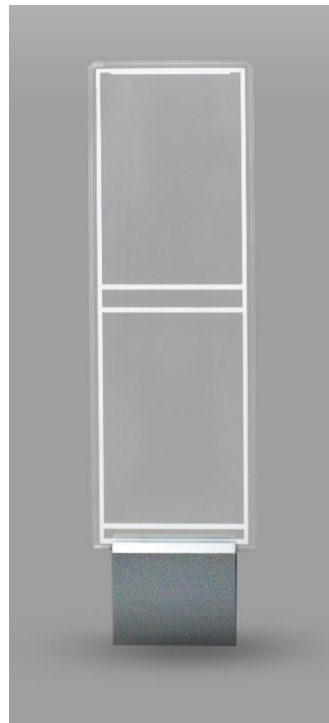# AMTEK

150/250/350/450/750

Operation Manual

58kHz Acousto-Magnetic EAS System

valid for

AM Pro-Line electronics TX/RX/Mono

Hardware Version AMPRO 700 V7.4, Firmware Version AMP 3.1

SAFETY GUIDELINES

➢ Any manipulation of the system should be done by qualified and trained personnel only.

➢ Do not open the AMTEK system's power supply when connected to power! High voltage!

➢ Make sure the power supply is properly connected to mains PE

➢ Do not touch the antenna wire or matching circuit when connected to power! High voltage!

➢ Before changing blown fuses or manipulating the antennas, always disconnect from 230V power source first!

➢ Do not plug in or out the power supply cables to or from the processor board unless the power supply is switched off!

➢ Do not insert or take-out any jumpers unless the power supply is switched off!

➢ Route the RX-TX cable and power supply cables through places where they cannot be easily damaged!

➢ Do not use the system in water condensing conditions!

➢ Do not use the system in explosive environmental conditions!

1. INTRODUCTION

1.1. System Description

The "AMTEK" range of Acoustomagnetic EAS Systems is fully compatible with all 58 kHz tags and Acustomagnetic labels on the market. The systems are designed to get optimum detection performance and to avoid false alarms at the same time, by using digital signal processing and anti-noise algorithm.

The AMTEK Pro-Line antennas with AMPRO V 7.4 electronics can be operated as "Mono" or "TX" antenna (setting via infoNet V5 onwards)

1.)   Single Mono antenna
2.)   Multi Mono antennas
3.)   Dual system   1 Processor TX and 1 Receiver antenna
4.)   Split system   1 Processor TX and 2 Receiver antennas

Working principle "Mono":   A 58 kHz pulsed magnetic field is generated by the Processor antenna. The Processor antenna is using the same loops for transmitting the 58KHz TX pulses and for receiving the tag/label signal. Any 58 kHz AM label or hard tag brought into the magnetic field will generate a signal which can be detected in the receiver mode and subsequently trigger an alarm signal.

Working principle "TX": A 58 kHz pulsed magnetic field is generated between the Transmitter (TX) antenna and one or two Receiver (RX) antennas. Any 58 kHz AM label or hard tag brought into the magnetic field will generate a signal which can be detected by the Receiver antennas and subsequently trigger an alarm signal.

F40 tag	Mini Pencil
Super tag II	APX (DR) label

AM Hard Tags and Labels

Typical System Performance

Depending on the AM tags used and the installation environment, the detection distance can vary. The following table gives an overview of typical detection ranges with the different AMTEK systems and security elements.

Distances(m)	AMTEK 350 Mono	AMTEK 350TX/RX
F40 tag	1.40	2.70
Mini Pencil	1.20	2.20
Super tag II	1.10	2.00
DR label	1.10	2.00

1.2. Additional Features

All Version AMTEK V7.4 Processor antennas are equipped with 2 additional alarms that allow an easier handling of certain situations.

The **Jammer alarm** indicated that the system is compromised by a jammer signal.
The alarm light and buzzer sequence for Jammer alarm can be set via **InfoNet** software. In this case the detection of the system is disabled to avoid false alarm.

The **Near Tag alarm** is triggered by a continuous detection of a stationary security element in the detection zone. The alarm light and buzzer sequence for Jammer alarm can be set via **InfoNet** software. By enabling the Near Tag alarm, one can easily detect tags that have accidentally been placed inside the system's detection area.

Both of the above described alarm features can easily be enabled/disabled by activating the respective checkbox inside the **InfoNet** software.

Programmable on/off time:

The system can be automatically switched on/off at certain times. The time for ON and OFF can be set via the **InfoNet** software. The system will consume much less power during OFF time (Energy saving)

Incoming/outgoing alarm (only with integrated visitor counter):

The system is able to distinguish between incoming and outgoing alarm if equipped with the optional integrated visitor counter. The alarm indication is different for the two types of alarms allowing easy identification of incoming and outgoing alarm.

Firmware update:

If a new firmware becomes available, the processor's firmware can be updated via the **InfoNet** software allowing update of new system features without replacing the electronics.

Selection of light/sound sequence:

The system alarm light and sound can be programmed in different sequences. Different aisle could have different sound sequence enabling the identification of where the alarm came from. It is also possible to have the alarm light on longer than the alarm sound to easily identify the alarm position. For multi aisle installation this feature is especially useful.

Remote Tuning/Service/Monitoring

In order to reduce the need for service calls, especially for remote places, our PRO-LINE systems can be accessed via Internet. The system service provider can log-in from their office into the system via **infoNet Cloud** (provided they are authorized) and diagnose/solve potential problems.

Integrated bidirectional visitor counter

- ➢ Possibility to count customers per aisle and to determine the direction of movement (in or out of the shop)
- ➢ Showing the importance of the alarm (is a customer moving in or out during the alarm)
- ➢ Detecting undefined alarms
- ➢ Pinpoint the exact aisle where the alarm occurred
- ➢ Generate reports on visitor counts and alarm counts

2.   AMTEK SYSTEM

2.1. Component Overview

The standard Mono system comprises the following components:

a.) Processor Board   AMPRO 700V7.4
b.) Power Supply   AMPSS 700V6 or higher
c.) Antenna   AMTEK 150/250/350/450 or AMTEK 750
d.) Computer Cable   LAN Cable AMCOM 710
e.) **info**Net Software   **info**Net V5.0 or higher

> Please note that the Version 7.4 processor board hardware can come with different Firmware Versions. Please check the label on the processor if you are not aware of your board's firmware version.

2.1.1 Specifications:

Transmitter Operating Frequency   58 kHz (±200Hz)

Transmit Burst Duration   1.5ms or 1.6ms (can be set in InfoNet)

Max. Transmit Current   16A peak

Transmitter Coil Resistance   2 ohm (±5%)

Burst Repetition Rate   50Hz (60Hz)

Receiver Center Frequency   58 kHz

Alarm Audio level   97dBA

Environmental Ambient Temperature   0°C to 50°C

Relative Humidity   0 to 90% (Non-condensing)

2.2. AM Processor Board AMPR 700V7.4

The picture below shows a top view of the Processor board. Table 2.2 lists the board's relevant connectors and tuning components together with their functions.
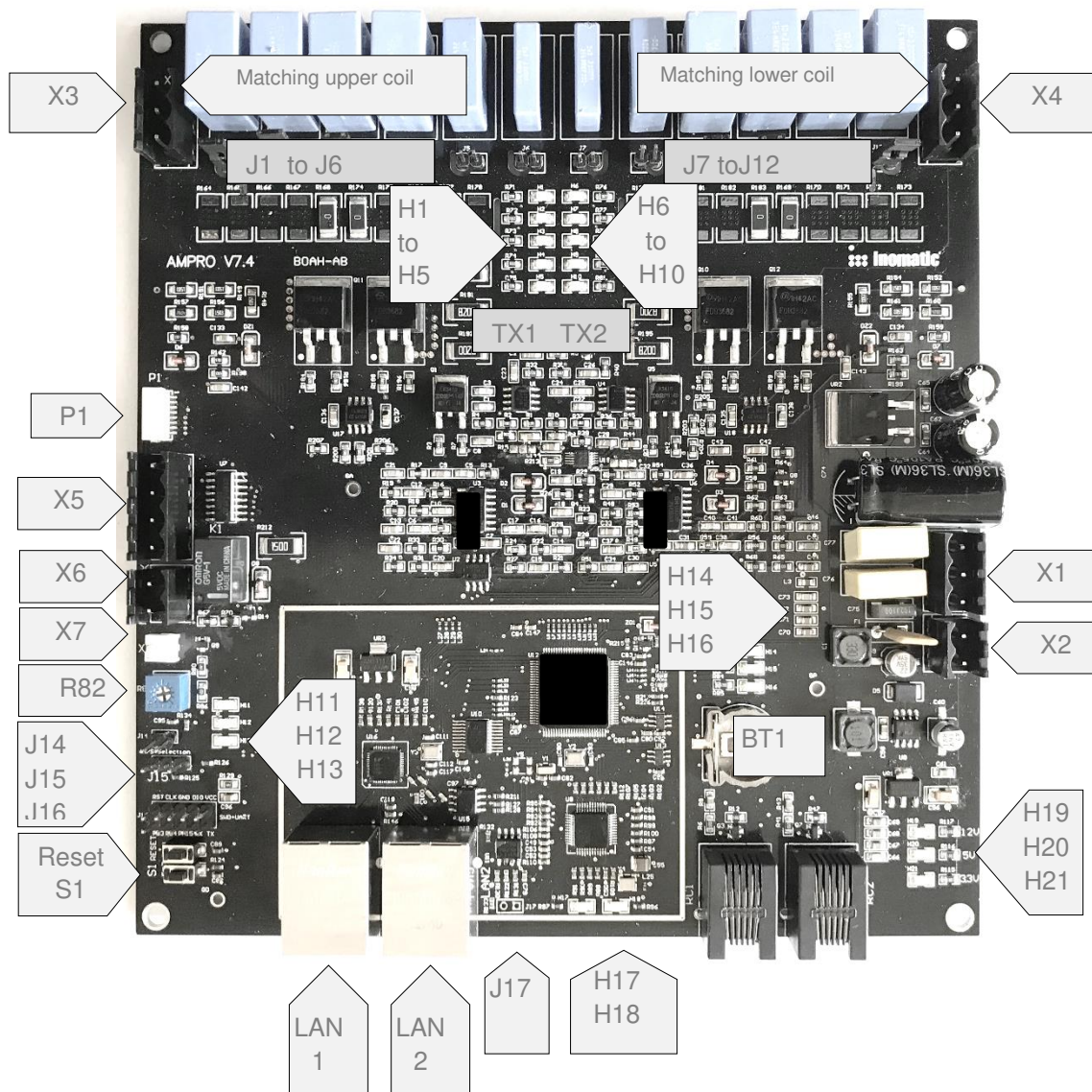

