Technical Guidelines for BISS-CA access

Version 2.1 (September 2020)

Contents

Document version

Version	Date	Comments / Changes
1.0	June 11, 2020	Initial version
1.1	June 25, 2020	Minor corrections New screenshots of the Eurovision.net portal
1.2	July 10, 2020	Minor corrections and clarifications
2	August 4, 2020	Ateme DR5000 added
2.1	September 18, 2020	Added clarifications on the obtention of firmware

1   Introduction

Eurovision Services (ES) will use the new BISS-CA encryption standard starting in 2020.

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.

This document provides guidelines to upgrade decoders to receive BISS-CA encrypted signals. Specific instructions are included for decoders provided by ES to selected partners and broadcasters.

To receive BISS-CA transmissions, broadcasters require:

- A compatible decoder

- The right software version and BISS-CA license,

- The decoder to be registered on the www.eurovision.net website,

- The decoder public key to be provided to the ES team to be inserted into the ES database. The public key is the unique identifier used to authorize each individual decoder to decrypt the received signal.

This document explains the step-by-step the procedure to obtain BISS-CA access for broadcasters' equipment. An overview diagram is provided on page **Error! Bookmark not defined.**.

2   Equipment

As of the creation date of this document, the following decoder models have been tested by ES and validated for BISS-CA use:

- MediaKind RX8200

- Ateme DR5000 (added August 2020)

- Nevion MI-FA

This list of equipment will continue to be updated as soon as new models are tested and proved to be fully compatible with the standard. ES is working closely with various equipment manufacturers to ensure the interoperability of the standard.

ES does not assume any responsibility if broadcasters use decoder models that have not been tested or validated.

2.1   Decoder upgrade campaign for units sold or owned by ES

This upgrade campaign applies to the following models:

a) MediaKind RX8200 owned by ES

b) MediaKind RX8200 sold by ES

c) Ateme DR5000 sold by ES

Units owned by ES (a) will be provided with a license and support free of charge. Units sold by ES (b, c) will be provided a license and support for a fee.

2.2   Models not eligible for the upgrade campaign

Any model not included in section 2.1 is not covered by this upgrade campaign, including MediaKind RX8200s and Ateme DR5000s purchased from a third party. In these cases, broadcasters are requested to contact the equipment manufacturers to obtain the necessary firmware and BISS-CA licenses and to register them on the ES website www.eurovision.net. (See section 3.2).

