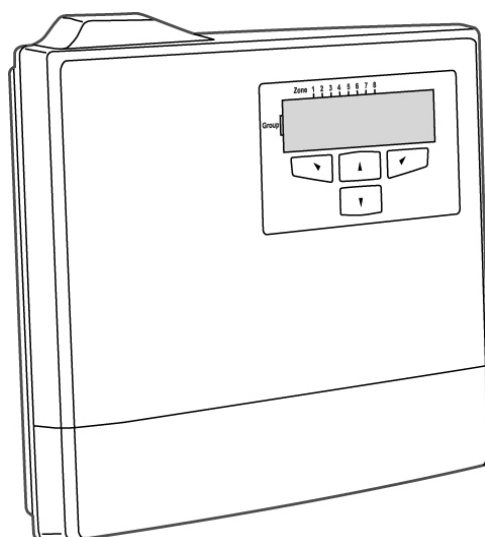




Freeko II

Supervised Wireless Receiver

Installation and Operation Manual

Version 1.3

June 2011

Edition II

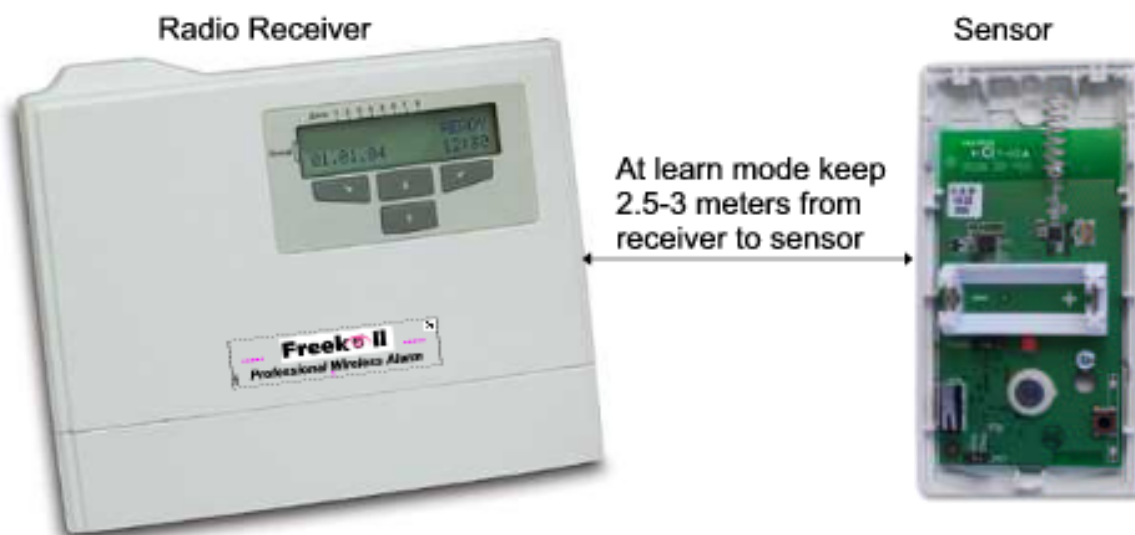
Item: 4776 (A4BKE)



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Picture 1: At Learn mode don't place sensors too close to receiver

Introduction

The Freeko II is a programmable standalone supervised wireless receiver. This receiver is add-on to any system, or interfaced to certain EasyLoader alarm panels and provides flexible and professional solution as wired and wireless alarm panel.

Freeko II is compatible with any wired alarm panel, offers higher security wireless solution, and enables to upgrade current systems or to use the latest wireless in new alarm systems.

The Freeko II contains LCD display for easy programming and status indication, plus four keys on the Freeko main box in order to perform the programming.

The Freeko II is capable to learn up to 64 wireless detectors and 256 Remotes Control, 8 wireleses for every output.

Any pre-programmed wireless detection is converted to the outputs accordingly.

The Freeko II contains 8 Outputs (Dry contact) that can be connected to Zones inputs in wired control panels.

The Freeko II receiver is tampers protected that are activated when opening the service cover or during a tamper alarm from one of the interfaced detectors.

Main Features

- LCD Screen 2 x 16 Characters with internal buzzer
- Keypad with 4 keys for rolling menu control (used for programming)
- Freeko II family: PIR, Magnetic Switch, Smoke Detector, Flood Sensor, Key fob Remote & Siren
- Easy and simple to program
- Learning up to 64 wireless detectors (8 detectors to each output)
- Learning up to 256 Remotes Control with 4 modes: Toggle, Pulse 3 Sec, Pulse 5 Sec, 1 & 2
- Access to Installer mode with a password
- Real Time Clock with internal Lithium back up battery
- Tamper Protected
- Full supervised sensors – Beeps every minute and output activated while supervision missing for more than 12-14 minutes
- Low battery signal - Beeps (receiver sounder) every minute and output activated while one of the detectors sends low battery signal
- Log events of 64-recorded events (FIFO)
- The left button ◀ disables the buzzer when alarm occurred

Programming Procedure:

It's recommended to program the Freeko II on the workbench before the actual installation. During programming keep the sensor 2-3 meters away from the receiver.

