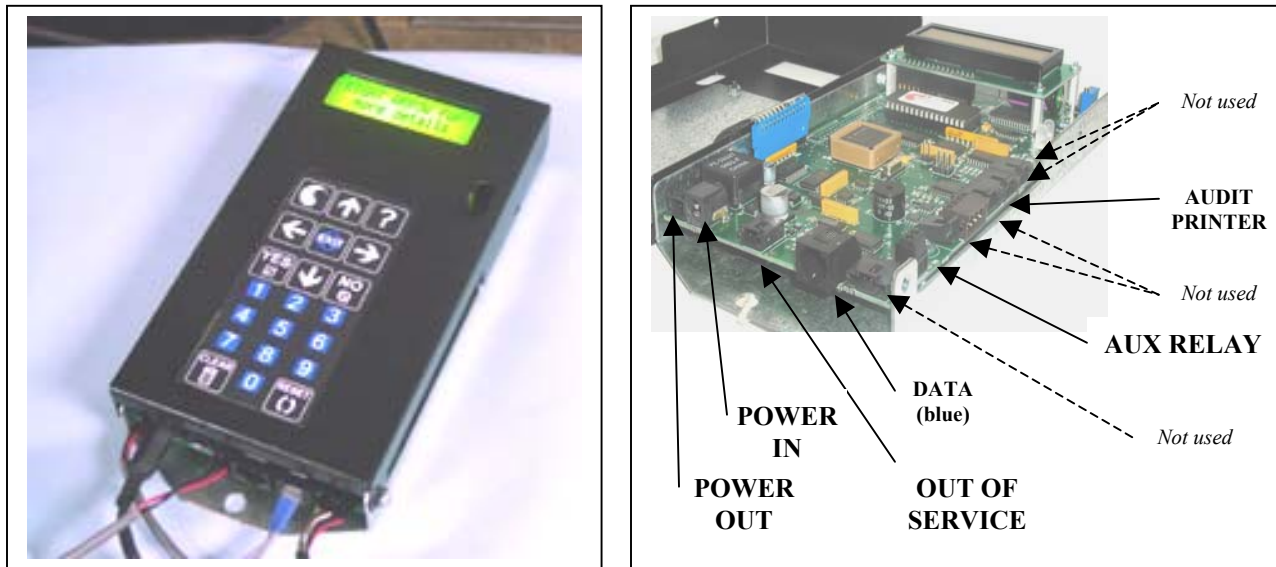


## EF MODULE BASIC INSTRUCTIONS

9/17/04



### !!!! 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.

### NAVIGATING THE AVAILABLE MENUS

1. **BUILT IN HELP** – Help screens have been included in the EF module so you no longer need a manual to figure out how to navigate through the available Feature Screens. 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.
2. **FEATURE GROUPS** – *Feature groups* are groups of information related to each machine feature. See “Feature Descriptions” below for a brief explanation of each feature. To find the desired *Feature Group*, press the RIGHT (forward) arrow button. 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. To view the previous feature group, press the LEFT (back) arrow. Once you have found the group, you can then go *down* into the *Details List* for this feature group. Note – the *feature group* headings are in CAPS (all capitalized letters).
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.

## FEATURE DESCRIPTIONS

Additional description for these features can be found in the MC Owners manual section titled “Machine And Device Features”. Note - If any of the features below have already been set using the DSS programming method, the settings will be over-written by the EF Module setting.

