted Settings

Use this menu to set the bill denominations that are to be accepted as well as the validation security level (high or low) applied to each during validation. The acceptance for multiple bill acceptors can be independently controlled here.

1.8 Selectable Vend Settings

This section applies only to a machine equipped with the Select Module.

Use this menu to set the *Value* (price) for each selection, the corresponding *Dispense* amount, and the *timeout* behaviors of the selection feature. Timeout refers to the amount of time the machine will remain idle before automatically finishing the transaction in progress. See appendix B for a Selection work sheet.

The "Select Module" consists of the Selection Buttons on the front of the machine, and the *Value* & *Dispense* amount(s) assigned to each button. The value and dispense assignments are managed through the EF+ Module.

PROGRAMMING THE SELECT MODULE: A firm understanding of the *Payout Programming Methods, Selection Modes, Payment Sequence* is strongly recommended before making any changes to the programming of the Select Module. These are discussed in the following paragraphs. Only attempt these changes while you are at the machine and have the EF+ Module Operating instruction with you. The help screens within the EF+ Module can also be used to provide additional explanation for each programming step.

Your machine was programmed at the factory to match the *Value* and corresponding *Dispense* of the ones you identified when placing the order. These were also used to setup the user placard(s) located on the front of the machine. The placard identifies the *value* (price) and *dispense amounts* to the machine user so they know what they will receive for each Selection. Revised or additional placards can be ordered from the factory or created using readily available word processing or publishing software. Consult the factory for details.

PAYOUT PROGRAMMING METHODS: The *method* refers to the accounting method used at the location. There are two accounting methods available, each having their related payout programming. The available methods are: *Bonus* and *Variable*. It is important to know that either of these methods can be used to achieve the desired payouts for the items purchased from the machine. These two methods differ only in their meaning to the owner and in the way transactions are accounted for or *audited*. Again, either can be used as long as it meets your payout and accounting needs.

The **Bonus** method is typically used in arcades or carwashes where the owner uses a bonus accounting approach – an additional number of items (tokens, tickets, or cards…) are issued at no charge if enough items are purchased at the regular price. If this method is preferred, you will have two settings to make for each Select Button: a *forced dispense* amount or number of tokens equal in value to the *selection price*, and a *bonus dispense* amount or number of free tokens for this selection. Bonus tokens are audited separate since they have no value. The example below shows the *forced* and *bonus* dispense settings for

a $10 selection, a $5 selection and a $1 selection. The user receives the total of forced plus bonus tokens, while the accounting record (machine audit) actually separates them. This allows accounting to determine how many where issued at no charge and how many actually had value. In this example *Bonus* tokens are issued for the higher priced selections.

Example: Tokens have a value of 25¢ (quarter).

Selection Price	Forced Dispense	Bonus Dispense	Total Dispensed
$10	40	3	43
$5	20	1	21
$1	4	0	4

The **Variable** method is typically used in locations where the items (tokens, tickets, cards…) sold are used to gain access to a ride or event. Ex: Carousel rides, go-kart tracks and batting cages. These locations typically use a discount sales accounting approach. The Selection Prices for this environment are usually not equal to an even bill denomination amount, i.e., $1.50 for one item, $2.75 for two, $4 for three, etc. In this situation the value of the item actually changes depending on how many are purchased. The items sold are simply discounted; they are not issued at zero cost as in the *bonus* method.

The programming for this method requires only that you set the *forced dispense* to match the number of items you wish to vend for each Selection. You do not set a bonus dispense. Any overpayment amount will be automatically refunded unless you have turned off the *Make Best Change* (section 1.21) feature. The example below shows the forced dispense settings for the selection price example discussed in the previous paragraph.

Example: Tokens have a value of $1.50.

Selection Price	Forced Dispense
$4	3
$2.75	2
$1.50	1

SELECTION MODES: These refer to the method of payment for the items (tickets, tokens, and cards…). The options are *Package, Credit or Pulse Select*. This is selected in OTHER SETTINGS under Machine Type. After you select the Machine Type a new menu will appear.

- **Package Select** – The SELECTABLE VEND SETTINGS menu will now be available. You can create up to four packages consisting of the *Value* of the package and a dispense amount for each type/value of dispenser. As an example for a $1 package you can program dispensing two 25¢ tokens and two quarters. The total dispensed does not have to add up to the package value. The Package Select mode will allow the user to pay for the package with either cash or credit.
- **Credit Select** – The SELECTABLE VEND SETTINGS menu will now be available. The Credit Select mode will allow the user to pay for up to four selections with credit card only. Cash deposits are not applied toward selection purchases. A cash deposit will result in an automatic dispense and the dispense amounts are programmed in BILL VEND SETTINGS and COIN VEND SETTINGS.
  This mode is useful if you want to charge a different price for credit purchases as opposed to cash purchases, or if you want to allow credit purchases only for certain packages while not offering them for cash purchases.
- **Pulse Select** – The PULSE VEND SETTINGS menu will now be available. More details are below.

PAYMENT SEQUENCE: This refers to when the payment is required; before the product is selected or afterward. The options are Pre-Pay, Post-Pay or Both.

- Pre-Pay means that the user must either "swipe card" or "insert cash" before they make the Selection. This payment sequence is common in snack and soda machines.
- Post-Pay means that the user will be required to make the Selection prior to providing payment.
- Both means the user can go either way. This method will result in the least amount of user confusion since some users are used to paying first then selecting; while others are used to selecting first and then paying.

SELECTION PRICE AND PAYOUT: There are up to four selection prices available, one for each button on the machine. Each has an associated dispense amount. These were identified at the time of order and programmed into the machine at the factory. These were also printed on the placard that the user will see on the front of the machine.

Note: When considering Credit Card selection "value" and "dispense" Packages – you do not want to accept a credit card payment for a $1, or low priced selection, as the associated processing fees may not allow a profit on the transaction.

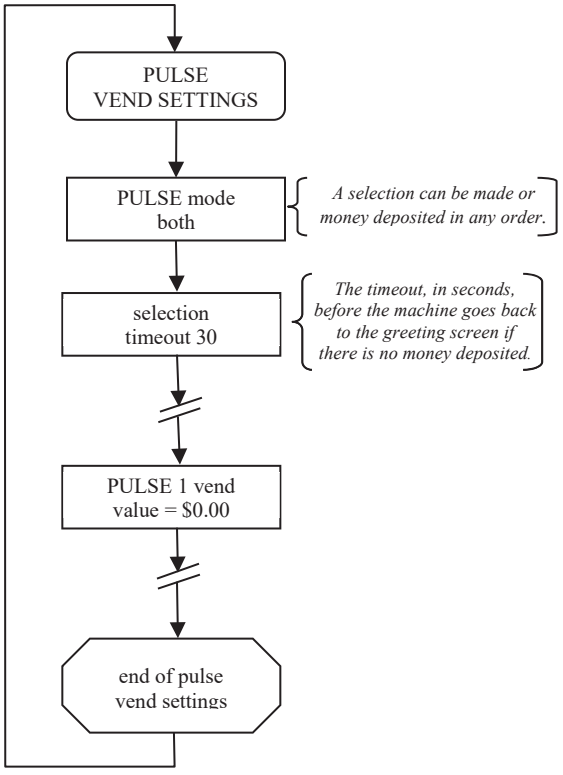
1.9 Pulse Vend Settings

This section applies to a machine equipped with the Select Module and when the machine type is set to "PULSE".

The Pulse Select is centered on using one type/value of a non-cash dispenser.

The Pulse Select mode will allow the user to pay for the vend level with either cash or credit.

Use the Pulse Vend menu to set the *Value* (price) for each incremental vend level up to 20 selections. The pulse amount or vend level is the number of items that will be dispensed for the value that you enter. This allows you to adjust the *Value* of the items dispensed for every possibility. If you do not want to allow the vend of a particular amount, make the *Value* $0.00 and the user will not see it as a selection. The Pulse Select comes with a *More*, *Vend* and *Cancel* buttons. The user uses the *More* button to select the number of items he wants to purchase. The *Vend* button is pressed by the user when he has reached the vend level that he wants. He will then be prompted to insert money or if there is enough money the vend will occur.



Additional settings for payment type and timeout selections for this feature are also available in this menu. Timeout refers to the amount of time the machine will remain idle before automatically canceling the transaction in progress.

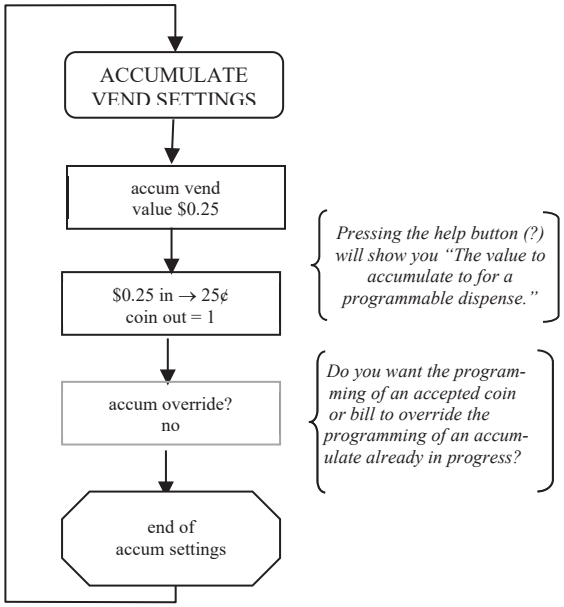
An example would be $1 tokens. You can have multiple $1 token dispensers but adding a 25¢ token dispenser will not work. The machine will use either the $1 token or the 25¢ token dispenser but not both.

1.10 Accumulate Vend Settings

This feature allows one *optional* dispense setting in addition to the dispense settings associated to each bill denomination. This feature relates only to cash payments and therefore is not typically used in a machine equipped with a Credit Card Module.
Use this menu to set an amount (any amount) the machine should accumulate to, before it will vend. The amount to be vended when this level is reached is also set here.

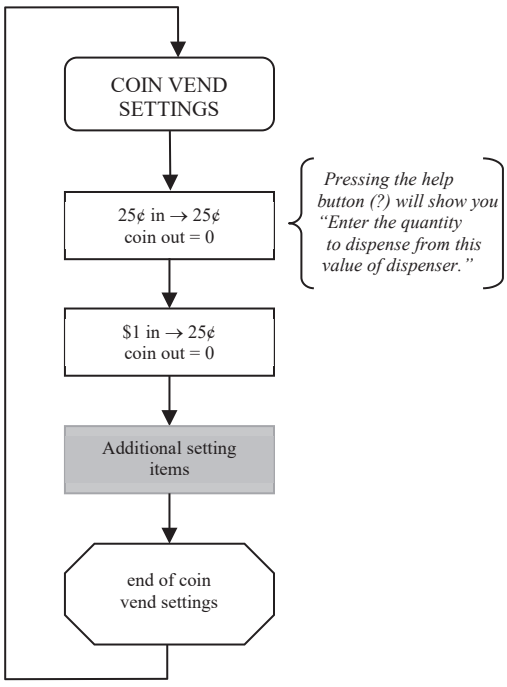
Note – this setting is optional.

A typical use for this setting is for "accumulating" to 25 cents (2 dimes and a nickel) before vending a quarter or token valued at a quarter.



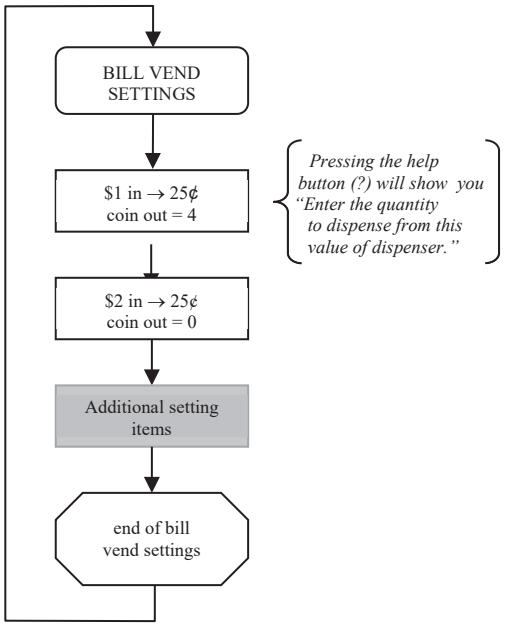
1.11 Coin Vend Settings

Use this menu to set the amount to be vended for each coin accepted through the Coin Acceptor. This is useful if you want to override *Make Best Change*. Examples would be if for a dollar coin you want to dispense five nickels and three quarters or for a quarter to dispense three nickels and one dime.



