

Welcome to your

# Pulse Driven Printer Interface Board Manual

The PDPI Board's unique features include the ability to:

Track output pulses normally directed to "Credits In" mechanical meter.

Track and print output pulses normally directed to "Clear Score" meter.

Simple conversion of points to dollars through onboard DIP switch.

Quick & easy user setup of time/date and location specific information -  
setup many machines in minutes, not hours.

Audit ticket function prints receipt of accumulated pulses with time/date,  
machine #, and location information.

Unique preprogrammed disclaimers can be requested.

Can be used with optional dual copy printer for additional security.

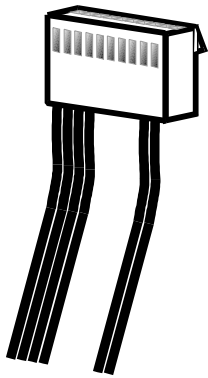
Compact design for easy attachment directly to Citizen printer.

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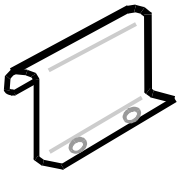
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The PDPI Board is designed to be used only for legal purposes as determined  
by the authorities in the location where this piece will be used.

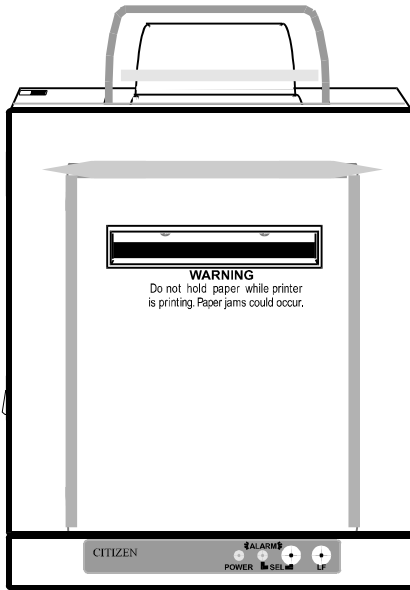
## CONTENTS of your PDPI KIT



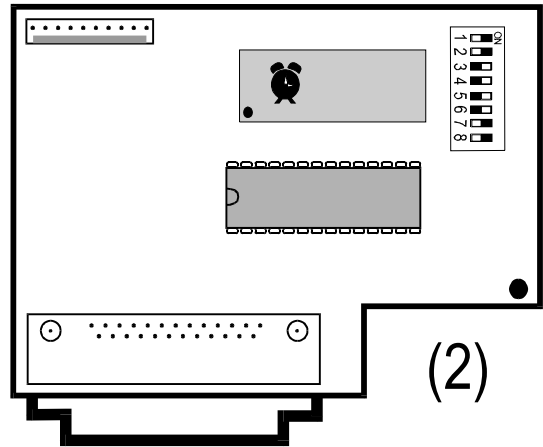
(1)



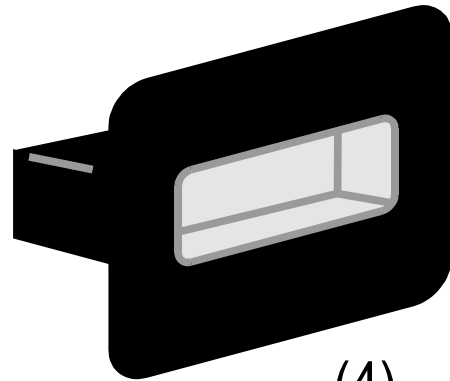
(3)



(5)



(2)



(4)

