# CUSTOMER PROGRAMMING MODULE INSTRUCTION MANUAL



INTELLIGENT COMPARITOR®
SYSTEM PLUS
CUSTOMER PROGRAMMING MODULE

MODEL:
SERIAL #:

RESET/
RETURN

COIN MECHANISMS INC.

UPLINK
TO MECH

COIL
BALANCE

DUAL
VOLTMETER
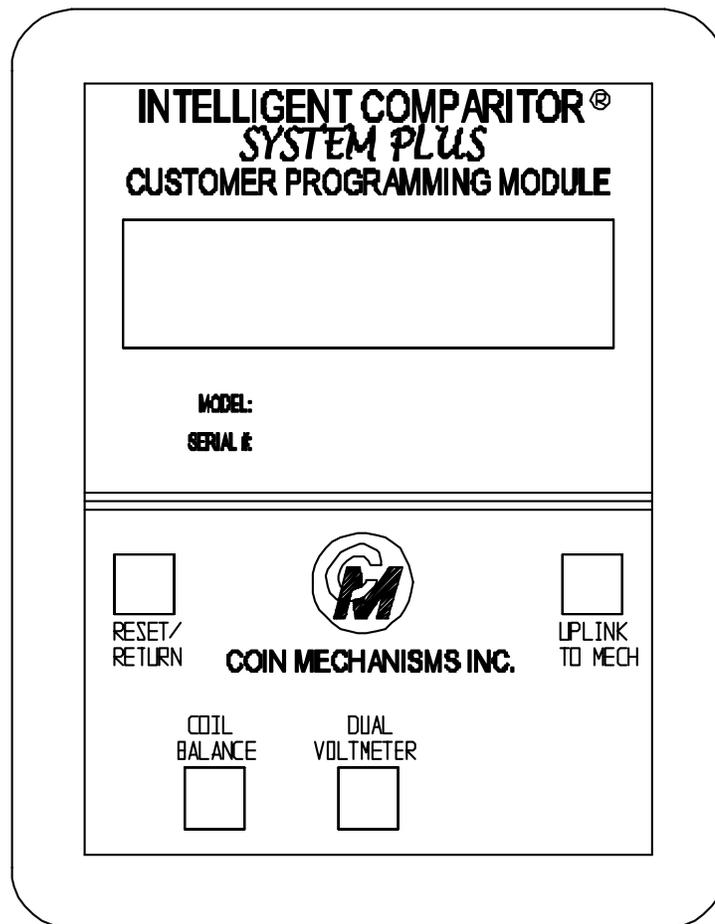
# THE CUSTOMER PROGRAMMING MODULE

**Intelligent Comparitors** for Smartmark tokens can be programmed or re-programmed by using the **Customer Programming Module (CPM)**. You can use the **CPM** for balancing the coils and for checking the voltage settings on pot **"C"** and pot **"S"**.  The illustration below will familiarize you with the **CPM's** functions.

