# SIMPLITV TECHNICAL REQUIREMENTS FOR TUNING PROFILE IMPLEMENTATION FOR SATELLITE TVS

**Version 1.1 - 24.01.2017**

## Index

# Notice



# Document History

| Date | Version | Change |
|---|---|---|
| 12.01.2017 | V1.0 | Initial Draft |
| 24.01.2017 | V1.1 | Final Version<br>Modified paragraph 2.1 & 2.2 |

# 1 SCOPE

This document describes a tuning profile for simpliTV to be used in satellite TVs. This tuning profile shall be available to the customer in first time installation routine or at any later time when the user initiates a channel search procedure.

# 2 TUNING AND SCANNING PROCEDURE

## 2.1 FTI (First Time Installation)

Within the initial set up routine or when a channel search procedure is initiated by the user there shall be an option to select the simpliTV tuning profile. The simpliTV tuning option should be in the same context/menu hierarchy as the other tuning/channel list options.

## 2.2 simpliTV tuning profile (LCN)

The simpliTV tuning option uses Nordig logical channel numbering descriptor which is broadcasted in the BAT of following Transponders on Astra 19.2°E:

Parameter: Astra 1KR, 11273.25, H, 22000, 2/3

In the LCN the simpliTV Bouquet as well as other TV services that are relevant for the Austrian market will be referenced. After tuning procedure finished the name of the corresponding channel list should be “simpliTV”.

### 2.2.1 Bouquet Association Table (BAT)

Bouquet_ID: 0x3700
Bouquet_name: ORS comm GmbH & Co KG
Country_Code_of_Validity: 905

Private_data_specifier_ID: 0x000001B0

**Table 4: Bouquet association section**

| Syntax | No. of bits | Identifier |
|---|---|---|
| bouquet_association_section(){ | | |
| table_id | 8 | uimsbf |
| section_syntax_indicator | 1 | bslbf |
| reserved_future_use | 1 | bslbf |
| reserved | 2 | bslbf |
| section_length | 12 | uimsbf |
| bouquet_id | 16 | uimsbf |
| reserved | 2 | bslbf |
| version_number | 5 | uimsbf |
| current_next_indicator | 1 | bslbf |
| section_number | 8 | uimsbf |
| last_section_number | 8 | uimsbf |
| reserved_future_use | 4 | bslbf |
| bouquet_descriptors_length | 12 | uimsbf |
| for(i=0;i<N;i++){ | | |
| descriptor() | | |
| } | | |
| reserved_future_use | 4 | bslbf |
| transport_stream_loop_length | 12 | uimsbf |
| for(i=0;i<N;i++){ | | |
| transport_stream_id | 16 | uimsbf |
| original_network_id | 16 | uimsbf |
| reserved_future_use | 4 | bslbf |
| transport_descriptors_length | 12 | uimsbf |
| for(j=0;j<N;j++){ | | |
| descriptor() | | |
| } | | |
| } | | |
| CRC_32 | 32 | rpchof |
| } | | |

For each transponder that contains services that simpliTV references there will be one transport stream loop. In each loop there are following descriptors:

- Service List descriptor (0x41)
- Private_data_specifier_descriptor (0x5F)
- Logical_channel_descriptor (user defined 0x83)

### 2.2.2 NorDig private; Logical Channel Descriptor (tag: 0x83)

The syntax of the Logical Channel Descriptor (version 1) is shown in Table 12.11.

| Syntax | No. of bits | Identifier |
|---|---|---|
| logical_channel_descriptor(){ | | |
| descriptor_tag | 8 | uimsbf |
| descriptor_length | 8 | uimsbf |
| for (i=0;i<number_of_services;i++){ | | |
| service_id | 16 | uimsbf |
| visible_service_flag | 1 | bslbf |
| reserved | 1 | bslbf |
| logical_channel_number | 14 | uimsbf |
| } | | |
| } | | |

*Table 12.11 Logical_Channel_descriptor (LCD v1)*

Data in this descriptor shall be treated as quasi-static and is used to order services in the IRD's service list. The descriptor enables the IRD to create a service list during the first time installation routine or at any later time when the user triggers a new satellite service scan.

### 2.2.3 Service list structure

The simpliTV LCN will reference services from program place number 1 to 399. Services not referenced in the simpliTV LCN are to be placed from 400 onwards.


### 2.2.4 Manual changes to the service list

The user should have the option to make manual changes to the services list (eg. move, delete, add services).

### 2.2.5 Sorting of services inside the channel list

All "visible" services shall be displayed in the service list, sorted according to logic_channel_number and to be addressed with a number in the service list equal to the logic_channel_number.

Services without LCN shall be place from 400 and above. The order mechanism of these services is up to the manufacturer implementation.

In order to avoid a complete rearrangement of the list when services are added gaps in the LCN service area are allowed. For the sake of clarity empty program places shall not be shown in the service list neither empty slots shall be selectable by the customer during normal channel zapping operation.

### 2.2.6 Conflict handling of Logic_channel_number

If several services are allocated to the same logic_channel_number, (within the same channel list) one service shall be ordered according to the logic_channel_number (service with lowest SID) and the others shall be placed after the last valid LCN service (empty spaces in the broadcast logic channel numbering shall not be used) or at the end of the service list in case program place 399 is already allocated.

## 2.3 Automatic simpliTV service list update

The receiver shall implement a function for an automatic service list update (e. overnight in standby mode). This is to ensure that new services added to the simpliTV LCN are added to the service list according to their desired LCN position without the user need to perform a new channel scan.

The receiver should provide an option to deactivate the automatic service list update function. As a default this function should be activated.

The user should be notified about the availability of a new simpliTV channel list via an on screen dialog (version in BAT table changed). The user should have the option to decline or accept the update. If the user accepts the update the receiver shall apply the new LCN to the service list. If user declines the update the notification dialog shall appear again two times (eg. when receiver is switched “on”). After that the notification shall not anymore appear on screen until next BAT version change.

## 2.4 Dynamic PSI & SI

The receiver shall be able to handle changes in PSI in the PMT, BAT, CAT and PAT (e.g changes of PIDs and availability of components) in a graceful way for the user.
The receiver shall be able to manage changes in the SDT and NIT (actual).
The receiver shall be able to handle dynamic changes in the Program Map Table (PMT).
The receiver shall be able to handle dynamic changes in the BAT.