A. Summary.

EG6000 detecting system is a 58 KHz AM detecting system. It is an integrated 58 KHz tags/labels detecting system composed by controller (controlling box) and four antennae. There is keyboard regulation and display setting in the front of the controller, and in behind are the power input port and the connecting output ports of the four antennae, each antenna has a sound-light in-phase alarm indication independently. This system is mostly used in cloth stores and retail stores and other open-shelf stores.

B. Electric Description

1. Environment

Working temperature: 0℃~40℃

Storage temperature: －40℃~60℃

Relative temperature: 5%~95% (Non-condensing)

2. Power supply

AC voltage: 100~120VAC@60Hz or 220~240VAC@50Hz

Power Insurance: 3A, 250V

Current maximum: 1.5A

Power consumption: <150W

Remark: the power wires must be grounding wires to insure reliable grounding.

3. Transmitting

Output: four (connect four antennae at most.)

Working frequency: 58KHz±200Hz

Transmitting pulse width: 1.6ms

Repeated transmitting frequency of single antenna normal working: 19Hz (50HZ in-phase) 22.5Hz (60HZ in-phase)

Repeated transmitting frequency of single antenna tags/labels checking: 75Hz (50HZ in-phase) 90Hz (60HZ in-phase)

Ordinal transmitting frequency of four antennae normal working: 75Hz (50HZ in-phase) 90Hz (60HZ in-phase)

4. Receiving

Input: four (share with the transmitting ports)

Working frequency: 58KHz±200Hz

Receiving time width: 1.6ms

5. Alarm

Detecting antennae own the independent sound-light in-phase alarm function.

Sound-light alarm voltage: 12VDC

Sound-light alarm current: 500mA

Alarm time regulation: 2s~6s

6. Maximum detecting distance (the response in the alarm area is showed in picture 1)

Super tag: 1.2m (each side) DR label: 0.9m (each side)

C. Setting and Regulation

Preparation: open controlling box and regulate the JM2 on the mainboard to a proper position according to the local power net situation (120V/220V).

The system needs reheating after the setting first, and then you could start regulating.

1. The setting modes of the controller and the antenna seats (showed in picture 2):

(1) The connecting of the controller antennae (showed in picture 4)

In the back-end center of the controller there are four groups of same connecting areas and they could connect four antennae at the same time at most. Each of the areas has five connecting plugs and two connecting ports. To the five plugs connect them in terms of the order of green, brown, black (outer shield), yellow and blue. The two connecting ports are alarm connecting ports and connect them in terms of the order of black and red.

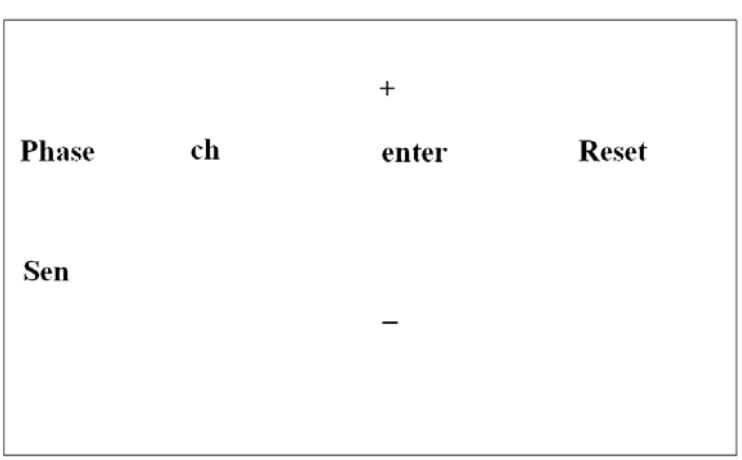
(2) The connecting of the antenna seats（showed in picture 5）

In antenna matching board, P4 and P5 ports are antennae up-down ring ports. P8 and P9 are ports connecting controlling box and do connect them in terms of the order of green, brown, blue, yellow and black (outer shield grounding wires), to other two wires connect black one to alarm and connect red one to +12V.

