

Standard Terms and conditions
for
Validation of DTT End User Devices
v1.0

Valid from Jan 2011

1. Background

On behalf of the DTT licensee, Norges Televisjon AS ("NTV"), RiksTV AS ("RiksTV") is responsible for validation of end user equipment for the Norwegian DTT platform, according to NTVs specifications for such equipment. RiksTV will distribute its DTT pay-tv services to end users in Norway (the "Territory"), together with the public broadcast TV services of Norsk Rikskringkasting AS ("NRK").

This document sets out the terms and procedures for validation of end user equipment for reception of the DTT services in Norway (the "Territory").

It is the responsibility of each manufacturer of end user equipment (the "Manufacturer") to provide such equipment for validation and to obtain approval. The end user equipment provided by the Manufacturer for validation is defined as the "End User Device". To be validated and approved, the End User Device must comply with the requirements set out herein.

2. Preparations and consultancy services

To assist manufacturers in preparing for the validation process, RiksTV offers access to the RiksTV lab and consultancy services from RiksTV engineers. The focus of the service is to improve the performance in the areas of service scanning, service list handling and SSU.

The RiksTV lab, currently located in RiksTV's offices at Økern in Oslo, offers access to multiple regions from the Norwegian DTT network in combination with additional streams, which are designed to test specific functions in the end user devices in the lab.

RiksTV test engineers can be consulted to compare results of the testing done by the manufacturer's engineers with the expected result in a formal RiksTV test.

Prices for access to the lab and consultancy services are available at www.rikstv.no/validation, and the total cost will be invoiced by RiksTV to the manufacturer after completed stay at RiksTV. The invoice must be fully paid before the final validation is initiated.

3. Validation Process

The validation process is specified in a separate document, NTV Norwegian DTT validation process. Please read this document to fully understand the validation process.

4. Changes to the End User Device after approval

Any Change to the End User Device, as defined below, after validation and approval shall be notified to RiksTV in writing in due time before units where such change is implemented are delivered to the market. The change shall be described in detail in a release note, to be provided to RiksTV.

A Change is defined as a change that leads to any changes in the products performance or functionality. This includes, but is not limited to:

- Change of accessories
- Any software change
- Change in printed circuit board (PCB)
- Change in CPU (including revision/version/"cut") or memory configuration
- Change in COFDM demodulator
- Change in RF tuner

RiksTV may by its sole discretion require that the Changed End User Device is fully or partially re-validated, in order to maintain the approval.

5. Pairing Information (provisioning files)

The pairing information for approved End User Devices (if embedded Conax) enables pairing of DTT programme cards and the End User Device. The Manufacturer shall provide pairing information to RiksTV within 5 working days prior to importing the products into Norway, or the products leaving a local manufacturing facility, whichever time is the earliest.

The pairing information shall be provided in two separate provisioning files; "serial number file" in the electronic format specified in "Annex A - Pairing information format" and "Conax Production Report" in the XML format defined by Conax.

The Manufacturer shall store pairing information which makes it possible to provide pairing information to RiksTV for 5 years after manufacturing.

5.1 Penalties related to pairing information

The Manufacturer acknowledges and agrees that the End User Devices cannot be sold with RiksTV subscriptions if the Manufacturer fails to provide correct provisioning files in due time, and that the sale of End User Devices in the market without correct pairing information represents a potential major risk for RiksTV and the RiksTV resellers. To ensure compliance with pairing information requirements, and cover costs for RiksTV, a penalty regime is established. The Manufacturer agrees to the following penalties:

- The Manufacturer shall pay to RiksTV a penalty of €6500 if End User Devices are made available to retailers without correct provisioning files being provided to RiksTV according to the terms and conditions set out in this document.

If the breach of conditions lasts more than 5 days, an additional €1250 daily penalty is added until correct provisioning files are received and the conditions are fulfilled.

- If the Manufacturer fails to provide correct provisioning files on 5 or more separate occasions, RiksTV shall have the right to demand that all shipments from the relevant Manufacturer are passed through a central warehouse for incoming inspection and comparison with the provisioning files, at the cost of the Manufacturer.

