

SR100A – Memory Card Driver Option

1 Availability

The memory card driver is available as a factory-fitted option on all SR100A instruments.

An upgrade kit (part no. SR100/0709) is available for retro-fitting to previously supplied SR100A instruments

Note. SR100 instruments with a factory-fitted memory card driver are identified by a 'D' in the product code, e.g. SR106/BD/BOOOOO/112ST.

1.1 Features

Available features:

- Logging of up to 12 analog values each second
- Logging storage in MS-DOS format or Compressed ASCII format
- Instrument configuration storage in MS-DOS format

Table 1.1 overleaf shows these features in greater detail.

1.2 Applications

Typical applications:

- Safety-critical applications:
 - Backup of logging or configuration data
- Site and portable recorders:
 - Data storage in PC-readable format
 - Rapid setup of alternative configurations
- OEM production facilities:
 - Quick cloning of standard configurations

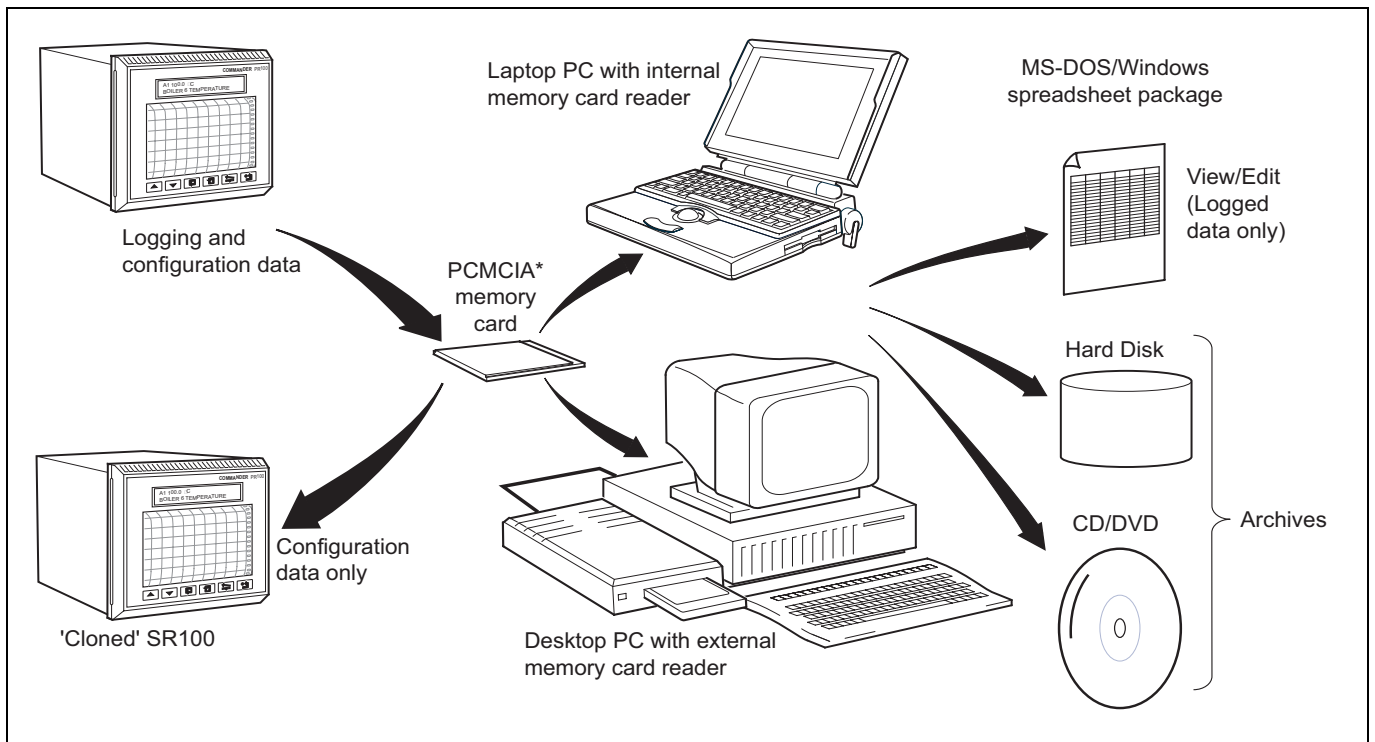


Fig. 1.1 Overview of Memory Card Operation

Note. * The Personal Computer Memory Card International Association (PCMCIA) is an organisation of over 400 PC manufacturers who have developed a series of industry standards for miniature PC memory cards.*