1. First set the Clock (unsetting the clock cause an unexpected action).
2. Get in the Installer mode (the password is 111) and change the password.
3. Program all the detectors and remotes that you need for the installation it's recommended to mark the detectors according the zone assigned.
4. Locate the detectors and the Freeko II close to the point you want to install them and perform RSSI (RF Signal Level) test.
5. Final Installation.

WARNING:
Test this product at least once a week.

Index of Indication marks on LCD screen

Icon	Meaning	Description
	Tamper	Tamper transmission from the detector
	Alarm	Alarm transmission from a detector or remote
	Supervision	Missed supervision transmission for more than 12 minutes
	Low Battery	Low Battery in the Detector
 Manu	New Event	New events record in Log event
	Armed	If the STAT terminal is connected to the panel lock sign displayed when system armed.

Entering Numbers

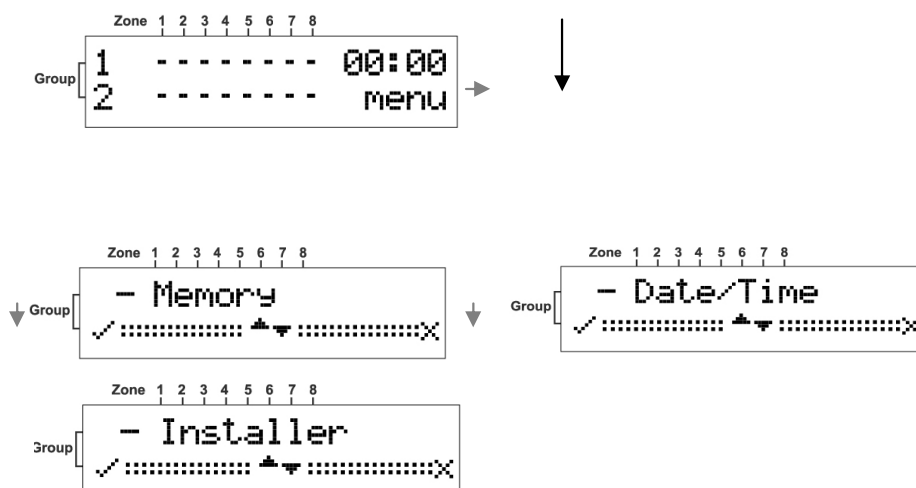
You can use the ▲ and ▼ buttons to enter numbers into the unit.

Button	Description
▲	Enter number from 1-9
▼	Enter number from 1-9

Examples of Number Sequences

Button Sequence	Number
▲▼▲	111
▲▼▼▲▲▲	123
▲▲▲▲▼▲▲	412

Freeko II receiver screens at power up



Note regards the main Tamper Switch: The receiver's Tamper is electronic type, involved with other circuitry in the unit. If the receiver is powering down the TAMP output is activated.

User Programming

In user program mode: Date & Time set and display Memory events.

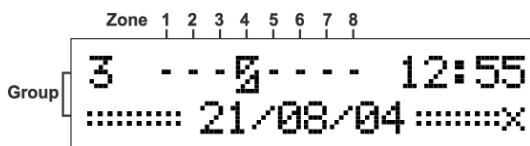
Events Memory

The memory buffer stores up to 64 events; the browsing is done by Up/Down arrows ▲▼.

Event - every activity while the Status Input at "Low" Level and Tamper of detector at all modes.

Every event is displayed with the date and the time.

For Example:



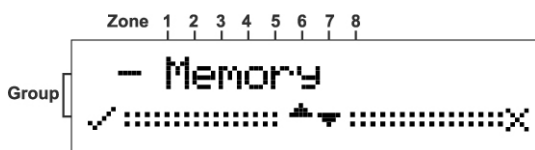
Display show: Detector at Zone 4, group 3 transmitted a tamper at 21/08/04 on 12:55.

Date and Time Settings

Setting the date and the time done by Up/Down arrows ▲▼. The Freeko II have a Real Time clock with back up battery that mean that the date and time is stored even while The power of the Freeko II is off.

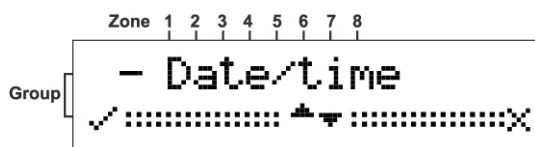
The following sections describe in detail how to set each mode.

1. From the Main menu, press the ► button.

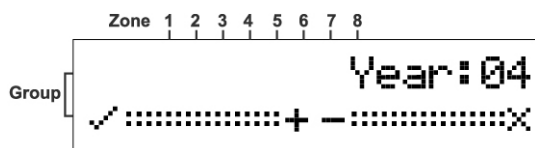


The **Memory** screen is displayed.