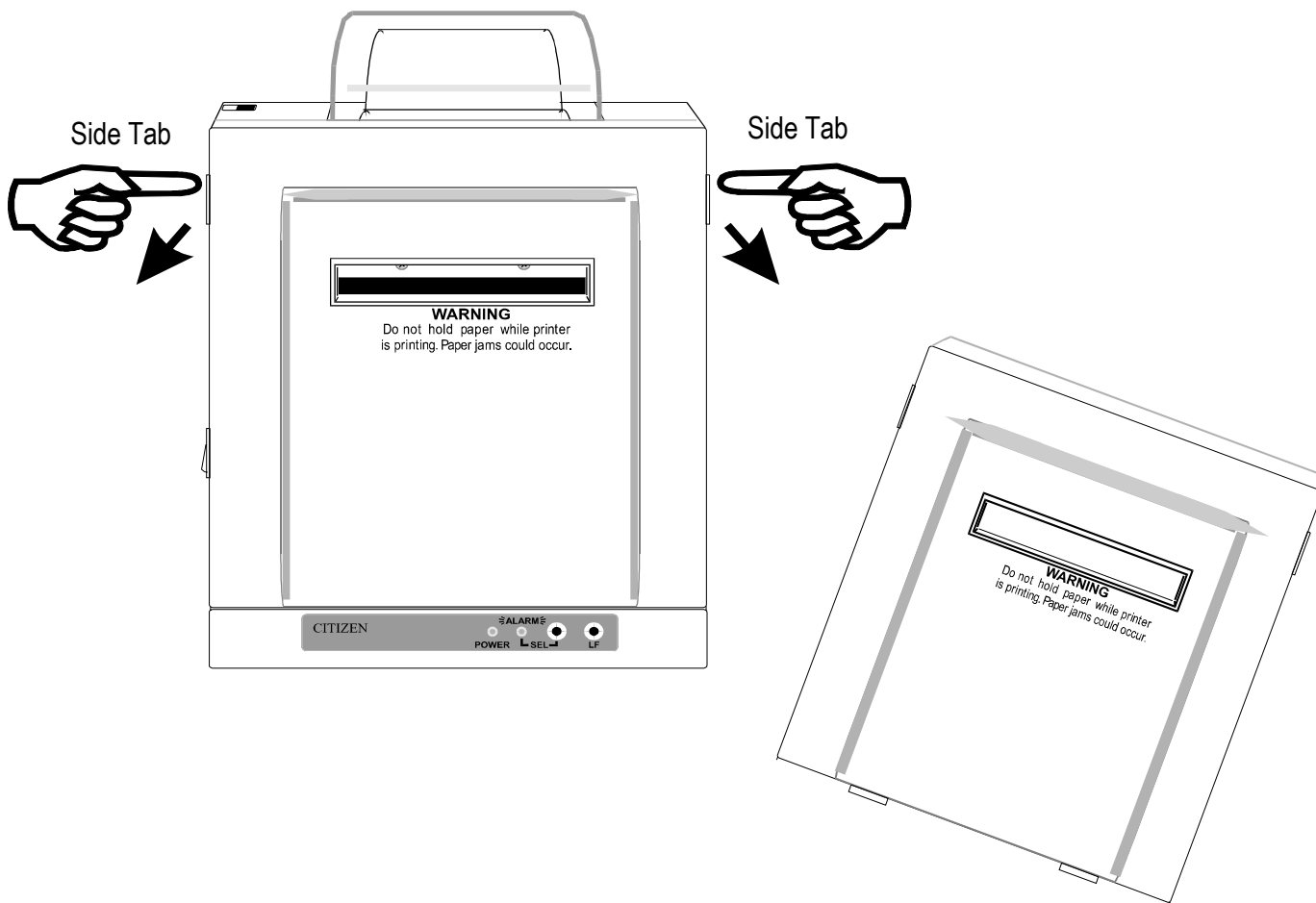
Included in the PDPI Kit are the following:

- 1) Connecting Harness
- 2) PDPI Board
- 3) Mounting Hardware
- 4) Cabinet Face Plate
- 5) Citizen iDP3541 Printer

Optional Items not included are:

- 1) Programming Software Kit
- 2) Additional Printer Ribbons

## REMOVING and REPLACING the FRONT COVER of your PRINTER



### To Remove The Front Cover

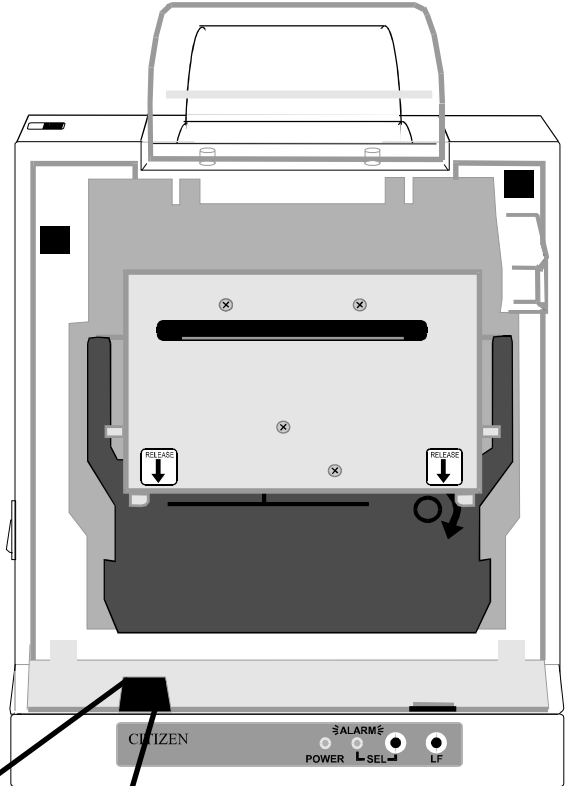
- 1) Set the printer on a flat surface with the unit facing you (as shown above).
- 2) With your fingers holding the front cover, pull the upper half of the front cover towards you. (Use the side tabs for assistance).
- 3) Lift the front cover upward to remove the bottom tabs from the placement grooves.

### To Replace the Front Cover

- 1) Set the printer on a flat surface with the unit facing you (as shown above).
- 2) Set the bottom tabs of the front cover in the placement grooves of the printer unit.
- 3) Push the front cover towards the printer unit until it sets in place.

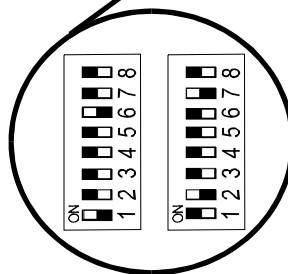
# SETTING the DIP SWITCHES on your PRINTER

The DIP switch settings on your Citizen iDP3541 printer MUST be changed from the original factory settings (and set to 1200 baud) in order for your PDPI Board to function correctly.



The DIP switches for your printer are located behind the front cover.

If your printer does not have two DIP Switch banks of 8 each, please refer to the troubleshooting section.



