

**THE**  
**IM-SC, 1PT, 1 DEBIT/A, SM1B,**  
**SM2, PC10, HK2**  
**MECHANISM**  
**OPERATION MANUAL**

**FOR SERVICE CALL**  
**1-800-795-8251**

**YOUR MECHANISM SERIAL # IS \_\_\_\_\_**

**E-PROM # IS \_\_\_\_\_**

**Manufactured by: Technik Mfg. Inc.**  
**1005 17<sup>th</sup> Street**  
**Columbus, NE 68601**



## TABLE OF CONTENTS

<b>SAFETY CONSIDERATIONS</b>	<b>2</b>
<b>UNPACKING</b>	<b>2</b>
<b>OPTIONAL EQUIPMENT</b>	<b>2</b>
<b>MECHANISM MOUNTING</b>	<b>3</b>
<b>IM-SC 16, IM-PT, IM-1DEBIT/A</b>	<b>3</b>
<b>IM-SM1B</b>	<b>4</b>
<b>IM-SM2</b>	<b>4</b>
<b>IM-PC10</b>	<b>5</b>
<b>IM-HK2</b>	<b>5</b>
<b>CARD THICKNESS ADJUSTMENT</b>	<b>6</b>
<b>LOADING / UNLOADING CARDS</b>	<b>7</b>
<b>OPTIONAL CONTROL BOARD INFO</b>	<b>7</b>
<b>Parallel Interface (DOCC Board)</b>	<b>7</b>
<b>LED Codes</b>	<b>7</b>
<b>SOLD-OUT Info</b>	<b>7</b>
<b>Error Codes</b>	<b>7</b>
<b>Connection Info</b>	<b>8</b>
<b>Parallel Board Layout</b>	<b>9</b>
<b>Serial Interface (Mag Board)</b>	<b>9</b>
<b>LED Information</b>	<b>9</b>
<b>Serial Command Info</b>	<b>9</b>
<b>Serial Board Layout</b>	<b>10</b>
<b>Combo Board (both serial and parallel)</b>	<b>11</b>
<b>REGULAR MAINTENANCE</b>	<b>12</b>
<b>Mechanism Lubrication</b>	<b>12</b>
<b>Cleaning</b>	<b>12</b>
<b>SERVICE LOG SHEET</b>	<b>13</b>



## **SAFETY CONSIDERATIONS**

Unplug the mechanism when servicing – failure to do this could cause serious injury.

## **UNPACKING**

When the mechanism is received, it should be carefully unpacked and checked closely for any possible damage. If a freight company is involved and there is damage, please notify them immediately. They will need to thoroughly inspect the damage and fill out a report. Please **do not** touch the mechanism until this has been done.

Please remove and save packing materials for later use.

### **STANDARD MACHINE PACKING LIST**

<u><b>QUANTITY</b></u>	<u><b>DESCRIPTION</b></u>
1	Mechanism
1	Hex key (side of mechanism)
1	Card weight
1	Card hook
1	Warranty certificate
1	Operation Manual

### **OPTIONAL EQUIPMENT**

**DOCC Board** – this board is used to control the mechanism using a parallel interface (switch closure or bill acceptor pulse).

**Mag Board** – this board is used to control the mechanism using a serial interface.

**Power supply with harnesses** – the power supply will plug directly into the mechanism to supply DC power (+5 and +12-15).

