



Application notes

MediaKind (formerly Ericsson) RX8200

Upgrade to FW version 8.25.1

Version 1.1 (July 2020)

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Document version

| Version | Date | Comments / Changes |
|---------|---------------|---|
| 1.0 | June 11, 2020 | Initial version |
| 1.1 | July 10, 2020 | Minor corrections Added clarifications on memory banks Added procedure for manual upgrade |

1 INTRODUCTION

This application note describes the installation process of firmware version 8.25.1 for the MediaKind (formerly Ericsson) RX8200 decoder.

2 PREPARATION

- Download the upgrade files:
<https://www.eurovision.net/insights/technical/biss-ca-migration-files-download>
- Ensure that management IP address is set manually and DHCP is disabled.
- Connect the PC to the decoder's RX8200 10/100BaseT management port. Ensure they are on the same IP subnet and have connectivity.

3 UPGRADE PROCEDURE

Note: All steps must be followed exactly for proper unit operation.

3.1 Overview

- Save any configuration in the unit before initiating upgrade process.
- Do not make any changes to configuration during upgrade process.
- Ensure that the unit is not in use before commencing the upgrade. Upgrading the device will interrupt its normal operation.
- Install software with Upgrade Utility as shown in section 3.2.
- Refresh your web page to reconnect the unit. In order to confirm that the SW version was upgraded, check in the unit menu *Device Info> Build> SW version*.

3.2 Install software with Upgrade Utility

3.2.1 Compatibility

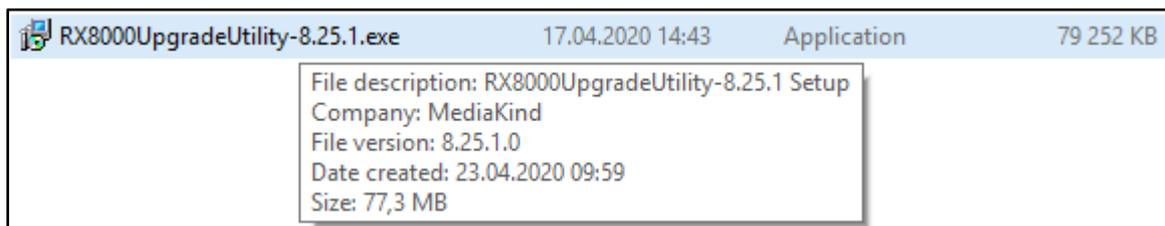
The Upgrade Utility will upgrade units running software version 5.12 or later releases only. For older SW versions, please follow the manual upgrade method (see section 4).

3.2.2 Installation

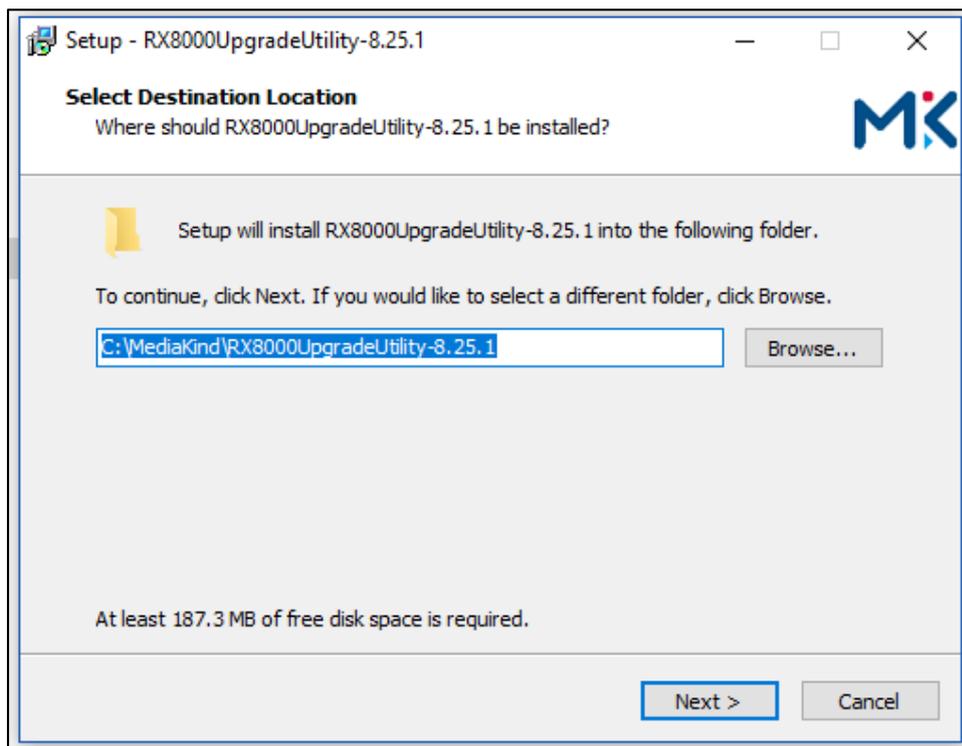
The RX8000 unit Upgrade Utility is distributed as an .EXE file that will install the correct Java environment on a Windows PC. It is not supported on any MacOS or on any virtual machine running on MacOS.

Please follow these steps to install Upgrade Utility:

