

Integrated Fare Unit



IFU at-a-glance:

- Integrated farebox for mobile fare collection
 - Communications to depot computer system via inductively coupled data probe
 - J-1708 interface to other on-board devices
 - Upgradeable to Cubic's DCU or enhanced operator interface and single control of all on-board equipment
- Flexibility of payment options
 - Accepts and automatically singulates U.S. and Canadian coins and tokens, 10 coins per second
 - Validates coins via electronic signature at a 99.5% accuracy rate
 - Accepts magnetic tickets, issues, processes and captures magnetic transfers
 - Upgradeable to accept ISO 14443 Type A and Type B full featured and limited use contactless smart cards using Cubic's Tri-Reader®
- User-friendly interfaces
 - Simple, easy-to-read displays
 - Lighted keypad can be remotely located for flexibility in farebox mounting
 - Coin viewing window to resolve issues
- Superior security
 - Rugged stainless steel exterior
 - Each cashbox automatically tracked by serial number
 - Optional vacuum pedestal base for direct extraction of coins
- High availability, reliability and maintainability
 - Self-diagnostics
 - Transfers issued from 2 rolls with automatic switch over, avoiding service disruptions
 - Modules can be replaced in seconds without the use of tools

The Integrated Fare Unit is designed for mobile fare collection, the Integrated Fare Unit collects and processes a variety of payment options including U.S. and Canadian coins, tokens, magnetic tickets and ISO 14443 Type A and Type B full featured and limited use contactless smart cards. It also issues, processes and captures magnetic transfers.

How it works

The farebox accepts ten coins per second and automatically singulates them so patrons can drop a handful of coins at once and quickly board the bus. The coins are validated via electronic signature at a 99.5% accuracy rate.

The Integrated Fare Unit features a coin viewing window and coin bypass mechanism to allow visual acceptance of coins in case of a jam that cannot be cleared by the de-jam mechanism. The built-in self-diagnostic capability makes it quick and easy to identify and correct problems.

Each cashbox is tracked automatically by serial number. As an alternative to a removable cashbox, the Integrated Fare Unit features an optional vacuum pedestal base for direct extraction of coins. Transaction data is inductively coupled and transmitted from the farebox to the probe with cabling to the depot computer system.

This highly reliable, rugged farebox is field proven by over 10 years of revenue service. It continues to offer superior fare collection today for bus operators of all sizes. With the integration of Cubic's Driver Control Unit, the bus system can be upgraded to accept smart cards, enhance the operator interface and provide a single point of control of all on-board equipment.

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Specifications:

Physical

Dimensions: 990mm (39in) and 914mm (36in), Width 292mm (11.5in), Depth 248mm (9.76in)

Weight: 55.8kg (123lbs) with pedestal and empty cashbox, 27.2kg (60lbs) without pedestal

Material: 1.9mm (0.075in) thick stainless steel cabinet, 3.18mm (0.125in) thick aluminum casting top cover, polycarbonate viewing window

Voltage: 12 or 24 ± 3 VDC

Power Dissipation: 328W Max, 12W Min

Capacity

Processor: Motorola 68332

Operating System: N/A

Memory: 256 KB battery-backed RAM, 256 KB EEPROM, 2 MB pseudo-static battery-backed RAM for 72 hours

Magnetic Transfer Capacity: 2 x 500 ticket rolls with automatic switchover

Cashbox Capacity: 5272cm³ (340in³) or (200in³) , \$2150 in a typical coin mix

Data Transfer Probe: 230 Kbaud/sec

External Interfaces

Serial interface to the portable data transfer probe

Serial interface to the bus destination sign

Annunciator panel drivers for 6 display indicators with 2 indicators each

Environmental

Storage Temperature: -40°C to +65.5°C (-40°F to +150°F)

Operating Temperature: -6.7°C to +48.9°C (+20°F to +120°F)

Relative Humidity: 20% to 97%

Vibration: 1g (RMS) all axes, 7 to 140 Hz

Shock: 5g peak (instantaneous)

Ingress Protection: Not Rated

Immunity: Mil-Std-461B, Requirement RS03, 15 KHz to 1000 MHz;

SAMA Standard PMC 33.1, Class 2 (10 Volts/meter)

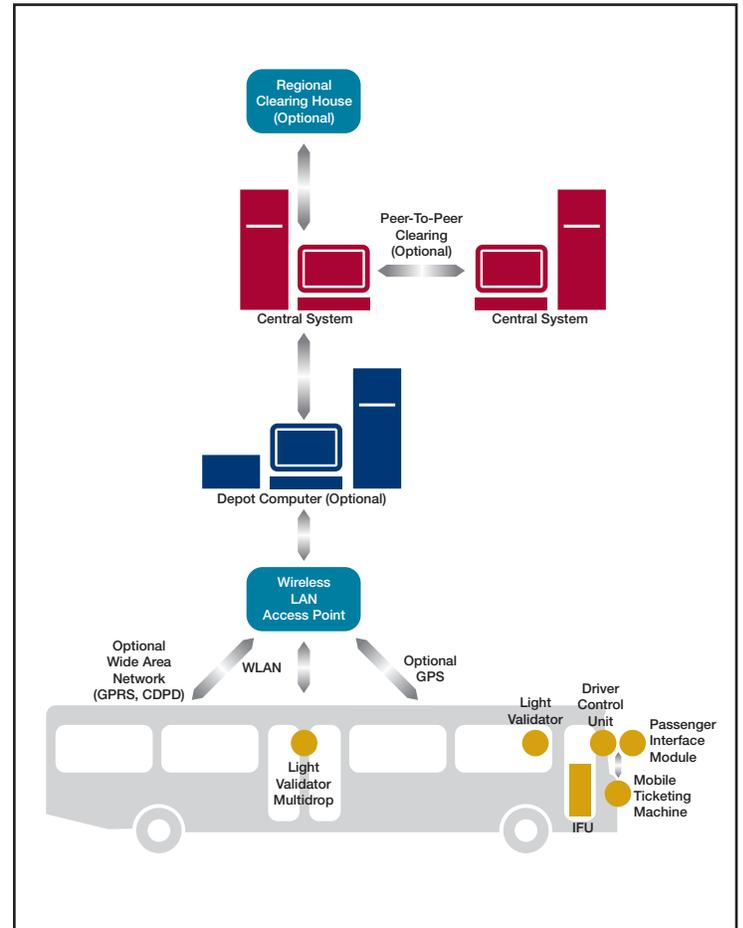
Emissions: FCC 15J, Class A

User Interfaces

Operator Interface: numeric display (3 digit, 7 segment LED), alphanumeric display (12 character 5 x 7 dot matrix LED), audio transducer, keypad with backlight (12 keys plus 6 additional programmable keys), coin inspection plate, coin dejam mechanism, coin bypass mechanism, magnetic transfer stock access door with high security lock

Media Issuance: magnetic transfers on paper stock

Media Acceptance: U.S. and Canadian coins, except \$.50 and larger coins, tokens, pre-encoded magnetic transfers, magnetic stored value and pass farecards ISO 14443 Type A and Type B full featured and limited use contactless smart cards



Tri-Reader® is a registered trademark of Cubic Transportation Systems, Inc.

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In the interests of product improvement Cubic reserves the right to change the above specification without notice.