




Doc No: AES/AFCPC/Spec/01.

Specification for

Automatic Fare Collection & Passenger Control System

Areca Embedded systems pvt Ltd
(An ISO9001:2000 certified company)

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Automatic Fare Collection & Passenger Control System

The Product Development Division of Aster has developed a contact less Smart Cards and Token system for introducing smart cards to the existing magnetic ticket based Automatic Fare collection & Passenger Control System (AFC&PC).

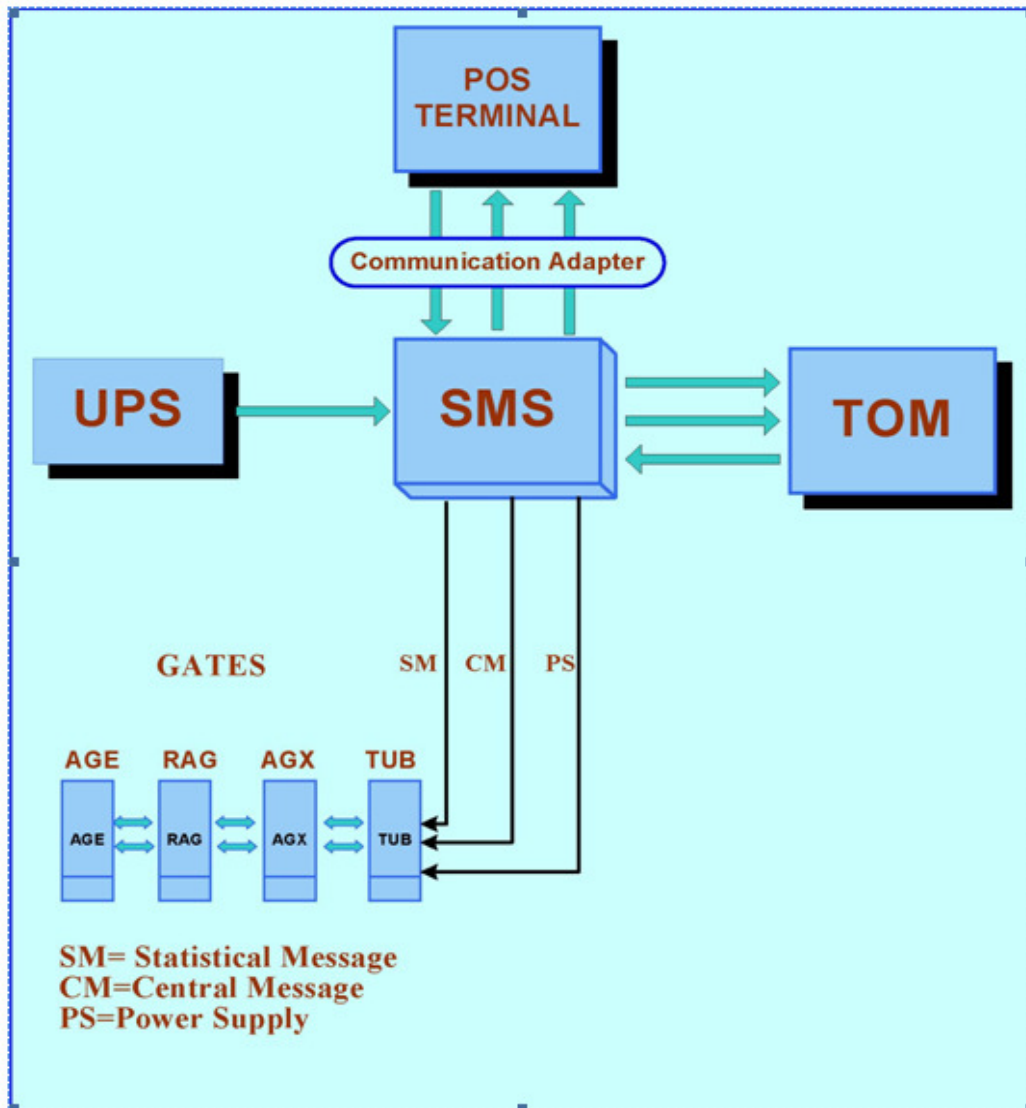
ARECA has developed and is presently implementing the Contact less Smart Cards and Token system for the existing Automatic Fare Collection & Passenger Control System. This new system will be capable of handling the Smart Cards also along with the existing magnetic tickets. The following modules have been developed to upgrade the AFC&PC system.




- 1. POS Terminal & Communication Adapter:** A Contact less POS terminal has been supplied for issue and recharge of smart cards and tokens. An SMS communication adapter is also developed to enable the POS terminal to interact with the SMS.
- 2. Smart Card & Token Validators:** A new validator hardware module has been developed for validating the smart cards and the tokens and is integrated to the existing entry and exit gates. The gates will now able to validate both Smart Card based tickets and also the old magnetic tickets. The validator hardware is developed in-house by our R&D Engineers.
- 3. SMS Development:** A new Station Management System is developed by the in-house software development team. This new system apart from the functions of the DOS based software; it can now interact with POS and the smart card gate validators. This is windows based software.

Schematic diagram

Schematic diagram of AFC&PC system shows the interfacing of various devices. Equipments are connected with five pair FRLS communication cable and 2-core FRLS-XLPE power cable and Earth bus as shown.



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Metro Railway, Kolkata, Project Details

Aster is presently in the final stage of the implementation of the contact less smart card based Automatic fare collection and access control system at the Metro Railways, Calcutta.

Metro Railways, Calcutta is presently using magnetic card tickets for their fare collection. The entry and exit to the station platforms is through the turnstile gates validated by the magnetic tickets. Aster is upgrading these magnetic tickets to the smart card tickets. The project is successfully completed 1st and 2nd phase well in scheduled time. The 3rd phase of the project is will be completed shortly, well before the schedule.

Scope of the project:

17 Metro stations to be upgraded to accept smart card tickets along with the present magnetic tickets

50 Turnstile gates to be upgraded to accept the contactless smartcards apart from the regular magnetic tickets.

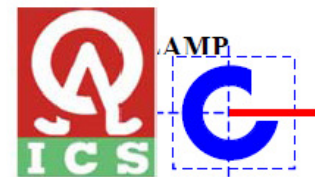
Integrate the gate validators of the Contactless Smart Card System with the existing entry and exit magnetic reader based turnstile gates.

Interface the smartcard based software with the existing SMS Software.

Supply and installation of Smart card issuers and contact less point of sale terminals.

The electrical and protocol interface between the existing system and new system to be completed

Supply of 30,000 contactless smart cards



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