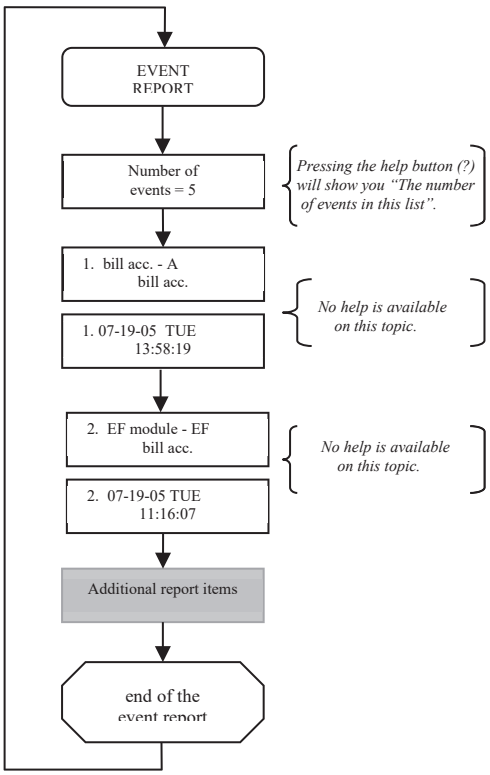
1.12 Bill Vend Settings

Use this menu to set the amount to be vended for each bill accepted by the Bill Acceptor(s). This is useful if you want to override *Make Best Change.*



1.13 Event Report

Use this menu to view or print a historical list of events (errors, resets, and clears) that have occurred in the machine. Events are listed in the order they occurred with most recent listed first. Up to 50 events can be stored in memory along with the time and date stamp for each.
This information can also be printed if an optional printer was purchased with the machine.



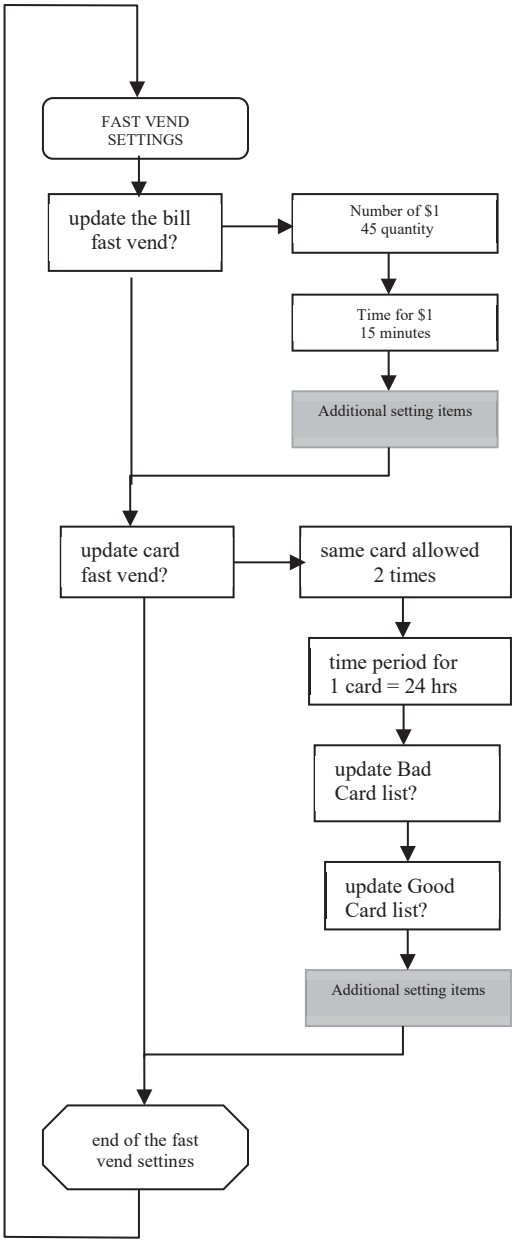
1.14 Card and Bill Fast Vend Settings

The machine is equipped with a feature that can detect unusual and excessive activity, usually indicative of fraudulent activity. This feature is called *Fast Vend Shut Off*. The machine will detect that the frequency of use is unusually high for a pre-determined period of time, and shut itself down for enough time to deter the thief. See the following paragraphs to learn how to set the number of deposits allowed, the time period they are allowed in, and the time the machine will be shut off if this feature is activated.

There are separate settings for bills and cards. To see the Bill Fast Vend Settings you must have a bill acceptor connected. To see the Card Fast Vend Settings you must have a card system selected in CREDIT SETTINGS.

1.14.1 Bill Fast Vend Settings

This is used to restrict machine usage to normal bill transaction amounts in a given time period. The primary benefit of this feature is in the added protection against stringing should the bill acceptor stringing detection devices become defeated. This feature allows you to set the "normal" amount of bills of each type that are accepted in a given time period. If this usage pattern is exceeded the machine will shut down and stay off-line until the reset button is pressed or until the Error Time Out lapses. See OTHER SETTINGS for a description of this feature and how to set it.



Default Fast Vend Settings

USA		
Value	Quantity	Time
$1	45	15
$2	45	15
$5	20	15
$10	10	15
$20	5	15
$50	2	15
$100	2	15

Canada		
Value	Quantity	Time
$5	20	15
$10	10	15
$20	5	15
$50	2	15
$100	2	15

Mexico		
Value	Quantity	Time
$20	20	15
$50	10	15
$100	5	15
$200	2	15
$500	2	15

1.14.2 Card Fast Vend Settings

To effectively manage fraud attempts common to credit card theft, you are provided with four lists. The first list is the *Rejected Card List*. You will enter the frequency of use and time period parameters necessary for the machine to determine when a card has been used an unusual number of times in a given time period. Once a card is used more times than allowed, it will automatically be added to the *Rejected Card List* along with a time/date stamp of when the card use was attempted. This list can store up to 100 card numbers on a temporary basis. Card numbers present in this list will not be approved until they are removed from the list or the card number is added to the *Good Card List.*

The *Good Card List* is a list of cards that you want to accept regardless of the number of times they are swiped. To add a card to the *Good Card List* you will manually enter the last four digits of the card number along with the card type. This list can store up to 50 card numbers on a permanent basis.

You can also add known fraudulent card numbers to the *Bad Card List.* This list contains the last four digits of card numbers along with the card type that you want to decline no matter how infrequent they may be used. This list can store up to 50 card numbers on a permanent basis.

It is important to note that you should manually transfer card numbers from the *Rejected Card List* to the *Bad Card List* as soon as you have confirmed them to be fraudulent cards. Again, the *Rejected Card List* is temporary. You should manually transfer these card numbers into the *Bad Card List* if you believe them to be fraudulent. If the *Rejected Card List* becomes full (first 100 bad cards) the new card numbers will begin to overwrite the older card numbers.

The final list is the *Accepted Card List.* This is a simple list of the cards accepted. You will see the last four digits of the card number along with the card type and a time/date stamp of when the card was used. This list can store up to 100 card numbers on a temporary basis.

You can clear or print any of these card lists. We recommend that you print the list before clearing it so you have a paper record of cards that were once determine to be Good, Bad, Rejected or Accepted.

1.15 Printer Settings

Use this menu to configure the printer connected to the machine, format the receipt header and footer text. There are portable audit printers and receipt and audit printers available.

Printer Used – Select the model of the printer that you have connected to your machine.

Print a receipt – You can choose one of the following settings.
1. *always* – Print a receipt after all transactions.
2. *never* – Do not print a receipt after transactions.
3. *prompt* – The machine will ask if a customer would like a printed receipt.

Receipt Type – This decides the type of transaction that you want to print a receipt for. Normally you would select credit only. You can select to print a receipt for cash only or both.
1. *credit only*
2. *cash only*
3. *cash & credit*

Formatting Transaction Receipts – You can customize the header and footer on your receipt. The header area is typically used to identify your business location. The footer is typically used for printing a "Thank You" to the patron. See the directions at the beginning of this document for a reminder regarding the process for "Entering Text". See appendix A for a worksheet.

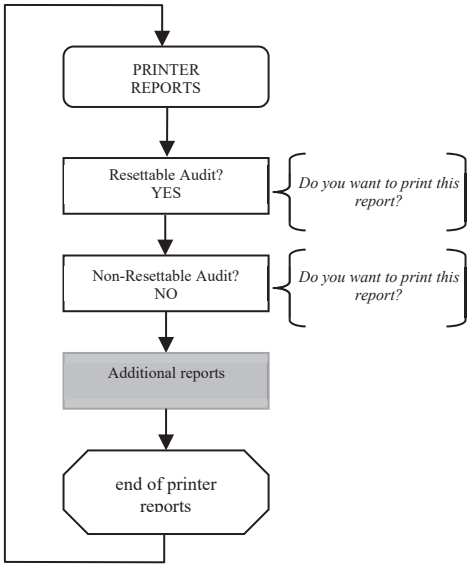
Quick Print Settings – This feature allows you to group multiple reports so they can be printed all at the same time whenever certain events such as the zero (0) button on the keypad is pressed or when the door of the machine being opened (optional Door Opened switch kit required). This saves time as each report does not have to be printed separately and only one event triggers the printing process.
This feature will also ask you if you want to clear the Quick Print reports after printing.

If you do not have an optional printer in your machine, you can send a report using the "Quick Email Reports".

1.16 Printer Reports

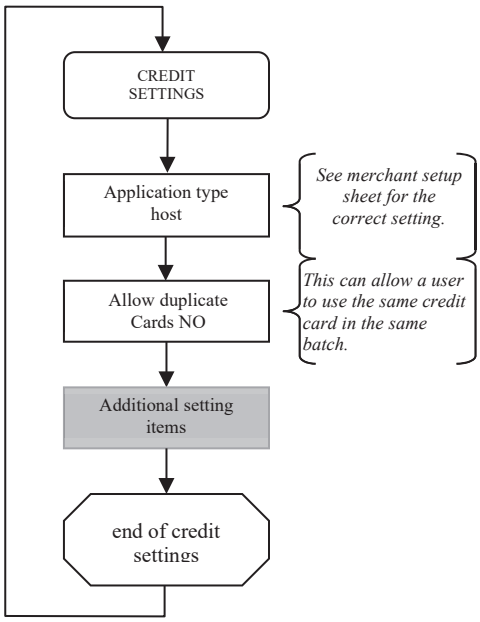
Use this menu to print individual reports. To print a report simply press YES when prompted.
After each report has successfully printed you will be asked if you would like to clear the corresponding report.

View the list of available reports by stepping through this menu.



1.17 Credit Settings

Use this menu to configure the Credit Card reader and modem (black box). It is important to be familiar with your "Merchant Setup" prior to altering any of these settings. The Merchant Setup information can be found on the forms that were filled out at the time of the machine purchase.



1.17.1 Card System

If you have selected the Datacap you should configure the Credit Card reader and modem (black box). It is important to be familiar with your "Merchant Setup" prior to altering any of these settings. The Merchant Setup information can be found on the forms that were filled out at the time of the machine purchase.

1.17.2 Application type

Host is the only choice.

1.17.3 Allow duplicate cards?

If you want to allow the user to use the same credit card in the same batch press YES. If you do not want the user to use the same credit card until the batch is processed press NO.

1.17.4 Update Network Settings?

Please see Restoring Your Merchant Profile (section 4.3) in the Credit Card for more information.

1.17.5 View error message

You can view the last error message from the card processor by pressing YES.

1.17.6 Credit Card Tax

If you are required to collect tax on credit card purchases, then enter the percentage here.

1.17.7 Card Swipe Fee

Enter the cost of swiping a credit card.

1.17.8 Card Trans Fee

Enter the percentage for the card transaction fee.

1.17.9 Demo Mode Enable

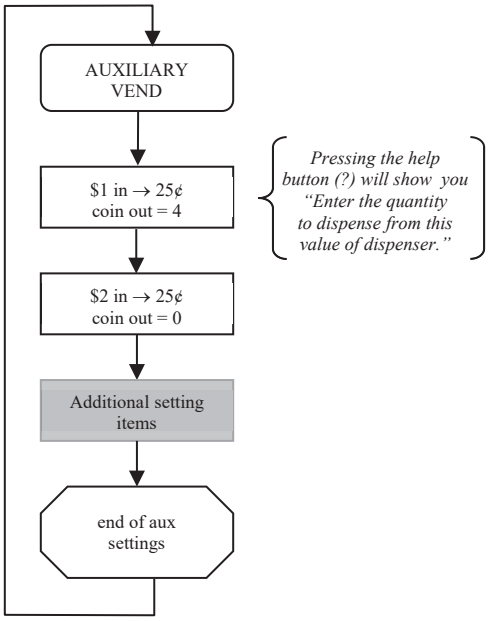
Entering YES will allow credit cards to be used without authorizing the card. The demo mode will be active until reset, power cycle, a NO is entered at *demo mode enable* or five minutes has elapsed.

DEMO MODE WARNING

Do not leave the machine in this mode during normal operation. Anytime the machine is in the DEMO mode, it will payout for virtually any card with a magnetic strip. No credit will be deducted from the cardholder's account. This mode will allow the machine to issue tokens for free.