Feature	File Format	
	MS-DOS	Compressed ASCII
Configuration data storage	YES	NO
Logged data storage	YES	YES
Maximum number of channels allowed for data-logging	12	6
Logging interval range	1 sec to 4 min.	3 to 1500 mm/h
Card capacity when logging 6 channels onto a 1 Mb card at a scan interval of 1 s or chart speed of 720 mm/h	5.28 hours	20 86 hours
Card capacity when logging 6 channels onto a 1 Mb card at a scan interval of 4 mins. or chart speed of 3 mm/h	52.8 days	208.6 days

Table 1.1 Card Utilisation Options

2 Data-logging

Data-logging enables up to 12 analog inputs or internally-derived maths functions to be logged between once every second and once every 240 seconds. Logged data can be stored in either MS-DOS format or Compressed ASCII format.

2.1 Storage Fig. 2.1

Logged data and configuration data can both be stored on the same MS-DOS formatted card. Data stored on MS-DOS formatted cards can also be transferred to or from a PC using MS-DOS or Microsoft Windows utilities.

Compressed ASCII format allows greater storage density of logged data. Data stored in this way must be reformatted before it can be used in PC applications. Storage of configuration data is not possible on cards formatted for Compressed ASCII.

The length of time taken to fill an SR100A memory card is dependent on the following factors: memory card capacity; storage format used; number of channels logged; and the logging interval or chart speed.

Fig. 2.1 shows estimated running times while data logging. Equations which calculate times specifically can be found in the SR100 memory card manual (part no. IM/SR100A-MEM). A scan interval of 240 s (MS-DOS format) or 3 mm/h chart speed (Compressed ASCII format) gives the longest run-time for a particular card.

2.2 Retrieval

Once data logging is complete, data can be viewed on a personal computer by plugging the card in to a PCMCIA port.

MS-DOS formatted text files produced by the SR100 can be imported directly into most spreadsheet packages and used to produce graphs and charts etc. Fig. 3.1 shows an MS-DOS format SR100 data file being imported directly into a Microsoft Excel spreadsheet without additional formatting or using special software.