3   Upgrade process

The upgrade process for all decoders is composed of different steps. These are mandatory and must be completed sequentially. The process will differ for units that are part of the upgrade program (see section 2.1) where ES provides the BISS-CA license, and for decoders that were procured from a third party, as shown in figure 1.
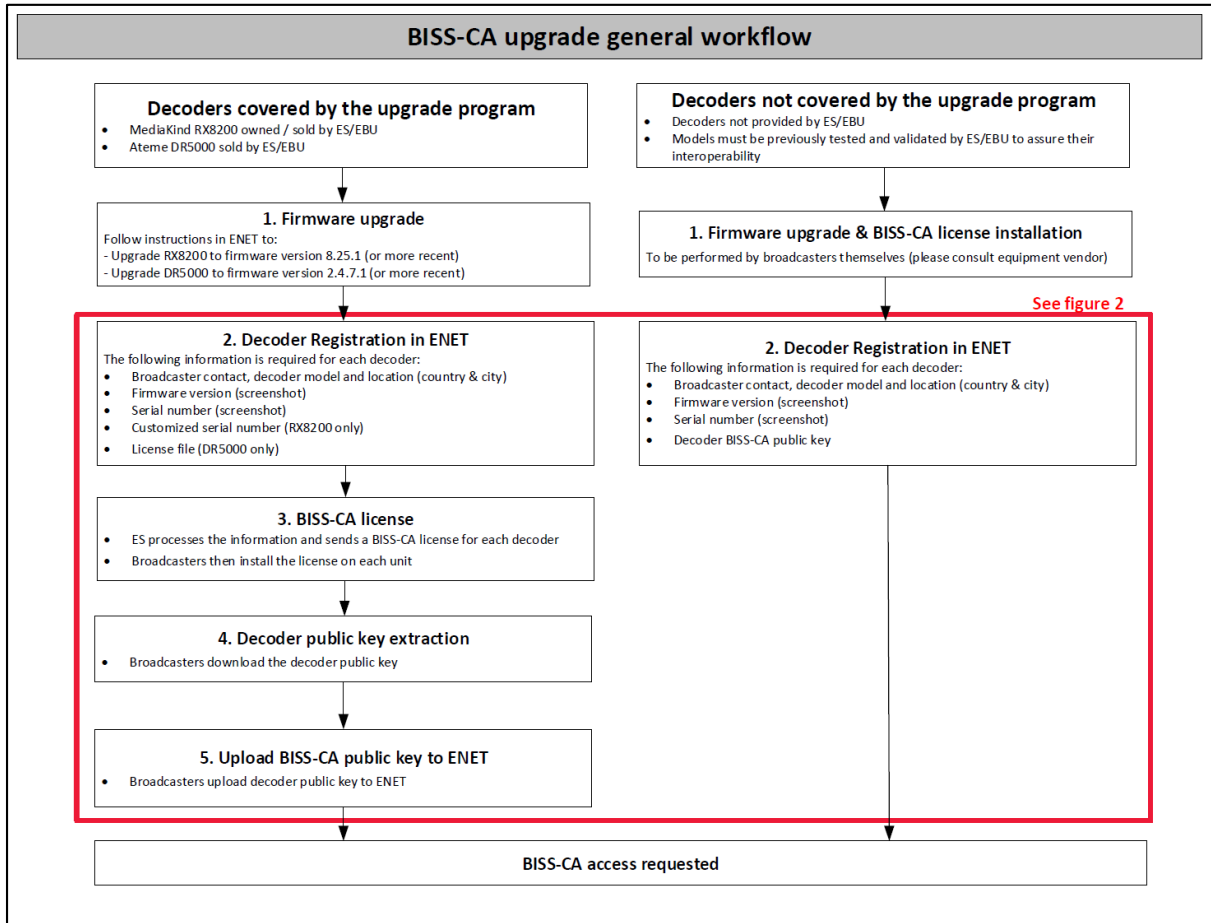
Figure 1 - Overview diagram of BISS-CA upgrade process

3.1 Firmware upgrade

Before registering decoders on Eurovision.net, they must be upgraded to the correct firmware version.

3.1.1 Models eligible for the upgrade campaign

- For **MediaKind RX8200**, firmware 8.25.1 or more recent.

  The technical notice "BISS-CA MediaKind RX8200 – Upgrade Procedure FW 8.25.1" describes the firmware upgrade process for the MediaKind RX8200 model.

- For **Ateme DR5000**, firmware 2.4.7.1 or more recent.

  The technical notice "BISS-CA Ateme DR5000 – Upgrade Procedure 2.4.7.1" describes the firmware upgrade process for the Ateme DR5000 model.

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Broadcasters can request firmware upgrades for MediaKind RX8200 and Ateme DR5000 supplied by EBU/Eurovision Services on the following page (notice you may need to login with the same credentials used for Eurovision.net):

https://www.eurovision.net/myeurovision/company/equipment/firmware-upgrade-files

Fill in and submit the following form. A link to the firmware will be sent to you by e-mail shortly.

Figure 2 - Firmware upgrade request form

All relevant documentation can be found on the following page:

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

3.1.2   Other models

For other models, broadcasters must contact the manufacturers or their vendors directly.

Please ensure decoders have the firmware updated before registering them on the Eurovision.net equipment registration portal (see section 3.2).

