MicroSD logger

Data Sheet

Revision History

Revision	Modified by	Changes	Date
A	C.M.Lawson	Original	28-SEP-11
B	C.M.Lawson	Update following specification review	30-SEP-11
C	Jim Wightman	Added folder creation option	17-OCT-11

Introduction

A factory fitted option to the new range of printers is the micro SD card data storage. This will provide an electronic copy of everything that is sent to the printer, therefore allowing the user to display or print these saved records through the printer, or via a windows PC.

Hardware

There is a slot in the printer case adjacent to the paper roll that can accommodate a micro SD push-push holder. This allows easy access to the micro SD card, but is hidden from sight by the lid of the paper bucket.

The maximum size of micro SD card qualified is 2GB, also known as SD Standard Capacity or SDSC.

Due to the variance of SD card functionality and standards, the SD card functionality is only certified for use on SD cards provided via Martel Instruments.

Firmware operation

The microSD card must be formatted prior to insertion in the printer. This can be done on Windows XP, Windows Vista and Windows 7 PCs, the formats that are suitable for Martel logger use are FAT16 or FAT32. Please note – exFAT / NTFS is not supported at this time.

The operation of the firmware is as follows.

Any characters sent to the printer will be printed on the paper roll and also stored real-time in a designated location and file on the microSD card.

If the printer is idle for more than a pre-set “time out” period, the buffered characters will be written to the SD card file. Any new characters will be saved to a new file.

All files are stored in the microSD card's root directory, by default.

The file naming format is

<pppp><nnnn>.PRN

where pppp is the number of times the printer has powered up and nnnn is the auto incremented sequence number. So 00530061.PRN is from a printer that has powered up 53 times and it is the 61st file since the printer last powered up.

The escape sequence ESC 'F' <dddddddd> CR will create and cause all subsequent files to be placed in directory <dddddddd> where d is an alphanumeric character and can be up to eight characters in length. Non alphanumeric characters will be ignored. A zero length directory name will cause files to be written to the root directory.

Esc 'v' has now changed to provide a status of the memory card as well as the paper out state. The ESC 'v' status request has 'card present' and 'card functioning correctly' bits.

Card error. A customer configurable option gives the user of the host machine an indication of an error by giving 5 short flashes every second on the printer's status LED.

Storage encryption. The SD stored data is encrypted by default to ensure viewing of the captured data can only be carried out via the Martel viewing software, and protection of unauthorised viewing by any laptop.

Enable / disable SD card storage. ESC 'E' will enable data storage and ESC 'e' will disable storage. This has no effect on printing.

Idle time out. When the printer has not received any data for a certain time any new data will be written to the next file in the sequence described earlier. ESC 'c' <x> provides this configurable time out. The time out values are given in the table below.