## FUNCTION OF BUTTONS

LCD display

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Reset/return button

Uplink to mech button

Coil balance button

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Dual voltmeter
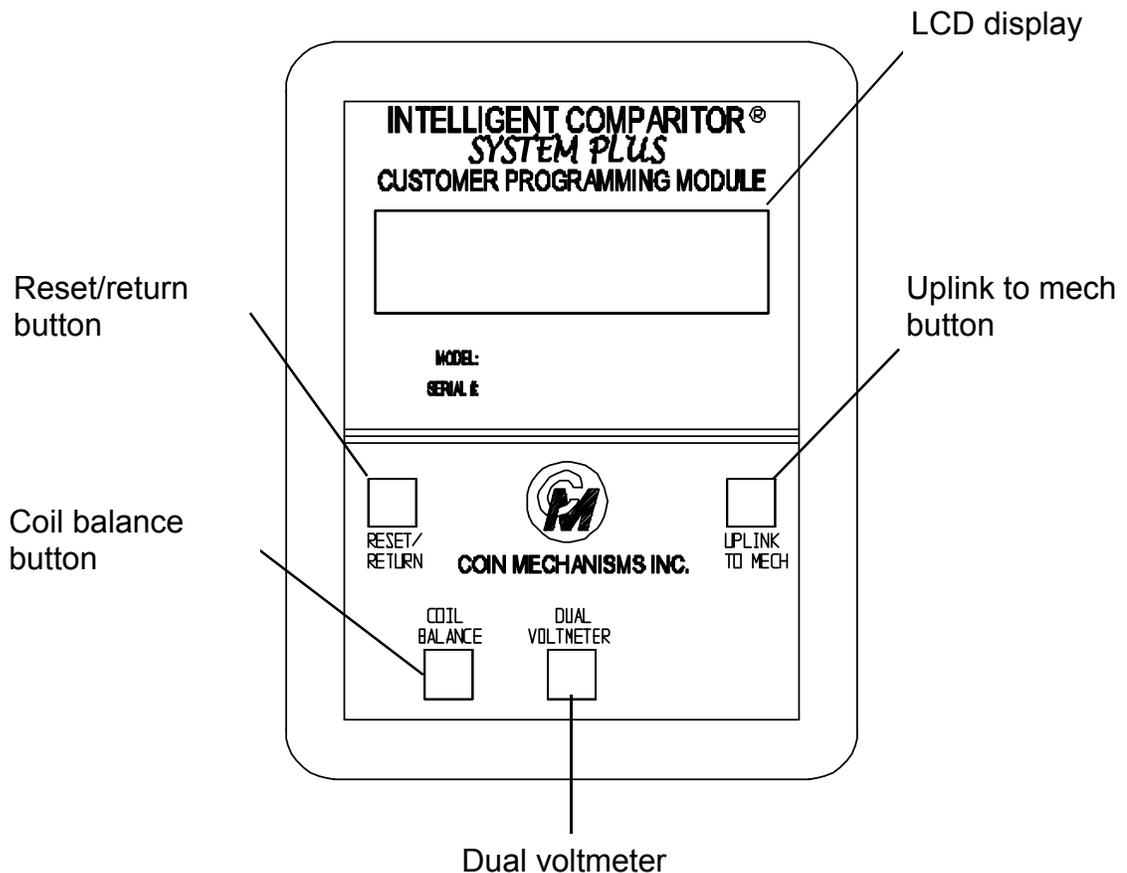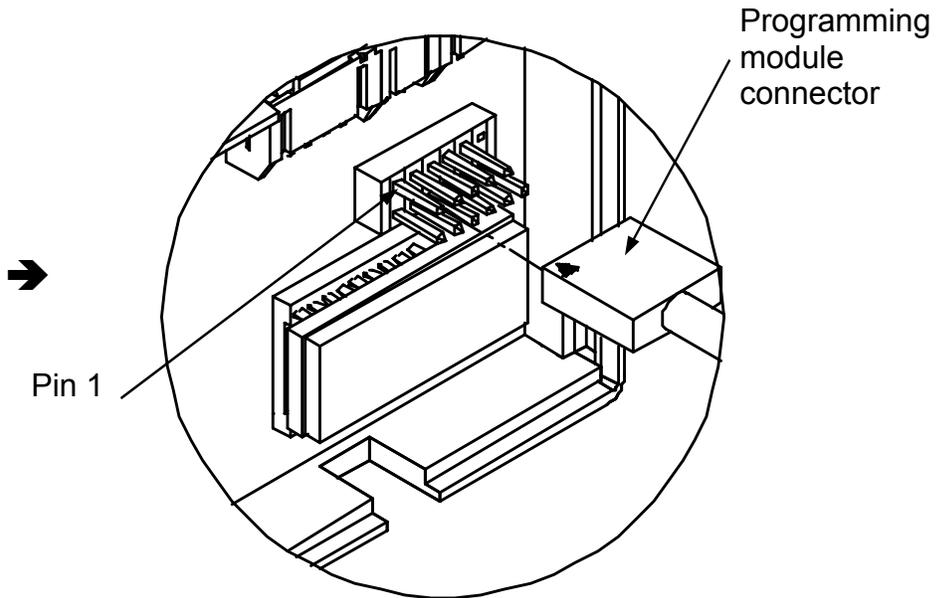
# HOOKING UP THE CPM TO THE IC

Remove the snap-on cover of the Intelligent Comparitor ®, locate the (12) pin dual-row header located just above the microcontroller and plug in the **CPM** connector as shown at right.  Be sure that the pin 1 arrow on the **CPM's** connector lines up with pin 1 of the 12-pin dual-row header.