**Mech Evaluation Kit**

**USB Cable**

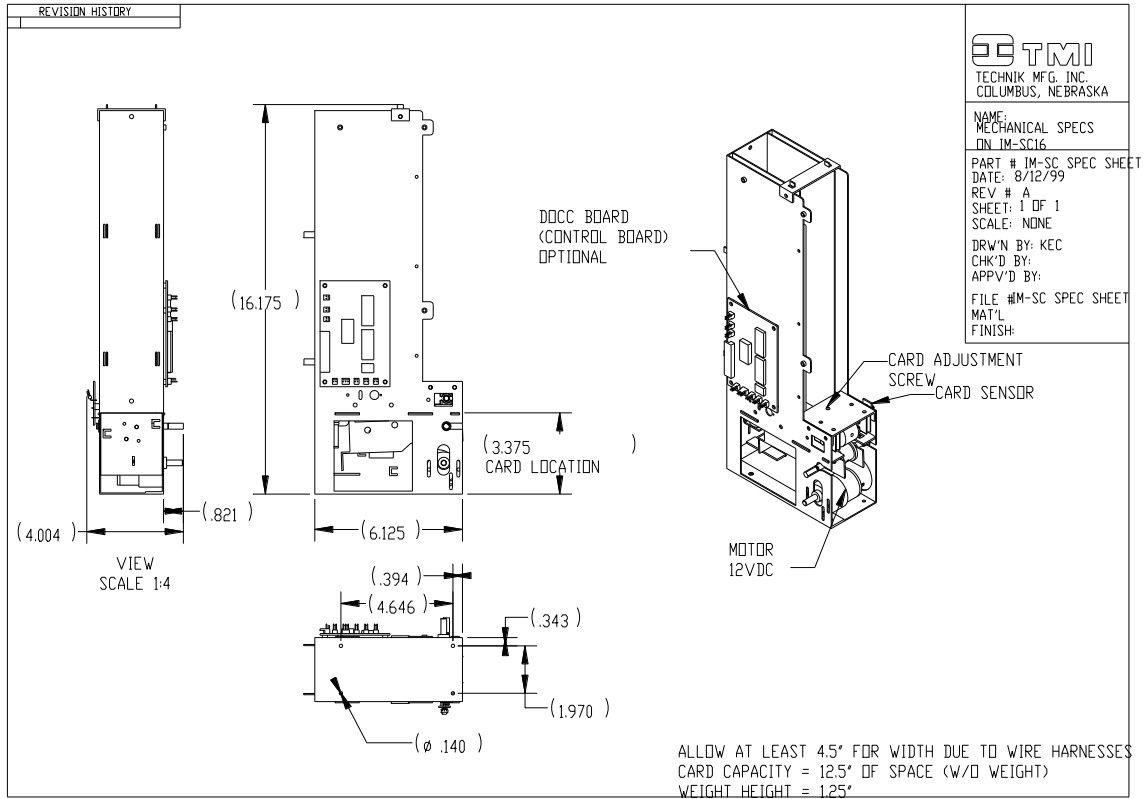
**DB9 Cable**

**Other** \_\_\_\_\_

# MECHANISM MOUNTING

Each mechanism has four holes located at the bottom of the mechanism. Please see drawings below for dimensions. Different models may have different mounting patterns.

## IM-SC16, IM-PT, IM-1DEBIT/A



## IM-SM1B

ALLOW AT LEAST 4.375" FOR WIDTH DUE TO WIRE HARNESSSES  
 CARD CAPACITY - 8" OF SPACE WITHOUT WEIGHT  
 WEIGHT HEIGHT - 1.25"

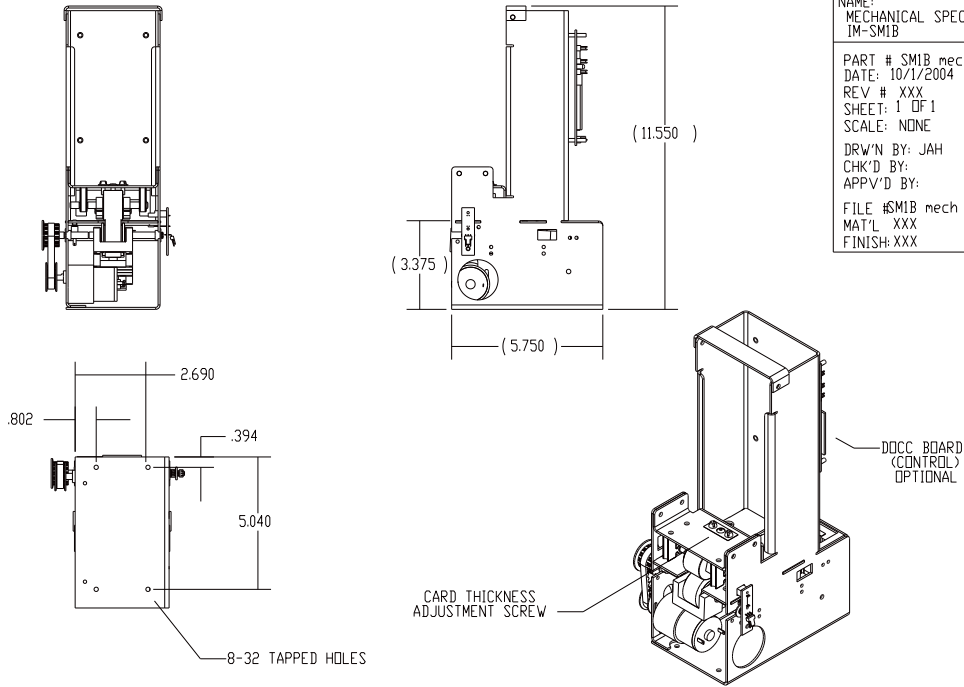
**BTMI**  
 TECHNIK MFG. INC.  
 COLUMBUS, NEBRASKA