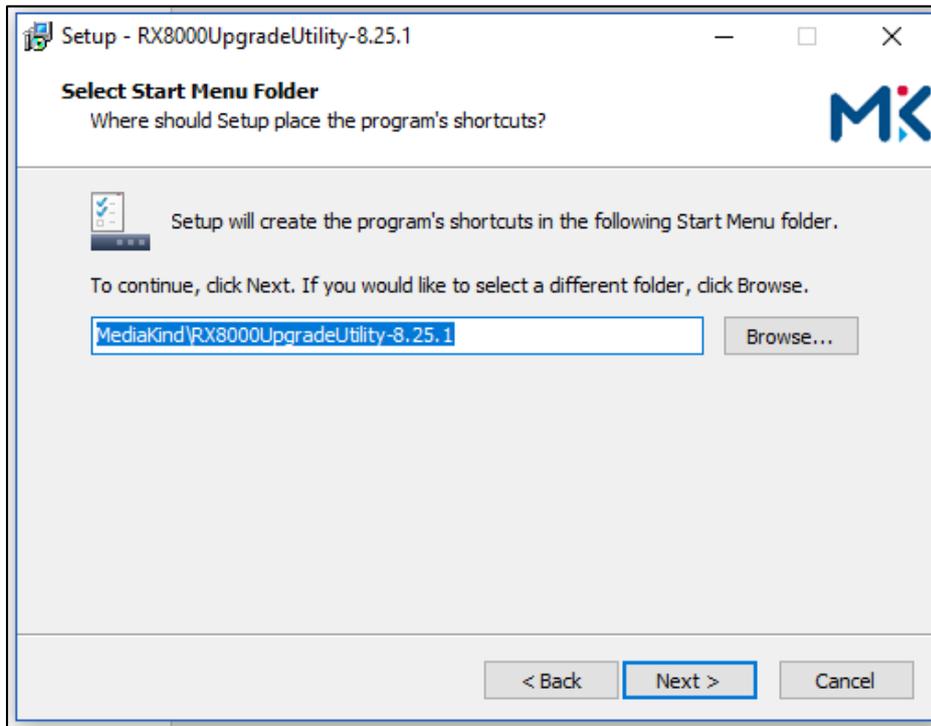
- Double click the RX8000 unit upgrade utility EXE file to run the installer (e.g. the file called *RX8000UpgradeUtility-8.25.1.exe* for version 8.25.1 distribution)



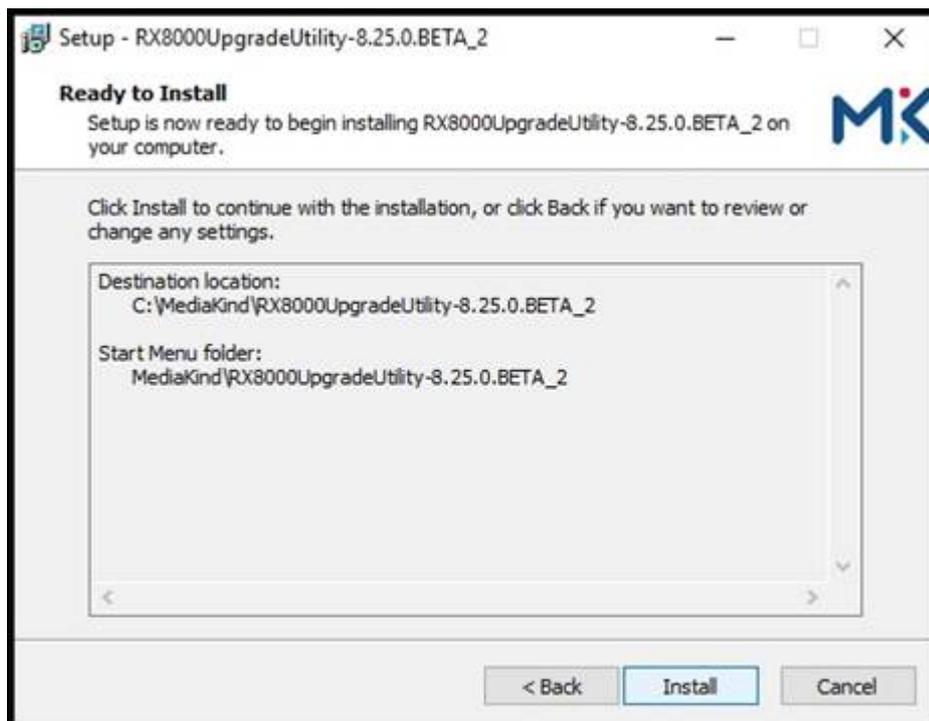
- Set up the target installation folder then click **Next**.

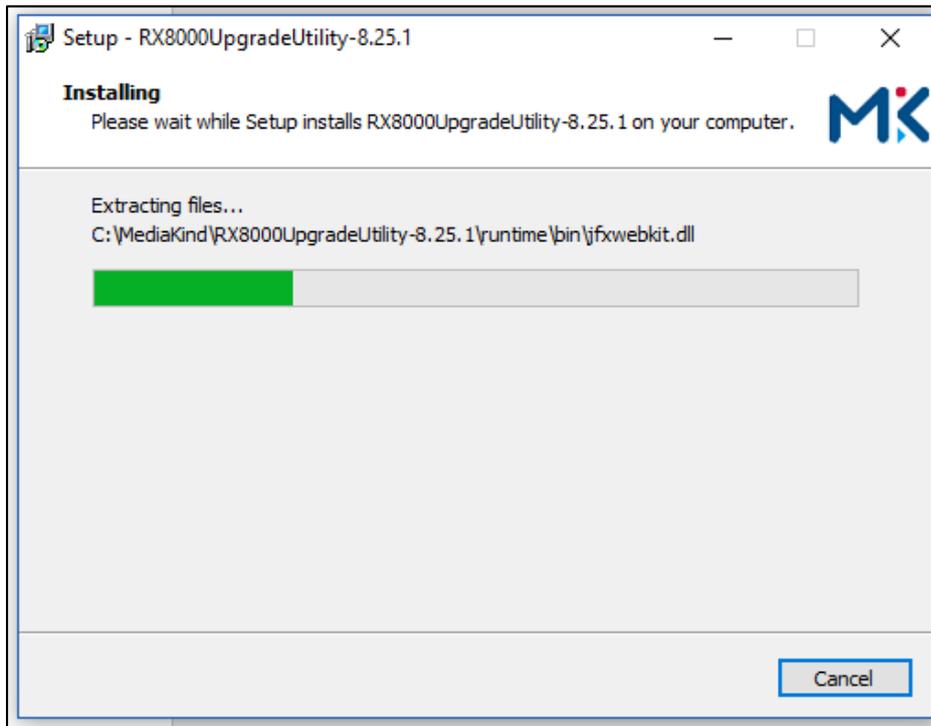


- Set up the shortcut path for the start menu folder then click **Next**.

