CR-158
COUPON PRINTER
MANUAL

PRINTER INNOVATIONS

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MANUAL AMENDMENTS

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1.0	01-11-13	First Issue	IF
2.0	28.04.14	Updated to include new bezels	IF

CR-158 COUPON PRINTER MANUAL

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PRODUCT SAFETY INFORMATION

Throughout this manual set, we may draw your attention to key safety points that you should be aware of when using or maintaining the product.

These safety points will be highlighted in a box, like this:

Caution!

Mains voltage is present on these terminals

This manual set and the information it contains is only applicable to the model stated on the front cover, and must not be used with any other make or model.

1. INTRODUCTION

Purpose of this document

The purpose of this document is to aid in the set-up of, and software integration for the InnoPrint CR-158 Printer.

2. CONNECTING THE PRINTER

The printer has three available connections, either via the 7 pin connector, USB or RJ45 socket.

2.1 Power and Pulse Connection

The large, 7-pin connector at the centre of the rear of the device is used for power and to control the device via a pulse interface. On the female side of the connector (i.e. on the device itself) from left to right, the pins are:

1 – Red – +12-24V DC
2 – Black – Ground
3 – Brown – Coin In Pulse Signal
4 – Orange – Note In Pulse Signal
5 – Yellow – Pay out Trigger Pulse Signal
6 – Green – Ticket Out Output (currently unused)
7 – Blue – Error Out Output (currently unused)

2.2 USB Data Connection

The USB connection is used to host a COM port on a connected PC, allowing the device to be communicated with through the SSP protocol. Information on this protocol can be found in a separate document (Innovative Technology manual GA138.) SSP can be used to configure and control the device, as well as to download certain files onto the device via the SSP update process. The device is connected in this way like any other USB peripheral, and no special cables should be required

2.3 Serial connection (RJ45 like connection)

This connector is used for Pot o' Gold communications

3. DIP SWITCHES, BUTTONS & STATUS LEDS

3.1 Dip Switches

Currently dip switches 1-3 are unused.
Dipswitch 4 controls the cut mode of the printer guillotine. If the dip switch is in the down (off) the printer will performs a half cut. This will leave a small tab attached to the rest of the roll, and requiring a small amount of force to pull the coupon away. In the up (on) position, the printer performs a full cut and fully detaches the printed coupon from the rest of the roll.

3.2 Buttons

Button 1 (left) is used to test the printer. Holding the button 1 down for 4 seconds will cause the device to print a test ticket. As well as testing the print head, the test ticket also includes a report containing some basic configuration information about the device. Button 2 (right) is not currently used.

3.3 LED Status Lights

The device has 3 LEDs - green, yellow and red - which are used to display the status of the device. The standard statuses are displayed as follows:

Slow pulsing yellow	Printer idle
Slow pulsing yellow and solid red	Printer idle, paper low
Slow pulsing green	Printer idle, SSP enabled
Slow pulsing green and solid red	Printer idle, SSP enabled, paper low
Fast pulsing green	Printing
Fast pulsing green, yellow, red	Printer initialising after power off/reset

3.4 LED Error Status Lights

The LEDs are also used to display error states. These are shown by a number of slow red flashes, followed by a number of yellow flashes. The number of each colour of flash indicates the error as shown in the table below:

		Red			
		1	2	3	4
Yellow	1	-	No Paper	-	Unknown Error
	2	Initialisation Fail	-	-	-
	3	No Print Head	Load Fail	-	-
	4	-	-	Cut Fail	-
	5	-	-	Unknown Jam	-

4. BEZEL OPTIONS

There are currently two types of bezel available, see below;

4.1 US Bezel:

4.2 EURO: Bezel:

Note: When ordering the CR-158 printer, ensure you indicate which bezel you require, i.e. for the US bezel, please order as CR-158/U and CR-158/E for the EURO bezel.