Picture 2.1 - Processor board V7.4 top view

Table 2.2 Processor board's relevant components for connection and tuning

Component	Function	Component	Function
X1 & X2	Powers supply	RC1	Receiver channel 1
X3	Upper TX loop connection	RC2	Receiver channel 2
X4	Lower TX loop connection	TX1	LED bar for upper TX loop
X5	LED Alarm Lights	TX2	LED bar for lower TX loop
X6	Relay output NO contact	LAN1	Switch port 1
X7	Buzzer connector	LAN2	Switch port2
Reset	Reset of the processor	S1	Not in use
J14	Download Firmware	H19	12V power supply
J15	Master/Slave selection	H20	5V power supply
J16	Factory use	H21	3.3V power supply
J17	Sync bus termination	H14	Indicator for Internet
BT1	Real Time Clock battery 3V	H15	Flashing → Normal Operation
R82	Buzzer Volume	H16	Indicator for Master/Slave
H17		H11 – H13	LAN switch indicators
H18		H14 – H16	LAN Data indicators

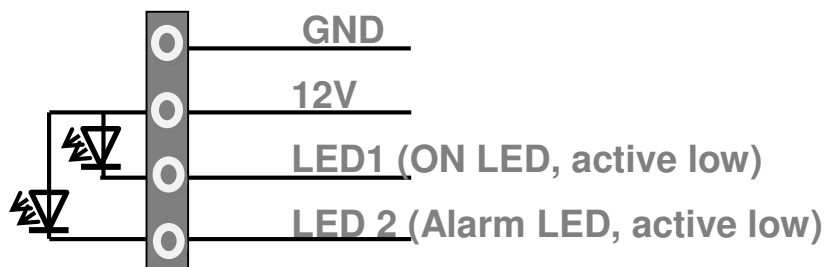**Jumpers 14 (Download Firmware)**

The firmware of the AM Processor board V7.4 can be updated via the **info****Net** V5 software.
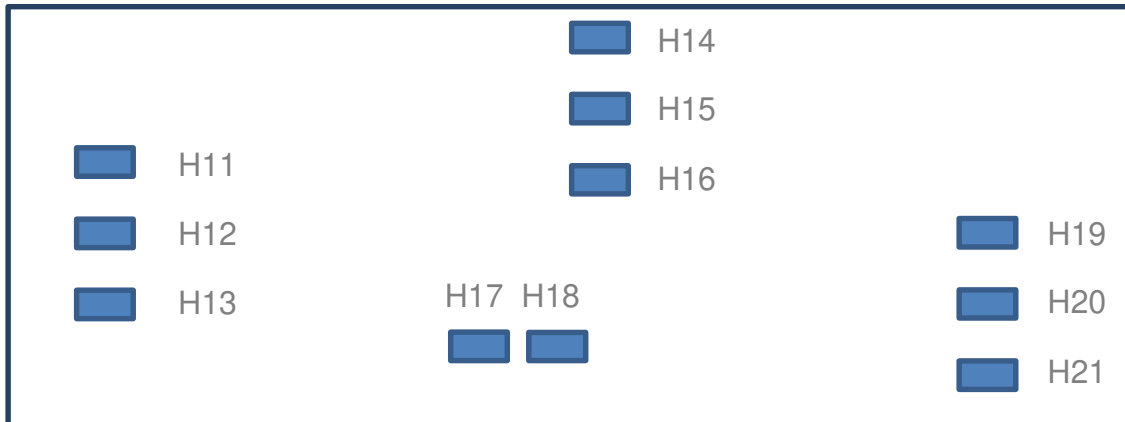For more details see Software Manual

1   2

Normal Operation

Download Firmware
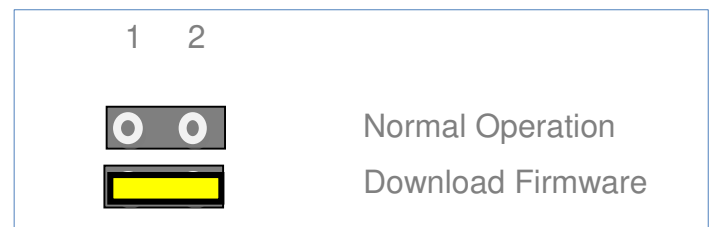
LED Light connector X5

The AM Pro-line V7.4 board allows the connection of a two color LED top-light.

GND

12V

LED1 (ON LED, active low)

LED 2 (Alarm LED, active low)

Maximum current for LED1 and LED 2 is 200mA

Indicator LED's

LAN/SYNC LEDs

H11 → LAN port ready → LED ON

H12 → if LAN 2 is connected → LED ON

H13 → If LAN 1 is connected → LED ON

H14 → If the board has Internet access →LED ON

H15 → If sync pulse from power supply/ hardware sync → LED blinking

H16 → If the board is set as Master → LED ON. If Salve → LED OFF

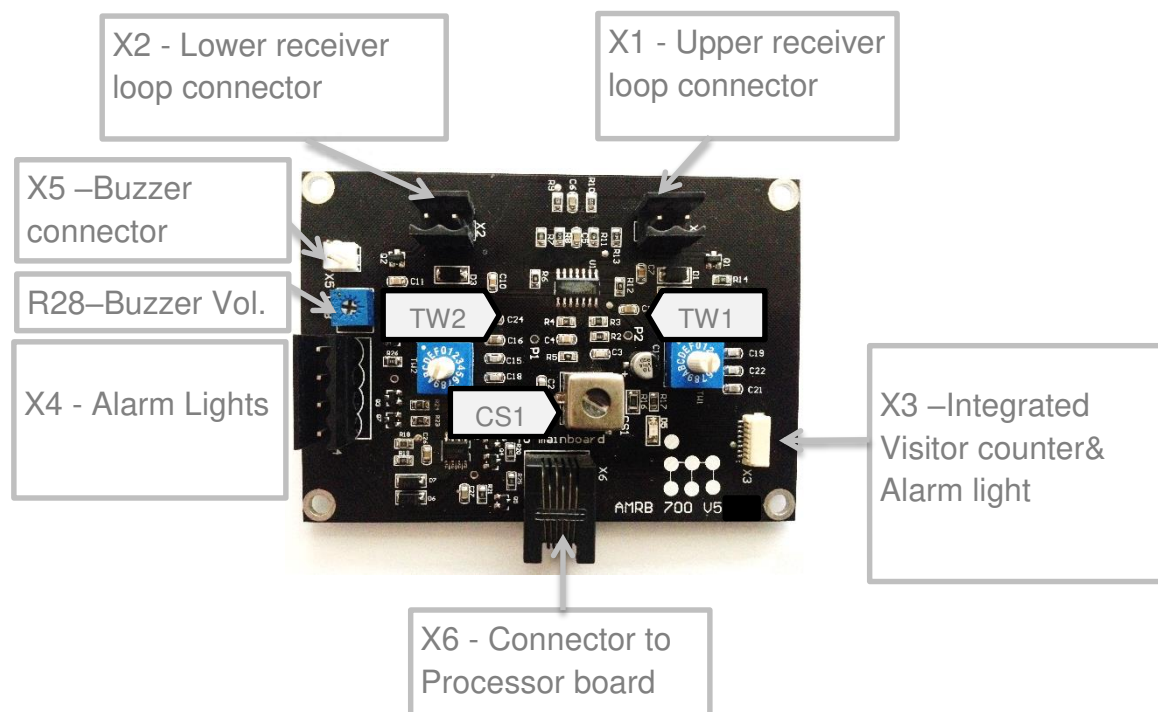H17 → LAN ok → LED blinking

H18 → LAN ok → LED ON

Power LEDs

H19 → 12VDC power → LED ON

H20 → 5VDC power → LED ON

H21 → 3.3VDC power → LED ON

2.3. Receiver Board AMRB 700V5.3

Picture 2.3 below shows the RX board and the relevant components:

X2 - Lower receiver loop connector

X1 - Upper receiver loop connector

X5 –Buzzer connector

R28–Buzzer Vol.

X4 - Alarm Lights

TW2

TW1

CS1

X3 –Integrated Visitor counter& Alarm light

X6 - Connector to Processor board

Each RX board controls the resonance of two loops in the RX antenna. The matching for the upper and lower receiver loop can be adjusted through the 2 rotary switchesTW1 and TW2. TW1 adjusts the matching for the upper loop and TW2 adjusts the matching of the lower loop.

All our antennas are pre-tuned in the factory and RX antenna matching WILL NOT HAVE TO BE ADJUSTED in almost any case. When installing the system near metallic frames or metallic doors, resonance value may be affected.

In this case, the RX matching can be modified for the upper and lower loop using the rotary switches TW1 and TW2.

LED Light connector X4

The AM Pro-line V5 Receiver board allows the connection of a two color LED top-light.

