K-TERM 42 Option Board: Beacon Receiver & ManDown Programming Guide

K-TERM 42 Option Board

K-TERM 42 Option Board is a solution for monitoring of the subscribers inside of the buildings. Option board set into the **MOTOTRBO** radio receives signal transmitted by the beacons. - **Beacon ID**. After that the radio transmits the Indoor data (**Beacon ID**) to TRBOnet Enterprise Server

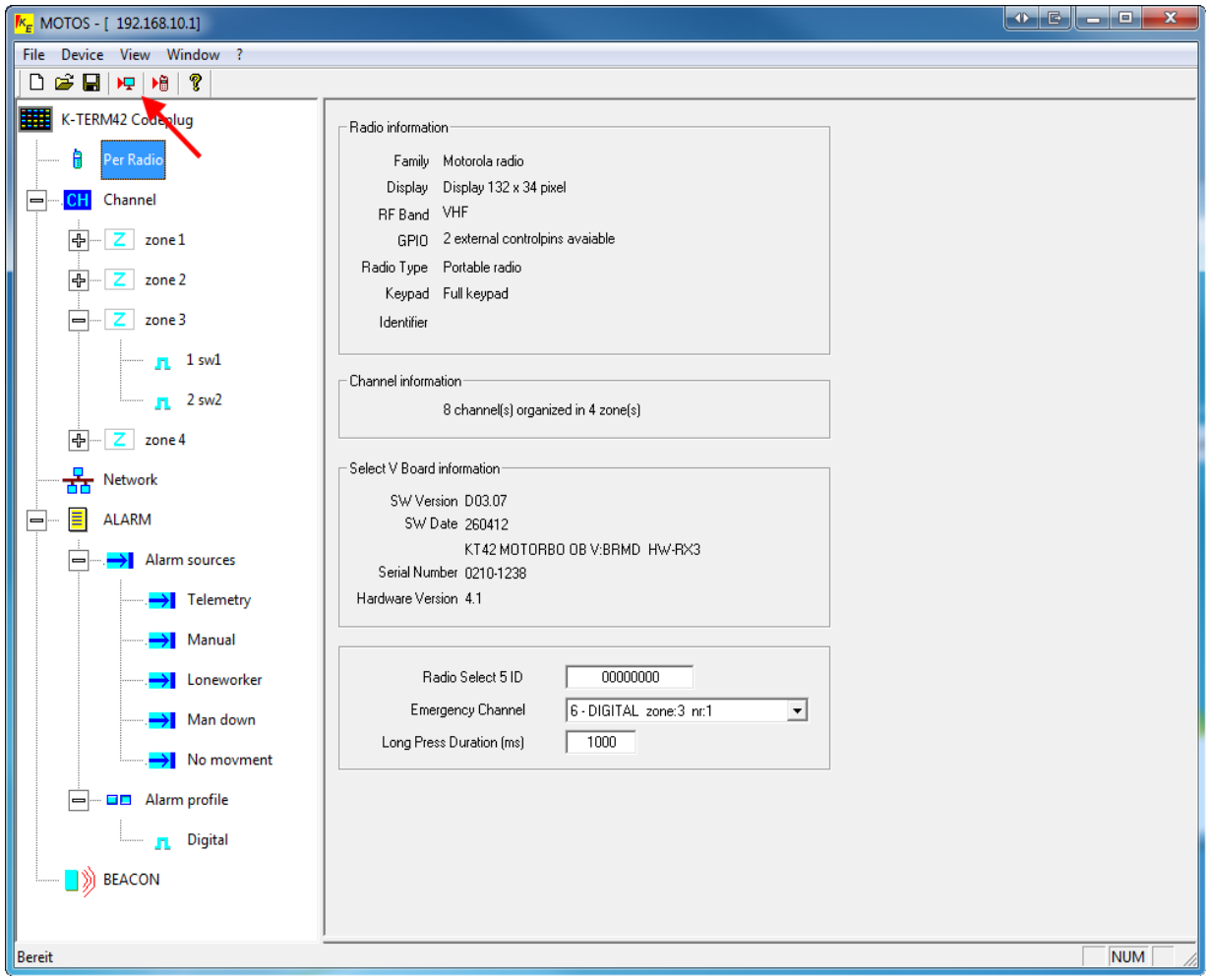
1. Launch **K-Term CPS** using one of the following ways:

- Double click the **K-Term CPS** shortcut on your desktop
- From the **Start** menu select **All Programs|K-Term CPS**

