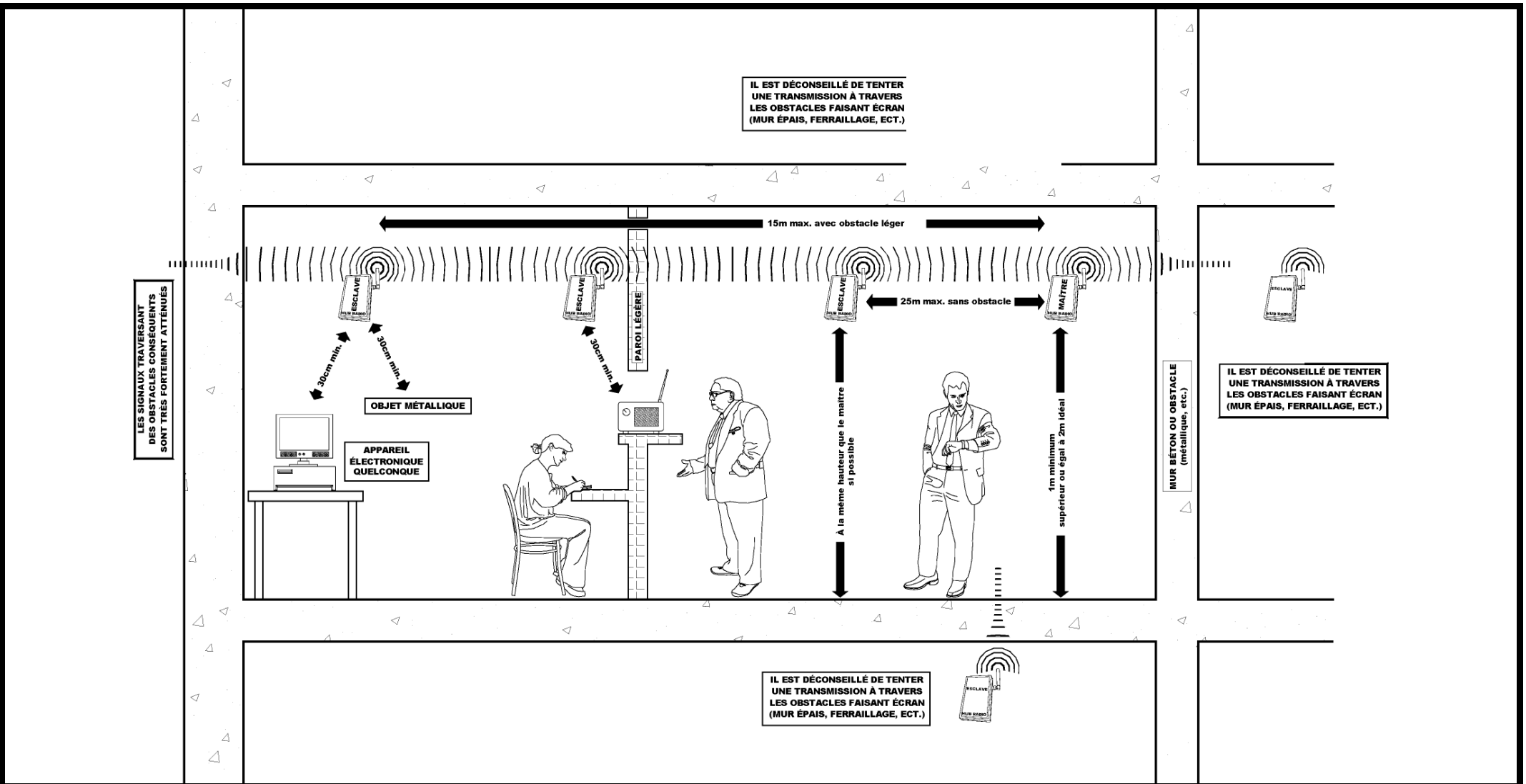# CONDITIONS OF SITE'S LAY OUT

Even if we use authorized radio channels, ESII certified equipments, we draw your attention on internal or external causes in your premises that can induce a lessening of the functional behavior of our systems of reception supervising, and in which ESII shall not be held responsible of, especially on the following points:

- Interferences due to external causes, sporadically or permanently.
- Topography and structure of your premises (contact us).
- Non respect of ESII's instructions.

