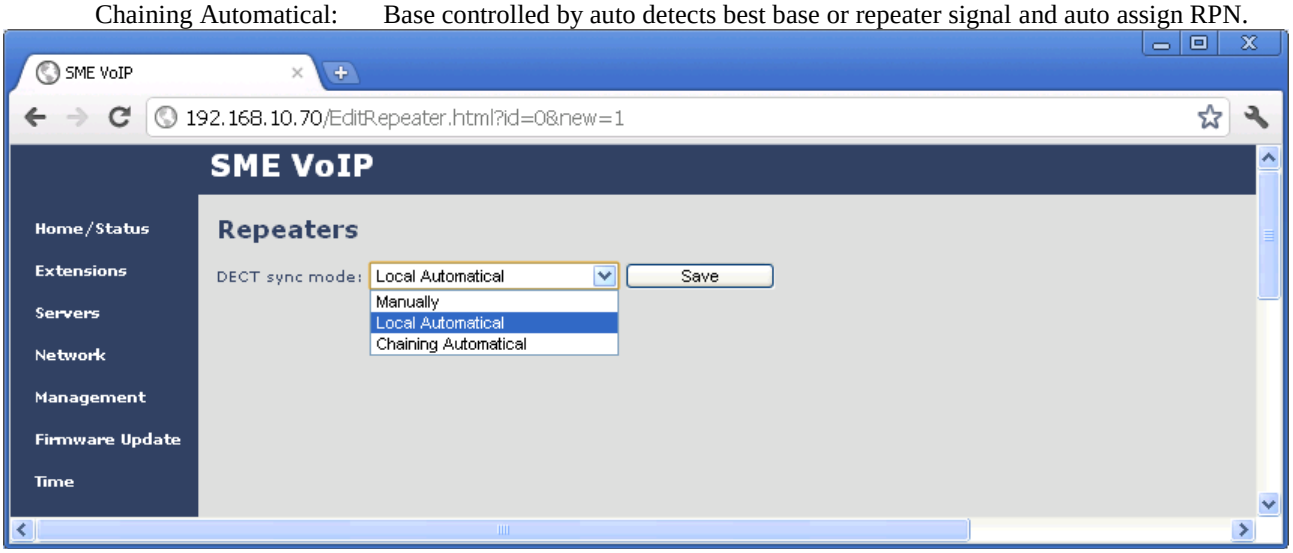
How to register repeater
How to firmware update over air
How to flash load by cable
LED and button

Register repeater

1. Login to base.
2. Select page “Repeaters”
3. Select “Add Repeater”

4. Select “DECT Sync mode”

Manually: User controlled by manually assign “Repeater RPN” and “DECT sync source RPN”
Local Automatical: Repeater controlled by auto detects best base signal and auto assign RPN.
Chaining Automatical: Base controlled by auto detects best base or repeater signal and auto assign RPN.



Manually mode

Select "RPN"

SINGLE CELL SYSTEM:
The base has always RPN00, first repeater will then be RPN01, second repeater RPN02 and third RPN03 (3 repeaters maximum per base)

MULTI CELL SYSTEM:
Bases are increment by 2^2 in hex, means first base RPN00 second base RPN04 etc., in between RPN01, 02, 03 addressed for repeaters at Primary base and 05, 06, 07 addressed for Secondary base (3 repeaters maximum per base)

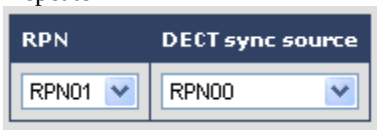
Select "DECT sync source"

What base or repeater the repeater has to be synchronize on.

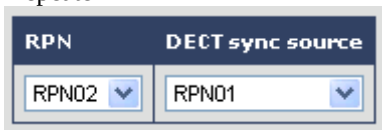
Example of 2 bases in chain and 2 repeater chains.

3 repeaters chained at Primary base.

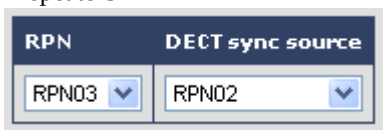
Repeater1



Repeater2

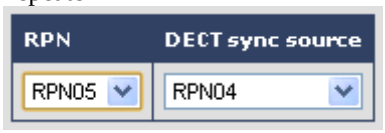


Repeater3

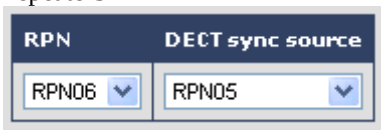


3 repeaters chained at Secondary base.