2. Read your radio with K-Term CPS. You may see general information concerning the radio and the option board.

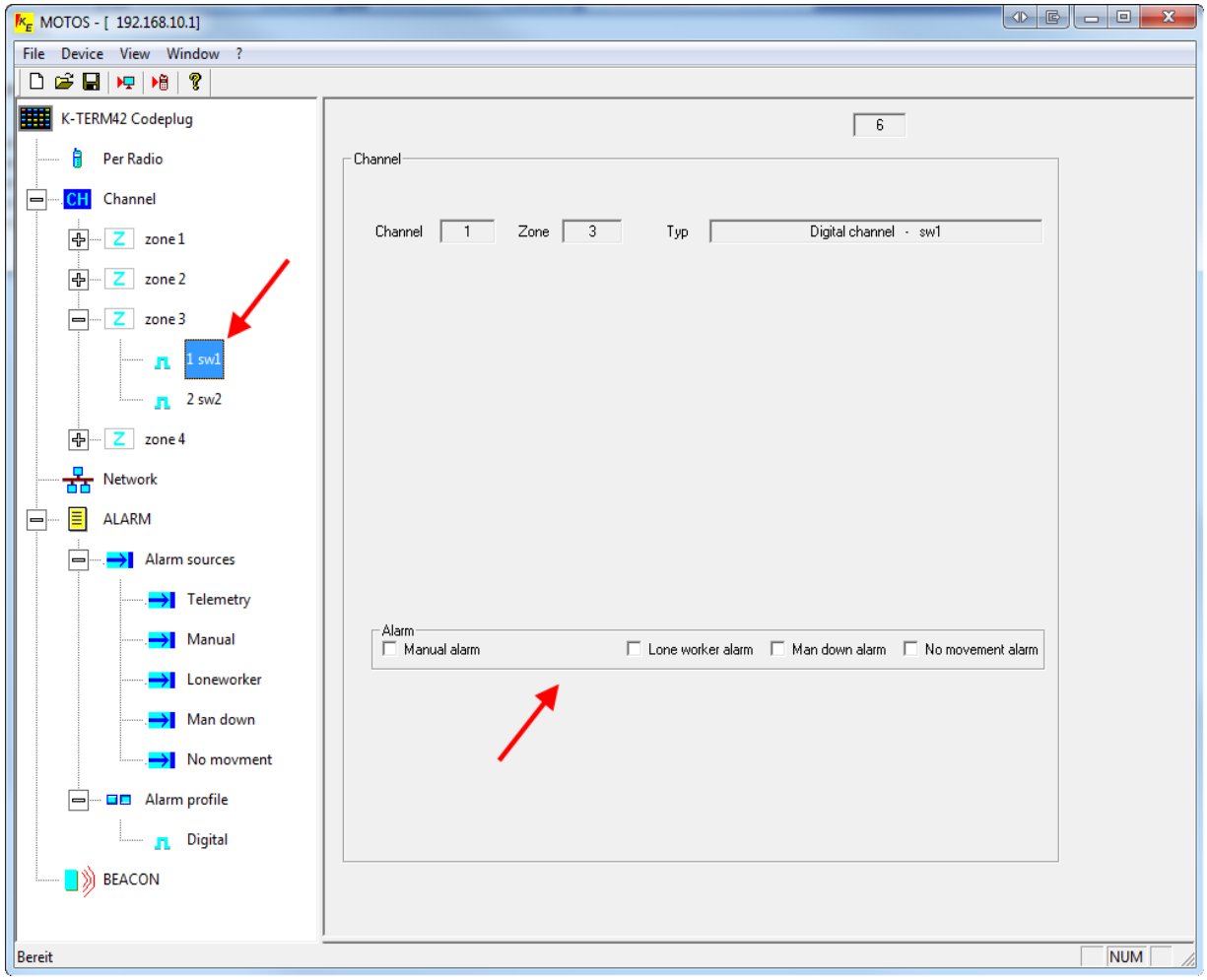
Note 1: IP address of the radio must coincide with the IP set in the K-term CPS settings

Note 2: the channel selected in the radio must have the **Option Board** feature enabled


MOTOS - [192.168.10.1]
File Device View Window ?
K-TERM42 Codeplug
Per Radio
Channel
zone 1
zone 2
zone 3
1 sw1
2 sw2
zone 4
Network
ALARM
Alarm sources
Telemetry
Manual
Loneworker
Man down
No movment
Alarm profile
Digital
BEACON
Radio information
Family Motorola radio
Display Display 132 x 34 pixel
RF Band VHF
GPIO 2 external controlpins avaiable
Radio Type Portable radio
Keypad Full keypad
Identifier
Channel information
8 channel(s) organized in 4 zone(s)
Select V Board information
SW Version D03.07
SW Date 260412
KT42 MOTORBO OB V:BRMD HW-RX3
Serial Number 0210-1238
Hardware Version 4.1
Radio Select 5 ID 00000000
Emergency Channel 6 - DIGITAL zone:3 nr:1
Long Press Duration (ms) 1000
Bereit
NUM

Channel

Select the channel and the alarms to be used on it:



Manual Alarm - put the checkbox if you want to activate alarm mode with the button push

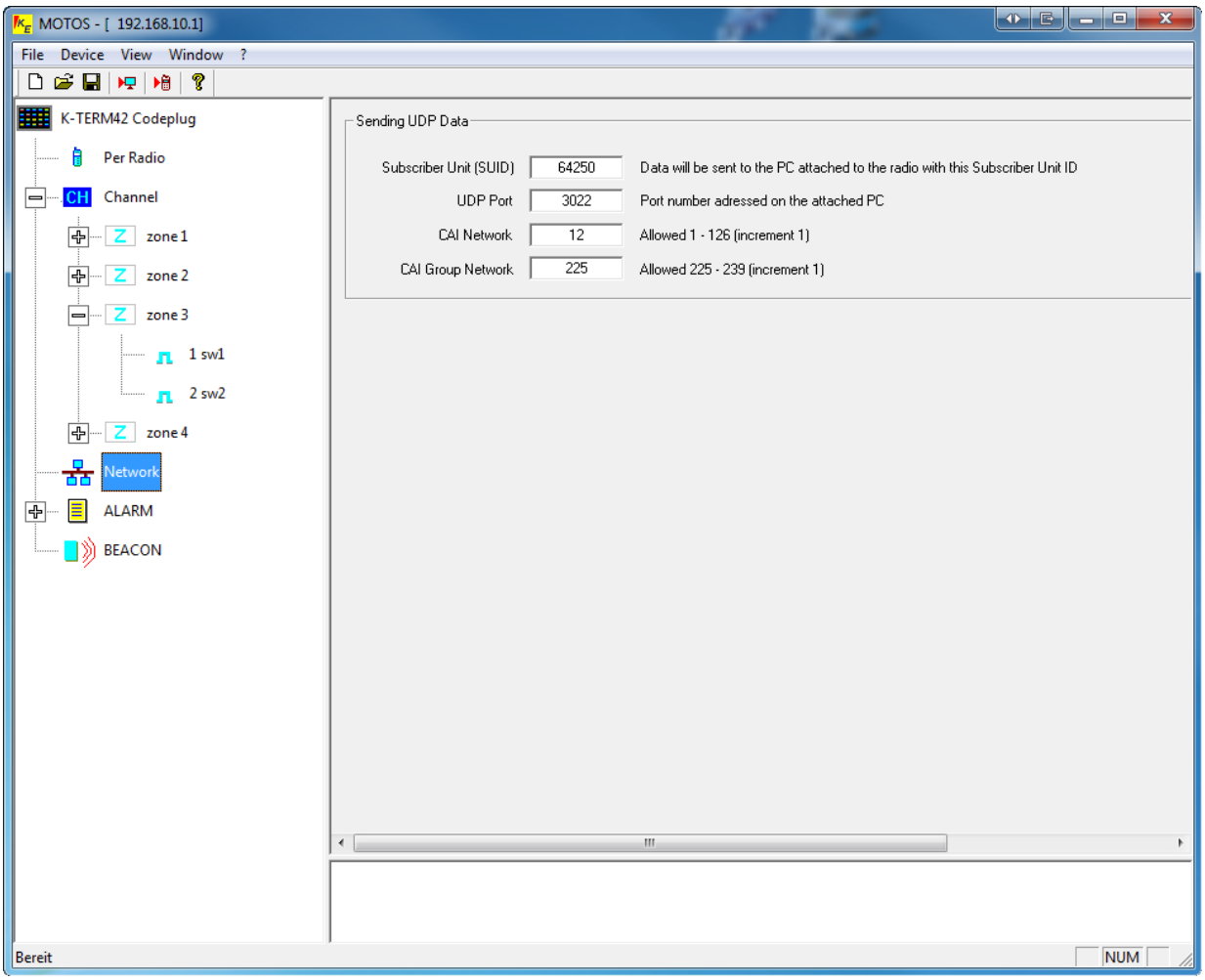
Lone worker alarm - put the checkbox to activate following feature