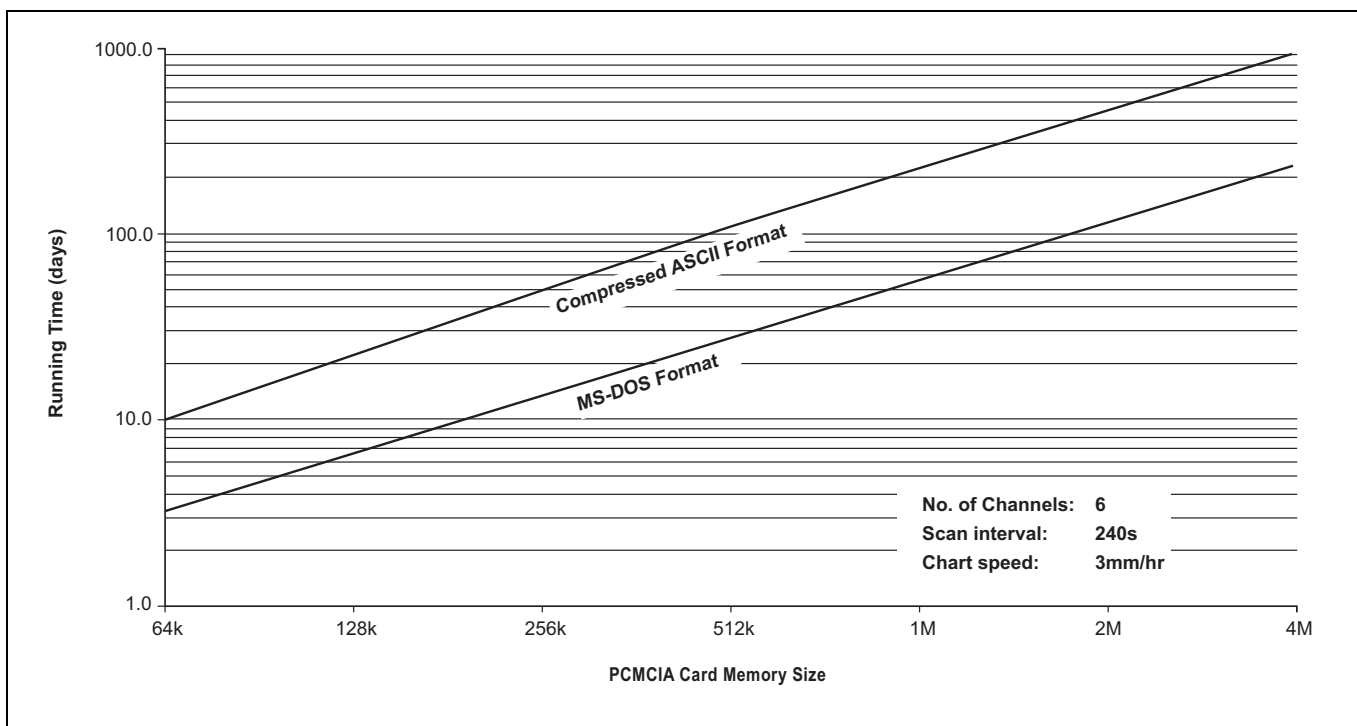


Fig. 2.1 Memory Card Data Logging Capacity

3 Configuration Data

Configuration data set by the user in the SR100's configuration pages can be stored as named files on an MS-DOS formatted memory card. Up to 32 configuration files can be downloaded to a single card.

Configuration files from a single instrument can be downloaded to multiple cards and then transferred ('cloned') to other SR100 instruments.

Alternatively, configuration files can be copied to a PC and backed-up onto hard disks or CD/DVD via a PC, to give greater security of configuration data.

Note. Any changes to configuration data must be made via the SR100. A PC can only be used to view data stored with the data-logging facility. Configuration data cannot be viewed or changed on a PC.

Description	Part No.
Memory card drive upgrade kit (excluding card)	SR100/0709
Instruction manual (memory card driver option)	IM/SR100A-MEM
64 kb SRAM memory card	B10798
1 Mb SRAM memory card	B10865

