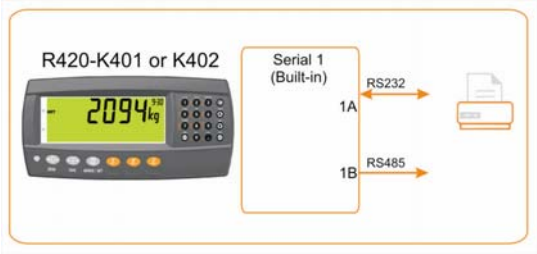
Application Note: K402 Example Custom Print Strings for a Record and Docket



The application requires a **custom print out (Record or Docket)** to be printed from an R400 indicator using a custom print format.

- The printer is connected to the built-in RS232 serial port SER1A
- Function Key 1 (F1) is set to be a Print key

For K402 Application Software multiple products are stored and can be accessed using the up/down arrows, or selected by number if a second function key (F2) is established as a Product Select key.

A custom record is required in this format; it will be generated when the operator presses the Print Key. There is one Custom Record Event that is associated with the pressing of the print key.

Application – Custom Records

RECORD: Record printouts are essentially a single printout generated by a single print event.

CUSTOM Format defined by REC.PRN token string

Operator Key Press - Print Key

Event - Print Record

Menu - REC.PRN

Some of the tokens used in the examples:

Common General Tokens:

- (BF) Date
- (C0) Time (24H format)
- (C1) Newline
- (C6) Header
- (C7) Footer

(requires **no** page)

Page - **(BA) Page 4: Current Product**

- (D7) Product name

Page - **(BE) Page 0: Current weight**

- (D8) Gross reading
- (D9) Net reading
- (E1) Tare value (tare or preset tare)

Example 1: Custom format providing information with description of the operation used on a slip printer with a preformatted form

Custom Print String associated with the Event	Printout
`On \BF at \C0,\BA\DB was added`	`On 22/08/11 at 12:12:20,  0p  was added`

Example 2: Data logger string type for importing into Excel as comma delimited

Custom Print String associated with the Event	Printout
`\BF,\C0,\D9,\BA\DB,\D8\C1`	`22/08/11,12:13:52,-  2kg,  0p ,123ABC456`

Example 3: Zebra label printer format

Custom Print String associated with the Event	Printout
`\1A\1BM30\1A\1BA11\C6\0D\1A\1BA11\BF \C0\0DID\3A\C5\0DGROSS\D8\0DTARE\E1\0DNET \D9\0D\0C`	`[ESC]M30[ESC]A11ZEBRA PRINTOUT R420[ESC]A1122/08/11  12:24:53ID:000000435GROSS- 2kgTARE  0kgNET  -  2kg[FF]`

The extra data shown with the ESC are the commands for the zebra label printer to position and format the text in the label to suit. The zebra programming manual would be required.

Example 4: Multi-line Record

Operator Key Press	Event	Menu	Custom Print String associated with the Event	Printout
Print Key	Print Record	REC.PRN	\C3\C6\C1	Joe's Weigh Bridge
			\BF \C0\C1	01/01/2011 11:30
			\C1ID: \C5\C1	ID: 000000058
			Truck ID: \BA\D7\C1	Truck ID: ABC123
			Tare:\BE\E1\C1	Tare:1000 kg
			Gross:\BE\D8\C1	Gross:1999 kg
			Net:\BE\D9\C1	Net: 999 kg
			\C7\C1\C4	Thank You!

So the overall custom print string would be as follows

```
\C3\C6\C1\BF \C0\C1\C1\ID: C5\C1Truck ID:  \BA\D7\C1          Tare:\BE\E1\C1
Gross:\BE\D8\C1            Net:\BE\D9\C1\C7\C1\C4
```

Application – Custom Docket

A print docket is built up from multiple print passes. Each of the print passes is defined by a specific configuration string. Print passes are triggered by operator events – these include short and long press of the Print key and actions like changing products.

The content of the configuration string for each event includes direct text (the word "Weight" to be placed near the current weight for example) and control characters called 'Tokens'. Tokens are used to specify where the instrument data fields are to be inserted.

Tokens are characters outside the normal printable range. Each token character is represented by a three character escape sequence consisting of a '\' followed by two hex characters or by a three digit decimal ASCII number. When entering tokens via the instrument keys the decimal ASCII code is used. When entering tokens using the viewer software the escape sequence is used.

Examples of tokens in the R400:

\D7 (ASCII 215) = current displayed weight

\BF (ASCII 191) = date

\C0 (ASCII 192) = time

A simple custom format string might be: **`'Weight: \D7\C1'`**

To produce **`Weight: 30.0kg ^`** when the print key is pressed.

