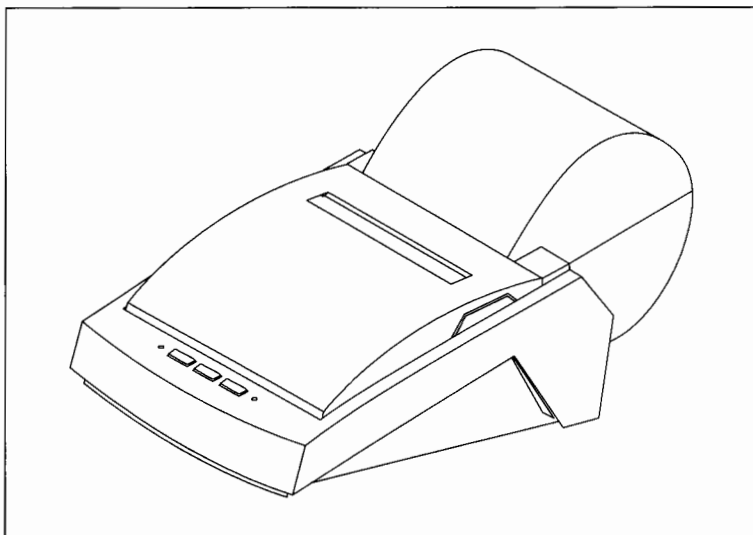


OM-100

OM-100

MINI DOT IMPACT PRINTER



PRODUCT SPECIFICATION

DATE : DECEMBER 16, 1998

MANUAL REVISION 2.0

OMNI/Print

20451 James Bay Circle
Lake Forest, CA 92630



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■ Features

Power Supply Requirements.

Either Input 120VAC/Output 25VDC 1.75A for North America or Input 230VAC/Output 25VDC 1.5A for Europe with a 3 pin mini-Din connector power supply is provided.

Dip Switch Configuration

Emulation mode, CPL Select mode, Flow Control mode, Data Width/Parity, and Baud Rate are all configured through dip switch settings.

Data Buffer

The printer has a built - in 16 Kilo bytes I/O buffer allowing the host computer to free itself after sending the print data.

Reliable communications

Centronics parallel or RS 232C compatible communications is built - in. The printer supports multiple baud rates,emulations, and handshaking on its parallel & serial interfaces.

User controls

A power switch, a paper forward FEED button, a paper BACKward feed button and ON LINE button provide ease of use.

Self Test Mode

A comprehensive self - test mode is available which describes the printer configuration and dip switch setting information along with the version number of firmware installed.

Print orientation

The printer is capable of printing normal and upside down. The print orientation is selected by software commands.

Selectable international characters

The printer supports international characters selectable by software control.

Multiple Fonts/Sizes

Two different resident fonts are available for printing diversity. Each of these fonts can be printed in normal, double wide, double height, and quadruple sizes. Both fonts and sizes are selected by software.

Error detection

The printer can detect paper-out and paper-jam as well as controller malfunction.

Peripheral Drive

Two cash drawer drivers are provided.

■ Printer Specification

MODEL		OM100	OM100-HR
PRINT METHOD		9 - pin serial impact dot matrix	
PRINT DIRECTION		Bi - directional (with logical seeking)	
NO. OF COLUMNS		Epson Mode : 42/35, 40/33	
		Other Modes : 40/32	
NO. OF DOTS/LINE		320 dots	400 dots
FONT SIZE		5 x 9, 7 x 9 dots	7 x 9, 9 x 9 dots
LINE SPACING		n/144 inch	
PRINTING WIDTH		63.5mm(2.5")	
PRINT SPEED		2.8 lines/sec (at 40CPL)	
INK RIBBON		Epson ERC - 23 compatible, purple or black	
		Epson ERC - 23 compatible, black/red(option)	
PAPER	Media	Roll Paper	
	Width	76.2mm (3.0")	
	Diameter	76mm (3.0") max.	
	Copies	3 - ply max. (0.2mm or 0.008" thick)	
DATA BUFFER		16K bytes	
CASH DRAWER DRIVER		2 circuits (24V, 1A max)	
INTERFACE		RS - 232C Serial or Centronics Parallel	
EMULATION		Epson TM - U200, Citizen iDP - 3540	
		Star SP200, Verifone P900	
POWER SUPPLY	Type	External Adaptor	
	Input	120VAC(North America) or 230VAC (Europe)	
	Output	25VDC 1.75A(North America) or 25VDC 1.5A (Europe)	
OPERATING CONDITION		5°C to 40°C, 10% to 80% RH	
STORAGE CONDITION		- 20°C to 60°C, 5% to 95% RH	
RELIABILITY	MCBF	5 million lines	
	Printhead	100 million characters	
DIMENSIONS		162mm(W) X 282mm(D) X 138mm(H)	
WEIGHT		2.87 lbs	
CERTIFICATIONS		FCC, UL, cUL, CE, LVD	

