



AGREEMENT FOR A DISTANCE OVER TIME SPEED MEASURING DEVICE

THIS AGREEMENT is made the ** day of *** 2009

BETWEEN the Secretary of State for the Home Department (hereinafter referred to as "the Secretary of State") and **RedSpeed International Ltd**, the manufacturers of the **RedSpeed RedFusion** automatic distance/time average speed measuring device, (hereinafter referred to as "the company"), having its registered offices at: -

RedSpeed International Ltd
Unit 21
Birchen Coppice Trading Estate
Stourport Road
Kidderminster
DY11 7QY

WHEREAS The Secretary of State, pursuant to the power conferred upon him by Section 20 of the Road Traffic Offenders Act 1988, as amended by Section 23 of the Road Traffic Act 1991, (Speeding offences etc.: admissibility of certain evidence) intends to approve the **RedSpeed RedFusion** automatic distance/time average speed measuring device (hereinafter referred to as "the device") for the purpose of that section:

IT IS HEREBY AGREED AS FOLLOWS:-

- (1) The company (or its agents) shall not change the mechanical construction, software, firmware, electrical value or type of the components of the device or alter the circuits without the prior agreement of the Secretary of State.
- (2) The company (or its agents) shall ensure that the type and serial number of each device is clearly identified by indelible marking.
- (3) The company (or its agents) shall ensure that the serial number is unique to each device and that each device is numbered consecutively.
- (4) The company (or its agents) shall ensure that any software or firmware supplied for use with the device shall be clearly labelled with a version number and a copy of the program source and a

sample of the memory shall be deposited with the Home Office. The company shall further be responsible in aiding the Home Office in proving the firmware code held within the device if so required.

(5) The company (or its agents) shall ensure that any change in the operating instructions for the device shall be sent to the Secretary of State and all users in line with the requirement set out in “The Automatic Distance/Time Speedmeter Handbook”.

(6) The company (or its agents) shall ensure that any repair or calibration facility, operated by the company or their agents for the purposes of repairs to or the recalibration of the device, shall be open at all times to inspection by the Secretary of State. The company shall further ensure that persons undertaking repair or calibration on behalf of the company are competent to do so.

(7) The company (or its agents) shall supply free of charge to the Secretary of State full circuit diagrams of the device with circuit board layouts and all circuit components clearly indicated.

(8) The company (or its agents) shall, if required, supply a device free of charge to the Secretary of State with certification as required in clause 10 of this Agreement. The Secretary of State shall not be responsible for any damage caused to the device whilst it is in his possession.

(9) The company (or its agents) shall, if requested by the Secretary of State or any chief officer of police, provide, free of any charge to them, expert evidence (including evidence in any proceedings) concerning the working of the device.

(10) The company (or its agents) shall inform the purchaser of what the device is approved for and supply to the purchaser free of charge a certificate certifying that the equipment supplied is that which is type approved for use stating “I certify that [device identifier including serial number] complies with the terms of the specification for type approval”. A similar certificate shall be provided free of charge annually and each time the device is calibrated.

(11) The device shall be approved only for speed enforcement, and only for use as tested and as specified in the Schedule to this Agreement. The company (or its agents) shall not advertise or market the device for any purposes other than that for which it is approved.

(12) The Secretary of State shall ensure that, so far as is practicable, the commercial confidentiality of the information supplied by the company (or its agents) about the device will be maintained.

(13) This Agreement shall have effect only for so long as the device is approved by the Secretary of State under Section 20 of the Road Traffic Offenders Act 1988.

(14) The company shall inform the Secretary of State of any change to its legal personality, including merger or take-over and of any appointment or dismissal of agents to act on its behalf.

IN WITNESS WHERE OF the parties hereto have hereunto set their respective seals

SIGNED SEALED AND DELIVERED
on behalf of the **Secretary of State for the Home Department**

by.....
Mr G C Biddulph

in the presence of

.....
Mr S. Jegede, Home Office

SIGNED SEALED AND DELIVERED
on behalf of **RedSpeed International Ltd**

by.....
Daniel Zaydman

in the presence of

.....

SCHEDULE TO THE AGREEMENT:

Equipment

The RedFusion speedmeter comprises the following type approved hardware:

- Roadside Imaging Device (RID)
- Decision Making Unit (DMU)
- Evidence Retrieval and Control Unit (ERCU)

The RID consists of a camera head, which contains two cameras, an infra-red illuminator (850 nm), a laser trigger, GPS antenna, and optional 100 Hz light sensor, and a roadside cabinet containing a computer running embedded Windows XP, power distribution and networking equipment. The DMU and ERCU consist of computers and communication equipment. The operating systems are linux (DMU) and Windows XP embedded (ERCU) respectively.

