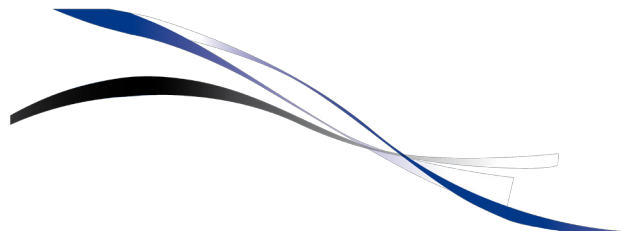




TREX 2G Technical Handbook



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1 TREX 2G

1.1 TREX 2G hardware

TREX 2G unit



Picture 1. TREX 2G unit

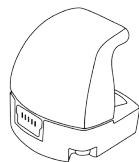
The TREX 2G unit is made of sturdy plastic, equipped with a Li-Po battery. The display is 1,4" with 8 bit (65535) colour depth.

1.1.1 AC adaptor

The supplied AC adaptor is used for charging the TREX 2G.

Technical data: 5V DC, 500 mA, 2m length, Eurostick, MiniUSB Male

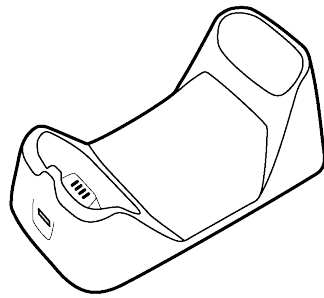
1.1.2 MiniUSB adaptor connector



Picture 2. MiniUSB adaptor connector

The MINI USB adaptor connector is required for charging or for programming using TREX 2G programmer.

1.1.3 Desktop charger (optional)



Picture 3. TREX 2G Desktop charger

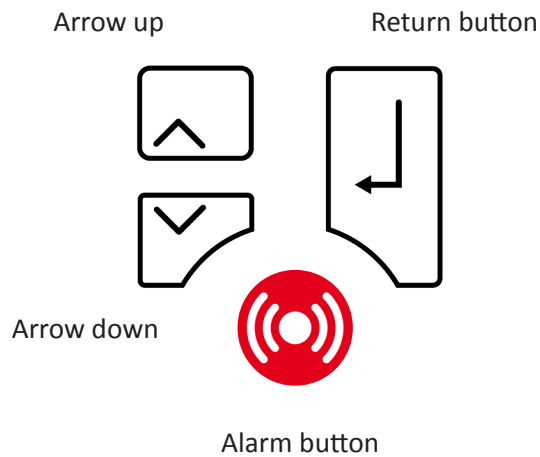
The TREX 2G Desktop charger is an accessory where the TREX 2G easily can be placed for easy charging as the AC adaptor is permanently connected to the desktop charger.



The Desktop charger only supports charging and is not working for programming using TREX 2G programmer.

1.2 Buttons

There are 4 buttons on the TREX 2G.



Picture 4. TREX 2G buttons

The buttons are referred to in this document as **Arrow up**, **Arrow down**, **Return** and **Alarm button**

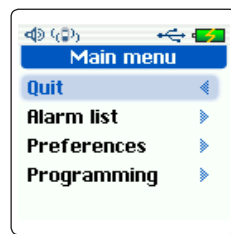
1.2.1 Button functions overview

General

Function	Button
Power on	Arrow up, 3 sec
Power off	Arrow up, 3 sec
Enter the menu	Arrow down
Send assistance alarm	Alarm button
Step down in menus	Arrow down
Step up in menus	Arrow up
Select/confirm	Return button

Stepping back in menus

To step back to the previous menu, step to the item “Back” and press **Return**. To return directly to the home screen from any menu, step to the item “Back”, then press **Return** and keep it pressed for 2 seconds.



Picture 5. TREN 2G main menu

1.3 General information

Many functions and handling of equipment can be done directly in the TREN 2G menus by using the keypad and will be described on this chapter. However, fine tuning and/or more detailed programming and/or customization is more easily made with the TREN 2G programmer software.

1.3.1 Radio code

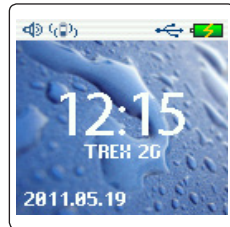
The radio code in the TREN 2G is the same as the last four (4) digits of the serial number on the label on the back of the unit.

1.3.2 Power on and off

Turn on TREX 2G before it is connected to a computer.

Power on

Press **Arrow Up** and hold for 3 seconds and after start up, the unit displays the home screen.



Picture 6. TREX 2G home screen

Power off

Press **Arrow up** for 3 seconds (if connected to a computer, remove the USB cable before power off).

The status bar



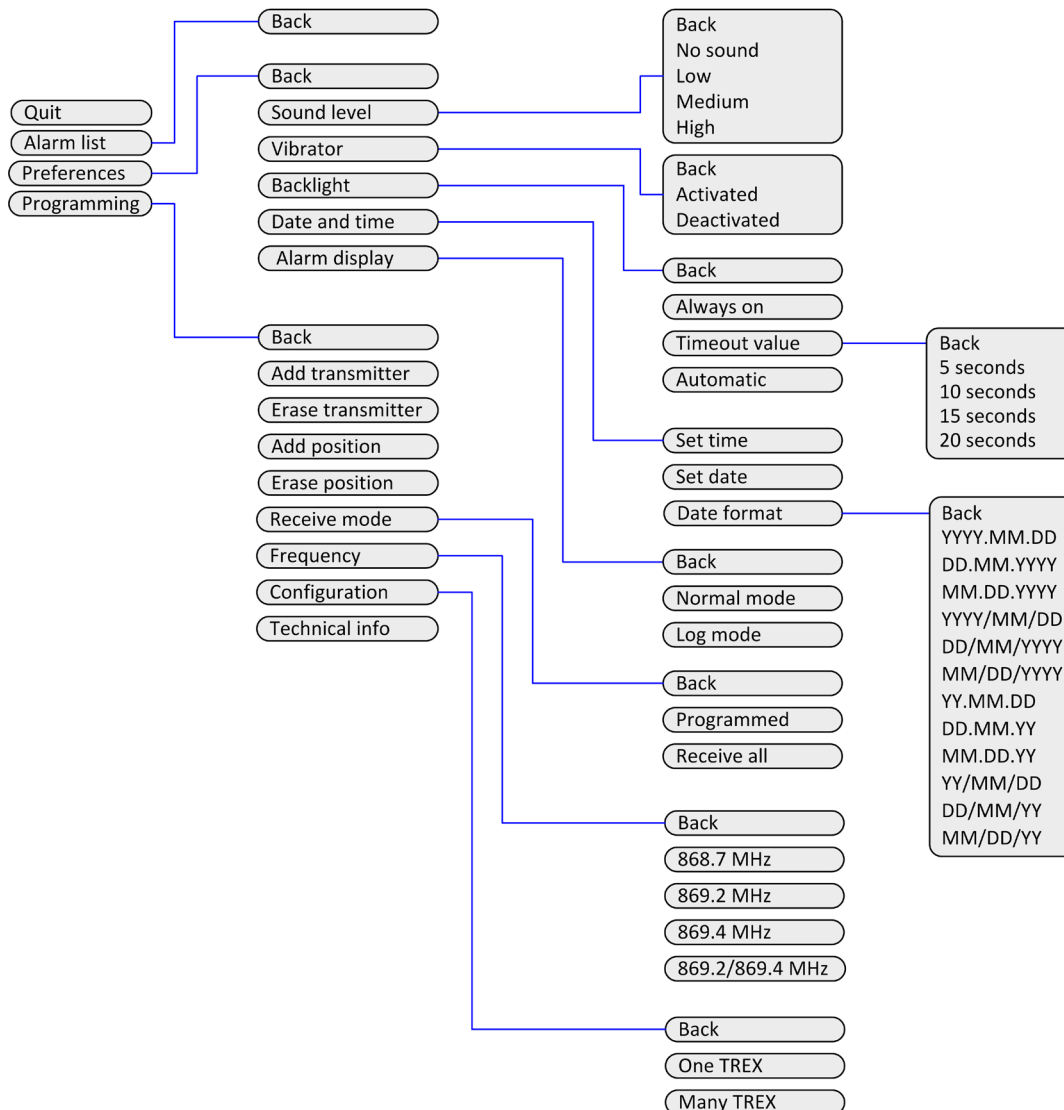
Picture 7. The status bar

The symbols in the status bar indicate (from left to right):

- Sound on/off
If disabled the symbol is crossed over and faded grey
- Vibration on/off
The symbol is not visible if vibration is disabled.
- New alarm
Only displayed when new alarm are received
- RFID
The symbol is displayed when RFID is enabled.
- USB connection
The symbol is displayed when the TREX 2G is connected to a computer.
- Battery status
The symbol indicates the TREX 2G is charging.

