

# Digidown<sup>®</sup>plus

## Digital Tachograph Combined Download Device Operating Instructions



# Introduction

The Digidown Plus downloads data from digital tachograph vehicle units (VUs) from all current tachograph manufacturers. Data downloaded from the VU is stored in a Secure Digital memory card, normally known as an SD card.

Three types of VU download are available:

ALL VU	Downloads all contents from the VU
LATEST VU	Programmable <sup>1</sup> . Options include the last 1, 2 or 3 months of data plus a selection from events & faults, detailed speed and technical information and can include a download of a Driver card inserted in the VU.
CARD	Downloads a Driver Card inserted into the VU

Pressing the relevant button starts the Download. Download status is indicated by the 3 LEDs positioned alongside the buttons.

The Digidown Plus can also download any tachograph card directly into the unit via the card reader slot in the side using AA batteries or by powering the unit through a USB cable. The download starts automatically when the card is inserted.

## Initial Set Up

In order to operate successfully, the Digidown Plus requires an SD card to be inserted into the slot in the side of the device. A suitable ready-formatted SD card is supplied with the unit<sup>2</sup>. When a suitable memory card has been inserted into a Digidown Plus and the Digidown Plus is connected to a VU it checks the card format and then indicates that it is ready for use.

In order to read tachograph cards direct into the unit without a USB power cable, a pair of AA-size batteries is required (supplied with the unit). Please observe the correct polarity when inserting the batteries.

## Insertion and removal of the SD card

When in use, a suitable SD card must be inserted into the slot in the side of the Digidown Plus. To insert the card, push it into the slot in the side of the Digidown Plus until it latches in place. To remove the SD card from the Digidown Plus (for instance in order to read it using a different memory card reader) the protruding end of the memory card should be pushed back into the Digidown Plus. This will release the SD card and it will spring out for easy removal. DO NOT try to remove the latched memory card by pulling on the end of the card.

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<sup>1</sup> Please contact your dealer to discuss the options available.

<sup>2</sup> Whilst the Digidown Plus will work correctly with most types of SD memory card (provided that they are formatted FAT16), Lisle Design can only guarantee operation with those memory cards supplied by Lisle Design.

# VU Download Process

Please note that for any download from a digital tachograph VU to work, a Company, Workshop or Control card must first be inserted in the VU. In the case of some VUs the vehicle ignition must be switched on.

Connect the Digidown Plus to the 6-pin Download connector on the front of the VU. Please note that the Digidown Plus should NOT be connected to an analogue (chart-recording) tachograph.

On connection, the Digidown Plus will check the presence and format of the SD card and then indicate that it is ready for operation by blinking briefly each of the LEDs in turn. Pressing any of the buttons will initiate the download indicated by the button's label.

During download, the LED by the button pressed will flash repeatedly about twice each second. Successful completion will be indicated by the LED blinking briefly about once every second. Please note that the download of data from a VU can take a considerable time, potentially in excess of 30 minutes. Downloading using 'Latest VU' can reduce the download time considerably.

NOTE: DO NOT disconnect the Digidown Plus or remove the SD card during a download. Doing so may cause file errors on the SD card.

# Driver Card Download Process

Driver cards can be downloaded via a VU. In this case the relevant driver card must be inserted into one slot of a VU and a Company, Workshop or Control card must be inserted into the other slot. Once again the Digidown Plus should be connected to the 6-pin download connector on the front of the VU.

Once the Digidown Plus is connected and indicating that it is ready to download, press the 'Card' button on the Digidown Plus to start downloading the driver card in the VU.

During download, the LED by the button pressed will flash repeatedly about twice each second. Successful completion will be indicated by the LED blinking briefly about once every second. Download of data from a driver card in a VU generally takes a small number of minutes to complete.

The Digidown Plus provides the facility for driver, company, control and workshop cards to be read direct into the unit. With the Digidown Plus disconnected from other equipment, insert the card to be downloaded (chip down) into the smart card slot in the side of the unit. The unit will first check that the SD card is satisfactory and will then download the tachograph card.

During card download direct into the unit, the LED by the 'Card' button will flash repeatedly about twice each second. Successful completion will be indicated by the LED blinking briefly about once every second. Download of data from a driver card direct into the Digidown Plus takes in the region of 30 seconds (depending on the tachograph card).

A driver card (or any other type of tachograph card) may be downloaded into the Digidown Plus and into its SD card whilst the unit is connected to a PC's USB port. In this case the required power is taken from the USB connection. If the Digidown Plus is always connected to a USB port when downloading tachograph cards then the internal batteries are not required.

## Reading the SD card

The SD card can be read via the USB port on the Digidown Plus<sup>1</sup>. Once connected to a PC via the USB port, the Digidown Plus will appear as a standard removable disk drive.

Alternatively data on the SD card can be read and/or copied by removing the SD card from the Digidown Plus and plugging it into a separate SD card reader available from Lisle Design or from major computer or camera shops.

## Mounting Bracket

The Digidown Plus may be supplied with a bracket allowing the unit to be fixed down to a counter or other horizontal surface. A second (smaller) bracket is supplied to cover the memory card slot.

When installing the standard mounting bracket, please see the diagram on the last page. The smaller bracket should first be attached to the larger bracket using the (M3 x 10mm) countersunk screws and the 5mm nylon spacers. The bracket should then be attached to the selected surface, e.g. counter, shelf etc. with appropriate screws (not supplied). The Digidown plus unit can then be attached to the main bracket using the supplied pan head screws (M3 x 6mm). Note that the memory card cover may be omitted if access is required to the memory card whilst the unit is attached to the bracket.