GND

+12V

LED1 (ON-LED, active low)

LED2 (Alarm, active low)
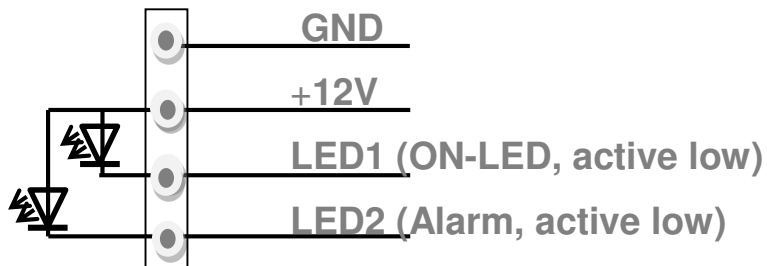
Maximum current for LED1 and LED 2 is 200mA

2.4. RX-TX-Connection Cable AMCTR 710

The AMCTR 700 connection cable is supplied together with the RX antenna. It connects the receiver board with the processor board of the TX pedestal. Connect one end of the cable to the RX board (X6) and the other end to the TX board (RC1 or RC2).

To avoid noise capturing, the connection between the RX and TX antenna should be as short as possible.

AMCTR 710 Connection Cable

2.5. Dual Power Supply AMPSS 700V6 (50VDC, 43VAC)

The Dual power supply AMPSS700V6 is used for all our AM systems using V4, V6 or V7 processor boards. It provides the power and the Synchronization signal to the system electronics for maximum 2 TX antennas.

Technical specifications for AMPSS 700	
Dimensions (L x W x H)	210 x 150 x 70 mm
Weight	3.0 kg
Input voltage / frequency / current	230VAC / 50/60Hz / 500mA (on request 110VAC / 50/60Hz)
Mains inlet type	AC IEA with ON/OFF switch
Output voltage	50 VDC and 18VDC
Output cable	5x1mm², 8m length. This cable can be extended to 15m using a 3x1mm² cable or thicker.
Temperature range	0 – 50C
Primary fuse (FP)	230VAC – 1A slow , 110VAC – 2A slow
Secondary fuses: (Inside the housing)	F1 (50V, 3A), F2 (18V, 2A), F3 (18V, 2A) F4 (50V, 2A), F5 (18V, 2A), F6 (50V, 2A)

X1	Power Processor board 1
L1	50VDC (LED red/blue)
L2	18VDC (LED red/blue)
X2	Power Processor board 2
L3	50VDC (LED red/blue)
L4	18VDC (LED red/blue)

AMPSS 700 V6 power supply

If any LED lights "red" means the respective voltage is missing
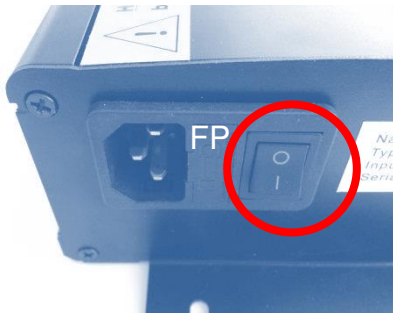
To operate the power supply, connect the power supply via the main power cable to a 220V (110V) power outlet and switch on the main switch SM.

Make sure the "Earth" of the power plug is connected to the power socket.

The AMPSS700V6 has 2 system power outlets (X1 and X2)

The output cable of the power supply is connected to the processor board through 1 x 3 pin and 1 x 2 pin connectors.

If the connector needs to be removed for some reason, the color code of the cables must be observed. To avoid damages to the power supply and to the system electronics replace the fuse with the same kind of fuse if necessary.

⚠️ If any fuse needs to be changed always unplug the power supply from the AC source first.

⚠️ Always connect the power supply to the system first before switching on the power supply.

⚠️ Always switch off the power supply first before disconnecting the power supply to the system.

⚠️ Local laws and regulations must be respected when installing and servicing this device

2.5.1 Power supply cable/connector

V7.4 Processor board   Power supply V6 (X1 or X2)

RED 50VDC

BLACK GND

BLUE 18VDC

BROWN Sync

YELLOW GND

RED 50VDC

BLACK GND

BROWN Sync

BLUE 18VDC

YELLOW GND
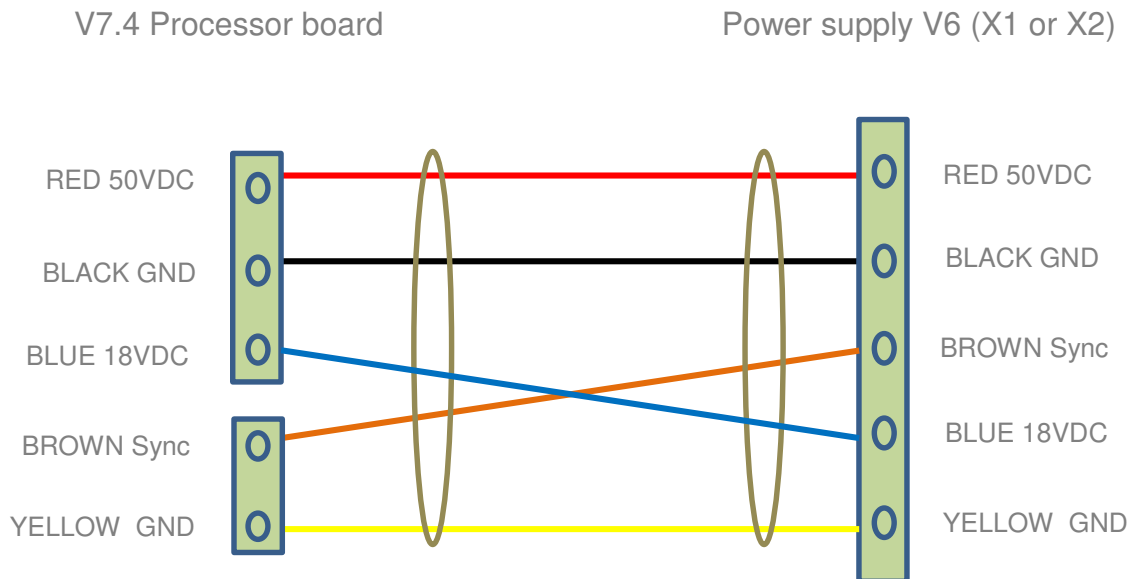
Please note that the power supply cable between the power supply and the processor board should not exceed 15 meter.

**The AMPSS 700V6 was designed to power our new AM antenna generation whit AWG 20 antenna wires which require reduced loop voltage.
Operating the TX antenna with a higher voltage (> 50VDC) may result in higher matching voltage which can damage the board.**