RESTRICTIONS OF USE

The radio reach depends essentially on Master/Slave distance and depends on the environment.

Generally, a limitation of 25m in direct vision of the Master/Slave distance allows to be protected against the major part of radio reach problems.

And a minimum of 5m between 2 devices set on a different frequency.

It is very important to be sure that radio waves are going through the minimum quantity of elements (partition, furniture, etc.) which reduce considerably the communication reach. Also check the nature of the walls (avoid concrete, metal parts, etc.)

The positioning of the modules is decisive. It is important to free the radio modules from all interference sources (central processing unit, display, metal parts, etc.). For optimum communication, the environment of the radio modules must be free from all objects around 30cm at least. The modules must not be installed inside consoles or metal housings, etc.
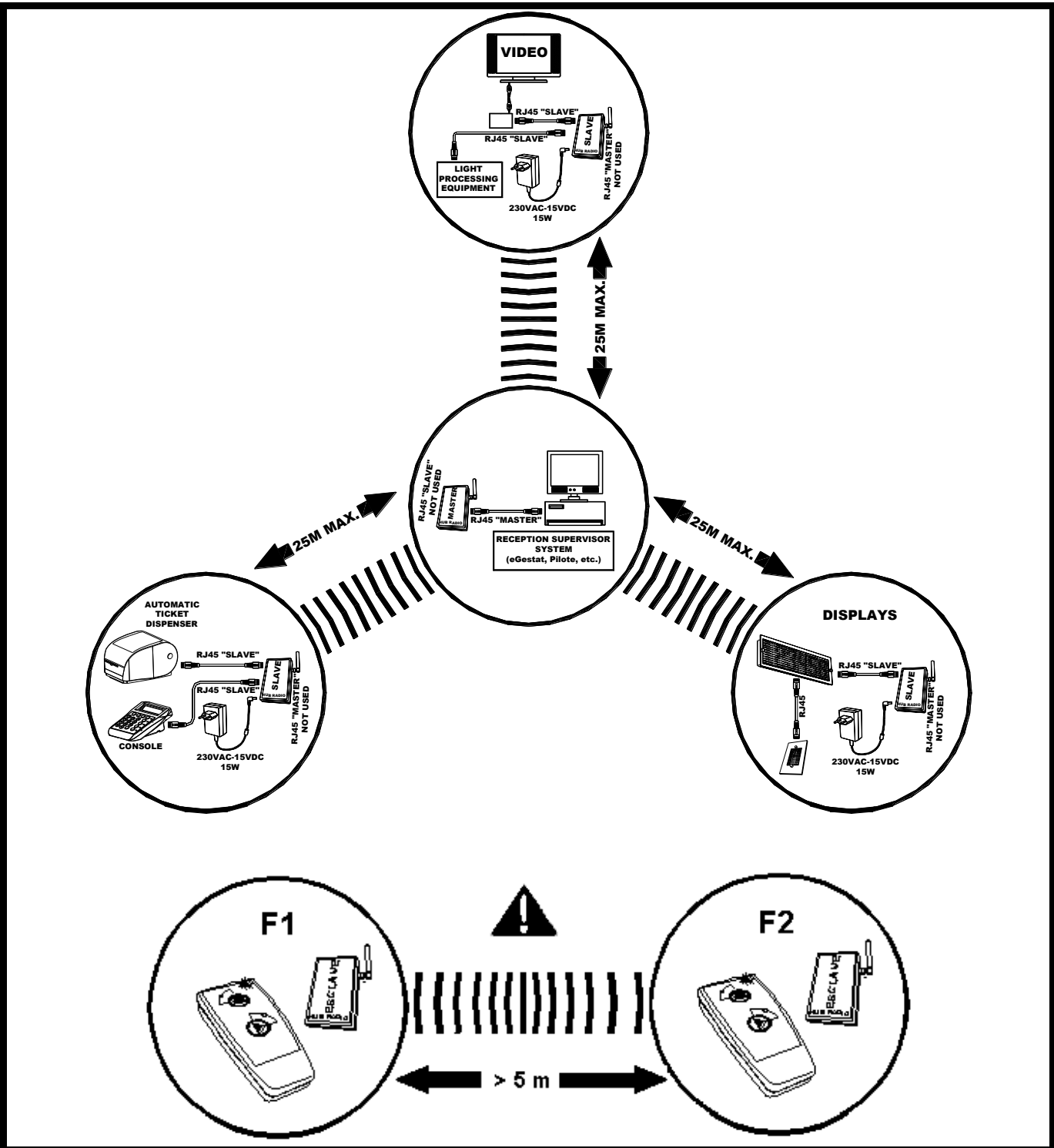
COMMUNICATION RECOVERY