2. Regulation and display of keyboard (showed in picture 3)

（1）Display keystrokes

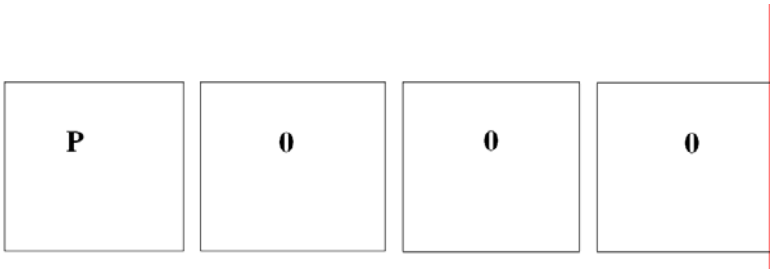
There are 7 keystrokes in the keyboard and their distribution is as follows:



(2) Transmitting pulse phase parameter regulation

That means to set phase regulation parameter to let all the controllers work synchronously or asynchronously without mutual interference when two or more than two controllers are working at the same time.

a. Press Phase to regulate the phase; press + or — to increase or reduce the delay time of AC synchronous signal and every press has 20us delay. At the same time observe the display of digital tube; the regulation range is from 0 to 999;



The first P of the digital tube refers to the phase regulation; and the regulating range of the later three keystrokes is from 0 to 999.

b. When setting a phase regulation value you must press enter to preserve.

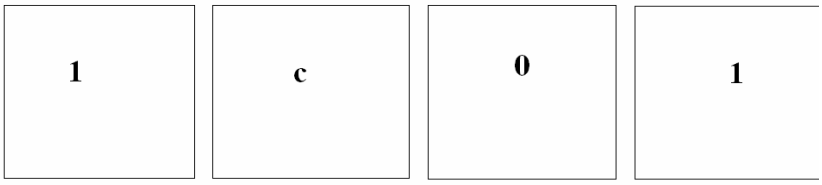
c. Press enter then the system will work under the new parameter status.

d. If the mutual interference still exists after system working you could set new regulation parameters. Just repeat the previous processes until the mutual interference is totally eliminated.

(3) Checking sensitivity regulation (the factory setting is 01.)

Use this function when the system sensitivity cannot satisfy you.

a. Press Sen to regulate its sensitivity.



The first 1 of digital tube means the antennae that need regulating (1~4). The second C means ongoing sensitivity regulation. The third 0 has no meaning. The fourth 1 is the level of sensitivity regulation. The regulating range could be 1~9.

b. Press ch to regulate the antennae.

c. Press + or — to increase or reduce the sensitivity. There are 10 levels for sensitivity regulation. You could observe the digital tube

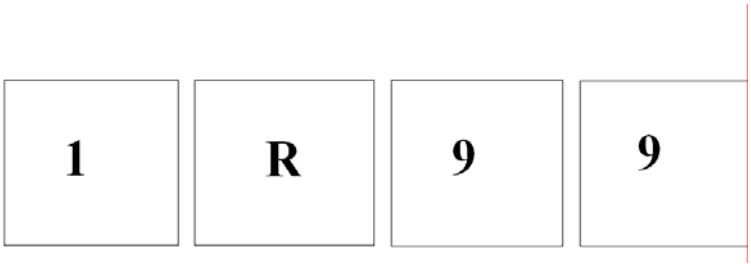
displaying. The regulation range is from 0 to 9. 9 means the highest sensitivity and 1 means the lowest sensitivity.

d. Press enter to preserve the sensitivity value.

e. The system will work according to the new parameters after pressing enter.

(4) The alarm times display of the antennae

a. Press ch to check the alarm times of the antennae. You could check the alarm times of the next antenna each time you press ch.



The first 1 means the antenna you want to check. The second R means the ongoing alarming times display of the antenna. The third and fourth 9 are the displaying alarm times and the range is from 00 to 99.

(5) The static displaying of the system

There are 7 light-emitting diodes (LED) in the panel to display the system static value. The bigger the value the more the lightening LED.

D. Explanation of fault detection

Under the normal using, controllers and detecting antennae could work stably in a long time. The faults caused by components failure are infrequent. Most of the faults are caused by improper use, power outlet contacts badly, AC voltage fluctuates too sharp, the ports of the

connecting cables are loose, interferences coming from surrounding electronic equipments and radio waves and wires and loops and metal baskets or shelves. Analyze the causation of faults carefully and eliminate them one by one. Do not change system setting and parameters optionally before you find the causations. Because all the indexes are regulated on the best working status when they are in the factory, if you regulate them optionally that will make judgement and elimination more difficultly without related equipments.

1. Low sensitivity and too close detecting distance

a. Check if the controllers temperature is too high and check if the cooling fan is rotating, if not replace it.

b. If it’s not any of the above circumstances please check the instructions of environmental interference. Reset the transmitting pulse phase value to minimize the environmental interference. The detailed regulating ways are showed in C2(2).

c. If the problems are still not solved change more sensitive tags/labels.