NAME:  
 MECHANICAL SPECS  
 IM-SM1B

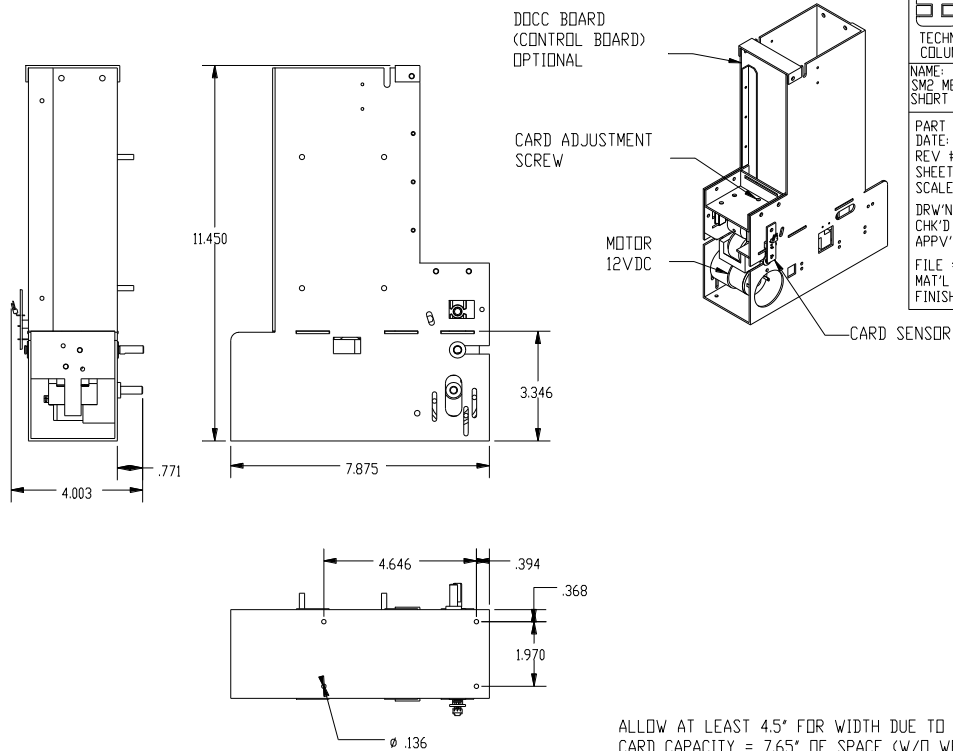
PART # SM1B mech  
 DATE: 10/1/2004  
 REV # XXX  
 SHEET: 1 OF 1  
 SCALE: NONE

DRW'N BY: JAH  
 CHK'D BY:  
 APPV'D BY:

FILE #SM1B mech  
 MAT'L XXX  
 FINISH:XXX



## IM-SM2



**BTMI**  
 TECHNIK MFG. INC.  
 COLUMBUS, NEBRASKA

NAME:  
 SM2 MECH  
 SHORT CARRIAGE MODEL

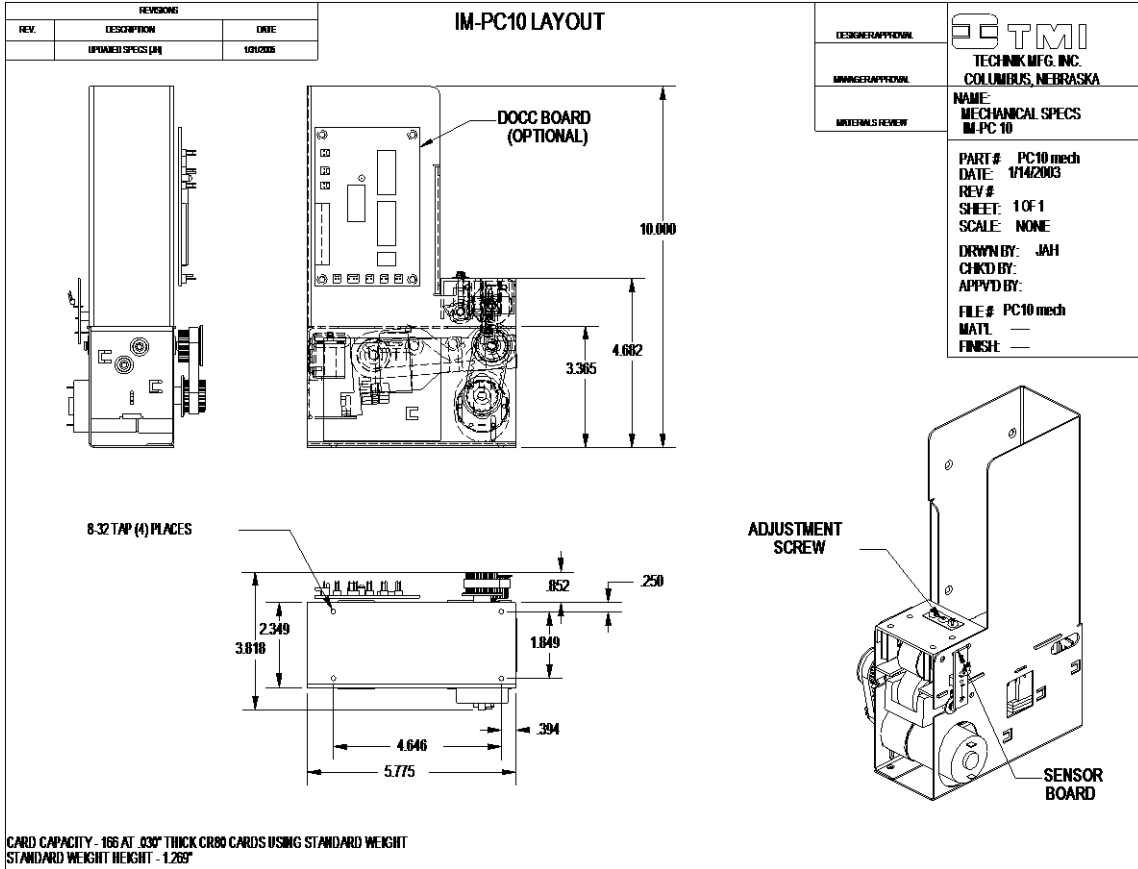
PART # new sm2 mech  
 DATE: 4/17/2001  
 REV # --  
 SHEET: 1 OF 1  
 SCALE: NONE

DRW'N BY: JAH  
 CHK'D BY:  
 APPV'D BY:

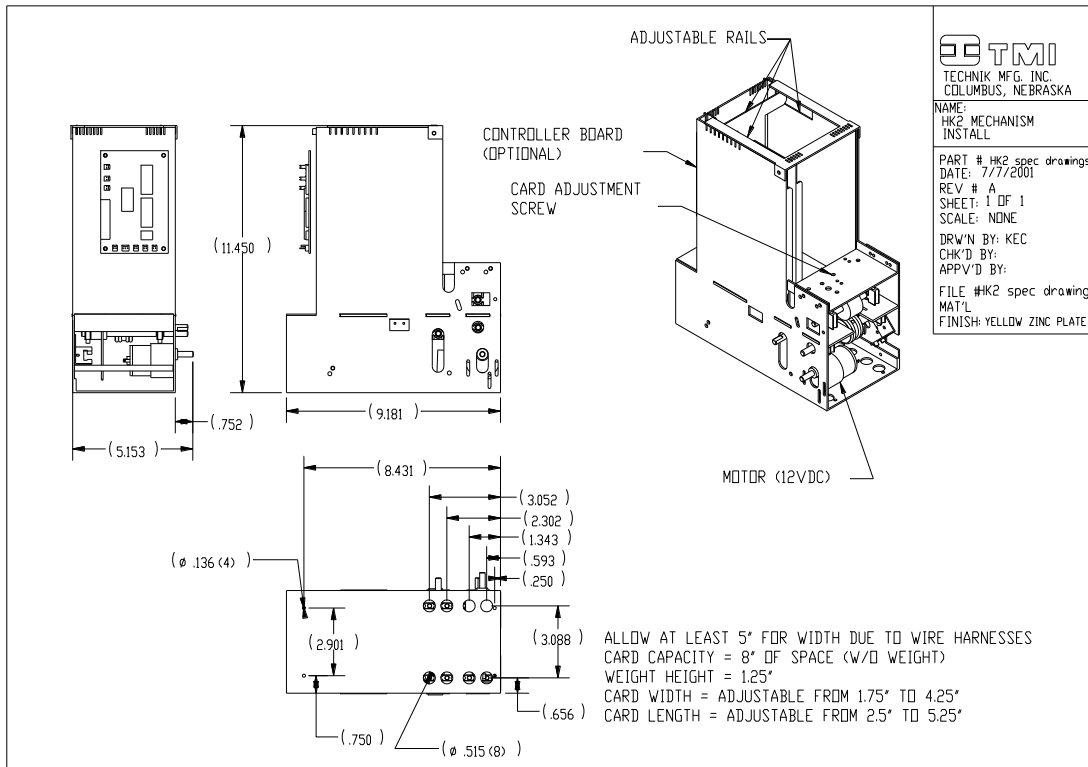
FILE #new sm2 mech  
 MAT'L -----  
 FINISH:----

