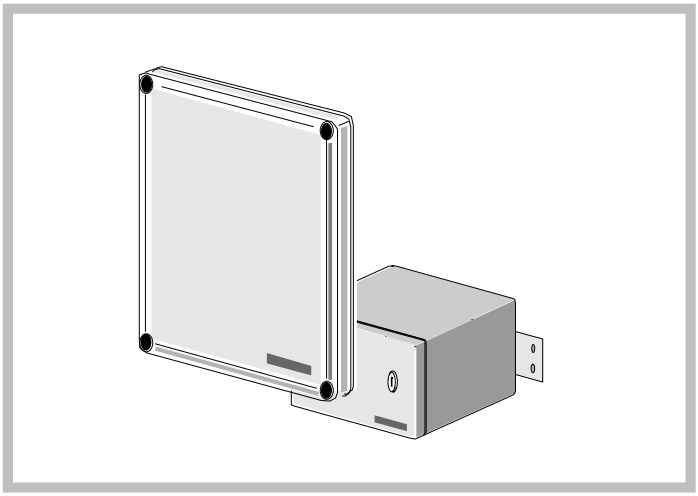
VEHICLE READER
5 Meters (16feet) Range
Up to 100 Km/h (60miles/h)

LVM-4033

Dynamic Identification of a HYPER X Tag inside a moving vehicle.



- Tag identification behind the windshield
- Tag identification up to 100 Km/h
- Ease of use : 5 meters range
- Access safety : Antenna out of the way
- Identification checking by protocol
- Parallel installation of several readers
- Robust, Weatherproof

I - INTRODUCTION

The reader consists of two parts : an AT3 antenna (see picture above) and a chassis containing all the electronic modules. The antenna can be installed outside against a wall (metallic or not) or on a post (about Ø 50mm). In the latter case, the optional swivel allowes turning the antenna, directing the beam toward the identification area.

When the vehicle passes through this zone with a tag behing the windshield, it is identified at up to 5 meters and at speeds of up to 100 Km/h. The AT3 antenna is connected to the chassis modules. The codes of identified tags are sent to the host system.

The chassis comes a models short closed box - 42E (/C).

The modular frame of the chassis coming with standard dimension Europe boards offers advantages for maintenance and product evolution.

II - OPERATING PRINCIPLE

The electromagnetic radiation characteristics in the 2.45 GHz frequency band allow high data transmission rates and directional antenna beams. Tag detection is thus very quick and relatively insensitive to environmental interference.

Outside of the reader's range, the tag is electromagnetically inactive. It's unique feature (registered patent) is its capacity to reflect incident microwaves - a tag receiving a 2.45 GHz carrier will echo this signal, modulated by its individual identification code, back to the reader.

The reader receives and processes this signal, sending the data to a host system via a standardized serial interface.

III - COMMUNICATION

These products can take the place of most of the usual card-contact readers. One only has to connect them to the host system via the available standard data links. Two standard data link types come with these readers :

- TTL links (Open Collector) : ISO2, Wiegand (26 bits)
- Computer Serial Links : RS232, RS422, RS485

In the latter case, a complete dialogue can be implemented with the help of the JBUS™ /MODBUS™ protocols (by interruption from readers, or by polling from the system).

Moreover, the readers come with a relay which are operated either by the host system via JBUS™ link and protocol or automatically after each tag identification.

IV - POWER SUPPLY MODULES

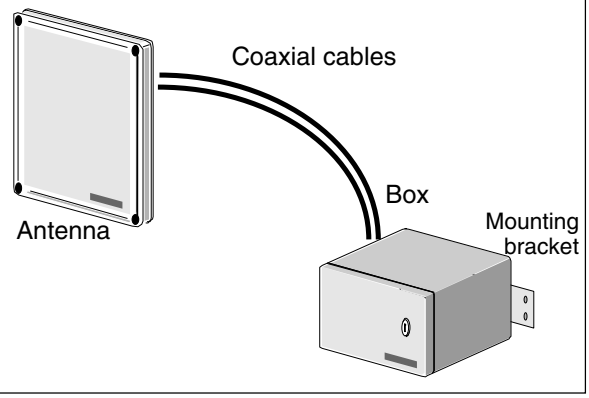
The reader comes with a power supply module. This is a filter board which allow use of the available secondary source of 12VDC in the installation.

