

No. K-14011 /39/2007-UT
Government of India
Ministry of Urban Development
(Urban Transport Division)

New Delhi, 12th June, 2009.

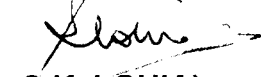
All Chief Secretaries
All Principal Secretaries (Transport)/(Urban Development)
All MDs, STUs
All Municipal Commissioners

Subject: Supplementary specifications for Destination Boards, ITS
related requirement and Vehicle Tracking Systems.

Sir,

The Supplementary specifications for Destination Boards, ITS related requirement and Vehicle Tracking Systems were circulated vide this office letter of even no. dated 5.5.2009. During discussions with various manufacturers and STUs, certain minor clarifications have been requested regarding the same specially regarding the pitch of LED, the humidity level and whether integrated controller would also mean an on-board computer. As such, the supplementary specifications for the above are enclosed duly taking into account the minor clarifications.

Yours sincerely,



(S.K. LOHIA)

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Encl: As above.

RECOMMENDATORY URBAN BUS SPECIFICATIONS (DISPLAY BOARDS AND ITS)

Sl. No.	Parameters	Details	Recommended Specifications
9	Destination Board	<p>Minimum No. of Destination Board in line with AIS 052</p> <p>Illumination of destination board</p> <p>Internal Destination Board</p>	<p>Mini / Midi Buses</p> <p>Min. Height of Destination Board: 220 mm</p> <p>Min. Height of Character should be 200 mm</p> <p>Min. Display width of Destination Board : 900 mm</p> <p>– Location front top left hand corner</p> <p>Pitch of LED in Sign to be max H 13.4 x V 14.1 mm</p> <p>Required: Alphanumeric Dual Display Technology Amber coloured LED based electronic route display system of High intensity illumination with automatic brightness control (minimum 50 steps) alongwith audible and display system in English and Regional Indian Languages via windows based software package. The Sign Boards shall be preferably non-multiplexed design, Amber Coloured (Dominant wavelength between 590 to 595 nm), Diffused Type for Better Visibility, UV Resistant Type with viewing angle of 120 degree Horizontal/ 60 degree vertical. Equipment to be 'E' Marked. Front Sign display shall be clearly visible in all weathers at a distance of 50 meters. Side and Rear Sign display shall be clearly visible in all weathers at a distance of 15 meters. The system shall be of rugged construction, vibration proof and shall be able to operate efficiently at ambient temperatures of approximately 0 deg to 50 deg C, relative humidity level of 5% to 100% non-condensing, without direct contact with water</p> <p>Required (Behind the driver partition) The Display size shall be of atleast 800mm X 100 mm size Amber Colour. The system shall have a programming for minimum 150 number of Routes (300 nos of destinations). Further the system shall also have a programming of minimum 50 nos of bus stops on each route. Next Bus stop/ Destination display synchronised with Voice announcement is essential.</p>

37	ITS Related Requirements	Ticketing	Bus architecture should be compatible with ITS	Bus architecture should be compatible with ITS
		Smart Card	Required	Required
		Passenger Information Systems	Required (Audio-visual)	Required (Audio-visual)
		Vehicle Tracking Systems	Bus architecture should be compatible with vehicle tracking system	Bus architecture should be compatible with vehicle tracking system
		<p>The System on the Bus should be such that a single controller, compatible with Ticketing machine and Smart Card reader, should be able to control Passenger Information Systems (Audio & Visual), and integrate with on board computer which shall control Vehicle Tracking System. Drivers bus route guidance and Multiplex wiring system, and Two Cameras on the Bus. The Camera Recording for atleast 48 hours should be available either on the Bus or Recorded in the back office system (To be downloaded atleast once a day via WLAN or Class 1 Blue Tooth interface) . The controller / on board computer should have inbuilt GPS, GPRS capability (GSM or CDMA or Private Radio Network), to be able to integrate with the Back office ITS Requirements and Signs on Bus Stops and BRT's. Equipment to be 'E' Marked. The controller / on board computer memory size should be minimum 64 Mega Byte. Communication interface in the controller / on board computer should include RS485 & RS232 (atleast 2 ports) & CAN2B & USB Host.</p>		
	Others Features	Electrical System		<p>The Chassis and Bus Body shall have a Master Master Type Multiplexed Wiring System with onboard Diagnostic Display panel. The Multiplex Wiring System shall have Current Measurement of each output and Automatic Trip Facility. The Multiplex Wiring System shall be integrated with the controller / on board computer to enable Back Office Monitoring and Control Center to Monitor and analysis Vehicle Health.</p>

Other Specifications :

Point No.17 : Page No.56 of 131 : Low Floor Buses & Semi Low Floor buses 150AH

Point 33 : Page No.52 of 131 : Low Floor 50%