

User Manual of Century RF System Standard Series (CA3000L Mainboard)

Firmware: V2.08, Software: V1.16, Manual version: V1.01



Copyright © 2019 Hangzhou Century Co., Ltd.
All rights reserved.

Revision History

Date	Revision	Description
12/15/2016	1.00	First Release
04/22/2017	1.01	Installation scheme added

Content

1. GENERAL INFORMATION	3
2. OVERVIEW OF SYSTEMS	4
2.1. Appearance & Structure of Antenna	4
2.2. Power Supply Unit	4
2.3. Synchronization	5
2.4. Alarm	5
2.4.1. Alarm and Background Light	5
2.4.2. Relay Output.....	5
2.4.3. PCB Layout and Wire Connection	6
3. HARDWARE ADJUSTMENTS AND TSETS	7
3.1. LED Indicators.....	7
3.2. Oscilloscope Observation and Test Points.....	7
4. SOFTWARE CONFIGURATION	8
5. INSTALLATION GUIDE.....	8
5.1 Recommended Arrangement of Antenna Frame and Door Frame	8
5.2 Preparation before Installation.....	9
6. SERVICE SUPPORT	9

1 . GENERAL INFORMATION



WARNING

The electronics inside antennas are extremely sensitive to electrostatic discharges. Always discharge yourself by touching a ground point before touching any of the electronics to avoid damaging the circuits.



PRECAUTION

The electricity supplied to the systems shall not be shared with other electronic or electric loads, e.g. electronic transformers, neon/spot lights, electrical engines, computers, LCD screens and cash registers, etc.

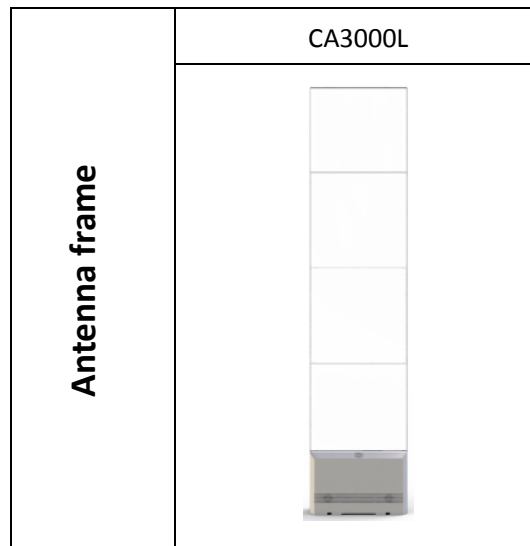


PRECAUTION

“Dead” (not working) antenna(s) close to working antenna(s) will cause serious interference to the working antenna(s). To avoid the interference, RX- and RX+ of the “dead” antenna(s) must be short circuited. The use of the prepared short-circuit connector is shown as below.

2 . OVERVIEW OF SYSTEMS

2.1 . Appearance & Structure of Antenna



2.2. Power Supply Unit

WARNING: One power adapter is preferred to work with one CA3000L mainboard only. If the quality of power source is not good enough, the external filter shall be used (as shown below).



WARNING: Do not tie 24V and 220V cables together, as AC may generate interference to the system.



2.3 . Synchronization

Century Mono RF systems are compatible with other Mono systems. But Dual systems can interfere with all Mono systems (not only Century's). So, Century Mono systems must be kept at least ten (10) meters away from any Dual system. Otherwise, the performance of the Mono systems will be affected.

2.4 . Alarm

When a tag is detected, both audible (buzzer) and visual (LED light) alarms will be triggered. Different alarm-related parameters can be set by Century RFC software (see chapter "Software Configuration").

The buzzer is connected to the BEEP terminal (SOUND+ and SOUND-). Pay attention to the polarity of the buzzer.

