

TECHNICAL NOTICE

BISS-CA

Ericsson / MediaKind RX8200
Upgrade Procedure FW 8.25.1

Version 1.2 (July 2020)

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Document version

| Version | Date | Comments / Changes |
|---------|---------------|---|
| 1.0 | June 11, 2020 | Initial version |
| 1.1 | June 25, 2020 | Minor corrections Web GUI with decoder S/N corrected |
| 1.2 | July 10, 2020 | Minor corrections and typos |

1 INTRODUCTION

BISS-CA is a conditional access system based on open cryptographic standards. It uses a combination of symmetric and asymmetric ciphers to protect the transmitted content and entitle or revoke in real-time any receiver in an interoperable manner.


Eurovision Services (ES) will use the new BISS-CA standard in high-profile transmissions.

This document explains the requisites to upgrade the Ericsson / MediaKind RX8200 decoder to be compatible with the new BISS-CA standard. This process requires the download of new firmware and must be performed by an engineer with direct access to the units.

2 REQUIREMENTS FOR BISS-CA COMPATIBILITY

To be compatible with BISS-CA, it is mandatory that the device includes the board type **1922** “CA Lite”.


This can be verified under *Device Info > Modules*, as shown below.


| Status | Device Info | Alarms | Customization | CA | Input | Service <i>plus</i> | Decode | Service Split | Output | Download | SNMP | Presets | Save/Load | Help |
|---|----------------|------------|---------------|-----------------------|-------|---------------------|------------------------|--------------------------|---------------------------------|-------------|------|---------|-----------|------|
| Device Info > Modules | | | | | | | | | | | | | | |
|  Refresh | | | | | | | | | | | | | | |
| Modules | | | | | | | | | | | | | | |
| Slot | Channel Number | Board Type | ModuleID | Name | HW-ID | Serial Number | SW Version | SW Build Time | FW Version | PLD Version | | | | |
| 0 | 0 | 1900 | | RX8000 | 1.7.4 | HT9D796G | 8.25.0 BETA 1 (Bank 0) | --- | 0.24.0 [Built: Thu Feb 20 11:12 | --- | | | | |
| 1 | 0 | 1928 | | SAT S2 ACM | --- | 12052 | --- | --- | --- | --- | | | | |
| 2 | 0 | 1934 | | SFF IP Card | 2.4.0 | --- | 3.4.0 | --- | 3.26 | 0.1.2 | | | | |
| 3 | 0 | 1916 | | Audio 1 | 0.2.2 | --- | --- | --- | --- | --- | | | | |
| 4 | 0 | 1916 | | Audio 2 | 0.2.2 | --- | --- | --- | --- | --- | | | | |
| 5 | 0 | 1915 | | HD Output | 1.2.1 | --- | --- | --- | 1.5.9 | --- | | | | |
| 7 | 0 | 1936 | | MPEG2/4 Decoder 4x2x2 | 4.1.0 | --- | 5.9.25255 | Oct 8 2019 13:19:23 | 5.7.25236 | 1.3.21316 | | | | |
| 8 | 0 | 1922 | | CA Lite | 0.2.0 | --- | --- | --- | 0.7.0 | --- | | | | |
| 9 | 0 | 1930 | | DownConverter | 2.2.0 | --- | --- | Fri Oct 12 14:44:15 2018 | v1.30.24753 | --- | | | | |
| 10 | 0 | 1910 | | Control Interface | 0.4.0 | --- | --- | --- | --- | --- | | | | |

Any device with this board can be updated to be compatible with BISS-CA. The process is performed in two steps:

- **Firmware:** the devices must be upgraded to firmware version 8.25.1 or more recent. The current firmware version can be checked in the section *Device Info > Modules*, as shown.

| Status | Device Info | Alarms | Customization | CA | Input | Service <i>plus</i> | Decode | Service Split | Output | Download | SNMP | Presets | Save/Load | Help |
|--------|-------------|--------|---------------|----|-------|---------------------|--------|---------------|--------|----------|------|---------|-----------|------|
|--------|-------------|--------|---------------|----|-------|---------------------|--------|---------------|--------|----------|------|---------|-----------|------|