Proper DIP Switch Settings  
for 1200 Baud Rate

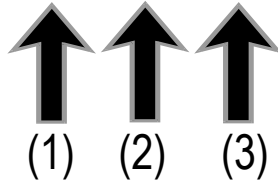
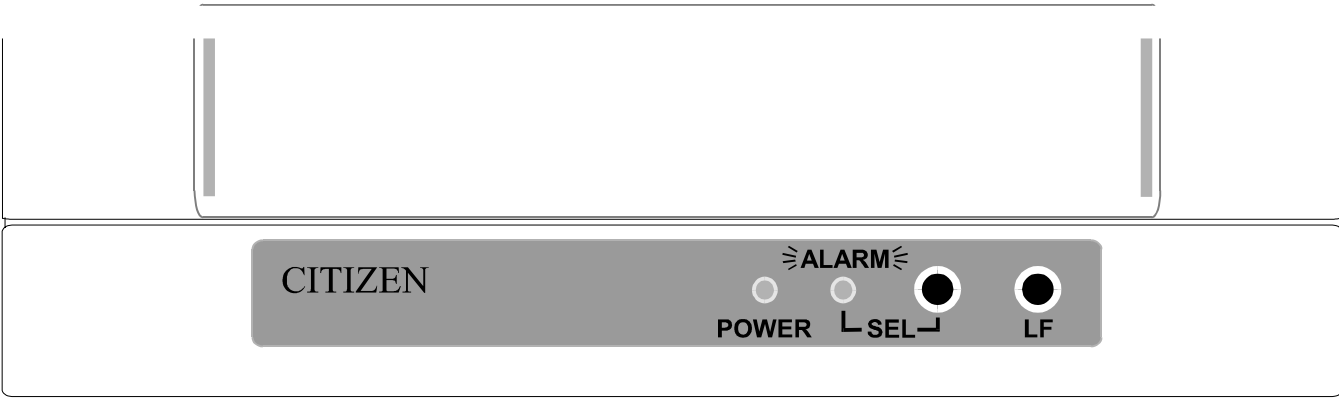
BANK 1	BANK 2
1, 6 on	2, 7 on
2, 3, 4, 5, 7, 8 off	1, 3, 4, 5, 6, 8 off

### To Set the DIP Switch on the Citizen iDP3541 Printer

- 1) Make sure the printer is turned off.
- 2) Remove the front cover from the printer.
- 3) With a small object, like a screwdriver or ball point pen, gently move the DIP switch either left or right. Make sure the switch is completely in the "on" or "off" position.
- 4) Replace the front cover
- 5) Turn the printer on.

NOTE: If at any time the DIP switch settings are changed and the printer has not been turned off, and then on, the printer will NOT register the new settings.

# MAKING SURE your PRINTER is READY to PRINT

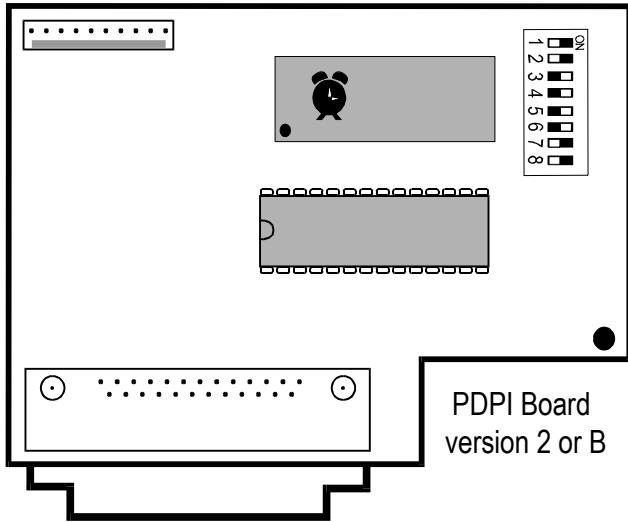


## Citizen Printer Indicator Light Panel (reference page 8 of your Citizen Manual)

- (1) POWER - **POWER LIGHT**- the power light shows that the printer is plugged in and turned on.
- (2) SEL ("ALARM") - **SELECT LIGHT** - the select light shows the status of the printer.  
 If the light is off, the printer is "off line" and not ready to print.  
 If the select light is flashing, there is a fault (such as paper out or paper jam).  
 If the select light is steadily on, the printer is "on line" and ready to print.
- (3) SEL - **SELECT BUTTON** - the select button is used to set the printer on line and off line.  
 When the select light is off or flashing, press the select button until the light shines steadily.

Both the Power Light and Select Light must be on, not flashing, in order for the printer to function.

