

TAKAYA EAS SYSTEM

User's Manual

Test Item	Anti-Theft Gate
Model	TS-A1-FCC
Date	2014/9/5
Ref	TDR-MNL-TS-A1-FCC-100
Rev	1.00



Table of contents

1	Regulations and Standards	3
1.1	FCC	3
1.2	FCC NOTICE	3
1.3	FCC WARNING	3
1.4	WASTE	3
2	INTRODUCTION	4
3	Safety Precautions	5
4	General Specifications	6
4.1	NAMES OF EACH PART	6
4.2	PRODUCT SPECIFICATIONS	7
4.3	ANCHOR BOLTS	7
4.4	EXTERIOR DIMENSION	8
4.5	BOTTOM BASE	9
5	Revised history	10

1 Regulations and Standards

1.1 FCC

This product is conformed to the FCC standards.

FCC Rules (Federal Communications Commission)

This product complies with Part 15 Subpart B and C of the FCC Rules.

FCC ID : MK4TS-A1-FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

1.2 FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

1.3 FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1.4 Waste

EU RoHS Supported.

Dispose of the Products as industrial waste.

2 INTRODUCTION

Introduction to Radio Frequency Electronic Article Surveillance (RF-EAS)

The TAKAYA EAS system is composed of sensing pedestals, some that transmit a frequency signal and others that receive the signal. When a RF tag passes between the transmitter and receiver, an alarm sounds. This alerts store personnel that store items are leaving the premises with a live RF tag. Often, the very presence of the pedestals will be enough to deter a potential shoplifter.

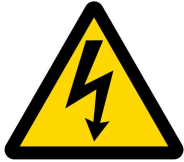
Merchandise in the store is tagged with hard tags or labels. During a normal transaction, the cashier will pass the merchandise over a deactivation Pad or scanner integrated with deactivation electronics. This deactivation field turns off the signal contained in the tag. Customers may now exit the store without causing the system to alarm. For those stores using hard tags to protect clothing or other soft goods, the tag is removed at the point of sale so that the customer may exit the store without alarming the system.

TAKAYA EAS system minimizes the opportunity for shoplifters to successfully steal merchandise. In addition to the physical deterrence the sensing pedestals provide, hard tags and labels offer hidden protection. Because TAKAYA EAS offers such a wide variety of tags, shoppers are often unaware that merchandise is protected against shoplifting. This way, shoplifters cannot leave the store premises with merchandise that has not been properly paid for. In conclusion, the TAKAYA EAS provide:

- Deterrence - the pedestals' presence discourages shoplifting attempts by customers, vendors, and employees
- Protection - provided by the various tags, and program
- Detection - reinforces the risk of shoplifting while searching for non-deactivated/non-detuned "live" disposable tags or non-removed hard tags

3 Safety Precautions

The following symbols are used in this manual to indicate precautions that must be observed to ensure safe use of this product. The precautions provided here contain important safety information. Be sure to observe these precautions.



DANGER

Decomposition of this product and cable, repair, remodeling, please strictly prohibited. There is the possibility of fire or electric shock injuries.



CAUTION

Installation and storage environment

1. Do not use the Products in sunlight.
2. Do not use the Products in environment of spray of water, oil or chemicals.
3. Do not use the Products in environments with flammable, explosive, or corrosive gasses.
4. Do not use the Products in environment of hot humid.
5. Do not use the Products in environment of vibration or shock.
6. Do not use the Products in environment of condensation.
7. Do not use the Products in environment of around the metal is covered.
8. Do not use the Products in environment of high temperature.
9. Do not use the Products in environment that has a device that generates magnetic field and shock voltage.
10. Do not use the Products in unstable place.
11. If there is failure, discontinue use immediately, please contact us or the distributor.