1.18 Auxillary Vend Settings

Available for special order only.
Use this menu to set the amount to be vended for the Auxiliary input. This is typically a single pulse input. Each time the input is sensed, a vend will occur. The number of items (coins, tokens, tickets…) dispensed for this input is also set here.



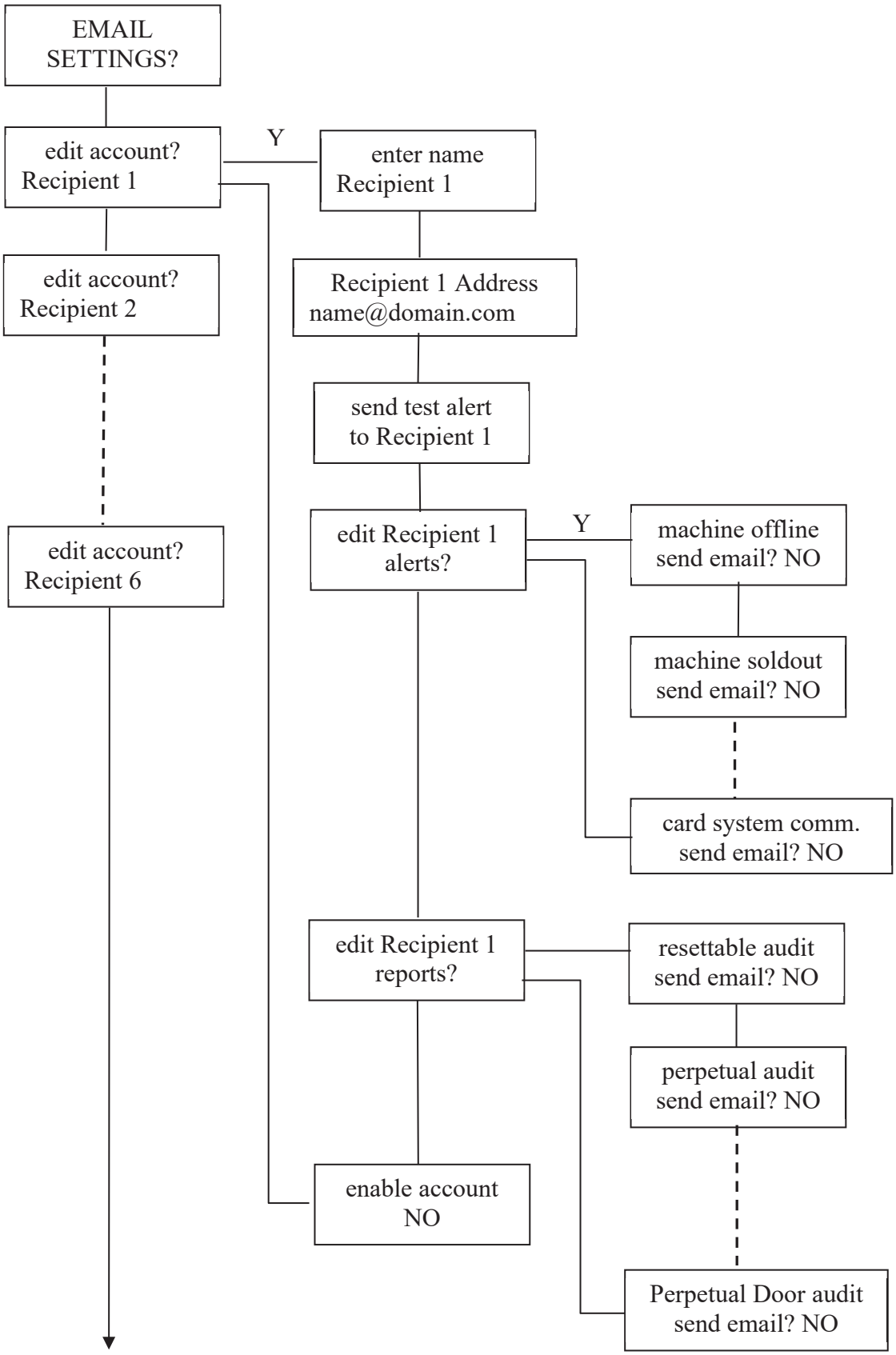
1.19 Email Settings

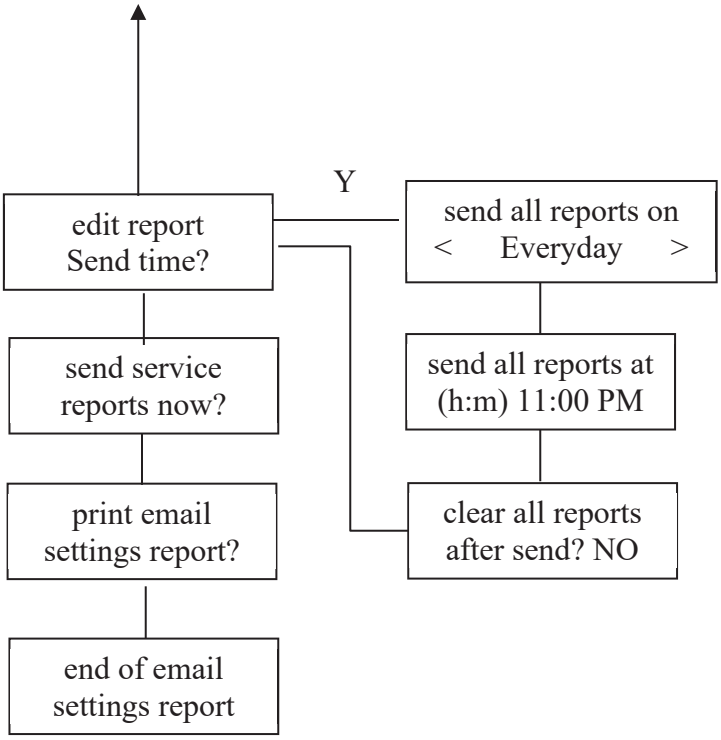
EMAIL SETTINGS can be found near OTHER SETTINGS. You can enter up to six email recipients to receive reports and alerts. All reports are sent at the same time. You can receive alerts and reports on your smart phone. The reports will be more useful and readable if received on a computer. It is important that the EF+ Module is connected to a router so that it can acquire an IP address. The IP address can be viewed in the CONFIGURATION REPORT.

The email settings can be protected from edit and/or viewing by using a PIN. PINs are described and set in OTHER SETTINGS.

Also located under OTHER SETTINGS is the setting for LOCATION ID. This numeric identifier will appear at the top of all email/text reports and alerts. It is very useful to establish a unique ID number for each machine that will be sending reports and alerts.

Select the account you wish to edit. They can be in any order. Reports and alerts are sent out starting with Recipient 1 and ends with Recipient 6.


EMAIL SETTINGS?
edit account? Recipient 1
Y
enter name Recipient 1
edit account? Recipient 2
Recipient 1 Address name@domain.com
send test alert to Recipient 1
edit account? Recipient 6
edit Recipient 1 alerts?
Y
machine offline send email? NO
machine soldout send email? NO
card system comm. send email? NO
edit Recipient 1 reports?
resettable audit send email? NO
perpetual audit send email? NO
enable account NO
Perpetual Door audit send email? NO



1.19.1 Recipient

Name - You can change the name from the generic “Recipient X” to a more recognizable name. This is only for your reference and it is not necessary for sending an email.

Address - Enter the email address to receive the reports and alerts. If you want to send reports or alerts to your smart phone as a text message, please see the Free Email to SMS Gateways (section 1.19.7). The ‘@’ can be entered by pressing the zero key multiple times.

Test Alert – By pressing the YES button you will send a test alert to the email address you entered in the previous step. Please watch the emailing process to ensure that the email was sent correctly. As long as the address resembles name@domain.extension and you have a good connection the email will be successful so check your spelling.

1.19.2 Alerts

All alerts default to NO. If you wish to receive an alert press the YES button. You will receive the alert when the condition is activated and another alert when the condition is deactivated, if the deactivated is possible. As an example, you get a Reset Pressed alert but you cannot get a Reset Not Pressed alert. Same with Power Returned. Alerts are small enough that they can be sent to an email account or a text account.

Machine offline – Offline is sent if the EF+ Module has an error that prevents it from operating. Accessing the Main Menu will put the machine offline. Online is sent when the error causing the offline goes away.

Machine Sold Out – Machine Sold Out Active is sent if when the machine is sold out.

Dispenser Sold Out – Sent for each dispenser that goes sold out. This will include the location of the dispenser. Bill recyclers are not included in this feature. The bill recycler can easily go in and out of sold out and the alerts are useless.

Machine Error – Machine Error Active is sent when the machine is in error.

Dispenser Error – Sent for each dispenser that has an error. This will include the location of the dispenser. This is not used with bill recyclers. There are too many false errors when the recycler dispenses and then fills with the next customer.

Bill Acceptor Error – Sent for each bill acceptor. This will include the location of the dispenser that the bill acceptor is connected to. A bill acceptor error includes Jam and Bill Box Removed.

Door Status – Sent when the door switch is opened and when it is closed. If the door is opened within 5 minutes of closing it is seen as the same door open. A door switch kit can be connected at J10.

Reset Pressed – Sent if the reset button on the EF+ Module is pressed.

Power Returned – Sent when power returns to the EF+ Module.

Printer Error – Sent when the printer runs out of paper.

Fast Vend – This will send an alert if the Bill Fast Vend levels are exceeded. A Bill Fast Vend error will take the EF+ Module Out Of Service and will require a reset to remove the error. The Bill Fast Vend levels can be changed in “CARD AND BILL FAST VEND SETTINGS”.

Stacker Full Alert – Sent if a stacker almost full alert occurs. These are set in the MACHINE ALERT SETTINGS. Bill recyclers are not included in this feature.

Dispenser Alert – Sent if a dispenser alert occurs. The dispenser alert fill and alert levels are set in the MACHINE ALERT SETTINGS.

Card System Communication - "card system communication bad” is sent if communication is lost to the card system. "card system communication good” is sent when communication returns.

1.19.3 Reports

The sending of reports default to NO. If you wish to receive a report press the YES button (number 9). The reports being sent are the same as the reports viewed and printed at the EF+ Module. It is recommended that reports are sent to an email account and not a text account because the report will overflow the character limitations of a text account.

Resettable Summary Audit – This is the same summary audit that can be viewed or printed at the EF+ Module. If the report is cleared at the EF+ Module, then the report that you receive will be cleared.

Perpetual Summary Audit – This is the same summary audit that can be viewed or printed at the EF+ Module. This can only be cleared at the factory. Eventually the counts or amounts will rollover at 99,999,999 and the dollar values will roll over at $999,999.95. You will have to do the math accordingly.

Resettable Detailed Audit – This is the same detailed audit that can be viewed or printed at the EF+ Module. If the report is cleared at the EF+ Module, then the report that you receive will be cleared.

Perpetual Detailed Audit – This is the same detailed audit that can be viewed or printed at the EF+ Module. This can only be cleared at the factory. Eventually the counts or amounts will rollover at 99,999,999 and the dollar values will roll over at $999,999.95. You will have to do the math accordingly.

Door Audit, resettable – This is a snapshot of the resettable audit and is sent only when the door is opened. If the report is cleared at the EF+ Module, then the report that you receive will be cleared. This is not sent with the other reports.

Door Audit, perpetual – This is a snapshot of the perpetual audit and is sent only when the door is opened. This is not sent with the other reports.

Enable Account-Please enable the account to receive any of the reports and alerts that you have set. If not enabled reports and alerts will not be sent to this account. The account can be disabled when they are on vacation. Disabling the account will not change any of the settings in the account.

1.19.4 Report Send Time

It is necessary that the EF+ Module has power and a good network connection at the time the reports are to be sent. If the EF+ Module does not have power during the Report Send Time you will not receive your reports. It is also necessary that the EF+ time is set correctly if you are to receive your reports when you expect them. Please see “update the time?” in OTHER SETTINGS to set the correct time.

Day – Select the day of the week to send the reports. If “None” is selected no reports will be sent. This can be useful if you only want to send reports using the Quick Email Report described below. “Everyday” is the selection to choose if you want to receive reports seven days a week.

Time – Enter the time of the day that you want to send the reports. It is recommended that the reports go out after closing. The time is a 12-hour clock. Pressing any numeric button while the cursor is under the A in AM or the P in PM will cause it to toggle.

Clear All Reports – After the reports are sent the reports that were sent and that can be cleared will be cleared at the EF+ Module. This will also affect anybody viewing or printing the reports at the EF+ Module.

1.19.5 Send Service Reports

This is a built in feature that will email the needed reports to the service department so they can help you with your problem. The problem could be something other than an email problem. Please contact the service department about your problem. They will not contact you upon receipt of the email. It also helps to have a location ID entered in OTHER SETTINGS so the reports can be identified.