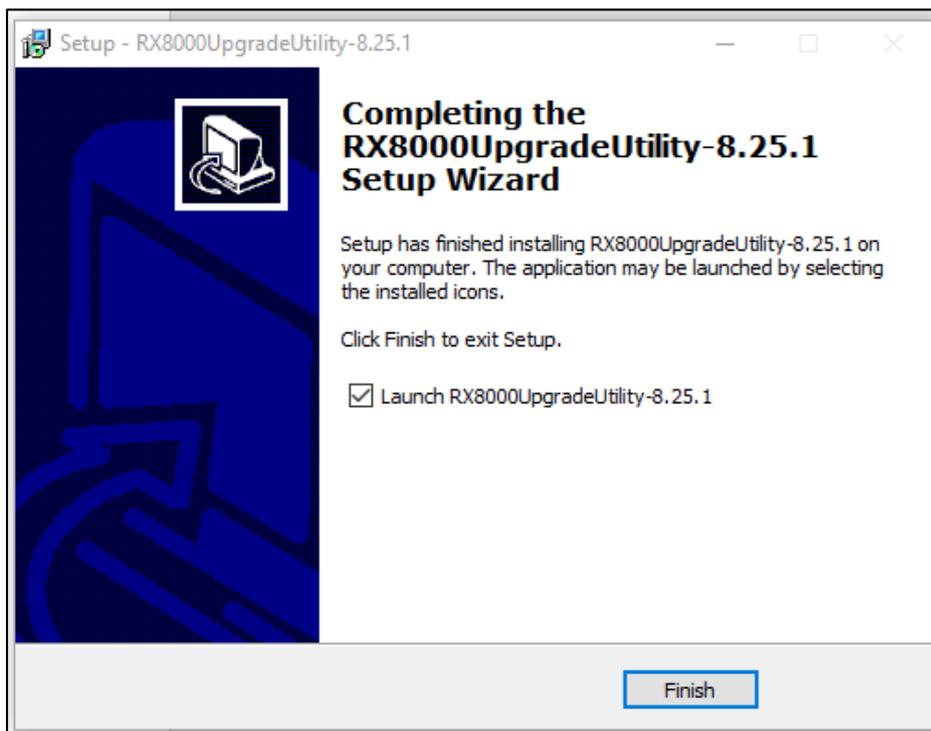


- When you are ready to proceed with the installation, click **Install**.



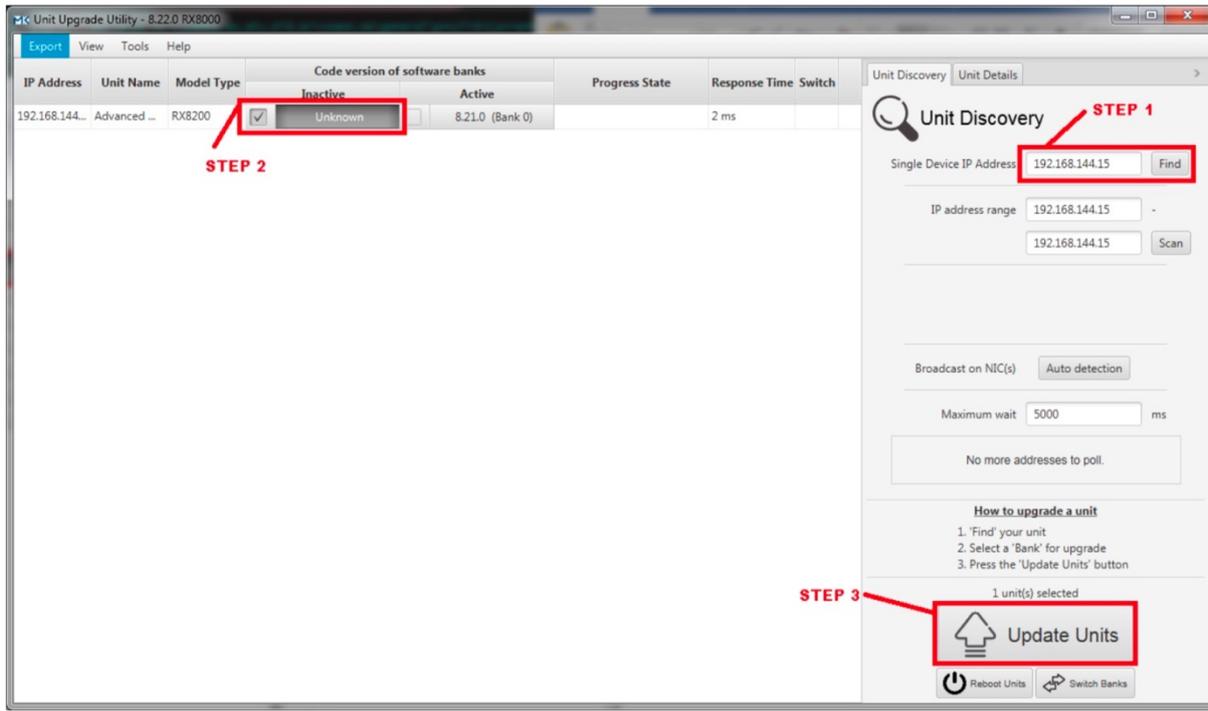


- Click **Finish** when the installation is finished.



To launch the upgrade utility, navigate to the **RX8000UpgradeUtility-8.25.1** program from the Windows Start menu e.g. *Start>All Programs>Ericsson* or the shortcut path specified in the step above

3.2.3 Quick user guide



3.2.3.1 STEP 1 - Find Device on Network

Go to the **Unit Discovery** tab and enter the IP address of the device in the **Single Device IP address** field then click the **Find** button.

The device should appear in the left pane with expected **Model Type**.