Installation

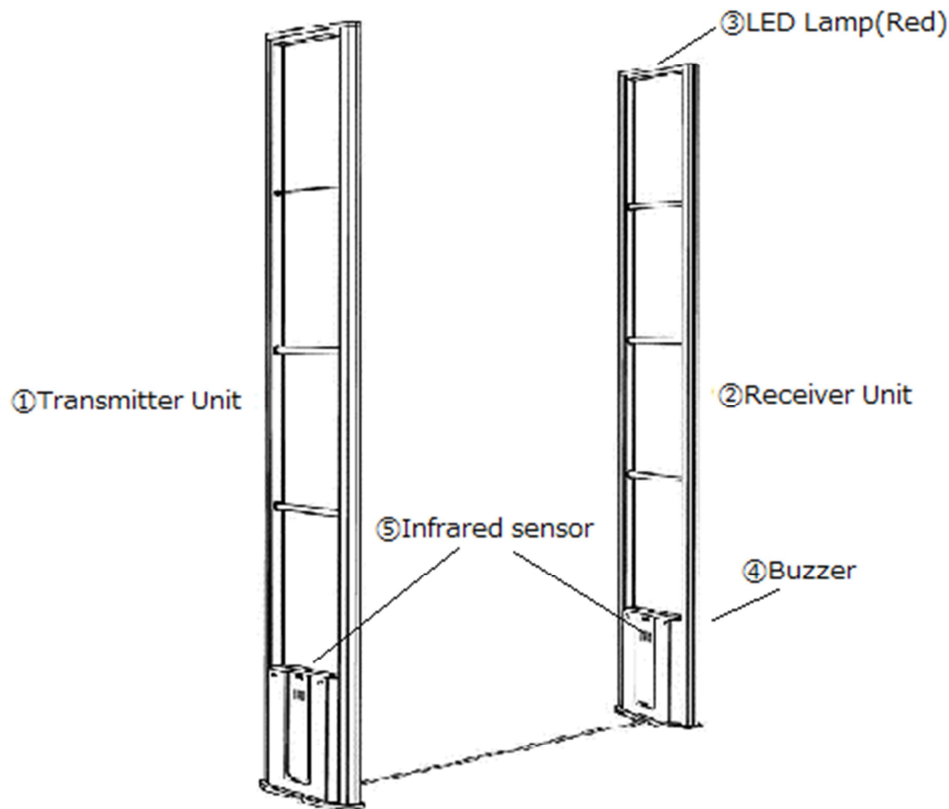
1. Turn off the power before installation or removing.
2. The following effects may not work correctly.
 - Near noise source
 - Near speakers , Inverter, motor and Plasma Display
3. The communication range may vary due to environment and conditions.
4. The electronics is sensitive to electrostatic discharges, so please discharge yourself by touching the ground, shield box or the antenna before touching the components on the boards.
5. Always power on the master system first and then the slave system(s).
6. Keep the power supply unit away from water and steam.
7. Suitable for mounting on concrete or other non-combustible surface only.

Cable

1. Cables shall be use of UL and EU RoHS supported product.
2. Power connection and disconnection shall be turn off power supply.
3. When you peel the coating of the electric wire, please peel it to designated length.
4. Please consider it so that a cable does not tension.
5. Wireways shall be smooth and free from sharp edges.

4 General Specifications

4.1 Names of each part



No.	Product Name	Functional Descriptions
①	Transmitter Unit TS-A1	-Transmits radio frequencies (8.2MHz) for detecting RF tag. -Consists of antenna and PCB -Possible to In/output slave signals required to several pedestals.
②	Receiver Unit TS-A1	-Receives radio frequencies (8.2MHz) for detecting RF tag. -Consists of antenna, PCB, LED Lamp and buzzer in this unit. -Possible to output relay signal when a tag signal is detected.
③	LED Lamp	-Lights when a tag signal is detected.
④	Buzzer	-Alarms when a tag signal is detected. (possible to integrate with infrared sensor signal)
⑤	Infrared Sensor (optional)	-Responds when people get through the aisle between two pedestals. - Possible to activate an alarm when the sensor is ON