3.2 Register decoder on www.eurovision.net

ES has created an equipment registration portal to register and request BISS-CA access for their decoders, which can be found at the following address:

https://www.eurovision.net/biss-ca-migration

Broadcasters can log in using the same credentials they use for Eurovision.net. If you need to create an account for Eurovision.net, please use a professional email address as public domain accounts such as Gmail, Yahoo etc. are not accepted.

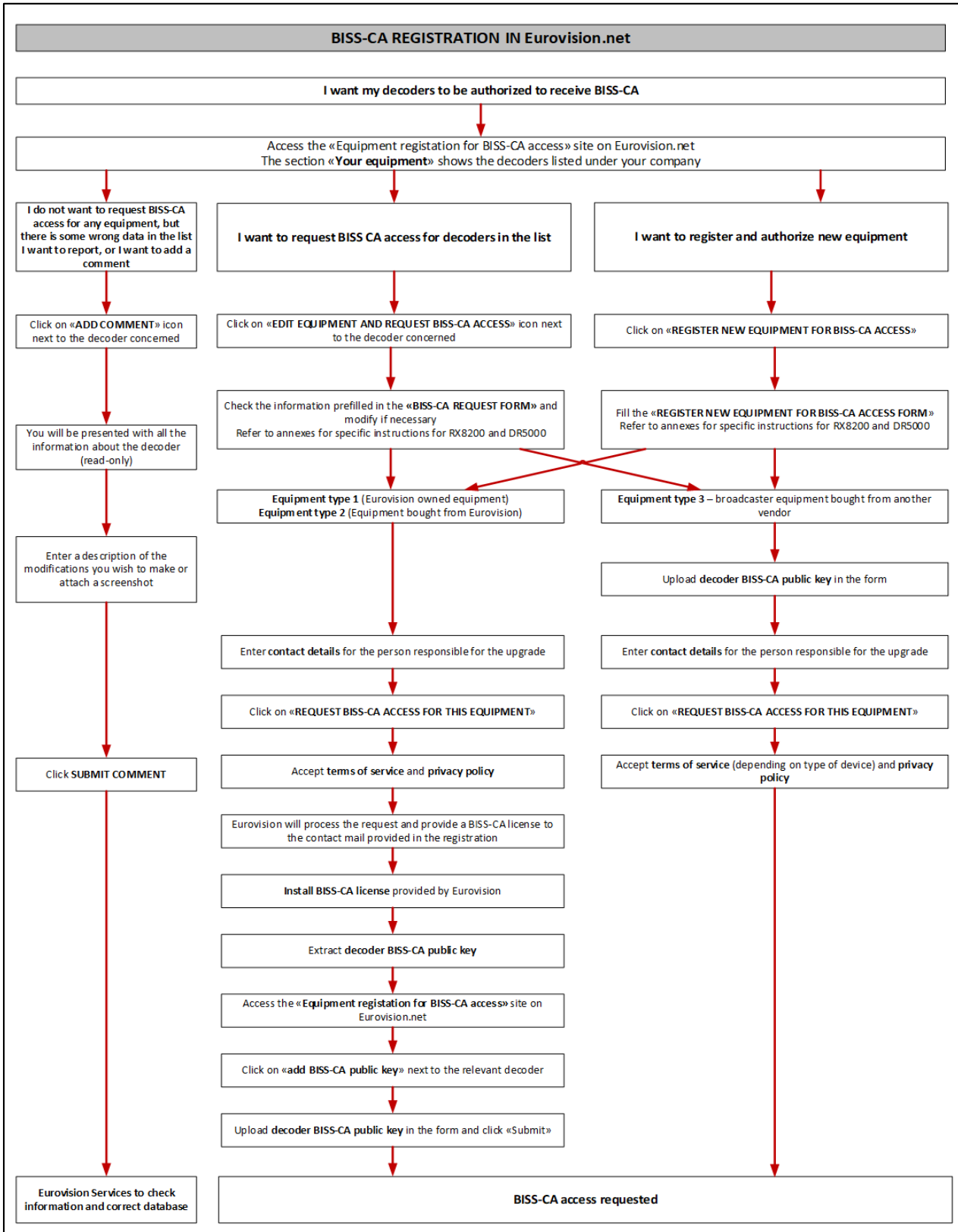Figure 2 on the next page shows a summary of the registration process.