■ Self Test

- (1) While pressing the paper FEED switch after the power is turned on the self test mode is initiated. The printer self test includes a listing of the current default settings and DIP switch information.
- (2) While pressing the paper BACK switch after the power is turned on the self test mode is initiated. The printer self test includes a listing of internal memory test, print head pin firing test, vertical line alignment test, and multiple character fonts/sizes.
- (3) While pressing the paper ON LINE switch after the power is turned on the self test mode is initiated. The printer self test includes a listing of multiple international fonts and code pages.

The printer then enters into the ON Line mode.

■ Configuration Setup

When the paper FEED switch is pressed and released instantly as the power is applied to the printer, the printer will print the current printer configuration settings along with the DIP switch information. If the printer setup needs to be changed, turn the Power Off before changing the setting.

The printer will be setup at the factory as follows;

Printer is setup as follows;	DIP SW information
-----	-----
Firmware : Ver X.XX	Emulation SW1
Loopback : Not Detected(DSR)	Epson TM-U200 OFF
-----	Citizen iDP3540 ON
-----	-----
Interface : Serial	CR Character SW2
Emulation : Epson TM-U200	CR=CR Only OFF
CR Charcator : CR=CR Only	CR=CR+LF ON
Flow Control : DTR/DSR	-----
Data Bits : 8 Bits	CPL SW3
Parity : None	40/33 Char/Line OFF
Baud Rate : 9600	42/35 Char/Line ON
CPL : 40/33 Char/Line	-----
Two Color : Not Installed	Flow Control SW4
Paper : Roll Type	DTR/DSR OFF
-----	Xon/Xoff ON
-----	-----
Baud Rate SW5 SW6	
9600 OFF OFF	
4800 ON OFF	
2400 OFF ON	
1200 ON ON	
-----	-----
Data Bits/Parity SW7 SW8	
8 Bits None - OFF	
7 Bits Odd OFF ON	
7 Bits Even ON ON	
-----	-----
SETUP PRINT END	
-----	-----
PRINTER READY.....	

■ User Switches

Panel Switches

- FEED button :** Advance media in line feed increments if the FEED switch is pressed momentarily. If the FEED switch is pressed for more than 1 seconds, the media will advance continuously until the switch is released.
- BACK button :** Feed the media back in each line increment until 20 lines back if the BACK switch is pressed momentarily. If the BACK switch is pressed for more than 1 second, the media will be fed back continuously up to 20 lines until the switch is released.
- ON LINE button :** If the switch is pressed, the printer turns to be in OFF LINE mode, and if pressed again, the printer is in ON LINE mode and ready to print.

Power Switch

A Power switch located on the lower back side of the printer is used to turn the printer ON and OFF.

Indicators

This section explains the different patterns signaled by the two LED indicators located on the top cover of the OM100.

STATUS	LED1	LED2	REMARKS
	RED	GREEN	
Power Off	OFF	OFF	Normal power is not supplied to the printer
Power On	Flash	ON	Normal power is supplied to the printer
On line	OFF	ON	Normal error – free mode
Paper empty	Flash	ON	Insert new paper roll
Paper jam	ON	OFF	Remove the paper in the printer
Test mode	ON	ON	Printer in self-test mode