1. *ACCEPT REPORT* – list of most recent bills accepted, in the order they were accepted in and with time and date they were accepted. Most recent bill will be first in list.
2. *AUDIT REPORT* - list of all revenues accepted and dispensed. This feature is also used to activate printout of the audit if the machine is equipped with a printer.
3. *BILLS ACCEPTED SETTINGS* – list of bills that can be accepted, flag showing whether or not it is supposed to be accepted, and the validation security level setting for the bill.
4. *ACCUMULATE VEND SETTING* – minimum amount the machine will 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.
5. *COIN VEND SETTINGS* – amount to be vended for each coin accepted via. the Coin Acceptor.
6. *BILL VEND SETTINGS* – amount to be vended for each bill accepted via. the Bill Acceptor (s).
7. *ERROR REPORT* – historical list of any errors that have occurred in the machine. Errors are listed in the order they occurred with most recent listed first.
8. *FAST VEND SETTINGS* – used to restrict machine usage to normal transaction amounts in a given time period. The 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 reset or until the Error Time Out lapses. See “Other Settings” for a description of this feature and how to set it.

9. *OTHER SETTINGS* – this feature group is where all miscellaneous settings are located. Below is a list of each one.

- Language – used to set the language displayed on the EF Module display.
- Error Time Out – This feature allows the machine to automatically reset from certain error types; at this time the Error Timeout 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 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 or simply “Hold” it and add the amount to the next deposit.
  - Dispenser Transfer - The term “transfer” refers to the machines capability to “transfer” an owed amount from a dispenser that is in error or is empty, to another dispenser in the machine. There are three different transfer modes available with your machine: *Transfer None* - do not transfer, *Transfer Equal* - only transfer between dispensers of the same type and value, and *Transfer Less* - transfer to any dispenser of the same or lesser value).
  - Expanded Programming – this feature is intended for advance users only and for very unique machine operating requirements. We strongly recommend that this feature is not activated.
  - Make Best Change – used to reduce amount of programming. This feature will allow the machine to figure out how to make the best change for each deposit. 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 that this feature is not de-activated as it overrides the inherent illogical programming protection algorithm and can allow settings that will result in undesirable vend combinations and amounts.
  - Date – set the current date.
  - Time – set the current time.
  - PIN Numbers – 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.
  - 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 can also be found here.

## 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 machine 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*) will also be stored in the Error Report mentioned above.

**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 *error cause*, and then pressing the button labeled “RESET” to erase the error message from the display. To determine the *error cause* 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"	The bill dispenser logic module (module that bill dispenser is plugged into) cannot communicate with the Uninote Bill Dispenser. Check the cables connecting these two devices.
"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 Vend settings.
"BILL ACC. - EF"	This message is displayed if the EF module doesn't see any acceptor (Bill or Coin) in the system. Check acceptor cables and connections.

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

## PRINTER MODULE BASIC INSTRUCTIONS

**PRINTING THE AUDIT** - Using the EF module, find the *AUDIT REPORT* feature group. Go to the “print audit” screen at the end of the details list and press the YES button. The audit details will now print on the receipt.

**CONNECTING THE AUDIT PRINTER** - Connect the audit printer to the EF Module as shown in the picture below. The printer can remain plugged in at all times or can be disconnected if desired.



### Sample Audit Receipt

CONTROLLER 1  
MACHINE AUDIT  
6-28-04 14:03:46  
SEQUENCE = 17

Revenue in = \$7.45  
Total coins in = \$1.45  
5c coins in = 0  
10c coins in = 2  
25c coins in = 1  
\$1 coins in = 1  
Total bills in = \$6.00  
\$ 1 bills in = 1  
\$ 2 bills in = 0  
\$ 5 bills in = 1  
\$ 10 bills in = 0  
\$ 20 bills in = 0  
\$ 50 bills in = 0  
\$ 100 bills in = 0

Revenue out = \$7.45  
\$1 coin out = 7  
25c coin out = 1  
5c coin out = 4

## 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:**

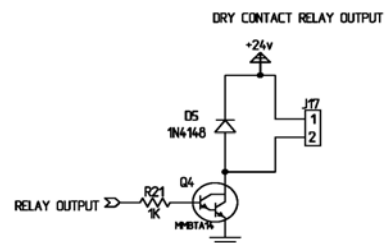
### !! IMPORTANT !!

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.



### 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.