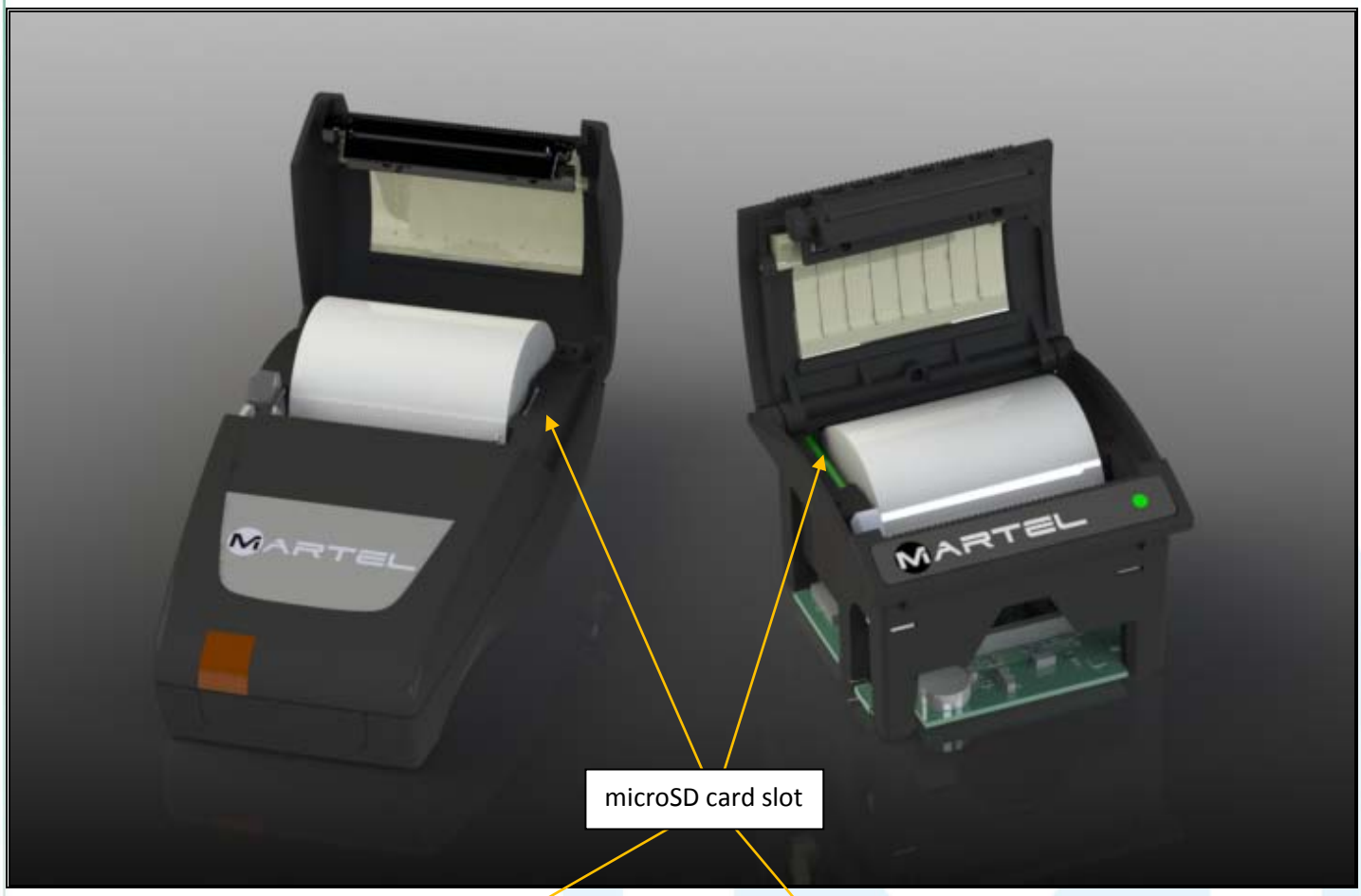
ESC ‘c’ <x> Setting delays (1-9 as options ‘x’)

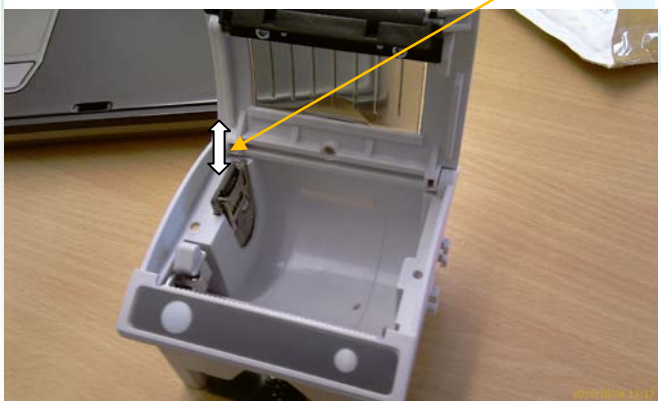
1	2	3	4	5	6	7	8	9
1sec	10sec	30s	1min	10mins	30mins	1hr	5hrs	10hrs

ESC ‘n’ will also force a “file save” and “new next file” creation, to ensure the user can directly control when, and how the data is saved.