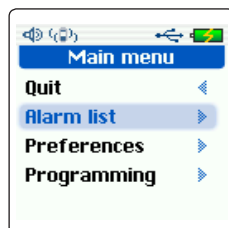
1.4 TREX 2G Menu system

The menu system in the TREX 2G and is accessed by pressing **Arrow down** from the home screen.



Picture 8. Schematic overview of the TREX 2G Menu system

1.5 Alarm list



The alarm list contains the alarms received by the TREX 2G. The list is read only and the last 32 alarms are listed and the most recent is displayed first (on top).

1.6 Preferences



This is where preferences are set in the TREX 2G, eg. sound, vibration and backlight.

1.6.1 Sound level

To set the sound level select from:

- No Sound
- Low
- Medium (default)
- High

1.6.2 Vibrator

To activate or deactivate the vibrator select from

- Activated (default)
- Deactivated

1.6.3 Backlight

To set the parameters for the backlight level select from

- Always on



Selecting "Always on" severely decreases battery time!

- Automatic (default)

When selecting Automatic, the backlight automatically shuts down after the time selected in "Timeout value":

- 5
- 10 (default)
- 15
- 20 seconds

1.6.4 Date and time

To set the date go to **Main menu>Preferences>Date and time**.



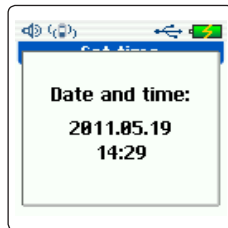
Picture 9. Set date and time menu

Select “Set time” and enter the correct time by entering the hours and minutes. Toggle up and down by pressing **Arrow up** and **Arrow down**. Confirm the values by pressing **Return**.



Picture 10. Enter the current time

When done, a pop up window displays the new time. Press **Return** to close the popup.



Picture 11. Set time and/or date is displayed

Repeat the procedure above to set the date.

Date formats

The TREX can display dates in a variety of formats. To select a date format go to **Main menu>Preferences>Date and time>Date format** and select the desired format.

YYYY=Long year, eg. 2011

YY= Short year, eg. 11 (for 2011)

MM= Month

DD= Date

1.6.5 Alarm display

The alarms can be displayed in two different ways:

- Normal mode (default)
- Log mode

This is further explained in “1.13 Receiving alarms”.

1.7 Programming



Programming the TREX 2G from within the unit is quite straight forward and should become quite familiar after some practice.

1.7.1 Adding a transmitter

In this example a trigger, an ATOM used in Room 1, is added to the unit.



Go to **Main menu>Programming>Add transmitter**. A popup window appears, asking for the activation of the transmitter.



Activate the transmitter by pressing the red alarm button on the ATOM. When the transmitter is received in the TREX 2G, the TREX 2G will display the “Add transmitter” window. Be sure to check that the LED of the ATOM blinks green.



Select identification

In order to identify the sender, information about the transmitter must be added. In this example, select “Room” from the drop-down list and confirm.

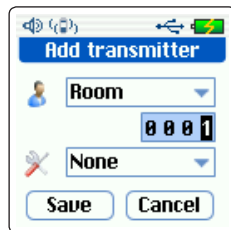
The drop-down list is editable in TREX 2G Programmer, see “3.6 Identifications tab” There, more/other items can be added, but also persons names can be entered. Eg. Item 2 could be named “John Adams”, item 3 “Vera Smith” etc.



In this example, scroll down to the four digit field just below and enter the number “1” in the rightmost position.

The numbers are handy when using “Room” as an identifier, but when a name is used, eg. Vera Smith, no numbers would normally be used.

If no number or 0000 is entered, no digits will be displayed after the identification in the alarm message.



Select equipment

Now, the equipment type is required. When the alarm is sent to the TREX 2G it displays what type of equipment that triggered the alarm. In this example, select “Trigger” from the equipment drop-down list.

The drop-down list is editable in TREX 2G Programmer, “3.7.1 Add/edit equipments”



Confirm the selection by pressing **Return**.

Select “**Save**” to confirm the transmitter settings or “**Cancel**” to discard the programming.

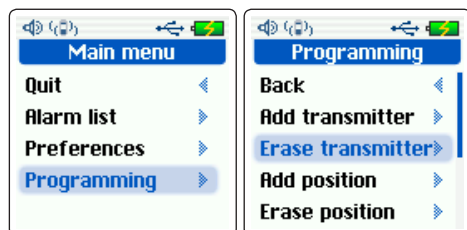


Saving is confirmed by displaying the popup window.



1.7.2 Erase a transmitter

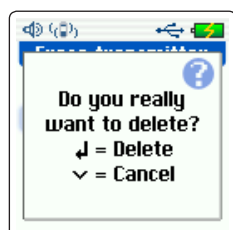
If a transmitter for some reason needs to be erased from the TREN 2G, go to **Main menu>Programming>Erase transmitter**.



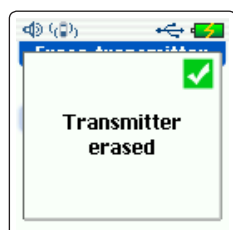
Select which transmitter to erase and press **Return**.



Press **Return** to continue deletion or **Arrow down** to cancel.



The transmitter is now erased.



1.8 Positions

For more information about adding/erasing positions, please refer to "3.5 Positions tab"

For more information about positions and the D-POS system in general, please refer to the D-POS/D-ATOM Positioning system Technical Handbook, document number: NE41 08001-02.

1.9 Receive mode

Determines which transmitters in the environment the TREX 2G unit should listen to and act on:

- Programmed (default)
- Receive All

1.10 Frequency

The TREX 2G can work in several frequency bands, depending on how the system is set up.

- 868.7
- 869.2 (default)
- 869.4
- 869.2/869.4

1.11 Configuration

Determines whether there are more than one TREX 2G in the system

- One TREX
- Many TREX (default)

1.12 Technical info

This window displays the firmware version, the config file version and the unit id. The unit ID is equivalent to the serial number and the radio code.

1.13 Receiving alarms

1.13.1 Normal mode (default)

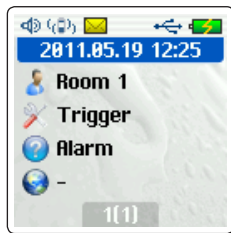
Activate an added transmitter. TREX 2G beeps and a screen appears displaying information about the alarm.



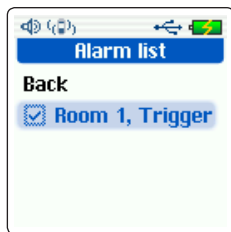
The lettersymbol in the topbar indicates that this is a new alarm and the 1(N) in the bottom indicates this is the first/latest alarm of a total of N new alarms .

The information displayed is:

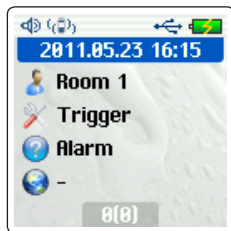
- The transmitter (ROOM) followed by its number (1).
- What equipment this is (Trigger).
- The alarm reason (Alarm).



Press **Return** to acknowledge the alarm and close the popup screen. To look at the alarm again, enter **Main menu>Alarm list**. Select the alarm and press **Return**. The alarms are listed as newest first.



The alarm is displayed except for the letter symbol and now the bottom indicates 0(0), ie. no new alarms.



Press **Arrow up/down** or **Return** to go to the "Alarm list". NB! It is not possible to delete alarms from the alarmlist.

If two or more alarms are received at the same time, a popup screen appears displaying how many new alarms is received.



As long as the alarms are not acknowledged, the TREX 2G will alert with sound and vibration. To silence the alert beep, press **Arrow down**. The alarm popup remains on the screen.

Press **Return** to display the first/oldest latest alarm in the list, indicated by the 1(3) (Ie. the first/oldest alarm of a total of three new alarms) in the bottom.



Pressing **Return** again will acknowledge this first/oldest alarm and directly display the second alarm in the list, indicated by 1(2).



To acknowledge the alarms in consecutive order, keep pressing **Return**.

However, if the user wishes NOT to acknowledge the first/oldest alarm in the list, simply use the arrow buttons to browse among the alarms and press return to acknowledge an alarm requested.

The alarms will remain in the display as long as there are unhandled alarm and the only way to return to the home screen is to acknowledge all new alarms.

1.13.2 Log mode

In log mode it is possible to select what alarms to acknowledge and still be able to navigate in the TREX 2G unit. In log mode only the latest alarm is displayed. To see older, but still unhandled alarms, user must then browse the alarm list manually, **Main Menu>Alarm list**.

In the alarm list, acknowledged alarms are checked and to acknowledge an alarm, browse up and down with the **Arrow up/down** and acknowledge by pressing **Return**.



Picture 12. Alarm list in log mode

2 Download and installation of software

2.1 Installation overview

It is highly recommended to perform the software installation in the following order:

1. Install TREX 2G Programmer
2. Connect TREX 2G to computer
Before connecting the TREX 2G to the computer, it must be turned on.