2. Press the ▼ button to display the **Date/Time** screen.

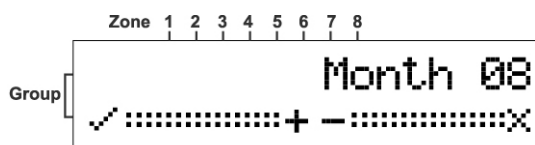


3. Press the ◀ button to confirm.

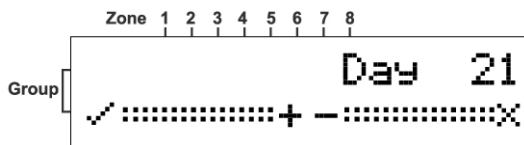


4. Press either the ▲ or ▼ buttons to select the **Year**.

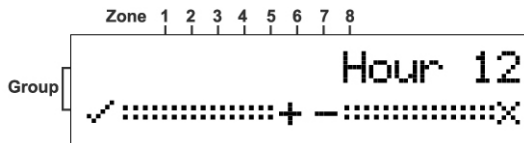
5. Press the ◀ button to set the **Year**.



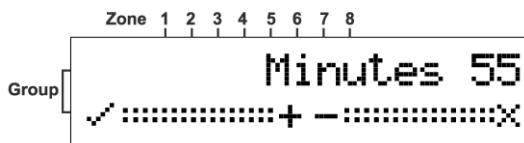
6. Press either the ▲ or ▼ buttons to select the **Month**.
7. Press the ◀ button to set the **Month**.



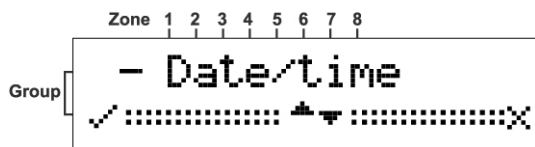
8. Press either the ▲ or ▼ buttons to select the **Day**.
9. Press the ◀ button to set the **Day**.



10. Press either the ▲ or ▼ buttons to select the **Hour**.
11. Press the ◀ button to set the **Hour**.



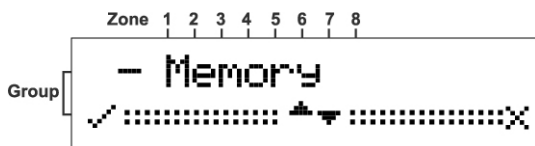
12. Press either the ▲ or ▼ buttons to select the **Minutes**.
13. Press the ◀ button to set the **Minutes**.



The time and date are updated and the **Date/Time** screen is displayed.

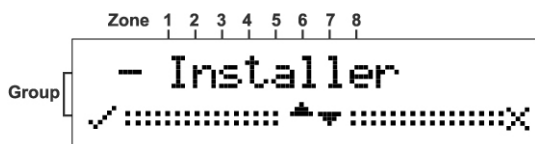
Entering the Installer Mode

1. From the Main menu, press the ▶ button.

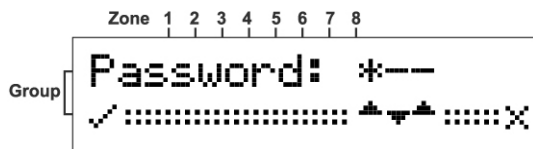


The **Memory** screen is displayed.

2. Press the ▲ button to display the **Installer** screen.



3. Press the ◀ button to confirm.

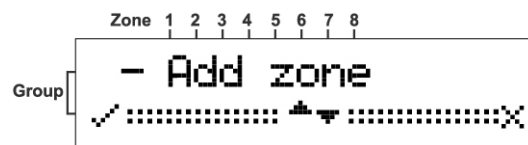


The Password screen is displayed. The factory default password is 111 that mean: ▲ ▼ ▲ and then type for confirmation left arrow ◀.

Adding a Zone (PIR, Smoke, Water or Magnetic detector)

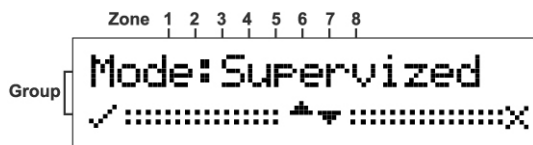
This mode is used for assigning a **Group** and a **Zone** for each detector or remote key. First assign a **Group** and **Zone** and then on the selected device open the service cover and press the tamper switch. This sends a signal to receiver to learn and complete the device setup. **Notice:** Insert the battery; wait until the LED stops blinking. During learning keep the detector at 2-3 meters away from the receiver.

1. Enter the **Installer** mode.



See installer mode entry in this manual.

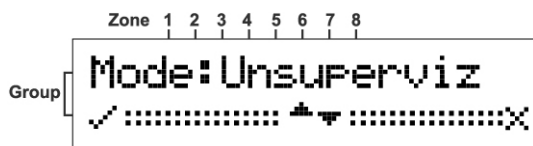
2. Press the ◀ button to confirm.



Each 12-14 minutes the supervised mode uses an “**Are You Alive**” time out mechanism to ensure that all the detectors are communicating with the unit.

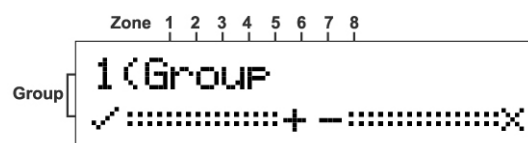
OR

Press either the ▲ or the ▼ buttons to toggle to **Un-supervised** mode



The detectors are active but with without supervision.

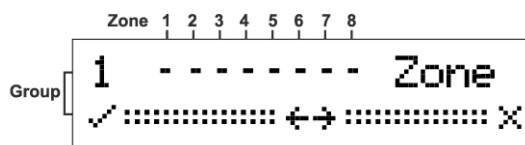
3. Press the ◀ button to confirm.