Step 1

Programming module connector

Pin 1

**Note: Pressing the *Reset/ Return* button at any time reinitializes self test and returns the Home Screen**

The Intelligent Comparitor must be powered by either your machine or an external power source. The **CPM** derives its power from the Intelligent Comparitor.  Upon power-up, the system goes through a self test.  The 2 line, 16 character LCD screen will momentarily display "Intelligent Comparitor Test" followed by the *Home Screen* - your casino name, and a version identification of the **CPM**.

Step 2

| Intelligent Comparitor Test |
| :---: |

| —Your Casino Name— POD VERSION |
| :---: |

The CPM holds all of the token profiles for your casino.  The Intelligent Comparitor ® is programmed to interrogate the CPM to look for the appropriate coin data file.  This feature prevents accidental uplinking of the wrong denomination token profile or from coin data files from another casinos' CPM.

# CHANGING YOUR COIN DATA FILE IN
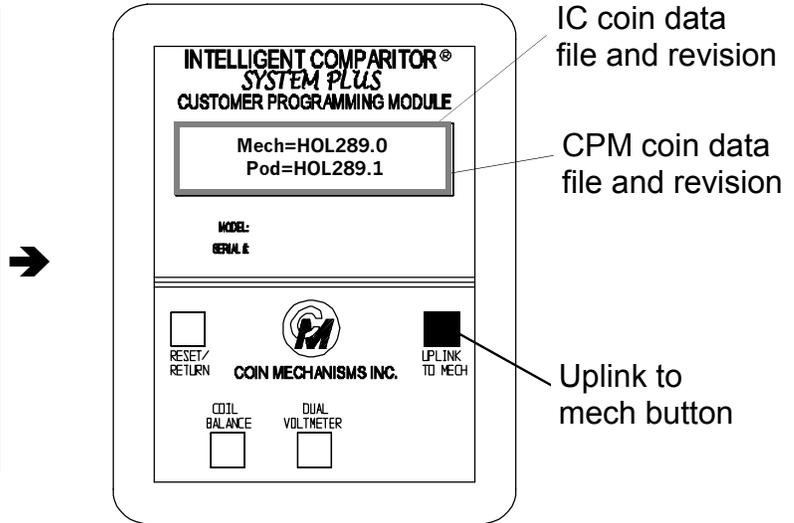# THE INTELLIGENT COMPARITOR

You will be assigned a 3 digit alpha acronym from your sales agent.

The 3 digit alpha acronym is part of the coin data file name. (e.g.16HOL289.SE0), where HOL is the casino 3 digit acronym and 289 is the millimeter diameter of the coin with an implied one decimal place- 289=28.9mm. The last digit of the 3 digit suffix .SE0 represents the revision level.

Changing the coin data file is accomplished by re-writing to the EEPROM on the Intelligent Comparitor printed circuit board.

Press the *Uplink to Mech* button (right).  If the Intelligent Comparitor ® locates the appropriate coin data file, the LCD screen will display the token profile that is currently programmed into the validator, and the token profile for the corresponding denomination that is in the CPM.  The revision level of the profiles is also displayed.

**Step 3**

IC coin data file and revision

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CUSTOMER PROGRAMMING MODULE

Mech=HOL289.0
Pod=HOL289.1

CPM coin data file and revision

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RESET/ RETURN    COIN MECHANISMS INC.    UPLINK TO MECH

COIL BALANCE    DUAL VOLTMETER

Uplink to mech button

Press the *Uplink to Mech* button a second time and the LCD screen will display a prompt to confirm that you want to uplink the coin data file contained in the **CPM** to the validator. (see figure at near right)

Press the *Uplink to Mech* button a third time and the coin data file from the **CPM** is uplinked to the validator. When the data transfer is completed, the LCD screen will display a confirmation.