Table 3.1 Memory Card Products

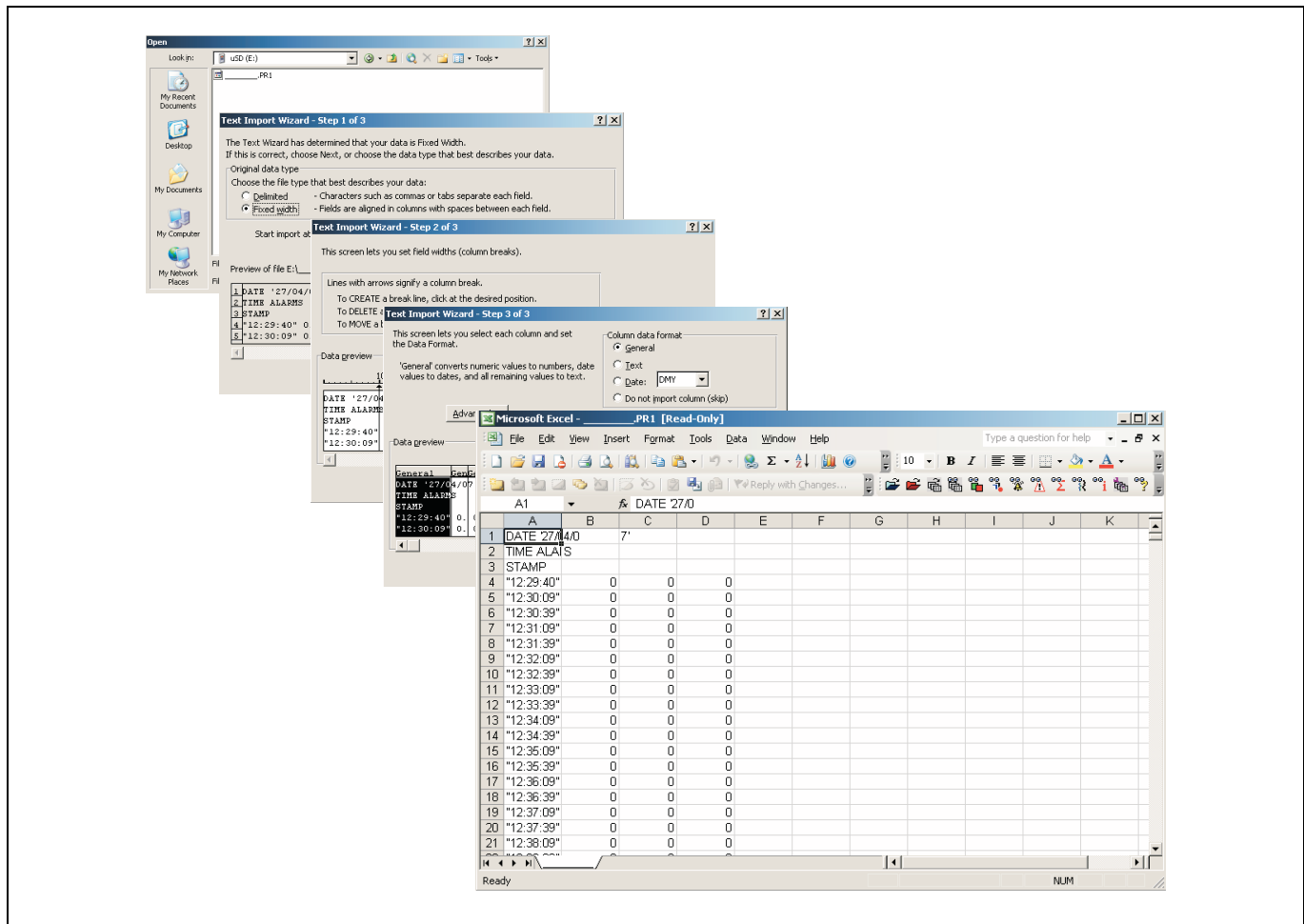


Fig. 3.1 Importing Logged Data into a Spreadsheet

4 Compatibility with Personal Computers

4.1 What is PCMCIA?

PCMCIA – the Personal Computer Memory Card International Association – is an international organisation of over 400 personal computer manufacturers and system builders who have developed a series of industry standards for miniature PC memory cards.

The majority of laptop and desktop computer manufacturers have already introduced PCMCIA-compatible products.

Amongst the advantages of PCMCIA-compatible memory cards are:

- Memory access many times faster than from a floppy disk
- More compact than floppy disk
- Rugged construction – not affected by dust/dirt and has no moving parts

4.2 PCMCIA Ports

To read PCMCIA memory cards a PC must be fitted with either an internal or external PCMCIA port. For PC's without a built-in PCMCIA port, external adaptors are available which connect to a parallel port. Internal adaptors are normally added into desktop computers or as replacements for 5.25 in. and 3.5 in. drives.

Once inserted into PCMCIA port installed in a PC, an SR100 memory card appears as the next unused drive available e.g. 'E:\'.

4.3 Hardware and Software Requirements

PC hardware and software used with the SR100 memory card option must meet the following requirements:

- Card readers must be fully PCMCIA compatible for 68-pin type 1 SRAM cards
- Suitable driver software must be installed on the host computer, to configure the PCMCIA slot as an MS-DOS drive

Problems can arise if the PCMCIA drive is not fully MS-DOS compatible. Check with the PC manufacturer or software company for clarification. The format used by the SR100 is fully MS-DOS compatible.

5 Memory Cards

The SR100 memory card driver only accepts 68-pin, type 1 SRAM cards. Typically these cards are available in the following sizes: 64 kb, 128 kb, 256 kb, 512 kb, 1 Mb, 2 Mb and 4 Mb.

5.1 Batteries

To enable cards to retain data when removed from the SR100 a backup battery must be fitted to the card. Certain cards use a lithium battery which is inserted into the card before use. Other cards have an integral, rechargeable backup battery. Lithium battery life varies with card size and type: typically 4 years for a 64 kb card and 6 months for a 2 Mb card. Most PC's indicate when the charge on a lithium battery is low and needs replacing. Rechargeable batteries cannot be replaced, other than by replacing the card itself.