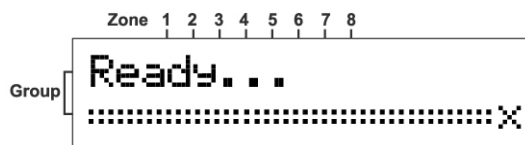
Any **Group** already selected displays an **S** in that position.

4. Press the ▲ or the ▼ buttons select a **Group**.

5. Press the ◀ button to accept the group selection.



Any **Zone** already selected displays an **S** in that position.



The unit beeps while waiting a tamper signal sent from the selected device.

6. Learn the device in to the system by Opening the detector cover and operating the tamper switch.

The device is registered and assigned the selected **Group** and **Zone**.

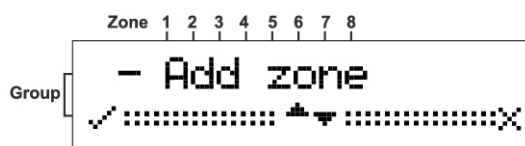
Activate the Tamper of the detector, two beeps for O.K will be heard and the screen will be closed and return to Add Zone screen.

There are 8 zones with relay output, zones 1-7 are N.C., zone 8 is selectable NC or NO, and each zone supports eight detectors.

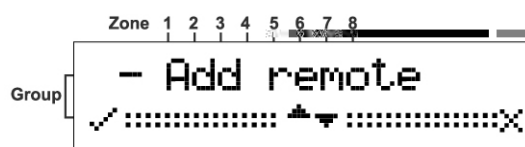
Adding a Remote Control key (two types, both has 4 keys)

When interfaced to wired system: The remote is used for arming and disarming the main panel. If used for arm/disarm program the four keys (all act the same way), the relay (Freeke zone 8) is wired to the KEY terminal at wired panel. Arming with Home mode is available (see Av-Gad's alarm panel manual address 073-5). For Panic and other special application contact us. New option: One key arm all other key arm with Home mode

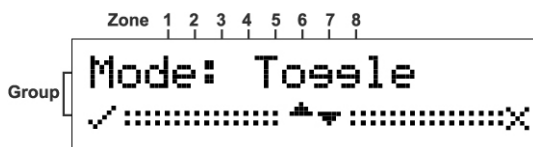
1. Enter the **Installer** mode. See installer mode entry in this manual.



2. Press the ▼ button to scroll to the **Add Remote** Screen.



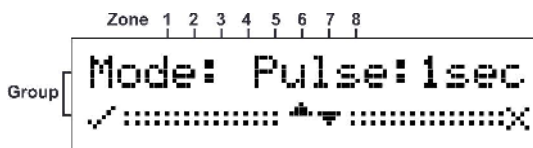
3. Press the ◀ button to confirm. Wait for buzzer OK sound, press the key you desire at the remote.



Toggle will allow you to change the output state (on or off) by a single depression of the remote key button.

OR

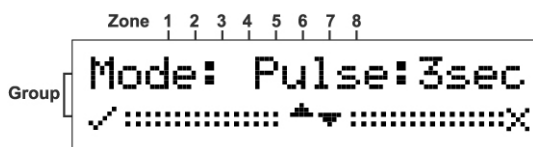
Press the ▼ button to display the 1-second screen.



In this mode the output is activated for 1 second.

OR

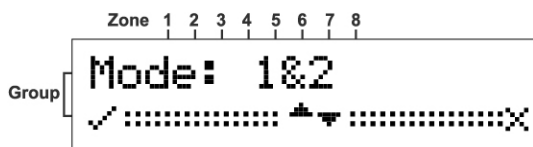
Press the ▼ button to display the 3 second screen.



In this mode the output is activated for 3 seconds

OR

Press the ▼ button to display the **1&2** screens.

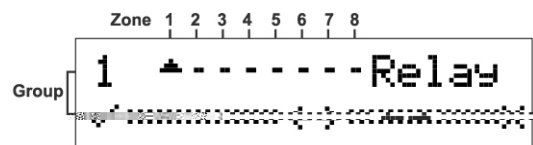


Note:

If you choose this mode then the Relay screen opens enabling you to select an output for one of the buttons on the remote key for turning ON the output.

Repeat the procedure for selecting a different button on the remote for the same output for turning it OFF using this option will turn ON an output from one button and close the output from second button.

4. Press the ◀ button to set the mode.



The **Relay** output screen opens.

5. Press the ▲ or ▼ buttons to choose an output.

Positions 1 to 7 are NC (dry contacts) and position 8 is a form C relay (NO/NC).



The **Ready** screen opens and the unit beeps waiting for a remote key signal.

6. Press a button on the remote key unit.



The remote key is registered and the **Add remote** screen is displayed.

Choosing the remote mode

Toggle: Every transmission by the Remote Control change the status of the Output

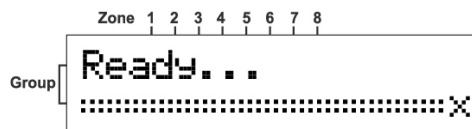
Pulse 3 Sec: Every transmission by the Remote Control activates the output for 3 sec.

