**TVS**
ELECTRONICS

# MODEL : Jus' Bill RP-35

Mini Dot Impact Printer

*Jus' Bill*

# Table of Contents

# 1. Features

**♣Dip Switch Configuration**
Emulation mode, communications mode, baud rate, serial/parallel handshake, and head printing characteristics are all configured through dip switch settings.

**♣Data Buffer**
The Jus' Bill RP-35 printer has a built-in 16 Kilobyte I/O buffer allowing the host computer to free itself after sending the print data.

**♣Reliable communications**
The Jus' Bill RP-35 supports multiple baud rates, protocols, and handshaking on its parallel & serial interfaces.

**♣User controls**
A power switch, a paper feed switch, power LED and Paper Low/Out error LED 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 Jus' Bill RP-35 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 software selected.

**♣Bit image graphic**
Two formats for bit mapped graphics are provided.

**♣Error detection**
The Jus' Bill RP-35 can detect paper-out and paper-jam as well as paper near-end, controller malfunction, and cover open status.

**♣Peripheral Drive**
Two cash drawer drivers are provided.

**♣Certification**
(1) This device complies with Part 15 of the FCC Rules. Operation is subject to the following two
    conditions:
  1) this device may not cause harmful interference , and
  2) this device must accept any interference received , including interference that may cause
      undesired operation.
(2) UL/cUL (UL 60950-1)
(3) MIC
(4) CE-EMCD (CE-EMCD Class B should use Parallel shield Cable complied with IEEE-1284 standards)
(5) RoHS (TUV)
(6) CCC

# 2. Specification

*Printer Specifications*

| MODEL | | Jus' Bill RP-35 |
|---|---|---|
| PRINT METHOD | | 9-pin serial impact dot matrix |
| PRINT DIRECTION | | Bi-directional (with logical seeking) |
| NO. OF COLUMNS | | Epson Mode : 42/35, 40/33, Star Sp200 : 42/35 |
| | | Other Modes : 40/32 |
| FONT SIZE | | 7 x 9, 9 x 9 dots |
| LINE SPACING | | n/144 inch |
| PRINTING WIDTH | | 63.5mm (2.5") |
| PRINT SPEED | | 5 Line / Sec (at 40 cpl) |
| INK RIBBON | | EPSON, ERC-38 compatible |
| | | Black or Purple, Black/Red |
| PAPER | Media | Roll Paper |
| | Width | 76.2mm (3.0") |
| | Diameter | 76mm (3.0") max. |
| | Copies | 3-ply max. (0.2mm or 0.008" thick) One Original and one copy |
| DATA BUFFER | | 16K bytes |
| CASH DRAWER DRIVER | | 2 circuits (24V, 1A max) |
| INTERFACE | | RS-232C Serial (25Pin) USB USB Combo Ethernet Wireless Lan Centronics Parallel (36Pin) |
| EMULATION | | Epson TM-U200, Citizen iDP-3540 |
| | | Star SP200 |
| POWER SUPPLY | Type | External Adaptor |
| | Input | 120VAC, 230VAC |
| | Output | 24VDC X 2.5A |
| OPERATING CONDITION | | 5°C to 40°C, 10% to 80% RH |
| STORAGE CONDITION | | -20°C to 60°C, 5% to 95% RH |
| RELIABILITY | MCBF | 18 million lines |
| | Printhead | 150 million characters |
| DIMENSIONS | Cutter | 157(W) X 245.12(D) X 153.1(H)mm |
| | Non cutter | 157(W) X 245.12(D) X 153.1(H)mm |
| WEIGHT | Cutter | 5.24 lbs (2.38 kg) |
| | Non cutter | 4.96 lbs (2.25 kg) |