Man down alarm - put the checkbox to activate following feature

No movement alarm - put the checkbox to activate following feature

Network

Set Network parameters for the radio to send data:



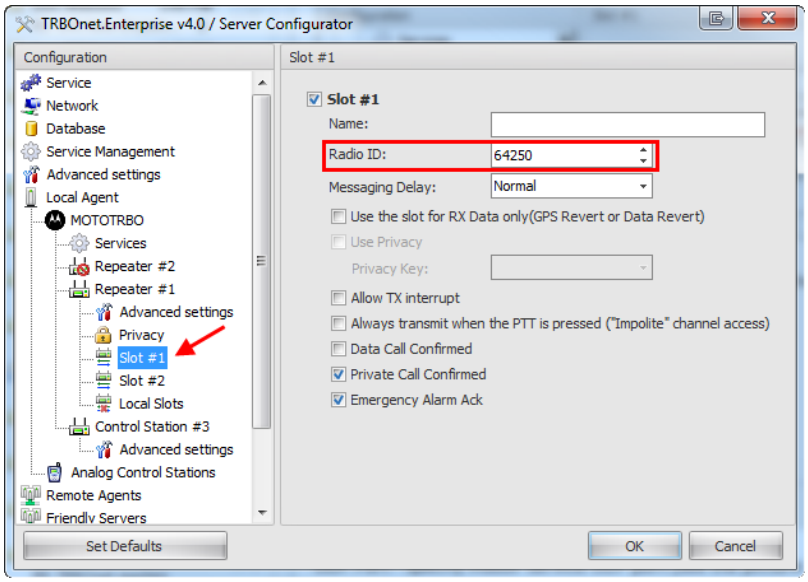
Subscriber Unit (SUID) - specify the ID of the control station or repeater slot to forward the data to (see picture 1 below)

UDP Port - specify Indoor service UDP port (see picture 2 below)

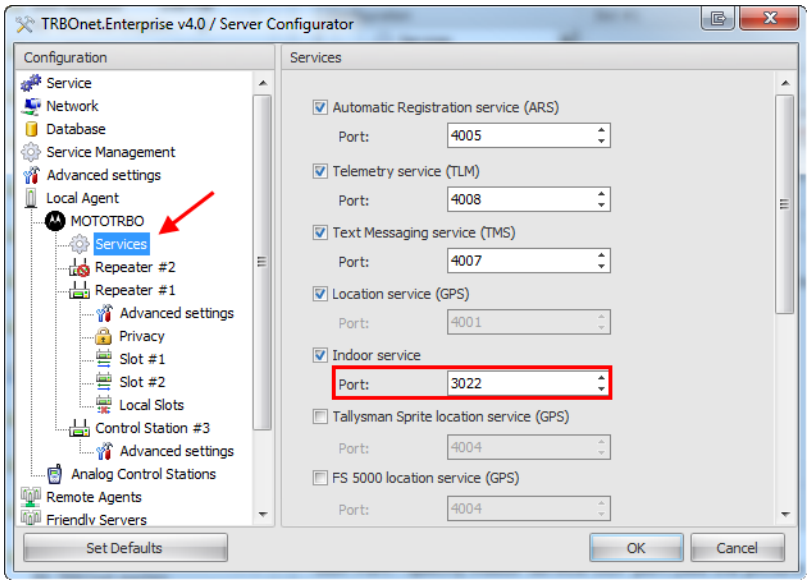
CAI Network - specify the number of the radio network (for private contacts)

CAI Group Network - specify the number of the radio network (for groups)