# SETTING the DIP SWITCHES on your PDPI BOARD



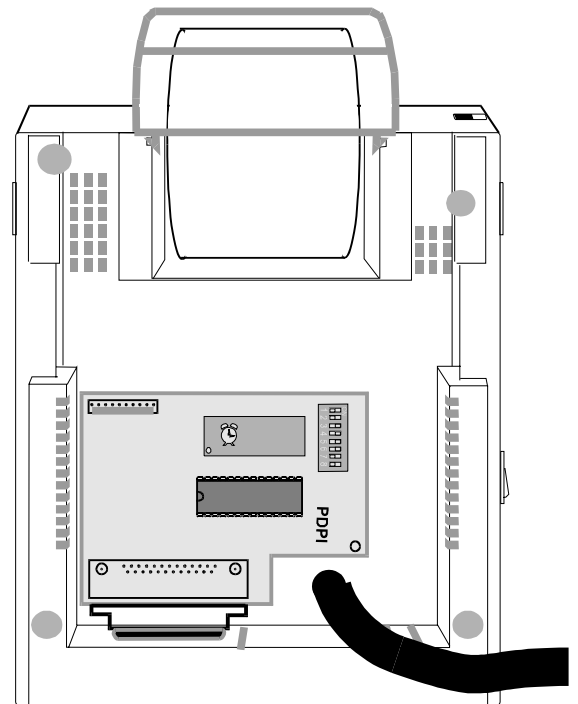
## DIP Switch Settings

Switch 1	Always Off
Switch 2	Always Off
Switch 3	Daylight Savings Mode - On
Switch 4	Print Disclaimer - On No Disclaimer - Off
Switch 5	Print in \$ - On Print Points - Off
Switch 6	1 pulse = \$1 - On Anything else - Off
Switch 7 & 8	Switch 6 must be off for the following settings to work:
	1 credit = 1 cent      Off & Off
	1 credit = 5 cents      Off & On
	1 credit = 10 cents      On & Off
	1 credit = 25 cents      On & On

DIP switch settings MUST be set prior to turning on power to the PDPI Board otherwise they will not be read properly.

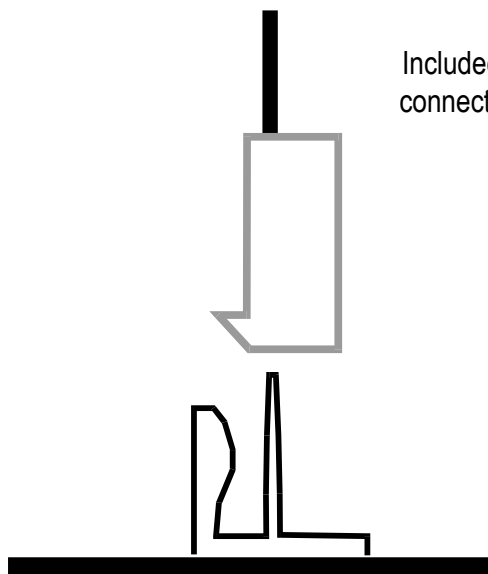
## Mounting the PDPI Board to your Printer

- 1) Attach the connecting harness to the PDPI Board prior to attaching the PDPI Board to the printer.
- 2) Fit the 25 pin connector on the Board into the mating 25 pin connector on the back of the printer  
The component side of the PDPI Board will face away from the printer.



back view of the Citizen iDP3541 printer with PDPI board attached

# HOOKING up the PDPI to your GAME



Included in your PDPI Kit is a short connecting harness which can be used to connect the PDPI Board to your existing game harness. The connector has a ramp on one side and will only fit on the PDPI Board one way.

The Wire Functions are as Follows:

- Pin 1 - (GRN) - Credits In Meter
- Pin 2 - (BLU) - Credits Out Meter
- Pin 3 - (GRY) -Print Audit Switch
- Pin 4 - (WHT) -Clear Audit Switch
- Pin 9 - (RED) - +5VDC
- Pin 10 - (BLK) - DC Ground

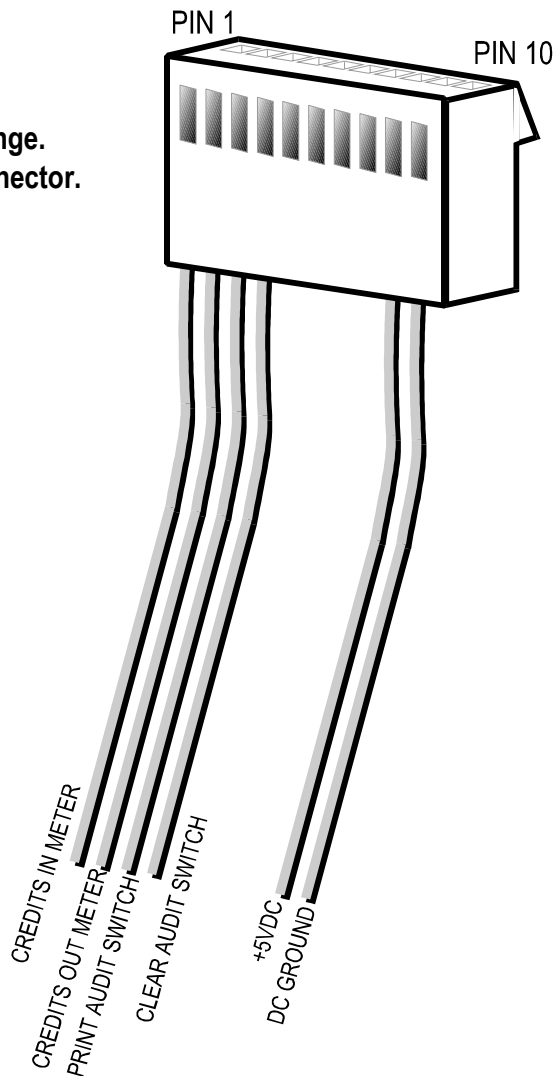
**Please note: wire colors are subject to change.  
Function is based on wire position in the connector.**