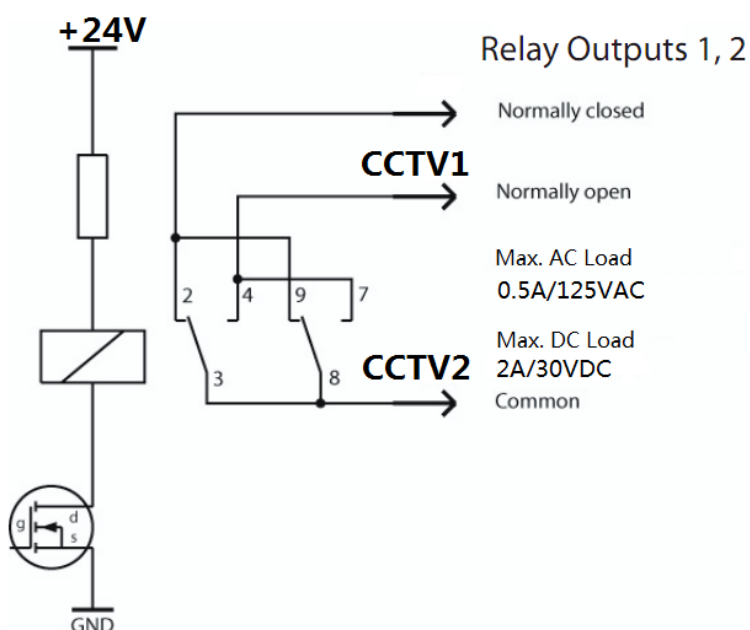
2.4.1 . Alarm and Background Light

The alarm light is connected to LED connector (V+ R G B). The working voltage and current of lamp are 24VDC and 50mA. There are 7 optional alarm colors available, which can be selected by Century RFC software (see chapter "Software Configuration").

The Background light is connected to LED connector (V+ R G B). The working voltage and current of lamp are 24VDC and maximum 600mA. There are 7 optional colors available, which can be selected by Century RFC software (see chapter "Software Configuration").