BISS-CA REGISTRATION IN Eurovision.net

I want my decoders to be authorized to receive BISS-CA

Access the «Equipment registation for BISS-CA access» site on Eurovision.net
The section «**Your equipment**» shows the decoders listed under your company

I do not want to request BISS-CA access for any equipment, but there is some wrong data in the list I want to report, or I want to add a comment	I want to request BISS CA access for decoders in the list	I want to register and authorize new equipment
Click on «**ADD COMMENT**» icon next to the decoder concerned	Click on «EDIT EQUIPMENT AND REQUEST BISS-CA ACCESS» icon next to the decoder concerned	Click on «REGISTER NEW EQUIPMENT FOR BISS-CA ACCESS»
You will be presented with all the information about the decoder (read-only)	Check the information prefilled in the «**BISS-CA REQUEST FORM**» and modify if necessary Refer to annexes for specific instructions for RX8200 and DR5000	Fill the «REGISTER NEW EQUIPMENT FOR BISS-CA ACCESS FORM» Refer to annexes for specific instructions for RX8200 and DR5000
	Equipment type 1 (Eurovision owned equipment) **Equipment type 2** (Equipment bought from Eurovision)	**Equipment type 3** – broadcaster equipment bought from another vendor
Enter a description of the modifications you wish to make or attach a screenshot		Upload **decoder BISS-CA public key** in the form
	Enter **contact details** for the person responsible for the upgrade	Enter **contact details** for the person responsible for the upgrade
	Click on «REQUEST BISS-CA ACCESS FOR THIS EQUIPMENT»	Click on «REQUEST BISS-CA ACCESS FOR THIS EQUIPMENT»
Click **SUBMIT COMMENT**	Accept **terms of service** and **privacy policy**	Accept **terms of service** (depending on type of device) and **privacy policy**
	Eurovision will process the request and provide a BISS-CA license to the contact mail provided in the registration	
	Install **BISS-CA license** provided by Eurovision	
	Extract **decoder BISS-CA public key**	
	Access the «**Equipment registation for BISS-CA access**» site on Eurovision.net	
	Click on «**add BISS-CA public key**» next to the relevant decoder	
	Upload **decoder BISS-CA public key** in the form and click «Submit»	
Eurovision Services to check information and correct database	**BISS-CA access requested**	

Figure 3 - BISS-CA registration process on Eurovision.net

3.2.1 "My equipment" overview

After logging in, broadcasters will see the decoders that are listed for their organization in the section "Your equipment". This list is pre-filled with the units in ES's records.

Figure 4 - "My equipment" section

For each decoder, the following parameters are listed:

Parameter	Meaning
Reference	Unique identifier for each decoder. Please mention this identifier in all BISS-CA communications
Location	City and country where the decoder is located
Model	Equipment model
Serial Number	Equipment serial number
Type	Information about ownership: 1 - Equipment owned by ES/EBU 2 - Equipment owned by the broadcaster purchased from ES/EBU 3 - Equipment owned by the broadcaster purchased from another vendor
Status	Status of the BISS-CA request • ***To be registered***: no BISS-CA access has been requested • ***Waiting for ES action***: ES is processing the BISS-CA access request • ***Waiting for customer***: the broadcaster must provide additional information to continue with the BISS-CA access request • ***BISS-CA license in process***: the BISS-CA request has been received and processed and a license has been requested from the equipment manufacturer • ***Waiting for public key***: the BISS-CA license has been sent by mail to the broadcaster and ES is waiting to receive the decoder's public key • ***To be registered in BISS-CA NMS***: all the required information has been received and ES is in the process of adding the decoder to its control system so it can be authorized • ***BISS-CA access completed***: the upgrade process has been

Parameter	Meaning
	completed and the decoder is correctly registered • ***Impossible***: some technical constraint prevents this particular decoder from obtaining BISS-CA access

Table 1 - Description of status under "My equipment"

3.2.2 Request BISS-CA access for equipment listed under "My equipment"

BISS-CA access can be requested by clicking on the "Edit/Request BISS-CA access" button to the right of each decoder listed under "My equipment".