1.19.6 Update Network Settings

The default setting is set to "use DHCP?" YES. This means the EF+ will acquire the Ethernet settings from the router automatically. This is the preferred method.

FOR NETWORK SPECIALIST ONLY.
Setting "use DHCP?" to NO will allow you to set the manual settings below. This method is not supported by the Standard Change Makers technical support department.

EF+ IP address - Enter the numerical address the EF+ is supposed to use when connecting to the Ethernet.

EF+ Subnet mask - This results in the logical division of an IP address into two fields. The network number and host identifier.

EF+ Router address - The numerical address of the internet access device.

EF+ Primary DNS address - The numerical address of the DNS server that allows the name of a remote machine to be resolved automatically.

EF+ Secondary DNS address - The numerical address of another DNS server that allows the name of a remote machine to be resolved automatically. This is not always needed.

1.19.7 Quick Email Reports

Similar to the Quick Print Settings this allows the owner to force sending the reports selected in EMAIL SETTINGS to the recipients by pressing the one (1) button at the Main Menu. After sending is complete you will be asked if you want to clear the reports.

1.19.8 Troubleshooting email

- If there is an EF+ Module IP address in the Configuration Report of 169.254.xxx.xxx email will not work. The EF+ is set to automatically obtain an IP address and if you receive one of these addresses, the EF+ cannot find a DHCP server within the network subnet.
- You will receive a "No server Ack" if there is not an ethernet connection.
- Check the Ethernet cable and connections to make sure they are crimped properly.

1.20 Machine Alert Settings

Pressing the number '2' at the Main Menu will take you directly to the Machine Alert Settings. If you have a PIN entered, you will have to enter the PIN to gain access. If you want an email alert for the stacker full alerts or dispenser alerts this requires that you set up stacker full alerts and/or dispenser alerts in EMAIL SETTINGS.

1.20.1 Bill Acceptor Stacker Full Alert

The settings allow you to display the number of bills accepted for each stacker. The settings are for each individual acceptor in the machine. This can be useful if you want an advanced notice before a bill acceptor stacker goes full.

- **Stacker Full Alert –** Enter the number of bills to be accepted before an alert will be sent. A non-zero entry will cause the count to be displayed on the internal display.
- **Stacker Full Count –** The number of bills accepted since the last clear. Pressing YES or CLEAR will clear this count. This should be done every time you empty the stacker.

1.20.2 Dispenser Sold Out Alert

These settings allow you to display a countdown of the number of items left and/or send an email alert if the number of items left is less than the alert level. The settings are for each individual dispenser in the machine. This can be useful if you want an advanced notice before a dispenser goes sold out. These settings are stored in the dispenser, not in the EF+. If you change out a dispenser, please check these settings.

- **Dispenser Fill Level** – Enter the fill level. This is the number of items that the dispenser holds after you fill it. If the total number of quarters in the dispenser is 2000, Dispenser Fill Level = 2000. If this is not zero, the dispenser count will be displayed on the internal display.
- **Dispenser Alert Level** – Enter the alert level. This is the number of items still in the dispenser at which you want an email sent warning you that the dispenser will soon go sold out. Dispenser Alert Level = 500.
- **Reset Dispenser Count** – This is a YES/NO question. YES, will reset the count back to the original fill level when you exit. This should be done every time you top the dispenser off to the fill level.

1.20.3 Display Dispense Amounts

Entering YES will display the live dispenser counts and bill acceptor stacker counts on the external EF+ display when the key switch is used.

As an example: you fill your 25¢ coin dispenser A with 2000 ($500) coins. That is the total number of coins in the dispenser. The *Dispenser Fill Level* should be 2000. You set the *Dispenser Alert Level* to 500. After the dispenser has dispensed 1500 coins the machine will email a dispenser alert (if you have setup emailing a dispenser alert in EMAIL SETTINGS). This can be done because the dispenser is counting the coins that are being dispensed and it knows when it reaches the alert level. The more accurate your *Dispenser Fill Level* is the more accurate the dispenser alert will be. When you top off the dispenser to 2000 coins you would *Clear Dispenser Count* (YES) to the *Dispenser Fill Level* (2000).

1.21 MiniMech Bill Dispenser Settings

The Glory MiniMech bill dispenser does not have a sold out circuit.

The DISPENSER ALERT SETTINGS are very important in calculating when the bill dispenser will be sold out. Only the Fill Level and resetting the Dispenser Count in DISPENSER ALERT

SETTINGS are used in calculating sold out. The Alert Level setting is not used and it is only used to send an email alert. The Fill Level and Alert Level are entered with the EF+ but stored in the dispenser.

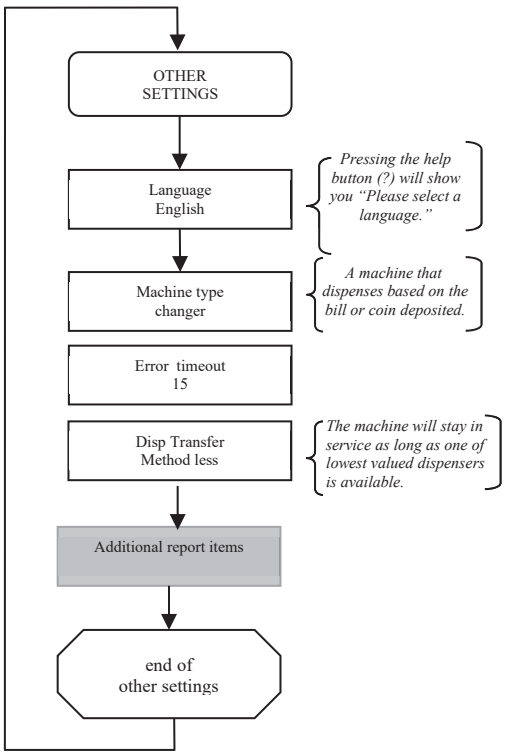
The bill dispenser will be calculated to be sold out when the Fill Level - Dispense Count is less than or equal to the Bin Low count value. The Bin Low count value is defaulted to 30 notes for the Mini-Mech. If you need to change the Bin Low count value, please see the Modular Machine Series manual (8M00420) on how to do this. The Bin Low count value is used to guarantee one last dispense.

If the Fill Level is not greater than the Bin Low count value, the dispenser will show a flash code of 12 and the EF+ will show a PROGRAM error at that location. This is a fatal error for the machine.

Examples		
Fill Level	Dispense Count	Sold Out
1000	950	No
1000	969	No
1000	970	Yes
25	0	error
500	100	No
This assumes a Bin Low count value of 30		

1.22 Other Settings

This feature group is where all miscellaneous settings are located. Below is a list of each one.



- **Auxiliary Button** – Selects the function of the Auxiliary Button Input. The default is key switch. When the key switch is turned the EF+ will display the Dispense Amounts from each dispenser that has a Dispenser Fill setting. Next it will display and print the Transaction Report. Then it will show any active errors. If the Auxiliary Button is selected to be a language button pressing the button will cause the user display to toggle between the 1st and 2nd user language.
- **Owner Language** – used to set the language (English, French, and Spanish) displayed on the internal EF+ Module display.
- **User 1st Language** – The primary language displayed to the user. This will be the default language used upon power up.
- **User 2nd Language** – The secondary language that will be seen if the language button is pressed. Pressing the language button again will have the user display switch back to the 1st language. The machine will automatically switch back to the 1st language after the transaction. The auxiliary button must be set to language to use the 2nd language and a button must me connected.
- **Machine Type** – This is used to identify if this machine includes any Expanded Function hardware modules. The default setting used in most machines is the basic *Change* Machine type. If your machine includes a *Credit Select, Pulse Select or Package Select* module, this setting allows the machine to know it has one of these expanded function modules connected.
- **Error Time Out** – This feature allows the machine to automatically reset from certain error types; at this time the Error Time Out only applies to Fast Vend Shutoff and a Stringing Detected Error, error conditions. For these errors the machine will be automatically reset following the time period in minutes you entered.
- **Hold Escrow** – During a coin accumulation through the coin acceptor (example: 2 dimes + 1 nickel = quarter payout) a customer may deposit three dimes and receive one quarter. If a five-cent hopper is not available in the machine, an escrow (unpaid balance) of 5 cents is present. This feature allows you to clear this escrow amount (enter NO) or simply "Hold" it and add the amount to the next deposit. Enter YES if you want to "Hold" it.
- **Dispenser Transfer** – The term "transfer" refers to the machines ability to "transfer" an owed amount from a dispenser that is in error or is empty, to another dispenser in the machine. The primary purpose of the dispenser transfer feature is to keep the machine on-line even if it has to adjust the payouts.
  There are four different transfer modes available with your machine:
  method always – transfer to any dispenser available
  method none – do not transfer
  method equal – only transfer between dispensers of the same type and value
  method less – transfer to any dispenser of the same or lesser value.

  It is important to note that these transfer features will only transfer dispense amounts between "like type" dispensers. The dispenser types are: *Change* (coin or bill*), Token, Ticket* and *Card.* Example:

An amount owed from a *Change* (type) dispenser cannot be transferred to a *Token* dispenser. It can only be transferred to another Change hopper.

Note: The Transfer Always mode differs from the others in that it has the ability to disable individual bill acceptance. It will transfer unpaid balances to higher valued dispensers if necessary and will disable acceptance of bills that it can no longer make change for. All other transfer modes will shut the entire machine down if it cannot make change for all bills it is capable of accepting.

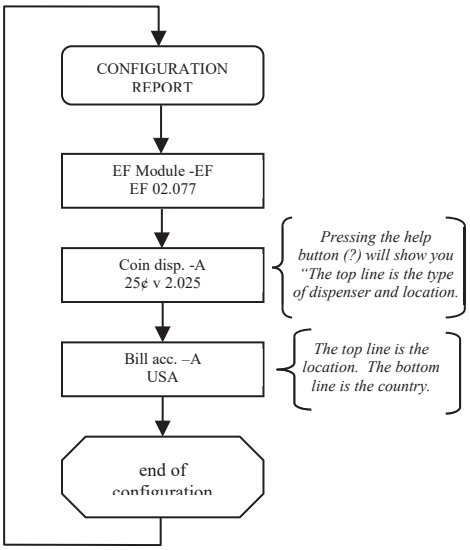
- **Maximum Dispense Rule** – this rule is used in conjunction with the *transfer always* feature to disable accepting certain bill denominations in order to avoid giving out large quantities of small denomination coins or bills. In other words, even if a lower valued dispenser exists, the owner does not wish to accept the bill and end up giving the user to many coins or bills. An example of this would be if the owner does not want to give a user $20 worth of dimes in the event that the dime dispenser is the only one still in service. In this case the max dispense rule for the dime dispenser would be set to a small number. Additional machine signage or the optional "dispenser not available when lit" kit is recommended in order to let the user know why their bill deposit is being rejected.
- **Expanded Programming** – this feature is intended for advance users only and for very unique machine operating requirements. We strongly recommend that this feature not be activated.
- **Make Best Change** – used to reduce amount of programming. This feature is the machine's default capability to complete a transaction by making the "best change" for the bill or coin accepted with the available dispensers that are functioning properly. For example: if you are issuing quarters then the machine can easily figure out how many to give out for each bill; no need to program the dispense for every bill. We strongly recommend this setting remain YES to avoid programming errors that could result in mis-pays.
- **Use the *"value"* "type" dispenser?** – An example would be "Use the 25¢ coin dispenser?" You can choose which value and type of dispenser to use to Make Best Change. The "value" and "type" will be filled in for each dispenser that you have.
- **Display Dispense Items Used**? – If YES then the items that were dispensed will be shown on the user display after the dispense has finished.
- **Update the Time** –
  1. set the current date
  2. set the day of the week
  3. set the time along with AM or PM
  4. Select the time zone. This will be set to Eastern Time Zone at the factory.
  5. Select if you are using Daylight Savings by entering YES or NO. This is the only setting you will have to update when Daylight Savings changes. In the spring set it to YES and in the fall set it to NO.
  6. If you have an internet connection and you want the EF+ Module to check its time enable the internet time check.

- **Update Sleep Settings** – This setting allows you to automatically place the machine in a sleep mode (inhibit) during periods of the day when you do not want it to be used or when it is not supposed to be used. One start time and sleep duration time setting is available for each day of the week.
- **Update PIN Settings** – used to control access to certain feature groups based on a PIN identification number. This feature is used primarily when non-machine owners will have access to the machine. You will be required to enter a Master PIN, which allows you complete access. Next you could enter up to six secondary PINs. With each secondary PIN you can allow read and write, only read or no access at all to each Main Menu feature. Once a PIN has been entered the user will be required to enter a PIN for any access to the menu. A PIN of 0000 (the default) removes that PIN. There must be a Master PIN to have a secondary PIN.