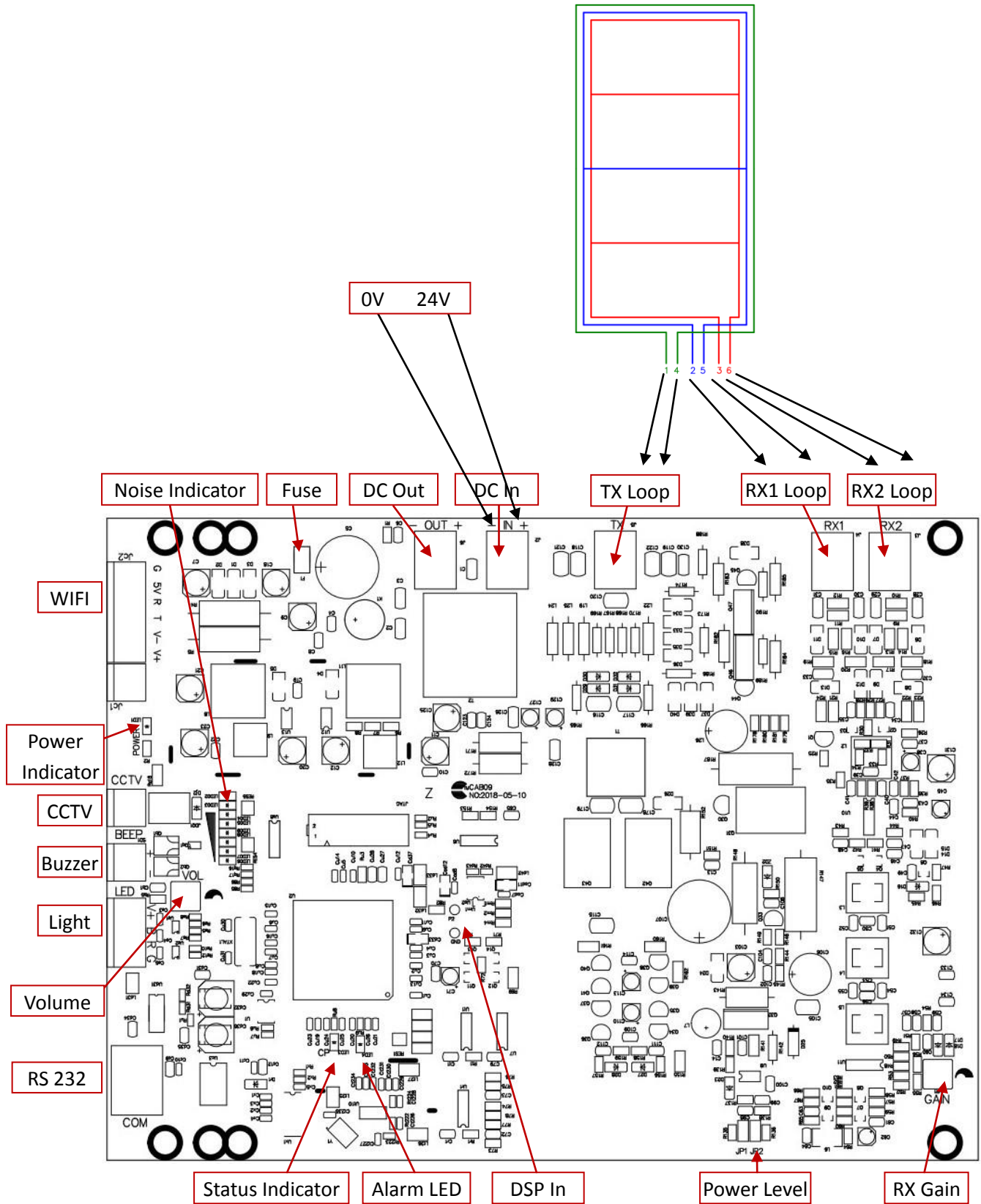
2.4.2 . Relay Output

Mode of control is Normal Open (NC). When an alarm is triggered, the relay will switch to CCTV on. Please be aware that the relay can be used to control many kinds of external device, such as access control systems, although it is marked for CCTV application.



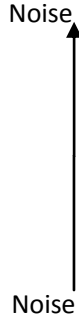
2.4.3 . PCB Layout and Wire Connection

(1&4—0) (2&5—8) (3&6—88)



3. HARDWARE ADJUSTMENTS AND TSETS

3.1 . LED Indicators

LED colour	Name	Description		
RED	LED1	The power is normal		
RED	LED02	Noise Level 7		The higher noise level, the worse performance.
RED	LED03	Noise Level 6		
RED	LED04	Noise Level 5		
RED	LED05	Noise Level 4		
YELLOW	LED09	Noise Level 3		
YELLOW	LED08	Noise Level 2		
GREEN	LED07	Noise Level 1		
GREEN	LED06	Noise Level 0		
RED	LED4	It is ON when the alarm is triggered.		
RED	LED3	It is blinking when the system is running normally.		

3.2 . Oscilloscope Observation and Test Points

After connecting antenna TX test point (TX--Trigger Source) and DSP-IN (P2) on oscilloscope, we can observe the transmit and receive signals (Yellow-TX and Blue-RX windows).

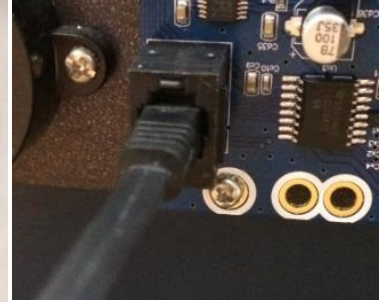
Test Point	Description
GND	Test reference point
P2	DSP-IN
TX	Antenna TX test point(Trigger Source)

4 . SOFTWARE CONFIGURATION

For the software configuration, RFC software is required. And a T-cable is needed for connection between PC and the CA3000L mainboard. A dongle is optional for security purpose based on specific requirement.



