



Guide to Digital Tachographs

REGULATION (EC) NO. 165/2014
REGULATION (EC) NO. 561/2006

Údarás Um Shábháilteacht Ar Bhóithre Road
Safety Authority

DRUNK WITH TIREDNESSZZZZ?

**Fighting sleep at the wheel
is as dangerous as driving
over the legal alcohol limit**

***TO KEEP DRIVING
FOR ANOTHER HOUR:***

- 1. Find a safe place to park***
- 2. Take 2 cups of strong coffee***
- 3. Take a nap for no more than
15 mins - then stretch your legs***



DRIVER FATIGUE
WAKE UP TO IT!

Your guide to Digital Tachographs



What is a digital tachograph?

Digital tachographs are fitted on goods and passenger vehicles that are subject to tachograph rules and have been brought into service since 1 May 2006. It is a digital version of the analogue tachograph system. The digital system records information on a range of vehicle and driver activities. Data is stored in the vehicle unit memory and on driver cards.



The tachograph stores the following data.

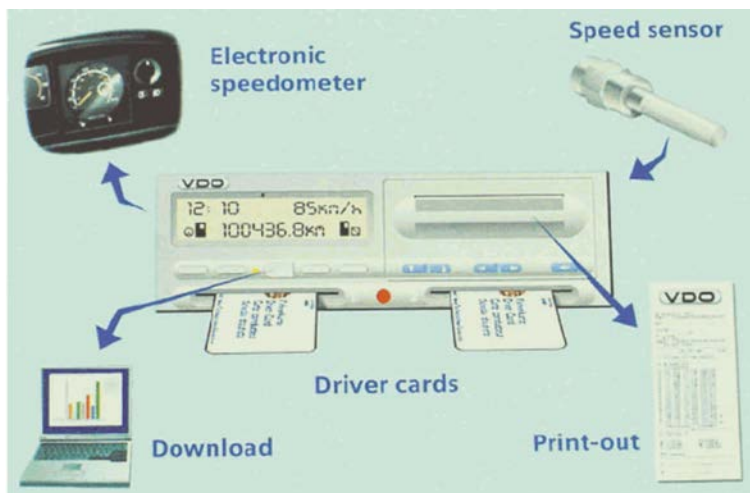
- Date
- Vehicle registration number
- Vehicle speed (for previous 24 hours of driving)
- Single or co-driver
- Number of times a driver card is inserted each day

- Distance travelled by the driver – it reads the vehicle odometer when the card is inserted and removed
- Driver activity – driving, rest, breaks, other work, periods of availability
- Date and time of activity change
- Events (for example driving without a driver card, overspeeding, fraud attempts etc) and faults
- Enforcement checks
- Details of tachograph calibrations
- Tampering with the system

How does the digital tachograph system work?

Digital tachographs consist of the vehicle unit, motion sensor and smart cards (see diagram below).

The vehicle unit (VU) is the brains of the system. It has a processor, a real-time clock, two card slots (for driver and co-driver), a display, a printer, a download connector and a facility for making manual entries. The VU is located in the driver's area of the cab.



The motion or speed sensor is located on the gearbox. It signals in an encrypted form the vehicle speed and distance travelled by the vehicle for the VU to record. The VU and the motion sensor are paired and the signals from the sensor are fully encrypted. This means any attempt to interfere with them is detected and recorded by the vehicle unit.

There are four types of smart card – driver card, control card, workshop card and company card. The cards allow the VU to identify the cardholder and enable you to transfer and store data.

How much data can the vehicle unit and driver card store?

A driver's card can store up to 28 days worth of data. When it is full, the stored data may be overwritten by new data. The vehicle unit stores data for the previous 365 days before the oldest data is overwritten.

Operators' responsibilities



What should I do with the data from the digital tachograph?

You have **two** responsibilities.

- Download the data from the driver's cards (at least every **28** days) and vehicle units (at least every **90 days**) and save these for one year. You must make the downloaded information in its "raw" format available to an enforcement officer if requested.
- Monitor drivers' records and print-outs. If there are breaches of drivers' rules, you must address them and take steps to ensure they do not happen again.

Keeping digital data in an archive is relatively simple. The archived data must retain its 'digital signature'. This is used to confirm that the data is authentic and hasn't been tampered with.

As the data on a driver card will be overwritten after about 28 days, you will need to copy this data before then.

As part of your monitoring responsibilities you must check and report on the following:

- Non-compliance with the driver's hours rules by the driver
- Details of "missing mileage" – where a vehicle has been driven without a driver card
- Missing activities during shift-breaks, other work, etc
- Missing start and end locations
- Overspeeding occurrences

What other duties does an operator have?