## Overall dimension

157

245.12

114.51

153.1

144.05
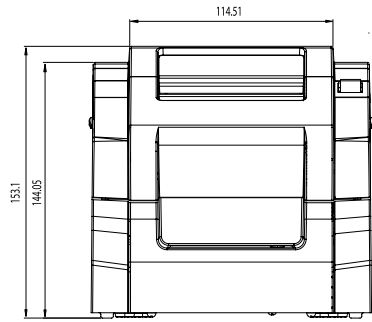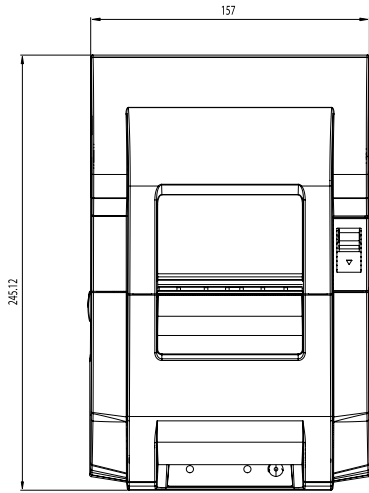
# 3. Self Test

While pressing the paper feed switch for more than 10 seconds after the printer in turned on, the self test mode is initiated.
The printer self test includes a listing of the current default settings, read and write test of internal RAM, checksum test of internal program memory, loop back detection statement, a staggered dot line, a few lines of rotating character set, and a diagnostic report.
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:

| | |
|---|---|
| Model : | Jus' Bill RP-35 |
| Firmware : | Ver X.XX |
| Interface : | Serial |
| Emulation : | Epson TM-U200 |
| CR Character : | CR=CR only |
| Flow Control : | DTR/DSR |
| Data Bits : | 8 Bits |
| Parity : | None |
| Baud Rate : | 9600 |
| CPL : | 40/33 Char / Line |
| Two Color : | Installed |
| Auto Cutter : | Installed / Not Installed |
| Journal : | Installed / Not Installed |

# 4. User Switches

## Panel Switches
Paper Feed button : Pressing the PF button momentarily will advance the paper one character line and pressing it continuously will cause a fast feed at 15 lines per second.

## Power Switch
A Power switch located on the lower left side of the printer is used to turn the printer on/off.

## Indicators
This section explains the different patterns signaled by the two LED indicators located on the top cover of the Jus' Bill RP-35.

| STATUS | LED1 | LED2 | LED3 | REMARKS |
|---|---|---|---|---|
| | GREEN | RED | RED | |
| Power Off | OFF | OFF | OFF | Normal power is not supplied to the printer |
| Power On | Flash | ON | ON | Normal power is supplied to the printer |
| On line | ON | OFF | OFF | Normal error-free mode |
| Paper low | ON | OFF | ON | Insert new paper roll |
| Cover open | ON | Flash | OFF | Close cover |
| Paper empty | ON | Flash | OFF | Insert new paper roll |
| Paper jam | ON | OFF | OFF | Impossible to recover |
| | OFF | ON | | |
| Test mode | ON | ON | OFF | Ignored Paper Low |