5. TECHNICAL SPECIFICATIONS

CR-158

DC Voltage	**Minimum**	**Nominal**	**Maximum**
Absolute limits	11 V	12 V	26 V
Supply ripple voltage	0 V	0V	0.5 V @ 100 Hz
Supply Current			
Standby			100 mA
Printing			2 A
Peak			4.8 A
Interface Logic Levels	**Logic Low**	**Logic High**	
Inputs	0 V to 0.5 V	+3.7 V to +12 V	
Outputs (2.2 kΩ pull-up)	0.6 V	Pull-up voltage of host interface	
Maximum current sink		50 mA per output	

Functionality

Printing Method	Direct Thermal Printing
Dot Pitch	0.125 mm
Resolution	384 dots per line
Print Width	48mm
Print Speed	100mm/s
Ticket Print and Present	< 3 Seconds
Barcode Types	Interleaved 2 of 5, others by request
Graphic resources	2MB on-board SPI Flash. An micro SD card slot is available for storage of extra fonts and images
Interface: User	Ticket print button, Feed button, 4 dip-switches. LEDs: Ready, Paper, Fault
Interface: Protocols	eSSP, Pot o' Gold
Interface: Electrical	Open collector, True RS232, USB
Interface: Physical	USB (direct to printer) 7 – way power, pulse and "Pot O Gold" RJ45 serial connector
Support tools	The firmware and interface protocol are upgradeable via USB. Ticket Template Manager software allows design of own ticket templates

Environment

Parameter	Min	Max (Design Guide)
Operating temperature (Ambient)	+5°C	+60°C
Humidity	5%	95% Non Condensing

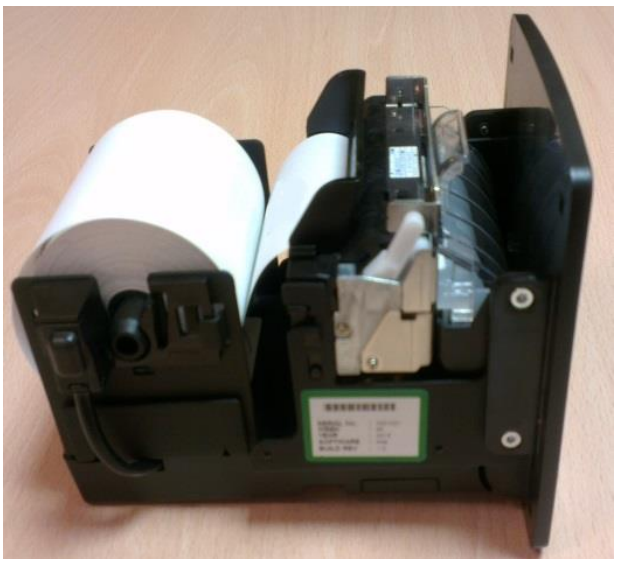
6. FIELD SERVICE

6.1 Inserting A New Roll Of Paper

To insert a new roll of paper, remove the roll mandrel from the printer, insert into the roll core and place into the holder on the printer so the paper comes off the role and into the printer mechanism as shown in the below images.

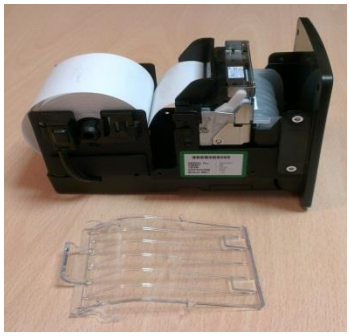
Feed the paper into the mechanism with the unit powered on, when the paper triggers the sensor the unit will auto-feed the paper. Remove the excess paper when the unit has completed the paper feed.

If required, you can now do a test print, by holding the left hand button for 4 seconds.



6.2 Removing The Paper Guide

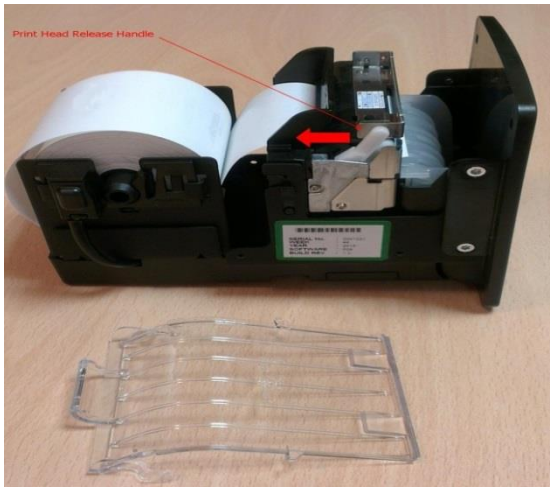
The paper guide can easily be removed by pulling up on the guide using the tab at the top of the guide. With the guide removed, this allows easy access to remove paper that has become jammed, or for access for cleaning.