- Supervisory:** Instruct and train drivers on the proper operation of the equipment.
- Ensure drivers are complying with your instructions by checking compliance with the rules.
- Follow drivers' hours rules when planning routes.
- Supply enough printer paper rolls in the vehicle for the recording equipment.
- Operational:** Ensure proper use of driver cards and the digital tachograph.
- Arrange for the repair of recording equipment on the journey if the trip takes longer than one week after a defect occurs.
- Tests:** Complete calibration checks within two years of the last calibration.
- Have the equipment recalibrated if:
- the system is repaired,
 - the time display is wrong by more than 20 minutes,
 - the vehicle registration number has changed,
 - the circumference of the tyres has changed, or
 - the seals or installation plaques are damaged or missing.
- Data handling:** Using your company card, "lock-in" data on the vehicle unit before first using the vehicle and "lock-out" data on the vehicle unit when the vehicle leaves your fleet. For example, when selling or disposing of the vehicle or when you are disposing of the recording equipment.
- Download data from the vehicle unit (VU) every **90 days** and download data from the driver cards at least every **28 days**.
- Save and store the downloaded data. A secure data storage system will be needed which includes back-up and disaster recovery procedures.

It is recommended that operators put in place a system for tracking driver cards. This tracking system should record the following:

- details of driver licence number (item 5a on the driver card)
- driver card number (item 5b on the card)
- expiry date (item 4b on the card) - this will alert you when the card is due to expire
- details of lost, stolen or malfunctioning cards and the action taken
- alerts when downloads of individual cards are to be taken.

How do I view the data on a driver card?

You can view the data on the card:

- on a computer, once you have downloaded the data with relevant software,
- on a print-out from the vehicle unit, or
- on the vehicle unit display.

How do I download the data on the vehicle unit and driver card?

To download data from your vehicle unit, you need a download device and your company card. A driver card can be downloaded through the vehicle unit or can be downloaded using a computer and the necessary software.

Most of the manufacturers of digital tachographs and other software suppliers have download devices and software packages that can be used to download and interpret digital tachograph information.

Using the driver card



How do I use the driver card in the tachograph unit?

You must hold a valid driver card to operate the tachograph unit. Your driver card is personal to you (like your driving licence). The card identifies you to the vehicle unit.



If you do not have a valid driver card, you must not drive a vehicle with a digital tachograph. If your card is lost, stolen or faulty, you can drive without a driver card for a maximum period of 15 calendar days subject to certain conditions. For example you will need to produce print-outs at the start and end of your shift and add personal information such as your name, signature and driving licence number. You will need to prove that you have taken action to address the problem and apply to the Road Safety Authority for a replacement card. You can get more information about driver cards from the RSA website www.rsa.ie.

It is against the law to:

- use another person's card,
- falsify a card, or
- obtain a card by making a false statement or using a forged document.

Before driving, you must insert the card into slot 1 on the tachograph. The vehicle unit will authenticate and validate the card. If your card is validated, the tachograph displays a symbol with your name. If the card is not validated, the display will show the message – 'insertion of non-valid card'. Acknowledge the warning, clear the message and remove the card, then try again.

How to log on ?

1. Switch on the vehicle's ignition.
2. Insert your driver card in slot 1 with the SIM chip facing up and the arrow pointing forward. The image of the driver will be facing down. Do not force it.
3. If the vehicle is double manned, Driver 2 can insert their card in slot 2 after Driver 1's card has been read.
4. Follow the instructions on the display, which will show the following:
 - Greeting and driver's name.
 - Date and time the last card was removed.
 - The question: 'Is this insertion a continuation of the current daily period?' Enter your response – yes, no or cancel.
 - An option to make a manual entry of any activities since the last time your card was inserted. You can make entries using the manual facility on the tachograph.

5. If you do need to make manual entries, select YES and you will be able to enter your activities. Enter details of other work, periods of availability, rest or breaks. You can only make manual entries when the vehicle is stopped and your card is in the slot.
6. If you do not need to make manual entries select NO and then press OK.
7. Select country and press OK.
8. The card symbol appears when the unit has read all the data from your card. The standard display for the vehicle unit will appear.
9. You are now logged on.

Why should I make manual entries?

You must keep a record of your activities. When your card is not inserted into the tachograph, you need to record this. A digital tachograph allows a driver to enter activities carried out by him/her away from their vehicle through the manual input option offered by the instrument.

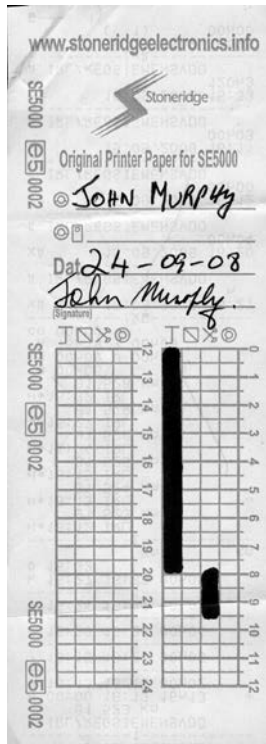
You must make manual entries if the following occurs:

- an instrument malfunction;
- the driver breaches the rules due to an unforeseen event (if, for example, an exceptional deviation from the minimum rest and maximum daily driving limits is required to find a suitable stopping place);
- a record needs to be corrected.