- **Location ID** - This setting is used to set a unique identifier for each machine. This number will show up on all printed reports and emails to help identify the location of the machine. The default is 0.
- **Disable if coin errored?** – If YES the machine will go offline if the coin acceptor has an error. If no the machine will continue to operate if the coin acceptor has an error.
- **Disable if bill errored?** – If YES the machine will go offline if the bill acceptor has an error. If no the machine will continue to operate if the bill acceptor has an error.
- **Disable if card errored?** – If YES and the card system has an error the machine will go offline. If no the machine will continue to operate if the card system has an error.

1.23 Configuration Report

This feature is used for troubleshooting only. It allows you to view the software version for the program in each of the machine modules: dispensers, EF+ Module, etc. The type and value of each dispenser will be found here. A software version will be listed for each module detected. If there is an internet connection the IP address and subnet mask will be displayed here. This feature is useful for troubleshooting.



2.0 ERROR CONDITIONS

ERROR CONDITION OVERVIEW - Error conditions that occur in the machine will be shown on the EF+ Module display. Error conditions can either be "Soft Errors" which are errors that DO NOT result in the machine going out of service, or "Hard Errors" which are errors that DO cause the machine to be placed out of service. All displayed errors (except *Sold Out, Hardware Added, and Hardware Removed*) will be stored in the Error Report for viewing. The hardware added and hardware removed errors mean that a dispenser has been added or removed. Anytime either of these errors occur, be sure to check ALL vend settings for the correct desired payouts.

BUILT IN HELP – Help information has been included in the EF+ Module to reduce the need to have a paper copy of the owner's manual readily available. This information can be viewed by pressing the Help (**?**) button while viewing an error message. If this additional information is not available in the version of software currently installed in your EF+ Module, see the printed version of **"Error Help Text"** shown below in this document.

RESETTING ERROR CONDITIONS - Error conditions can be cleared by first resolving the *cause of the error,* and then pressing the button labeled "RESET" to erase the error message from the display. To determine the *cause of the error* you must first identify the device that is in error. The device in error is shown on the top line of display. If there are multiple devices of the same type, it may be necessary to view the flash code LED on each of the devices to determine which one caused the error. Once you have identified the device in error, view the error condition (shown on second line of the display) and read any *Error Help Text* available for that error. Review the section above regarding "Built In Help" at this time if you have not already done so.

ERROR HELP TEXT - Shown below is a list of the *Error Conditions,* probable causes, and corrective actions. Note that some of the error conditions indicate that you should contact the nearest factory authorized service center.

"SOLDOUT"	Indicates a dispenser does not have enough product to complete a vend. Check device.
"EMPTY"	A dispenser did not dispense in the allowed time and was not detected as sold out. Check device.
"JAMMED"	A dispenser is jammed and unable to dispense. Check device.
"PROGRAM"	Note the device in error and contact the nearest factory service center.
"EEPROM"	EEPROM failing. Note the device in error and contact the nearest factory service center.
"MOTOR"	Device has reported a motor error. Note the device in error and contact the nearest factory service center.
"SENSOR"	If device in error message is a bill acceptor, clear the bill path and clean sensors. If device in error message is a coin dispenser, contact the nearest factory service center.
"ROM"	Note the device in error and contact the nearest factory service center.
"OUTPUT BLOCKED"	If device in error message is a bill dispenser, clear bill dispense path (jammed bill). If device was a coin dispenser, clear the coin dispenser path.
"BILLBOX"	The bill acceptors' billbox has been removed. Replace billbox then press reset button on EF+ module to clear error message.
"BILLBOX FULL"	The bill acceptor billbox is full.
"OVERPAY"	A dispenser has detected an overpay. Check device for debris at the output sensor.
"FAST VEND"	The total number of bills accepted has exceeded preprogrammed limit in the preprogrammed allowable time period. Adjust the Fast Vend Settings if necessary.
"TAMPER"	The bill acceptor has detected a stringing attempt. Clear the bill path and clean sensors.
"COMM"	A communication error has occurred between the EF+ and another device.
"POWER LOST"	Power was lost during a dispense. This is a "soft error" and the machine will stay online. Check all power connections in the machine. If this error condition occurs frequently, have the power source to the machine checked for faulty wiring, poor grounding, etc. and add a power surge filter (same as used for computers) to the machine.
"ILLOGICAL"	Bills accepted and/or vend settings conflict with standard operating patterns. Common examples: No bills programmed to be accepted or revenue to be dispensed exceeds the value of the revenue to be deposited. Check all of the Vend Settings.
"BILL ACC. - EF"	This message is displayed if the EF+ module doesn't see any acceptors (Bill, Coin or Credit) in the system. Check acceptor cables and connections.
"DISPLAY COMM"	This message is displayed if the EF+ module loses communication to the CC/Select module (LCD display module used in most Credit Card / Select Machines.

Note – For additional troubleshooting information for each device type, see the MC owner's manual (8M00420) regarding detail troubleshooting and commonly asked questions.

3.0 PRINTER MODULE

The Printer is used to provide a credit card transaction receipt to the machine user. This printer can also print audits and many other reports.

3.1 Printer Model: Custom TG02H (Receipt and Audit Printer) 2016 and later

3.1.1 Loading Paper In The Printer

Automatic Loading With Power On – Make sure that the printer cover is closed. Insert the paper into the back of the printer. When the printer senses the paper it will pull the paper in. This is a function of the printer and not the EF+. See photo below.

Manual Loading With Power Off – There is no way to manually load paper.

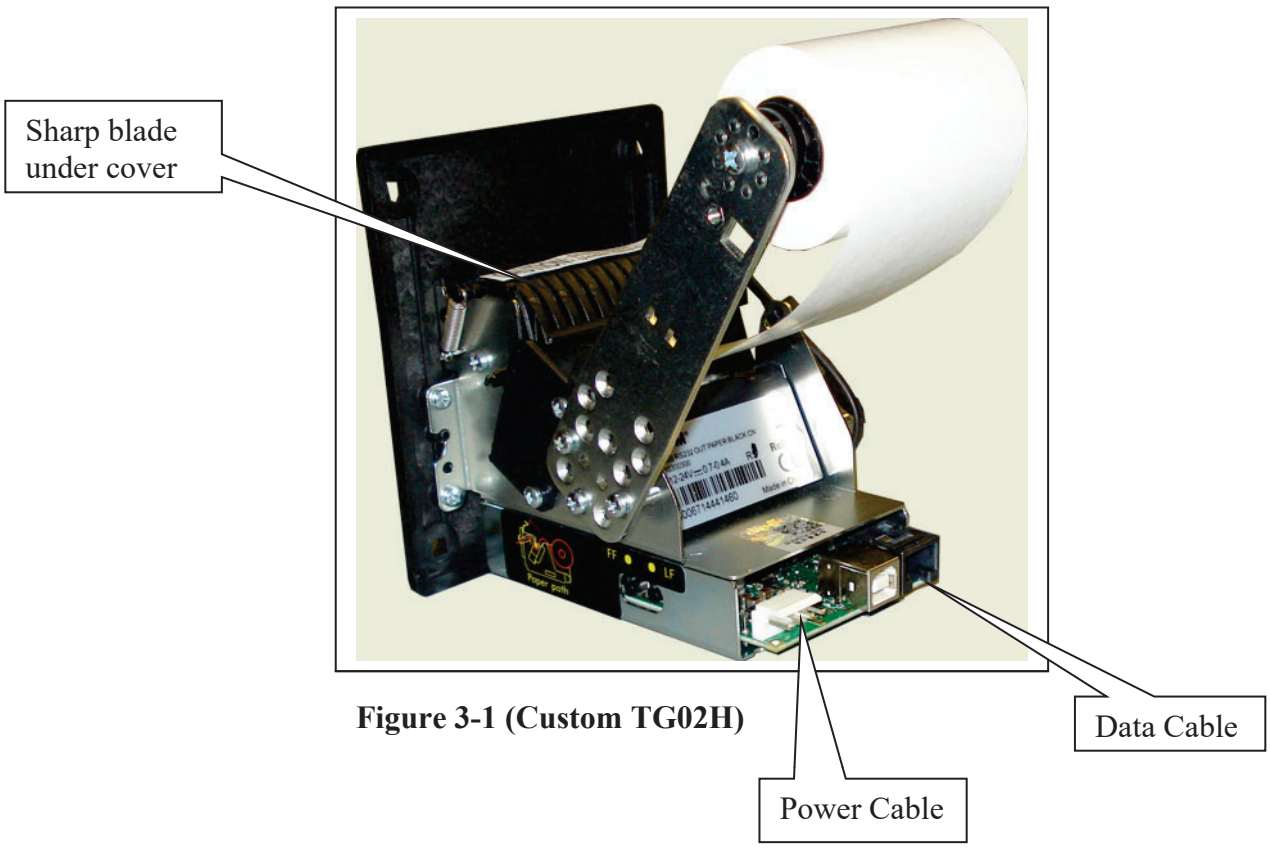


Figure 3-1 (Custom TG02H)

CAUTION: Be careful if you lift the cover up to clear any paper jams. There is a very sharp blade used to cut the paper.

3.1.2 Printer Troubleshooting

If the printer is not in an error mode, but will not print receipts or reports or the print out is the wrong text size, check the PRINTER SETTINGS menu for proper programming.

If paper is being ejected but not printed you should check to see if the paper is loaded upside down.

3.1.3 Printer Fault Conditions

There are no indicators on the printer for a fault condition. When the printer is low on paper the green led to the right of the connectors will blink. When the paper is full it will be on constantly.

Paper Specification
Thermal roll with the heat-sensitive side on the outside of the roll. Paper Width: 57mm +- .5mm (2 ¼ inch) Paper Thickness: 63µm to 65µm External Roll Diameter: 90mm (3 ½ inch) Paper Weight: 55 g/m^2 to 60 g/m^2

3.2 Printer Model: Hengstler X-56 (Receipt and Audit Printer) before 2016

3.2.1 Loading Paper In The Printer

Automatic Loading With Power On – Pull the printer plunger out and load paper in. When the printer senses the paper it will pull the paper in and print the hardware settings of the printer. This is a function of the printer and not the EF+ Module. If you do not see anything printed you have the paper inserted upside down. See photos below.

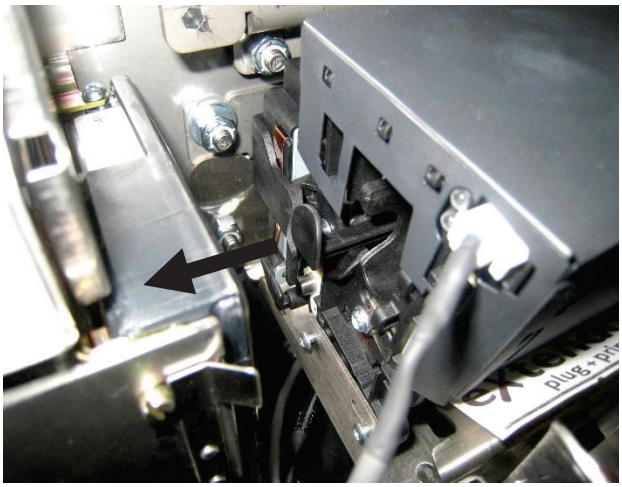


Figure 3-2

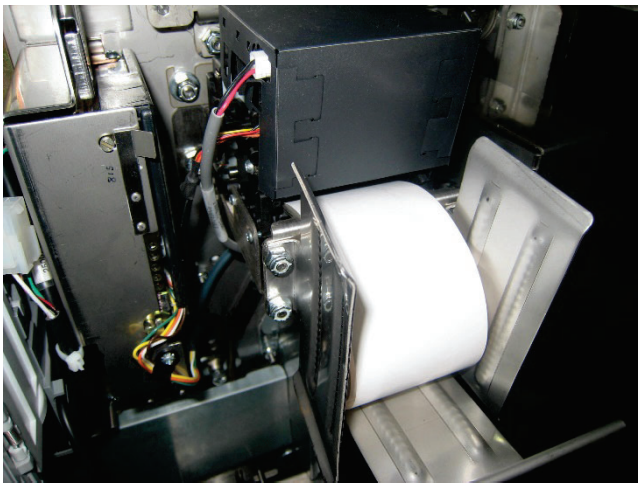


Figure 3-3

Manual Loading With Power Off – Pull the plunger out and load paper in. At the same time rotate the large blue knob counterclockwise to pull the paper in. See photos below.