2.6. System Configurations

2.6.1 Single Mono Antenna (AMPRO 700V7.4 configured as "Mono")

LED light

Buzzer output

Relay Output

To X1 &2

LAN Cable

AMPSS 700
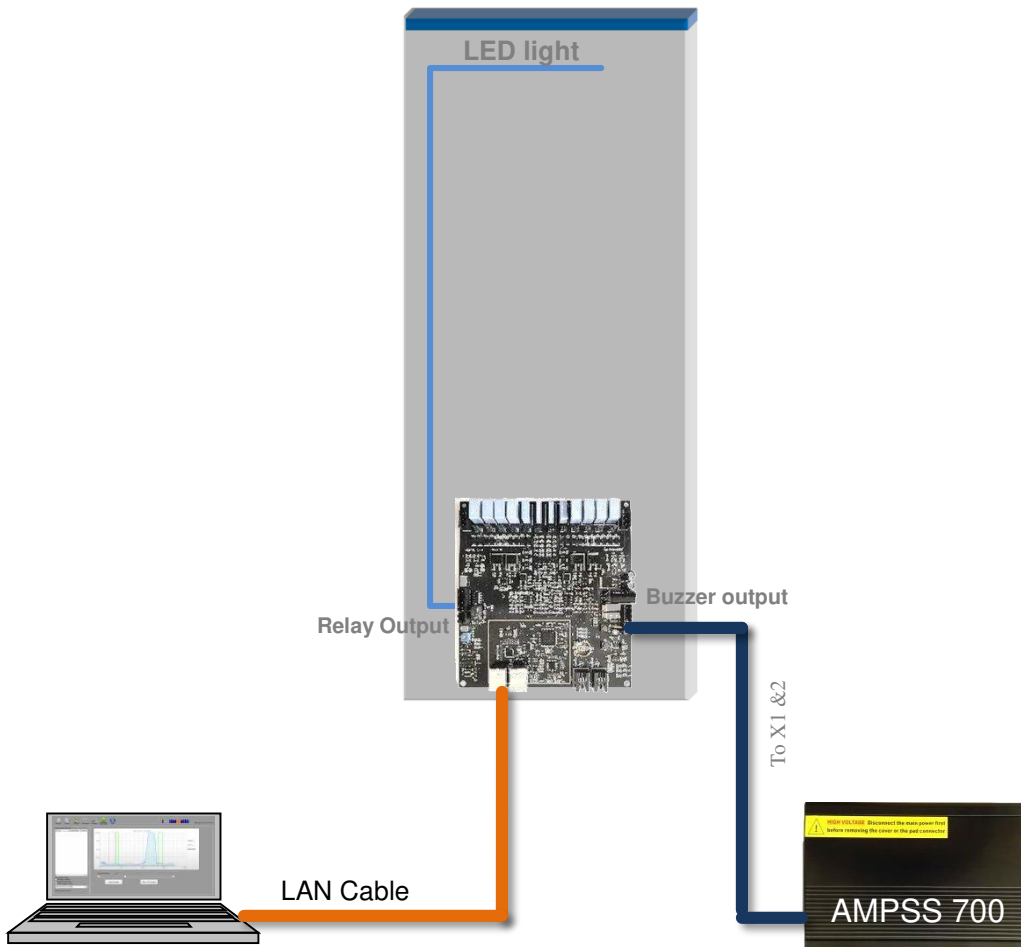
Single Mono Configuration

2.6.2 Multiple Mono Antennas (AMPRO 700V7.4 configured as "Mono")
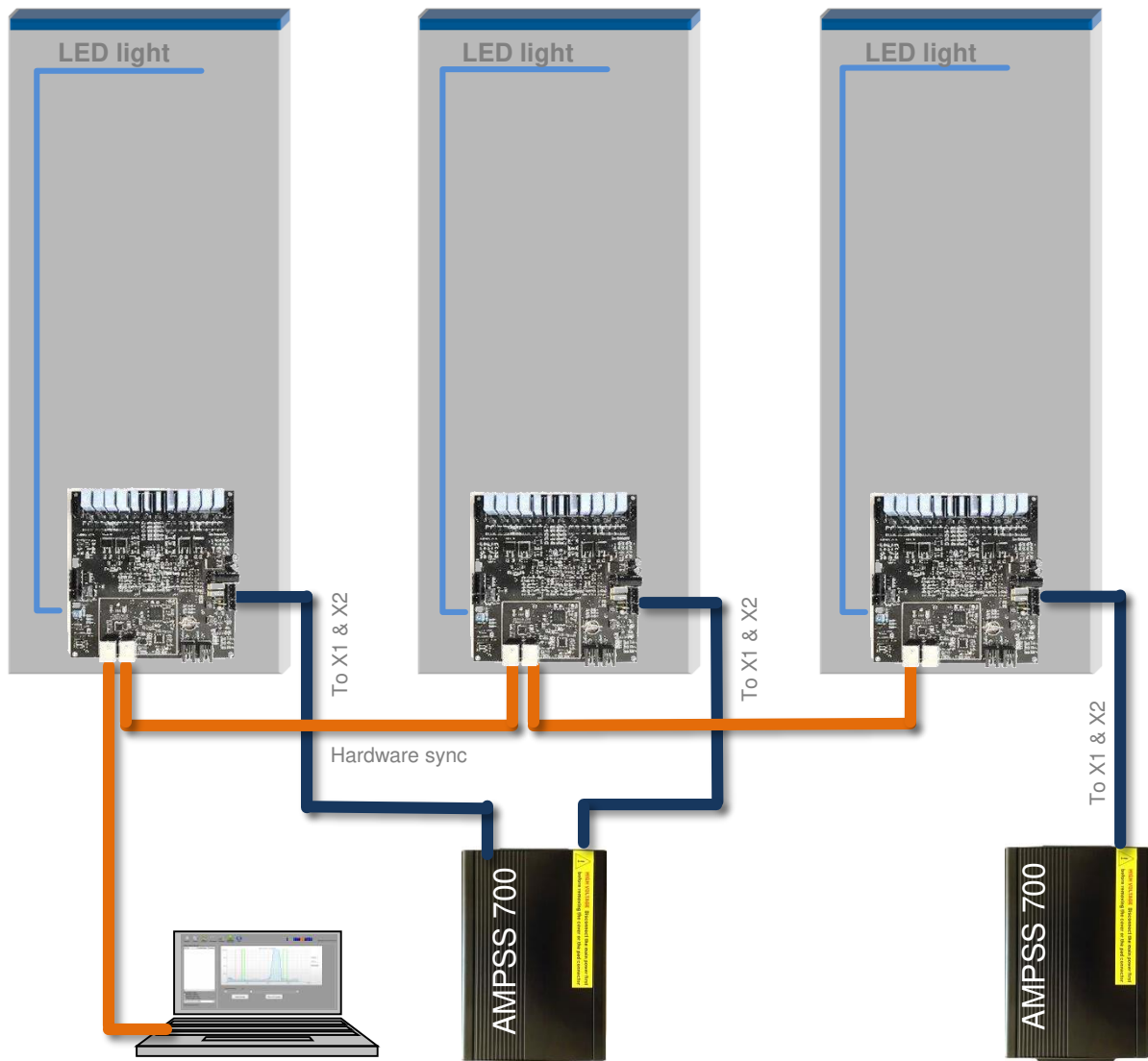

Multi Mono antenna Configuration

The AM power supply V6 allows the connection of up to two AM Processor antennas.

Hardware synchronization might be necessary, if 2 or more AM Processor antennas are used.

2.6.3 Single TX Antenna ((AMPRO 700V7.4 configured as "TX" → Dual system)

One processor board (TX) can drive one or two RX antenna(s), thus resulting in two configuration modes: "Dual and Split system. The following gives a schematic overview about the necessary components and connections for both configurations.
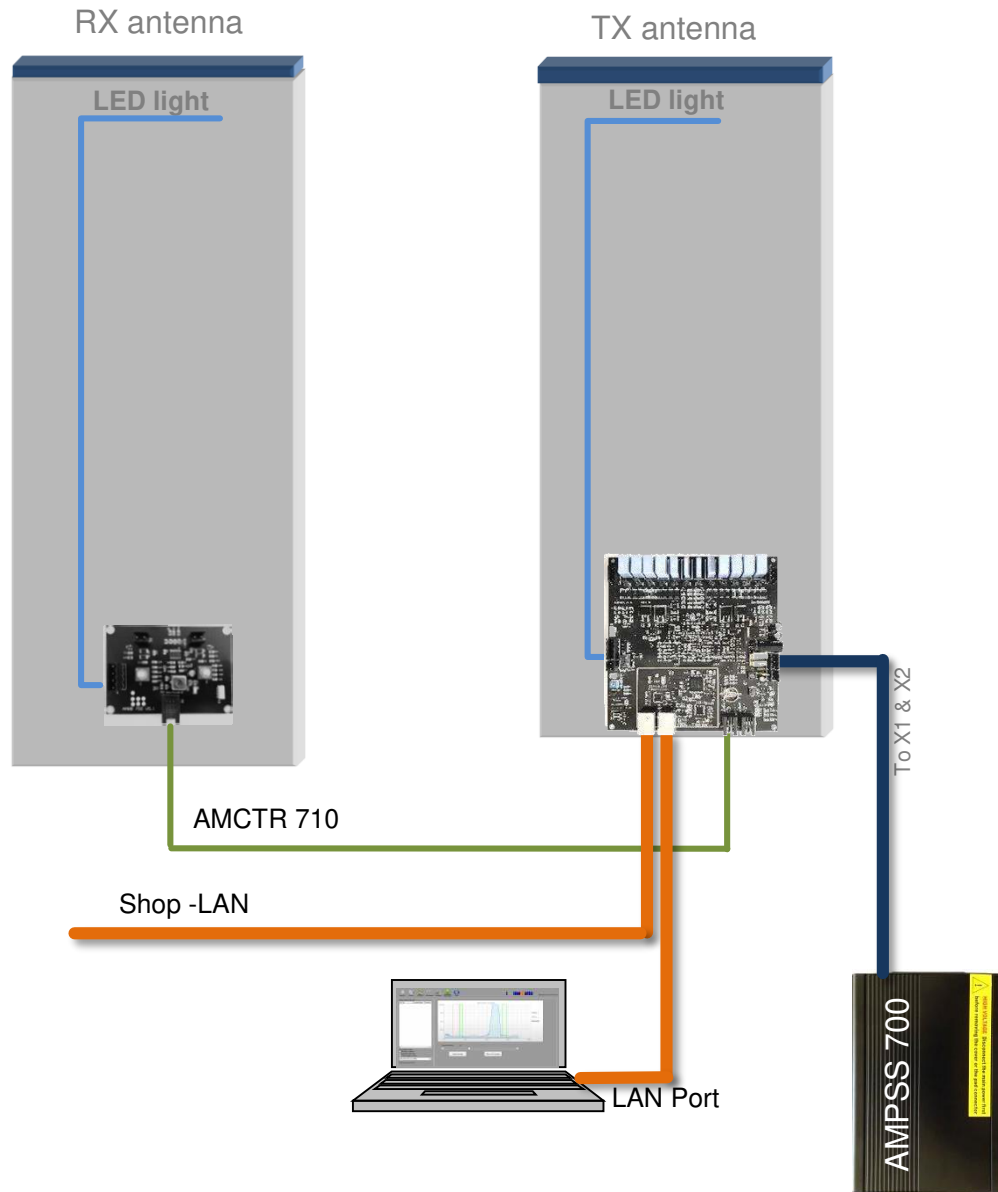
2.6.4 Single TX Antenna ((AMPRO 700V7.4 configured as "TX" → Split system)
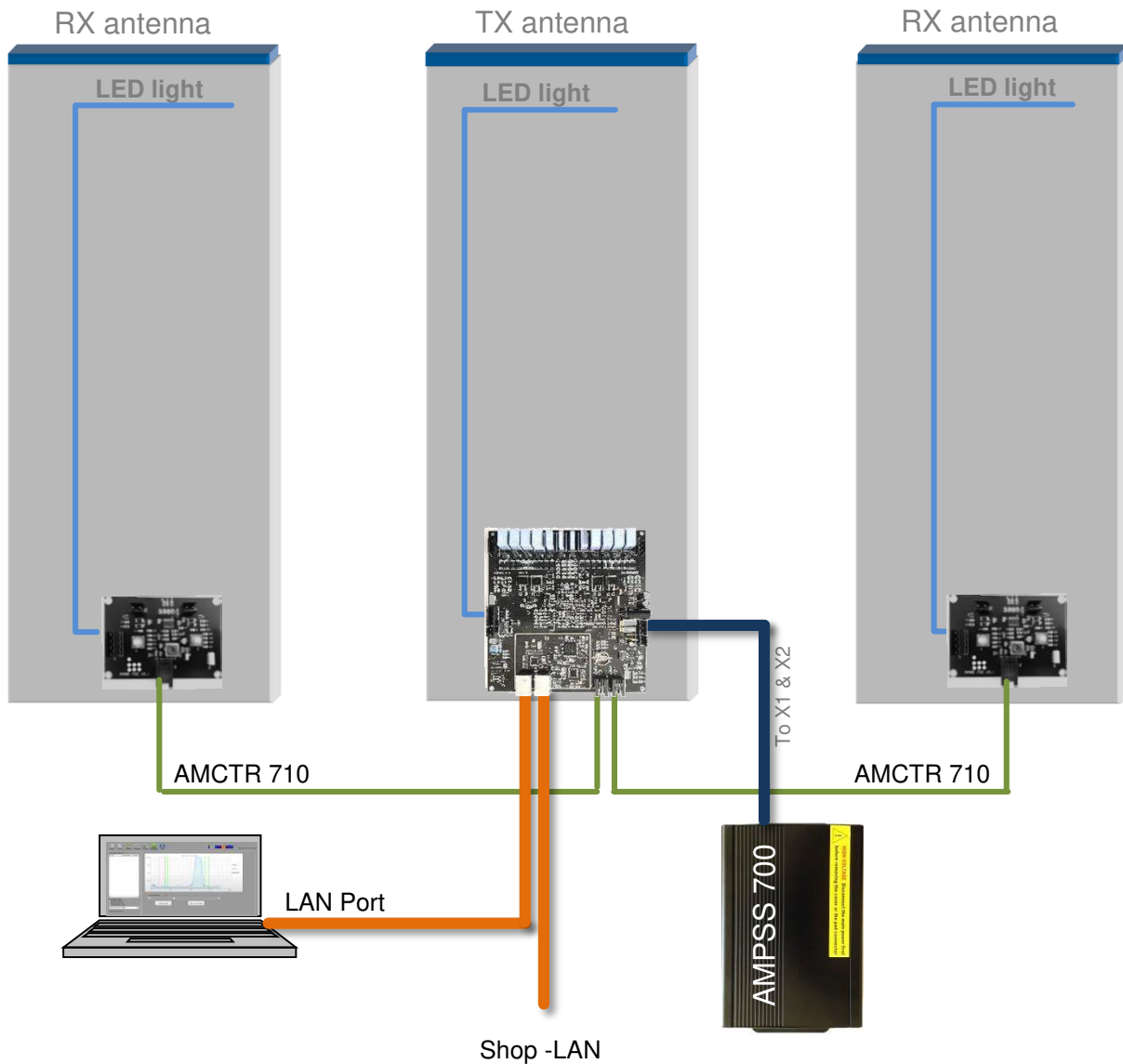
To reduce any noise influence, make sure:

1.) To place the power supply as close as possible to the TX antenna.

2.) To have the connection between the RX and the TX antenna (AMCTR 710 Connection Cable) as short as possible.

Hardware synchronization might only be necessary, if 2 or more TX antennas are used.

3. SYSTEM INSTALLATION

This chapter covers the various issues related to Acoustic Magnetic systems and Electronic Article Surveillance systems in general, like:

◆ Noise sources

◆ Installation guidelines

3.1. Noise sources

Below there are various noise sources listed that might affect the performance of any EAS system. It is strongly recommended to either eliminate these noise sources (as far as possible) or maintain the largest possible distance to these noise sources.
The following devices can create or absorb AM noise signals which can reduce the performance of an EAS system:

◆ AM systems installed in other shops (even if they are installed up to 100m or more away from your store).

◆ Any electronic device that operates around 58kHz or produces harmonic frequencies around 58kHz.

◆ An active laptop. The back light in the screen can create a lot of noise which is detected by the EAS system and can reduce the performance dramatically. Make sure to keep laptop computers at least 3 meters away from the antennas.

◆ (Moving) Objects containing metal, like sliding and revolving doors, elevators, escalators, roller shutters, frames, etc.

◆ Electronic devices, like computers, laptop screens, LCD screens, cash registers, engines, transformers, etc.

◆ Vertically positioned power cables, both low voltage and high voltage.

◆ Lights (flashing, fluorescent, halogen, gas-de-charge, etc.)

◆ Metal scan systems installed in close vicinity.

3.2. Installation Requirements

➢ Make sure all parts have arrived. Make sure there are no damaged parts. If there is any damaged part, notify the transport company.

➢ Installation shall be performed by a qualified installer with all necessary national/local electrical/fire codes training.

➢ If possible, connect the Processor / RX antenna and put them in the required position in the entrance/exit **without** drilling holes in the floor and bolting the antennas down. Switch on the system and test the performance. In this way the noise level and system sensitivity can be determined and if necessary (in case of high noise or poor sensitivity) the system can be moved to find a better position

➢ The pedestals shall be placed at a distance equal to or smaller than the maximum value depending on the kind of tag.

➢ Avoid placing the Processor / RX pedestals near metallic structures (doors, frames, etc...) or neon/discharge lamps.

➢ Always install the TX antenna on that side where the highest noise is or where the highest noise can be expected.

➢ Metal framed doors may never swing between the EAS antennas, as this will distort the energy field of the system in such a way that it might result in high noise, poor detection and potential false alarms

➢ Not connected RX antennas nearby a running system are to be avoided. They act as a big hard tag.

➢ Avoid unnecessary long cables. Run the power supply cables in a direct line to the EAS antennas. Never run power supply cables vertically up the wall within one meter distance of the antennas (never around the entrance/exit doorframe).

➢ The AC source should be a clean AC source. If possible do not share the AC source with computers, neon lights/discharge lamps, or equipment with switching power supplies, make sure the "Earth" of the power supply plug is connected to the power supply socket.

➢ Blown fuses shall be replaced with fuses of the same kind.
  ALWAYS UNPLUG power supply **BEFORE CHANGING** blown fuses!

3.3. Installation Procedure

➢ **Remove base covers from pedestal.**

Electronics will now be visible. Confirm all connections are firmly in place.

➢ **Place Processor / RX pedestal in the place to be installed.**

Consider the position of AC 230V/50Hz power source. Ensure that 230V 50Hz AC source can be connected with the Power Supply and that the Power Supply output cable can be connected with the Processor pedestal.

It is strongly recommended to tune the system to its final working conditions BEFORE drilling any hole!

Avoid placing the Processor pedestal very near metallic structures (doors, frames, etc...) or neon/discharge lamps and LED, LCD monitors.

➢ **In case of Dual or Split system connect RX pedestal(s) to Processor TX pedestal using the connection cable AMCTR 710**

➢ **Confirm all connections to the loops, and processor board are firmly in place.**

➢ **Before turning the Processor antenna (TX or Mono) on, remove all 58 kHz tags near to it.**

➢ **Connect Power Supply to the Processor board with the 2-pin and 3-pin connectors**

➢ **Connect Power Supply to AC 230V/50Hz source, switch on the power supply.**

➢ **Connect the computer via the LAN cable and start InfoNet V5 software (for tuning please refer to the InfoNet manual)**

4.   TUNING OF THE MATCHING CIRCUITS

4.1. Processor Antenna Matching

All our antennas are pre-tuned in the factory and the TX Antenna matching WILL NOT HAVE TO BE ADJUSTED manually in almost any case. When installing the system near metallic frames or metallic doors (which is not recommended), the resonance value may be affected and manual matching is required.

The LED bars TX1 and TX2 should light up completely when the system is powered on.
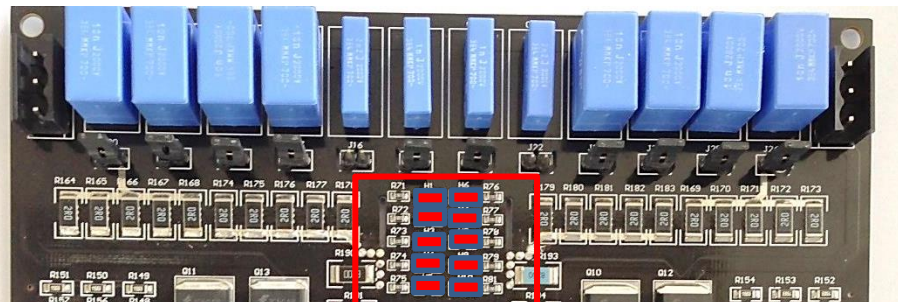
If the LEDs do not light up at all, then check:

Whether "TX OFF function " is activated by the respective checkbox inside the **info**Net Software (see **info**Net Manual for further details).

→ De-Activate the TX OFF function if not done yet.

The LEDs should light up now.

 If the **LED bars do not light up completely** on one or both sides, then:

It is necessary to adjust the matching of the antenna loops. The AMPRO 700V7.5 processor board is designed to be used for all AMTEK systems. Since every AMTEK system shows slightly different antenna characteristics, the board allows the selection of different capacitors for each antenna loop by inserting the respective jumpers. The matching capacitors are located at the upper part of the board.

The matching Level is shown by the LED bars TX1 and TX2:
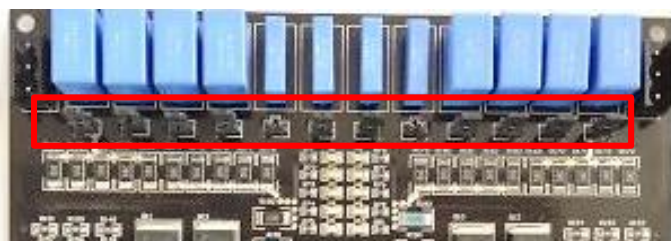
If the antenna is mismatched, not all of the 5 LEDs of LED bars TX1 and TX2 will light up. **In that case, the TX resonance of the upper and lower loop can be modified by changing the matching capacitance through the 6 jumpers in the relevant matching circuits** (refer to default setting below).