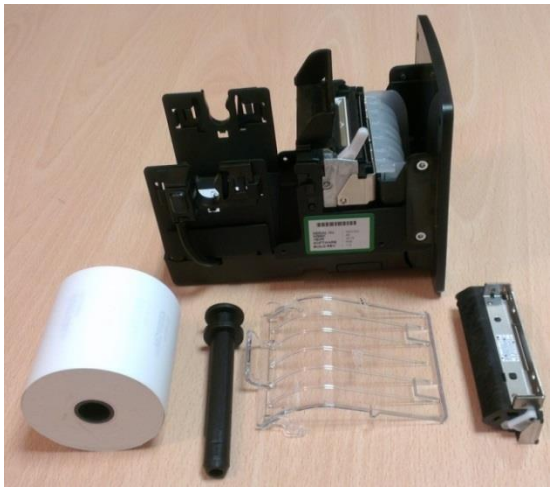


6.3 Removing The Print Head Roller Assembly

The print head roller assembly can easily be removed to allow easy access for cleaning and removal of jammed paper. Firstly remove the paper guide, as detailed in 6.2, then pull the release handle in the direction shown in the picture. This will also release the paper from the mechanism. To reinsert the roller assembly just click back into place.

Note: Fit the roller assembly before reinserting the paper guide and paper roll.





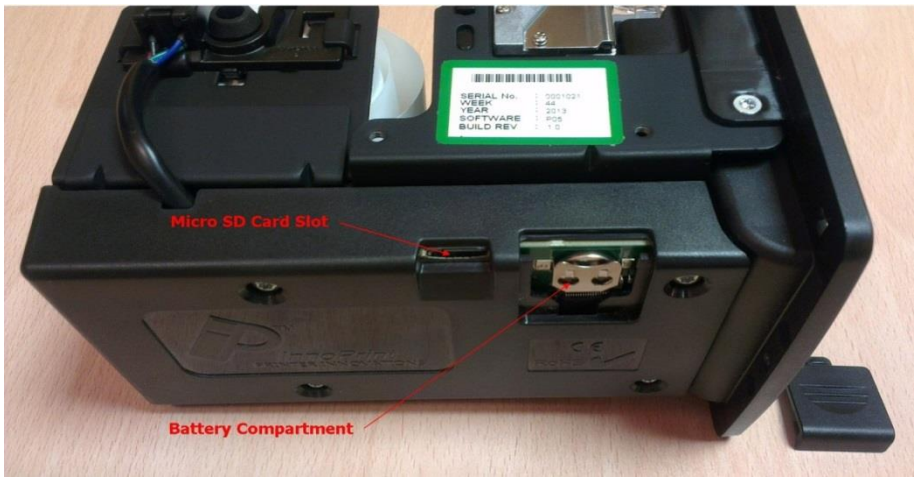
6.4 Micro SD Card Slot & Battery Compartment

The micro SD card slot and battery compartment are located on the left hand side of the unit. The battery is accessed via the removable cover.

Inserting a micro SD card expands the memory of the printer, allowing extra fonts, images and coupon templates to be stored.

The battery powers the units internal real time clock, which can be used to provide and date and time stamp on coupons.