5.2 Write Protection

A write protect switch is an integral part of the memory card and must be kept in the unlocked position for configuration storage and data-logging to take place.

5.3 Formatting

To avoid compatibility problems and optimize the space available for data-logging, format all cards on the SR100 itself. Cards can be formatted on the SR100 for either MS-DOS format or Compressed ASCII format. A single card however, cannot store data in both formats at the same time.

A memory card cannot be formatted if data-logging is in progress.

5.4 Filenames

All configuration data is stored in MS-DOS compatible files, each with a filename of up to eight characters and the extension '.CFG'. Existing filenames cannot be re-used or deleted unless the card is first reformatted.

All data-logging files are saved to a unique filename comprising up to eight characters and the extension '.PR1'. The default filename is based on the current date in the format: SRddmmyy, e.g. SR300109.SR1 is a file created by the SR100 on 30th January 2009.

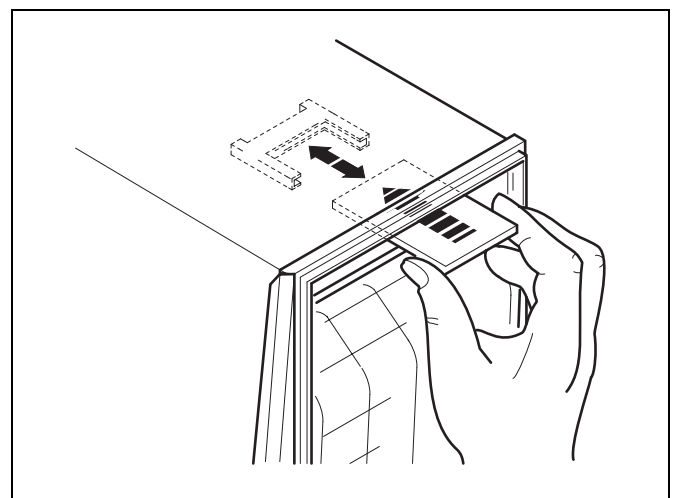
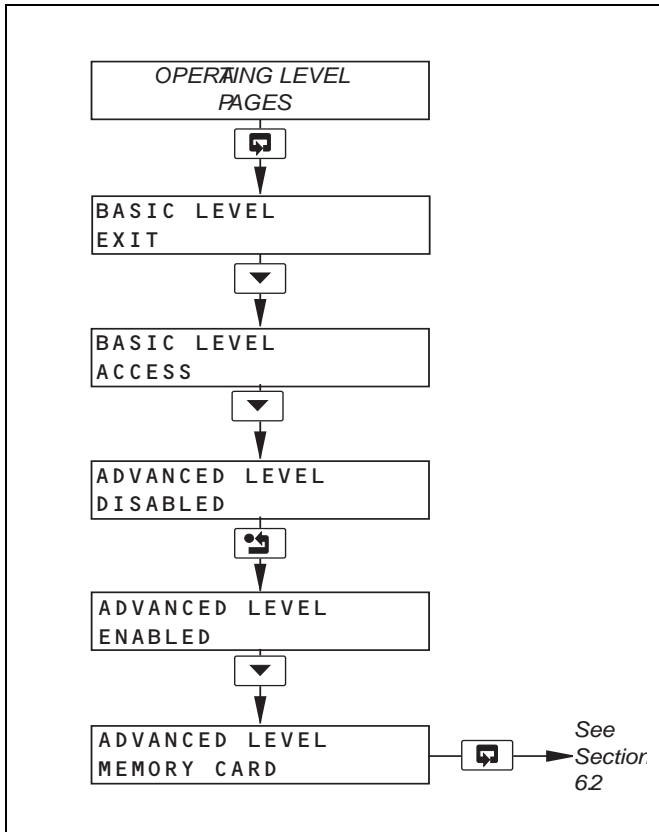