2. Misreporting

First of all, check if there are tags/labels inside 1.5m around the controllers and the detecting antennae or on the cables and wires.

a. Check the value of the environmental interference, if it’s too large you could change the L and N direction of the plug.

b. Reset the detecting sensitivity of antennae and the detailed ways are showed in C2(3).

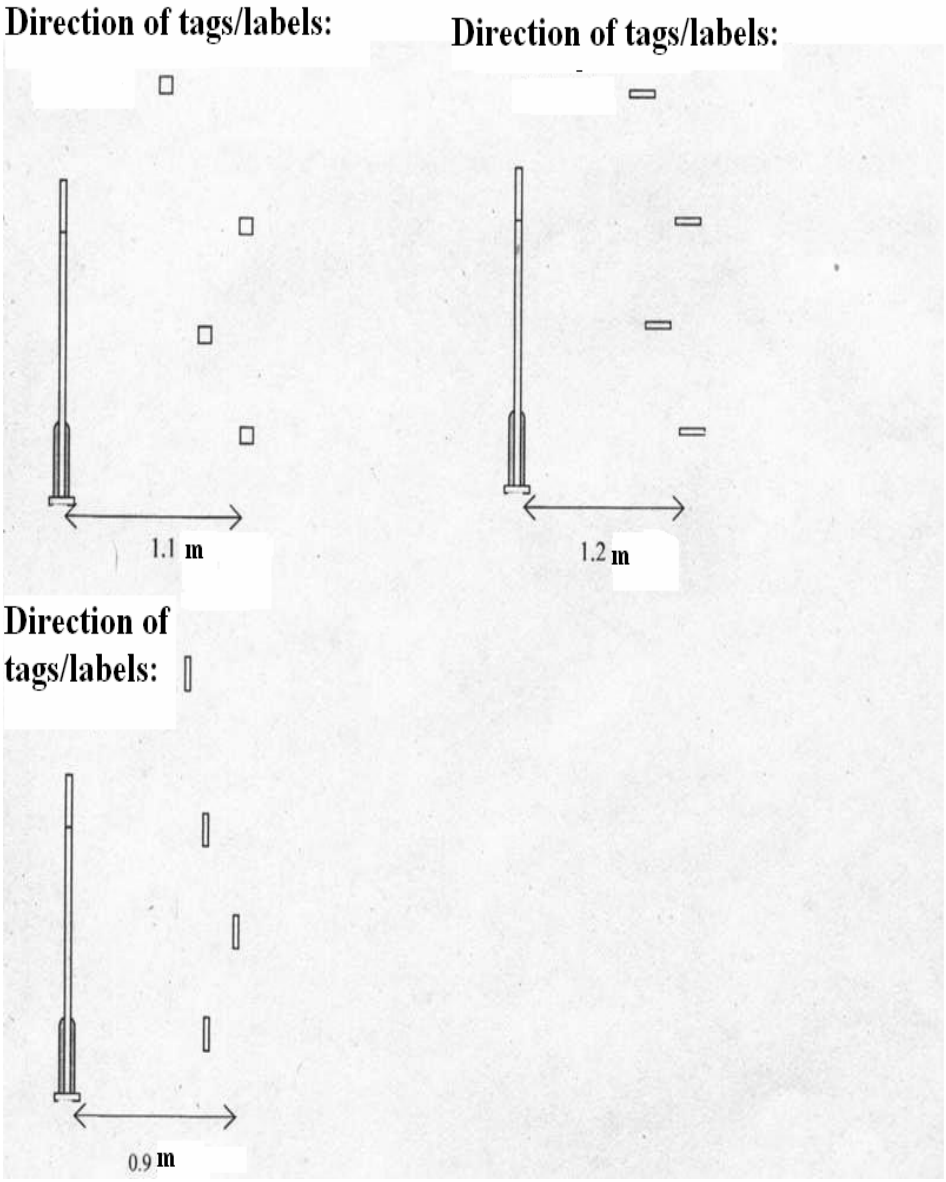
c. If the conditions permit you could change the setting directions and locations of antennae.

3. If two or more controllers are working at the same time in a close environment and the mutual interference happens, you could exchange the directions of the wire L and wire N firstly, if the controllers still cannot work synchronously you should regulate transmitting phase to eliminate the mutual interference.