If this happens, the driver should record his/her activities or reasons on the back of the print roll.

The following is an example of a manual entry on the back of a print-out:

- Manual entries made by the driver using the manual insert facility on the tachograph are only stored on the driver's card and not on the vehicle unit - this is because the manual entry refers to the activity of a driver that is being recorded.
- Drivers do not need to enter activities recorded on analogue charts onto the driver card.



What if I make a mistake?

If you make a mistake and confirm an incorrect manual entry, you should make and sign a print-out for the relevant period with a note giving details of the error and the reasons for it.

What should I do with my card at the end of my work period?


It is best to remove the driver card from the tachograph at the end of your shift.

You can take out the driver card from the card slot only when the vehicle is not moving. Your card will not eject from the unit until all of the information has been written to the card.


1. Turn off of the vehicle's engine but leave the ignition on
2. Enter the activity, for example; at the end of the work shift enter "rest" if you are going on a rest period
3. Press eject
4. Select 'country' at the end of the shift and 'acknowledge'. If you need a print-out select "Yes" and acknowledge. If you do not need a printout select "No" and acknowledge.


Does the tachograph automatically record activity?


The vehicle unit will automatically record driving activity when the vehicle is moving. The tachograph will store data under the following symbols:

	'Driving time' – this is automatically recorded on tachographs
--	--

The system will default to 'other work' when the vehicle stops moving. You must use the mode switch on the tachograph unit to correctly record your activity – other work, availability, breaks and rest. Scroll down the options and enter the data for each activity.

	'Other work' – this covers all work other than driving vehicles (such as working in the warehouse, loading vehicles)
---	--

	'Period of availability' – covers waiting time if you know in advance how long this will be
---	---

	Breaks or rest – this covers breaks in work and your daily or weekly rest periods
---	---

If you do not use the mode switch correctly you are breaking the law.

There are three tachograph manufacturers and the visual displays and menu options on each system vary. You should be trained to use the tachograph system in the vehicle(s) you drive.

How does the digital tachograph record driver activity if my work period straddles two days?

The tachograph stores data in days – midnight to midnight. If you start at 21.00 hours (9 pm) and finish at 05.00 hours (5 am), the tachograph will record the data for that period as two days' activity – 21.00 to 23.59 hours and 00.00 hours to 05.00 hours.

Does the digital tachograph give warnings?

The system warns you 15 minutes before you reach the legal continuous driving time of 4.5 hours.

It also gives warnings of a fault in the system, a power supply problem or abnormal operation detected by the equipment, which may come from a fraud attempt.

Warnings are visual (flashing light). Audible warnings may also be provided on some systems. The display shows you the cause of the warning until you acknowledge it.

Visual warnings are clearly visible by day and night.

Visual warnings will remain in a queue on the display until acknowledged by the driver (normally by pressing the "OK" button or "return" button depending on the type of tachograph fitted to the vehicle. Each warning or fault message must be acknowledged individually.

What do the initials UTC mean?

All times are recorded by the tachograph in UTC. UTC means Universal Time Co-ordinated – which is essentially Greenwich Mean Time (GMT). GMT is the time zone in Ireland and Britain in winter. All vehicle units operate using UTC as the reference time – all event times are stored, displayed or printed in UTC.

Enforcement will be conducted using UTC – drivers need to be careful when making manual entries. Manual entries must be entered in the UTC.

The visual display may be set to the local time, but this will not affect the unit's internal time. Remember that the stored record will be an hour behind in summer time – for example if you start at 0600 (6am), the record will show 0500 (5am). There will be no difference in winter as Irish time is back to GMT.

What should I do if I am driving different vehicles fitted with analogue and digital tachographs?

If you drive a mix of vehicles fitted with analogue and digital tachographs, you must be able to produce the following:

- your driver card,
- any daily print-outs or a manual record from the digital tachograph, and
- tachograph charts from the analogue tachograph recording equipment.

The records must cover the current day and the previous 28 days, be stored safely and made available to an enforcement officer on request.

What information is recorded on the print-out?

This is an example of a daily print-out from a driver card.