 **Device Info > Modules**

 Refresh

| Modules | | | | | | | | | | |
|---------|----------------|------------|-----------------------|------|-------|---------------|-----------------|--------------------------|---------------------------------|-------------|
| Slot | Channel Number | Board Type | ModuleID | Name | HW-ID | Serial Number | SW Version | SW Build Time | FW Version | PLD Version |
| 0 | 0 | 1900 | RX8000 | | 1.7.4 | HT9D796G | 8.25.1 (Bank 0) | --- | 0.24.1 [Built: Tue Mar 31 09:23 | --- |
| 1 | 0 | 1928 | SAT 52 ACM | | --- | 12052 | --- | --- | --- | --- |
| 2 | 0 | 1934 | SFF IP Card | | 2.4.0 | --- | 3.5.0 | --- | 3.26 | 0.1.2 |
| 3 | 0 | 1916 | Audio 1 | | 0.2.2 | --- | --- | --- | --- | --- |
| 4 | 0 | 1916 | Audio 2 | | 0.2.2 | --- | --- | --- | --- | --- |
| 5 | 0 | 1915 | HD Output | | 1.2.1 | --- | --- | --- | 1.5.9 | --- |
| 7 | 0 | 1936 | MPEG2/4 Decoder 4:2:2 | | 4.1.0 | --- | 5.9.25255 | Oct 8 2019 13:19:23 | 5.7.25236 | 1.3.21316 |
| 8 | 0 | 1922 | CA Lite | | 0.2.0 | --- | --- | --- | 0.7.2 | --- |
| 9 | 0 | 1930 | DownConverter | | 2.2.0 | --- | --- | Fri Oct 12 14:44:15 2018 | v1.30.24753 | --- |
| 10 | 0 | 1910 | Control Interface | | 0.4.0 | --- | --- | --- | --- | --- |

- **BISS-CA license:** a specific license for BISS-CA must be applied. After registration in the ES website www.eurovision.net, units owned by ES will receive a license free of charge, while those sold by ES can be upgraded for a fee.

3 FIRMWARE UPGRADE

Please follow the instructions as described in the Application Note document, which can be downloaded from the following page:

<https://www.eurovision.net/insights/technical/biss-ca-migration-files-download>

Once the firmware upgrade is complete, *Device Info > Modules* must show 8.25.1 under slot 0.

4 DECODER REGISTRATION ON Eurovision.net

Decoders must be registered on the ES web site (<https://www.eurovision.net/biss-ca-migration>) to be authorized to receive BISS-CA encrypted transmissions.

During the registration process, three screenshots are requested:

- **Serial Number:** found under *Device Info* as shown in the following screenshot

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

Device Info

✓ Apply Changes Refresh

Device Info

Product Information

Name: Test Build Modules [9]

Product Name: RX8200 Environment Trap Destination Table [0]

Unit Chassis Ident: Unit SN: 19632 Network Settings

- **Firmware version:** found in *Device Info > Modules* as shown below.

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

Device Info > Modules

Refresh

Modules

| 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 | 0K5G741Z (19632) | 8.25.1 (Bank 1) | --- | 0.24.1 [Built: Tue Mar 31 09:23 | --- |
| 1 | 0 | 1931 | Combined S2 IP | | --- | 3938 | 0.34 | --- | 0.110 | 1.2 |
| 2 | 0 | 1918 | IP Out | | 0.1.0 | --- | 2.11 | --- | 1.0.28 | --- |
| 3 | 0 | 1916 | Audio 1 | | 0.2.2 | --- | --- | --- | --- | --- |
| 4 | 0 | 1916 | Audio 2 | | 0.2.2 | --- | --- | --- | --- | --- |
| 5 | 0 | 1915 | HD Output | | 1.2.1 | --- | --- | --- | 1.5.9 | --- |
| 7 | 0 | 1921 | MPEG2/4 Decoder 4:2:2 | | 2.2.2 | --- | 5.9.25261 | Oct 8 2019 14:22:47 | 5.7.25210 | 530 |
| 8 | 0 | 1922 | CA Lite | | 0.2.0 | --- | --- | --- | 0.7.2 | --- |
| 10 | 0 | 1910 | Control Interface | | 0.2.0 | --- | --- | --- | --- | --- |

Please note that the screenshot above shows a software version that might be different from yours.

- **Customised Serial Number:** also called “Dallas number,” this can be found under section *Customization* as shown below.

Status Device Info Alarms Customization CA Input Service *plus* Decode Output Download SNMP

Customization

✓ Apply Changes Refresh

Customization

Folders and Tables

Licensed Features

Parameters

Serial Number: 34402861093

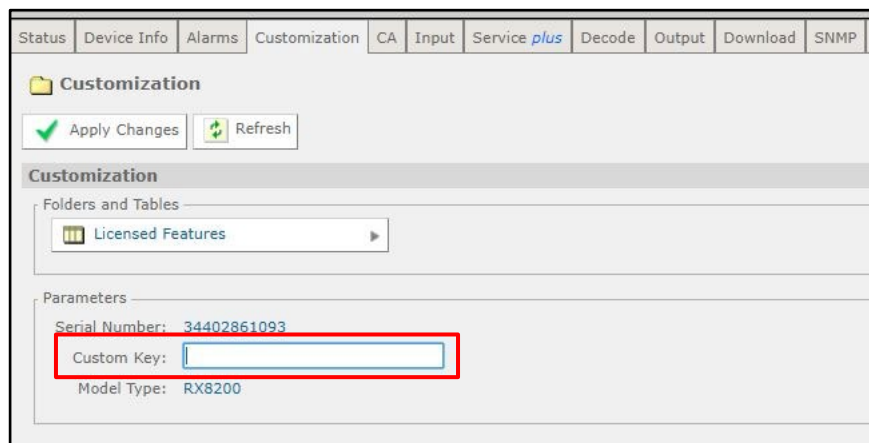
Custom Key:

Model Type: RX8200

5 INSTALLATION OF BISS-CA LICENSE

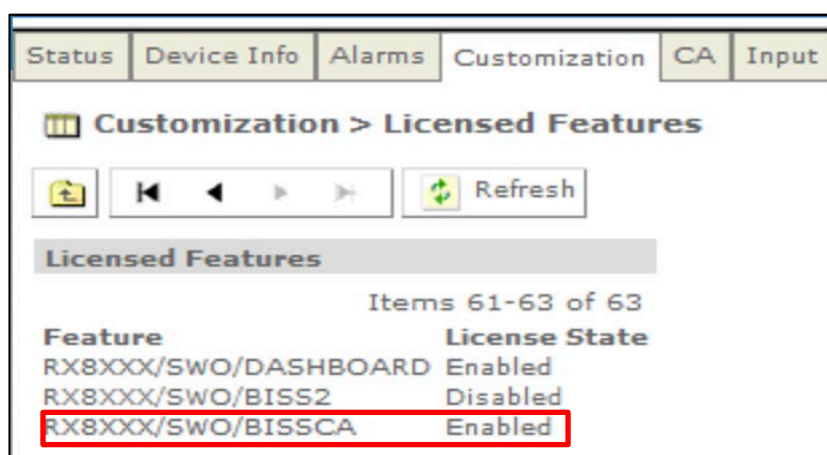
For units owned or sold by ES, a BISS-CA license will be provided after registration of the decoder in www.eurovision.net

The license will be sent by e-mail to the contact defined by the broadcaster during the registration. It consists of a *custom key* that must be set in the corresponding field under the “Customization” section. Click on “Apply Changes” to apply the license.



The screenshot shows the 'Customization' tab in the interface. Under the 'Parameters' section, the 'Custom Key' field is highlighted with a red box. The 'Serial Number' is 34402861093 and the 'Model Type' is RX8200.

After the license has been applied, the unit must be rebooted and allowed to boot up, as the BISS-CA public key (called “Buried Key” in the interface) will be generated after the reboot. Notice that this period can last from a few minutes to up to 30 minutes. The unit must not be rebooted during this time, or the key generation process will restart. A license applied correctly will be visible under *Customization > Licensed Features*.



The screenshot shows the 'Customization > Licensed Features' section. A table lists the features and their license states. The 'RX8XXX/SWO/BISSCA' feature is highlighted with a red box.

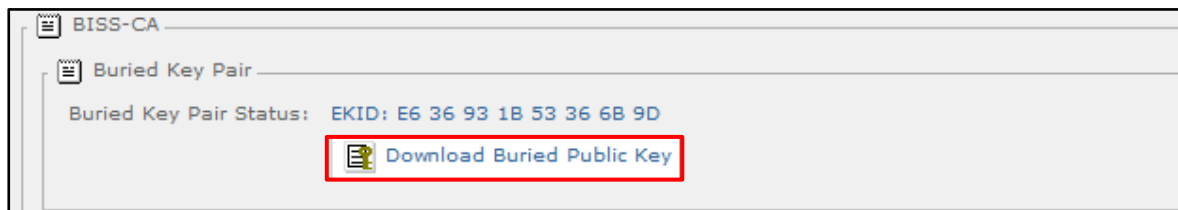
| Feature | License State |
|----------------------|---------------|
| RX8XXX/SWO/DASHBOARD | Enabled |
| RX8XXX/SWO/BISS2 | Disabled |
| RX8XXX/SWO/BISSCA | Enabled |

BISS-CA status can be checked under section *Advanced View > CA > BISS-CA*. The *Buried Key Pair Status* must display a value once the generation process is over. **Please note that this is not the same as the decoder public key.**



6 EXTRACTION OF PUBLIC KEY

Under section Advanced View > CA > BISS-CA > Buried Key Pair, **download the file by clicking on “Download Buried Public Key”**. This file must be uploaded to the ES registration portal, as explained in the “Technical Guidelines for BISS-CA access.”



7 CONTACTS

Please report any technical issues with the upgrade to the BISS-CA upgrade team

BISS-CA@eurovision.net