Make sure you have a strong +5V and Ground. The components on the PDPI function best when the +5V, measured at the PDPI board, registers between +5.1V and +5.25V

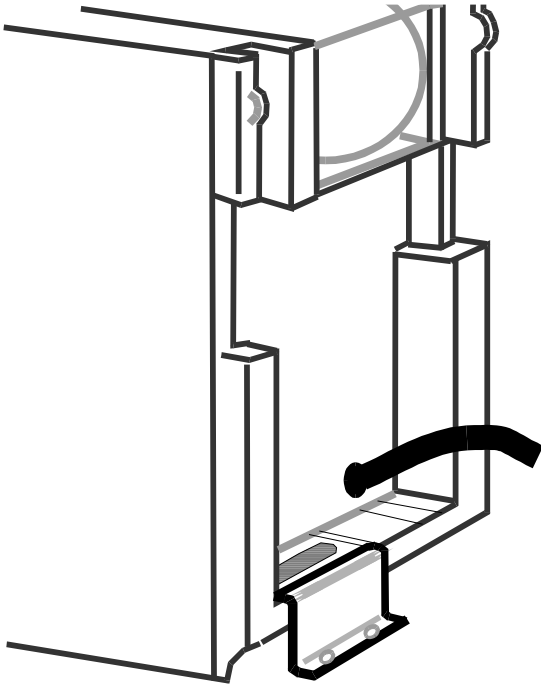
To Hook Up Print Audit and Clear Audit:

- 1) Obtain a single pole/single throw, normally open switch. One switch for Print Audit; one switch for Clear Audit.
- 2) For each switch, connect one side of the to DC Ground. Connect the other side of the switch to the wire with the desired function on the PDPI Connecting Harness.

**NEVER, EVER, EVER reverse +5VDC and GROUND. Mixing up these two wires with each other, or with the Meter wires will DESTROY your PDPI Board. The warranty does not cover this problem.**



## MOUNTING the PRINTER to the CABINET



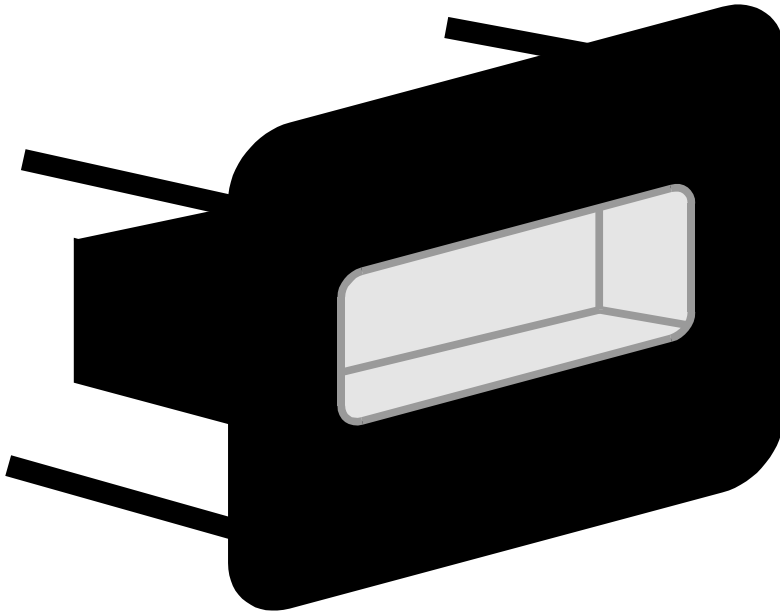
Included in your PDPI Kit is a mounting bracket and two screws which can be used to help hold your Citizen printer in place when it is mounted in your cabinet.

### Mounting your Printer

- 1) Position your printer in your cabinet.
- 2) Hook the small bracket over the back, bottom edge of the printer, next to the 25 pin connector.  
If positioned properly, the two holes in the small bracket can be screwed into the shelf holding the printer.

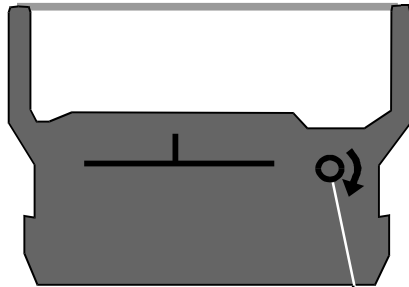
The bracket is NOT designed to support the weight of the printer and the printer should be removed prior to shipping or moving the cabinet.