Pulse 5 Sec: Every transmission by the Remote Control activates the output for 5 sec.

1 & 2 Mode: Key no. #1 is for Open and Key no. # 2 for Close.



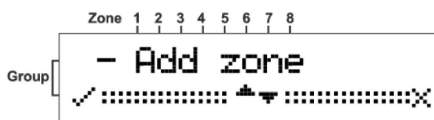
Choose the Output you want to assign to the remote and type ◀ beeps will be heard and the next screen will show



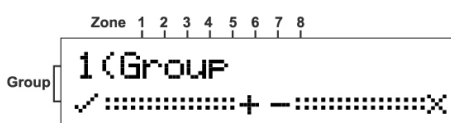
Activate the Remote, two beeps for O.K will be heard and the screen will be closed and return to Add Remote screen.

For Mode 1 & 2 choose the output and learn key 1 at the remote (the top key) and repeat the procedure and on the same output learn key 2 (the second from top) at the remote.

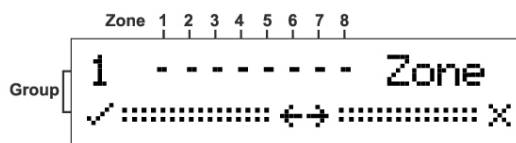
Clearing a Zone



◀ Choose the group



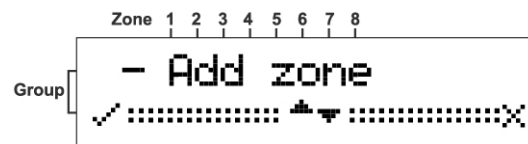
Choose the zone that you want to clear:



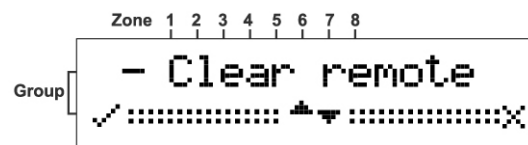
Type ◀ a double click will hear and the screen will jump to Clear Zone screen.

Clearing a Remote

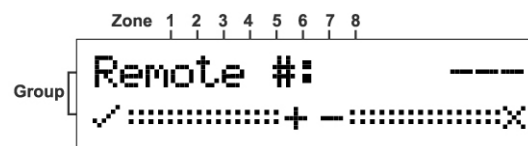
1. Enter the **Installer** mode.



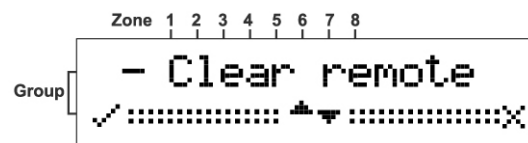
2. Press the ▼ button to scroll to the **Clear Remote** Screen.



3. Press the ◀ button to confirm.

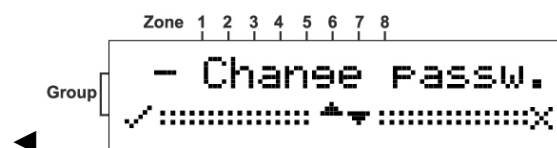


4. Press the ▲ or ▼ buttons to select a **Remote**.



The unit will beep twice and the **Remote** is cleared.

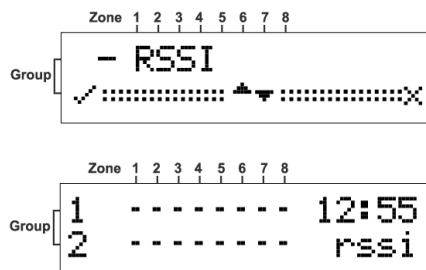
Password Changing



Type the new Password, for example 1 2 3 ▲, ▼ ▼, ▲ ▲ ▲ and confirmation Left Arrow ◀.

RSSI – Received Signal Strength

This screen displays the level of the received signal from the detector. The level is stored at the screen for later evaluation.



The value of the level is indicating by numbers 1 to 9 and F (F-indicates the best 10 and 1 is the weakest). The minimal level is 3; fewer than 3 revise the detector location.

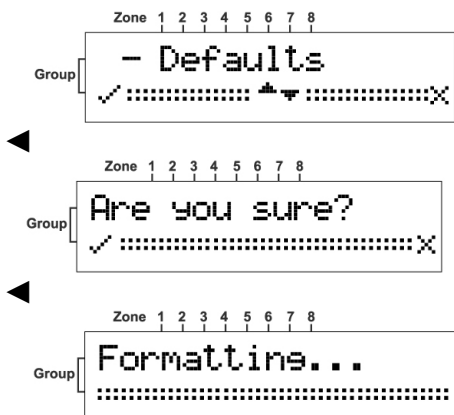
Note: For testing use Tamper transmits or Alarm transmit.

Restoring code to factory default

1. Remove the power
2. Hold down the Left arrow while powering up during until “Password: 111” appears, beeps sound
3. When “Password: 111” is displayed release the key. The password is 111

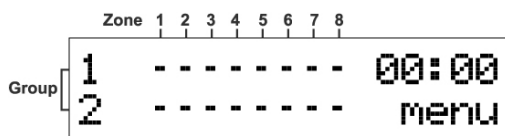
Settings Default

Setting to default erases all the detectors, remotes and the events buffer except the clock setting.



