Certificate No. C – 00188

ITSO Certificate of Compliance

To: Cubic Transportation Systems Limited
AFC House, Honeycrock Lane, Salfords, Surrey RH1 5LA, UK

For: Cubic IDP3B Inside London Bus POST v2.5.6
(TR3 Reader version v2.5.6; Bus POST version S015)

This is to certify that the above product has been tested as required by ITSO for compliance against ITSO TS 1000 Specification Version: 2.1.4 Corrigendum 9

Test Report Ref: ***6P_000108 BUS Reader H3 ISAM Support - Test Report_Final***

This product supports the functions: POST. It communicates within an ITSO environment as listed in Schedule A of this Certificate.

This product may only be used by ITSO Licenced Members complying with the conditions and constraints listed in Schedule B.

Signed for and on behalf of ITSO : 

Title: Chief Executive Officer

Dated : 13/02/2019

Certificate Valid until : 12/02/2026

Schedule A

List of all Customer Media, IPE's and functions that were included in the testing procedure.

ITSO Manufacturer Id.: 000121

The Cubic BUS Post v2.5.6 is the same baseline of Reader as that of v2.5.3. The BUS Reader connects to an ETM (Electronic Ticketing Machine) and consists of a TR3 and an MM6. The TR3 is where the card is presented by the passenger and this interfaces to the MM6. The MM6 then interfaces to the BUS Host but it is the MM6 located software that does all the ITSO processing.

Exclusions:

1. The BUS Reader does NOT do IPE creation, hence the reason why 'Actionlisting'/'Fulfilment' is not part of the scope.
2. Value Groups are not modified/updated on the CM following ITSO validations.

At present this POST will update the TTR, but not the value groups of an IPE22 and IPE23 for any transaction.

The Cubic solution architecture is tiered, with the following key components;

- ITSO Message Server – message processor between the station computers and the other back office processing systems. All ITSO transactions go direct from the Reader to the ITSO Message Server.
- Host – e.g. the bus itself; the device that contains and manages the smartcard reader and communicates over the air to relay transactions, operational commands, status and operating data (e.g. fare tables).
- Reader – the component of the system that actually interacts with the card. The reader is intelligent, such that it includes processing application logic as well as the smart card RF interface.

The Host Device is responsible for passenger feedback (displays etc.) and for controlling the reader to go into and out of service. All of the ITSO processing is performed within the Reader itself and not within the Host.

This **POST** communicates with **CMD2 and CMD7.**

The IPEs supported are represented by the following table.

IPE	Create	Modify	Accept	Delete
TYP 14 – Entitlement			✓	
TYP 16 – ITSO ID and Entitlement			✓	
TYP 22 – Area based ticket (FR 2)			✓	
Transient Ticket (FR 3)			✓	
Transient Ticket (FR 4)			✓	

Hot listing is supported (Block Shell and Block IPE).

Action listing is not supported.

Schedule B

List of the conditions and/or constraints applied by ITSO.

This POST achieved the following benchmark timing:

	Average over tests
CMD2	566mS
CMD7	474mS