6. Approval Label

RiksTV reserves the right only to sell RiksTV DTT services together with End User Devices which have the Approval Label printed or affixed to the carton box/gift box of each unit in accordance with Annex B section 6.

7. Marking and Labelling of End User Devices

The End User Device shall be marked according to specifications in "Annex B".

8. System Software Updates (SSU)

SSU is available to the Manufacturers for software that has passed validation according RiksTV's guidelines for SSU available at www.rikstv.no/validation. Any SSU shall be treated as a change, cf. Clause 3.

The following shall be provided to RiksTV prior to validation of any new software:

- Release note with detailed information about all changes in the new software.
- New SW version
- The original SW in a format that enables RiksTV to download the End User Device to its original state after performing the SSU test.
- Tools needed to download original SW to the product (if any).

RiksTV reserves the right not to grant access to the SSU play-out service at its sole discretion.

It is the Manufacturers responsibility to ensure that the SSU implementation in the End User Devices only reacts to software issued by the Manufacturer. The Manufacturer has therefore no right to claim compensation from RiksTV, Norges Televisjon or any other manufacturer of end User Devices in the case that signalling or other manufacturers software cause problems for the Manufacturer or End User Devices that the manufacturer has provided to the market.

It is also the Manufacturers responsibility to ensure that the SSU implementation in the End User Devices is resistant to any failure that may happen during the ployout of the Manufacturers software and any situation that may occur during updating the receiver with software provided through the SSU service. This includes, but is not limited to:

- Failure in SSU signalling
- Interruptions of the broadcasting of the SSU service
- Interruption of reception
- Interruption of the software update by the End User, including disconnecting the End User Device at any time during software update
- Power failure.

The Manufacturer has therefore no right to claim compensation from RiksTV or Norges televisjon AS in the case that End User Devices fails after deploying a system software update.

Manufacturer of set-top-boxes shall provide 10 additional end user devices to RiksTV prior to doing a SSU. These STBs shall be used for troubleshooting problems in end-users homes which has occurred as a consequence of the SSU. RiksTV will swap selected set-top-boxes with the new ones to get a representative set of samples with problems in order to troubleshoot and if needed ship back to the Manufacturer.

9. End user and retailer support service (Call Centre)

It is the Manufacturers responsibility to ensure availability of a call centre service for end users and retailers. The support service personnel shall have sufficient expertise to be able to provide adequate support to end users as well as retailers related to the End User Equipment.

RiksTV's support centre shall have the possibility to transfer support calls that are not directly related to the RiksTV services to the Manufacturers call centre at no cost to RiksTV.

10. Guarantee and error correction

The Manufacturer shall correct errors in the SW, including failure to comply with specifications, for at least one year after shipment of the last manufactured unit of an End User Device.

Furthermore, the Manufacturer shall comply with any applicable legislation in Norway, including the Norwegian Act on Consumer Sales. For information purposes only, an English translation of the Norwegian Act on Consumer Sales the can be found at:

http://www.elektronikkbransjen.no/index.php?page_id=8&article_id=2190

11. Amendments

These terms are valid from the date stated on the first page. The terms may be changed at RiksTV's sole discretion, by notice on RiksTV's website. The new terms will only apply to future validations and not to validations commenced at the time of such notification.

12. Non-compliance

If the Manufacturer fails to comply with any material requirement set out in these terms, including but not limited to the obligation to inform RiksTV of any changes to the End User Device, or the deployment of non-approved end user devices in the Territory, RiksTV shall be entitled, and reserves the right, without any liability for RiksTV, to suspend or revoke any approval granted for the End User Device, or any other approved end user devices of the Manufacturer, thereby denying pairing of such end user devices which are not already paired.

13. Governing law and disputes

These terms shall be governed by Norwegian law, and any dispute arising from these terms shall be tried solved by good faith negotiations between RiksTV and the Manufacturer. If such negotiations fail, the dispute shall be settled by arbitration in Oslo according to the Norwegian Arbitration Act ("Voldgiftsloven").