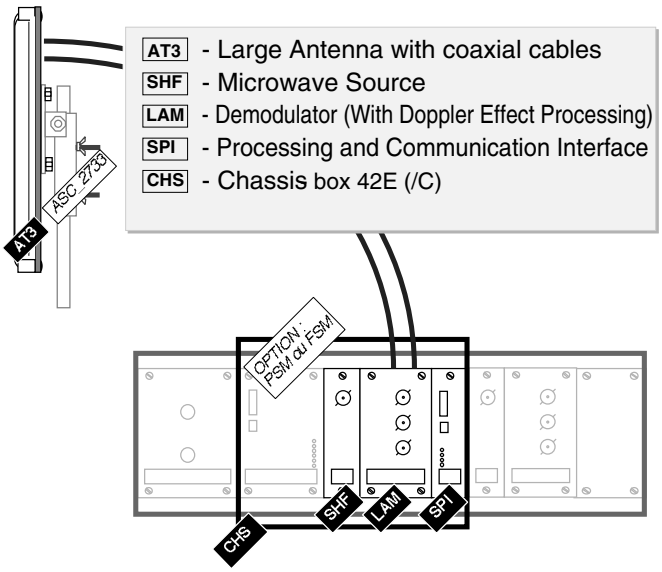
HYPER X

BALOGH

ARCHITECTURES

LVM-4033 - 2 x 5 meters of coaxial cables
NB.: The reading antennas come with a couple of coaxial cables





AT3 - Large Antenna with coaxial cables
SHF - Microwave Source
LAM - Demodulator (With Doppler Effect Processing)
SPI - Processing and Communication Interface
CHS - Chassis box 42E (/C)

CHARACTERISTICS

• 5 meters range vehicle reader
- reading distance suitable for vehicles

• Reading distance adjustment from few centimeters to several meters a using a potentiometer

• Simultaneous multitag identification 5 tags in one second
(Tags Normal Mode)
- Traffic statistics
- Obstacle-free access control
- Multi-tags applications
  e.g.: Driver and vehicle to manage a fleet

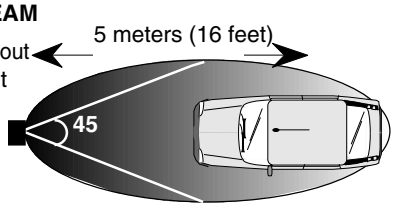
• Identification of a tag inside a moving vehicle at the speed up to 100 Km/h (LVM-4033)
(Tag Fast Mode)
- Automatic vehicle identification
- Easy access to sites or car parks
- Burst identification calculation

• Coexistence of 31 readers in same zone
- Series of gates, access control side to side

• Microwave directivity
- Identification relatively insensitive to environment
- Ajustable beam
- Tag identification behind a windshield of a moving vehicle.

READER ANTENNA BEAM

NB.: Identification without positionning constraint
- Back / Front
- Horizontal / Vertical



SPECIFICATIONS

•Chassis dim. - 42E closed box : 240 x 170 x 270 mm
•AT3 Antenna dim. (without swivel)**.:** 380 x 280 x 80mm

•Weight of 42E closed box (/C) ...: 4.2 Kg
•Weight of AT3 Antenna .....: 3 Kg

•Operating temperature range ...: - 20C to +70 C
•Storage temperature range .....: - 25C to + 80C

•Relative humidity .....: 90% without condensation
•Protection level - 42E box (/C) : IP 55
•Protection level - AT3 Antenna : IP 55

•Consumption
with FSM-2550 (12VDC 0/+3VDC) ...: 900 mA

•Frequency band .....: 2.45 GHz
•Number of reading channels ...: 31
•Data Rate (between Tag&Reader) **.....:** 30000 bauds
•Error detection .....: HDLC
•Fault reading rate .....: 1E-7
•Dectected reading rate .....: 1E-4
*In the normal conditions of use

•RF power emission .....: <75 mW E.I.R.P.. *
•Suitable range up to .....: 5 meters (16feet)

•Relay - Maximum power .....: 24VDC & 1A

•Reference for FCC Certification.....: LVM-4033

(*) EIRP: Equivalent Isotropic Radiated Power

Specifications do not form part of any contract and may be changed without notice

BALOGH
7699 Kensington Court
Brighton, Michigan 48116-8561
Phone: 248-486-RFID Fax: 248-486-0404
E-mail: balogh@balogh-group.com
Web: http:\\www.balogh-group.com

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