

***Model: CR3000 Series***

## ***Compact Cash Drawers***

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***Compact, with Small Footprint***

# ***USER MANUAL***



## **NOTICE**

The manufacturer of the POS cash drawer makes no representations or warranties, either expressed or implied, by or with respect to anything in this manual, and shall not be liable for any implied warranties of fitness for a particular purpose or for any indirect, special or consequential damages. Information in this document is subject to change without notice and does not represent a commitment on the part of the manufacturer.

## **FCC NOTICE**

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with this manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A digital device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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## FEATURES

- Low cost
- Small foot-print with efficient use of internal space
- Drawer opens from any POS printer drive circuit
- Bill and coin compartments
- Three-position lock for maximum cash security
- High security - no screws on the outside of the case
- Check slot for non-cash or large-bill transaction
- Rugged design with reinforced heavy gauge steel construction
- Large ball bearings riding on special guides for remarkably smooth drawer slide
- Contemporary style
- Input/Output expansion connectors for Model CR3001
- Advanced electronics that extend the MTBF (Mean Time Between Failure)
- Precision mechanical parts with tight tolerance to assure wobble-free drawer movements
- Optional interfaces include (CR3001):
  - Printer
  - Dedicated RS232C
  - Non Dedicated RS232C
  - Parallel

## CARTON CONTENTS

### CR3000

1. Cash drawer, pre-assembled
2. Printer interface cable
3. Two keys
4. User's manual

### CR3001

1. Cash drawer, pre-assembled
2. Computer interface cable; DB9 female and a DB25 female connectors.
3. Two keys
4. Power adapter 120VAC to 12VAC standard
5. User's manual

## INTERFACE DESCRIPTION

### Model CR3000 - Printer Driven Interface:

Connect the drawer to the POS printer as shown in Figure 1. Whenever the POS application software sends a drawer open command to the POS printer, the printer will output an electrical pulse to open the drawer.

### Model CR3001 - Dedicated Interface:

Connect the drawer to the computer as shown in Figure 2. Connect the power adapter output to the power input jack.

Whenever the POS application software transmits data to the computer's COM1 (COM2) port, the drawer will be opened. No other RS232C data-receiving device(s) can be connected to this serial port.

### Model CR3001 - Non-Dedicated Interface:

Connect the drawer to the computer as shown in Figure 2. Connect the power adapter output to the power input jack.

Whenever the POS application software transmits the pre-set security code to the computer's COM1 (COM2) port, the drawer will open. The security code was pre-set by the manufacturer to (07 Hex) and can be

re-configured as shown in Figure 4. Under normal operations, the selected pre-set code should be a non-displayable ASCII character.

**NOTE:** Other serial devices, such as a printer, can be connected to the same serial port.

**Model CR3001 - Parallel Interface:**

Connect the drawer to the computer as shown in Figure 3. Connect the power adapter output to the power input jack.

Whenever the POS application software transmits the pre-set security code to the computer's parallel (LPT1) port, the drawer will open. The security code was pre-set by the manufacturer at (07 Hex) and can be re-configured as shown in Figure 4. Under normal operations, the selected pre-set code should be a non-displayable ASCII character.

*NOTE:* Other parallel devices, such as a printer, can be connected to the same parallel port.

**INSTALLATION**

Your cash drawer has been pre-assembled to make the installation as simple as possible.

**Model CR3000**

1. Remove the cash drawer from its shipping container.
2. Remove the keys and interface cable from its plastic bag.
3. Connect the interface cable to the printer.
4. Connect the other end of the interface cable to the "Control Signal Input" of the cash drawer.

**Model CR3001 with serial interface**

1. Remove the cash drawer from its shipping container.
2. Remove the keys and interface cable from its plastic bag.
3. Connect the DB9F connector of the interface cable to the COM1 or COM2 port of the computer.
4. Connect the DB25F connector of the interface cable to the DB25M "Serial Input From Computer" connector on the cash drawer.