The first time the TREX 2G is connected to a computer its drivers will be installed by Windows. When installation is finished, an error message will say the device is not recognized. Disconnect and reconnect the TREX 2G from the computer and the device is now ready to be used with the programming software.

2.1.1 Download TREX 2G software

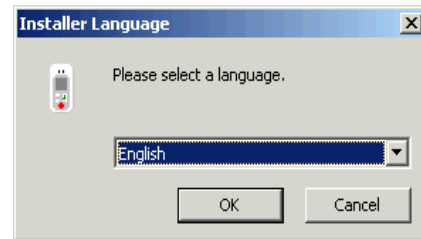
The latest installation files are available from www.neatelectronics.se/en

Download requires login and password and can be obtained from your distributor/reseller.

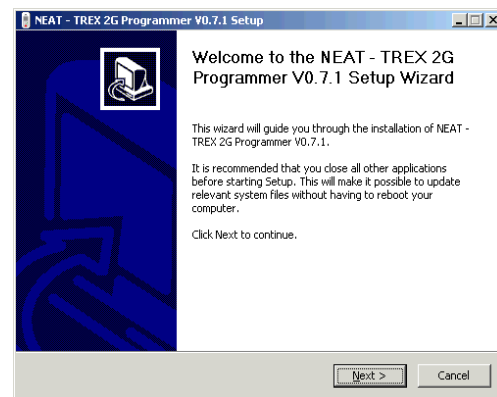
Be sure to remember the name and location of the downloaded file!

2.1.2 Install TREX 2G Programmer

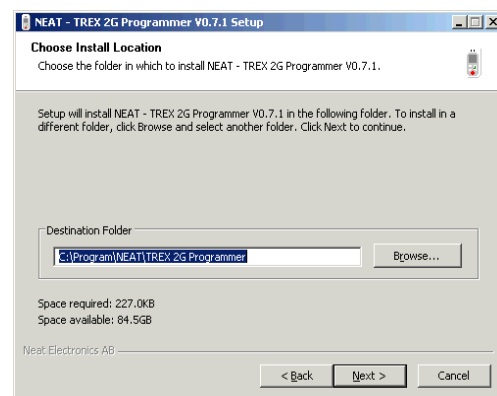
Doubleclick the downloaded file to start the installation of TREX 2G Programmer.



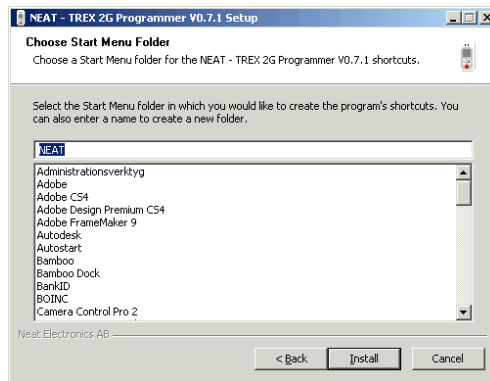
Picture 13. Choose installation language and click "OK" to continue.



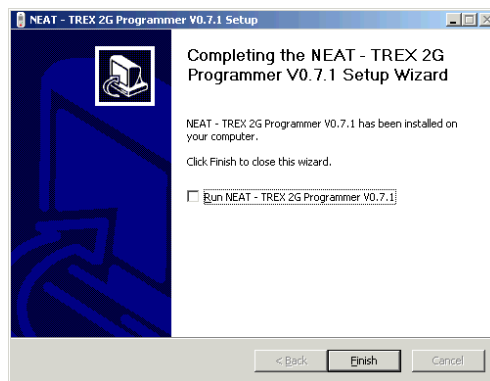
Picture 14. Click "Next" to continue installation



Picture 15. Choose installation location



Picture 16. Select Start Menu folder or create a new for the software shortcuts



Picture 17. Completing installation

To start the programmer, click on the desktop icon.



Picture 18. TREX 2G Programmer desktop icon

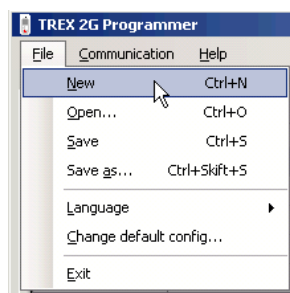
3 TREX 2G Programmer

TREX 2G Programmer is a software designed to facilitate configuration, editing and maintenance of TREX 2G. The software can be used to write pre-defined configurations to a large number of TREX 2G in a very short time or it can be used to customize an existing configuration to meet special needs.

TREX 2G Programmer is built up around the use of tabs, where each tab is designed for a specific area of use.

But first an overview of the drop-down menus.

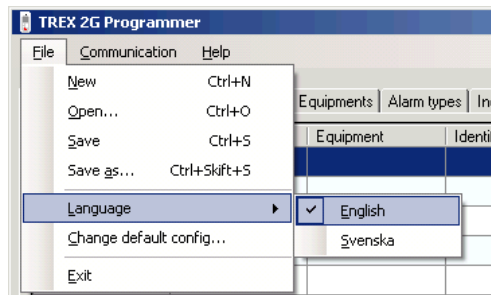
3.1 File menu



Picture 19. "File" drop-down menu

New, **Open**, **Save** and **Save As** are placed under the drop-down menu **File** together with **Exit**. These are quite self explanatory and should require no further explanation.

Select language



Picture 20. Selecting language

Selection of language is effected immediately. On how to create language files and local translations, please contact NEAT Electronics.

Change default config

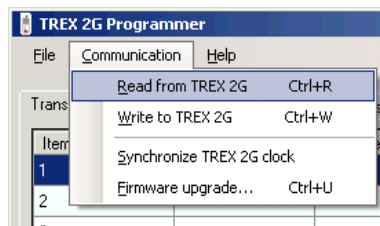
An empty configuration is automatically included in the installation and placed in the software installation folder. This default configuration is used when **New** is selected in the **File** menu. To change this default configuration there are two possibilities:

- Create a new configuration and save to this location and select as default.
- Select a configuration stored in another location, local or on a network.

TREX 2G programmer is by default installed into the folder:

C:\Program\NEAT\TREX2GProgrammer

3.2 Communication menu



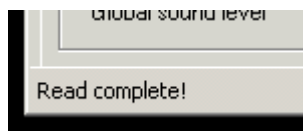
Picture 21. "Communication" drop-down menu

Read from/write to TREX 2G

To read from TREX 2G, select **Read from TREX 2G** or press the keyboard shortcut **CTRL+R**.

To write the current values in the TREX 2G Programmer, select **Write from TREX 2G** or press the keyboard shortcut **CTRL+W**. TREX 2G programmer will write to TREX 2G.

While reading from/writing to the TREX 2G, a pop up window will appear in front of the TREX 2G Programmer window and when reading from/writing to the TREX is complete, it will be indicated in the lower left corner of TREX 2G Programmer window.



Picture 22. Read/write status indication



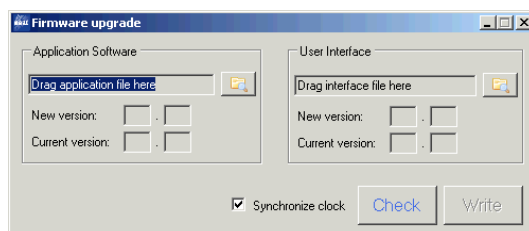
Changes made in TREX 2G Programmer must be written to the unit to take effect.

Synchronize TREX 2G clock

Set the date and time in the TREX 2G by clicking **Synchronize TREX 2G clock**. The TREX 2G is updated with the computer's date and time.

Firmware upgrade...

This tool enables the administrator to easily upgrade the application software (firmware) and add or upgrade the user interface, ie the menus.



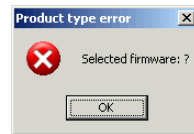
Picture 23. Upgrade main window

To add a firmware and/or user interface file, just drag the file to the designated field or browse by clicking on the folder icon to the right of the field.



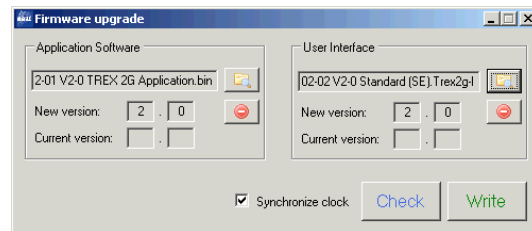
Firmware filenames by default starts with "NE50" and interface filenames with "NE51".

If an incorrect file, ie wrong format or extension, is added TREX 2G programmer will warn by displaying the “Product type error” pop up screen. Click **OK** to close and start over.



Picture 24. Incorrect file warning

When a correct file is added the filename is displayed in the field.



Picture 25. Loaded files ready to upgrade

To remove a file from the upgrade field, press the red stop sign and the field will empty.

The upgrade program is now ready to transfer the firmware and/or user interface files to the TREX 2G. Transfer the files by clicking **Write**.