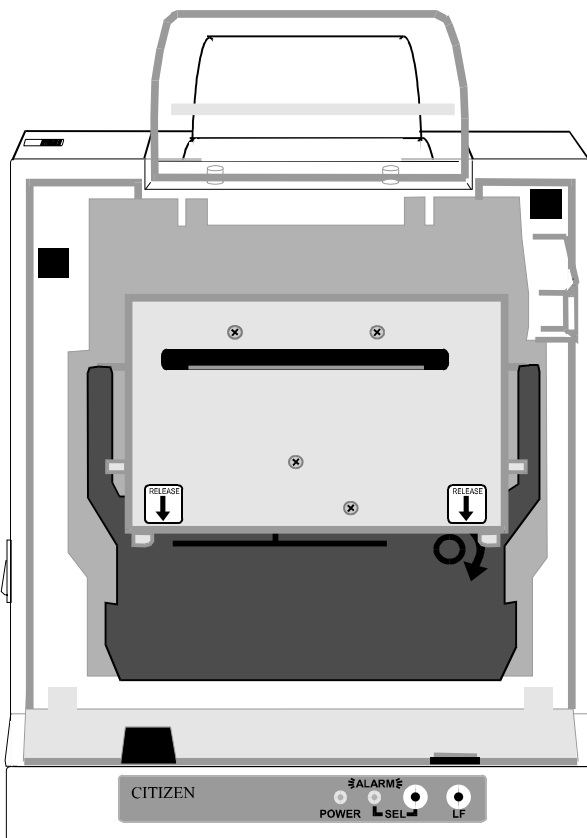
A face plate is included in your PDPI Kit. This face plate mounts to the outside of your game cabinet and provides an opening through which your receipts are dispensed. The thread size of the pem bolts are 10-32. Four nuts are included (either mounted to the face plate bolts or in the bag with your mounting hardware).

## CHANGING the RIBBON on your PRINTER



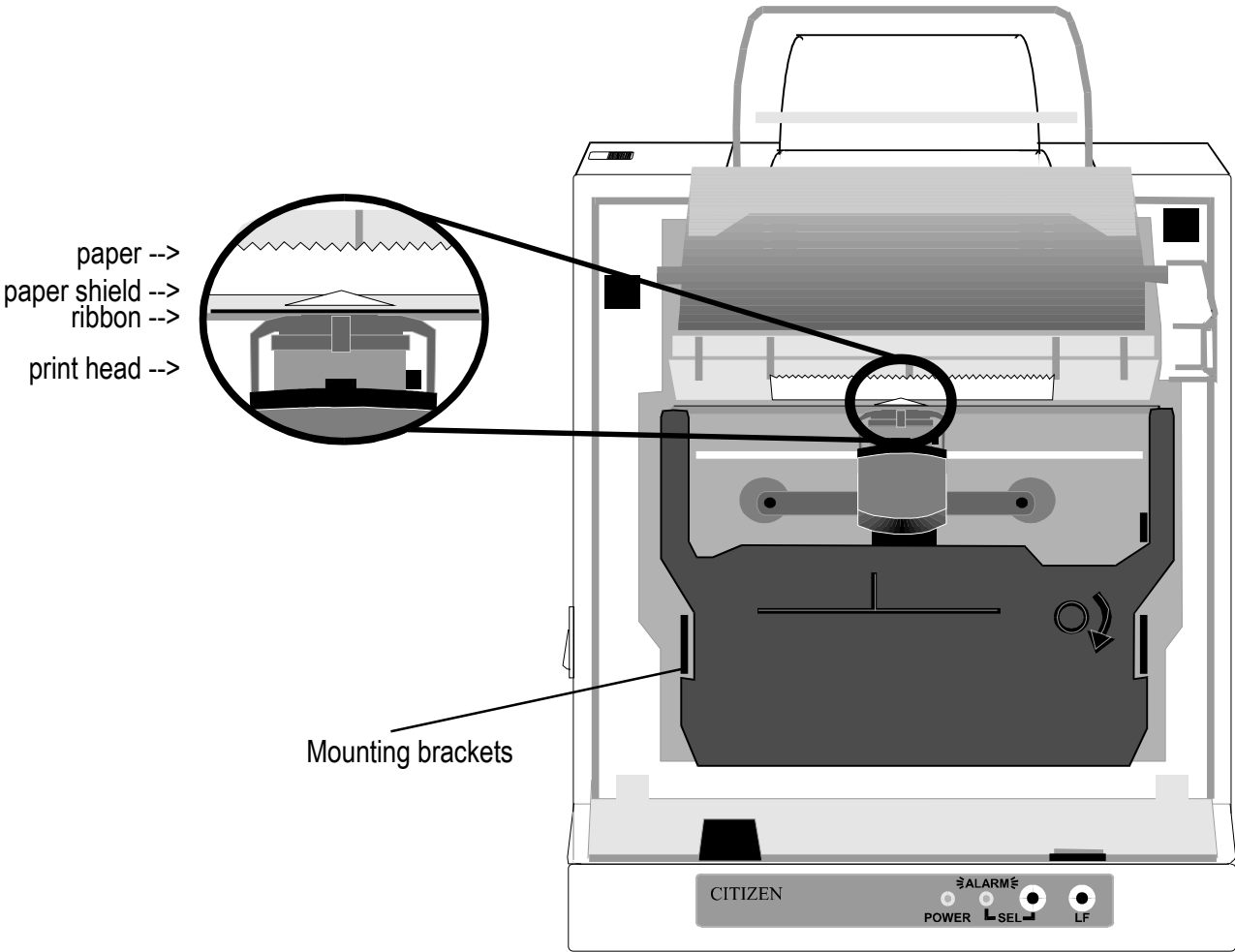
The ribbon used with the Citizen iDP3541 printer is a dual color (Red and Black) cloth ribbon. Your PDPI Printer Kit automatically comes with one ribbon. Additional ribbons are available from your distributor.