ALLOW AT LEAST 4.5" FOR WIDTH DUE TO WIRE HARNESSSES  
 CARD CAPACITY = 7.65" OF SPACE (W/D WEIGHT)  
 WEIGHT HEIGHT = 1.25"

# IM-PC10



# IM-HK2



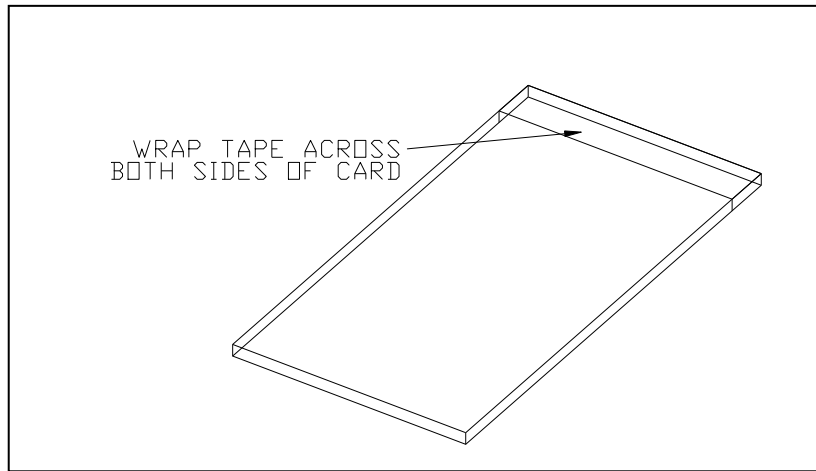


# **CARD THICKNESS ADJUSTMENT PROCEDURE**

## **20 TO 30 MIL CARD ADJUSTMENT**

1. With a hex head wrench, turn the adjustment screw on the dispensing mechanism counter-clockwise until a card will not pass the adjustment mechanism.
2. Place a "test card"; tape first, in the bottom of the column you wish to adjust. To make a "test card" place (2) pieces of clear tape or (1) piece of electrical tape as shown below.

### **TEST CARD**



3. Place the card weight on top of the card.

### **BEFORE GOING ANY FURTHER, READ THE INSTRUCTIONS BELOW!!!**

4. Place the hex head wrench into the adjustment screw.
5. Try to dispense a card and turn the adjustment screw clockwise until a card is dispensed. It may take a few tries before a card is dispensed.
6. Once a card is dispensed, the column is properly adjusted.

## **10 MIL CARD ADJUSTMENT**

1. Follow the procedure described above (20 to 30 MIL CARD ADJUSTMENT) except use a standard 10 mil card (without the tape) for testing.

## **LOADING / UNLOADING CARDS**

You are now ready to start loading your cards. Once the cards are in place, place a weight on top of the stack. If you receive a weight with knob(s) it should be installed with the knob(s) facing up. If you receive a weight with the word "FRONT" on it you should install it with the word "FRONT" facing you, right side up.

For unloading cards, a card hook is provided that allows for easy removal of the bottom-most cards.

## **OPTIONAL CONTROL BOARD INFORMATION**

### **Parallel Interface (DOCC Board)**

#### **LED Codes**

Located on the control board is a light (LED). The LED on the controller board is used to help troubleshoot any problems that might occur.