Picture 1



Picture 2



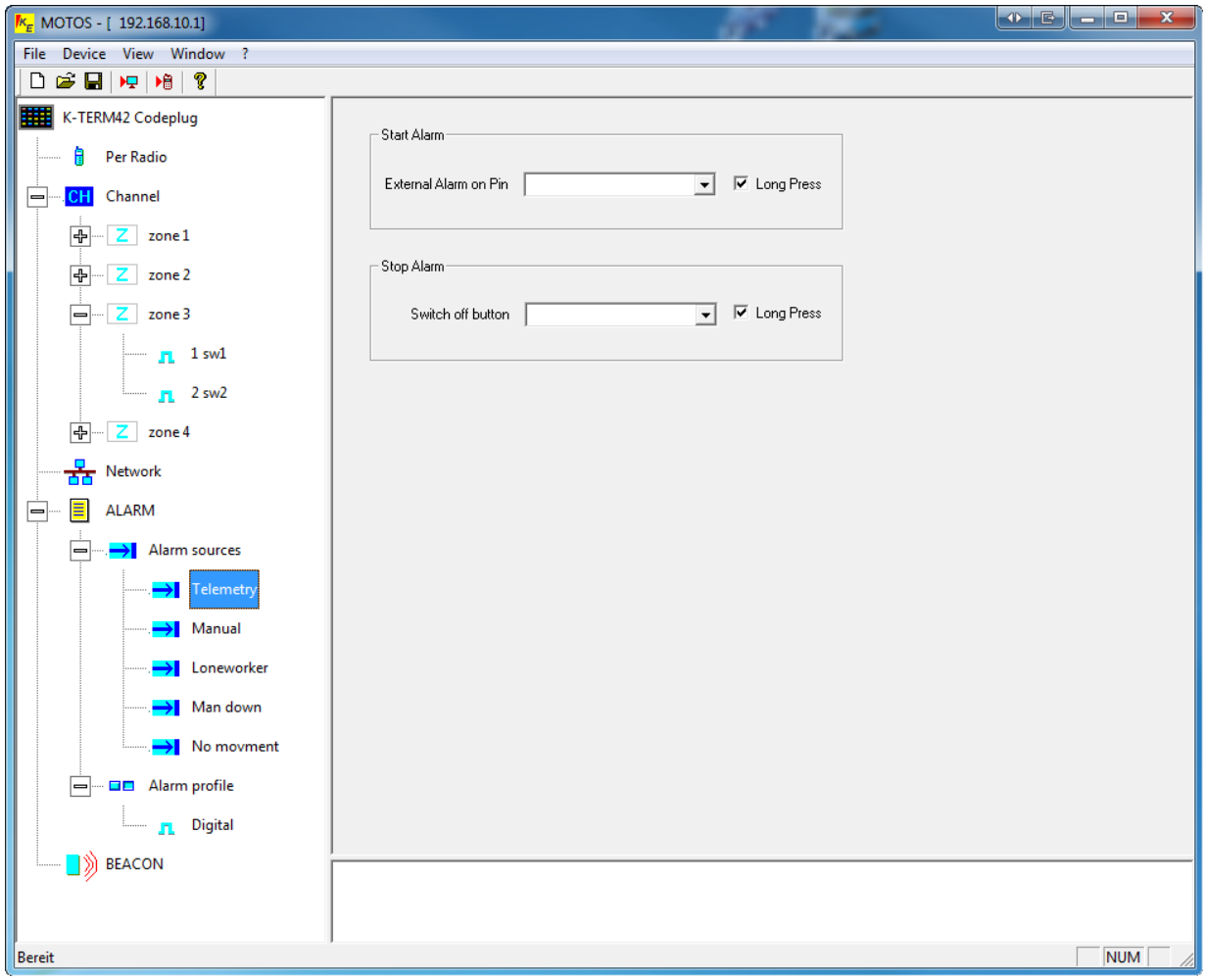
Alarms

Alarm sources

Set the parameters for the alarm mode activation:

Telemetry

Alarm mode activation via telemetry means:



1. **Start Alarm**

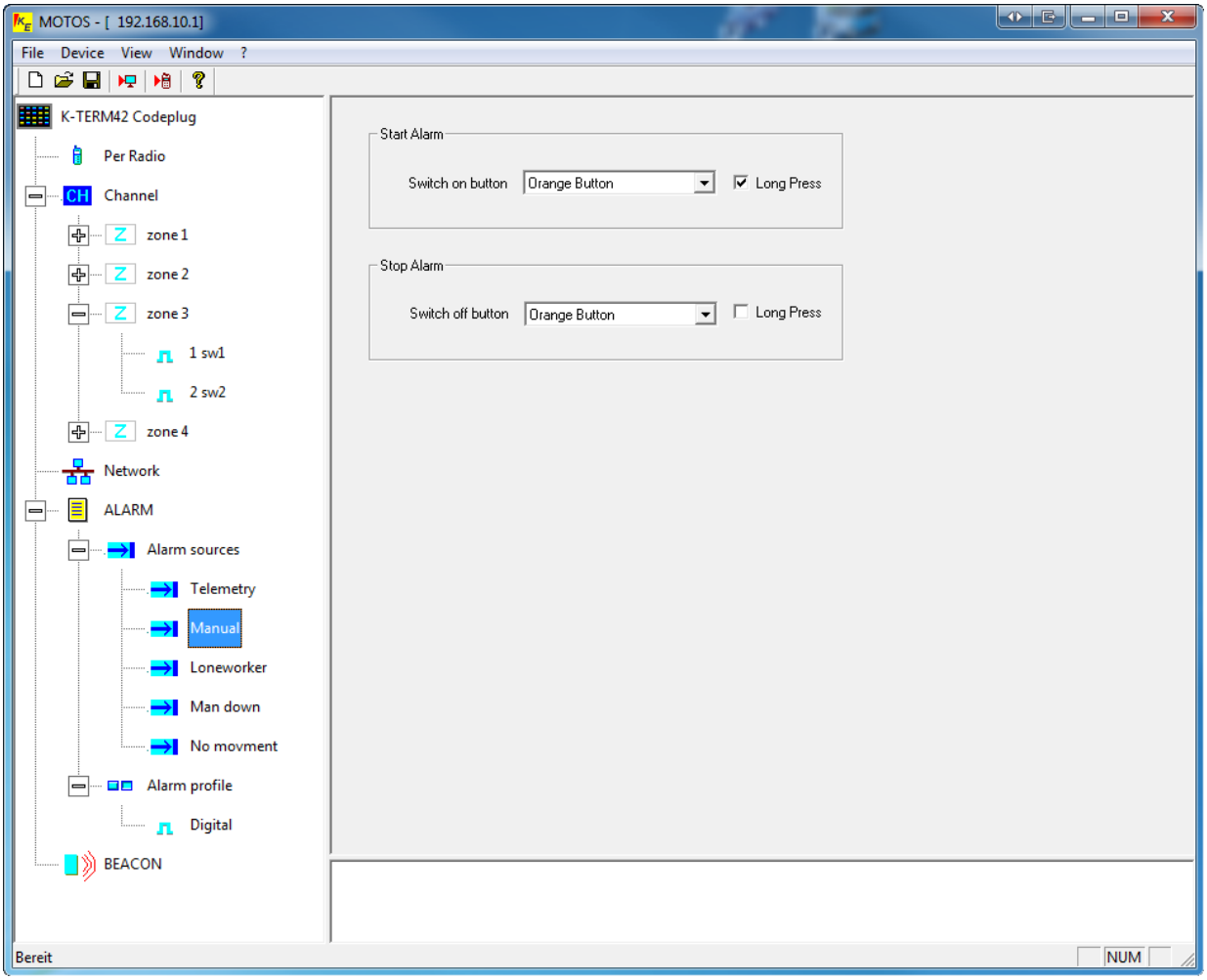
External Alarm on Pin - select physical telemetry pin for the alarm mode to be activated

2. **Stop Alarm**

Switch off button - select the telemetry button to stop alarm mode

Manual

Manual alarm mode activation:



1. **Start Alarm**

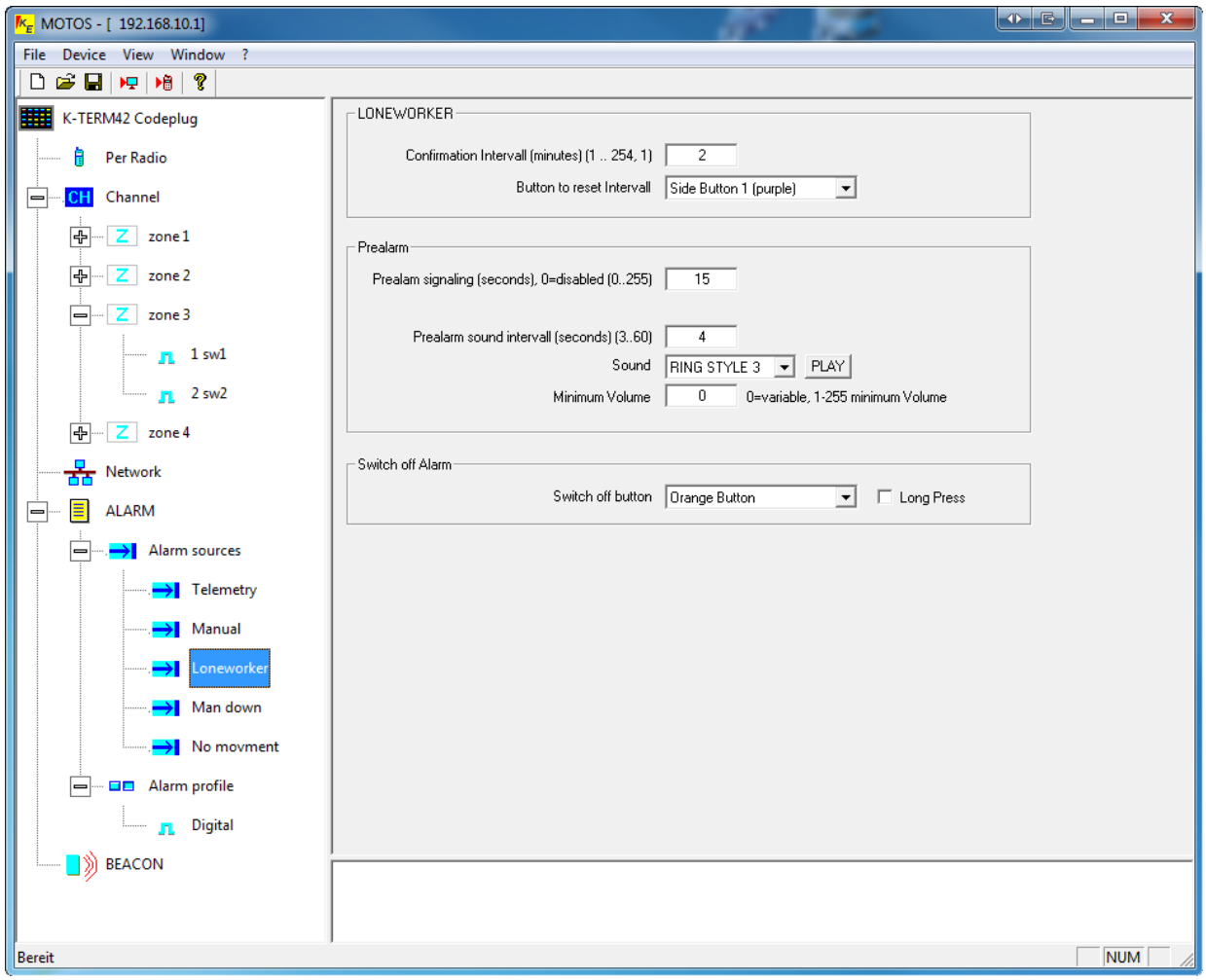
Switch on button - select the button to start alarm mode

2. **Stop Alarm**

Switch off button - select the button to stop alarm mode

Loneworker

Alarm mode activation in case of the **Loneworker** rule's failure:



1. **Loneworker**

Confirmation Interval (minutes) - set the time interval for the signal to be sent to the server to prevent alarm (and prealarm) mode activation

Button to reset Interval - select the button to send the signal to the radio server to prevent alarm(and prealarm) mode activation

2. **Prealarm**

Prealarm signaling (seconds) - in case time interval has run out set the duration of the prealarm signaling

Prealarm sound interval (seconds) - set the time interval between prealarm sounds

Sound - select the sound for prealarm signaling

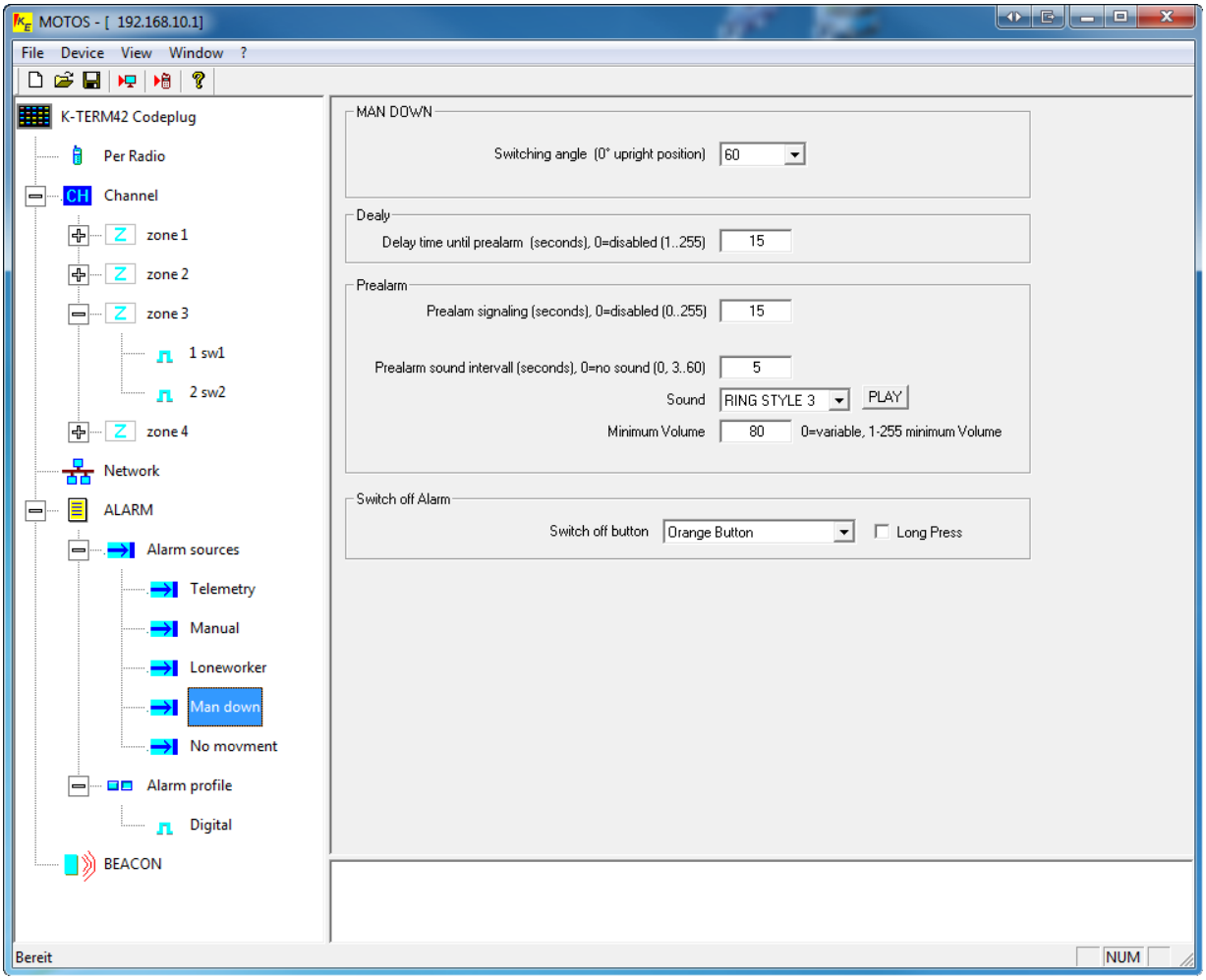
Minimum Volume - set the volume of prealarm signaling