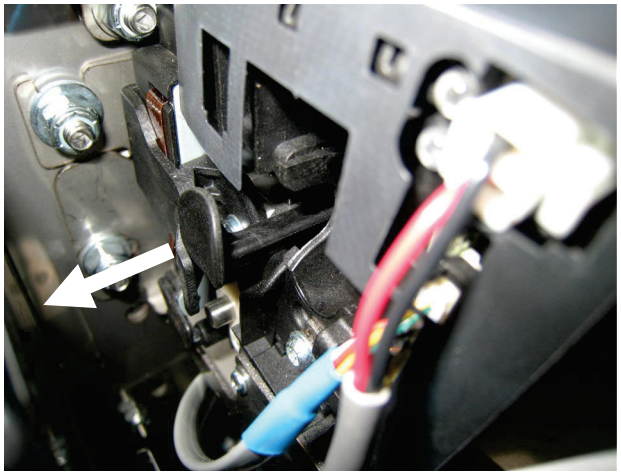


Figure 3-4

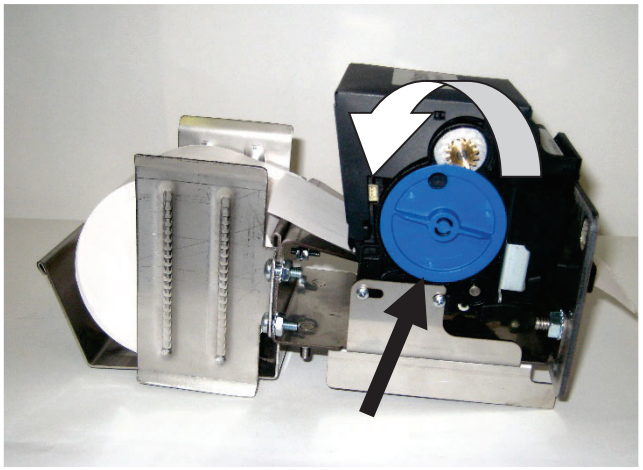


Figure 3-5

Note – Push plunger in to remove paper. **The plunger has to be pulled all of the way out for normal operation.**

The thermal paper to use should be two inches wide and thermal sensitive on the outside.

3.2.2 Printer Troubleshooting

The optional Hengstler X-56 printer includes a Red and Green LED to indicate the status of the printer. The LED conditions will indicate normal operation as well as the "out of paper" and "printer failure" conditions.

For a paper, or cutter error, press the black plunger in to remove any debris. Pull the black plunger out to reload the paper.

If both LED's are off, check the printer cable at both ends for a proper connection.

If the printer is not in an error mode, but will not print receipts or reports or the print out is the wrong text size, check the PRINTER SETTINGS menu for proper programming.

If paper is being ejected but not printed you should check to see if the paper is loaded upside down.

3.2.3 Printer Fault Conditions

Green LED	Red LED	Fault Condition
Slow Blink-----1 second on, 1 second off	Off	Normal Operation
Medium Blink-1/10 second on, 1/10 second off	Off	Out of Paper
Flicker----------Very fast twinkle	On – Cutter Error	Paper Error, Cutter Error

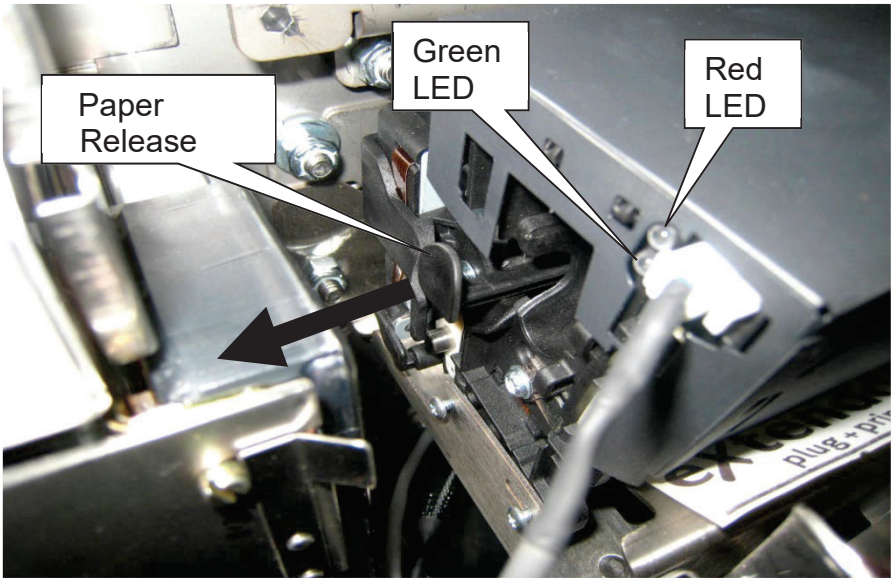


Figure 3-6

Paper Specification
Thermal roll with the heat-sensitive side on the outside of the roll.
Paper Width: 49mm to 60mm (1.93 inch to 2.36 inch)
External Roll Diameter: less than 300mm (11.8 inch)
Paper Weight: 50 g/m^2 to 250 g/m^2

3.3 Printer Model: Citizen CMP-20 (Portable Audit Printer)

3.3.1 Loading Paper In The Printer

Automatic Loading With Power On or Off – There is no way to automatically load paper.

Manual Loading With Power On or Off – Press the large blue button, on the right, with the word PUSH on it to open the paper door. Lay the roll in with the paper coming up near the blade. Close the door with the end paper out of the printer. See photo below.

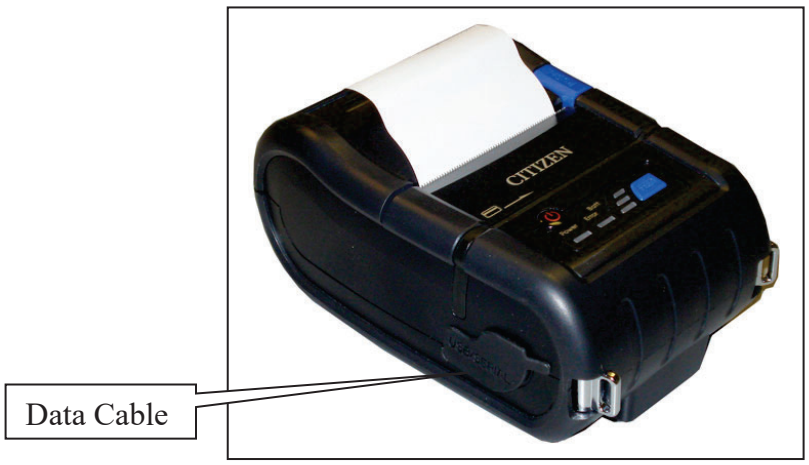


Figure 3-11 (Citizen CMP-20)

3.3.2 Printer Troubleshooting

If the printer is not in an error mode, but will not print receipts or reports or the print out is the wrong text size, check the PRINTER SETTINGS menu for proper programming.

If paper is being ejected but not printed you should check to see if the paper is loaded upside down.

3.3.3 Printer Fault Conditions

When the printer is low on paper the red error led near the power button will light. When the paper is full it will be off.

Paper Specification
Thermal roll with the heat-sensitive side on the outside of the roll. Paper Width: 58mm (2 ¼ inch) Paper Thickness: 65µm External Roll Diameter: 48mm (1.9 inch)

4.0 CREDIT CARD

The Credit Card Module is based on the same technology that is used in the credit card terminals found at the major super market store checkout lanes. A credit card terminal will include a *card reader*, a *modem* and a *display* for prompting the user with credit card related instructions such as “swipe card”, “card not read”, “card authorizing”, etc.

UNDERSTANDING CREDIT CARD PROCESSING: For a basic understanding of how any credit card processing systems work, refer to the publication that was provided with the sales literature. This publication provides a description of each step required to get an electronic transaction from the card terminal to the card processor for authorization, and then to get the electronic funds transferred from the card processor to your bank account. Consult the factory for details.

Brochure: “Ordering Steps” is available from any Standard Change Makers sales representative.

CARD PROCESSOR NETWORK TYPE: Host based processors (also called host data capture/auto close) - In a host based system, each transaction is sent to the processor in real-time and is recorded at the processing center at the time of initial approval. The settlement of the batch is usually automatic by the processor at a preset time. In this type of system, only one phone call would need to be made to the processing center process a card.

Note: Standard Change-Makers requires using host-based processors. We cannot store any transaction data in the machine.

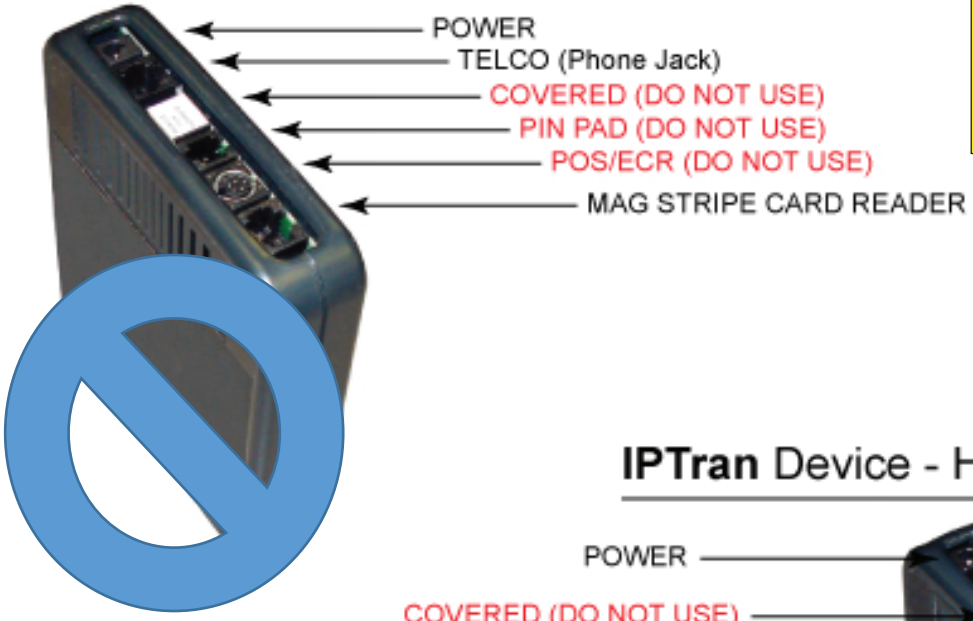
PROGRAMMING YOUR CREDIT CARD SYSTEM. All machines equipped with a Credit Card Module have been factory programmed to match the Machine Configuration Form that was submitted at the time of order. If it should become necessary to alter any of these program settings, please read the EF+ Module instructions prior to revising any of the settings. A complete list of all settings can be found in this document.

TESTING YOUR CREDIT CARD TERMINAL. All credit Card machines are equipped with a *Demo Mode* feature that allows the machine to be tested for proper credit card payout. The demo will simulate an authorization call thereby eliminating the need for the modem to make an outside (phone or high speed) connection. This operating mode is useful during the initial installation as well as for diagnosing issues that may be related to the phone line or High-Speed connection. For more information regarding this feature, see the Troubleshooting The Credit Card Module (section 4.2) of this manual.

4.1 Datacap

DATACAP SYSTEMS DEVICE CONNECTIONS

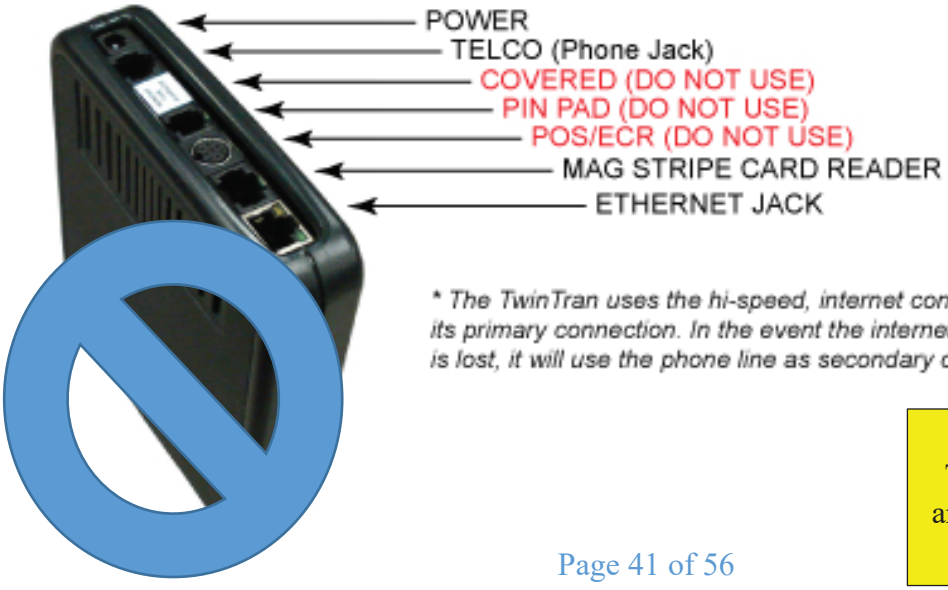
DialTran Device - Dial-Up Only



DIALTRAN and TWINTRAN devices are no longer available. **(March, 2019)**

IPTran Device - Hi-Speed Only

TwinTran Device - Hi-Speed & Dial-Up



** The TwinTran uses the hi-speed, internet connection as its primary connection. In the event the internet connection is lost, it will use the phone line as secondary communication.*

DIALTRAN and TWINTRAN devices are no longer available. **(March, 2019)**

4.1.1 Dial-Up Modem

Important Note: The DialTran is compatible with a “land line” phone system. It will not work with a VOIP (Voice Over Internet Protocol) phone system.