#### **SOLD-OUT information**

The LED will be lighted continuously when no cards are detected in the dispenser.

#### **Error codes**

If an error occurs that prevents the dispenser from operating, a code is displayed by flashing the LED a number of times followed by a pause. The number of times the LED blinks is the error number. The error codes are:

Error 1: (blink-pause) Feed sensor blocked unexpectedly. An object was detected in the feed path while the dispenser was idle.

Error 2: (blink-blink-pause) Feed failed. The dispenser was unable to feed the next card off the stack.

Error 3: (blink-blink-blink-pause) Feed jam. The card began to feed but was not fully dispensed from the mechanism.

These errors can be reset in one of three ways:

1. Turn the power off and then back on again.
2. Press and hold the test feed button (yellow button located on the DOCC board) until the error clears.

## Connection Information (DOCC Board)

### J8 connector

PIN	SIGNAL	TYPE	DESCRIPTION
1	EMPTY	OUT	SINKS 200ma @5VDC IF SOLD OUT
2	+5VDC	OUT	CURRENT LIMITED TO ~10ma
3	FAIL	OUT	SINKS 200ma @5VDC IF VEND FAILS
4	+5VDC	OUT	CURRENT LIMITED TO ~10ma
5	BUSY	OUT	SINKS 200ma @5VDC WHILE VENDING
6	+5VDC	OUT	CURRENT LIMITED TO ~10ma
7	RESET	IN	CONNECT TO GROUND TO RESET CONTROLLER
8	GROUND		
9	VEND	IN	CONNECT TO GROUND TO VEND CARD
10	GROUND		
11	V+		+12VDC NOMINAL UNREGULATED (1.5A)
12	GROUND		

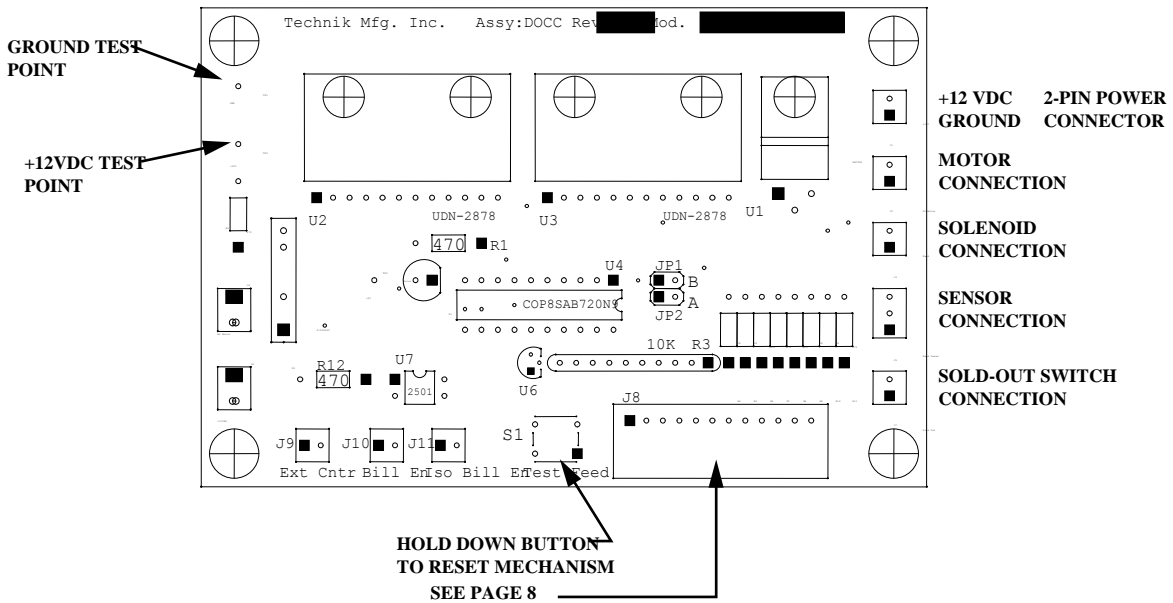
### J10 connector

PIN	SIGNAL	TYPE	DESCRIPTION
1	READY	OUT	SINKS CURRENT WHEN DISPENSER IS READY (BILL ACCEPTOR ENABLE)
2	+12VDC	OUT	

### J11 connector

PIN	SIGNAL	TYPE	DESCRIPTION
1	-ENABLE	OUT	ISOLATED BILL ACCEPTOR ENABLE CURRENT RETURN
2	+ENABLE	IN	ISOLATED BILL ACCEPTOR ENABLE CURRENT IN

## Parallel Board Layout (DOCC Board)



## Serial Interface (Mag Board)

### LED Information

The serial board is equipped with a series of LEDs which may be used to troubleshoot this mechanism. The LEDs visually indicate when an input is actuated. A description of the LEDs and their corresponding inputs are described on the board wiring diagram below.