Important! Check the Freeko Status

Since the programming is over make sure the Freeko II is in standby mode, as the screen below. In all other screens it will ignore all the events.



This is the screen displayed at standby (not program mode)

Outputs: Outputs 1 to 8 and Tamper are dry contact (are not related to GND)
Outputs 1 to 7: Normally closed.

Output 8: Relay C/O (C-Common, NC- Normally closed, NO- Normally open)
Tamper: Normally closed.

STA Input: While this Input is “Low” it’s indicating that the Control Panel is armed; in this Mode it will record all the events in Log buffer.

Alarm event: Events are displayed on the LCD screen and activate the output for 3 sec. On Arm mode the event is displayed until disarming.

Tamper Event: Will activate the tamper and the assigned Output to “Open” until the restoring, Tamper alarm event is recorded in the log event.

Supervision Missing: If a detector is programmed as Supervised and the Freeko II didn’t received any transmitting for more than 12-14 minutes it will indicate Supervision missing by warning beep every one minute and will record it on the Log events and TAMP output is activated for a short while (2-3 seconds).

Detector Low Battery: While a detector transmits a Low Battery, the Freeko II will record it on the Log events and will beep every 1 minute also TAMP output is activated for a short while (2-3 seconds)

Note: The warning will stop beeping once the user displayed the log events or by typing left arrow ◀, the warning beeps will start again after the next Disarm.

Installation Instructions:

1. Choose the right location for installation:
 - It’s recommended to install the Freeko II receiver in a central place referred to the wireless detectors.
 - In an accessible place in order to view the status on the LCD when it’s needed.
 - In the range of up to 30 meter from the control panel
2. Locate the bracket on the wall and mark the 2 holes (see fig 1).
3. Drill two marked holes and screw the bracket to the wall (see fig 1).
4. Assemble the Freeko II on the holder and mark the drill (see fig 2).
5. Remove the Freeko II and drill the hole.
6. Assemble again the Freeko II on the Holder and screw it (see fig 3).
7. Wire the Freeko II to the control panel [CP] (It’s recommended to turn off the C.P during the connection).
8. Assemble the Service cover and screw the two nuts (see fig 4)
9. Power Up the control panel and check the functioning.

Tamper Output

The Tamper output is activated when the box Tamper is changing status or one of the Freeko sensor tamper was activated, or in case of supervision and low battery events. For testing the Tamper power-up the unit, as it interfaced electronically to other devices.