**Step 4**

**MechRev0-PodRev1
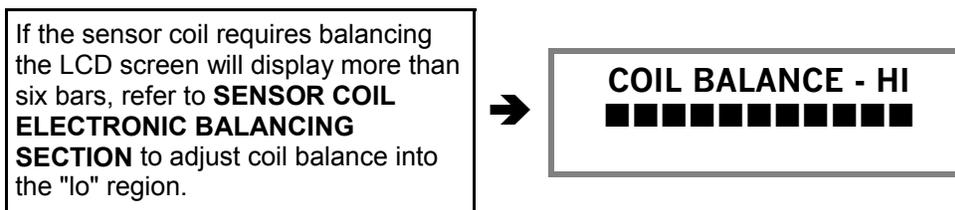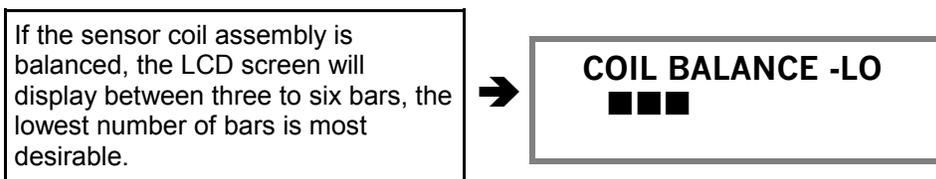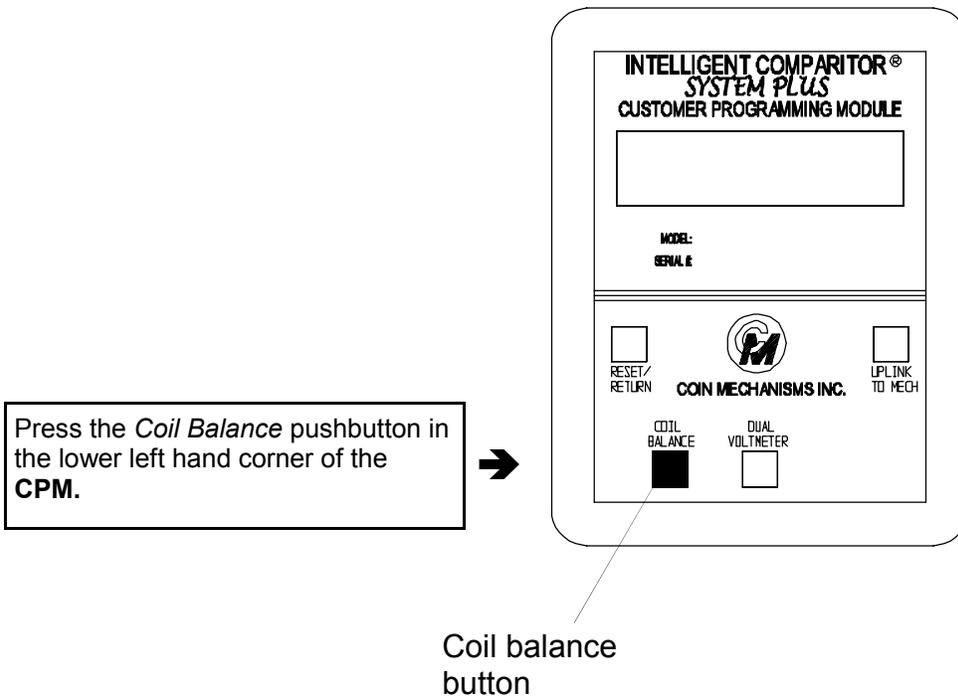Press to Uplink**

