VAL100 On-board Validator
Barcode/NFC/RFID ticket validator

Description
The VAL100 On-board Validator is designed for use in a variety of public transportation automatic fare collection systems.

It combines a proven multimedia ticket reader with an open architecture Linux computer to create a mobile ticket validation solution when combined with third party software.

The validator combines barcode and NFC/RFID reading functionality to provide a single point of presentation for tickets and travel passes – whether presented on a paper ticket, smartcard or mobile phone.

The VAL100 can be connected via RS232 or Ethernet or optionally may be used wirelessly through a mobile network.

The VAL100 features a bright, clear, 480 x 272 high resolution display with software adjustable illumination. There is also an ambient light sensor allowing for automated brightness adjustment.

There are 4 coloured (RGB) LEDs and a programmable speaker to confirm ticket reads.

Features
• Robust design for long-term front-line use
• Large, clear 480 x 272 TFT LCD colour screen
• Single point of presentation barcode/NFC/RFID reader
• Unique, optimised focal distance improves card and mobile phone reading performance
• Linux computer with a variety of peripheral hardware allowing for integration of ticket validation software
• Pole mount kit for ease of installation including a quick release mechanism for ease of maintenance.

Applications
• Buses
• Trams

Fast, accurate, robust and reliable ticket reader for validating tickets and passes on any media
### Specifications

#### Mechanical
- **External dimensions:** 145.5W x 265H x 188D (main unit) mm
- **Body:** Black & grey ABS
- **Display:** 4.3”, 480 x 272 pixel, widescreen, sunlight-readable
- **Glass:** 4mm Toughened White Soda Lime; BS EN60068-2-75 & IEC 62262:2002

#### Power supply
- 9-36 volts from vehicle supply
- Input protected by automotive grade power conditioning circuitry

#### Environmental
- **Temperature:** Operating -20°C to +50°C; Storage -40°C to +70°C
- **Humidity:** 5-90% humidity, non-condensing
- **Shock and Vibration:** IEC 61373
- **Fire retardance:** EN13501-1
- **EMC Approvals:**
  - FCC 47CFR Part 15 Class A
  - UL 60950-1 and CSA C22.2 No. 60950-1-07
  - IEC 60950: 2000; IEC 62471: 2006 - Exempt Class

#### Communications and host
- **Cellular:** 3G*14G*/GPRS*
- **Satellite:** GPS
- **Radio:** Wi-Fi; Bluetooth 4/BLE
- **Wired:** USB; RS232 or Ethernet
- **Host:** 1.0GHz ARM Cortex-A9 processor; 512-1024MB Ram; 32-128 GB eMMC storage, Linux OS, full API and device access for developers
- **LED indicators:** 4 x RGB LEDs
- **Sound:** Speaker with digital control for audio playback

#### Reader – Barcodes
- Reads following barcode symbologies:
  - 2D: IATA resolution 792, PDF417, Aztec, DataMatrix and QR codes
- **Performance:** Will read 2D barcodes from paper, mobile phones and tablets

#### Reader – Contactless NFC/RFID
- Reads NFC-enabled mobile phones and contactless smart and banking cards.
- **EMV Level 1**
- 4 SAM slots*
- **NFC tags:**
  - NFC type 1 tags
  - NFC type 2 tags (Mifare Classic)
  - NFC type 2 tags (Mifare Plus)
  - NFC type 3 tags (Felica)
  - NFC type 4 tags – ISO14443-4 Type A
  - NFC type 4 tags – ISO14443-4 Type B

* Optional

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Ver: 1.7 October 2018