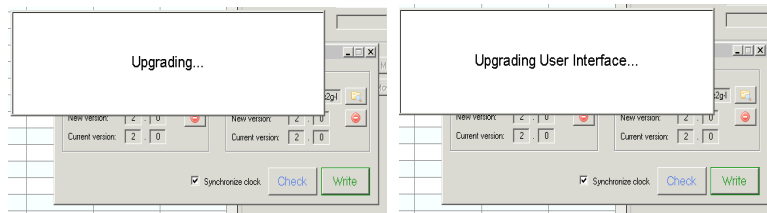
Picture 26. Do not disconnect the TREX 2G during upgrade

A warning is displayed to ensure that the user does NOT disconnect TREX 2G and/or terminates TREX 2G Programmer computer during the upgrade.



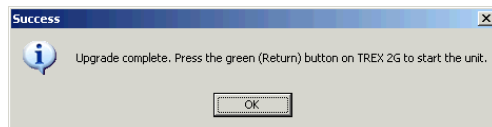
*Do not disconnect TREX 2G after clicking **Write**! Dataloss may occur and the TREX 2G must be restarted and upgrade must be re-initialized.*

During the upgrade the 2G will display go black and TREX 2G Programmer pops up displays to communicate the progress.



Picture 27. Upgrade progress pop up notifications

After the transfer is completed and the programming is successful, TREX 2G confirms by displaying the “Success” window. Click **OK** to close. Press **Return** on the TREX 2G to wake it up. If communication is lost, ie the USB symbol is not lit on the top bar, disconnect and reconnect the unit.



Picture 28. Upgrade successful

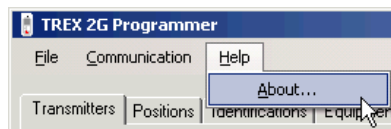
To upgrade a second or more TREX 2G simply disconnect the TREX 2G and connect the next. If the same files are to be used, click **Write** and the upgrade process starts again.

In this way a large number of TREX 2G can be updated easily and quickly.



Versions of the firmware and user interface files MUST have the same major version, ie. the first number of the version must be equal, eg. 2.x.

3.3 Help menu



Picture 29. About TREX 2G Programmer

To show the TREX 2G Programmer version, click **Help|About** to display the “About” pop up window.



Picture 30. “About” pop up window in TREX 2G Programmer

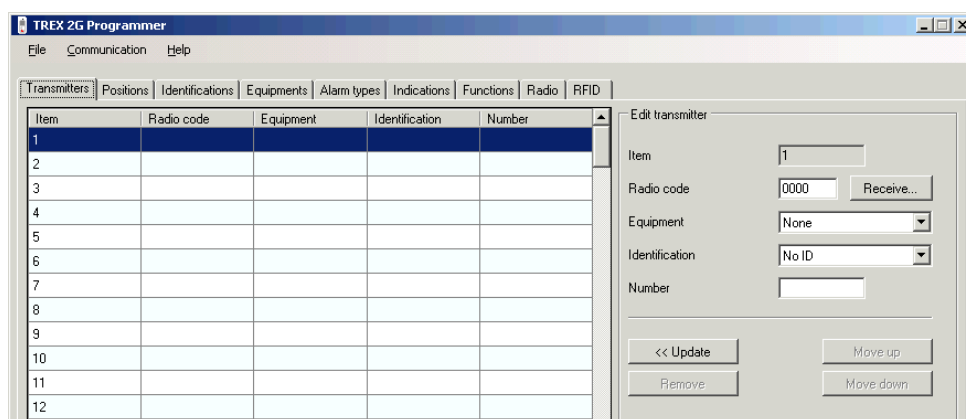
3.4 Transmitters tab

A transmitter is a device or unit that sends a radio signal to the TREX 2G. It is identified by its unique radio ID code, what type of equipment it is and the selected identification and eventually a number attached to the “Identification” value.

- A Radio ID code (Unique ID)
- An equipment (What is sending?)
- An identification (Who is sending?)
- A number (Whom in the lot?)

To arrange the transmitters in a certain order, use the buttons “Move up” and “Move down” to move it up and down in the list.

TREX 2G supports a maximum of 255 transmitters.



Picture 31. Transmitters tab

3.4.1 Add/edit transmitters

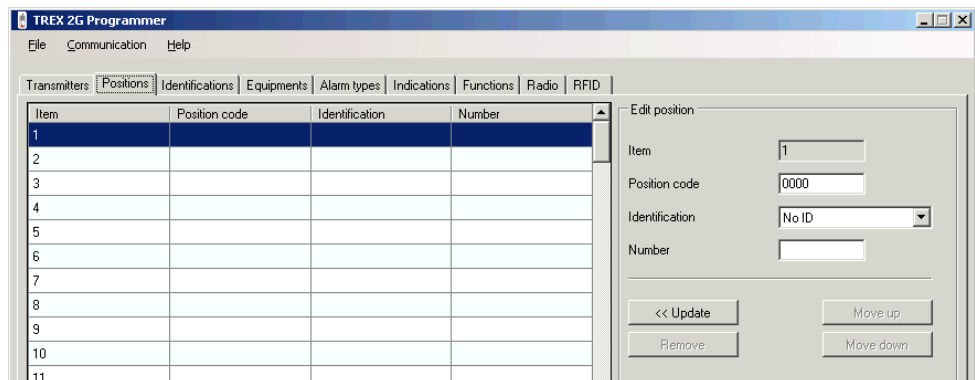
To add a transmitter, select the next empty row in the list to the left. Either write the Radio code directly into the box or click “**Receive...**” to let the transmitter send its radio id into TREX 2G Programmer. Select “Equipment” and “Identification” and optionally enter a number. When done editing, click the button “<< **Update**” to confirm the new values to TREX 2G Programmer.

To edit a transmitter, select it in the left list and edit the values in the right section. After editing, click the button “<< **Update**” to confirm the new values to TREX 2G Programmer.

3.4.2 Deleting a transmitter

To remove a transmitter, select it in the left list and click the button “<< **Remove**”.

3.5 Positions tab



Picture 32. Positions tab

A position is eg. a door equipped with a D-POS Antenna. The position ID code is the four digit hex code in the antenna and is the equivalent to the radio ID code in an ATOM or IOR and it must be entered precisely as it is set in the D-POS Antenna.

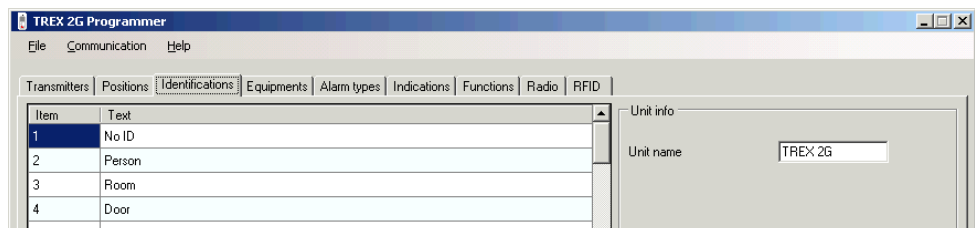
The item list displays the positions stored in the TREX 2G. To edit a position, select it in the item list and edit the values in the right section. After editing, click the button “<< Update” to confirm the new values in TREX 2G Programmer.

To remove a position, select it in the left list and click “Remove”.

“For more information about positions and the D-POS system in general, please refer to the D-POS/D-ATOM Positioning system Technical Handbook, document number: NE41 08001-02.”

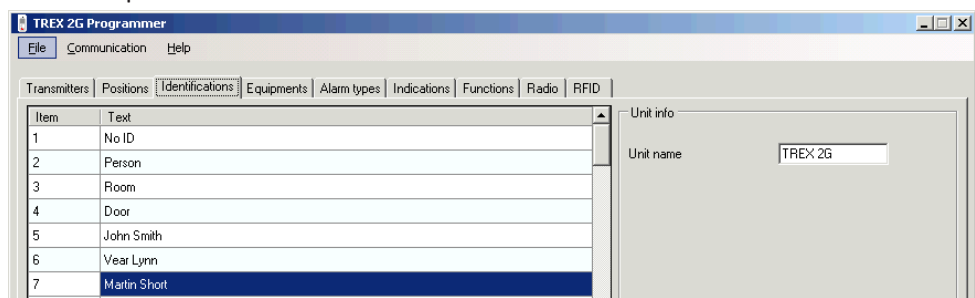
3.6 Identifications tab

The “Identification” answers the question: “Who sends the alarm?” and can be a room (eg. Room 12) or a person (John Smith). In a facility where rooms are used as identifications (eg. “Room 12”), only the item “Room” is needed, since the room number can be added in the field “Number” on the “Transmitters” tab.



Picture 33. Identifications tab

Whereas persons are identified by their names, here is where the name is added. If “John Smith” is added to the “Identifications” list then “John Smith” is available in the drop down list “Identifications” on the “Transmitters” tab.