If a USB cable is to be attached permanently to the Digidown Plus whilst attached to a mounting bracket, then the cable may be passed through one of the holes in the bracket before the unit is attached to the bracket.

## LED status / Error indication

The LEDs are used to show the status of the download and any error.

### Normal Operation:

- Each of the LEDs blinking briefly in turn  
Indicates power is on and Digidown Plus is ready
- Single LED flashing about twice per second  
Indicates Digidown Plus is busy downloading data
- Single LED blinking briefly about once every second  
Indicates successful completion of download

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<sup>1</sup> The required drivers are included as standard in Windows 2000, XP, Vista, 7 and 8. For use with Windows 98 a driver software file is required. Please contact your dealer for more details.

Single LED double-blinking about once every second  
Indicates successful download of a tachograph card into the unit and that the batteries will shortly need replacing.

'All VU' and 'Card' LEDs on  
Indicates Digidown Plus is in USB mode.

## Error Conditions:

Each of the LEDs stepping smoothly from one to the next  
Indicates that there is no SD card present.

All three LEDs flashing together  
Indicates that there is a problem with the SD card

All three LEDs on while attempting a card download  
Indicates that the batteries need replacing.

Single LED permanently on  
Indicates download failure

Single LED on briefly (approx 3s)  
Indicates button press while Digidown Plus is busy

## Suggested Actions on Error Condition

SD Card Error:      Check card is correctly inserted  
                         Check card Lock Switch is in the unlocked position  
                         Check card is not full  
                         Check card is formatted as FAT16  
                         (Windows refers to this format as FAT)

Low battery            Replace the two batteries in the unit.

Download Failure:    Ensure that a valid Company, Control or Workshop card is inserted in the VU and that vehicle ignition is switched on. Retry download

Button Press Error:    No action required - original download will continue.

'Download Fault 12'    When downloading data from some SiemensVDO digital tachographs the message 'Download Fault 12' may occasionally be shown on the tachograph display. This can safely be ignored. Allow the download to finish and then press 'OK' to cancel the error message.

## Choice of SD Memory Card

The Digidown Plus will work successfully with most types of SD memory card. A few SD card types are unfortunately not suitable as they do not conform fully to the SD card specification. Cards supplied by Lisle Design are to be preferred as they have been selected for optimum performance in this application.

2Gbyte memory cards are supplied as standard by Lisle Design (although lower memory capacities are entirely adequate for this application). Larger capacity memory cards are not suitable for use with the Digidown Plus.

# SD Card Formatting

For any SD memory card to work with the Digidown Plus it must be formatted FAT16 (which Windows calls 'FAT').

When a newly formatted SD card is inserted into a Digidown Plus and the unit is connected to a VU, the format of the memory card is first checked. The Digidown then creates a directory structure on the card.

Two top-level directories are created:

- 'DIGIDOWN' and
- 'UPDATES'

'Digidown' has 2 sub-directories:

- 'VU' where VU downloads are stored and
- 'CARD' where driver card downloads are stored.

This process is automatic and generally takes just a few seconds.

## Downloaded Data

The downloaded data appears on the SD card in the '\\digidown\\vu' or '\\digidown\\card' directory depending on download type. The Digidown Plus unit creates long filenames for each download, in the form of:

VU file: M\_YYYYMMDD\_HHMM\_AA12BBB\_XXXXXXXXXXXXXXXXX.DDD

M denotes a VU file. The next 2 sections are the date and time of the download. This is followed by the vehicle registration (AA12BBB) and identification numbers (xxxx...).

Card file: C\_YYYYMMDD\_HHMM\_A\_SMITH\_XXXXXXXXXXXXXXXXX.DDD

C denotes a card file. The next 2 sections are the date and time of the download. This is followed by the driver name and number.

Alternatively the Digidown Plus can be programmed to use short file name formats or alternative long file name formats.

Whatever the file names, the contents of the downloaded files are exactly according to the digital tachograph regulations.

## Choice of Batteries

Two AA-size batteries are needed to power the unit when downloading tachograph cards direct into the unit. When downloading data from a VU or reading the SD card via the USB port then the internal battery is disconnected and power is taken from the VU/USB port.

The Digidown Plus is designed to be used with alkaline batteries. A pair of cells will generally be good for downloading tachograph cards some 2000 times before needing replacing.

Other battery types may be used provided that they supply in the region of 1.5V per cell. The Digidown Plus takes a very small current whilst operating. There is therefore little merit in using alkaline cells designed for high-current applications.

Rechargeable cells may also be used, e.g. nickel cadmium (Ni-Cd) or nickel metal hydride (Ni-MH), but users need to be aware that many types of rechargeable battery do not perform well in low current applications and may self-discharge in a few weeks. There are also potential difficulties when they have been used a few times as the capacity of one cell can end up quite different from the capacity of the other. This will result in the battery life being much shorter than expected.

## Upgrade of the Digidown Plus

The software within the Digidown Plus can be upgraded when appropriate without the need to return it to a dealer.

Similarly the programming of the 'Latest VU' button can be updated without the need to return the Digidown Plus to a dealer.

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# Mounting Bracket Assembly