**MechRev1-PodRev1
Uplink Completed**
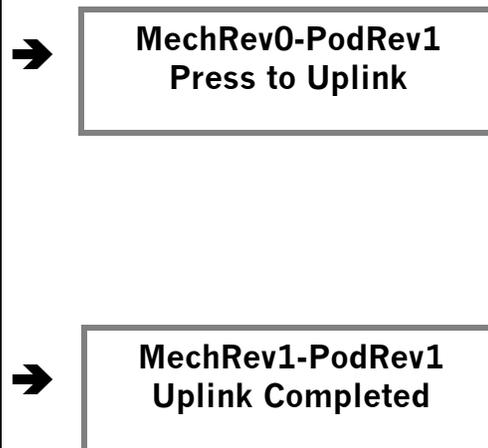
Press the *Uplink to Mech* button again to show that Mech and Pod contain the same coin data file. The process is now complete.
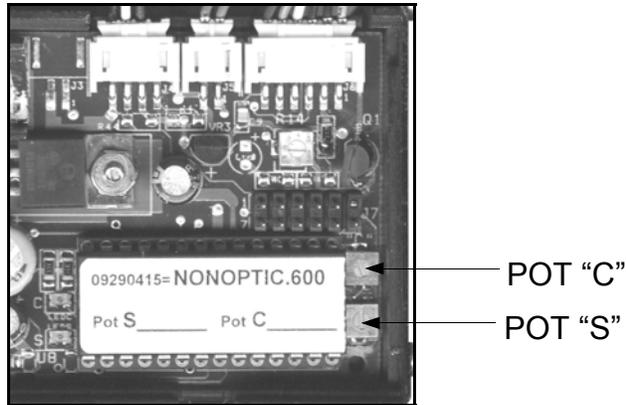
**Mech=HOL289.1
Pod=HOL289.1**

**Step 5**

# CHECKING AND ADJUSTING THE SENSOR COIL

**Note: Coil balancing is done without a resident coin in token holder. The token holder must be in place.**

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Press the *Coil Balance* pushbutton in the lower left hand corner of the **CPM.**

➜

Coil balance button

If the sensor coil assembly is balanced, the LCD screen will display between three to six bars, the lowest number of bars is most desirable.

➜

**COIL BALANCE -LO**
■■■

If the sensor coil requires balancing the LCD screen will display more than six bars, refer to **SENSOR COIL ELECTRONIC BALANCING SECTION** to adjust coil balance into the "lo" region.

➜

**COIL BALANCE - HI**
■■■■■■■■■■■

5

# TO CHECK OR ADJUST THE POTENTIOMETERS



POT "C"
POT "S"

When denomination is changed, it is often necessary to change the potentiometer settings. You will be supplied with a label with the new denominations pot "s" and "c" settings recorded on it. When the settings on the display are different then those recorded on the label, use a small 2.0 mm slotted screwdriver to turn the respective potentiometer until the display matches the voltage recorded on the label. To verify the voltages or to reset the potentiometers to the factory settings:



Dual voltmeter button

Press the *Dual Voltmeter* button ➡

If the potentiometers are active, the LCD screen will display the actual voltage settings as shown ➡

**pot C = 1.9vdc**
**pot S = 3.4vdc**

In some cases the potentiometers may not be active. Upon pressing the *Dual Voltmeter* button, the LCD screen displays as shown ➡