# 5. Command List

## 5.1. EMULATION EPSON TM-U200

| Command | Hex Code | Description |
|---------|----------|-------------|
| HT | <09>H | Horizontal tab |
| LF | <0A>H | Print and line feed |
| CR | <0D>H | Carriage Return |
| DLE EOT | <10>H<04>H<n> | Real-time status transmission |
| DLE ENQ | <10>H<05>H<n> | Real-time request to printer |
| ESC SP | <1B>H<20>H<n> | Set right-side character spacing |
| ESC ! | <1B>H<21>H<n> | Set print mode |
| ESC % | <1B>H<25>H<n>S | Select/cancel user-defined character set |
| ESC & | <1B>H<26>H | Define user-defined characters |
| ESC * | <1B>H<2A>H | Select bit-image mode |
| ESC - | <1B>H<2D><n> | Turn on/off underline mode |
| ESC 2 | <1B>H<32>H | Select 1/6 inch line spacing |
| ESC 3 | <1B>H<33>H<n> | Set line spacing |
| ESC < | <1B>H<3C>H | Return home |
| ESC = | <1B>H<3D>H<n> | Select peripheral device |
| ESC ? | <1B>H<3F>H<n> | Cancel user-defined characters |
| ESC @ | <1B>H<40>H | Initialize printer |
| ESC D | <1B>H<44>H<n> | Set horizontal tab positions |
| ESC E | <1B>H<45>H<n> | Turn on/off emphasized mode |
| ESC G | <1B>H<47>H<n> | Turn on/off double-strike mode |
| ESC J | <1B>H<4A>H<n> | Print and feed paper |
| ESC R | <1B>H<52>H<n> | Select an international character set |
| ESC U | <1B>H<55>H<n> | Turns on/off unidirectional printing mode |
| ESC a | <1B>H<61>H<n> | Select justification |
| ESC c 4 | <1B>H<63>H<34>H<n> | Select paper sensor to stop printing |
| ESC c 5 | <1B>H<63>H<35>H<n> | Enable/disable panel button |
| ESC d | <1B>H<64>H<n> | Print and feed n lines |
| ESC p | <1B>H<70>H | Generate pulse |
| ESC t | <1B>H<74>H<n> | Select character code table |
| ESC { | <1B>H<7B>H<n> | Turn on/off upside-down printing mode |
| GS I | <1D>H<49>H<n> | Transmit printer ID |
| GS a | <1D>H<61>H<n> | Enable/disable Automatic Status Back |
| GS r | <1D>H<72>H<n> | Transmit status |

### 5.2. EMULATION CITIZEN iDP-3540

| Command | Hex Code | Description |
| --- | --- | --- |
| BEL | <07>H | Drive pulse setting command for 1st drawer |
| CAN | <18>H | Clear data in buffer |
| LF | <0A>H | Paper feed |
| FF | <0C>H<n> | Paper feed n lines |
| CR | <0D>H | Print command |
| SO | <0E>H | Select expanded character mode |
| SI | <0F>H | Select normal character mode |
| DC1 | <11>H | Initial set command |
| DC2 | <12>H | Inverted print mode |
| DC3 | <13>H | Red color print command |
| ESC BEL | <1B>H<07>H<n> | 1st drawer driver command |
| SUB | <1A>H | 2nd drawer driver command |
| ESC - | <1B>H<2D>H<n> | Select underline mode |
| ESC * | <1B>H<2A>H<n> | Graphic command |
| ESC 1 | <1B>H<31>H | Set 1/9 inch line feed |
| ESC 2 | <1B>H<32>H<n> | Set 2/9 inch line feed |
| ESC C | <1B>H<43>H<n> | Set page length |
| ESC N | <1B>H<4E>H<n> | n line skip perforation command |
| ESC O | <1B>H<4F>H | Cancel skip perforation command |
| ESC P | <1B>H<50>H<n> | Select full-cut / partial-cut |
| ESC f | <1B>H<66>H | Form feed |
| FS | <1C>H | 1st drawer drive command |

### 5.3. EMULATION STAR SP200

| Command | Hex Code | Description |
|---------|----------|-------------|
| BEL | <07>H | Differed drive command "A" for peripheral unit (Default setting) |
| CAN | <18>H | Cancel print data in buffer |
| LF | <0A>H | Line feed |
| CR | <0D>H | Line feed (same as LF) |
| SO | <0E>H | Select expanded character mode |
| SI | <0F>H | Cancel expanded character mode |
| FS | <1C>H | Immediate drive command "B" for peripheral unit 1 |
| DC4 | <14>H | Cancel expanded character mode |
| ESC BEL n1 n2 | <1B>H<07>H<n1><n2> | Adjust drive pulse width for peripheral unit (Default setting) |
| ESC @ | <1B>H<40>H | Initialize printer |
| ESC M | <1B>H<4D>H | Select 7 x 7 (Half dots) character size (Default setting) |
| ESC R n | <1B>H<52>H<n> | Select international character set |
| ESC P | <1B>H<50>H | Select 9 x 7 (Half dots) character size |
| ESC W 1 | <1B>H<57>H<31> H<1B>H<57>H<1> | Select expanded character mode |
| ESC W 0 | <1B>H<57>H<37> H<1B>H<57>H<0> | Cancel expanded character mode |
| ESC a n | <1B>H<61>H<n> | Feed paper n lines |