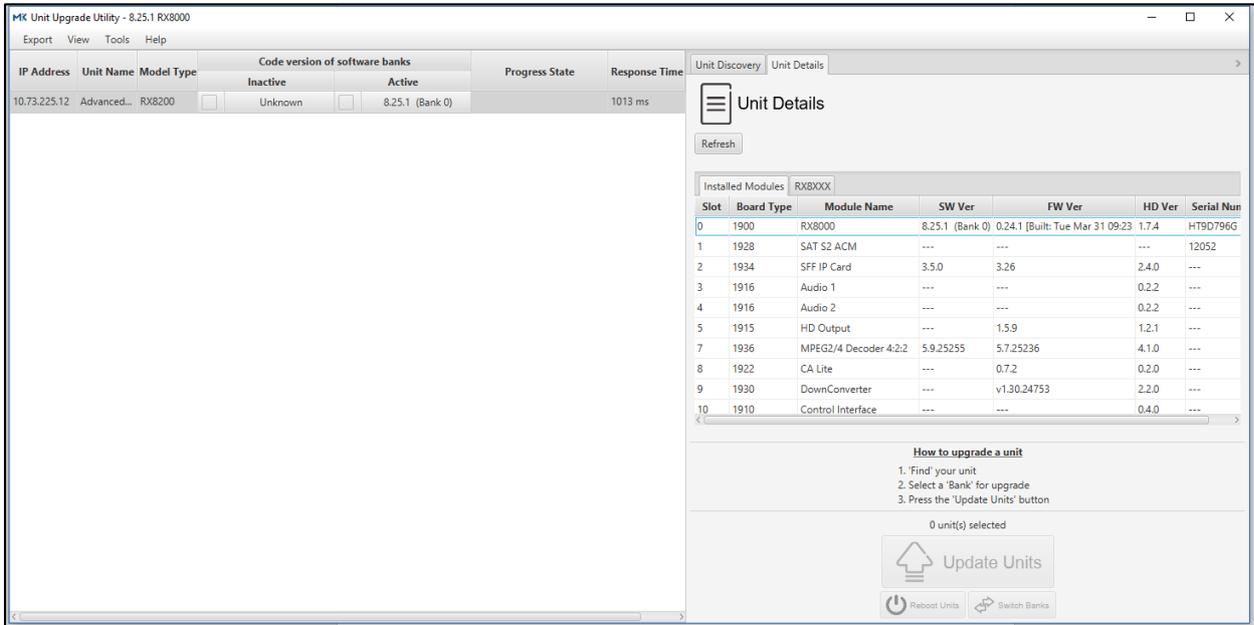
Alternatively, a range of IP addresses can be scanned. In this case, all devices discovered on the network are listed on the left side on the left pane of the unit upgrade utility.

3.2.3.2 STEP 2 - Select Bank for upgrade

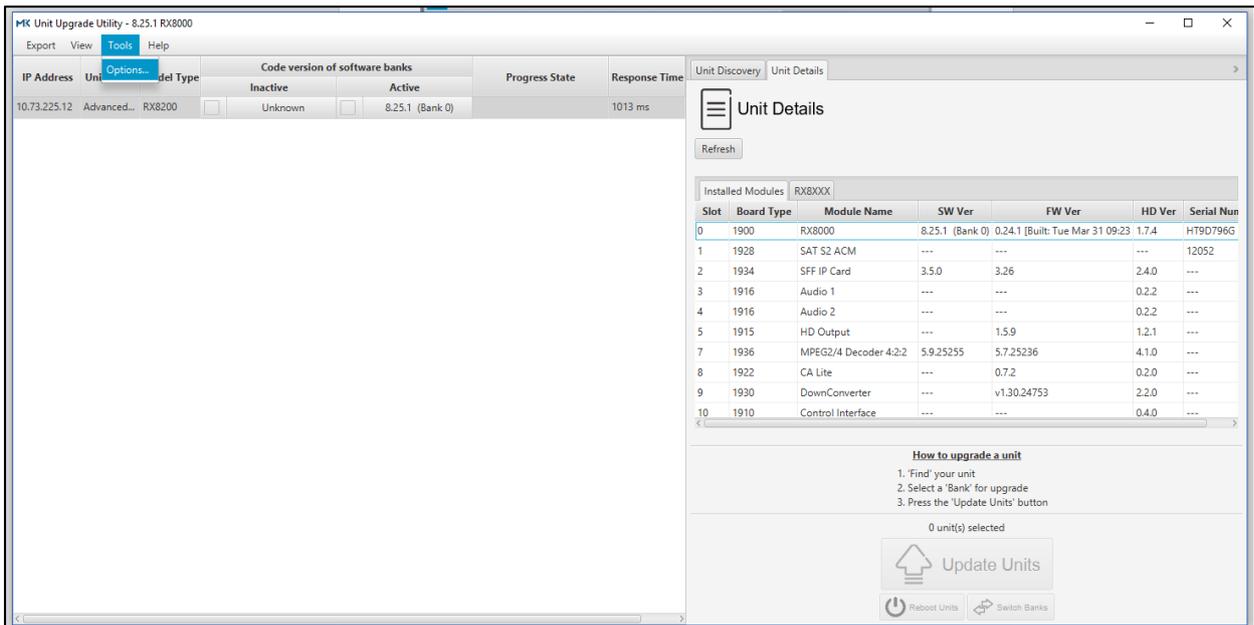
The RX8200 decoder features two memory banks, bank 0 and bank 1. One bank is active while the other is inactive. By default, only the inactive bank can be upgraded unless the Upgrade Utility Tool *advanced mode* is selected by the user (this is explained on the next page).