### Serial Command Information

The serial command information is located in the "CM Card dispenser interface specification" manual. Please contact Technik for a copy of this manual.

Power requirements:

+5VDC – 0.25A

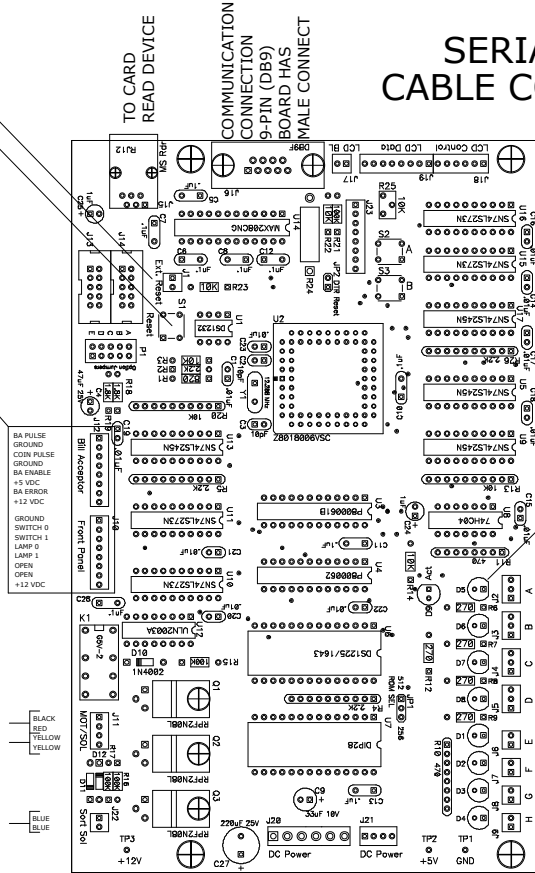
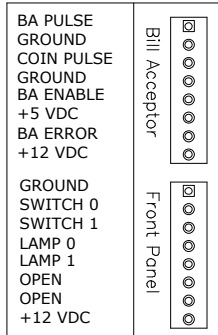
+15VDC – 1.25A

# Serial Board Layout (Mag Board)

## SERIAL BOARD CABLE CONNECTIONS

REVISION HISTORY:  
(B) CHANGED CONNECTOR TYPE FOR  
POWER SUPPLY (KEC / 9/10/05)