4.2 Product Specifications

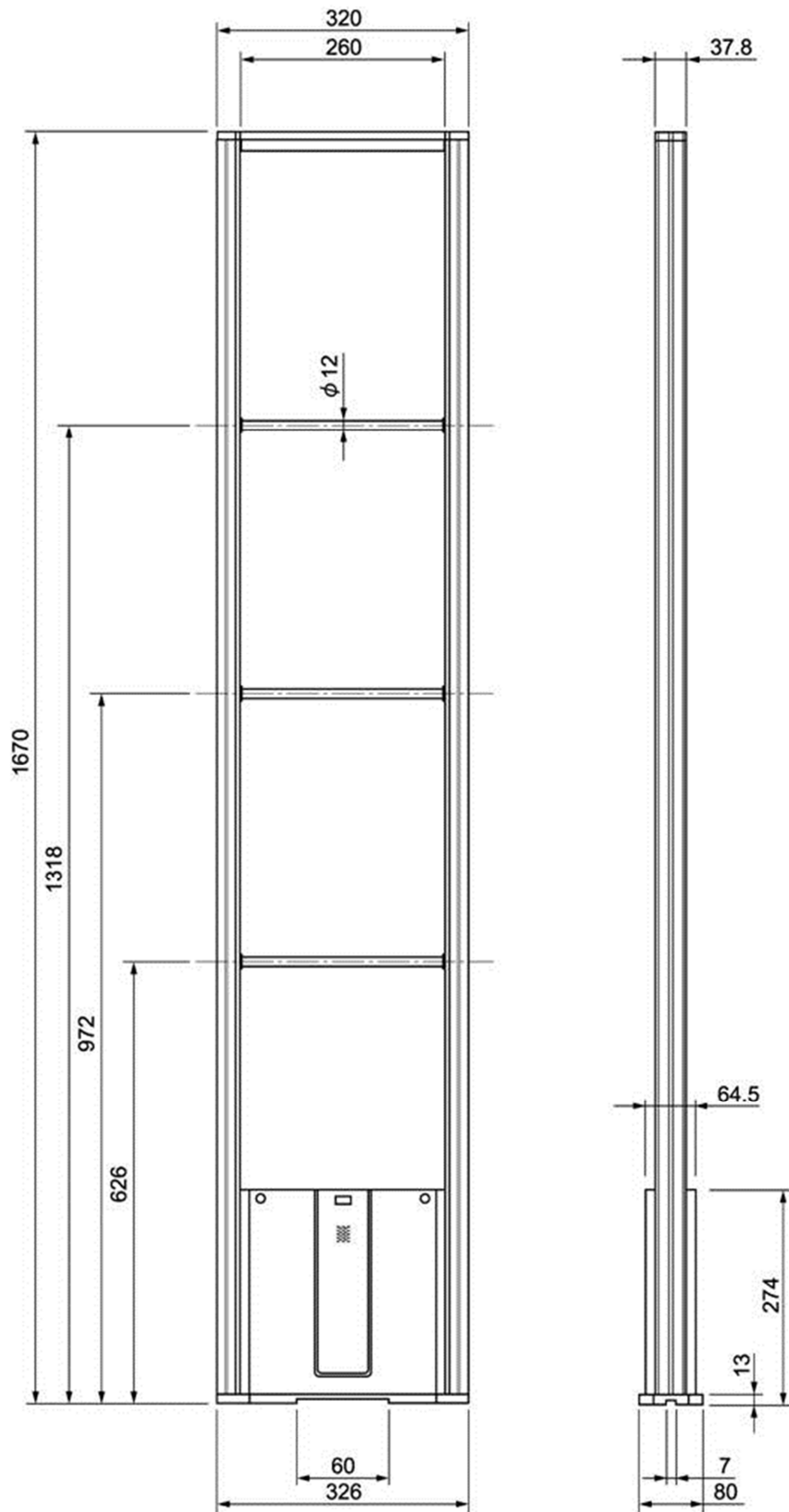
Item	Descriptions
Detection Frequency	8.2MHz $\pm$ 500kHz
Sync. frequency	Sine wave 122.1Hz(standard) Possible to change until 116~125Hz in every 3Hz step
Detection range	1200~2,400(mm) / one side The detection range is changeable depending on a tag used, tag frequency and installation situation.
Antenna	2Loop, 3Loop
Operating temperature	10~40 (°C)
Operating Humidity	30~85(%RH) (No condensation)
Power(Voltage)	DC+16 (V) $\pm$ 10 (%)
Current Consumption	TS-A1-TX : Less than 1.0 (A) TS-A1-RX : Less than 0.5 (A)
Power Consumption	TS-A1-TX : Less than 19.2 (W) TS-A1-RX : Less than 8 (W)
Dimension of Main parts	326(W) $\times$ 80(D) $\times$ 1,670(H)(mm)
Weight	4.9(kg) (without packing materials)
color	Silver/Black(Bottom cover)
Material	Aluminum、Plastic(Bottom cover)
Packing Box (1unit per 1pack)	Dimension : 40(W) $\times$ 110(D) $\times$ 1,730(H)(mm) Weight : 2.0 (kg)
Terminals	<u>TS-A1-TX</u> Input/output power $\times$ 2 Infrared sensor power $\times$ 1 Slave Input $\times$ 1 Slave Output $\times$ 1 <u>TS-A1-RX</u> Input/output power $\times$ 2 Infrared sensor power $\times$ 1 Infrared sensor input $\times$ 2 Alarm output(buzzer) $\times$ 1 (Relay) $\times$ 1 Lamp light output $\times$ 2