3. **Switch of Alarm**

Switch off button - select the button to switch off the alarm mode

Man down

Alarm mode activation in case of the **Man down** rule's failure:



1. **Man down**

Switching angle (0° upright position) - select the angle for **Man down** alarm to be activated

2. **Delay**

Delay time until prealarm (seconds) - set time interval before the prealarm mode activation

3. **Prealarm**

Prealarm signaling (seconds) - set the duration of the prealarm signaling

Prealarm sound interval (seconds) - set the time between prealarm sounds

Sound - select the sound for prealarm signaling

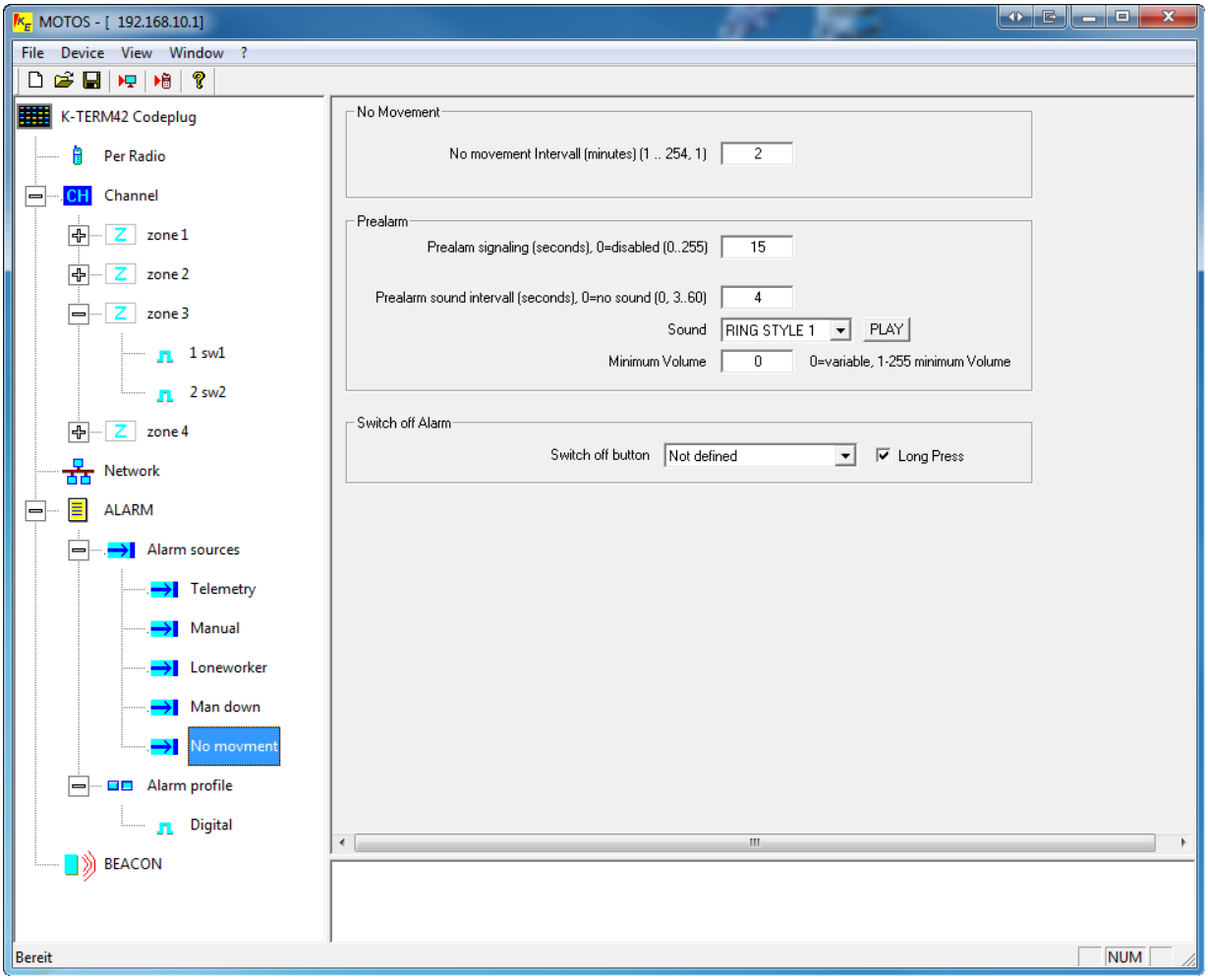
Minimum Volume - select the volume of prealarm signaling

4. **Switch off Alarm**

Switch off button - select the button to switch off the alarm mode

No movement

Alarm mode activation in case of the **No movement** rule's failure:



1. **No movement**

No movement interval (minutes) - set the permissible time interval for no movement. After this time expires alarm mode is activated.