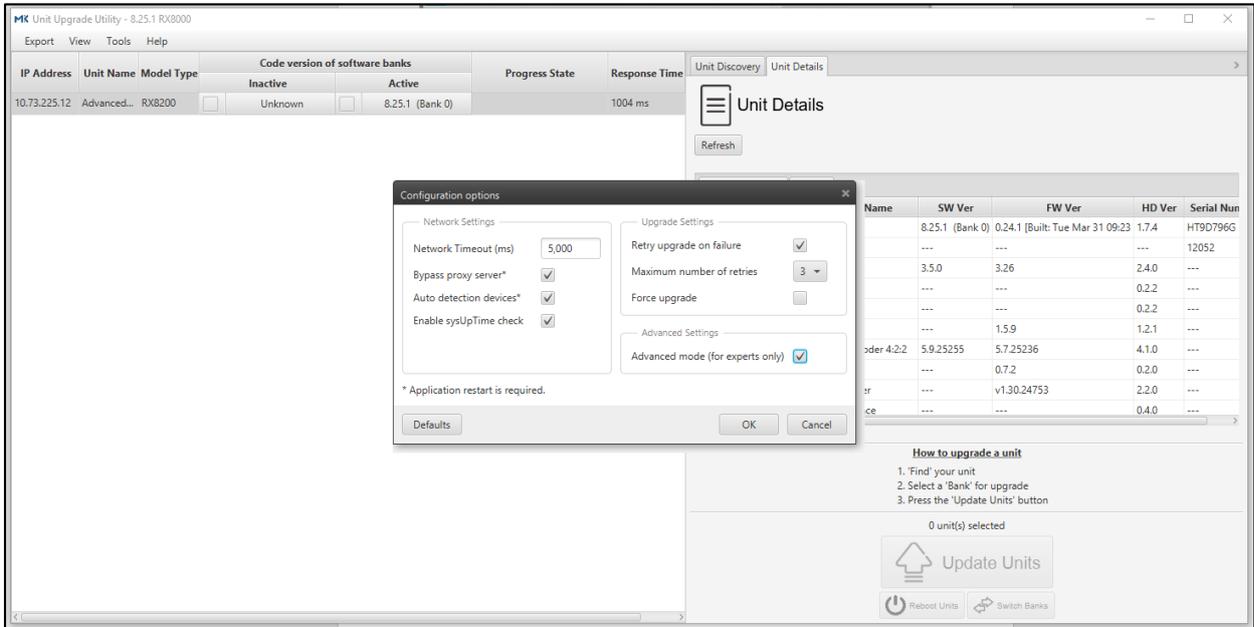
We recommend you upgrade the inactive bank only so in case of issues it is possible to roll back to the previous active firmware version. Once the firmware upgrade is completed, the RX8200 decoder will reboot and the inactive bank will become active. In case of issues, memory banks can be swapped by pressing the front "edit" and "save" buttons together for 5 seconds and pressing "save" again to confirm.

The selection of the memory bank is carried out as follows:

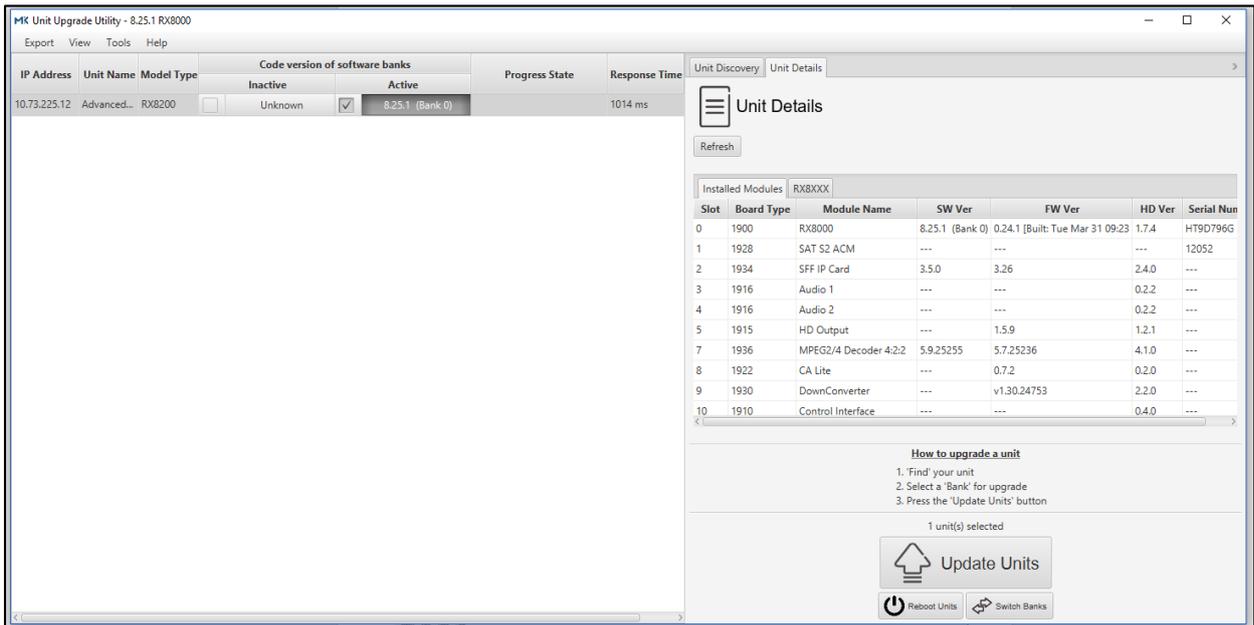


By default, only the Inactive software bank can be selected. To expose the active bank for upgrade, see *Advanced Mode* in the *Configuration Options* under the tab *Tools > Options*