*NOTE: The interface cable may not be used for other applications.*

5. Connect the power adapter output to the "Power Input From Adapter" connector on the cash drawer.

### **Model CR3001 with parallel interface**

*NOTE:* The parallel interface cash drawer does not come with an interface cable. Any standard centronic parallel printer cable may be purchased to interface between the computer and the cash drawer.

1. Remove the cash drawer from its shipping container.
2. Remove the keys from its plastic bag.
3. Connect a parallel interface cable between the parallel port on the computer and the "Parallel Input From Computer" connector on the cash drawer.
4. Connect the power adapter output to the "Power Input From Adapter" connector on the cash drawer.

## **FUNCTIONAL TEST**

The following test sequence will verify that your cash drawer is working properly. Before you start this procedure, you must install the cash drawer correctly as outlined in the installation section

*NOTE:* The actual key entries are enclosed within quotation marks (" "). Do **not** type the quotation marks as part of your entry.

### **Model CR3001 with dedicated interface:**

1. From the C prompt type "MODE COM1 96,N,8,2" and press ENTER.
2. Type "TYPE CON>COM1" and press ENTER.
3. Type any alphanumeric character(s) and press ENTER. The cash drawer will open.
4. To return to the C prompt press and hold the CTRL key while depressing the letter C (Ctrl-C).

### **MODEL CR3000 & CR3001 with non-dedicated interface**

1. From the C prompt type "MODE COM1 96,N,8,2" and press ENTER.
2. Type "TYPE CON>COM1" and press ENTER.
3. TYPE "^G" (Ctrl-G) and press ENTER. The cash drawer will open if the security code is 07 Hex as set by the manufacturer.

NOTE: If another security code has been selected to open the cash drawer then the corresponding ASCII character must be substituted to open the drawer.

4. To return to the C prompt press and hold the CTRL key while depressing the letter C (Ctrl-C).

### **MODEL CR3001 with parallel interface**

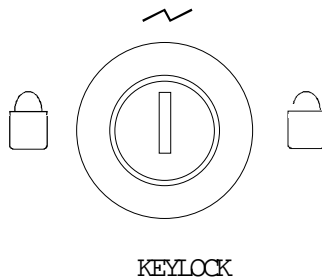
1. From the C prompt type "ECHO ^G>LPT1" and press ENTER. The cash drawer will open if the security code is 07 Hex as set by the manufacturer.

NOTE: "**^G**" is entered as "**Ctrl-G**". If another security code has been selected to open the cash drawer then the corresponding ASCII character must be substituted to open the drawer. The computer will automatically return to the C prompt.

## KEY LOCK OPERATION

All cash drawers have a three position key lock for maximum security. The fully counter clockwise lock position offers maximum security. The cash drawer can not be opened by computer or an individual when the lock is in the full counter clockwise position. With the lock in the center position, the drawer will open when an electronic pulse is received from either the printer or computer. The cash drawer is manually opened when the lock is in the full clockwise position.

### Model CR3000, CR3001 Keylock Operation:



:Drawer securely locked. Can not be opened by computer, printer, or manually.



:Opens the drawer with the supplied key.



:Automatically opens the drawer by computer or printer control.

## SPECIFICATIONS

### MECHANICAL:

Weight	14.3 lb.	(6.5 kg)
Height	3.3 in.	(8.5 cm)
Width	15.7 in.	(40 cm)
Depth	16.1 in.	(41 cm)

### ELECTRICAL:

#### INPUT TO SOLENOID (CR3000, CR3001)

Pulse Amplitude	12VDC to 24VDC
Pulse Width	100 milliseconds to 200 milliseconds
Pulse Duty Cycle	10% maximum
Peak Current	1 Ampere

#### POWER ADAPTER (CR3001)

Input Voltage	120 VAC. +10%-20%
	50-60 Hz
	20W
	12 VAC at 1A

#### SERIAL INPUT (CR3001)

Data Format	Standard RS232C
Protocol (see Fig. 4)	
Baud Rate	150,300,600,1200,2400, 4800, 9600*, 19,200
Parity	None*, Even, or Odd
Data bits	7 or 8*
Handshake	None
Security Code(CR3001)	1-255; 7*
Open Drawer Indicator	Open collector, conducting when opened

\* Denotes factory default settings.