Custom Docket to be Generated:

```
Joe's Fruit & Veg
13/03/03 11:09:27

Onions
                  4.06 kg
                  5.04 kg
                  3.15 kg
         Sub:    12.25 kg
Apples
                  5.02 kg
                  4.48 kg
                  6.15 kg
         Sub:    15.65 kg
       Total:    27.90 kg
Thank You!
```

Docket Events in the K401 and K402 are triggered by:

- short and long press of the Print key
- changing products

Operator Action	Event Name	Event Description
Print Key	EV.D.NEW	Event Docket New controls the first part of the docket that is printed along with the first transaction.
	DOC.PRN	Event Print controls the format of each transaction on the docket.
Change Product	EV.P.END	Event Product End generated when current product is changed
	EV.P.NEW	Event Product New used when a new product is selected.
Long Press Print Key	EV.D.END	Event Docket End controls the format of the end of the docket including printing sub-totals etc.

Demonstrates use of Product End Events to generate a sub total

Operator Key Press	Event	Menu	Custom Print String associated with the Event	Printout
Print Key	New Docket Event	EV.D.NEW	\C3\C6\C1\BF \C0\C1	Joe's Fruit & Veg 13/03/03 11:09:27 Onions 4.06 kg 5.04 kg 3.15 kg Sub: 12.25 kg Apples 5.02 kg 4.48 kg 6.15 kg Sub: 15.65 kg Total: 27.90 kg Thank You!
	New Product Event	EV.P.NEW	\C1\BA\D7\C1	
	Print Event	DOC.PRN	\BA \E9\C1	
Print Key	Print Event	DOC.PRN	\BA \E9\C1	
Print Key	Print Event	DOC.PRN	\BA \E9\C1	
Select Product – up/down arrow, selected new product, press OK	Product End Event	EV.P.END	\BA Sub: \DD\EC\C1	
	New Product Event	EV.P.NEW	\C1\BA\D7\C1	
Print Key	Print Event	DOC.PRN	\BA \E9\C1	
Print Key	Print Event	DOC.PRN	\BA \E9\C1	
Print Key	Print Event	DOC.PRN	\BA \E9\C1	
Long Press Print Key	Product End Event	EV.P.END	\BA Sub: \DD\EC\C1	
	Docket End Event	EV.D.END	\B8\C1Total: \DD\C1\C7\C1\C4	

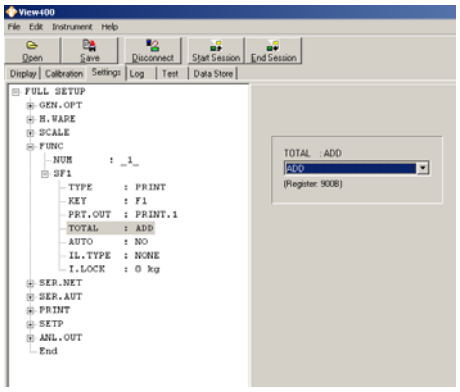
The custom print strings for the various docket events are in summary:

```
DOC.PRN: \BA      \E9\C1
EV.D.NEW: \C3\C6\C1\BF \C0\C1
EV.D.END: \B8\C1Total: \DD\C1\C7\C1\C4
EV.P.NEW: \C1\BA\D7\C1
EV.P.END: \BA  Sub: \DD\EC\C1
```

Qualifier tokens are also important to modify styling:
\9C (ASCII 156) forces all weights to be printed with ‘ ‘ for positive and ‘-’ for negative.

Programme Indicator

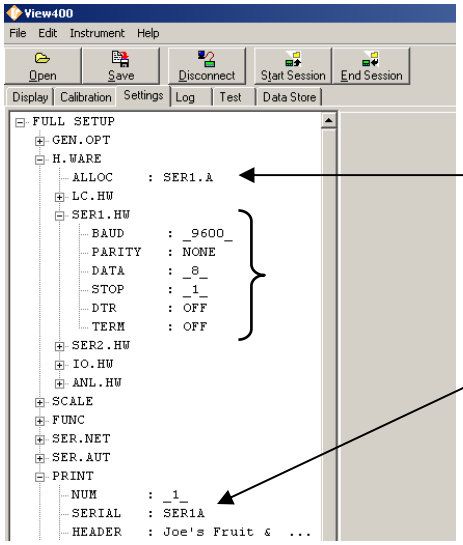
Set Function Key as Print Key



Set Function Key 1 to be the print key to print Print.1 which will be the custom docket to be defined below.

Set Total to Add so as the Product weight is added to the Product Total each time the print key is pressed when generating the docket.