# 6. Interface

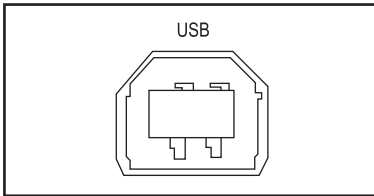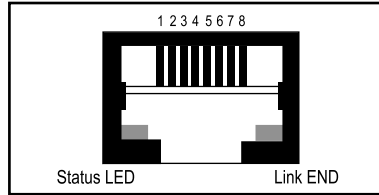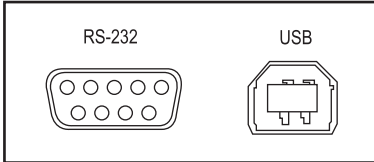## 6-1. Interface Connector

```
13                    1

25                    14
```
<D-SUB 25 Female Serial>

```
18                    1

36                    19
```
<Centronics Parallel>

```
USB
```
<USB "B" Type>

```
1 2 3 4 5 6 7 8

Status LED          Link END
```
<Ethernet>

```
RS-232        USB
```
<USB COMBO>

```
Reset S/W
```
<Wi-fi>
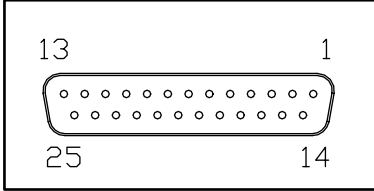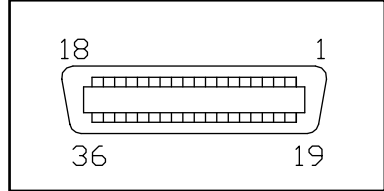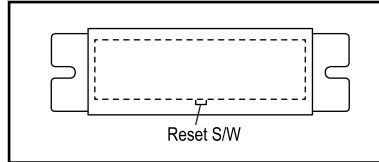
### Serial Interface

| 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 |

### USB Interface

| PIN | SIGNAL | I/O | DESCRIPTION |
|---|---|---|---|
| 1 | +5V | - | +5V |
| 2 | DATA- | - | Printer transmit data line |
| 3 | DATA+ | - | Printer transmit data line |
| 4 | GND | - | System Ground |

Centronics Parallel Interface

| PIN | SIGNAL | I/O | DESCRIPTION |
|---|---|---|---|
| 1 | STROBE- | Input | Synchronize signal Data received |
| 2~9 | DATA0~7 | Input/Output | Data bit Transmitted 0~7 |
| 10 | ACK- | Output | Data receiving completed. |
| 11 | BUSY | Output | Impossible to print of data receiving. |
| 12 | PE | Output | Paper empty |
| 13 | SELECT | Output | Printer status for ON/OFF line |
| 14 | AUTO FEED- | Input | Paper auto feed signal |
| 15 | GROUND | - | System ground |
| 16 | GROUND | - | System ground |
| 17 | NC | - | |
| 18 | LOGIC-H | - | +5V |
| 19~30 | GROUND | - | System ground |
| 31 | INIT- | Input | Initialize |
| 32 | ERROR- | Output | Printer error |
| 33 | GROUND | - | System ground |
| 34 | NC | - | |
| 35 | +5V | - | +5V |
| 36 | SELLECT IN- | Input | Printer select signal |

Ethernet Interface

| PIN | SIGNAL | I/O |
|---|---|---|
| 1 | Data Out + | Output Data + |
| 2 | Data Out - | Output Data - |
| 3 | GND | Ground |
| 4 | Data IN + | Input Data + |
| 5 | Data IN - | Input Data - |
| 6 | N.C | |
| 7 | N.C | |
| 8 | N.C | |

# 7. Cash Drawer Connector

The Jus' Bill RP-35 can operate two cash drawers with a 6 pin RJ-11 modular connector.  The driver is capable of supplying a maximum current of 1.0A for 510 ms or less, when not printing.