MicroSD logger

Inserting / Removing SD Card





Push SD card ‘Down/up’ to release

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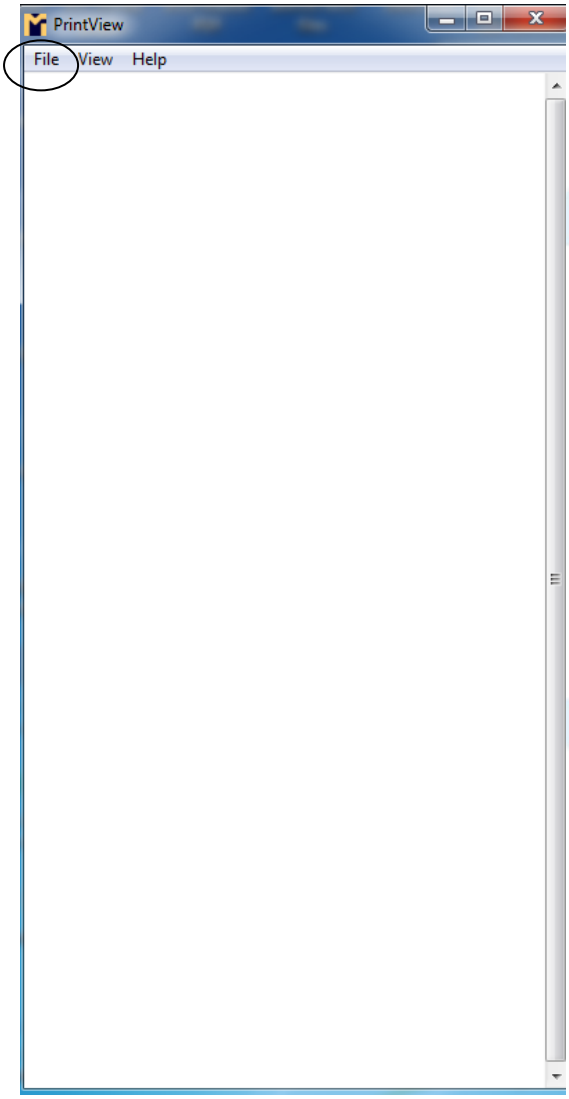
MicroSD logger

PrintView Software

Open “PrintView” software (icon as above) which is a self contained executable, compatible with all Windows version software (XP/Vista/Win7)



Insert the SD card into a suitable adapter for reading on a Windows PC. Then select “File” – “open” from the PrintView software

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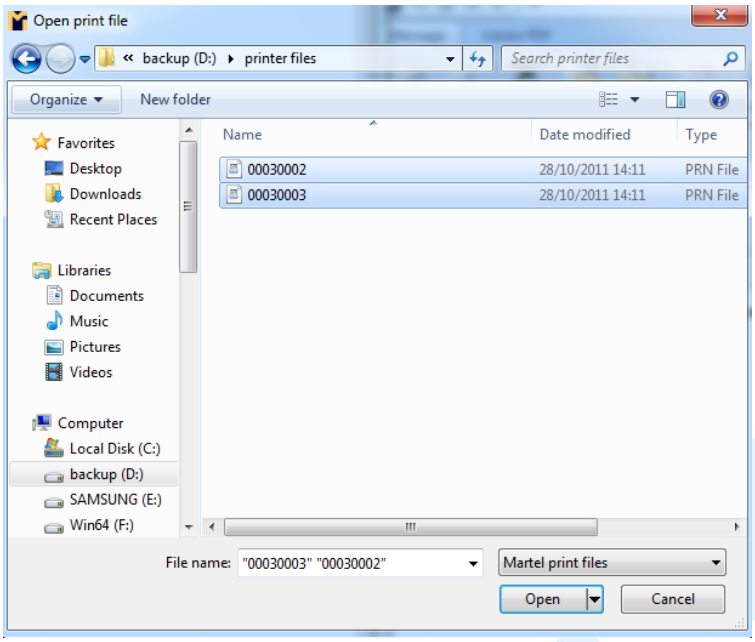
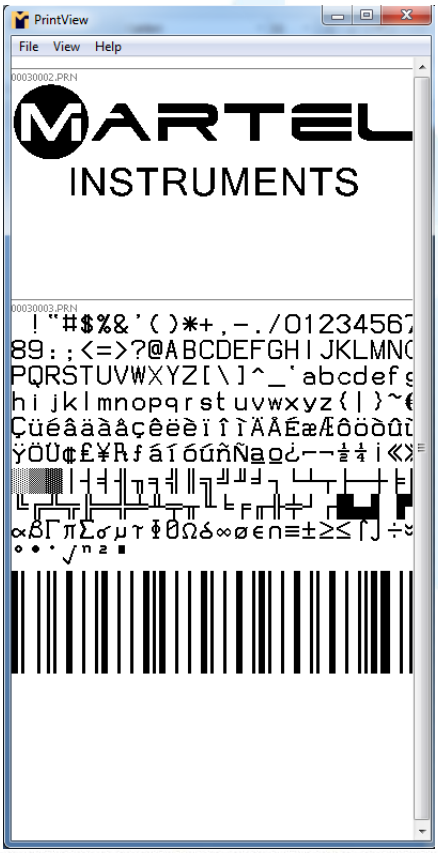
PrintView Software



Select the files to be viewed within the PrintViewer software.

If multiple files are required please select via shift for full list, or control button for individual selections as left.



Captured files are then viewed within the program, and different sequential files indicated by a line break and name.

View can either be printed directly to any standard printer, or can be exported as a .BMP

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