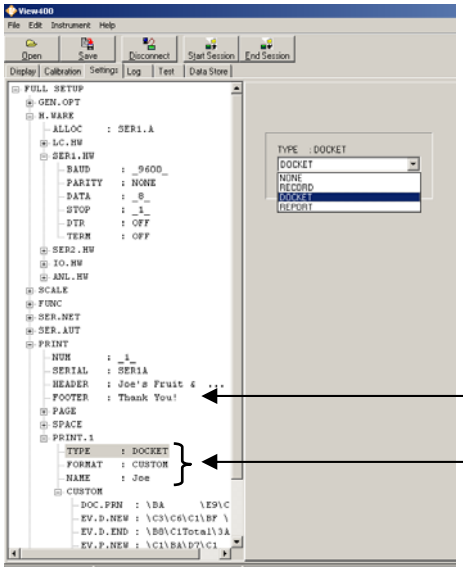
Setup Serial Port for Printer



Setup Serial Port

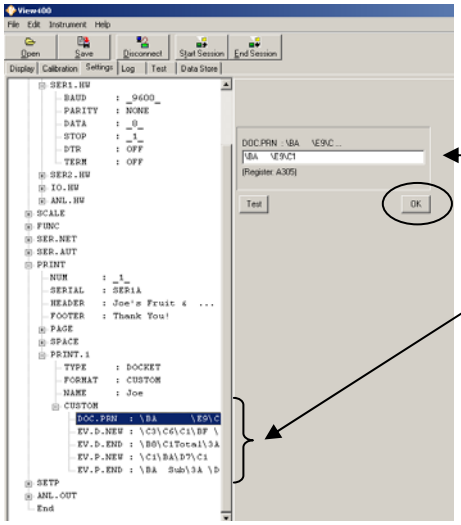
- Select the serial port that needs to be configured, in this case the built in RS232 serial port is used – SER1A
- Note that A is the bi directional and B is transmit only. Print stings can only be transmitted from Ser1.A and Ser2.A (when a communications module is used)
- Note DTR to ON to connect to paper out detect on printer
- Specify the Serial port that Print.1 is transmitted on

Setup Custom Printout



Set up a Print.1 as a custom docket for Joe's Fruit & Veg

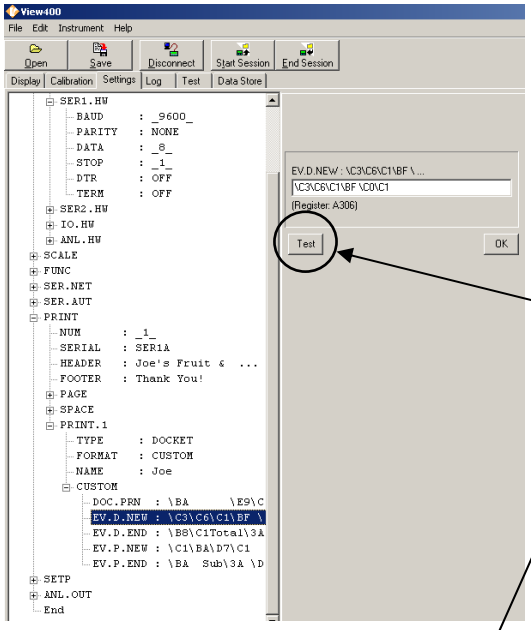
- Type in Header and Footer (via the indicator ASCII decimal is used)
- Page size and where on the page is assigned
- Set Type of print out (Docket), its format (Custom) and Name.



Enter custom print string against each print event and click ok after each entry to transmit to indicator.

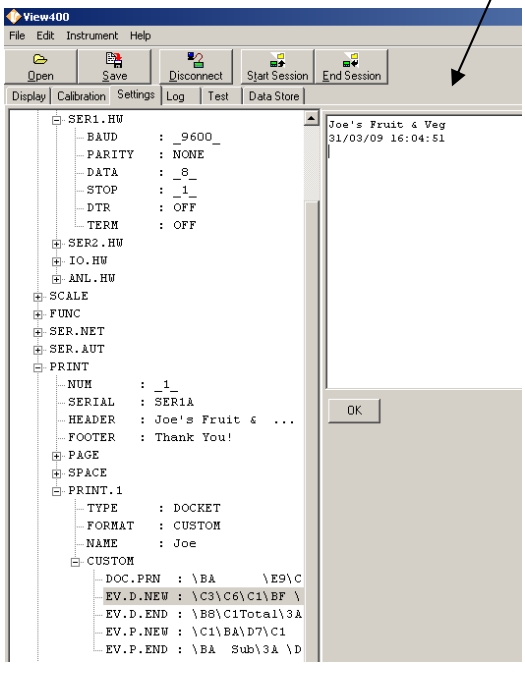
```
DOC.PRN: \BA       \E9\C1
EV.D.NEW: \C3\C6\C1\BF \C0\C1
EV.D.END: \B8\C1Total: \DD\C1\C7\C1\C4
EV.P.NEW: \C1\BA\D7\C1
EV.P.END: \BA  Sub: \DD\EC\C1
```

Use the Test Button to review each print event



The Test function is useful to view the outcome of custom print strings and auto output strings.

- Click on Test button
- Print sequence is displayed in window.



In this example the New Docket Event print string is being tested and the new docket print event is to print the Header and the date and time on a new line.

For more information refer to the Reference Manual for this product