Annex A - Pairing information format

Pairing information for End User Devices with embedded Conax shall be provided to RikstV electronically, according to the following text file format:

The text file shall have information for one unique End User Device per line. Each line shall have fixed width fields and the fields shall be separated by a semicolon (;) as follows.

Field 1: Serial number. Position from 1 to 17, left margin

Field 2: Separator (;). Position 18

Field 3: Verifier id if Conax Memory pairing. Position from 19 to 35, left margin

Field 4: Separator (;). Position 36

Field 5: Chipset Id if Conax Chipset pairing. Position from 37 to 53, left margin

Field 6: Separator (;). Position 54

All numbers shall be represented in decimal format. The numbers shall be according to the specifications in "Annex B – Specifications for numbering and marking".

The following example lines are from a file with pairing information for an End User Device with chipset pairing:

```
1010073674350213 ;           ;04453508037           ;
1010073674350221 ;           ;04453508038           ;
1010073674350239 ;           ;04453508039           ;
1010073674350247 ;           ;04453508040           ;
1010073674350254 ;           ;04453508041           ;
1010073674350262 ;           ;04453508042           ;
1010073674350270 ;           ;04453508043           ;
```

The following example lines are from a file with pairing information for an End User Device with memory pairing:

```
1201073298743925 ;04653618077           ;           ;
1201073298743933 ;04653618078           ;           ;
1201073298743941 ;04653618079           ;           ;
1201073298743958 ;04653618080           ;           ;
1201073298743966 ;04653618081           ;           ;
1201073298743974 ;04653618082           ;           ;
1201073298743982 ;04653618083           ;           ;
```

The files shall not contain any format characters like tab etc. There shall not be a CR at the end of the last line with pairing information.

The files shall be given a filename according to the following format:

YYYY-MM-DD_SS_IIII_UUUU.txt and YYYY-MM-DD_SS_IIII_UUUU.xml

Where:

YYYY is the year of manufacture

MM is the month of manufacture

DD is the day of manufacture

SS is sequence number within the day. File number 01, 02, 03 ...

IIII is the model ID for the product

UUUU is the number of units included in the file

The files shall be e-mailed to pairing@rikstv.no within the deadlines specified in these Terms.

Annex B – Specifications for numbering and marking

1. General requirements

This annex specifies the requirements for marking End User Devices with embedded Conax CA to allow for handling pairing information throughout the logistics chain, uploading information to the CA system and pairing of the End User Devices and smartcards when the End User Device is sold to the end user.

Each End User Device and related packaging material shall as a minimum be marked as follows:

- The End User Device: Serial number, Pairing ID and Approval number label.
- Gift Box (carton containing one End User Device): EAN code, Serial number, Pairing ID and Approval Label
- Export box (carton containing more than one End User Device): EAN code as well as serial numbers and Pairing IDs for all End User Devices in the Export box.
- Pallet: EAN code as well as serial numbers and Pairing IDs for all End User Devices on the pallet.

2. Serial number

The serial number shall be 16 numeric characters. Serial numbers shall be assigned according to the following rules:

Character 1-4: model id. This ID uniquely identifies the End User Device model. Model ID is assigned by Norges Televisjon / RiksTV.

Character 5-6: Year. This is the production year.

Character 7-8: Week. This is the production week.

Character 9-15: Manufacturer assigned number. This number shall uniquely identify an End User Device within the production week. It is up to the Manufacturer to implement a structure for this number.

Character 16: Luhn10 check character (modulus 10). Detailed information on the Luhn 10 algorithm can be found on Wikipedia (http://en.wikipedia.org/wiki/Luhn_Algorithm).

The following serial number example represents an End User Device with model id 0215 that is manufactured in week 37 of 2007. Unique ID within this week is 4707022. The Luhn10 algorithm is then applied to the 15 digits to calculate the check digit. In this example it is 3.