Printout Meanings - Vehicle Unit

Date and time in UTC	-----	SIEMENS VDO A u t o m o t i v e T 26.09.2008 11:24 (UTC) 24hA T	-----	Type of print-out (24 hour vehicle unit print-out)
Cardholder (driver) details, issuing country and card number	-----	o TACHOGRAPH DIGITAL o UK /DB061841420511 0 0 03.07.2011	-----	Controllers details, name, issuing country and number
Vehicle ID, country of registration and registration mark	-----	o TACHOGRAPH DIGITAL o UK /CBPOL902803280 0 0 31.03.2009	-----	Tachograph details, manufacturer, country and model
Most recent calibration including name of Workshop, Workshop Card identification and date of calibration	-----	A VINSIEMENSVD02222 IRL/REGSIEMENSVD0 B SiemensVDO Automotive AG 1381.1070100007	-----	Most recent Control Check including date and time of control and type (i.e. printing)
Date of activities shown and odometer readings start and end	-----	T WORKSHOP T UK /WBQ0A210000002 0 0 T 27.06.2006 o UK /CBPOL902803280 0 0 o 15.09.2008 16:25 T ----- 25.09.2008 91 537 - 91 820 km	-----	Activities of the vehicle
Time period that the card was not inserted and manual entries	-----	o TACHOGRAPH DIGITAL o UK /DB061841420511 0 0 03.07.2011 A+ IRL/REGSIEMENSVD0 15.09.2008 16:24 ----- 91 528 km x 00:00 09:21 09h21 o 09:21 11:01 01h40 h 11:01 11:40 00h39 o 11:40 11:55 00h15 x 11:55 12:26 00h31 h 12:26 13:04 00h38 o 13:04 16:28 03h24 x 16:28 16:33 00h05 h 16:33 00:00 07h27 * 91 820 km; 292 km ----- 2 o --- 0 km o 00:00 00:00 24h00 km; km ----- Σ 1o --- o 00h00 0 km x 00h00 o 00h00 h 00h00 2o --- x 00h00 o 24h00 o 00h00	-----	Summary activities for each driver
Total Daily activities	-----	o TACHOGRAPH DIGITAL o UK /DB061841420511 0 0 o 05h19 283 km x 09h57 o 00h00 h 08h44 oo 00h00 ----- !xA----- ----- o* o o+ o o o	-----	

Do I need a company card if I am an owner-driver?

Yes, the company card allows you to access the data stored in the digital tachograph. You will need it to protect your data in the vehicle unit if you hire in or sell a vehicle. You also need to download the data to comply with legal requirements for data storage. To download data from the vehicle unit, you will need a download device and the company card.

Your fleet may not have vehicles fitted with digital tachographs, but if you loan or hire a vehicle fitted with a digital tachograph, you will need to be able to download and lock in the data on the system.

A company card cannot be used for driving.

The company card should be used to lock-in data before you start using the vehicle in order to protect data that will be subsequently recorded on the tachograph. It is not possible to protect data retrospectively and any unprotected data will be open to all to download. Using a company card will prevent unauthorized access to data and ensure that you comply with Data Protection law. It will also ensure that competitors do not get access to your data on the tachograph.

What type of information does the company card hold?

Company cards hold the following general information:

- company name and address,
- card number,
- issuing State, authority and issue date, and
- card start date and expiry date.

Each time the card is used, it stores the:

- date and time,
- task undertaken, such as downloads, display, locking/unlocking data on the tachograph,
- length of time to download data,
- the vehicle registration number,
- the card number and the State that issued the driver card being inspected and/or downloaded.

A company card does not store Driver Card or Vehicle Unit data.

Some key rules for drivers



When driving a vehicle with a digital tachograph, you should:

- use the driver card every day you drive, starting from the moment you take over the vehicle;
- set the mode switch to the correct activity and make sure to use it throughout your working period to record other work, periods of availability, rests and breaks;
- remove your driving card when the vehicle is taken over by another driver, or when the vehicle is not under your custody or if another driver could drive it;
- protect your card, keep it clean and do not bend it;
- record the country in which you begin and end your daily work period (always doing this at the start and end of the period);
- manually enter your activities if any – other work, breaks, rest and periods of availability – since you last removed your driver card from a tachograph.

You must be able to produce, whenever an enforcement officers requests them:

- i) your driver card;
- ii) any manual record and printout made during the current day and the previous 28 days and;
- iii) analogue charts for any vehicle fitted with an analogue tachograph driven by the driver in the current day and the previous 28 days.

Disclaimer: Operators and drivers should consult the digital tachograph manual for information on operating a digital tachograph. This guide is only intended to provide an overview of digital tachograph and is not an interpretation of the law.

GET IT ON!



NO SEATBELT NO EXCUSE



Working To Save Lives



Údarás Um Shábháilteacht Ar Bhóithre Road Safety Authority

Teach Chluain Fearthá, Stráid Bhríde, Baile Locha Riach, Co. na Gaillimhe.
Clonfert House, Bride Street, Loughrea, Co. Galway.

phone: (091) 872 600 fax: (091) 872 660
email: enforcement@rsa.ie website: www.rsa.ie