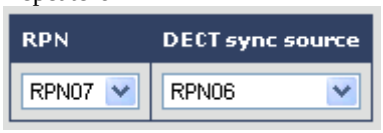
Repeater4



Repeater5



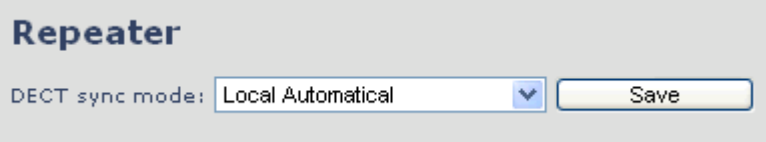
Repeater6



	Idx	RPN	IPEI	DECT sync source	DECT sync mode	State	FW Info	FWU Progress
☐	0		FF:FF:FF:FF:FF	RPN00	Manually			
☐	1		FF:FF:FF:FF:FF	RPN01	Manually			
☐	2		FF:FF:FF:FF:FF	RPN02	Manually			
☐	3		FF:FF:FF:FF:FF	RPN04	Manually			
☐	4		FF:FF:FF:FF:FF	RPN05	Manually			
☐	5		FF:FF:FF:FF:FF	RPN06	Manually			

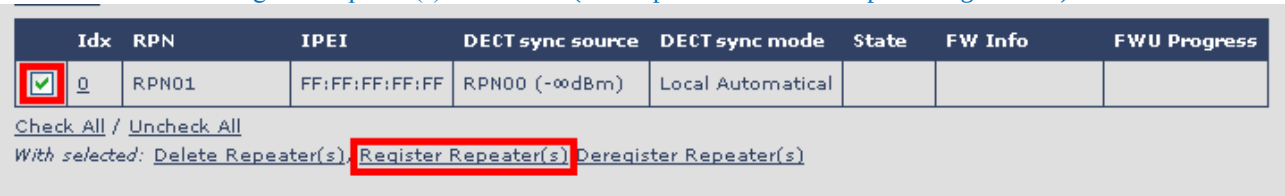
To edit repeater mode - select index.

Local Automatical



Repeater controlled by auto detects best base signal and auto assign RPN.
Repeater on base only, repeater on repeater (chain) not supported.
Repeater RPN dynamic assigned in base RPN range.

5. Check "Idx 0"
6. Select link "Register Repeater(s)" (Base open 5 minutes for repeater registration)



Attention:
Do not have base open for handset and repeater registration at the same time, repeater registration will fail and timeout.
Make sure the base is open for repeater registration before power on the repeater.

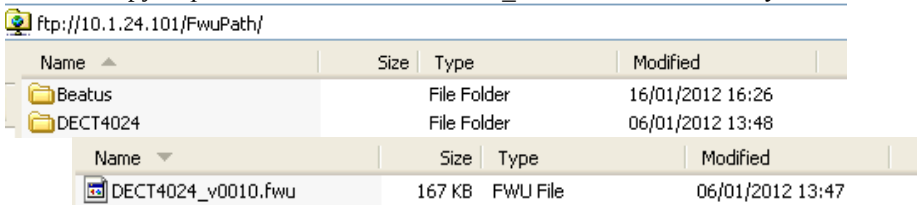
7. Power on repeater placed near base. (default registration mode if production unit)
   LED green double flash: Registration mode - if not then press reset button 2 sec. until LED becomes red.
   LED green steady: Within minutes the repeater should be registered successful.
   LED red steady: Registration timeout, press reset button 2 sec. or power cycle repeater.

To see Repeater signal strength in handset enable "Site survey mode" via key combination from idle.
Supported from handset v0234 - press key: [MENU] *789872*
Handset scans and list from left the RPN of base and repeater, below RPN is signal strength in –dbm.