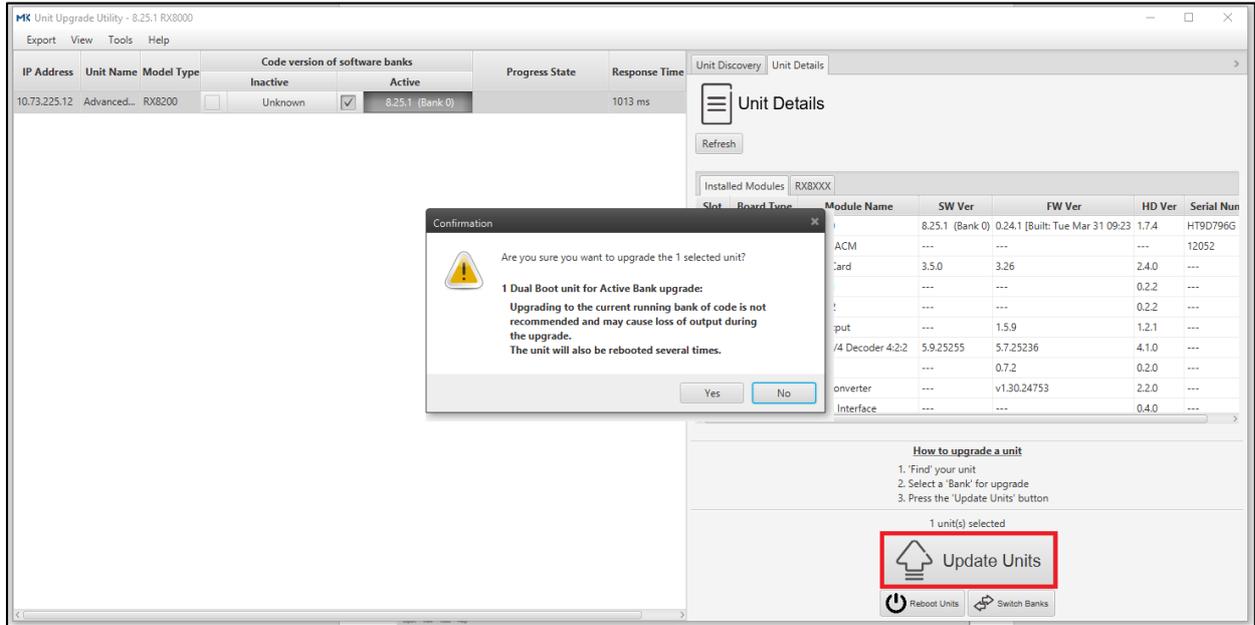




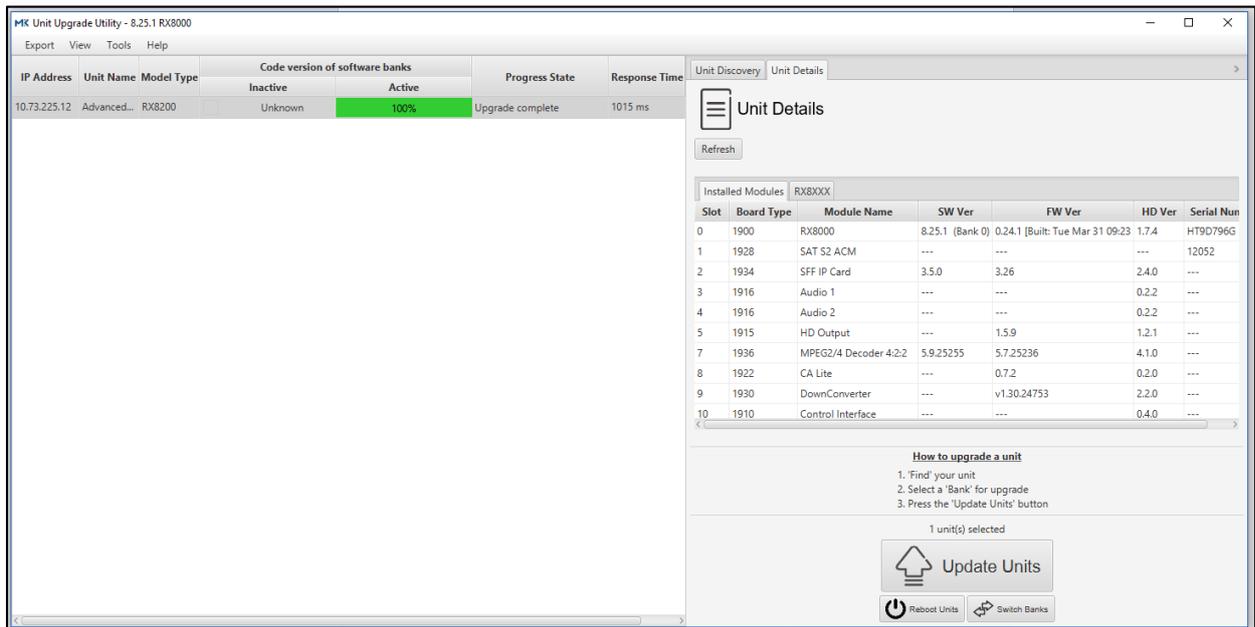
Tick the **Inactive** or **Active** software bank column for the device to be upgraded (we recommend you tick only the inactive bank). The selected software bank will become the active software bank after the upgrade is complete and the device has rebooted.



3.2.3.3 STEP 3 - Upgrade Units



Click the **Update Units** button at the bottom right-hand side of the upgrade utility. When a device is selected for upgrade, the wizard determines what cards are installed on the device and upgrades all cards to the versions contained in the distribution package.



Note: The upgrade utility does not allow the user to pick and choose which modules to upgrade. All fitted modules will be upgraded.

Once the new software version is confirmed, it is safe to reboot the RX8200 if desired.

4 MANUAL UPGRADE

As explained in section 3, the upgrade utility tool can only be used by RX8200 units running firmware version 5.12 or more recent. Decoders on previous firmware versions must be manually upgraded to an intermediate version (in this case version 7.1.5). This is explained next:

4.1 Requisites for manual upgrade

To manually upgrade the RX8200, a computer with Internet access is required in order to download the necessary files.

The network should also have the TCP ports 7, 21, 80, 1024, 1025, TCP high ports and UDP 161. Alternatively, a computer connected to the same VLAN as the decoder to be upgraded, or a direct connection to the Control 2 interface of the RX8200 via a crossover Ethernet cable.

4.2 Download upgrade files from FTP

Download folder *RX8200_ver_7-1-5* from the following FTP server:

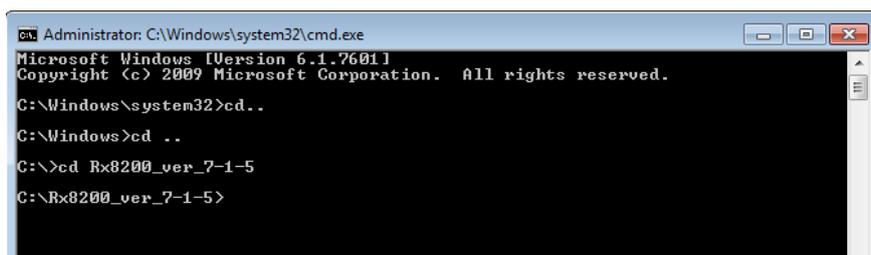
| | |
|---|----------|
| ftp://fileexchange.ebu.ch | |
| User | ets |
| Password | vm37t5kp |

4.3 Upgrade RX8200 to v7.1.5 (bank 0)

Before starting the upgrade, it is advisable to reboot the decoder.

