

Dig!down[®]Blue

Digital Tachograph Combined Download Device
with Bluetooth Upload Function



Operating Instructions

LISLE
D E S I G N

Introduction

The Digidown device 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 download are available:

ALL VU	Downloads all contents from the VU
LATEST VU	Programmable ¹ . 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 by the buttons.

After the required data has been downloaded then the data can be uploaded via Bluetooth to wherever it is required. This can be via a Digidown Base box direct to the relevant place or via a suitable Bluetooth-enabled mobile phone to anywhere in the world.

Initial Set Up

In order to operate successfully, the Digidown 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 unit². When a suitable memory card has been inserted into a Digidown and the Digidown is connected to a VU it checks the card format and then indicates that it is ready for use.

When using the Bluetooth upload function in conjunction with a mobile phone then the correct destination e-mail address must be recorded on the SD card. Please see the separate sheet for information on this set up process.

In order to read tachograph cards direct into the unit and send data via Bluetooth a pair of AA-size batteries is required (supplied with the unit). Please observe the correct polarity when inserting the batteries.

¹ Please contact your dealer to discuss the options available.

² Whilst the Digidown 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.

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. To insert the card, push it into the slot in the side of the Digidown until it latches in place. To remove the SD card from the Digidown (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. 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.

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

On connection, the Digidown 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 Digidown 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. Data download from newer VUs is generally much quicker. Downloading using 'Latest VU' can reduce the download time considerably.

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

'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.

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 should be connected to the 6-pin download connector on the front of the VU.

Once the Digidown is connected and indicating that it is ready to download, press the 'Card' button on the Digidown to start downloading of 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 Blue provides the facility for driver, company, control and workshop cards to be read direct into the unit. With the Digidown 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 Blue takes in the region of 1 minute (depending on the tachograph card).

A driver card (or any other type of tachograph card) may be downloaded into the Digidown Blue 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 Blue is always connected to a USB port when downloading tachograph cards then the internal batteries are not required.

Data upload via Bluetooth

After downloading of data from a VU or direct from a tachograph card that data can be sent back to base or to a service provider via Bluetooth.

Data upload using the Digidown Base box

The Digidown Base box itself (when enabled with the Digidown Host Software) is continually ready to receive data from a previously paired Digidown Blue unit. When downloading from a VU or card has been completed press the Bluetooth button on the Digidown Blue unit. Initially the associated blue LED will light whilst the unit checks for files available for upload. The blue LED will then start flashing slowly (about once every 2 seconds) whilst it makes the connection to the Digidown Base box. If you are in range of the Digidown Base box then it will generally flash 3 or 4 times. Once the connection has been made then the flashing will become much quicker (about twice per second) as the available files are uploaded.

Once uploading has been completed the Bluetooth LED will switch to blinking briefly about once per second.

Please note that files are uploaded one by one. As a result there is a slight pause in the flashing between uploading of one file and uploading of the next.

For further details please see the Digidown Host User Guide.

Data uploading using a mobile phone

Please see separate sheet.

Reading the SD card

The SD card can be read via the USB port on Digidown³. Once connected to a PC via the USB port, the Digidown 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 and plugging it into a separate SD card reader available from Lisle Design or from major computer or camera shops.

Mounting Bracket (see diagrams on separate sheet)

The Digidown Blue 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 mounting bracket, the smaller bracket should first be attached to the larger bracket using the longer countersunk screws (M3 x 10mm) and the 5mm spacers. The bracket should then be attached to the selected surface, e.g. counter, shelf etc. with appropriate screws (not supplied). The Digidown Blue unit can then be attached to the main bracket using the supplied pan head screws (M3 x 8mm). Note that the memory card cover may be omitted if access is required to the memory card whilst the Digidown unit is attached to the bracket.

If a USB cable is to be attached permanently to the Digidown Blue 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.

Choice of SD Memory Card

The Digidown Blue 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.

³ 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.

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 Blue.

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

SD Card directory structure

When a newly formatted SD card is inserted into a Digidown Blue and the unit is connected to a VU, the format of the memory card is first checked. The Digidown Blue 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 Blue unit creates long filenames for each download, in the form of:

VU file: M_YYYYMMDD_HHMM_AA12BBB_XXXXXXXXXXXXXXXXXXXX.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_XXXXXXXXXXXXXXXXXXXX.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 Blue 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.

LED status / Error indication

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

Normal Operation – 3 red LEDs:

- Each of the red LEDs blinking briefly in turn
Power is on and Digidown is ready
- Single LED flashing about twice per second
Digidown is busy downloading data
- Single LED blinking briefly about once every second
Successful completion of download
- 'All VU' and 'Card' LEDs on
Digidown is in USB mode.

Normal Operation – Bluetooth:

- Blue LED flashing slowly
The unit is trying to connect to a Digidown Base box or to a mobile phone
- Blue LED flashing about twice per second
Digidown is busy uploading data
- Blue LED blinking briefly about once every second
Successful completion of upload

Error Conditions:

- Each of the LEDs stepping smoothly from one to the next
There is no SD card in the unit.
- All three LEDs flashing together
There is a problem with the SD card
- Single LED (Red or Blue) double-blinking about once every second
Successful completion of current activity and the batteries will shortly need replacing.
- Single LED permanently on
Download failure
- All three LEDs permanently on
Batteries need replacing
- Single LED on briefly (approx 3s)
Button pressed while Digidown is busy
- Blue LED permanently on
The upload has failed or there are no files to be uploaded.
- Blue LED goes off when the Bluetooth button is released
There is no SD card in the unit.

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 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.
- Upload failure Check that there are files to be uploaded
Check that the unit is in range of the Digidown Base box
Check that the Digidown Base box is enabled
Check that the associated phone is in Digidown Blue mode and check any message on the phone's display.

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 Blue 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 Blue 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

The software within the Digidown 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 to a dealer. Contact your dealer for details.

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