In case of fault communication, check the following points:

- Check that all equipments are correctly supplied and wired.
- After having checked the correct starting of the system, check that all status visual indicators of the radio link indicate a perfect communication (the red visual indicator, beside the antenna, must be lit without blinking and permanently).

If one of the status visual indicators is off or blinks:

- First, check detailed points described in the previous chapters: distances, heights, clearing of modules, etc.
- Test the radio module showing communication failures by positioning it close to the "Master" to check its correct behavior.
- Change the radio module showing communication failures by a new one.

In case of serious radio reach, a good solution is to place the "Master" module at the center of the room or site to reduce distances at their lowest value.

RADIO RELAY MODULE

RADMO10 (WRL102)

CE | EN

ESII reports the RADMO10 complies with guidelines 2014/30/EU (CEM), 2014/35/EU (low voltage), 2014/53/UE (RED), EN 301-489-3 (CEM), EN 301-489-1 (CEM), EN 300 220-2 (RADIO), CEI 62311 (EMF), CEI 62368-1 (Electrical Safety), 2011/65/UE (ROHS) and 2012/19/UE (DEEE)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

NOTE: The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment
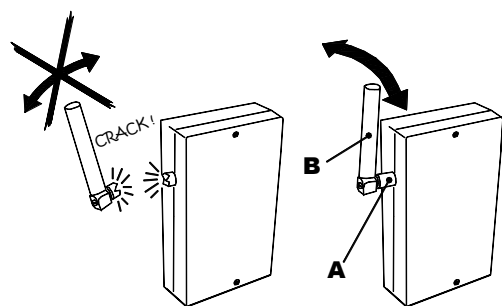
ELEMENTARY CARES

WARNINGS

- No part can be repaired by the user. In case of failure, please contact the maintenance service of the company ESII.
- Do not put the apparatus on an unstable or hot element.
- Do not open the housing for another reason than setting (only a qualified individual can perform this operation).
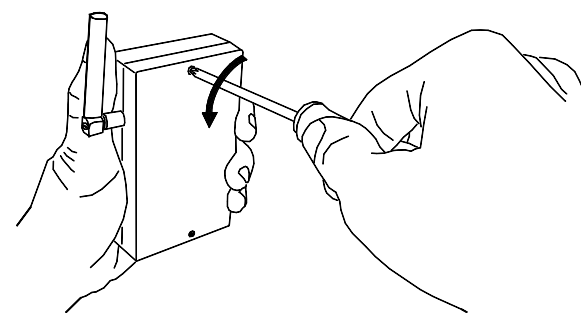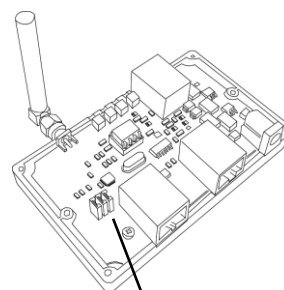
ANTENNA ORIENTATION

To orientate the antenna :
1. Loosen the connector's nut (A).
2. Orientate the antenna (B).
3. Tighten the connector's nut.

CONNECTORS AND VISUAL INDICATORS

CONNECTORS

1. **Supply connector**
2. **Peripheral #1 connector** ("Slave")
3. **Peripheral #2 connector** ("Slave")
4. **Reception supervising connector** ("Master")

VISUAL INDICATORS

5. **Green visual indicator: Tx**
Transmission of information to the ESII network.