■ Command List

EMULATION : EPSON TM - U200

Command	Hex Code	Description
HT	<09H>	Horizontal tab
LF	<0AH>	Print and line feed
CR	<0DH>	Carriage Return
DLE EOT	<10H><04H><n>	Real - time status transmission
ESC SP	<1BH><20H><n>	Set right - side character spacing
ESC !	<1BH><21H><n>	Set print mode
ESC %	<1BH><25H><n>	Select/cancel user - defined character set
ESC &	<1BH><26H>	Define user - defined characters
ESC *	<1BH><2AH>	Select bit - image mode
ESC -	<1BH><2DH><n>	Turn on/off underline mode
ESC 2	<1BH><32H>	Select 1/6 inch line spacing
ESC 3	<1BH><33H><n>	Set line spacing
ESC <	<1BH><3CH>	Return home
ESC =	<1BH><3DH><n>	Select peripheral device
ESC ?	<1BH><3FH><n>	Cancel user - defined characters
ESC @	<1BH><40H>	Initialize printer
ESC D	<1BH><44H><n>	Set horizontal tab positions
ESC E	<1BH><45H><n>	Turn on/off emphasized mode
ESC G	<1BH><47H><n>	Turn on/off double - strike mode
ESC J	<1BH><4AH><n>	Print and feed paper
ESC R	<1BH><52H><n>	Select an international character set
ESC U	<1BH><55H><n>	Turns on/off unidirectional printing mode
ESC a	<1BH><61H><n>	Select justification
ESC c4	<1BH><63H><34H><n>	Select paper sensor to stop printing
ESC c5	<1BH><63H><35H><n>	Enable/disable panel button
ESC d	<1BH><64H><n>	Print and feed 'n' lines
ESC e	<1BH><65H><n>	Print and reverse feed 'n' lines
ESC k	<1BH><4BH><n>	Print and reverse feed
ESC p	<1BH><70H>	Generate pulse
ESC t	<1BH><74H><n>	Select character code table
ESC {	<1BH><7BH><n>	Turn on/off upside - down printing mode
GS I	<1DH><49H><n>	Transmit printer ID
GS a	<1DH><61H><n>	Enable/disable Automatic Status Back
GS r	<1DH><72H><n>	Transmit status

EMULATION : CITIZEN iDP - 3540

Command	Hex Code	Description
BEL	<07H>	Drive pulse setting command for 1st drawer
CAN	<18H>	Clear data in buffer
LF	<0AH>	Paper feed
FF	<0CH><n>	Paper feed 'n' lines
CR	<0DH>	Print command
SO	<0EH>	Select expanded character mode
SI	<0FH>	Select normal character mode
DC 1	<11H>	Initial set command
DC 2	<12H>	Inverted print mode
DC 3	<13H>	Red color print command
ESC BEL	<1BH><07H><n>	1st drawer driver command
SUB	<1AH>	2nd drawer driver command
ESC -	<1BH><2DH><n>	Select underline mode
ESC *	<1BH><2AH><n>	Graphic command
ESC 1	<1BH><31H>	Set 1/9 inch line feed
ESC 2	<1BH><32H>	Set 2/9 inch line feed
ESC C	<1BH><43H><n>	Set page length
ESC N	<1BH><4EH><n>	'n' line skip perforation command
ESC O	<1BH><4FH>	Cancel skip perforation command
ESC P	<1BH><50H><n>	Select full - cut / partial - cut
ESC f	<1BH><66H>	Form feed
FS	<1CH>	1st drawer drive command

EMULATION : VERIFONE P900

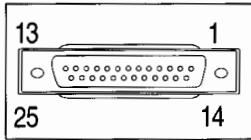
Command	Hex Code	Description
NUL	<00H>	Pad character
CAN	<18H>	Empty print buffer and cancel character attributes
LF	<0AH>	Print and feed one line
FF	<0CH>	Print data in buffer and eject paper to 1.2"
CR	<0DH>	Line feed
RS	<1EH>	Set double width mode
SO	<0EH>	Select high page mode
US	<1FH>	Select normal width mode
SI	<0FH>	Select ASC II character set
ESC a	<1BH><61H><n>	Set line height to 'n' dots
ESC b	<1BH><62H><n>	Eject paper 'n' lines
ESC c	<1BH><63H>	Reset printer to power - up state
ESC d	<1BH><64H>	Request printer status
ESC e	<1BH><65H><n>	Set right margin
ESC f	<1BH><66H><n>	Select line attributes
ESC g	<1BH><67H>	Activate graphic mode
ESC h	<1BH><68H>	Select character set
ESC i	<1BH><69H>	Printer identification
ESC x	<1BH><78H>	Enter P900R emulation mode
FS	<1CH>	Enter P250 emulation mode
GS	<1DH>	Enter P200 emulation mode