knob turns clockwise  
to tighten ribbon



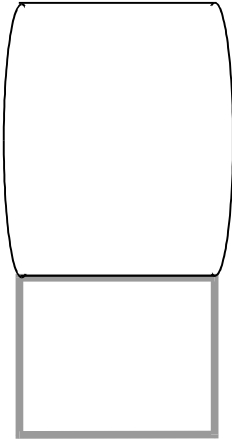
To Change your Printer Ribbon  
(see p. 10 of your Citizen Printer Manual)

- (1) Unplug your printer.
- (2) Remove the front cover of your printer.
- (3) Remove the ribbon from its wrapper.
- (4) Lift the cutter mechanism upward by the areas marked "release" and hold.  
(Remove any old ribbons).
- (5) Hold the ribbon so the knob will be visible once the ribbon is in place.



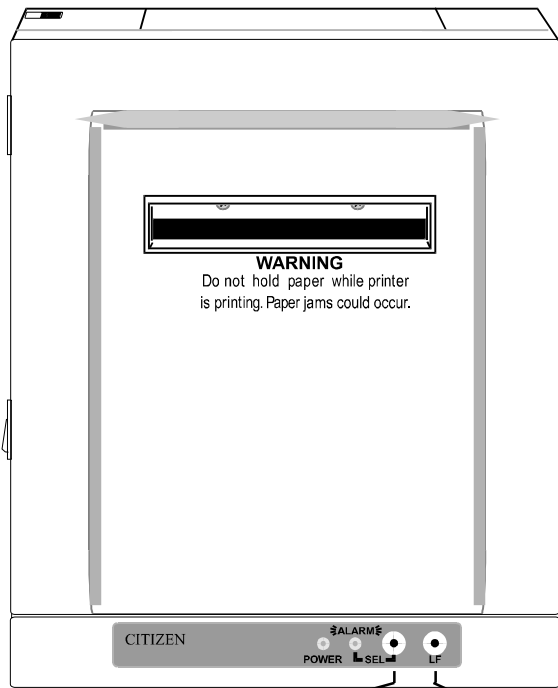
- (6) Place the lower portion of the ribbon's case in the mounting brackets while inserting the ribbon between the print head and paper shield. The ribbon will "click" into place.
- (7) Turn the ribbon's knob clockwise to remove any slack in the ribbon.
- (8) Snap the cutter mechanism back into place, replace the printer cover and restore power.

## CHANGING the PAPER in your PRINTER



The paper size for your printer is 3 inches wide

Make sure the end of the paper being inserted into your printer is cut straight across and not at an angle.



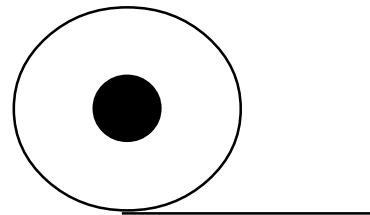
**WARNING**  
Do not hold paper while printer is printing. Paper jams could occur.

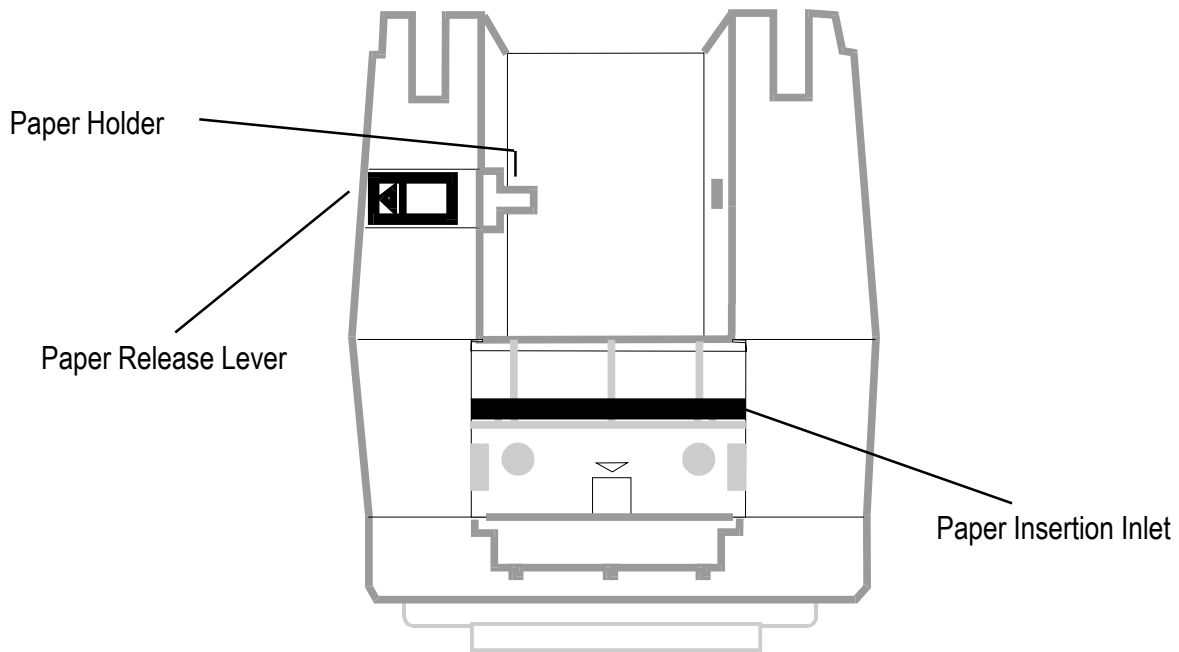
SEL button

Line feed button

To Change your Printer's Paper  
(see p. 10 of your Citizen Printer Manual)

- (1) Remove the clear plastic cover from the top of the printer, if necessary.
- (2) To remove any old paper rolls, move the paper release lever as indicated.
- (3) Mount the new paper roll on the paper holder. Make sure the paper is positioned so that it will feed into the printer from the **BOTTOM** of the roll. Make sure the paper release lever is back in place.