<Cash Drawer Connector>
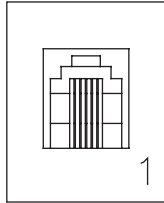
| PIN | SIGNAL | DESCRIPTION |
| --- | --- | --- |
| 1 | Signal GND | - |
| 2 | Drawer kick-out drive signal 1 | Output |
| 3 | Drawer open/close signal | Input |
| 4 | +24V | - |
| 5 | Drawer kick-out drive signal 2 | Output |
| 6 | Signal GND | - |

# 8. Electrical Specifications

The Jus' Bill RP-35 requires a power supply with the following parameters.
A linear power Adapter is included in the Jus' Bill RP-35 box.

Power Supply Voltage : 24VDC±10%
Power Supply Current : 2.5 A



PIN2:NO CONNECTION

PIN1:24V DC

PIN3:GROUND

<Power Supply Connector>
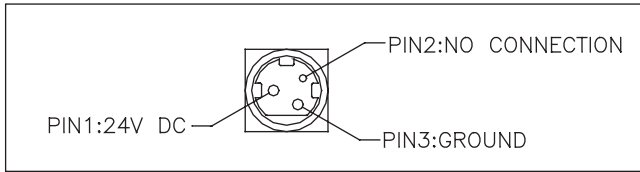
# 9. Dip Switch Settings

This table gives the definition for the DIP switch settings.

| | Function | Setting | SW1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| S E R I A L | Emulation | Epson TM-U200<br>Epson TM-U300<br>Citizen iDP3540<br>Star SP200 | OFF<br>ON<br>OFF<br>ON | OFF<br>OFF<br>ON<br>ON | | | | | | |
| | CR Character | CR=CR Only<br>CR=CR + LF | | | OFF<br>ON | | | | | |
| | CPL | 40/33<br>Char/Line<br>42/35<br>Char/Line | | | | OFF<br><br>ON | | | | |
| | Auto Cutter | Not Install<br>Install | | | | | OFF<br>ON | | | |
| | 2Color | Not Install<br>Install | | | | | | OFF<br>ON | | |
| | Journal | Not Install<br>Install | | | | | | | OFF<br>ON | |
| | Function | Setting | SW2 | | | | | | | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Flow Control | DTR/DSR<br>Xon/Xoff | OFF<br>ON | | | | | | | |
| | Baud Rate | 38400<br>19200<br>9600<br>4800 | | OFF<br>ON<br>OFF<br>ON | OFF<br>OFF<br>ON<br>ON | | | | | |
| | Data Bits | 8 Bits<br>7 Bits | | | | OFF<br>ON | | | | |
| | Parity | None<br>Odd<br>Even | | | | | -<br>OFF<br>ON | OFF<br>ON<br>ON | | |
| | Auto Melody | Not Install<br>Installed | | | | | | | | OFF<br>ON |

| | Function | Setting | SW1 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| P A R A L L E L | Emulation | Epson TM-U200<br>Epson TM-U300<br>Citizen iDP3540<br>Star SP200 | OFF<br>OFF<br>ON<br>ON | OFF<br>ON<br>OFF<br>ON | | | | | | |
| | CR Character | CR=CR Only<br>CR=CR + LF | | | OFF<br>ON | | | | | |
| | CPL | 40/33 Char/Line<br>42/35 Char/Line | | | | OFF<br>ON | | | | |
| | Auto Cutter | Not Installed<br>Installed | | | | | OFF<br>ON | | | |
| | 2 Color | Not Installed<br>Installed | | | | | | OFF<br>ON | | |
| | Journal | Not Installed<br>Installed | | | | | | | OFF<br>ON | |
| | Function | Setting | SW2 | | | | | | | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Auto Melody | Not Install<br>Installed | | | | | | | | OFF<br>ON |