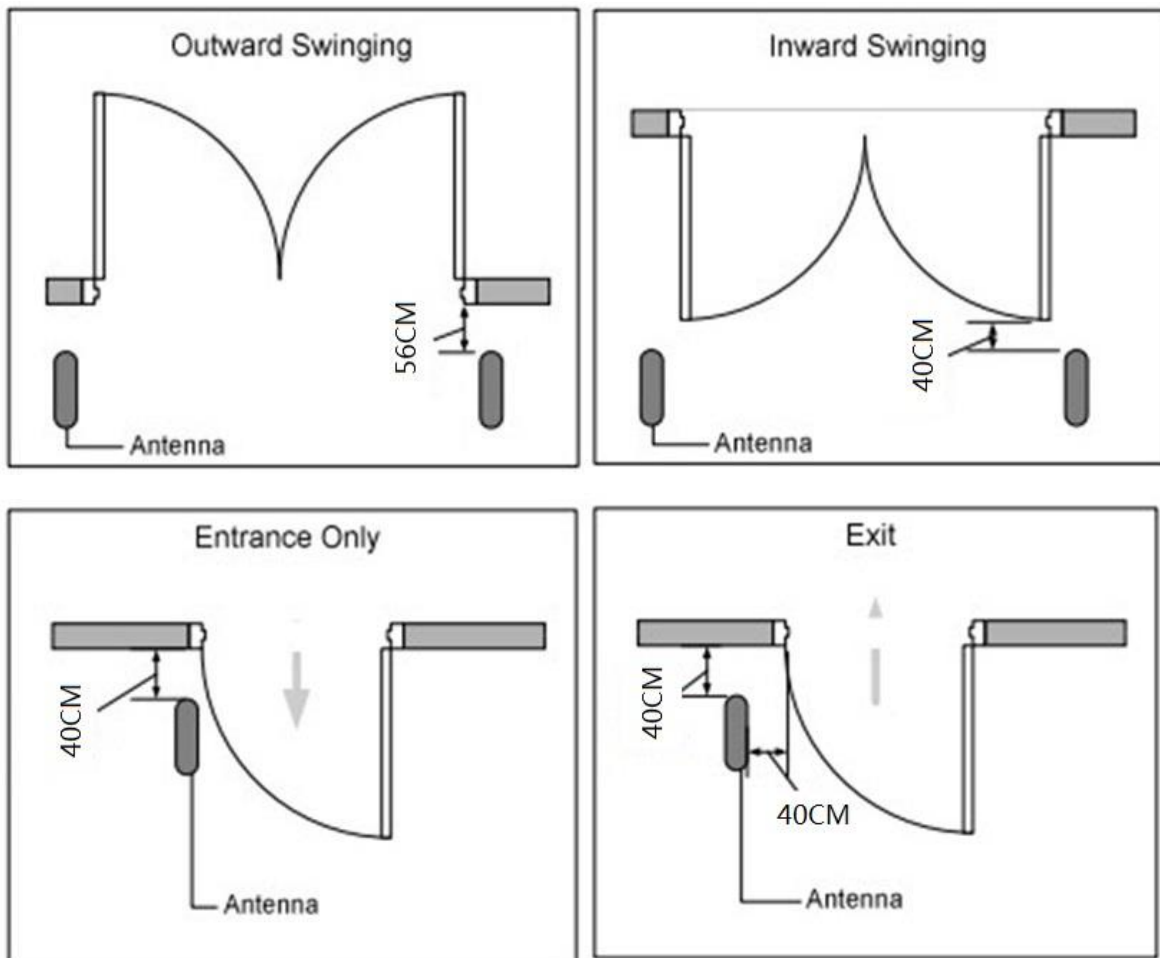
Dongle with license data

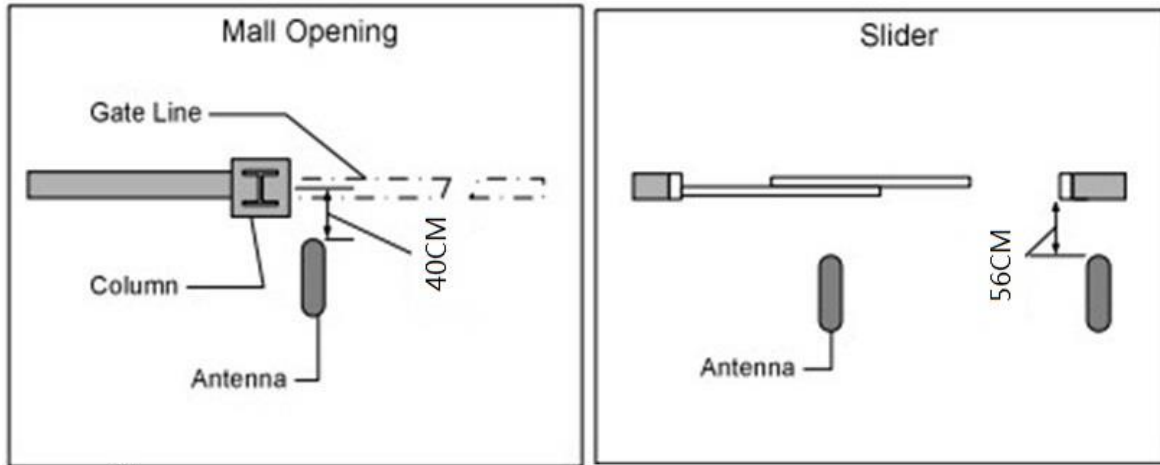


T-Cable and port of connection on CA3000L

5. INSTALLATION GUIDE

5.1 Recommended Arrangement of Antenna Frame and Door Frame





Note: Final design should depend on actual environment.

5.2 Preparation before Installation

1, Installation environment

- (1) Be aware that there is no dual RF system within 10m. If unavoidable, the antenna distance might need to be decreased depends on the site performance test.
- (2) Be aware that the antenna is installed away from metal objects like doorframe as recommended before.
- (3) The antenna's power supply for the system(s) is preferred to be independent.
- (4) Be aware there is no escalator, neon light, spot light, power cable, motor or metal frame.

2, Performance test

- (1) Always do the performance test first, then to drill the floor.
- (2) Put the antenna on the designed location, connect it with the required power source, then test and adjust the performance.

Note: Different orientations of labels will have varied detection distance.

6. SERVICE SUPPORT

If you have any questions or suggestions about the Essential Series of Century AM systems, please do not hesitate to contact our technical support by email technicalsupport@century-cn.com, or our salespersons directly.

FCC Statement:

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

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.

Note: 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.