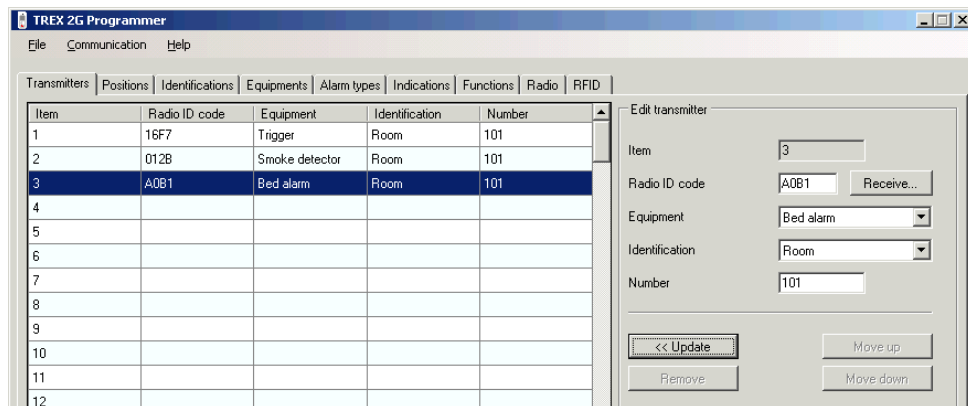


Picture 34. Identifications with additional names added

3.7 Equipments tab

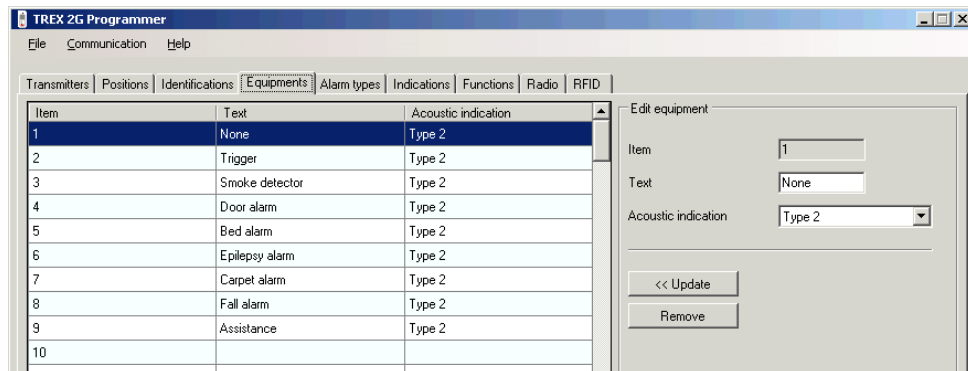
Equipments would answer the question: What sends the alarm?

A smoke detector or an ATOM are examples of equipment. In a room there can exist different types of equipments, eg. an ATOM, a bed exit alarm and a smoke detector. In the picture below is an example of the three different, stored equipments used on the “Transmitter” tab.



Picture 35. Different equipments selected on the Transmitters tab

They are added and/or edited on the Equipment tab.



Picture 36. Equipment tab

3.7.1 Add/edit equipments

The item list to the left lists the equipment stored in the TREX 2G.

To add a new equipment, click on an empty row and fill the appropriate information in the corresponding fields in the right section.

To edit an equipment, select it in the item list and edit its values in the right section. After editing, click “<< Update” to confirm the new values to TREX 2G Programmer.

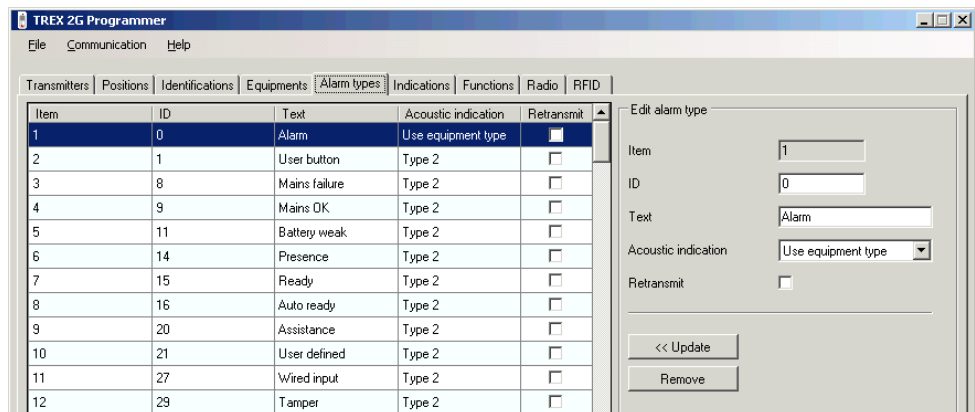
To remove an equipment, select it in the left list and click “Remove”.

Acoustic indication

The acoustic and visual indications for the selected equipment are determined by the settings for the selected signal type, See “Signal types” on page 28.

255 equipments can be stored in the TREX 2G.

3.8 Alarm types tab



Picture 37. Alarm types tab

The window to the left is listing the alarm types stored in the TREX 2G. Here each alarm type can be assigned an acoustic indication. The acoustic indications are edited on the tab Indications, see “3.9 Indications tab”.

The selection “Use equipment type” reads the selected value set for each equipment on “3.7 Equipments tab”.

To edit an alarm type, select it in the left list and edit the values in the right section. After editing, click the button “<< Update” to confirm the new values.

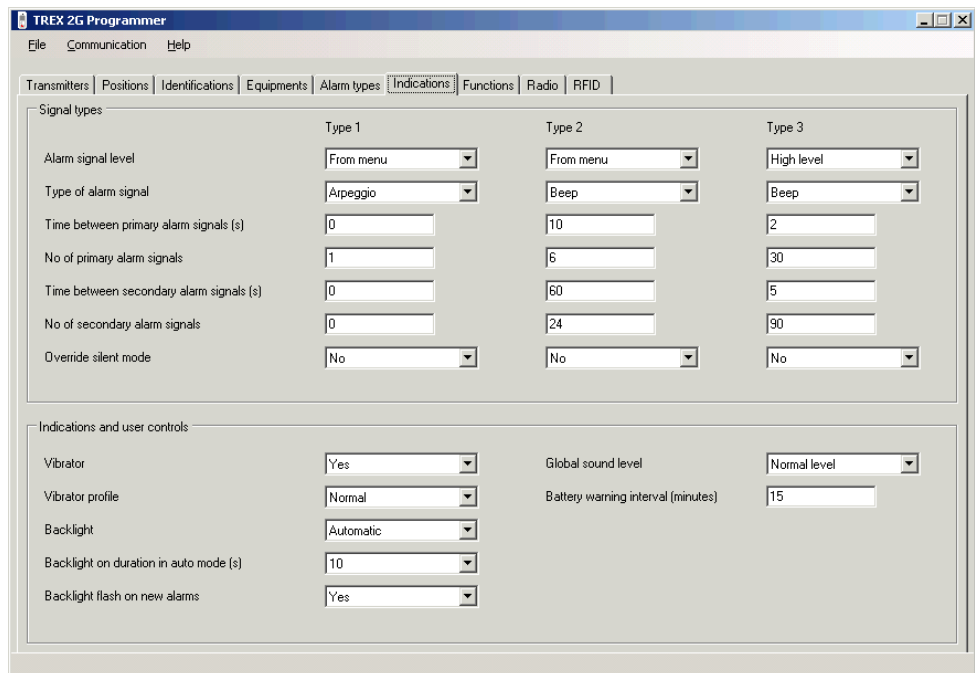
To remove an alarm type, select it in the left list and click “<< Remove”.

Retransmit

To be able to retransmit an alarm type, retransmission must first globally be enabled on the “3.10 Functions tab”. Then each alarm type can be set whether to retransmit or not.

255 alarm types can be stored in the TREX 2G.

3.9 Indications tab



Picture 38. Indications tab

3.9.1 Signal types

This section determines the audio signals the TREX 2G is using and is selectable on the “Equipments” and/or “Alarm types” tab. Three types can be defined.

Alarm signal level

Select from five levels:

- Off
- Low level
- Normal level
- High level
- From menu

If “From menu” is selected here, the unit reads the value entered in the TREX 2G, see “1.6 Preferences” and determines the alarm signal level.

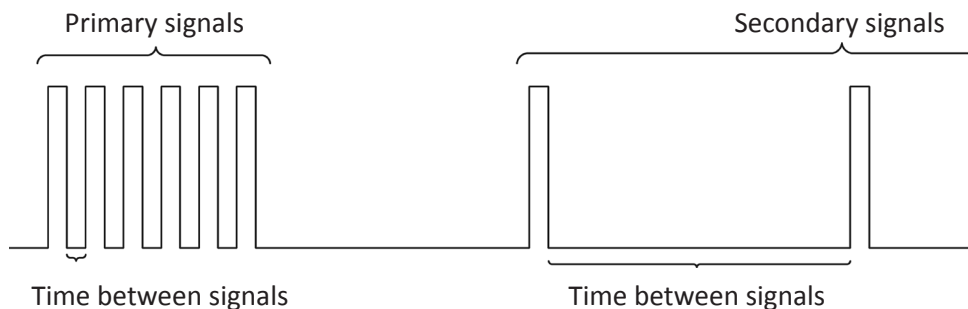
Type of alarm signal

- Beep
- Arpeggio
- Siren

Time between primary alarm signals (s), No of primary alarm signals, Time between secondary alarm signals (s), No of alarm signals

“Primary signal” is the indications when an alarm is first received, eg. a when an alarm is first received attention is required. However, if the alarm is not acknowledged within a certain time then the secondary signal is used.