2. **Prealarm**

Prealarm signaling (seconds) - set the duration of the prealarm signaling

Prealarm sound interval (seconds) - set the time between prealarm sounds

Sound - select the sound for prealarm signaling

Minimum Volume - select the volume of prealarm signaling

3. **Switch off Alarm**

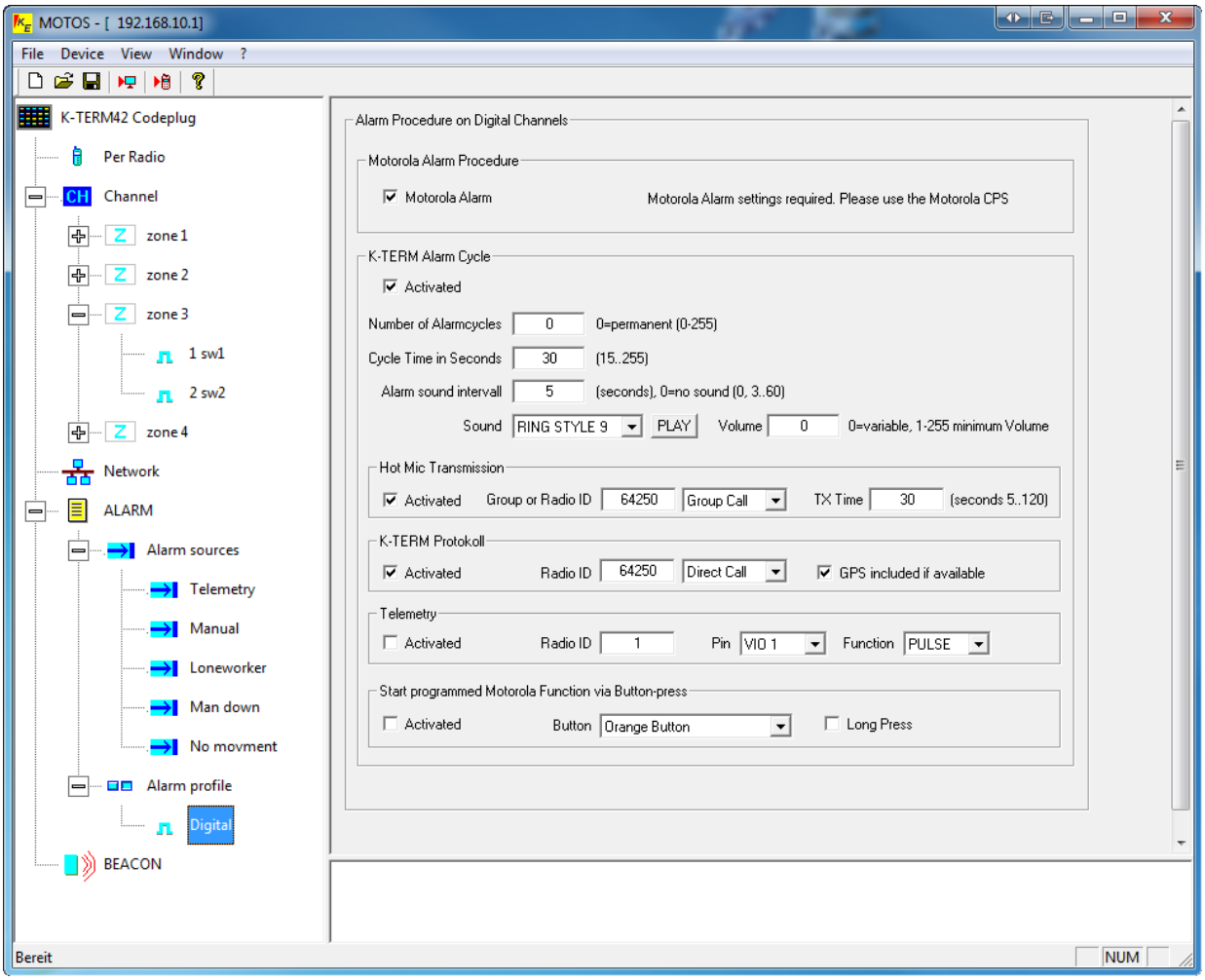
Switch off button - select the button to switch off the alarm mode

Note: if you enable **Long Press** feature you need to set it up in **MOTOROLA CPS**. It means that you need to set duration time required to activate any feature via pushing the button on the radio or using another compatible device (e.g. you need not just to push the button but to have the button pushed for a few seconds)

Alarm profile

Digital

Set the alarm parameters:



1. **Alarm Procedure on Digital Channels**

Motorola Alarm Procedure

Motorola Alarm - put the checkbox to use alarm settings set for the **MOTOTRBO** radio (not for the option board)

2. **K-Term Alarm Cycle**

Activated - put the checkbox to set the option board's proper alarm parameters

3. **Number of Alarmcycles** - specify the number of alarms to be sent (if you put 0 alarm mode will be permanent)

Cycle time in seconds - set the duration time for one alarm cycle

Alarm sound interval - set time interval between alarm cycles

Sound - select sound to be used as alarm tone

Volume - set the alarm tone volume

4. **Hot Mic Transmission**

Activated - put the checkbox to activate Hot Mic Transmission feature in case alarm has happened

Group or Radio ID - specify ID of the recipient (who will hear what hot mic transmits).

Select **Group Call** or **Direct Call** (whether the recipient is the group of subscribers or it is one subscriber or dispatcher).

TX time - set the time for **Hot Mic Transmission** feature to stay activated

5. **K-Term Protocol**

Activated - put the checkbox to specify the recipient of the alarm

Radio ID - specify ID of the recipient

Select **Group Call** or **Direct Call** (whether the recipient is the group of subscribers or it is one subscriber or dispatcher).

GPS included available - put the checkbox to include GPS data

Note: if you select **GPS included available** feature only dispatcher will be able to receive GPS data

6. **Telemetry**

Activated - put the checkbox to activate Telemetry feature in case alarm has happened

Radio ID - specify ID of the recipient

Pin - select recipient's radio pin to be used for telemetry

Function - select the function (**Pulse, Toggle, Set or Clear**) for recipient (the way he will see the telemetry mode is activated)