The hardware most critical to the speed measuring process contained in the camera head assembly comprise the following:

- Gardasoft Vision MD290 Lens Controller
- Monochrome camera - DALSA Genie M640 8-bit Series GigE network camera
- Colour camera - DALSA Genie C1410 8-bit Series GigE network camera
- Triggering laser - Noptel CMP3-30 laser, having a wavelength of 905 nm, and set to a 2 kHz pulse repetition frequency
- 2 IR illuminators - Each comprising 42 of the following LEDs: Edison Opto "IR Edixeon" EDEI-1LA3
- Trimble 'Bullet 3' GPS antenna (Trimble part number 57860-00)

Software

The checksums of the approved software are listed in **Table 1**.

Physical Location	File Name	Release Version	Release Date	CRC32 Checksum	File Size (bytes)
RID - PC	RID.exe	v1.3.9.0	11-Aug-09	4F7FCD43	737280
RID- firmware on RTC card	Timeserver.bin	v2.8	21-Nov-08	16A3BC6B	13183
DMU -PC	Dmu	v1.2.0.1	11-Aug-09	319D70B9	719877
DMU -PC	Dmucron	v1.2.0.1	11-Aug-09	B44292B3	157210
DMU -PC	Dmuercu	v1.2.0.1	11-Aug-09	6FD5DED2	559657
ERCU -PC	Ercu.exe	v2.1.0.22	20-Mar-09	5E879D93	1011712
OVDS -PC	Redfusion.std.server.exe	v1.0.2.18	11-Aug-09	80B1CD7A	2904064
COURT PC (running Windows XP Professional)	Redfusion.std.courtviewer.exe	v1.0.2.5	11-Aug-09	E96BD645	638976
PCs running Windows XP on the RIDs, ERCUs and OVDS	AESNet.dll	v1.0.0	21-Nov-08	E6EC9A98	24576
PCs running Windows XP on the RIDs, ERCUs and OVDS	AES2DOTNET.dll	v1.1.0	21-Nov-08	74B6A2D3	41472

Table 1 Approved software checksums.

Configuration files are listed in Annex A: 'System Configuration XML Tags v1.0.4'. All values in red may change, and are not controlled by this document. All other values, however, should remain as they are in this document.

There are a number of third party devices on the camera head assembly. The approved firmware versions on the camera assembly are listed in **Table 2**.

Device	Firmware Version
Dalsa GigE Vison Genie Camera M640 (monochrome)	v27791
Dalsa GigE Vison Genie Camera C1410 (colour)	v27719
Gardasoft MD290 Lens Controller	v8
Master IR Illuminator	v0.01
Slave IR Illuminator	v0.05
MRV OS306 Switch	v1.06

Table 2 Approved firmware versions on third party components in camera head assembly.

Usage

The device is to be used in the automatic unattended mode.

The device measures the average speed between pairs of RIDs where one RID is designated an entry RID and the other RID designated an exit RID. On the baseline between an entry and exit pair of RIDs, one additional RID designated as an intermediate RID that can act as both an entry and an exit RID between a pair of contiguous base lines may optionally be used. The average speeds that can be recorded by the device will be the average speed on the following road segments:

- one entry site to one exit site

and if and only if an intermediate RID is used

- one entry site to one intermediate site, and
- one intermediate site to one exit site.

Each camera assembly may only monitor one lane of traffic where the centre of the lane is located either immediately below or within 9.1m of the camera mounting with all lanes adjoining through out the length of the base line.

For each base line the base line used shall be the shortest traffic route between the entry point and exit point.

Vehicles are detected by a Noptel CMP3-30 laser. The laser trigger distance shall be set to between 2500 cm and 2700 cm, and the trigger window width to between 50 cm and 120 cm.

The camera assemblies shall be mounted on either of the two following poles:

- The RedFusion 'straight pole', which shall mount up to two camera assemblies at a height of 6 m or

- The RedFusion 'out reach pole', on which up to three camera assemblies shall be mounted at a height of 7 m along a 6 m extension.

A system may use either and different types of pole at entry, exit or intermediate points.

The maximum horizontal angle the cameras can subtend with the road axis is 20°. The distance parallel to the road axis from the camera to the detection point shall be 25 m. The maximum distance from the point on the road immediately below the camera to the centre of the monitored lane shall be 9.1 m

The equipment is approved to measure speeds from 20 mph to 140 mph.

The minimum baseline is 100 m.

There can be up to three camera heads connected to a single roadside cabinet, up to twenty cabinets to each DMU, and up to four DMUs to the ERCU.

For each base line a 10cm by 10cm square datum mark that marks the end of the base line shall be placed on the road in the centre of the lane, within the field of view of the cameras and 25m down the centre of the lane from the base of the pole. There will be two additional 15cm equilateral triangular marks 1m after the datum mark and 1.25m either side of the centre of the lane placed on the road on the road.

For each base line or set of contiguous baselines only one traffic direction shall be monitored at any one time and it shall be in the approaching traffic direction only.

Every base line shall be subject to a common speed limit.