The picture below shows the idea of the primary and secondary signals. In this case the signal is intense (more frequent) during the primary signal and then less frequent in the secondary.



Picture 39. Primary and secondary signals settings

Override silent mode

Select “Yes” if the signal type should sound even though the TREX 2G is put into silent mode.



The setting “Alarm signal level” must NOT be “From menu” for this to be valid.

3.9.2 Indications and user controls

This section determines the vibration levels and LED backlight timing.

Vibrator

Select if TREX 2G should vibrate or not when an alarm is received.

Default = "Yes"

Vibrator profile

In the TREX 2G unit the vibrator can only be enabled or disabled. With the TREX 2G programmer, the level of vibration can be set with the Vibrator profiles.

- Discrete
- Normal (default)
- Aggressive

Backlight

- Always on
- Automatic (default)



Selecting "Always on" severely decreases battery time!

Backlight on duration in auto mode (s)

The duration where the display is lit up.

- 5
- 10 (default)
- 15
- 20

Backlight flash on new alarms

- No
- Yes (default)

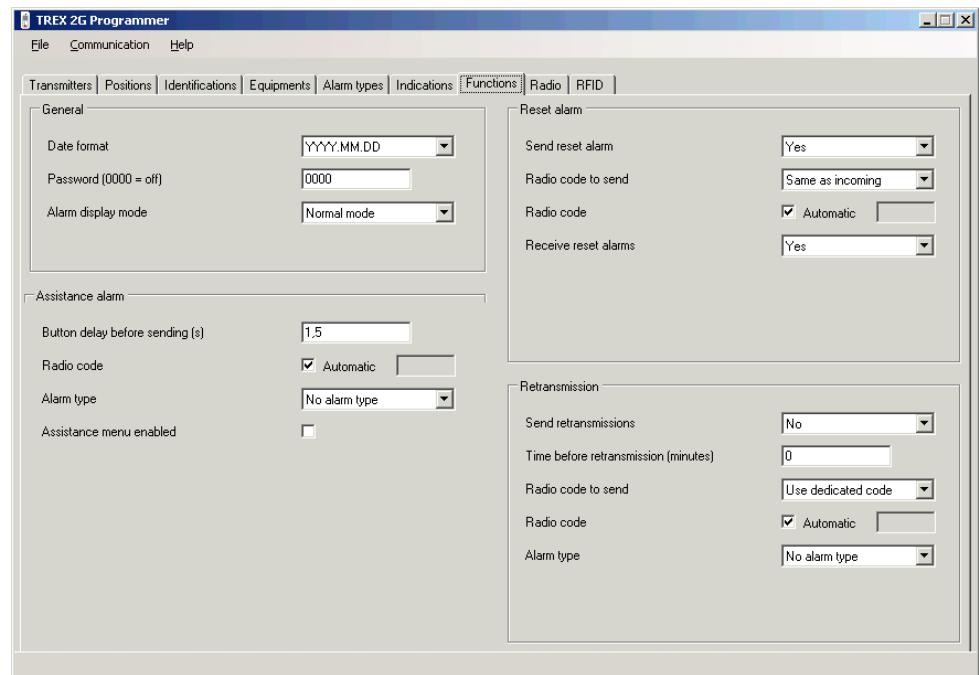
Global sound level

- Off
- Low level
- Normal level (default)
- High level

Battery warning interval (minutes)

The interval between warnings when battery is low, ie charging level is below 5%.

3.10 Functions tab



Picture 40. Functions tab

3.10.1 General

Date format

Select how the date format will be displayed. Default = YYYY.MM.DD

Password

It is possible for an administrator to password protect the TREX 2G programming menu. To enable, enter four digits. To disable password protection, enter 0000.

Alarm display mode

- Normal mode (default)
- Log mode

Normal mode and Log mode is further explained in “1.13 Receiving alarms”

3.10.2 Reset alarm

If an alarm is sent to two or more TREX 2Gs, the “Reset Alarm” can be used to tell other TREX 2Gs that an alarm has been acknowledged, eg. “I have acknowledged this alarm”.

Send reset alarm

- Yes (default)
- No

Radio ID code to send

When sending “Reset Alarm” it is possible to choose from sending the original radio id code and/or a specific radio id code.

- Same as incoming (default)
- Use dedicated code
- Incoming and dedicated code

Radio code

If the checkbox Automatic is checked, the TREX 2G will use the radiocode from the TREX 2G and send this (default).

If unchecked, enter a radio code to send.

Receive reset alarms

Selecting "Yes" removes the alarm from the New Alarm screen, but keeps it listed in the "Alarm list".

- No
- Yes (default)

3.10.3 Assistance alarm

The TREX 2G can send Assistance alarms, eg. if more personnel is required for an alarm.

Button delay, before sending (s)

This is the time the Alarm button must be pressed before the TREX 2G sends an assistance alarms.

Default = 1,5 s

Radio code

If the checkbox Automatic is checked, the TREX 2G will use the radiocode from the TREX 2G and send this (default).

If unchecked, enter a radio code that will be sent.

Alarm type

Select if a certain alarm type should be used with the assistance alarm.

Assistance menu enabled

Default = disabled.

If enabled, a list of available assistance alarms is shown. Select what assistance alarm that should be shown and edit the associated text.

If the checkbox "Auto" is checked, the TREX 2G will use the radiocode from the TREX 2G and send this (default). If not, enter the radio code the TREX 2G should send for the specific assistance alarm.

Auto	Radio code	Alarm type	Text
<input checked="" type="checkbox"/>		No alarm type	Assistance alarm
<input checked="" type="checkbox"/>		No alarm type	
<input checked="" type="checkbox"/>		No alarm type	
<input checked="" type="checkbox"/>		No alarm type	
<input checked="" type="checkbox"/>		No alarm type	
<input checked="" type="checkbox"/>		No alarm type	

Picture 41. Assistance menu enabled

5 additional assistance alarms can be defined. Eg. item 1 can be an emergency alarm for critical situations and item 2 an alarm asking for assistance of a more non-critical nature.

Item 1 is always the alarm type defined in the boxes “Radio code” and “Alarm type” above the Assistance menu list. Items 2-6 are edited directly in the Assistance menu list.



Be sure to use the correct radio code for an added/edited alarm type.

3.10.4 Retransmission

If a TREX 2G receives an alarm but it is not acknowledged within a certain time, it can automatically resend the alarm.

Send retransmissions

- No (default)
- Yes

Time before retransmission (minutes)

Sets the time the TREX 2G will wait before retransmitting.

Radio code to send

Enter the radio ID code to be used in the retransmission.

- Use dedicated code
The dedicated code is entered in the field “Radio code”, see below.
- Same as incoming (default)

Radio code

If “Automatic” is checked, the TREX 2G will use its own radio code and send this (default).

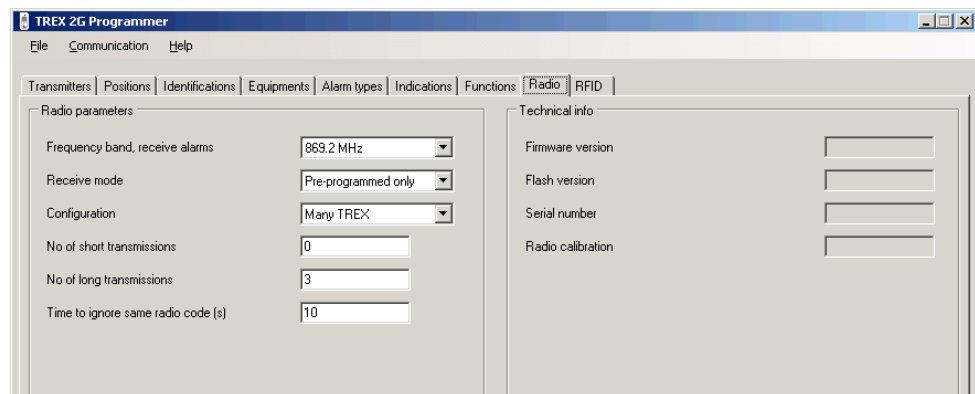
If “Automatic” is unchecked, enter the radio code that should be sent if “Use dedicated code” is selected in “Radio code to send” above.

Alarm type

Select what alarm type should be sent in the retransmission.