Note: do observe the system for one hour if you reset the system parameters to make sure that you chose the correct parameters and the system works stably.

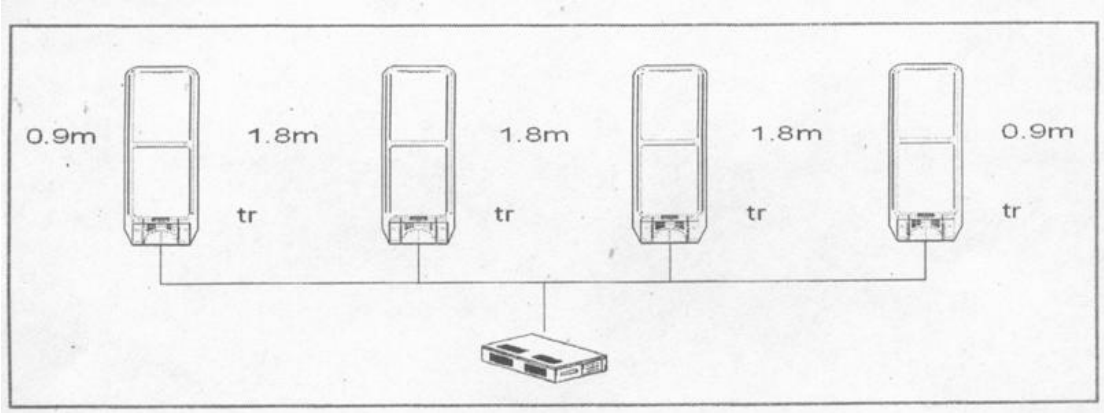
Detecting sensitive area diagram of hard tags

In the detecting system, if the tags or labels are in different detecting areas or the surfaces of them have different direction with the detecting EMF the detecting sensitivities will be different. This is a normal phenomena and it’s not a system fault.

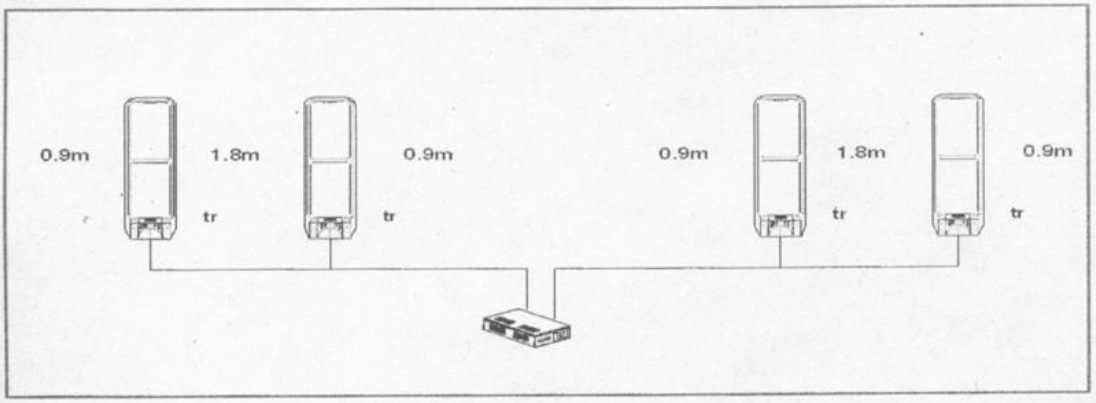


There are three setting modes according to different situations:

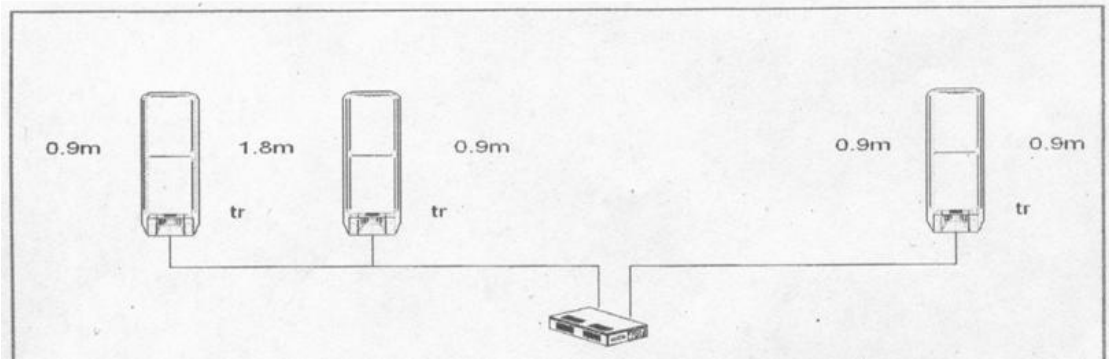
1. Set four antennae in the same door at the same time .(The next pictures show the setting distances for hard tags and you can change them in different situations or in using soft labels.)