**On Board Pots**
**Not Adjustable**
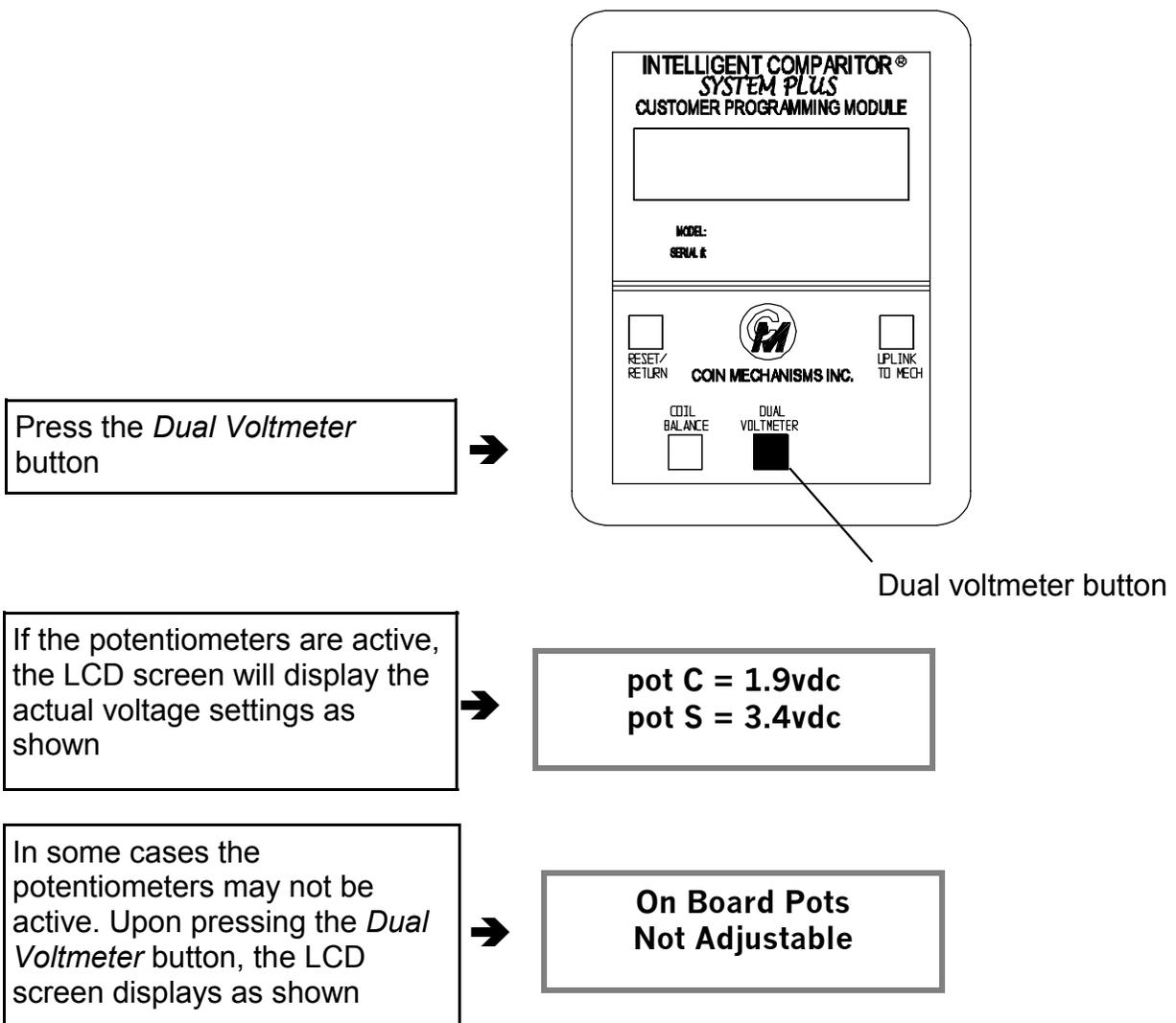
# ERROR MESSAGES

**Note: The following are the explanations for each respective error message(s). If your CPM displays any of these messages, contact Coin Mechanisms customer service for assistance.**

| | |
|---|---|
| If the validator is programmed for a different casino, the LCD screen will display the error: → | **Mech Denomination Not in this POD** |

| | |
|---|---|
| If the coin data file for the denomination of the validator is not contained in the **CPM**, the LCD will display: → | **POD & Mech Have Different Names** |

| | |
|---|---|
| If the validator memory is empty, incorrect or corrupted, the LCD screen will display these alternating messages: → | **Data in CoinMech E2RAM is Corrupt** |
| | **Special Pod Reqd See RepairManual** |

| | |
|---|---|
| If there is a communication problem between the validator and the **CPM**, the LCD screen will display these alternating messages:<br><br>Try plugging in the **CPM** into another validator to isolate which device may be malfunctioning. → | **Special Pod Reqd See Repair Manual** |
| | **I2C Bus Failure! See RepairManual** |