 Switch off the power first before you change any jumpers!
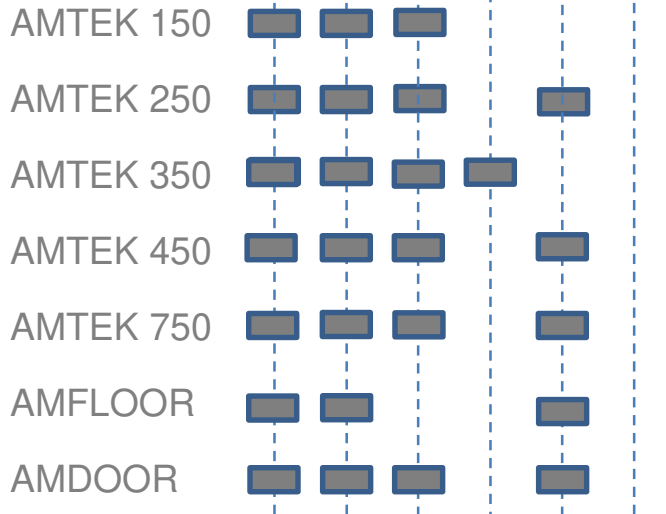**Wait a while for the capacitors to discharge! High voltage!**

Function	Relevant jumpers	Associated LED bar
Matching of the upper loop	J1 to J6	TX1
Matching of the lower loop	J7 to J12	TX2

4.2. Matching capacitors default setting for V7.4 Processor antennas

Upper antenna loop   **Lower antenna loop**

Capacitor (nF)	10	10	10	8.2	4.7	2.2		2.2	4.7	8.2	10	10	10
	J1	J2	J3	J4	J5	J6		J7	J8	J9	J10	J11	J12
AMTEK 150	▮	▮	▮								▮	▮	▮
AMTEK 250	▮	▮	▮		▮				▮		▮	▮	▮
AMTEK 350	▮	▮	▮	▮						▮	▮	▮	▮
AMTEK 450	▮	▮	▮		▮				▮		▮	▮	▮
AMTEK 750	▮	▮	▮		▮				▮		▮	▮	▮
AMFLOOR	▮	▮			▮					▮		▮	▮
AMDOOR	▮	▮	▮		▮				▮		▮	▮	▮
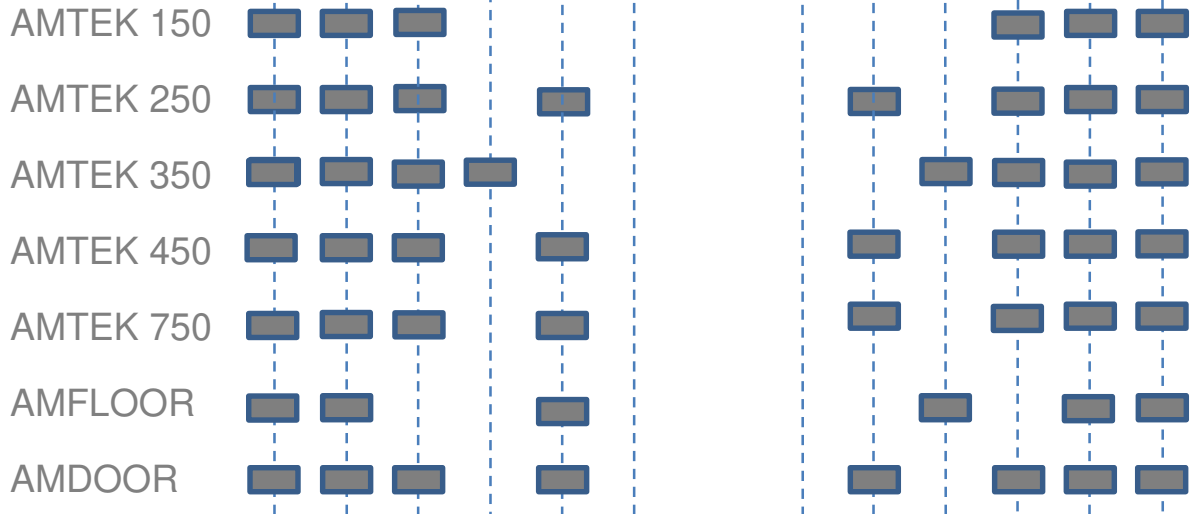
Please check the value of the capacitors when exchanging the board as some systems with older boards may have different capacitor values.

⚠️ **All our antennas are pre-matched. If changing the matching is required, ensure that the matching voltage does not exceed 1,200V (GND to Peak). To measure the voltage the antenna loops need to be connected. The infoNet V5 will show if the matching results in too high Voltage.**

Oscilloscope setting
V =500V
T= 20ms

Board Ground (GND)
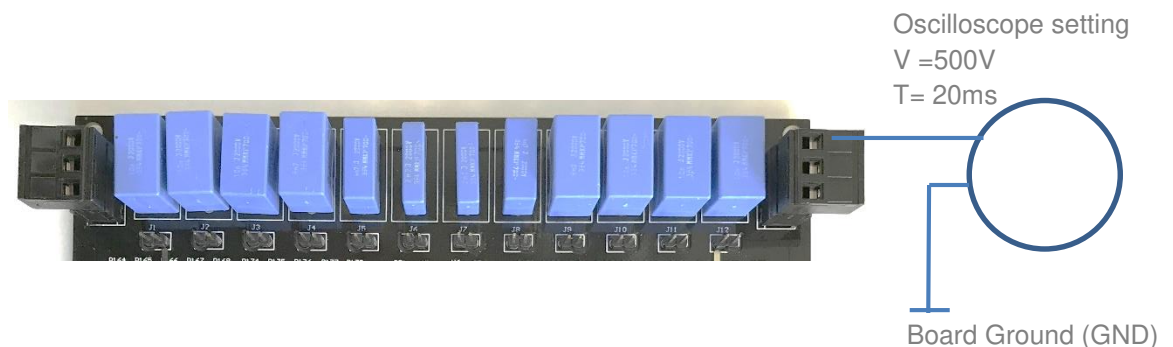
4.3. RX Matching Circuit

All our antennas are pre-tuned in the factory and RX antenna matching WILL NOT HAVE TO BE ADJUSTED in almost any case. When installing the system near metallic frames or metallic doors, resonance value may be affected.

The amplitude of the received RX signals is highly correlated to the matching of the RX board. Hence, when tuning the RX board's matching circuit, the signals displayed in the **info****Net** Software are important for the optimal tuning.

RX Matching:
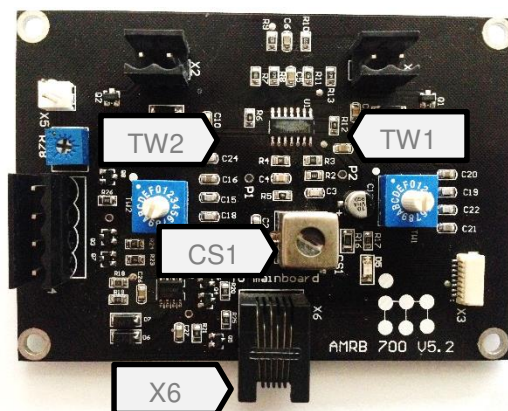
Set S3 and S4 to the default values according to your system:

Default setting of TW2 and TW1r different AMTEK systems

AMTEK…	TW2	TW1
250, 200	4	4
350	1	1
750	0	0

Depending on the tolerance of the system components and environment, the default value might not be suited for optimum performance.
If you have to tune the inductor CS1 please do it carefully with a non-metal screw driver, otherwise you might damage the ferrite core.
For detailed description of the RX tuning refer to the **info****Net** Manual.
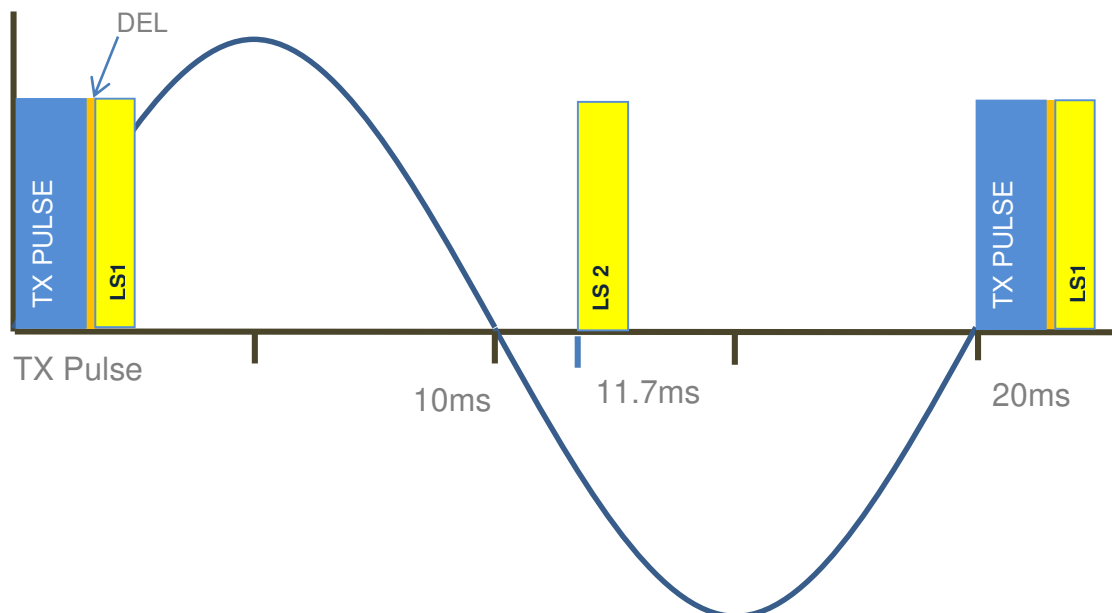
5. SYNCHRONIZATION

5.1. AM operating principle

The AMTEK AM systems operate on the pulse-listening principle. Using the zero crossing of the 50Hz mains frequency as a trigger, a short TX pulse of 58kHz signal is transmitted and a receiver window is 'opened' after the TX pulse has stopped.
If a tag was present within detection range during the TX pulse, the resonance of this tag will be detected in the Signal (Receiver) window and an alarm will be triggered.
A noise reference window is opened to detect the environmental noise. This signal is compared with the signal received in the Signal window and allows the software to properly distinguish a tag signal from a noise signal.

The figure below shows the AM operating principle (at 50Hz, with a default delay of 10µs) during one 50Hz cycle

TX Pulse   1.6ms or 1.5ms (setting via **InfoNet**)

LS1   Signal window 1400µs

LS2   Reference window 1400µs

DEL   Detect delay 100µs

The LS2 can be shifted individually via infoNet V5 or higher

5.2. Synchronization principle

When multiple AM systems are installed in each other's vicinity, it's very important to properly synchronize the TX pulses and receiver windows for all systems involved. If systems are not properly synchronized they will create false alarms and poor detection. Keep in mind that AM signals, when compared to other EAS technologies, can "travel" quite far (up to 100m or more) because of their longer wavelength.

