



Transport Malta

TAXI PERIPHERAL DEVICES TECHNICAL SPECIFICATIONS

Version 1
22nd February, 2011

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1 INTRODUCTION TO THE TECHNICAL SPECIFICATIONS

1.1 What are Taxi Peripheral Devices?

The Taxi Services Regulations (S.L. 499.59 - The Regulations) require that taxis shall be equipped with the following peripheral devices as from the 1st of May, 2011:

- A taximeter with facilities to print fiscal receipts;
- A tracking device;
- A surveillance camera;
- A system for 2-way communications;
- An emergency button.

1.2 Where will these devices be used?

All vehicles licensed to operate as taxis in Malta and Gozo shall have such devices installed and operational as from 1st May, 2011. The number of taxi licenses available in the two islands was 270 (220 in Malta, 50 in Gozo) on the 1st of January 2011. Twenty new licenses for taxis operating in Malta shall be issued throughout 2011 and an additional 10 will be issued in 2012.

1.3 What is the use of these Technical Specifications?

The Technical Specifications for Taxi Peripheral Devices are being issued in accordance with the Regulations, and set out the minimum requirements for the peripheral devices mentioned in Section 1.1 of this document.

1.4 How shall these Technical Specifications be used?

These Technical Specifications shall be used by parties interested in supplying such devices to the Taxi operators. Before such devices can be installed on taxis, suppliers shall:

- Provide Transport Malta with a declaration of conformity stating that the proposed devices comply completely with the requirements set out in these technical specifications;
- Install the proposed devices on a vehicle supplied by Transport Malta, or on a vehicle owned by the applicant. This vehicle shall be used by Transport Malta to assess the functionality of the devices and confirm that they can deliver all the requirements set out in these Technical Specifications.

1.5 Is there a limit to the number of suppliers of these devices?

The supply for such devices shall not be constrained by the number of suppliers. Thus, any supplier whose devices meet the requirements stipulated in this document to Transport Malta's satisfaction shall be entitled to supply such products to the Taxi operators in Malta and Gozo.

1.6 What other requirements apply to the suppliers of these devices?

Besides supplying devices that comply with these specifications, suppliers shall provide evidence that they have the capability to install these devices in the Taxis effectively while preserving the integrity of the taxi and of the same devices.

Once suppliers accept to be approved suppliers, they will be guaranteeing to support Taxi Operators that choose to purchase their products with adequate technical servicing and maintenance support, together with sufficient training as may be required by the Taxi Operators. Transport Malta reserves the right to request information on such maintenance and training programmes from time to time.

1.7 How will the application be process?

Upon receipt of the application including the declaration of conformity from an interested party, Transport Malta shall assign one of its vehicles on which the applicant shall install all the proposed devices. Alternatively, the applicant may choose to supply Transport Malta with an own vehicle on which all the devices have been installed. This vehicle shall then be used by Transport Malta for testing purposes. It is envisaged that such testing will take between 10 to 15 days, following which the vehicle will be returned to the applicant so that the devices can be un-installed. Any costs related to this process shall be borne by the applicant.

Transport Malta shall communicate any feedback to the applicant throughout or after the above mentioned test. At the end of this review process Transport Malta shall inform the applicants in writing of its decisions, listing reasons in case of refusal.

Transport shall normally provide applicants with its final decision within 10 working days following the return of the test vehicle to the applicant.

2 TECHNICAL SPECIFICATIONS

2.1 How are these Technical Specifications organised?

This document contains five annexes – one per device. Each annex lists down the detailed specifications that apply to the respective device.

2.2 What happens if a number of the required devices are integrated in the same device?

Although the Regulations specify that each taxi shall be equipped with the five devices mentioned in the previous section, it is still acceptable if the functions expected from these devices are integrated in one or more device. However, within the application for the approval of such devices, the suppliers shall clearly indicate which part of the proposed device shall deliver the different functions required in these specifications.

2.3 What happens if the proposed device offers more functions than those required in these specifications?

This document lists the minimum requirements for the devices that shall be installed in the taxis. Where the proposed devices can offer additional functions, the supplier shall list these when applying for Transport Malta's approval of said devices. Transport Malta shall review these additional functions to confirm that they do not constitute a breach of any relevant regulations. Transport Malta reserves the right to request that any such additional functions are effectively suppressed by the supplier prior to issuing approval for the proposed devices.