6. **Green visual indicator: Rx**
Reception of information from the ESII network.

7. **Yellow visual indicator: Settings indicator**
At the starting of the module, it indicates during few seconds that the module is supplied.
Then, this indicator gives the settings:

- **Lit**: channel #1.
- **Blinking**: channel #2.

8. **Red visual indicator: Processing indicator**
A the starting of the module, it indicates during few seconds the protocol status:

- **Lit**: EBUS protocol.
- **Off**: reception protocol.

Then, this indicator gives the communication quality status:

- **Lit**: =100% (normal use).
- **Blinking**: <100% (use limit reached).
- **Off**: <75% (no or bad radio link).

OTHER

9. **Adjustable antenna**

FIXING

Fixing the HUB RADIO must be done with the 2 adhesives supplied with the product.

1. **Body**
2. **Fixing hole**
3. **Housing closing screws**
4. **Antenna**
5. **Double-sided adhesive location**

WIRING

"MASTER" SETTING

RJ45 "MASTER" — RECEPTION SUPERVISOR

"SLAVE" SETTING

PERIPHERALS (DISPLAY, ETC.) — RJ45 "SLAVE"
PERIPHERALS (DISPLAY, ETC.) — RJ45 "SLAVE" — SLAVE

When the power supply cable is plugged into its connector (1), the module automatically sets itself in "Slave" mode. If not so, it is set in "Master" mode.

ON A "MASTER" MODULE
The RJ45 connector "MASTER" just beside the antenna is connected to the reception supervisor, and those beside the supply connector must not be connected.

ON A "SLAVE" MODULE
The two RJ45 connectors "DEVICES" beside the supply connector are connected to the peripherals. The RJ45 connector beside the antenna must not be connected.

HOUSING OPENING

CONFIGURATION

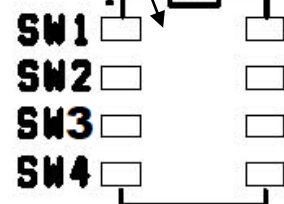To set the HUB RADIO, you must position the switchs

SW1 et SW3 : Channel
« OFF » et « ON » : Channel 1 : 869,5 MHz **Europe**
« ON » et « ON » : Channel 2 : 869,9 MHz **Europe**
« ON » et « OFF » : Channel 4 : 920,3 MHz **USA/Canada**
« OFF » et « OFF » : Channel 5 : 924,3 MHz **Reserved**

SW2. Protocol
« ON » : EBUS (eSirius, eGestat, eTurn).
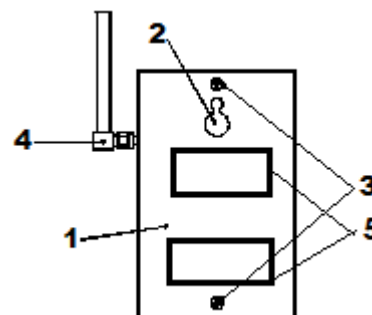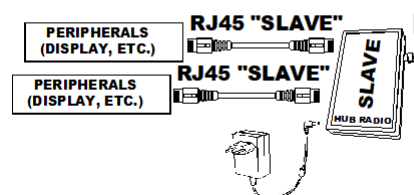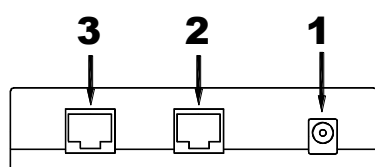« OFF » : PACC (Sirius, Gestat).

SW4. Positionned sur « OFF »

CARACTERISTICS

Dimensions :	100x60x25mm
Height :	82g
Electricals caracteristics (MASTER):	24V === (direct current)
Electricals caracteristics (POWER):	8 - 24V === (direct current) 2Amax
Operating Temperature max :	35°C

The **MEAN WELL ES18E24-P1J** with the device **CTIPV3** power supply provided by ESII must be used to power the RADMO10 on the MASTER port.

Use only a certified power supply certified and classified **PS2** according to the **IEC62368-1:2014** (limited to 2A max in normal and fault conditions)..