Note: Battery Type: CR1225, 3 Volt, 50mAh (BA00100)



7. CREATING TEMPLATES & TESTING

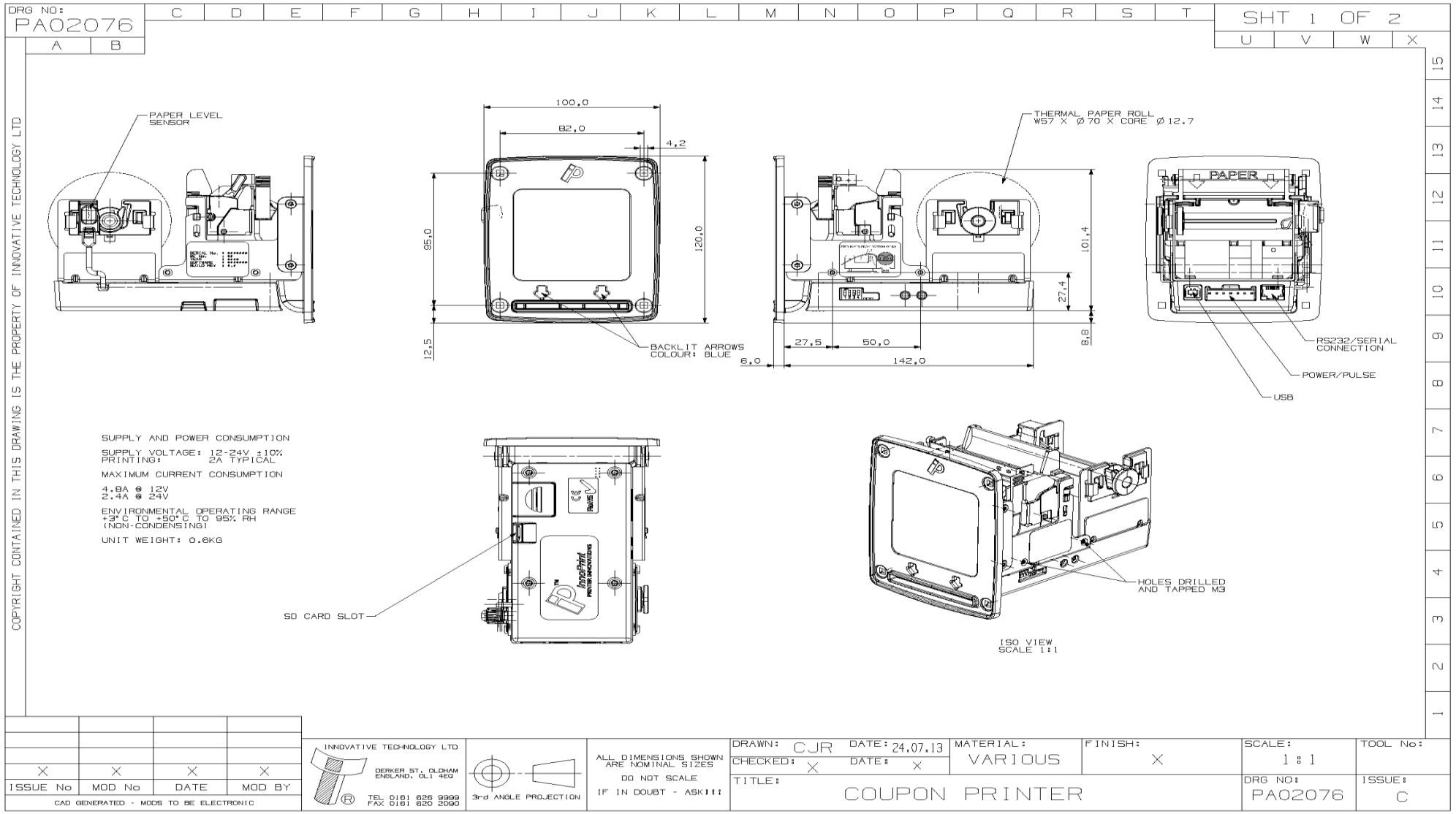
7.1 Ticket Template Manager

To fully maximise the potential of the CR-158 printer and its printing capabilities, and to test the unit fully, we recommend you install Ticket Template Manager.

Ticket Template Manager is a software tool that allows users to create and edit ticket/receipt designs, and upload them to InnoPrint printer products.

The software and manual (INN001) are include in the Development Kit.

8.1 CR-158 with US bezel



8.2 CR-158 with US bezel