The following form will be displayed, containing the pre-filled information of each decoder.

Figure 5 - Example of BISS-CA registration form

Broadcasters can correct the information displayed if they see any error as well as add comments.

The information requested depends on the device model (MediaKind RX8200, Ateme DR5000 or other) **and on the type of equipment** (1 - owned by ES, 2 - sold by ES or 3 - purchased from a third party). The following table shows the information required for each case.

Parameter	RX8200		DR5000		Other	
	Types 1 & 2	Type 3	Types 1 & 2	Type 3	Types 1 & 2	Type 3
Country	✔	✔	✔	✔	✔	✔
City	✔	✔	✔	✔	✔	✔
Model	✔	✔	✔	✔	✔	✔
Serial Number	✔	✔	✔	✔	✔	✔
Customised serial number (Dallas ID)	✔	✘	✘	✘	✘	✘
Firmware version	✔	✔	✔	✔	✘	✘
License file (.lic)	✘	✘	✔	✘	✘	✘
BISS-CA decoder public key (.pub)	✘	✔	✘	✔	✘	✔
Contact	✔	✔	✔	✔	✔	✔

Table 2 - Parameters required for registration in Eurovision.net

As shown in Table 2, **if the equipment was purchased by the broadcaster directly from another vendor (type 3), broadcasters must upload a file with extension .pub**

containing the decoder's BISS-CA public key. This file should not be renamed by the broadcaster after being downloaded from the decoder.

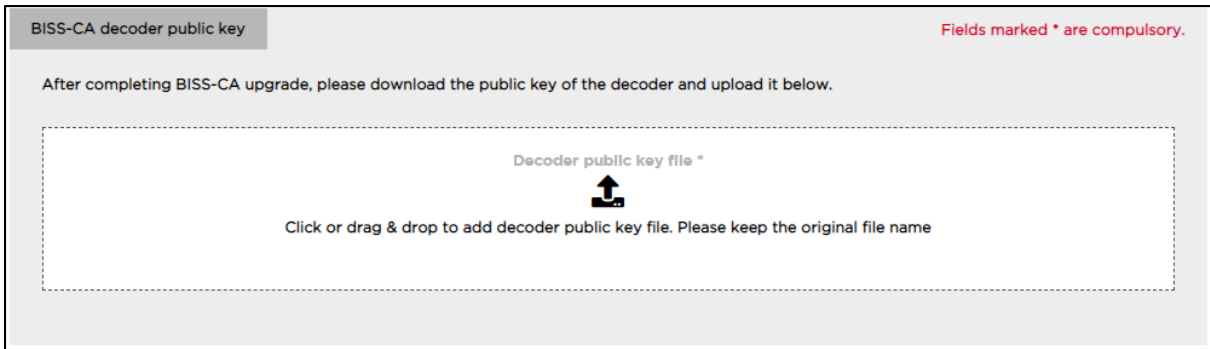The file can be uploaded directly on the lower part of the form, as shown in Figure 5.

Figure 6 - Decoder public key upload

Broadcasters must also include the contact details of the person in charge of BISS-CA access in their organization. This person will be contacted by ES at a later stage.