7. **Start programmed Motorola Function via Button Press**

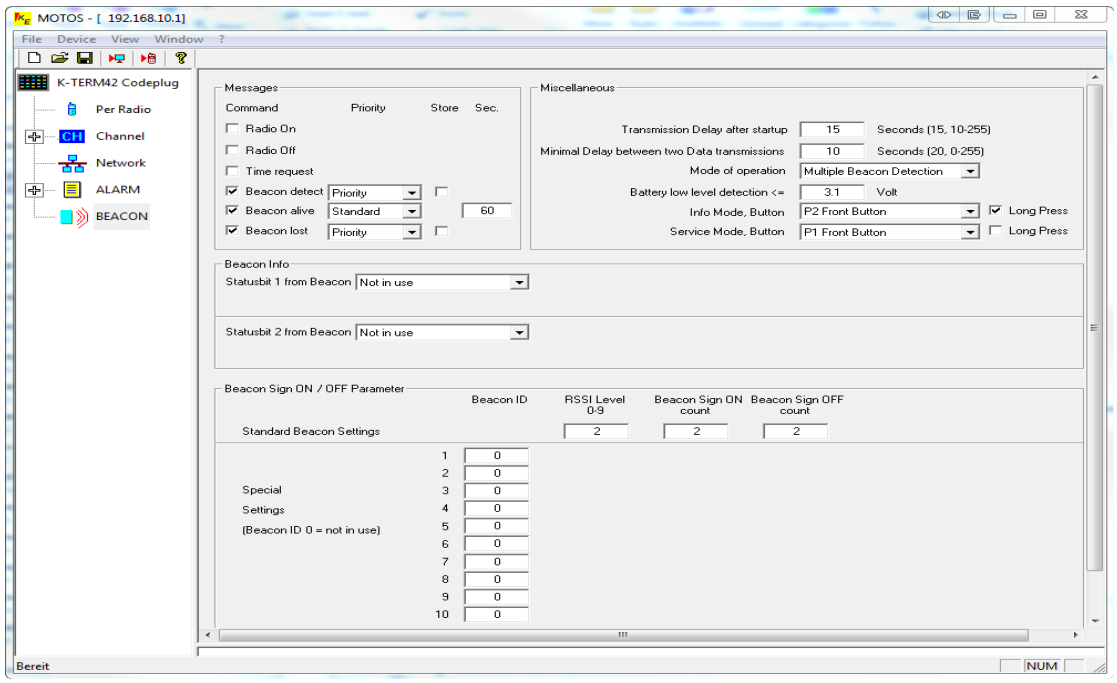
Activated - put the checkbox to follow **MOTOTRBO** radio rules in case of alarm

Button - select the button to push to follow **MOTOTRBO** radio rules in case of alarm

Note: if you enable **Long Press** feature you need to set it up in **MOTOROLA CPS**. It means that you need to set duration time required to activate any feature via pushing the button on the radio or using another compatible device (e.g. you need not just to push the button but to have the button pushed for a few seconds)

Beacon

Set the parameters for the option board to receive beacon signal:



Messages

Messages			
Command	Priority	Store	Sec.
Radio On			
Radio Off			
Time request			
Beacon detect	select **Priority, Immediate or Standard** priority level for the signal to be sent to the radio server	put the checkbox to store this event in the memory	
Beacon alive			set the permissible time interval for the radio to stay in the zone of the beacon
Beacon lost		put the checkbox to store this event in the memory	

Note 1: take into consideration that K-Term Indoor systemis event driven. In standard conditions (full building coverage with beacons) it is not recommended to use this function. It is also not recommended to use it on conventional channels if they are highly loaded

Note 2: it is recommended to set more than 2 minutes in Beacon alive Update Intervel (Sec.). Lesser intervals are used to test the system

Beacon Info

Statusbit 1 from Beacon			
	Sound	Volume	Text
Not in use			
Alarm OFF/Alarm ON	as the radio enters beacon zone the alarm mode will turn on or off		
Sound	select the sound to be played when radio entered beacon's zone	set the volume for the sound	
Sound with Text			specify the text to be sent to the radio when it enteres beacon zone

Note: **Statusbit 2 from Beacon** settings are the same as the ones in the table above

Beacon Sign ON/OFF Parameter

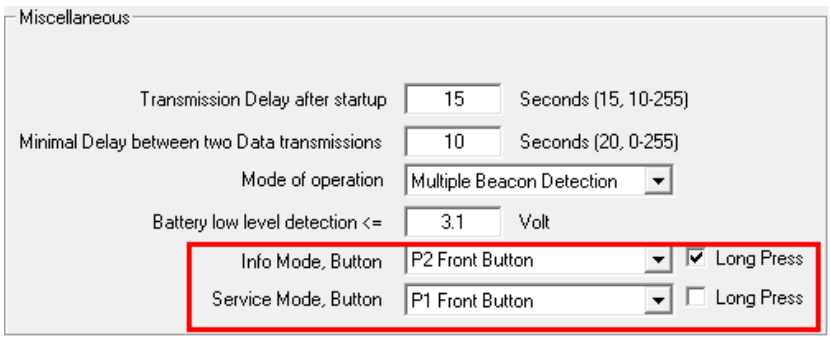
(the values of these parameters depend on the installation type and effiviency of the system, they may differ for various beacons; default recommended values are the following: **RSSI Level – 2; Beacon Sign ON count – 2 ; Beacon Sign OFF count – 2**)

	RSSI Level 0-9	Beacon Sign ON count	Beacon Sign OFF count
Standard Beacon Settings	set RSSI level for the option board to store and forward data packages to the radio server	specify the number of data packages to be stored by the option board from the beacon when it is in the RSSI level zone before they will have been being strated to be sent to the server	specify the number of data packages to be received by the option board from the beacon when it is out of the set RSSI level zone to stop forwarding packages to the server
Special Beacon Settings	put beacon ID to set its unique RSSI Level settings		

Miscellaneous

Function	Description
Transmission delay after startup	set the time interval after expiration of which the option board will start transmitting
Minimal delay between two Data transmissions	sert the time interval between data packages transmissions
Mode of Operation	select **Multiple Beacon Detection** to send data when the radio recieves signal from more than one beacon or **Sequential Beacon Detection** to send data when it recieves signal from one beacon
Battery low level detection	set the minimum battery level to send notification to the server
Info Mode Button	select the button for service information (beacon presence and its location)
Service Mode Button	select the button for service information (beacon RSSI Level, characteristics, etc.)

Note 1: it is strongly recommended to use **Info Mode Button/Service Mode Button**. It helps to diagnose the system and reveal the problems (for example when you press P2 button the radio will show beacon ID it receives the signal from, RSSI level, etc)



Note 2: if you enable **Long Press** feature you need to set it up in **MOTOROLA CPS**. It means that you need to set duration time required to activate any feature via pushing the button on the radio or using another compatible device (e.g. you need not just to push the button but to have the button pushed for a few seconds)