#### PARALLEL INPUT (CR3001)

Data Format	Standard Centronics parallel interface
Security Code	1-255; factory preset value = 7
Open-Drawer Indicator	Open-collector, conducting when opened

## CONNECTOR PIN OUT

Figure 5 will show the connector arrangement for the CR3001 cash drawer. The following charts will show the function of each pin.

### P1 (DB25 M) - Parallel Input From Computer

Pin #	Function	Pin #	Function
1	-Strobe	13	Select
2	Data 0	14	-Auto Feed
3	Data 1	15	-Error
4	Data 2	16	-Initialized printer
5	Data 3	17	-Select input
6	Data 4	18	Ground
7	Data 5	19	Ground
8	Data 6	20	Ground
9	Data 7	21	Ground
10	-Ack	22	Ground
11	Busy	23	Ground
12	Paper end	24	Ground
		25	Ground

### P2 (DB25F) - Parallel Output to Printer

Pin #	Function	Pin #	Function
1	-Strobe	13	Select
2	Data 0	14	-Auto Feed
3	Data 1	15	-Error
4	Data 2	16	-Initialized printer
5	Data 3	17	-Select input
6	Data 4	18	Ground
7	Data 5	19	Ground
8	Data 6	20	Ground
9	Data 7	21	Ground
10	-Ack	22	Ground
11	Busy	23	Ground
12	Paper end	24	Ground
		25	Ground

### **P3(DB25M) - Serial Input From Computer**

<b>Pin #</b>	<b>Function</b>
1	No connection
2	Receive data from computer
3	Transmit data to computer
4	RTS, Request To Send; from computer (tied to pin 5 internally)
5	CTS, Clear To Send; to computer (tied to pin 4 internally)
6	DSR, Data Set Ready; to computer (tied to pins 8 & 20 internally)
7	Ground
8	DCD, Data Carrier Detect; to computer (tied to pins 6 & 20)
9	No connection
10	No connection
11	No connection
12-17	No connection
18	POS printer interface; paired with pin 25
19	No connection
20	DTR, Data Terminal Ready; from computer (tied to pins 6 & 8)
21-24	No connection
25	POS printer interface, paired with pin 18

### **P4(DB9F) - Pass Thru Serial Output**

<b>Pin #</b>	<b>Function</b>
1	Connected to pin 1 of P5
2	Receive data from printer
3	Transmit data to printer
4	No connection
5	Ground
6	Connected to pin 6 of P5
7	Connected to pin 7 of P5
8	Connected to pin 8 of P5
9	Connected to pin 9 of P5

### **P5(DB9M) - Pass-Thru Serial Output**

<b>Pin #</b>	<b>Function</b>
1	Connected to pin 1 of P4
2	Receive data from printer
3	Transmit data to printer
4	No connection
5	Ground
6	Connected to pin 6 of P4
7	Connected to pin 7 of P4
8	Connected to pin 8 of P4
9	Connected to pin 9 of P4

### **P6 (DB9M) - Serial Input from computer**

<b>Pin #</b>	<b>Function</b>
1	DCD, tied to pins 4 & 6
2	Transmit data to computer
3	Receive data from computer
4	DTR, tied to pins 1 & 6
5	Ground
6	DSR, tied to pins 1 & 4
7	RTS, tied to pin 8
8	CTS, tied to pin 7
9	No connection

### **CONTROLLER BOARD JUMPERS**

( Located inside the drawer)