Freeko II

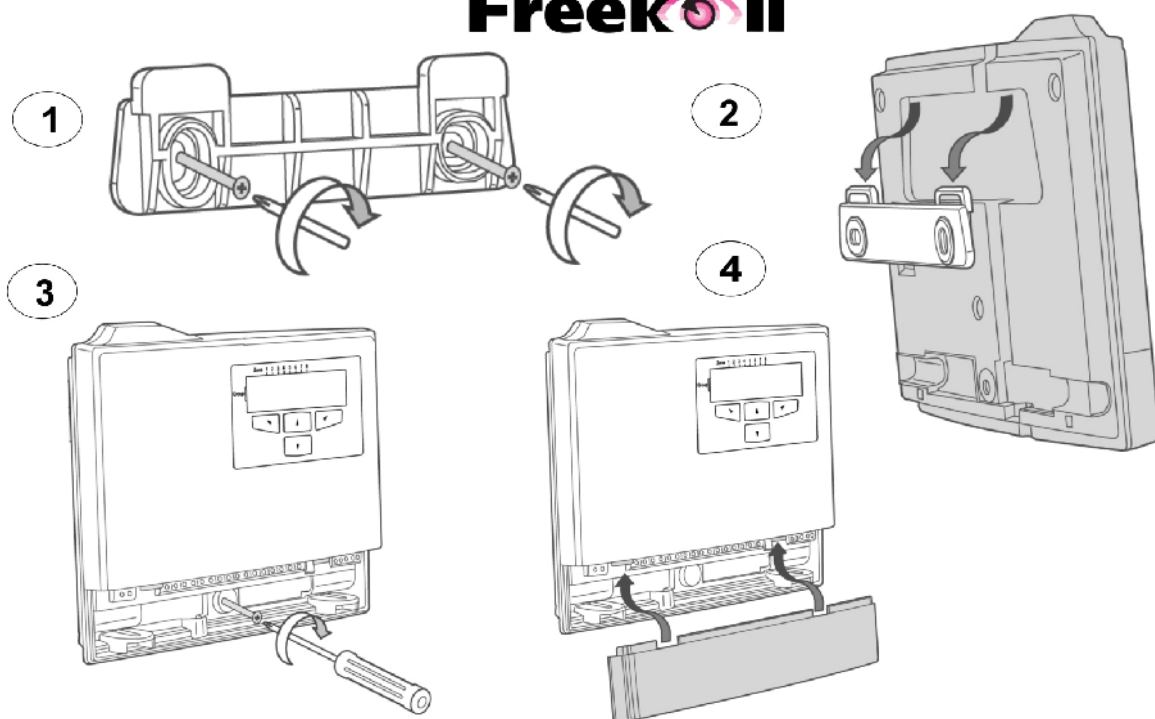


Figure 5: Freeko Receiver assembly to wall, step 1 to 4

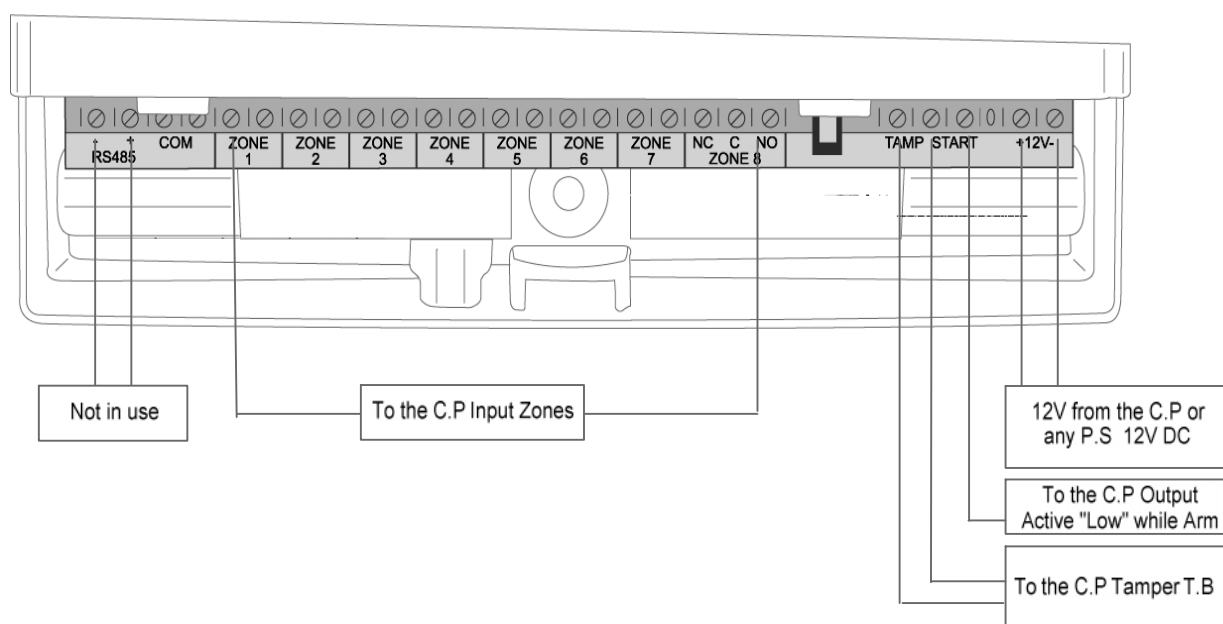


Figure 6: Freeko Receiver wire terminal

Notes:

If powering the unit by an external power supply, common the -V with the alarm panel -V. On the alarm panel set an Output to active "Low" while the control panel arm and connect the Output to the STAT input in the Freeko II. Be aware that the Tamper opens while the receiver cover is removed.

Wiring Freeko II to EasyLoader panel

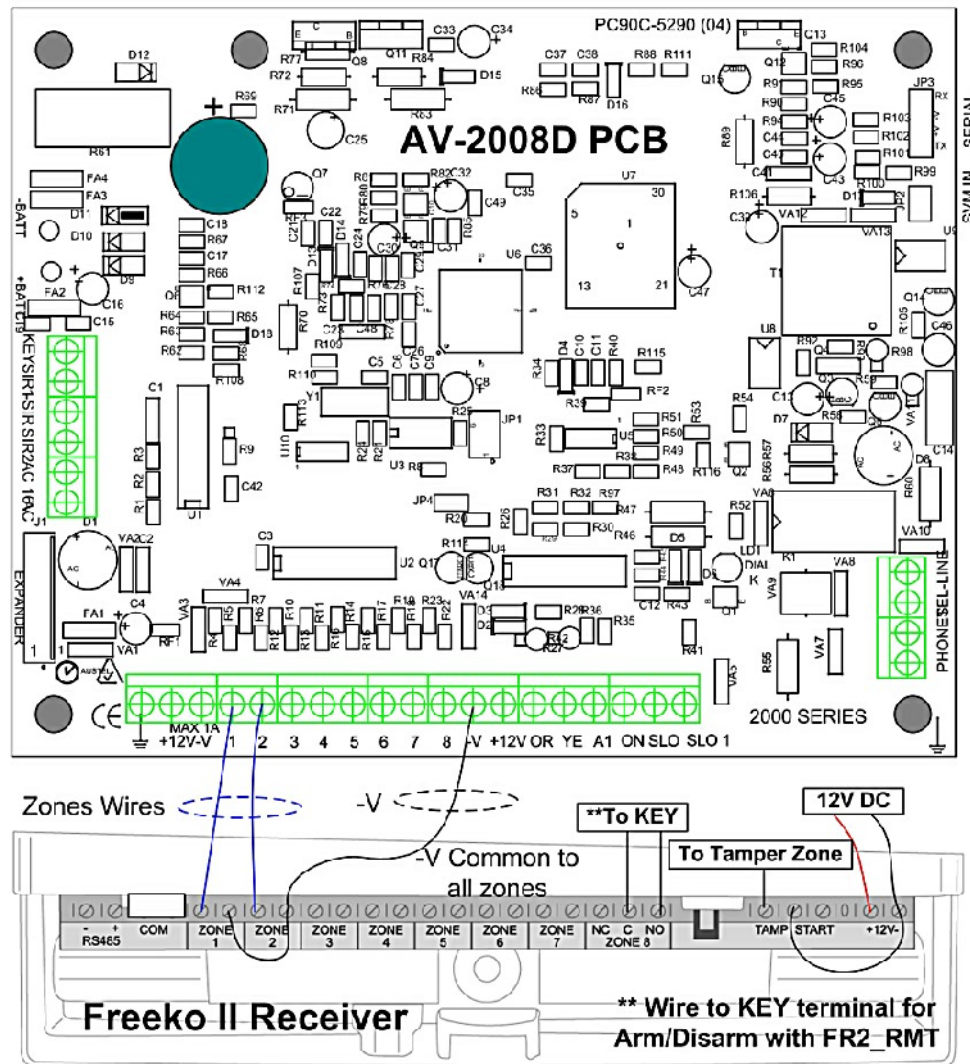
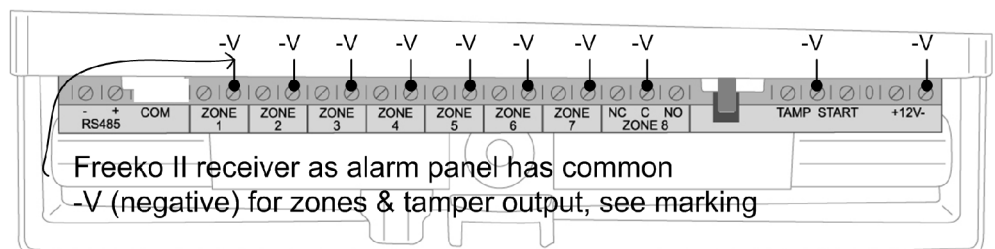