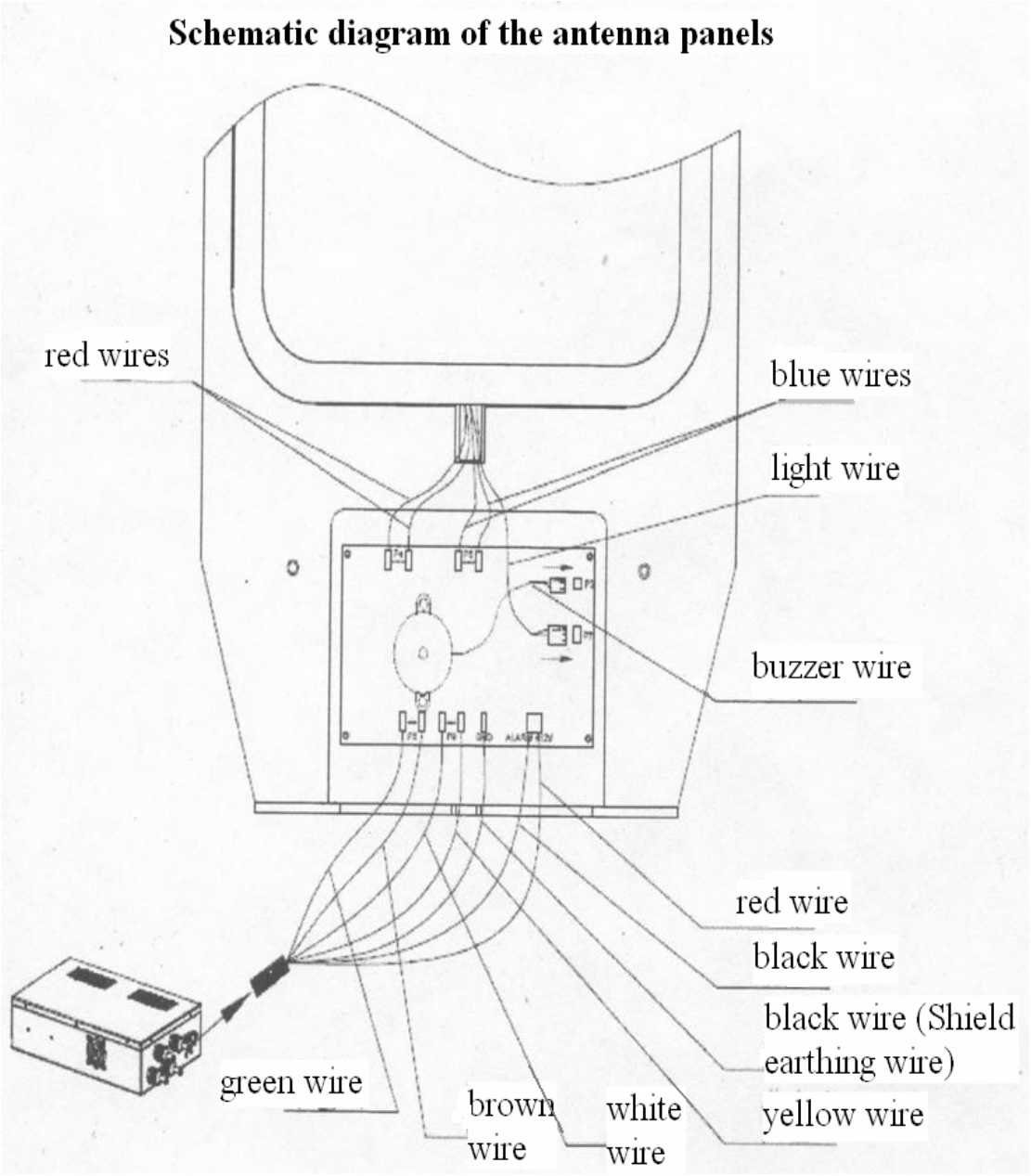
2. Set in two doors that have the same width.



3. Set in two doors that have the different width.



Schematic diagram of the antenna panels



WWW.DRAGON-GUARD.COM