To complete the process, broadcasters must click on "Request BISS-CA access for this equipment" and accept the terms & conditions and the privacy policy.
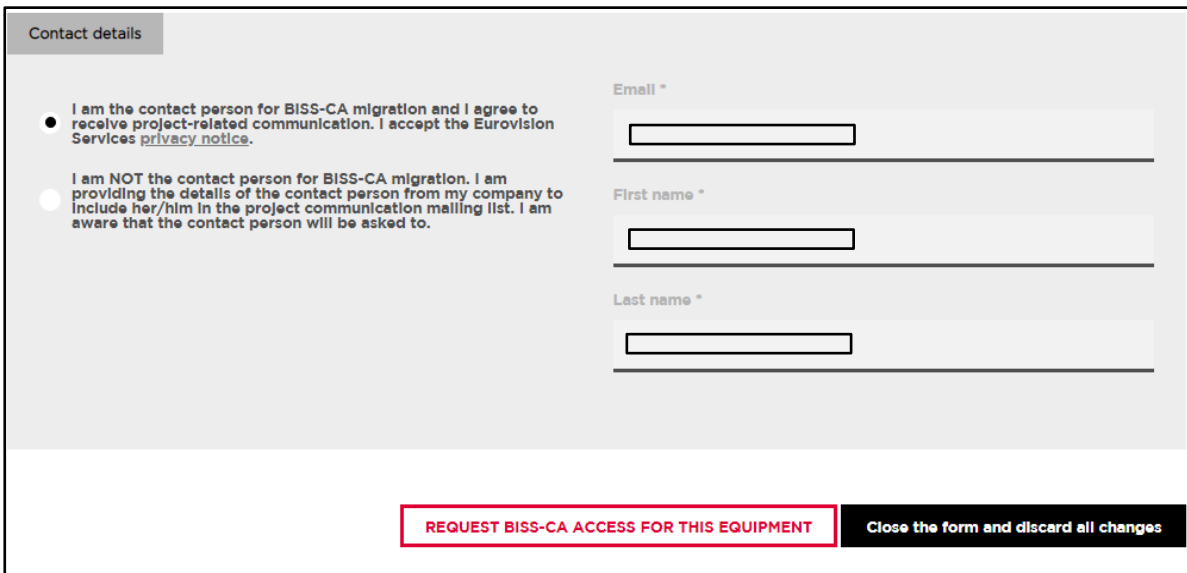

Figure 7 - Contact details

3.2.3 Add new equipment not listed under "My equipment" and request BISS-CA access

If a device is not listed under "My equipment", it can be added by clicking on the button "Register equipment for BISS-CA access". The BISS-CA registration form will be displayed, which must be completed by the broadcaster, as described in section 3.2.2.

3.2.4 Add comments on decoders under "My equipment"

Broadcasters can add comments for any equipment listed under "My equipment" by clicking on the "comment" button to the right of each decoder listed.

Figure 8 - Comments form

This option can be used if the information in the list is incorrect and broadcasters do not want to request BISS-CA access for these units, or if the broadcaster has already requested BISS-CA access and needs to make corrections or provide additional information.

3.2.5 Upload decoder public key

In order to complete the BISS-CA registration process, broadcasters must upload the BISS-CA decoder public key file to the registration portal.

The public key is a file with .pub extension.

For units purchased from other vendors (type 3), the public key must be uploaded at the

same time as the decoder is registered (see section 3.2.2).

For units owned or sold by Eurovision Services, the public key must be uploaded by clicking on the key symbol next to the decoder. This option is only available when the following two conditions have been fulfilled:

- o ES has already provided a BISS-CA license to the broadcaster (status will be then "waiting for public key").

- o The broadcaster has already applied the BISS-CA license to the decoder. This triggers the generation of the decoder BISS-CA public key.

Figure 9 - Add BISS-CA public key button

In this case, the broadcaster must extract the BISS-CA public key from the decoder web interface and upload it to www.eurovision.net using the following form:

Figure 10 - Equipment public key upload

The technical documentation provided for MediaKind RX8200 and Ateme DR5000 contains a step-by-step guide to apply the BISS-CA license and extract the BISS-CA public key license.

4 Other considerations

If a BISS-CA authorized decoder is reset to factory configuration, the device public key may change. Broadcasters must contact ES to verify the affected decoder's public key.

5 Contacts

In case of questions related to the BISS-CA upgrade, broadcasters can contact the dedicated BISS-CA team (BISS-CA@eurovision.net).