Two AM systems that are properly synchronized
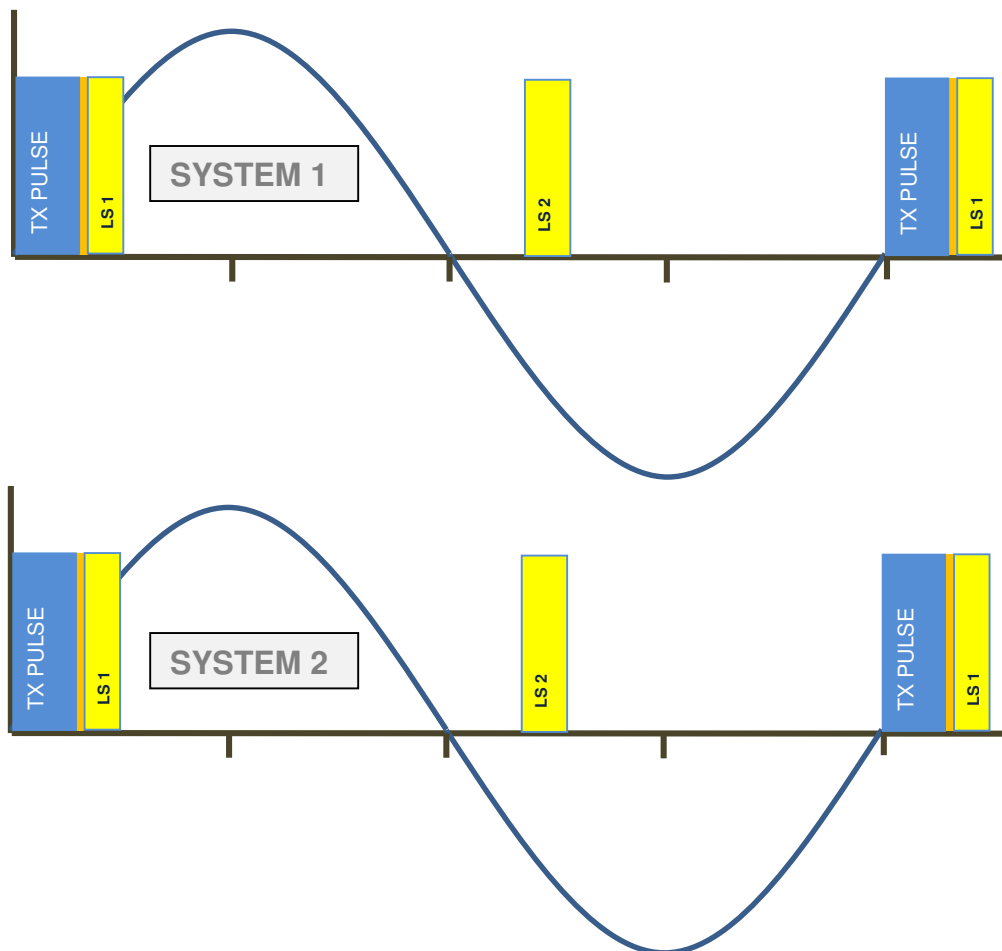
If two or more AMTEK Processor antenna are connected to the same main power phase they would not need to be synchronized by either hardware or software.

Two AM Processor antennas that are NOT synchronized

The TX pulse of system 2 starts later than the TX pulse of system 1, resulting in the fact that system 1 is receiving the TX pulse of system 2 in its receiver window. This might create false alarms and poor detection on system 1, whereas system 2 will function properly as the TX pulse of system 1 is not affecting the receiver window of system 2. This problem can be solved by making sure that both systems transmit and receive at the same moment, which can be realized by changing the "**Syncron**" value time for one of the two systems using **InfoNet** software.
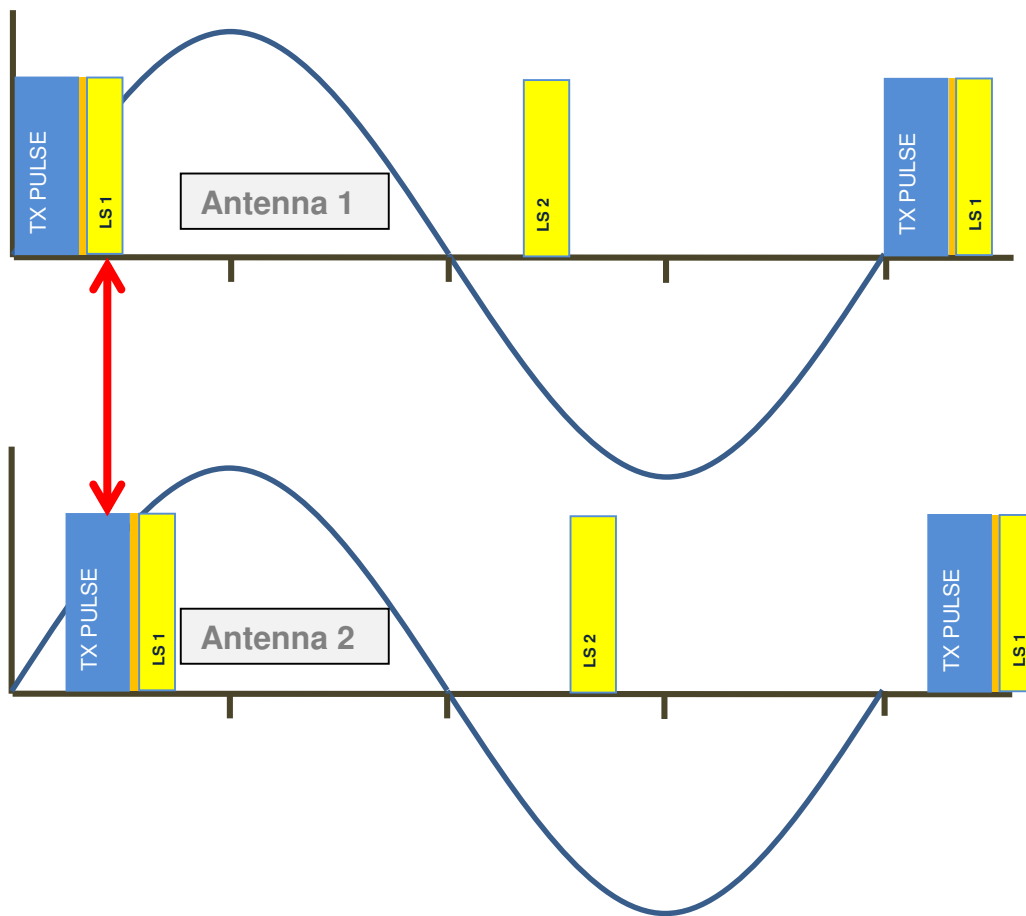
Please note that any TX pulse should also not fall into to the Reference window LS 2 as it would push up the noise level of the system dramatically. The system may not alarm but the performance will be affected.

5.3. Hardware Synchronization (No HW Sync for V 7.4)

Synchronization can be done via software or hardware. The necessary settings for hardware synchronization are described below. A description of the software-based synchronization is included in the **info**Net Manual.
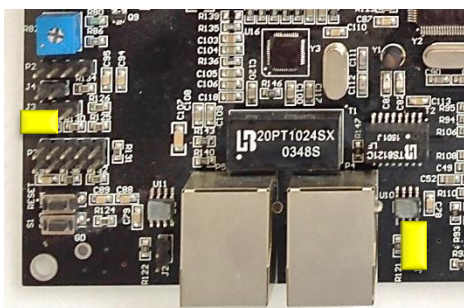
Hardware synchronization allows a number of AMTEK Processor antennas to be synchronized with another AM system/Processor antenna nearby by synchronizing only the AMTEK "Master antenna". The "Slave antennas" will automatically follow the "Master" synchronization.

The LAN ports (LAN1 and LAN2) can be used for connection to the shop LAN and at the same time for hardware synchronization.

1.) One Processor board has to be set as Master and the other(s) as Slave.

2.) The hardware synchronization ports (LAN 1 or LAN 2) must be connected with a shielded LAN cable.

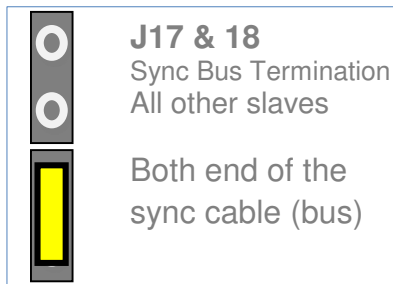The picture below illustrates the connection and the necessary settings for Master or Slave operation.

Master Processor antenna   **Slave Processor antenna**

Shielded LAN cable

J17 & 18
Sync Bus Termination
All other slaves

Both end of the
sync cable (bus)
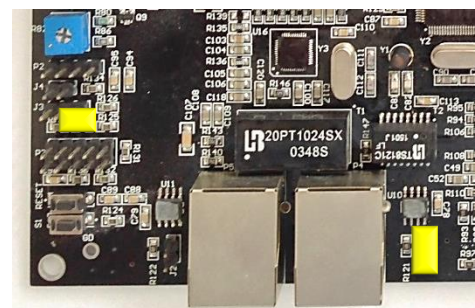
One "Master" can drive several "Slaves". In order to proper terminate the Master/Slave Sync bus-cable, the Jumper J17 or 18 has to be inserted at the beginning of the sync bus-cable (usually Master antenna) and the end of the bus-cable (last Slave board).