Fig. 5.1 Inserting a Memory Card

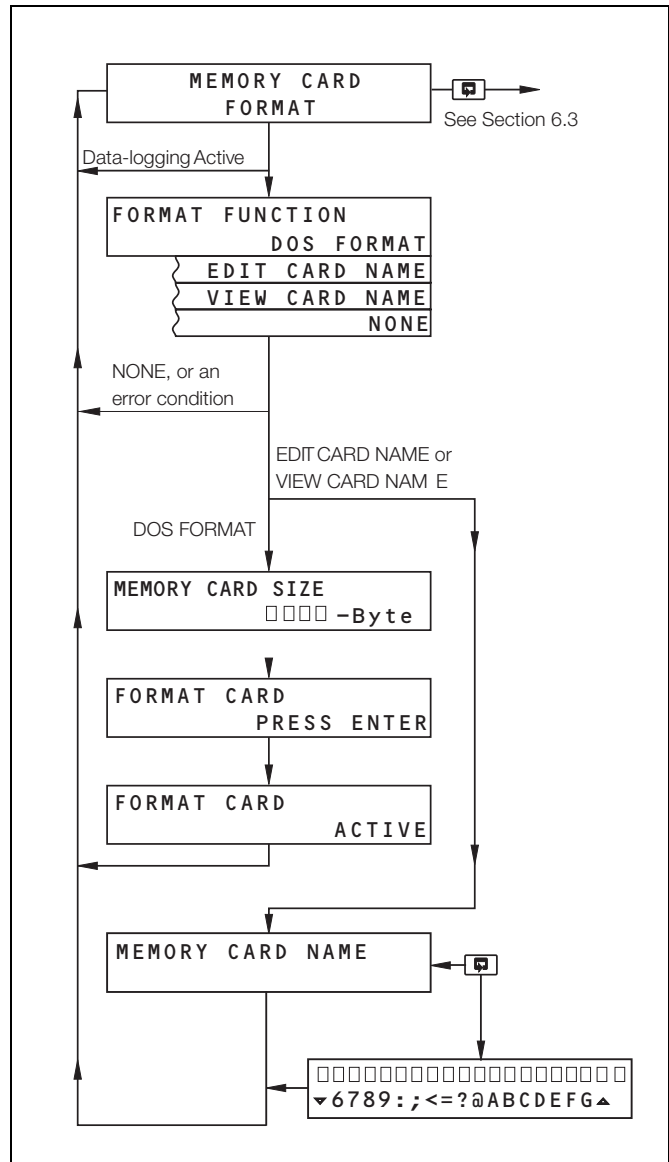
6 Using the Memory Card Option

The following procedures show three basic features of the SR100 memory card option: formatting a card, uploading configuration data and downloading configuration data.