**J12** - Connects to "Input Power Jack"

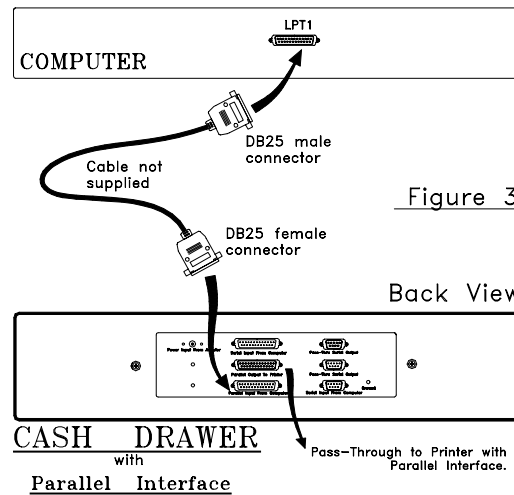
**JP1** - Not used

**JP2** - Jump 1-2\* for non-dedicated RS232  
Jump 3-4 for dedicated RS232

**JP3** - Jump 1-2 for input data applies to P3-3 or P6-2  
Jump 3-4\* for input data applies to P3-2 or P6-3

**J10** - Connects to solenoid, no polarity





S2 (RS232 Protocol)									S1 (Set Security)	
Rocker Switch No.	BAUD RATE								Rocker Switch No.	Secur Cod Valu
	19.2K	9600	4800	2400	1200	600	300	150		
1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	1	1
2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	2	2
3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	3	4
4	OFF = Parity check; ON = No parity check								4	8
5	OFF = Odd parity ON = Even parity								5	16
6	OFF = 8 data bits ON = 7 data bits								6	32
7	Short (ON) for non-dedicated RS232C; Switch 1 OFF								7	64
8	Short (ON) for dedicated RS232C; Switch 2 OFF								8	128

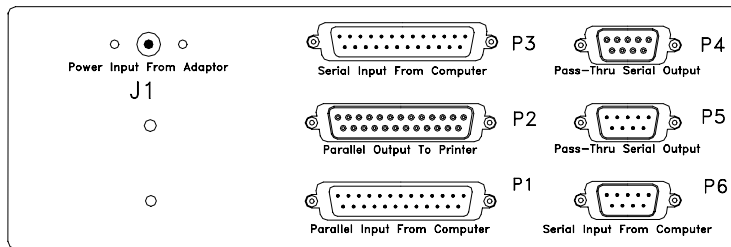
<p>ON</p> <p>S2</p> <p>1 2 3 4 5 6 7 8</p> <p>JP2</p>	<p>ON</p> <p>S1</p> <p>1 2 3 4 5 6 7 8</p> <p>JP3</p>
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Factory default settings: 9600 baud  
No parity check  
8 data bits

## CONTROL BOARD, CASH DRAWER

(Located inside the cash drawer)

Figure



## CONNECTOR PANEL

FOR

Cash Drawers with Serial RS232C or Parallel Interfa

Fig

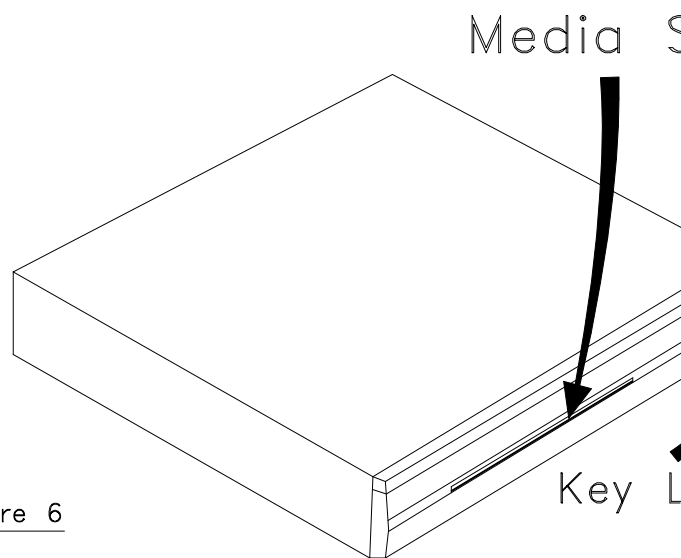


Figure 6