4.1.2 High Speed Modem

HIGH SPEED CARD PROCESSING: Some credit card processors allow high speed card processing. If your machine was ordered with this capability, it will be equipped with an IPTran module.

NOTE: All DSL or Cable lines for the High Speed connection are to be supplied by the machine owner. When routing these cables, please route through the same hole as provided for the machine power cord.

A device capable of being set as a DHCP server (router or switch) must be present at the site. This device is not provided with the machine. The router or switch must be set to identify the Internet Service Provider (company providing the DSL or cable service) as the DNS source. It must also be set as the DHCP server. Both of these settings are configured in the device. Support questions for these settings should be directed to the company the device was purchased from. Example device is a Linksys router P/N – BEFSR41.

Note: Standard Change Makers is not able to provide assistance with IP network setups at your business site. We recommend that you contact a local networking expert for regarding networks.

4.1.3 Troubleshooting The Credit Card Module

ISOLATING THE FAILURE – Always attempt to isolate the module that is not functioning properly. To accomplish this, you can use two basic troubleshooting tools present in the machine; the Version Number and the Demo operating mode.

CHECK THE VERSION NUMBERS: How to and why. Checking the version numbers will also indicate whether or not the system is detecting the presence of each module. For example- if a version number is not present for the credit card modem, them the system does not know one is connected. This in itself is a significant troubleshooting clue.

USING THE DEMO MODE FOR TROUBLESHOOTING: Once in this mode, the machine will operate as though it has been plugged into a phone line or high-speed connection even if is not plugged into it. If the machine processes credit card based transactions properly in this mode, yet fails when a live phone or high-speed connection is used, there is a high probability that the issue is in the phone line and not the machine.

Please see section 1.17.9 on how to initiate the credit card demo mode.

The machine will operate in the demo mode for 5 minutes each time the red button is pressed. After the demo mode time has expired, the machine will return to the normal operating mode and all card transactions will request a genuine authorization through the phone line or high-speed connection. The switches should always be returned to the original (OFF) setting when you are finished using the Demo Mode.

DEMO MODE WARNING

Do not leave the machine in this mode during normal operation. Anytime the machine is in the DEMO mode, it will payout for virtually any card with a magnetic strip. No credit will be deducted from the cardholder's account. This mode will allow the machine to issue tokens for free.

4.1.4 Restoring Your Merchant Profile

Your credit card terminal was factory programmed to include the Merchant Profile. The Merchant Profile consists of the routing information that was supplied on the Merchant ID forms you supplied when the machine was ordered. This information is stored in the credit card terminals volatile memory. Your machine is equipped with the ability to dial-up the processor and automatically reload (download) this information should it become necessary to do so. This feature is intended to reduce downtime in the event of a failure with the credit card modem box (black box). To reload your merchant:

- Using the EF+ Module, find the *Credit Settings* main menu item.
- Press the down arrow button until you come to the *Update Network Settings* menu item.
- Press *Yes* button.
- Press the *No* button when asked if you want to wait for a dial in.
- Press the *Yes* button when prompted with the touch-tone question, if you use a touch-tone connection. Most phone systems use this type.
- Press the *Down button* and enter the *Outside Line*. A zero indicates that a number is not needed for an outside line.
- Press the *Down button* and enter a "*1"* and the *Area Code* of the number to dial. Refer to your Datacap Documentation that was shipped with your machine for the phone number and password information.
- Press the *Down button* and enter the 7-digit phone *number*.
- If you are using a high speed connection, then clear the area code and only enter a 1 under the phone number.
- Press the *Down button* and enter your *Password*. Usually the serial number of the Datacap.
- Press *Yes* when you are prompted for "*want to dial the database*?"
- The machine will now automatically update. Be sure to test it for proper operation before placing the machine back into service.

4.2 MDB

This document is for the set-up of MDB-compatible credit card systems including: Nayax VPOS, USA Technologies ePort, and CryptoPay.

EF+ Menu: Under CREDIT SETTINGS then CARD SYSTEM TYPE, an option has been added for "MDB (ONLY)". This allows the system to report email alerts about its status. The Card system will then show up in the Configuration report as a CARD READER – X MDB indicating the dispenser it is plugged into – if we are able to talk to the device.

NOTE: Standard Change-Makers does not supply any of these third-party credit card processing systems. The customer must contact the manufacturers to order the kits and set-up their merchant account with the required processor. It is therefore important that the customer contact Technical Support of the manufacturer when they have completed the installation of the machine to supply the serial numbers or their kit components and make sure that the devices are properly directed to deposit funds into their account.

When communicating with the Sales/Tech Support person – be sure that you tell them that you need the MDB-compatible devices. And that the MAXIMUM CHARGE AMOUNT must be set higher than your expected highest selection or charge amount (to accommodate for future price changes if needed).

For example: The manufacturer may have a default maximum setting of $25.00. If you plan to have a $30 price package, you may request them to set the kit up for a $50.00 maximum charge to allow for changes in the future.

**** IMPORTANT NOTE ** IMPORTANT NOTE ** IMPORTANT NOTE ** IMPORTANT NOTE ****

Before you put the machine in service with the Third-Party MDB Credit Card Kit, be certain to contact the manufacturer or processor, of the credit card device and ask them to confirm the Serial Numbers of the device in your machine are connected to your Merchant Account, and that they are ready for you to start processing cards.

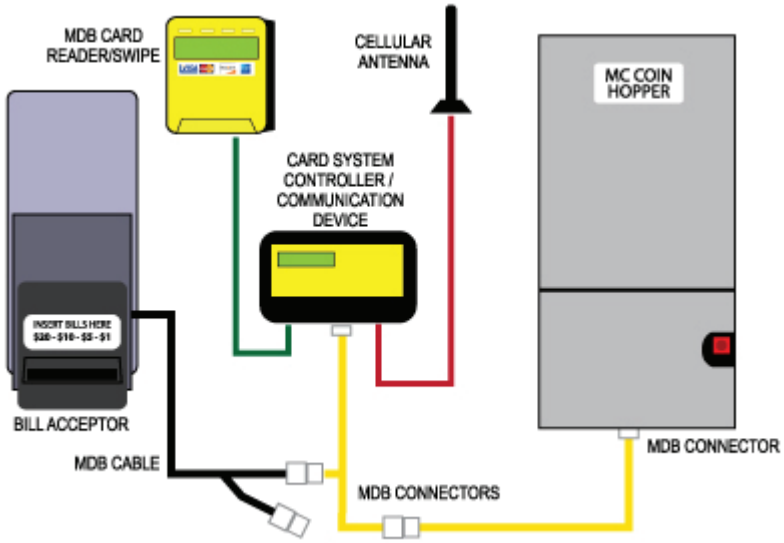
Once you receive their approval – run a test transaction with a real credit card and check to see that it went through. You are now ready to proceed!

**** IMPORTANT NOTE ** IMPORTANT NOTE ** IMPORTANT NOTE ** IMPORTANT NOTE ****

Note: The card system reporting provided by the credit card processor if available, will reflect card processing only. No information from the bill acceptor, coin acceptor, or machine in general will be added to this report. Machine audits and alerts are available throughout the EF+ Module when properly connected to your high-speed network.

4.2.1 Nayax AMIT Telemeter and VPOS Reader

Connections



Shown with cellular connection but also supports Ethernet and WiFi. Can do EMV/Chip/tap and swipe technology. Power lost and power return text and email can be sent.

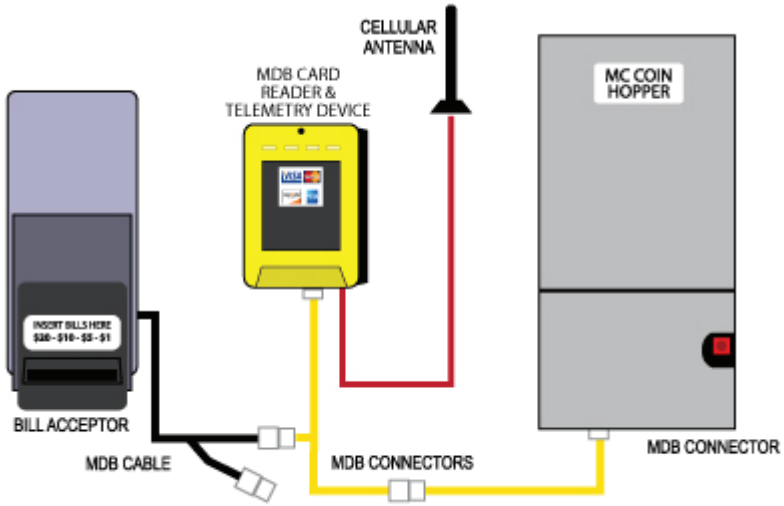
MANUFACTURER CONTACT INFORMATION:

VPOS Series Reader
Nayax USA
Executive Plaza 1
11350 McCormick Road
Hunt Valley, MD 21301
PH: 410-666-3800
EM: info@nayax.com
www.nayax.com

Nayax VPOS series is the only product certified for USA Technologies *EMV (Chip Card processing*

4.2.2 Nayax VPOS Touch

Connections



Shown with cellular connection but also supports Ethernet (requires adapter C140001) and WiFi. Can do EMV/Chip/tap and swipe technology. Power lost and power return text and email can be sent.

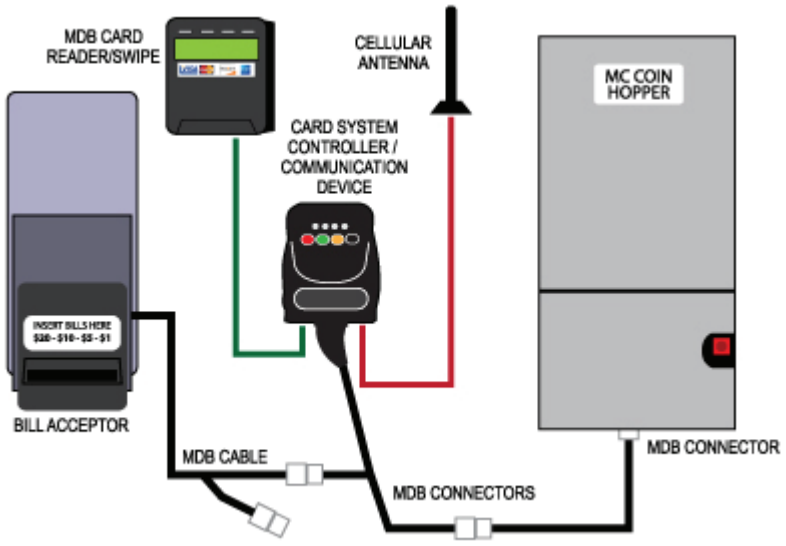
MANUFACTURER CONTACT INFORMATION:

VPOS Touch Reader *
Nayax USA
Executive Plaza 1
11350 McCormick Road
Hunt Valley, MD 21301
PH: 410-666-3800
EM: info@nayax.com
www.nayax.com

Nayax VPOS series is the only product certified for USA Technologies *EMV (Chip Card processing*

4.2.3 USA Tech. ePort

Connections



Only a cellular connection.

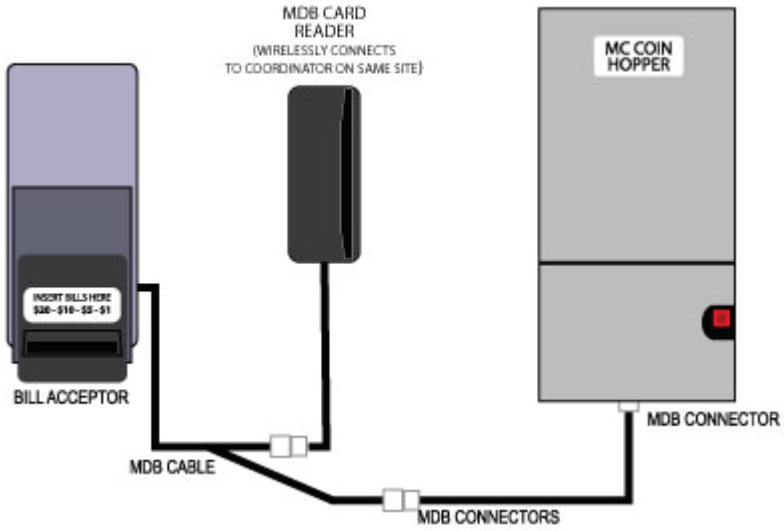
MANUFACTURER CONTACT INFORMATION:

ePort Series Reader (cellular)
100 Deerfield Lane, Suite 300
Malvern, PA 19355
PH: 610-989-0344
EM: sales@usatech.com
www.usatech.com

4.2.4 CryptoPay Swipe

Swiper (CPS3005)

Connections



At least one coordinator (CPS3000) is needed.