Default = No alarm type.

3.11 Radio tab



Picture 42. Radio tab

3.11.1 Radio parameters

Frequency band, receiving alarms

Depending on how the TREX 2G system is set up, different frequency bands can be used.

- 868.7 MHz
- 869.2 MHz (default)
- 869.4 MHz
- 869.2/869.4 MHz
- 906.2 MHz

Receive mode

The TRES 2G can act on all radio ID codes transmitted, or only on pre-programmed radio ID codes.

- Pre-programmed only (default)
- All

Configuration

- One TRES
- Many TRES (default)



If a system contains two or more TRES 2G, then “Many TRES 2G” MUST be selected or else there is a possibility that alarms will not reach all designated receivers.

No of short transmissions

Set the number of short transmission.
Default = 0

No of long transmissions

Set the number of long transmission.
Default = 3



If the only receivers in a system are TRES 2G and since the TRES 2G does not receive short transmissions, it is unnesseceary to set short transmissions to anything but 0 (zero).

Time to ignore same radio id code (s)

If an alarm is triggered frequently by a user, the TRES 2G can be set to ignore the same radio id code for a defined period of time.

- Default = 10 seconds

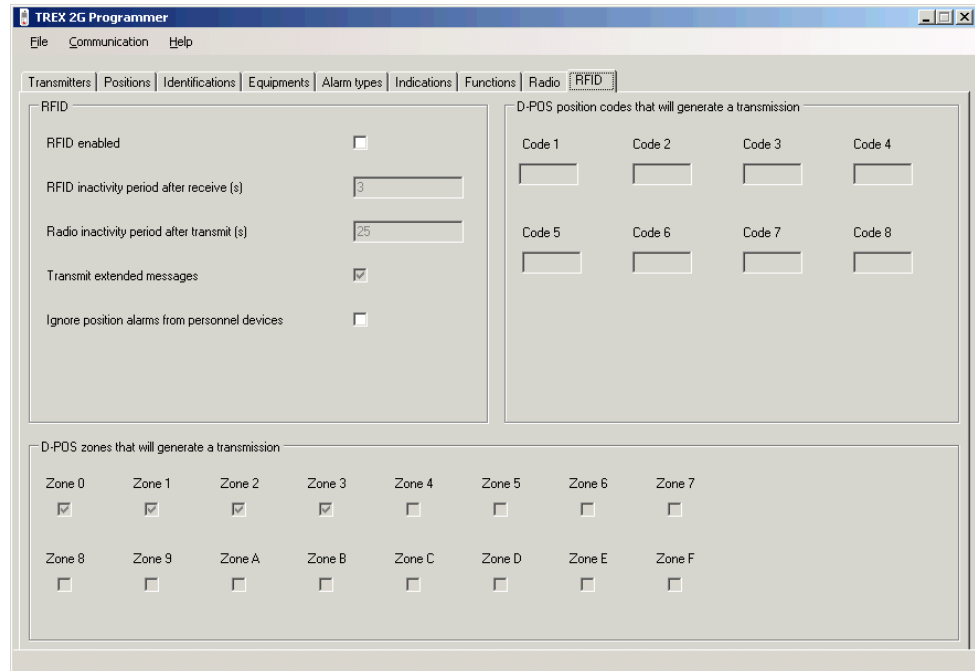
3.11.2 Tecnical info

The values in this section are read-only and is only for information about the TRES 2G unit. The information can be useful when contacting NEAT support.

- Firmware version
- Flash version
- Serial number
- Radio calibration

3.12 RFID tab

See “For more information about positions and the D-POS system in general, please refer to the D-POS/D-ATOM Positioning system Technical Handbook, document number: NE41 08001-02.” on page 14.



Picture 43. RFID tab

3.12.1 RFID

RFID enabled

Check this box to enable RFID in the TREX 2G. This is used when the TREX 2G is in an environment containing D-products.

RFID inactivity period after receive (s)

When entering a D-POS field, the TREX 2G sends out its radio code and will then stop listening for a certain time to save battery.

Radio inactivity period

When entering a D-POS field, the TREX 2G will send out its radio code and then ignore the field ID code for a certain time so the TREX 2G will not flood the system. However, in conjunction with the parameter above, if the TREX 2G enters a new antenna field after the time specified in “RFID inactivity period after receive (s)” above, the TREX 2G will transmit its radio code again. It now ignores this new antenna field for the specified time.

Transmit extended messages

If enabled, the TREX 2G will include in the radio message, information about:

- the present antenna field
- the previous antenna field
- whether the sender is a personnel device or not

Ignore positions alarms from personnel devices

If enabled, all position information from all personnel devices is ignored.



This only works if "Transmit extended messages" is checked.

3.12.2 D-POS position codes that will generate a transmission

3.12.2 and 3.12.3 determines if the TREX should listen to and act on single D-POS positions and/or D-POS zones. For more information about how a D-System works, please refer to NE41 09009-02, D-Server System Overview.

Select/enter code 1 - code 8

3.12.3 D-POS zones that will generate a transmission

Select zone 1 - zone F

4 Configuration examples

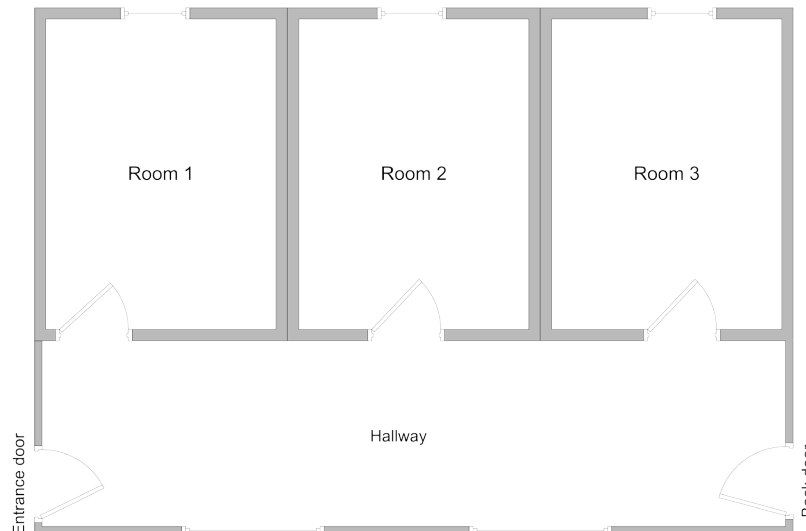


The TREX 2G icon indicates that this settings is also available directly in the TREX 2G unit, without the need for TREX 2G Programmer.

Two examples will be displayed here to give a hint how to use and configure the TREX 2G.

4.1 Example 1 - A small nursing home

The first example is a small “nursinghome”. This is to give a general idea of a simple setup in a simple environment.



Picture 44. Layout of a small nursing home

This “small” nursinghome consist of:

Rooms	3
TREX 2G	1
Transmitters	ATOM x 3

Table 1. Small nursing home prerequisites

This is a straight forward setup, using default values is very simple and requires not much programming and or configuration.

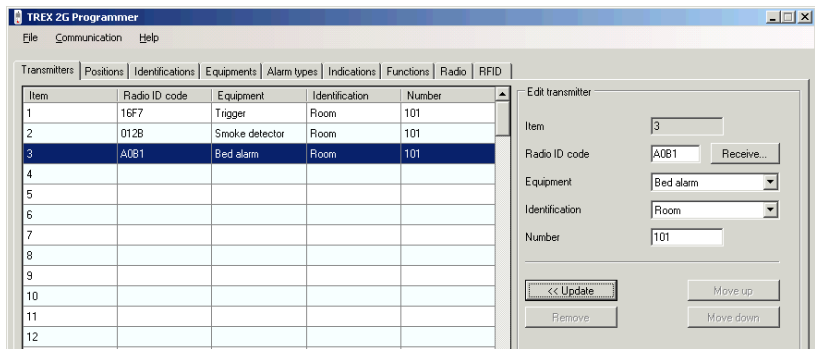


see 1.7.1, p. 12

To add the first ATOM (Item 1)

1. Open TREX 2G programmer and “Transmitters” tab.
2. Select “Item 1”.
3. Click “**Receive...**” and press the red button on the first ATOM and the radio ID code will appear in the Radio ID code box (eg. 16F7). If the radio code is known, just write it directly in the Radio Code box.
4. Select “Trigger” in the Equipment drop down list.