Figure 7: Freeko Receiver connected to AV-2005/AV-2008

1. Connect the AUX. 12V from the control panel to the receiver '12-18 VDC' terminal. Notice polarity!
2. The Tamper zone at the Receiver is connected to zone 8 at the panel, or other zone. It's recommended to program this zone as 24H or Day zone. Freeko II receiver as alarm panel has common -V (negative) for zones & tamper output, refer to figure 6.

Figure 8: Freeko Receiver -V



3. Other receiver's zone/s connect to zone/s at the panel (one side to Zone other to -V), notice polarity. If a delayed zone or other special zone required program the panel accordingly.

Technical Specifications

Operating Temperature	-10°C to 60°C
Relative Humidity	80% maximum
Input DC Power	10 to 15 VDC
Current Consumption	70 mA at standby, 130 mA with LCD on
Dynamic Inner Memory	EEPROM
Zone Quantity	Eight and one Tamper
Wireless detectors capacity	Up to 64, 8 per zone
Wireless remotes capacity	Up to 256
Code Combination	24 bit (over 16 millions)
RF Receiver	Super Regenerative
RF Modulation	FM
Antenna	Coiled type
Frequency	868 MHz (433 for special order)
Sensitivity	Better than 2 mV. 300 meters range
Zone Output 1 to 7	Opto MOSFET, Contact Resistance - 17 ohm, Current Capability up to 100mA
Zone Output 8	Dry Contacts Relay, N.O. or N.C.
STA (status) Input (enable log file)	While this Input is "Low" it's indicate that the Control Panel is armed
Zone Input	One wire terminal for each zone
Real Time Clock	Back up battery for 2000 hours /5 years
Display	LCD type with LED backlight
Events Log	Up to 256
Maximum Distance from Control Panel	30 meters
Housing Dimensions	(H) 13, (D) 2.4, (W) 16 cm
Gross Shipping Weight	0.2 KG

Av-Gad Limited Warranty

Av-Gad Systems Ltd. (Av-Gad) warrants it's products to be free from production defects in components, materials used and labor for twelve months following the date of production. Av-Gad will within the mentioned period, as its option, repair or replace any product failing to proper operation without charging the purchaser.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, installed not proper, used improper, abused, altered damaged or subjected to forces of nature or on which the serial and data code is altered or removed.

Av-Gad will not be responsible for any dismantling or reinstallation expenses. In order to exercise the warranty, the purchaser must return the product; delivery and transportation costs will be prepaid and insured to Av-Gad.

After repair or replacement, Av-Gad assumes the cost of returning products under warranty.

There are no warranties, expressed or implied, which extend beyond the description of the face hereof.

There is no express or implied warranty of merchantability or a warranty of fitness for particular purpose.

Additionally, this warranty is in lieu of all other obligations or liabilities on the part of Av-Gad.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within three months following the end of the warranty period. In no case shall Av-Gad be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, even if the loss or damage is caused by the seller's own negligence or fault.

Av-Gad is not an insurer of either the property or safety of the user's employees, family, or 3rd part and limits its liability for any loss or damage including incidental or consequential damages to Av-Gad original selling price of the product regardless of the cause of such a loss or damage. Av-Gad hereby declares that service, technical support and spare parts will be supplied for 60 month following the date of production. Price list for such services will be updated from time to time.