2.4 What happens if I can only supply some of the required devices?

You can still present your application for approval clearly indicating which of the required functions you can supply and which you cannot. If your application is accepted you would then be approved to supply the devices you specify in your application.

GENERAL SPECIFICATIONS

All devices described in these Technical Specifications shall bear the CE Marking and shall comply with any relevant regulations;

Annex A Taximeter

In order to be approved, a Taximeter shall:

A1 Comply with the Measuring Instrument Directive 2004/22/EC as amended. This shall be proved through approval markings placed on the taximeter in a position that is clearly visible during an inspection; and through a certificate issued by an accredited certification body.

A2 Include capabilities in its software to:

2.1 Calculate the taxi fare based on the following parameters:

- a) Starting fee;
- b) Different fee/km for 3 separate sets of kilometre (e.g.: from 0-8km, 8-20km);
- c) Waiting time (triggered when driving under a certain speed for a specified period);
- d) Special extra charges based on specific dates.

2.2 Allow taxi driver to apply discounts to standard (maximum) fares;

2.3 Allow taxi meter to operate under the following positions:

Operating Position	Taxi Status	Fare Calculation	Taxi Sign Status
1 <i>Hired</i>	Hired Out	Enabled	Off
2 <i>Fixed-Fare Hired</i>	Hired Out through taxi booth	Disabled	Off
3 <i>For Hire</i>	Available for Hire	Disabled	On
4 <i>Stopped</i>	End of trip, until payment is effected.	Disabled	Off
5 <i>Off</i>	Not on Hire. This shall apply: <ul style="list-style-type: none"> •When taxi's engine is off; or •During trips to pick up pre-booked customers; or •During private trips. 	Disabled	Off

A3 Cater for the printing of the fiscal receipt. For this purpose, taximeters shall be equipped with the following:

3.1 A fiscal receipt printer, whether integrated or connected (wireless or through a cable), that can be set to print the VAT receipt as per requirements set out in the VAT ACT (CAP. 406), and including the Taxi ID;

3.2 Provisions so that the taximeter does not allow the resetting of its operating position from *Stopped* to any other position unless a VAT receipt has been printed (does not apply at end of trips with operating position *Fixed-Fare Hired*);

3.3 A fiscal memory that is not removable or alterable;

3.4 Provisions to record a journal of transactions and print it out upon request;

3.5 Provisions for the entry of customer's VAT number and also for the issue of credit notes.

A4 Be able to interface with the illuminated taxi sign, therefore automatically deactivating the illuminated taxi sign as indicated in the table in point 2.3 of this annex;

A5 Provide means for accepting payment through the use of magnetic credit and debit cards issued by major local and international banks.

A6 Include means for the recognition of the driver;

A7 Include provisions for the application of a physical seal by the verification/calibration body(ies);

- A8 Display the running cost throughout the trip when the meter is in the *Hired* operating position. If the taximeter offers additional display capabilities, the information displayed should be based on the following list of priorities:
- Priority 1 Current extra costs due to waiting charge or other special additional charges (e.g.: on Christmas day);
 - Priority 2 Current distance of trip travelled updated every 100m;
 - Priority 3 Current duration of trip, updated every minute;
- A9 Offer reasonable upgradeability to allow for the addition of other devices that might be required in the future.

Annex B Tracking Device

In order to be approved, a Tracking Device shall:

- B1 Include a GPS receiver;
- B2 Transmit the tracking data via GPRS;
- B3 Supply the below mentioned data with at a minimum rate of 1 update per minute:
 - B3.1 Device ID;
 - B3.2 Vehicle Registration Number;
 - B3.3 Driver ID (Tag Number, Name, Surname);
 - B3.4 Position of vehicle, including street location;
 - B3.5 Ignition Status (records every time the engine is turned on and off);
 - B3.6 Speed (in km/h);
 - B3.7 Taxi meter operating position (*Hired, Fixed-Fare Hired, For Hire, Stopped, Off*);
- B4 Be able to record the above mentioned information in case of lost or broken GPRS connection, and transmit this data on reconnection to the GPRS network;
- B5 Include provisions for the application of a physical seal binding device to the vehicle on which it is installed;
- B6 The supplier shall collate the data referred to in article B3 above in such a way that this information can be automatically retrieved on a 24/7 basis and in real time by an ICT system at Transport Malta. The protocol for transmitting this information shall be using XML web services (Open Standards) – which web services shall be hosted at the supplier's site and protected using login, password and digital certificate or other alternate but equally suitable means. The supplier will be expected to hold discussions with Transport Malta to identify the attributes that will be transmitted (shared) via these web services. All costs related to this requirement shall be borne by supplier.