Open a Command Prompt (Start>run >cmd or Start>all programs> Accessories> Command Prompt).

Go to the folder where *RX8200_ver_7-1-5* was downloaded to.



```

Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd ..
C:\Windows>cd ..
C:\>cd RX8200_ver_7-1-5
C:\RX8200_ver_7-1-5>
  
```

Ping the device IP address.

```
Pinging 192.168.1.2 with 32 bytes of data:  
Reply from 192.168.1.2: bytes=32 time=1ms TTL=64  
Reply from 192.168.1.2: bytes=32 time<1ms TTL=64  
Reply from 192.168.1.2: bytes=32 time=1ms TTL=64  
Reply from 192.168.1.2: bytes=32 time=8ms TTL=64  
  
Ping statistics for 192.168.1.2:  
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
    Approximate round trip times in milli-seconds:  
        Minimum = 0ms, Maximum = 8ms, Average = 2ms
```

Now you can type the command:

`updateallrx8000 192.168.1.2 0` (where 192.168.1.2 is the RX8200's IP address)

```
C:\>cd Rx8200_ver_7-1-5  
C:\Rx8200_ver_7-1-5>updateallrx8000 192.168.1.2 0
```

And **press Enter**

Choose 0 to install it on Bank 0 for this first upgrade

```
Administrator: Command Prompt - updateallrx8000 192.168.1.2 0  
-----RX8000 Software package downloader-----  
ip address = 192.168.1.2  
code choice = mainboard only  
enter bank for main code 0,1: 0
```

Press Enter

This will take about 3 minutes.

At the end you should see the message:

ftp: 6342230 bytes sent in
Seconds Kbytes/sec.

If you do not see this message
DO NOT REBOOT:

Go back to step 2

```
Administrator C:\Windows\system32\cmd.exe
RX8200 Software package downloader
ip address = 192.168.1.2
code choice = mainboard only
enter bank for main code 0,1: 1
bank 1
making config file
adding mainboard to config
FTP Transfer config to target on ip 192.168.1.2 ...
please wait.
connected to 192.168.1.2.
220 RX8200 unit ready for user ...
User (192.168.1.2:(none)):
231 Password required for user tatsuper.
230 User logged in.
ftp> binary
ftp> hash mark printing On ftp: (2048 bytes/hash mark) .
ftp> hash
put main.bin appl
200 Set port to 192.168.1.1:29734.
150 opening data connection
=====
ftp: 6342230 bytes sent in Seconds Kbytes/sec.
ftp: 418.631548sec
221 Closing connection ... goodbye.
Transfer complete --unit upgrade complete--
-----please check downloadHistory.txt before reboot-----
C:\>RX8200_ver_9-1-5>
```

When it's finished, you will see the message

ftp: 6342230 bytes sent in X Seconds X Kbytes/sec.

The RX8200 has two firmware image banks. The next step is to reboot using the secondary and upgrade the main. To do this on the front panel press the "edit" and "save" buttons together for 5 seconds. It will then ask if you want to reboot.



Press the "save" button to confirm.

4.4 Upgrade RX8200 to v7.1.5 (bank 1)

While the RX8200 is rebooting press the right arrow key to switch to the other bank.

Now repeat the same procedure for Bank 1:

Type the command:

updateallrx8000 192.168.1.2 0

(where 192.168.1.2 is your RX8200 IP address)



```
C:\>cd Rx8200_ver_7-1-5
C:\Rx8200_ver_7-1-5>updateallrx8000 192.168.1.2 0
```

And press Enter

Choose 1 to install it on Bank 1

```
1
C:\ Administrator: Command Prompt - updateallrx8000 192.168.1.2 0
-----RX8000 Software package downloader-----
ip address = 192.168.1.2
code choice = mainboard only
enter bank for main code 0,1: 0
```

Press Enter

This will launch the upgrade, which will take around 3 minutes: you should get the same message at the end.

Once it is finished, please **reboot** the RX8200. Under Device Info > Modules, the device should show SW version 7.1.5.



| Slot | Channel Number | Board Type | ModuleID | Name | HW-ID | Serial Number | SW Version | SW Build Time | FW Version | PLD Version |
|------|----------------|------------|----------|------------------------------|-------|---------------|----------------|---------------------|---------------------------------|-------------|
| 0 | 0 | 1900 | RX8000 | | 1.7.0 | 17247 | 7.1.5 (Bank 0) | --- | 0.18.29 [Built:Thu Nov 28 14:44 | --- |
| 1 | 0 | 1931 | | Combined S2 IP | --- | 3453 | 0.31 | --- | 0.90 | 1.2 |
| 2 | 0 | 1918 | | IP Out | 0.1.0 | --- | 2.4 | --- | 1.0.18 | --- |
| 3 | 0 | 1916 | | Audio 1 | 0.2.2 | --- | --- | --- | --- | --- |
| 4 | 0 | 1916 | | Audio 2 | 0.2.2 | --- | --- | --- | --- | --- |
| 5 | 0 | 1915 | | HD Output | 1.2.1 | --- | --- | --- | 1.5.7 | --- |
| 7 | 0 | 1921 | | H264 MPEG2 J2K 4i2i2 Decoder | 2.2.2 | --- | 4.0.17279 | Aug 5 2013 11:16:40 | 4.4.18001 | 530 |
| 8 | 0 | 1922 | | CA Lite | 0.2.0 | --- | --- | --- | --- | --- |
| 10 | 0 | 1910 | | Control Interface | 0.2.0 | --- | --- | --- | --- | --- |

4.5 Normalize settings on the RX8200

If your RX8200 unit was provided by or purchased from EBU/Eurovision, please change the following parameters in the RX8200 webpage to match the EBU recommended settings.