Bird's eye view of the Citizen Printer

- (4) Cut the paper so the insertion end is straight across.
- (5) Insert the paper into the paper insertion inlet until it stops.
- (6) With power to the printer, press the select (SEL) button until the SEL light goes off. Hold the paper in place and press the line feed (LF) button (which advances the paper out the front of the printer.)
- (7) Once the paper is through, press the select button again until the SEL light shines steadily.

## MORE about RECEIPT TICKETS

### **Printing Tickets**

When connected to your game, receipt tickets will begin to print out immediately after the out meter stops incrementing. If there is a large number of credits to be registered by the out meter, it may take a while before your receipt ticket begins to print. This delay is unavoidable.

### **Cutting Tickets**

The Citizen Printer is capable of cutting the ticket receipt in two different ways.

Full Cut - means the receipt is cut the entire width of the paper, except at one point where it is still attached. The receipt can be pulled off with very little force. This reduces the occurrence of paper jams.

Complete Cut - means the receipt is cut the entire width of the paper and is completely detached from the rest of the paper roll.

### **Receipt Tickets, Audit Tickets and Clear Audit Tickets**

Three different types of tickets are printed from the PDPI Board.

The receipt ticket prints the results of the out meter.

The audit ticket prints the totals of both the in and out meters since last cleared. The print audit ticket will appear only when you press the Print Audit Button.

The clear audit ticket prints after the Clear Audit Button has been pressed. Pressing the clear audit button resets the in and out meter tallies to zero. The ticket shows these numbers have been cleared.

If you ever have any problems where you need to determine if power is being supplied to the PDPI Board, print an audit ticket.

## OPTIONAL SOFTWARE for use with your PDPI BOARD

Optional software is required to program information which you would like to appear on your printed tickets. Your distributor may program location and disclaimer information for you before you purchase your board, so this software may not be necessary for you.

Required to program the PDPI Board:

- PDPI Programming Software Kit
- IBM compatible computer (Desktop or Laptop)
- Serial/COMM Port
- DOS 5.0 or greater

The PDPI Programming Software Kit is very easy to use. With it you can program your PDPI Board in less than a minute.

## TROUBLESHOOTING

### PROBLEM

### SOLUTION

Tickets take a long time to print out.

Your PDPI Board is not broken. See the section in this manual called "More about Receipt Tickets"

Receipt Tickets won't print out.

First, try to print an audit ticket to determine if the PDPI Board is communicating with the printer. If an audit ticket prints, then the wire in position 2 (Blue wire) on the connecting harness is not connected to the out meter pulse wire from the game board.

Nothing prints out.

Make sure the printer is turned on.  
Make sure you have power to the PDPI Board.  
Make sure your PDPI Board is fully connected to the printer.  
Make sure your printer is selected (see section in this manual called "Making Sure your Printer is Ready to Print")

The printer keeps printing tickets and you can't get it to stop.

Clear the buffer on the Citizen Printer: Turn the printer off. While holding down both the SEL and LF buttons, turn the printer back on. A test ticket will print showing the buffer is clear.

Intermittent problem where tickets stop printing.

Your PDPI Board is possibly ground starved. Connect the ground wire to the PDPI as close to the power supply as possible.

A ticket prints when money is put into the game.

The meters must have diodes with them. The diodes can be inside the meters (meters with one red wire and one black wire usually have a diode) or built into the harness. Call your distributor for proper installation of diodes.

The words on the ticket come out scrambled or all on one line.

Check the DIP Switches on the printer (see the section in this manual called "Setting the DIP Switches on your Printer").

"36" or "?6" prints instead of the time, date or proper totals.

The Dallas chip is either loose or bad. Try reseating this chip or call your distributor for replacement.



# TROUBLESHOOTING cont'd

**PROBLEM**

**SOLUTION**

Ink smudges on the paper.

Ribbon is not correctly positioned between the print head and the paper shield (see the section in this manual called "Changing the Ribbon on your Pinter").

PDPI board does not work with an Epson printer.

The PDPI board was not designed to work with an Epson, but you can use your Epson printer by obtaining a specially programmed PDPI chip.

One of the Citizen printer's DIP Switch banks has more than 8 switches.

The printer is equipped with different internal programming than the standard Citizen iDP3541 and requires a different PDPI programming chip in order to function correctly. Again, the standard PDPI V.2 chip will not work. Once you have the correct version of PDPI programming chip, the DIP Switch settings for the Citizen printer are:  
Bank 1: Sw 1 OFF, others ON  
Bank 2: Sw 1,2,3,6,7,8 ON