EMULATION : STAR SP200

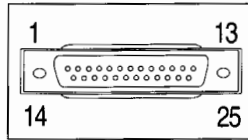
Command	Hex Code	Description
ESC R	<1BH><52H><n>	Select international character set
ESC M	<1BH><4DH>	Select 7x7 character size
ESC P	<1BH><50H>	Select 9x7 character size
SO	<0EH>	Select expanded character mode
SI	<0FH>	Cancel expanded character mode
DC 4	<14H>	Cancel expanded character mode
ESC W1	<1BH><57H><31H>	Select expanded character mode
ESC W0	<1BH><57H><30H>	Cancel expanded character mode
LF	<0AH>	Line feed
CR	<0DH>	Line feed
ESC a	<1BH><61H><n>	Feed paper n lines
ESC BEL	<1BH><07H>	Adjust drive pulses width for peripheral unit
BEL	<07H>	Deferred drive command "A" for peripheral unit
FS	<1CH>	Immediate drive command "B" for peripheral unit
CAN	<18H>	Cancel print data in buffer
ESC @	<1BH><40H>	Initialize print

■ Interface

The tables below describe the type of socket and the function of each pin.



D - SUB 25 Female Serial Port



D - SUB 25 Male Parallel Port

1. Serial Interface

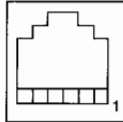
PIN	SIGNAL	I/O	DESCRIPTION
2	TxD	Output	Printer transmit data line RS - 232C level
3	RxD	Input	Printer receive data line RS - 232C level
4, 20	DTR	Output	Printer handshake to host line RS - 232C level
6	DSR	Input	Data Send Ready
1, 7	GND	-	System Ground

2. Parallel Interface

PIN	SIGNAL	I/O	DESCRIPTION
1	STROBE -	Input	Synchronize signal Data received
2 - 9	DATA 0 - 7	Input	Data bit Transmitted 0 - 7
10	ACK -	Output	Data receiving competed
11	BUSY	Output	Impossible to printer data receiving
12	PE	Output	Paper empty
13	SELECT	Output	Printer's status for ON/OFF line
14	AUTO FD XT -	Input	No connection
15	ERROR -	Output	Printer error
16	INIT -	Input	Initialize
17	SELECT IN -	Input	No connection
18 - 25	GROUND	-	System Ground

■ Cash Drawer Connector

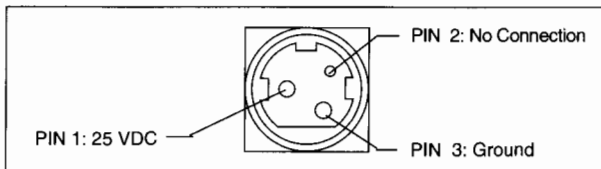
The printer can operate two cash drawers with a 6 pin RJ – 11 modular connector. The driver is capable of supplying a maximum current of 1.0 Amp at 24VDC for 510 ms or less, when not printing.



PIN	SIGNAL NAME	DESCRIPTION
1	Signal GND	-
2	Drawer kick – out drive signal 1	Output
3	Drawer open/close signal	Input
4	+24V	-
5	Drawer kick – out drive signal 2	Output
6	Signal GND	-

■ POWER SUPPLY

The printer requires an external power supply with the power rating of 25VDC/1.75A with Input 120VAC for North America or 25VDC/1.5A with Input 230VAC for Europe. A power supply is included in the box.



■ Dip Switch Settings

This table gives the definition for the Dip switch settings.

	Function	Setting	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	Factory setting
S E R I A L	Emulation (*1)	Epson TM - U200 Citizen iDP3540 (Verifone P900) (Star SP200)	OFF ON (OFF) (ON)								Epson TM - U200
	CR	CR Only CR + LF		OFF ON							CR only
	CPL	40/30 Char/Line 42/35 Char/Line			OFF ON						40/33 Char/Line
	Flow Control	DTR/DSR Xon/Xoff				OFF ON					DTR/DSR
	Baud Rate	9600 4800 2400 1200					OFF ON OFF ON	OFF OFF ON ON			9600
	Data Bits/ Parity	8 Bits None 7 Bits Odd 7 Bits Even							- OFF ON	OFF ON ON	8 Bits None
P A R A L L E L	Emulation (*1)	Epson TM - U200 Citizen iDP - 3540 (Verifone P900) (Star SP200)	OFF ON (OFF) (ON)								Epson TM - U200
	CR	CR Only CR + LF		OFF ON							CR only
	CPL	40/33 Char/Line 42/35 Char/Line			OFF ON						40/33 Char/Line

(*1) The emulation set of Epson/Citizen or Verifone/Star can be selected by SW #4 of an internal 4-pole DIP switch on the controller.

- Epson/Citizen : OFF
- Verifone/Star : ON