Under **Decode > Advanced**, please check the “**Rx delay mode**”, and set it to the values shown below:



Use AFD/Bar Data:

AFD/Bar Data Timeout:

AFD/Bar Data Timeout Period: 2s

Rx Delay 4:2:0 (User-defined mode only): 445 ms

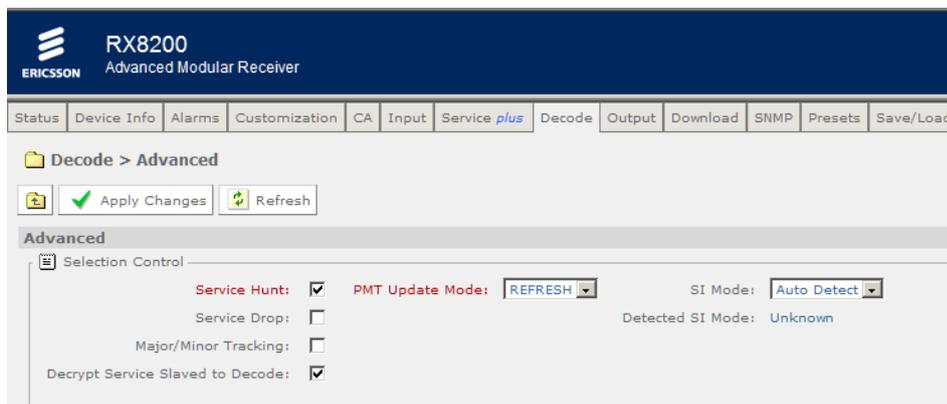
Rx Delay 4:2:2 (User-defined mode only): 445 ms

422 VSync Lock:

Rx Delay Mode: User-defined

Rx Delay Override (MPEG-2):

Also check the **PMT update mode** is set to “**Refresh**”.



ERICSSON RX8200
Advanced Modular Receiver

Status Device Info Alarms Customization CA Input Service plus Decode Output Download SNMP Presets Save/Load

Decode > Advanced

Apply Changes Refresh

Advanced

Selection Control

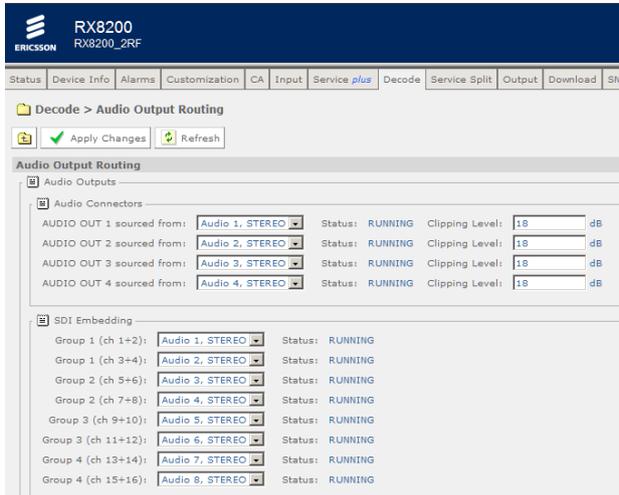
Service Hunt: PMT Update Mode: REFRESH SI Mode: Auto Detect

Service Drop: Detected SI Mode: Unknown

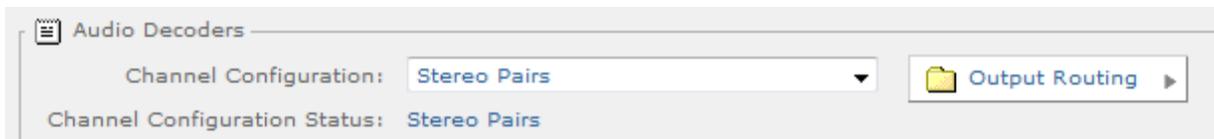
Major/Minor Tracking:

Decrypt Service Slaved to Decode:

Under **Decode > Audio Output Routing**, please check that all the audio pairs are correctly embedded in the SDI signal and that “clipping level” for all channels is set to **18dB**:

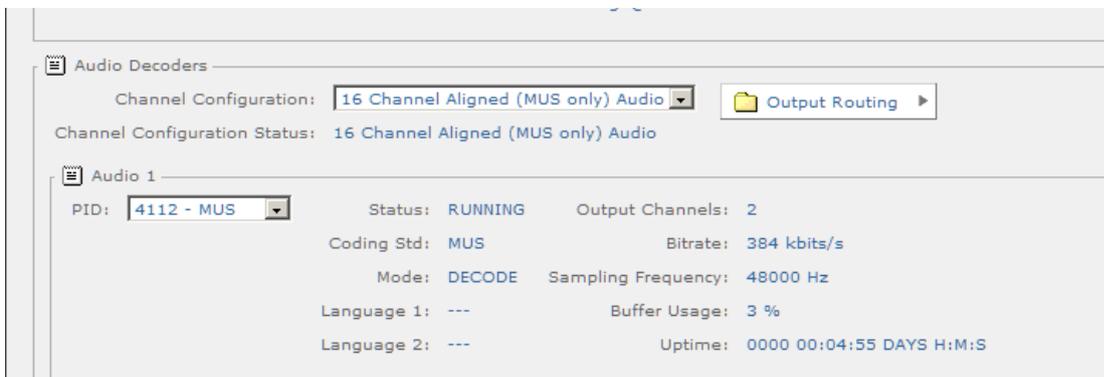


Under “**Decode**” you will likely need to set “**Channel Configuration**” into **Stereo Pairs**:



This mode must be selected if you need to receive Dolby-E.

In order to have 16 phased aligned audio channels, select the option: “**16 Channel Aligned (MUS only) Audio**”:



...

| | | |
|-----------------|----------------------------------|--------------------|
| PID: 4224 - MUS | Status: RUNNING | Output Channels: 2 |
| Coding Std: MUS | Bitrate: 384 kbits/s | |
| Mode: DECODE | Sampling Frequency: 48000 Hz | |
| Language 1: --- | Buffer Usage: 11 % | |
| Language 2: --- | Uptime: 0000 00:04:53 DAYS H:M:S | |

4.6 Upgrade RX8200 to v8.25.1

Now that the unit is on version 7.1.5, the unit can be upgraded to 8.25.1 following the procedure described in section 3 of this document.