HARD RESET SWITCH  
HARD RESET BUTTON



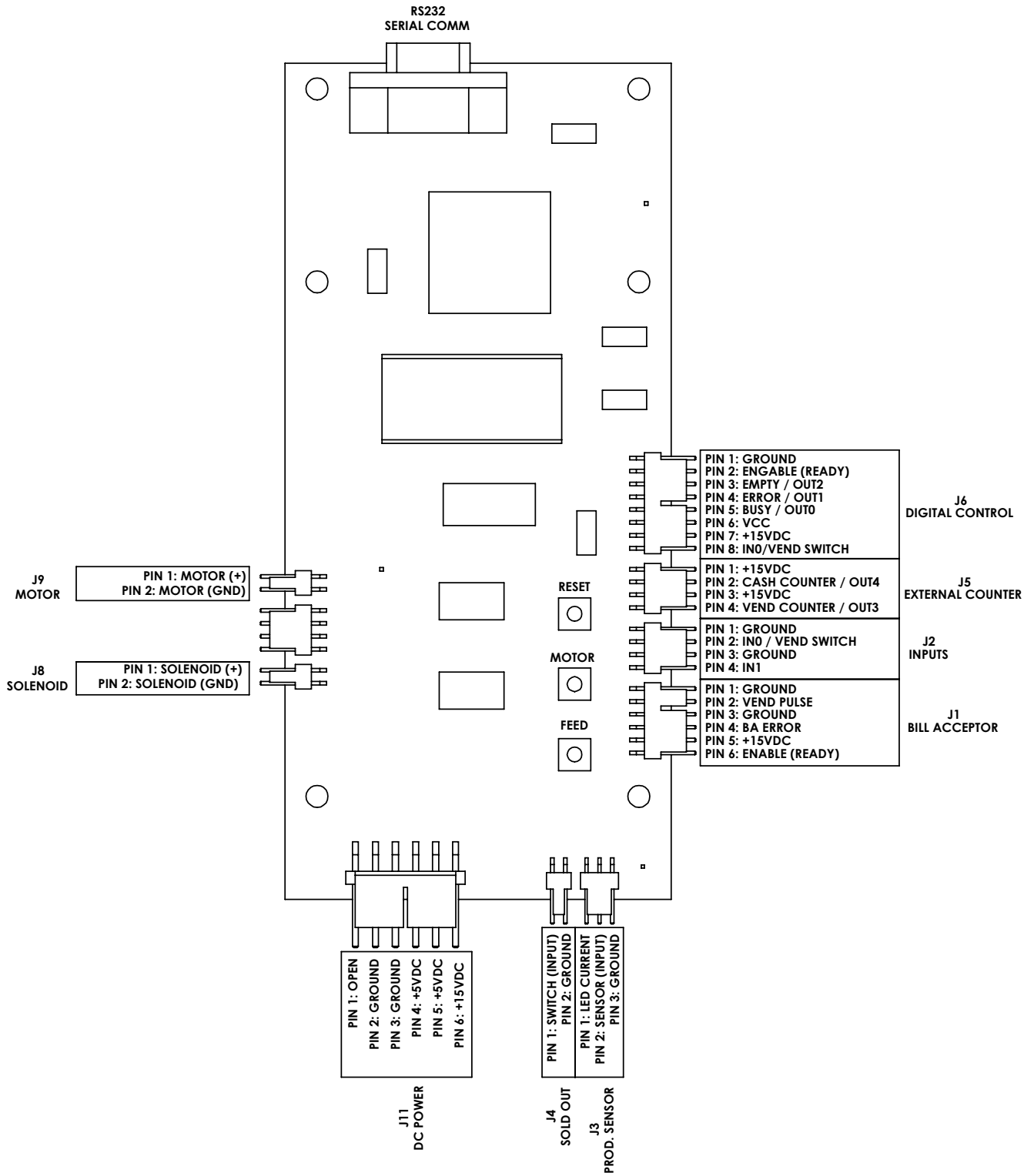
ID #	MFG	PN	DESCRIPTION
1	MOLEX	22-01-3027	2-CIR .100"
2	MOLEX	22-01-3037	3-CIR .100"
3	MOLEX	22-01-3047	4-CIR .100"
4	MOLEX	22-01-3067	6-CIR .100"
5	MOLEX	09-50-3061	6-CIR .156"
6	MOLEX	08-50-0113	.100" TERMINAL
7	MOLEX	08-52-0072-C	.156" TERMINAL

LED DESCRIPTION:  
D1 - CARDS SOLD OUT SWITCH  
D2 - CARD GATE SWITCH  
D3 - OPEN  
D4 - OPEN  
D5 - CARD DISPENSE SENSOR  
D6 - CARD READ SENSOR  
D7 - CARD STAGED SENSOR  
D8 - CARD LEVEL SENSOR (IF USED)  
D9 - ERROR CODE LED

- BROWN — CARD DISPENSE SENSOR (FS1)
- GREEN — CARD READ SENSOR (FS2)
- BLUE — CARD STAGED SENSOR (FS3)
- PURPLE — CARD LEVEL SENSOR (LPS)
- ORANGE — CARDS SOLD OUT SWITCH (SOS)
- YELLOW — CARD GATE SWITCH (VGS)
- RED — OPEN
- GREEN — OPEN
- PURPLE — OPEN
- BLUE — OPEN

**TYPE #5**  
BLACK - GROUND  
RED - +5 VDC  
YELLOW - +15 VDC

## Combo Board (both serial and parallel)



## **REGULAR MAINTENANCE**

### **Mechanism Lubrication**

This should not be necessary. Improper lubrication can result in machine malfunction.

### **Cleaning**

After approximately 100,000 cycles you may need to clean the mechanism. To do this use rubbing alcohol and a cotton rag. Clean the aluminum roller where the cards exit the mechanism. **Do not use alcohol on rubber belts.**