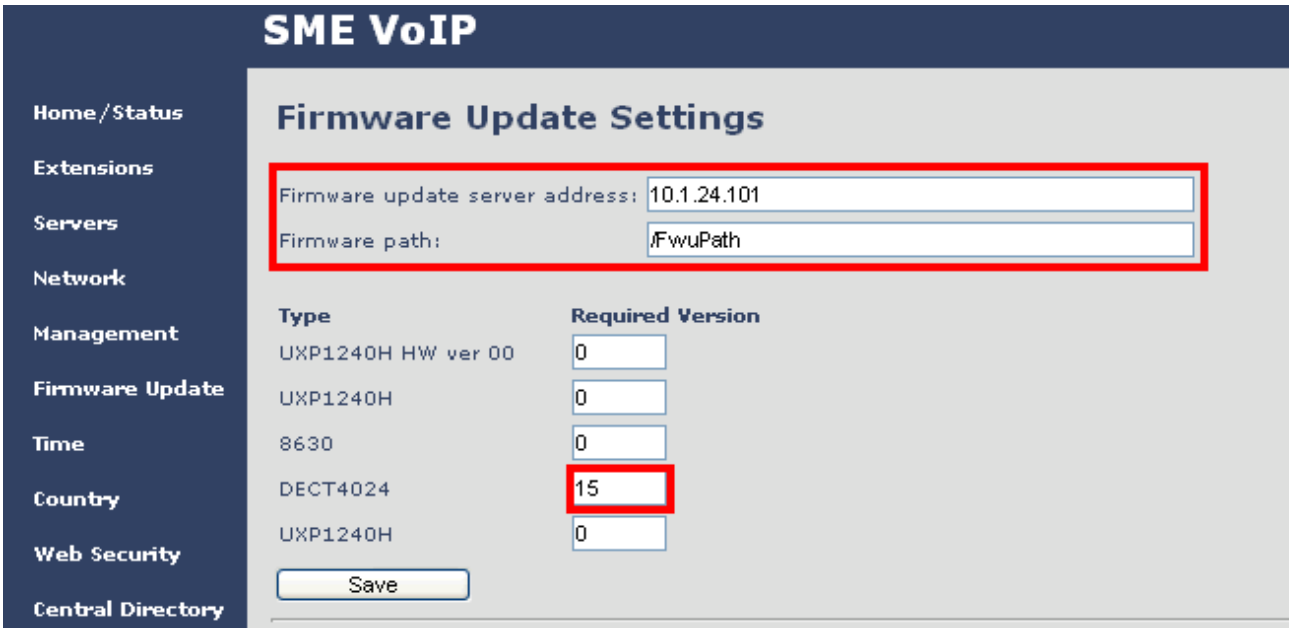
Successful registration.

Firmware update over air (FWU)

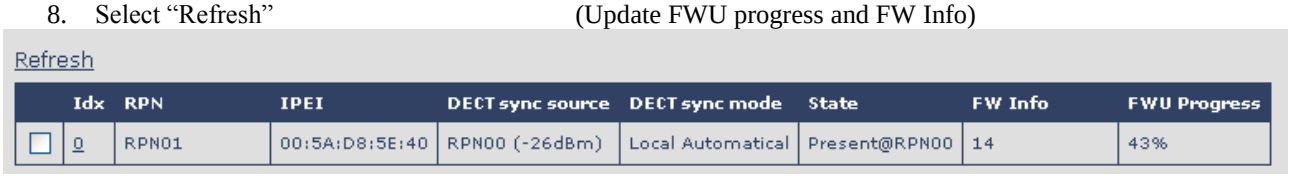
1. TFTP firmware server, create directory “DECT4024” at same root as “Beatus” directory.
2. Copy Repeater firmware “DECT4024_Vxxxx.fwu” to directory “DECT4024”



3. Select page “Firmware Update”
4. Set “Firmware update server address” and “Firmware path” according to TFTP server installation.
5. Type “DECT4024” firmware version.
6. Press “Save”