1   2   3   **J15**
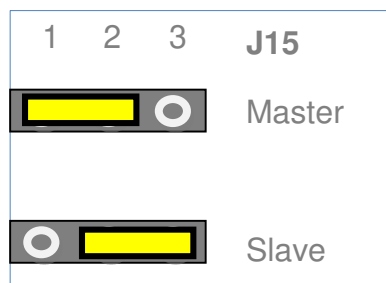
Master

Slave

To set to Master mode (the default mode), put the jumper J15 in position 2 and 3. For the antenna to operate in Slave mode put the jumper in position 1 and 2.
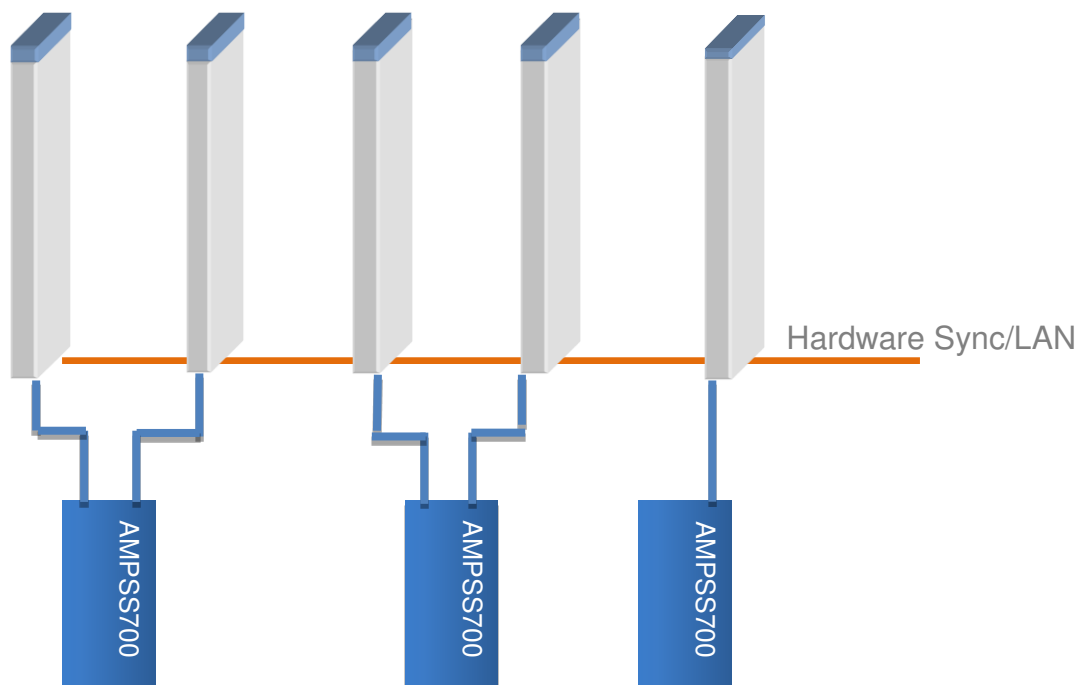
When using hardware synchronization, you must set the synchron value to 0 for all "Slave Processor" boards by means of the **info**Net software (see **info**NetManual). Shifting the Synchron value for the master Processor will automatically shift the Synchron value of all connected slave antennas.

Please do not turn on the power before the configuration is ready. First switch on the power supply for the "Slave" antenna and then the power supply to the "Master" antenna.

One master can drive several slaves. The way of connection is illustrated below.
Please note the sync cable (bus) has to be terminated to avoid interference.
As such the first board of the sync bus, usually the Master board and the last Slave on
the bus have to be terminated by inserting Jumper J17.

| Master | Slave 1 | Other Slaves | | Last Slave |

Shop-LAN
(if required)
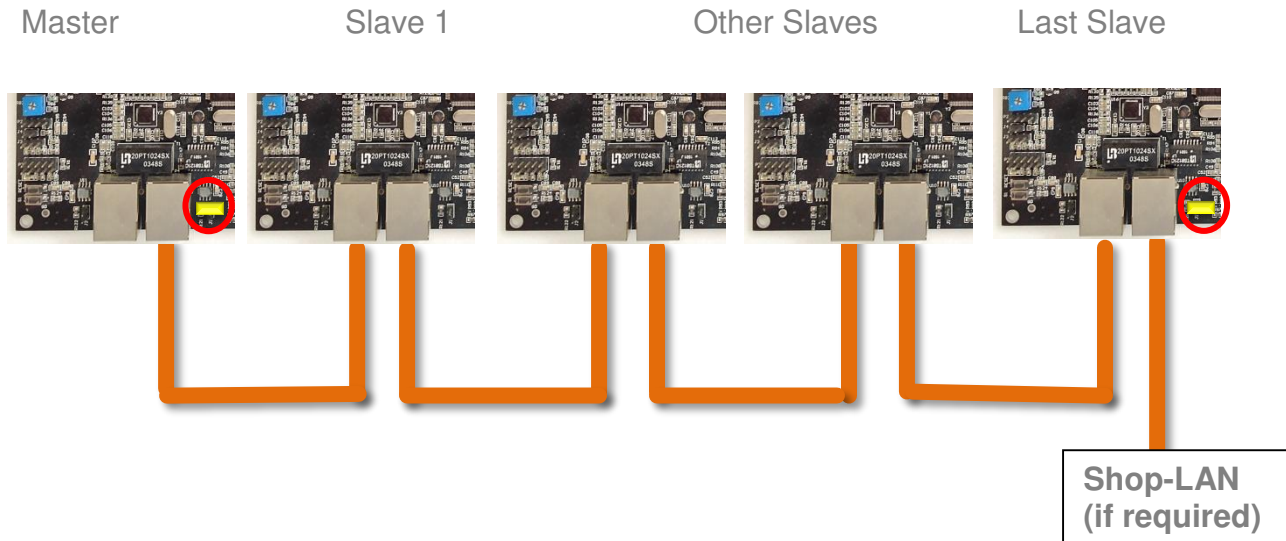
Installation of 5 Processor Antennas

Hardware Sync/LAN

AMPSS700   AMPSS700   AMPSS700

The new Dual power supply AMPSS 700V6 50VDC allows the connection of two
Processor antennas.
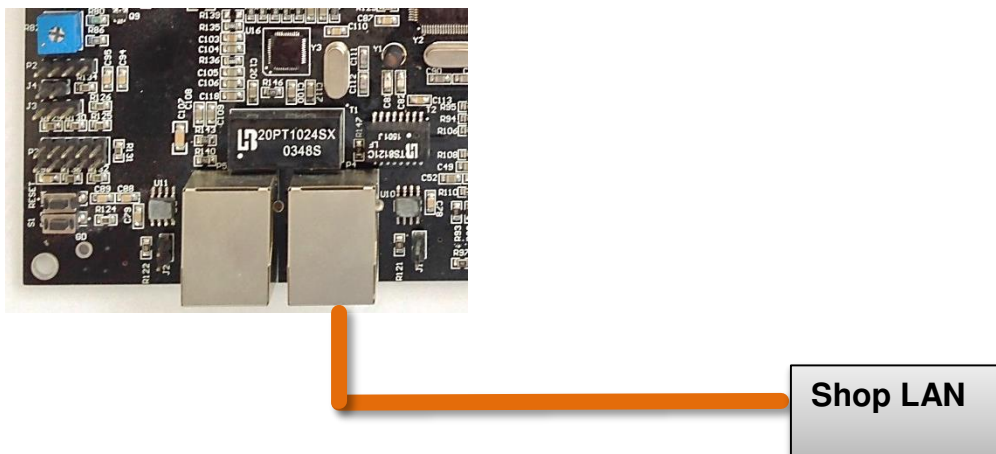
6.   LAN CONNECTION

The Pro-Line Processor board V7.4 can be connected directly to the shop LAN via a standard LAN cable. Usually no setting of the shop router is required.
If the board is connected to the LAN, the following features will be available via **info**Net Cloud
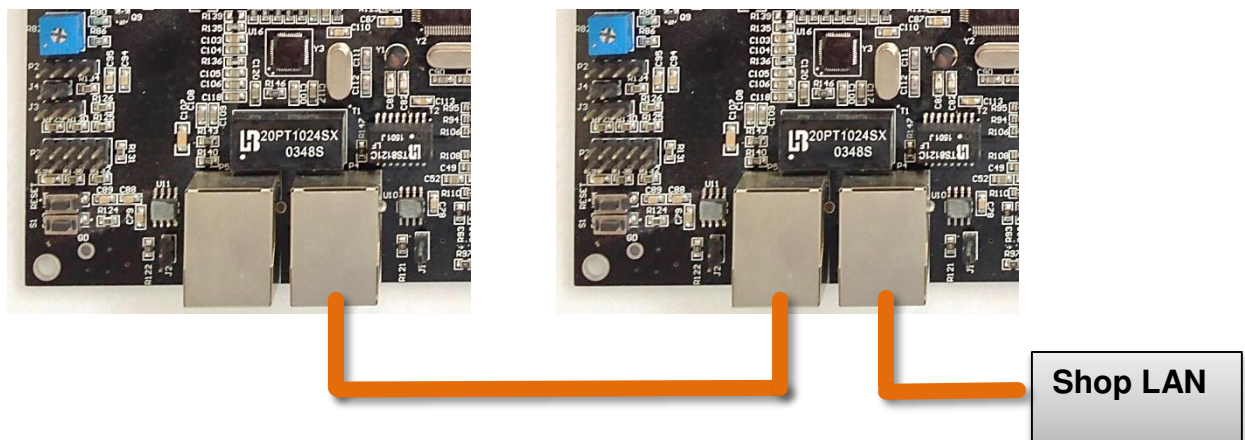
a.) Remote service
b.) Remote monitoring
c.) Visitor counter analysis (if equipped with integrated visitor counter module)

For more set-up information please refer to the **info**Net V5 software manual

Connection of 1 Processor Antenna

Shop LAN

Connection of 2 or more Processor Antennas

Shop LAN

7. REGULATORY COMPLIANCE $C\epsilon$

This equipment complies with European Community regulatory rules for Radio Frequency emissions. It has been awarded with the CE mark.

The CE mark is the official marking required by the European Community for all Electric and Electronic equipment that will be sold or put into service for the first time, anywhere in the European community. It proves to the buyer and user that this product meets all essential safety and environmental requirements as they are defined in the "European Directives".