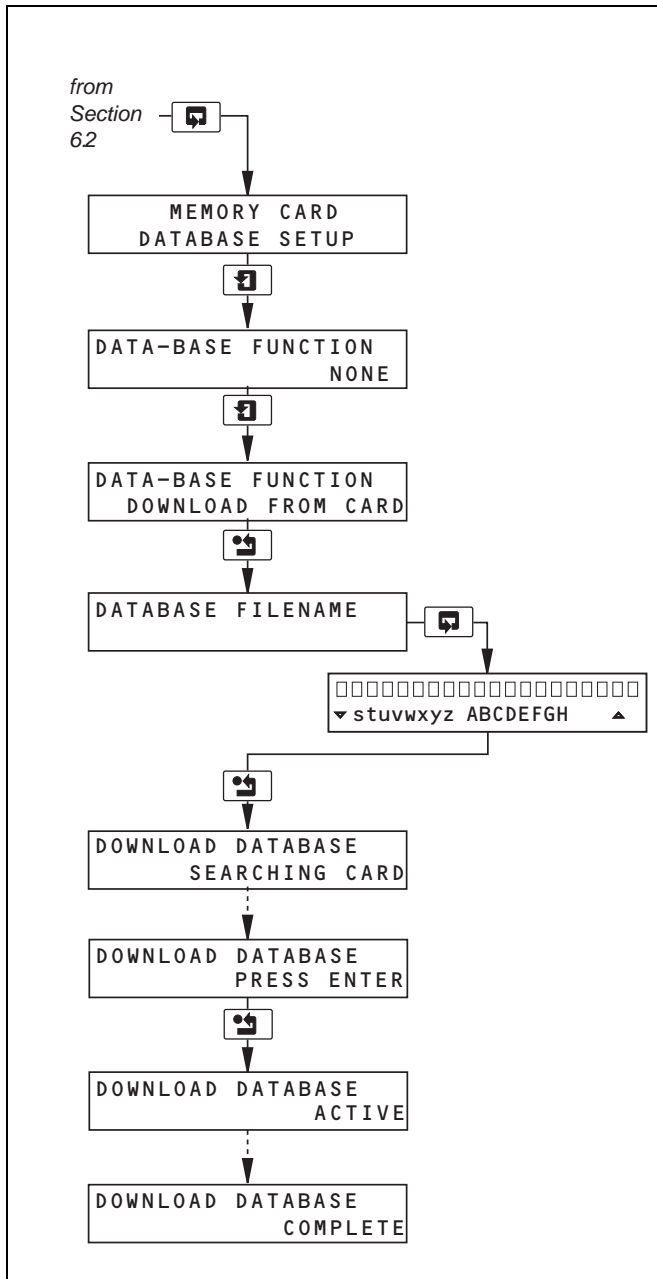
6.1 Accessing Memory Card Pages



6.2 Formatting a Memory Card



6.3 Downloading Configuration Data



6.4 Uploading Configuration to Memory Card

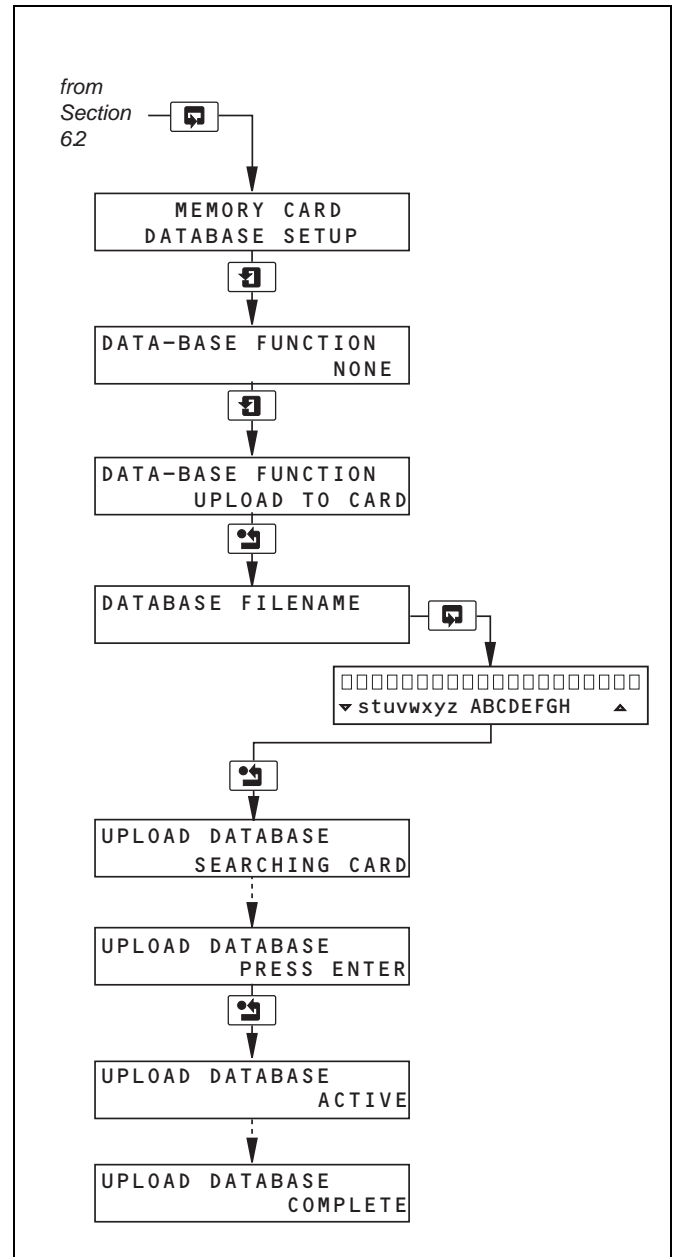


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