7. Select page “Repeaters”
8. Select “Refresh” (Update FWU progress and FW Info)



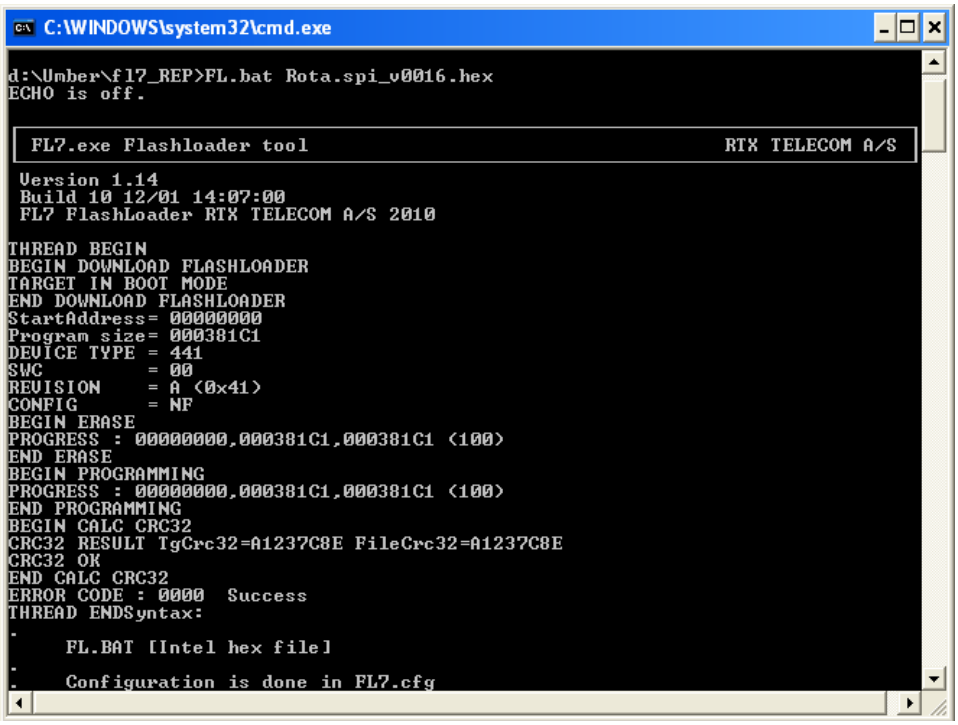
After approx. 20 minutes FWU reached 100% and repeater reboots with new firmware version and progress complete.
FWU several repeaters in parallel will take more minutes (Avoid radio interference, place repeaters with min. 1m apart)

Flash load by cable

1. Use RTX repeater programming kit.

2. Plug in USB adaptor to PC.
3. Install driver “CP210x_VCP_Win_XP_S2K3_Vista_7.exe”
4. Go to PC System Properties/Hardware/Device manager/Ports - find assigned comport for UART controller.
5. Open file “Fl7.cfg” and change comport to your own (marked yellow) – Save file.
   ```
   ##############################################################################
   # Com port
   # --------
   # /C=<Comport>   : (1,2, .... )
   ##############################################################################
   /c=22
   ```
6. Open dos prompt from the flash loader directory together with the Repeater firmware “Rota.spi_Vxxxx.hex”
7. Press and hold down button on USB adaptor and plug in cable direct into Repeater, release button afterwards. (Repeater in flash mode with LED turned off) – see video guide “Flashload_Repeater”
8. Start FlashLoader v1.14 or newer via command (change xx to right version): FL.bat Rota.spi_v00xx.hex
9. Successful flashed when Erase and Programming = 100% and error code: 0000 success.
10. Power cycle Repeater to get new version.

There is a chance for the two white cables are connected wrong and repeater cannot enter flash mode. When press down the button on USB adaptor nothing happens, repeater LED should be OFF but this case the repeater powers up normal, to fix problem swop the two white cables.



LED and button

Power cycle

The repeater basically has two modes: Subscribed or not subscribed.
When powered up without a registration, the following applies.

Power	Press	Action
OFF	00s < x < XXs	Nothing.
ON	00s < x < 05s	Nothing.
ON	05s < x < 300s	Search for suitable base and start registration procedure if a suitable found.
ON	300s < x < XXs	Nothing (Red LED).

When powered up with a registration, the following applies:

Power	Press	Action
OFF	00s < x < XXs	Nothing.
ON	00s < x < 60s	Search for source base/repeater.
ON	60s < x < XXs	Search for any base/repeater in the system.

Button

In the below table the action of button press is presented.

Button	Press	Action
1	00s < x < 02s	Nothing.
1	02s < x < 06s	Delete registration. Old registration is deleted and a new registration procedure is started.
1	18s < x < 60s	Enable or disable repeater monitor beep tone in handset during call.
1	60s < x < XXs	Nothing.

LED

LED	Indication	Action
Green	Off	Power off.
Green	Slow flash	Unlocked, searching for base.
Green	Double flash	Registration/subscription mode and searching for open base - registration procedure.
Green	Steady on	Locked to base and ready for use – idle.
Green	Short flash	Handset connection setup.
Red	Off	No handset connections relayed.
Red	*n* flash	*n* handsets relayed by repeater.
Red	Steady on	1. Registration procedure timed out after 5 minutes. 2. When key is held pressed the red LED will light up after 2 seconds to indicate that releasing the key will delete registration, LED turns off after 4 more sec.
Red/green	Flashing red/green	Recovery mode - repeater is locked to base/repeater without repeater mode activated. 1. Sync. source base/repeater not found (Manual mode). 2. Timeout during RPN allocation due to busy base/repeater.