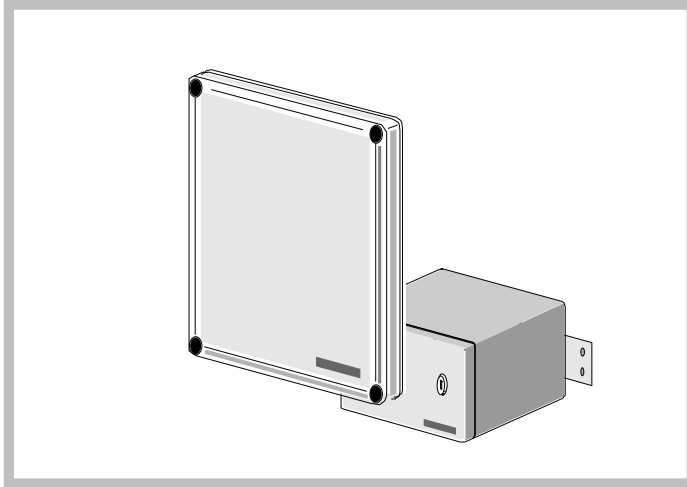


**Modular READER**  
**5m (16 feet) and 10m (32 feet) ranges**  
**Over 100 Km/h**

LML\_4034  
LML\_4035

***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 and 10 meters range
- Access safety : Antenna out of the way
- Identification checking by protocol
- Parallel installation of several readers
- Robust, Weatherproof

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

#### **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 allows turning the antenna, directing the beam toward the identification area.

When the vehicle passes through this zone with a tag behind the windshield, it is identified at up to 5 and meters and at speeds over 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 in several models : short closed box - 42E (/C), large closed box - 84E (/D). The 84E version chassis can operate with the SHF&LAM modules for using a second antenna.

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 readers come with a 12VDC filter module.

However, this module can be changed by an optional power supply one which must be connected to the 230 VAC mains :

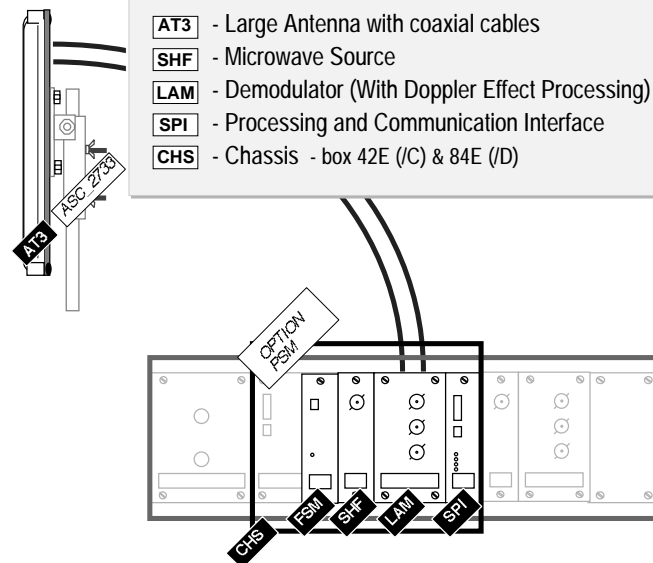
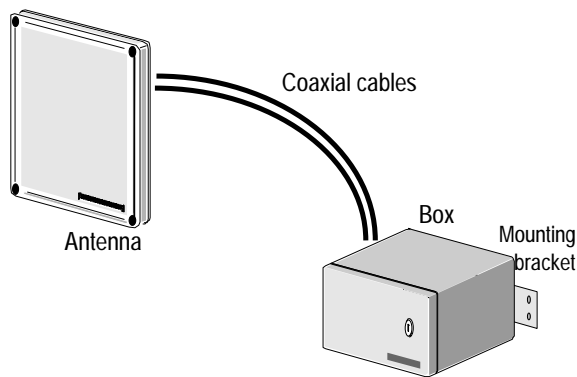
HYPER X™ is a trademark from BALOGH HYPER.ID

HYPER X



## ARCHITECTURES

LML\_4034 - 2 x 5 meters of RG058 coaxial cables  
LML\_4035 - 2 x 2 meters of RG058 coaxial cables



## CHARACTERISTICS

- **5 and 10 meters range vehicle reader**
  - reading distance suitable for vehicles
- **Reading distance adjustment a using a potentiometer**
- **Simultaneous multitag identification 5 tags in one second**

**NB.:** 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 over 100 Km/h**

**NB.:** 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**

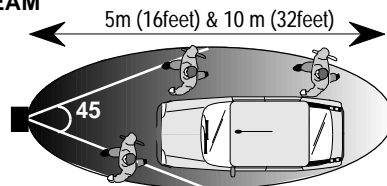
- Identification relatively insensitive to environment
- Ajustable beam
- Tag identification behind a windshield of a moving vehicle.

### CAUTION

- Metallic surfaces or persons coming between tags and the reading antennas create shadow zones in the identification area.
- The proximity of a tag and a metallic surface or a person (<5 mm) reduces the reading distance.

### READER ANTENNA BEAM

**NB.:** Identification without positioning constraint



## SPECIFICATIONS

**Chassis dim. - 42E closed box** ...: 240 x 170 x 270 mm  
**Chassis dim. - 84E closed box** ...: 460 x 170 x 270 mm  
**AT3 Antenna dim. (without swivel)** : 380 x 280 x 30mm

**Weight of 42E closed box (I/C)** ...: 4 Kg  
**Weight of 84E closed box (D)** ...: 6 Kg  
**Weight of FSM module** .....: 0,2 Kg  
**Weight of PSM module** .....: 1,5 Kg  
**Weight of AT3 Antenna** .....: 3 Kg

**Operating temperature range** ...: - 20°C à +70° C  
**Storage temperature range** .....: - 25°C à + 80°C  
**Relative humidity** .....: 90% without condensation  
**Protection level - 42E&84E box** ...: IP 55  
**Protection level - AT3 Antenna** ...: IP 55

### Consumption

o with PSM\_2510/40 (230±10VAC) .....: 55 mA  
o 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  
**Detected reading rate** .....: 1E-4

\*In the normal conditions of use

**RF power emission** .....: <350mW E.I.R.P.. \*  
**Suitable range up to** .....: 5 meters (16 Feet)  
10 meters (32 Feet)

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

**Reference for the certification** ...: LVM\_4001 & LVM\_4002

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(\*) EIRP: Equivalent Isotropic Radiated Power

DISTRIBUTED BY \_\_\_\_\_

**Reference : DOC\_2091 - Version 4.0**  
**Updated : 26th April 1999**