MANUFACTURER CONTACT INFORMATION:

CryptoPay MDB Swipe & Coordinator (wireless) #
CryptoPay #SWIPER-MDB-LEVEL 2
CryptoPay Inc.
Genesys Technologies
3260 E. Woodman Road, Suite 110
Colorado Springs, CO 80920
PH: 719-277-7400
EM: sales@getcrypto.com
www.getcrypto.com

A *CryptoPay Coordinator is required on-site to receive the wireless signal from the card swipe*

5.0 RELAY MODULE BASIC INSTRUCTIONS

The Relay Module when connected to a standard EF+ Module with software version 1.10 or higher, is used to indicate to an external device that the change machine is in the Out Of Service condition. The Relay Module consists of a 24volt relay and a cable. The relay will energize anytime the machine is in the Out Of Service or Sold Out Condition and will remain energized until the error condition has been resolved and the machine has been reset.

It is strongly recommended that the optional relay module supplied by Standard Change-Makers be used when interfacing to external devices and that those devices be connected by a qualified electrician that is up to date regarding all safety regulations and requirements.

CONNECTING AN "AUXILIARY" RELAY: (SCM P/N: 4K00561-FI or 4K00561–PI)

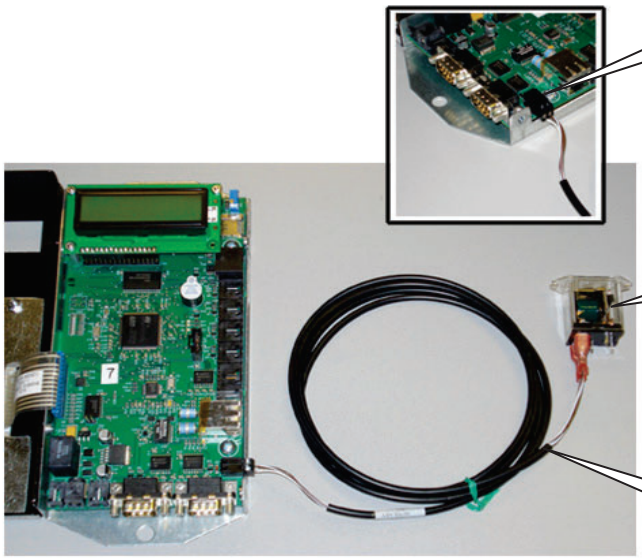
- ROUTING THE CABLE: The relay cable will connect the relay to the EF+ Module. Route the relay cable (4C00320) using the existing cable clamps in the machine. Avoid routing cables where they can be pinched by the door or other movable parts.
- MOUNTING THE RELAY: The relay can be mounted intern or external to the machine. Peel the protective tape layer from both sides of the double-sided tape provided in the kit. Attach the tape to the side or bottom of the relay. Next, attach the relay (with adhesive tape attached) in the preferred location.
- CONNECTING THE RELAY TO THE EF+ MODULE: See the picture below for the EF+ Module connection location. The cable is connected to the EF+ Module using the screw terminal block already present on the EF+ Module circuit board. The relay is not polarized; it does not matter which wire is connected to each terminal. Be sure to test (pull) both wires to ensure they are screwed down properly.
- CONNECTING AN AUXILIARY DEVICE TO THE RELAY CONTACTS:

!!! IMPORTANT !!!

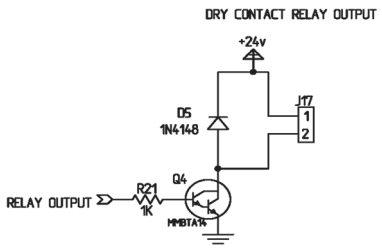
Proper safety and fire precautions should always be taken when using the relay to activate high voltage (120vac) devices. A qualified electrician should make these connections.

The relay contacts should be adequately protected against excessive arcing and burning. Use of secondary components designed to prevent arcing may be required. Excessive arcing can cause erratic machine operation and result in component damage.

P/N – 4K00561
(EF+ Module Not Included)



Schematic Diagram of Relay Driver Circuit in the EF+ Module



The relay coil driver circuit is designed to deliver a maximum of 500 ma at 24vdc. Care should be taken to not exceed this rating.

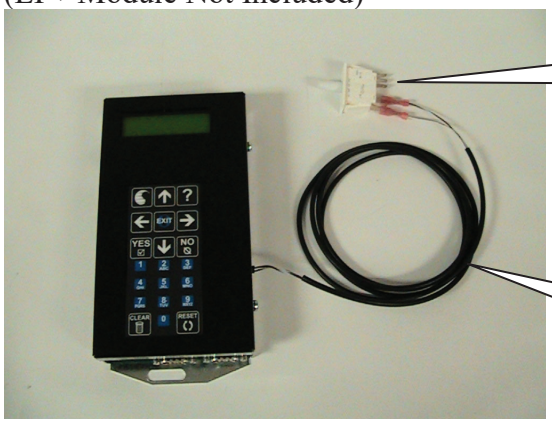
6.0 DOOR SWITCH MODULE BASIC INSTRUCTIONS

The Door Switch can be used to send email reports and/or alerts. The Door Switch Kit consists of a push button switch, a cable and some mounting hardware. Alerts can be sent when the door opens and closes. Audit reports can also be sent when the door is opened.

CONNECTING A DOOR SWITCH: (SCM P/N: 4K00439-FI or 4K00439–FI-01)

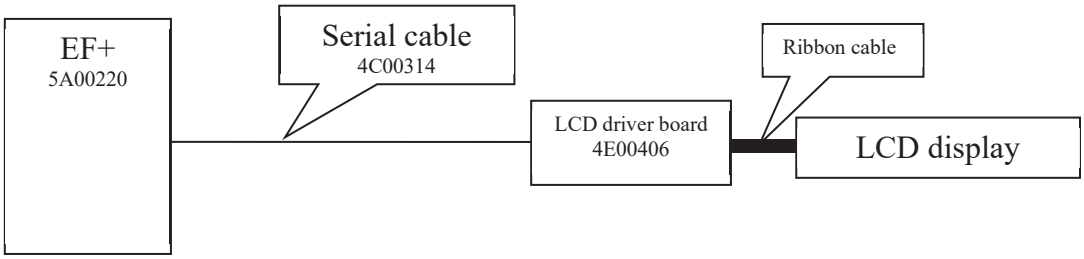
- ROUTING THE CABLE: The door switch cable will connect the door switch to the EF+ Module. Route the door switch cable (4C00232) using the existing cable clamps in the machine. Avoid routing cables where they can be pinched by the door or other movable parts.
- MOUNTING THE DOOR SWITCH: Assemble the brackets according to document 8M00638. Make sure that the switch has good dependable contact with the door.
- CONNECTING THE DOOR SWITCH TO THE EF+ MODULE: See the picture below for the EF+ Module connection location. The cable is connected to the EF+ Module using at the AUX IN connection.

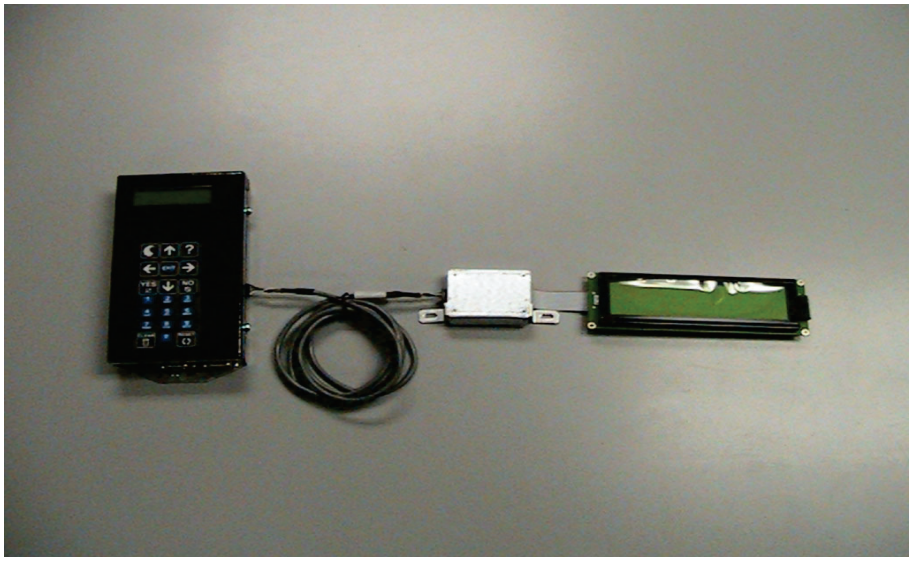
P/N – 4K00439
(EF+ Module Not Included)



7.0 USER DISPLAY MODULE BASIC INSTRUCTIONS

This option is only available on a select number of machine models. A machine equipped with this option module and an EF+ Module will display the value of the money (bill or coin) deposited and the amount that was successfully dispensed. This information will remain on the display for a brief period of time following completion of the vend Cycle. The User Display Module is particularly useful in locations where the users make multiple deposits (accumulated amount) in order to purchase a token, card or ticket. It is also useful in letting the user know which coin or bill they deposited should they become confused. Newer bill designs have similar features and at a quick glance can be mis-identified by the user as the wrong denomination. The same is true for coins of the same basic size and color, particularly if the user has difficulty identifying the coin or if they are in a hurry and do not pay close attention to what they are depositing.





8.0 KEY SWITCH OPTION

An optional Key Switch can be used in conjunction with the User Display Module to allow an attendant to perform some basic functions that would otherwise require full access to the inside of the machine. The key switch will allow an attendant (or anyone with the key-switch key) to view the last 9 transactions. This is useful in reconciling discrepancies that a user may have regarding the amount of change they received. The attendant can also clear any error that could normally be cleared by pressing the Reset button located inside the machine.

Upon turning the key, the attendant will be prompted to release the switch if they want to reset the error. If the key is not released, the last 9 transactions beginning with the most recent one, will be displayed for a brief period of time in the order they occurred.

Appendix A. RECEIPT PRINTER HEADER & FOOTER WORKSHEET

Use this worksheet to figure out how you want to format the wording of the Header and Footer that is printed on your receipts. The general rule would be to use the Header for business name and location information, and the Footer is used for "Thank You", slogan, marketing or promotional ideas.

RECEIPT HEADER: 8 LINES AVAILABLE (16 Characters per Line)

H1:																
H2:																
H3:																
H5:																
H5:																
H6:																
H7:																
H8:																

RECEIPT FOOTER: 10 LINES AVAILABLE (16 Characters per Line)

F1:																
F2:																
F3:																
F4:																
F5:																
F6:																
F7:																
F8:																
F9:																
F10:																

In addition to the Header and Footer, the printer will automatically print: LOCATION ID (default = 0) and the TIME & DATE that the receipt is printed.

Appendix B. SELECTION WORKSHEET:

The following is a worksheet intended to help owners figure the set-up for the Token / Ticket pay-outs of their change machine.

With the credit selection, the four buttons are used for the credit card purchases:

BUTTON A: $_____ = _____ Tokens/Tickets

BUTTON B: $_____ = _____ Tokens/Tickets

BUTTON C: $_____ = _____ Tokens/Tickets

BUTTON D: $_____ = _____ Tokens/Tickets

* Our suggestion is to always put the higher priced packages at the top (Button A) and go down from there.

If your credit card accepting machine also has cash acceptance (Bill and/or Coin Acceptor), you can keep the packages the same as the credit card selections. However, in most cases merchants do not want to accept credit cards for $1.00 transactions, because the fees would be too high. Therefore, we make the cash pay-outs specific to the denomination:

$20 Bill = _____ Tokens/Tickets

$10 Bill = _____ Tokens/Tickets

$5 Bill = _____ Tokens/Tickets

$1 Bill = _____ Tokens/Tickets

$1 Coins = _____ Tokens/Tickets

Quarter = _____ Tokens/Tickets [#]

ACCUM. Nickels/Dimes = _____ Token / Ticket [#]

[#] If the value of the Token/Ticket is more than a quarter, you can ACCUMULATE quarters, and other change, to the value of one token/ticket and have the machine dispense once the lowest price is accumulated.

NOTE: Once inserted, the bill acceptor and coin acceptor do not return money.

NOTES:

Standard Change-Makers
SERVICE CENTERS

Standard Change-Makers – Central Region
Factory and Home Office

3130 North Mitthoeffer Road
Indianapolis, IN 46235-0550
(317) 899-6966
800-968-6955
FAX (317) 899-6977
WEB: www.standardchange.com

Record these numbers here for use when ordering parts.

Serial #_____

Model #_____