4.3 Anchor bolts

Item	Descriptions
Dimension	M8 $\times$ 70 (mm)
Maximum tensile load	705 (kgf)
Shear loads	1,030 (kgf)

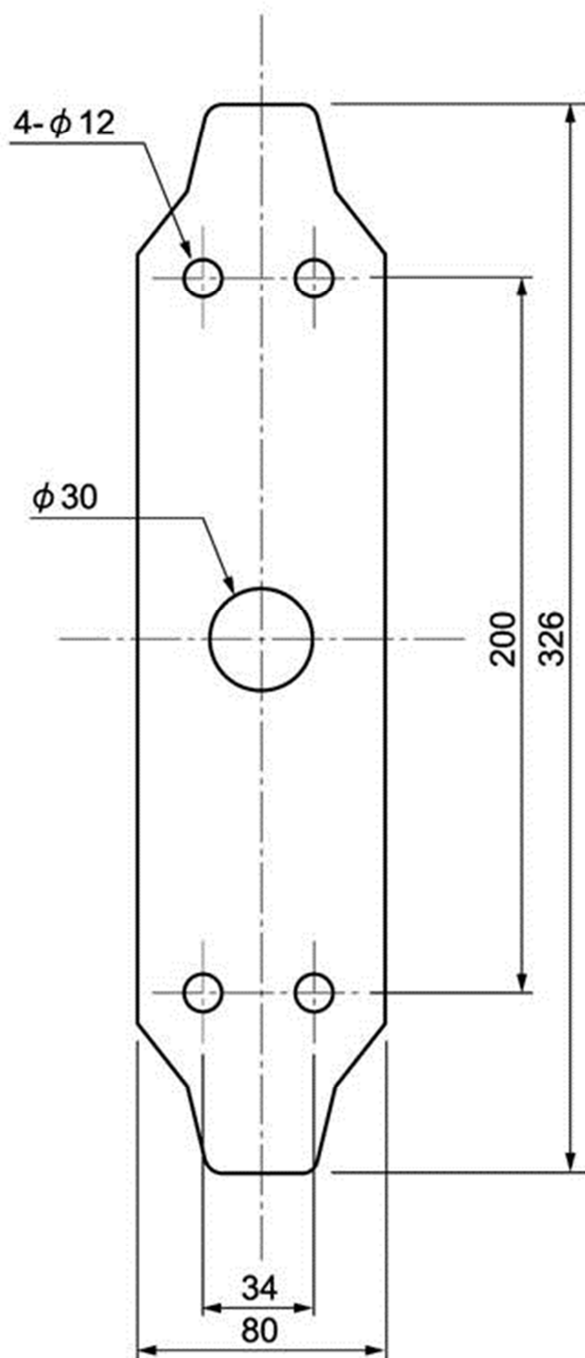
Note: When concrete strength 210(kgf/cm²) and embedded depth 35(mm)

4.4 Exterior dimension



Unit : mm

4.5 Bottom base



Unit : mm

5 Revised history

Ver No	Date	Remarks
1.00	2014/9/5	new

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