0	2	1	5	0	7	3	7	4	7	0	7	0	2	2	3
model id.				year		week		manufacturer assigned						chk	

The End User Devices and all packaging shall be marked with numeric representation as well as barcode representation according to ISO/IEC15417:2000 - Code 128. This representation includes checksum as part of the barcode, but this checksum digit will in many cases not be a numerical digit and it shall not be printed in the numerical representation of the serial number. The numerical representation shall be grouped into four groups of four characters to improve readability.

The Manufacturer may add its own serial number if the above specification does not satisfy the Manufacturers requirements. If so, the Manufacturer shall include a serial number according to this specification and it shall be called "NTV Serial #".

3. Pairing ID

End User Devices with embedded Conax shall be marked with pairing ID. The pairing ID (Verifier ID in case of memory pairing or Chipset ID in case of chipset pairing) shall be an 11 digit decimal number according to Conax' specifications without any checksum.

The End User Devices and all packaging shall as a minimum be marked with numeric representation of the Pairing ID. If a barcode is used in addition (optional), the barcode representation shall be according to ISO/IEC15417:2000 - Code 128. There are no requirements for grouping of characters in the numerical representation of the Pairing ID.

The example above for Serial number and Pairing ID will result in marking like the ones on the following example label for the End User Device and packaging. Norges Televisjon has not defined where the numbers shall be located and the Manufacturer may include additional numbers/information on the same label.



4. EAN

All End User Device packaging shall be marked with EAN code according to the GTIN-13 (EAN 13) standard.

5. Approval number label

All approved End User Devices shall be marked with an approval number label. The approval number label shall include:

- the approval number provided to the Manufacturer upon approval,
- the brand name and model number - the "NTV Norges Televisjon" logo

The Approval Identification Label shall be in the form and size as the example below, for a product from "Digirama".



6. Approval Label

The Approval Label is a proof that the End User Device has been validated and approved according to the Standard Validation Terms.

Upon final approval, RiksTV will generate and provide to the Manufacturer an electronic graphic file of the Approval Label. An example of the label is enclosed for information purposes solely, and shall not be used.

The Approval Label will include check-boxes corresponding to the functionality and specifications for which the End User Device is approved. Currently the following types are included:

	<i>Norwegian text</i>	<i>English translation</i>	<i>Compliance requirement</i>
A	Basis	Basic TV viewing	NTV Basic IRD Specifications v 2.0
B	Digital tekst-tv	Interactivity – MHP	NTV MHP Specifications v 2.0
C	Opptaker	Recorder/PVR	RiksTV PVR Specifications v 2.0

The Approval Label shall be affixed as a sticker or printed on the carton box (gift box) of each End User Device unit according to the printing instructions.

The Approval Label shall not be printed or affixed to the End User Device itself, nor shall the End User Device be labelled with NTV, RiksTV or NRK names, graphics or logos, unless agreed in writing, and set out in this Annex B.

The Approval Label may be included in marketing material, provided that

- a. the Label is only used for marketing of the End User Device
- b. the use of the Label does not imply, directly or indirectly, that any other equipment or service, or provider of such, is approved, promoted or preferred by NTV, RiksTV or NRK

Example of Approval Label (for information purposes only):



7. Rights to logos etc.

The Manufacturer shall not under any circumstance change, amend or use parts of the Approval number label or the Approval Label (the "Labels"), including any logos or trademarks included therein (the "Logos").

Subject to the terms of these Standard Terms for Validation of DTT End User Devices the Manufacturer is granted a limited, non-exclusive, non-transferable, royalty-free license to use the Logos, solely in connection with the execution of this Annex B.

Nothing in these terms shall give the Manufacturer any right in or to the Logos. NTV, NRK and RiksTV, respectively, shall be the exclusive owners of all goodwill associated with the Logos. The Manufacturer shall not act in any manner that would or might conflict with, compromise or reduce the value of the respective rights of NTV, NRK or RiksTV in or to the Logos or any of the associated goodwill.

RiksTV reserves the right to revoke or deny the Manufacturer the right to use the Labels if the Manufacturer does not comply with all the terms of these Standard Terms for Validation of DTT End User Devices.