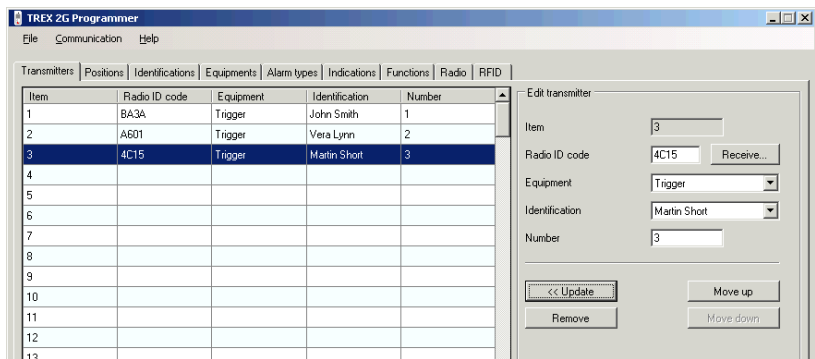
5. Select “Room” from the “Identification” drop down list.
 6. Enter “1” in the “Number” field.
 7. Click “<< Update” to update the item list with these new values.
 8. Repeat steps 1 to 7 for the next two ATOMs.
- NB! When selecting the next empty row, the values from the previously selected row is remembered in the “Edit transmitter” section.



Picture 45. Added transmitters in the TREX 2G

Alternatively using a person’s name as identifier

1. Start by adding a name on the “Identifications” tab. (Eg “John Smith to Item 5), see “3.6 Identifications tab”
2. Select the “Transmitters” tab and select “Item 1”.
3. Click on “Receive” and press the red button on the first ATOM and the radio ID code will appear in the Radio ID code box (eg. BA3A).
4. Select “Trigger” in the Equipment drop down list.
5. Select “John Smith” from the “Identification” drop down list.
6. Click “<< Update” to update the Item list with these new values.



Picture 46. Transmitters with names as identifiers

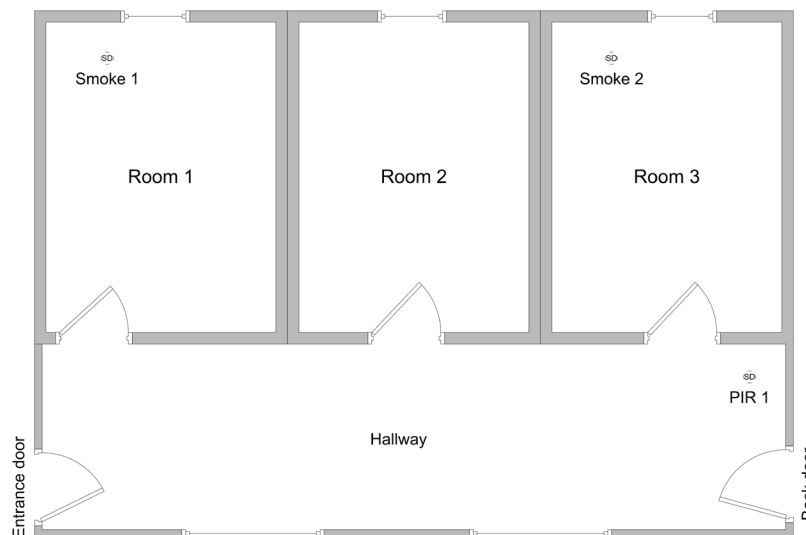
4.2 Example 2 - A larger nursing home

In this example the use of positions is added. Positions is only available when using D-ATOMs (or a TREX 2G) and a D-POS Antenna. For more information about these products, consult your distributor.

Assume there are two doors in the nursing home and these must be monitored. Adding these two doors as positions makes it possible to receive an alarm when a certain door is approached.

The three peripherals are added to give an idea of how to add non-personal transmitters to monitor movement and/or events, eg. the smoke detector will automatically send a smoke alarm to all TREX 2G in the system and display the origin of the alarm, eg. ROOM 1.

The can be used to notify the staff that someone has left their room and is in the corridor, eg. at night. The use of DOOR alarms, carpet alarms, D-POS antennas etc. in the nursing home would easily do the same and with a different degree of detail, depending of the need of surveillance and/or monitoring.



Picture 47. Layout of a “larger” nursing home

This “larger” nursinghome consist of:

Rooms	3
Transmitters	D-ATOM x 3 Smoke x 2 PIR x 1
TREX 2G	2
Positions	2 (see below)

Table 2. Equipment used in the larger nursing home

Since there are two D-POS antennas added to the system, the ATOMs must be replaced by D-ATOMs. Also the TREX 2Gs must be configured to work in an environment with two or more TREX 2G.

The positions, the two doors, are two D-POS antennas and have the technical characteristics according to the table below.

Denomination	Radio ID code	Number
Entrance door	1001	1
Back door	1002	2

Table 3. Position characteristics

For more information about D-ATOM, D-POS antennas and the D-POS system, please refer to D-POS/D-ATOM Positioning system Technical Handbook, document number: NE41 08001-02.

The programming/customization can be made in many ways and different order, but a good practice would be:

1. Add equipment (PIR)
2. Add Identifications (Corridor)
3. Add the positions (Positions tab)
4. Add the transmitters (Transmitters tab)
5. Configure the TREX 2G to work in a multi-TREX 2G- environment

Add a new equipment (the PIR)

1. Go to the "Equipment" tab
2. Click on any empty item.
3. Add a text to the new equipment, in this case enter "PIR".
4. Change/select acoustic indication if desired. We leave it unchanged here.
5. Click "**<<Update**" to update the itemlist.

Add a new identification (the hallway)

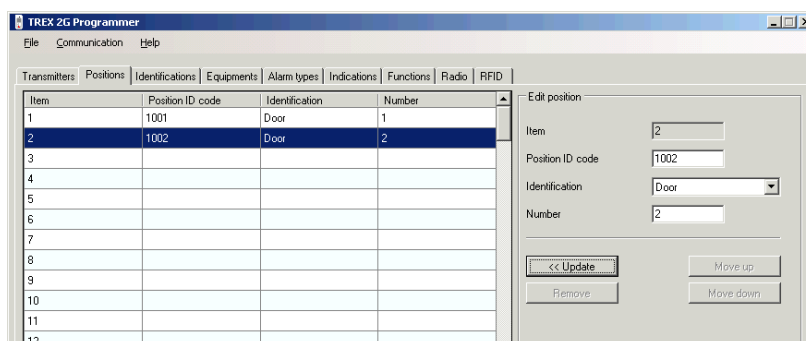
1. Go to the "Identifications" tab
2. Click on any empty item (or select an existing item to change)
3. Add a text to the new equipment, in this case enter "Hallway".
4. Press **Enter** to confirm the value.

Add the positions

1. Go to the “Positions” tab.
2. Select Item 1 and enter its position ID code in the left section.
3. Select the identification, (“Door”).
4. Enter the door number in the “Number” field (1).
5. Click “<< Update” to update the Itemlist.
6. Repeat steps 2 to 5 for the second position (Enter door number “2”)



The position ID code from the D-POS antenna must be entered manually, since it can not be read from the air, so be very careful to enter the correct value.



Picture 48. Positions in the TREX 2G



see 1.7.1, p. 12

Add the transmitters

1. Go to the “Transmitters” tab
2. Select Item 1 and add it
3. Select the identification, (“Door”)Välj identifierare, (“DOOR”)
4. Enter the door code number in the “Number” field (eg. 1)
5. Click “<< Update” to update the Itemlist.
6. Repeat steps 2 to 5 for the other transmitters.



see , p. 31

Many TREX 2G

1. Go to the “Radio” tab
2. Select “Many TREX” from the Configuration drop down menu.

Customization is now ready. If the second TREX 2G is in use somewhere else and the configuration is not imminent, save the current configuration as a file to and then write it directly to the second TREX 2G.

Save present configuration as a file, by clicking “File>Save as...” on the menu. Browse to a desired location and rename the file.

Now write the information to the TREX 2G, click Communication>Write to TREX.

When the first TREX 2G is loaded with the configuration file, disconnect it from the USB Mini adapter and connect the second TREX 2G to the computer.

5 Technical data

Frequency	869.20-869.25 MHz	
External supply voltage	5 V _{DC} Charger: NE31 05001-06	
Battery	Rechargeable 3.7V LiPo, 600 mAh	
Standby battery life time	10 days (without alarm)	
Communication capabilities	SRD ISM, Send and receive	
	Low frequency RFID	
Radio frequency	869.2125 MHz - Social alarms (data)	
	869.2375 MHz - Social alarms (acknowledgment)	
Channel spacing	25 kHz	
Modulation	GFSK (Manchester coding)	
Deviation	± 2.5kHz	
Data rate	2400 bit/s	
Power	max 10 mW	
Duty cycle	< 0.1%	
Transmission range	100 – 250 meter, free air	
RFID frequency	125 kHz	
Coding	Pulse length coding	
Display type	CSTN, 128 x128 pixels	
	Colours 65k	
Recommended temperature	5 – 55 °C	
Dimensions	Height: 100 mm	
	Width: 48 mm	
	Depth: 21 mm	
	Weight: 60 g	
Applicable EU standards	R&TTE:	EN 300 220-2 V2.3.1
	LVD:	EN 60950-1:2006+A11:2010
	EMC:	EN 301 489-1 V1.8.1(2008)
		EN 301 489-3 V1.4.1 (2002)

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