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Annex C Surveillance Camera

In order to be approved, a Surveillance Camera and the related system shall:

C1 Include 1 **camera** that shall:

- C1.1 Be suitable for installation in a vehicle and offer reasonable protection against the environment typical in such an application (vibration, temperature cycling, dust, water, etc...);
- C1.2 Be capable of capturing clear images during day and night;
- C1.3 Be capable of capturing clear images with a high light level outside the vehicle (silhouette conditions);
- C1.4 Offer reasonable protection against tampering;
- C1.5 Any audio recording facility must be deactivated, and no audio must be recorded;
- C1.6 Be capable of being installed in such a way as to capture the back seat area of the taxi.

C2 Include a **video recording system** that shall:

- C2.1 Be suitable for installation in a vehicle and offers reasonable protection against the environment typical in such an application (vibration, temperature cycling, dust, water, etc...);
- C2.2 Be capable of recording images in MPEG-4 format at 4 CIF resolution or better;
- C2.3 Offer reasonable protection against tampering, water, fire and dust;
- C2.4 Be capable of being triggered to vary the recording frame rate following these events:
 - a) Change of Taximeter's operating position;
 - b) Opening of doors;
 - c) Activation of the emergency button(s);
 - d) An acceleration or deceleration higher than the preset limits (to be communicated at a later date).
- C2.5 Offer the possibility of varying the frame rate of the recorded video as follows:
 - a) 8 fps for the period going from 15 seconds before to 15 seconds after any of the events listed in 2.4 occur, and throughout the period when the taximeter operated in *Stopped* position;
 - b) 2 fps at the other times, when taximeter is operating under *On-Hire* or *Fixed-Fare Hired* position.
- C2.6 Shall record the video on any removable medium that is of sufficient size to contain the video image of 10 days, assuming that the taxi runs on a 24/7 basis and is carrying passengers in around 70% of the time.
- C2.7 Be capable of protecting the recorded video with adequate access security as follows:
 - a) Recording medium can be removed from vehicle only with the use of specific keys which will be available only to Transport Malta and Police authorities;
 - b) The recorded video on the recording medium can be accessed only through the use of specific electronic keys/password which will be available only to Transport Malta and Police authorities.

Annex D 2-Way Communication System

In order to be approved, a 2-Way Communication System shall:

- D1 Operate over the GSM network;
 - D2 Offer the possibility of 2-way vocal communication;
 - D3 Allow Transport Malta to communicate with the driver through a normal telephone line;
 - D4 Operate as a hands-free system without any hindrance to the driver while driving;
 - D5 Restrict the communication between:
 - a) the driver and the control room of Transport Malta;
 - b) the driver and the Operator; and
 - c) the drivers of the same Operator.
 - D6 Not require the installation of any repeaters or other type of infrastructure in order to be operational over all the territory of Malta and Gozo;
 - D7 Be able to operate from any place within the territory of Malta and Gozo;
 - D8 Be installed in the Taxi so that it shall remain in the vehicle at all times.
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Annex E Emergency Button System

In order to be approved, an Emergency Button System shall:

- E1 Offer the possibility of using either:
 - One emergency button that can be placed in a position easily accessible to both driver and passengers; or
 - Two emergency buttons, one positioned in an easily accessible position for the passengers and one placed in a position easily accessible by the driver.
- E2 Be able to activate the Surveillance Camera system to record at the higher frame rate as per Annex C;
- E3 Be able to activate the tracking device to transmit a distress signal on the GPRS connection along with a full update of the information listed in point B3;
- E4 Operate in a normally closed circuit so that if connection to the button(s) is disrupted (in case of anyone tampering with the wiring) the surveillance camera and the tracking device are activated as per points E2 and E3;
- E5 Be able to operate as mentioned in point E4 above even if the vehicle's engine is off.