

# Nokia Streamer

## Mobile IP over DVB-H receiver for Nokia 7710

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### 1. General

Nokia Streamer - IP over DVB-H receiver enhancement is an active back cover solution for Nokia 7710 widescreen multimedia smartphone. The enhancement consists of receiver module, (RF antenna integrated in the back cover) and Mobile TV Symbian sw application (to be installed in the phone).

With Nokia Streamer it is possible to connect Nokia 7710 in the DVB-H network and receive high quality TV-like services like high bit rate IP based video and audio streams.

### 2. Functionality

- The Streamer will be connected into the internal connection located under the battery cover of the phone.
- The phone's original battery will be used also with Nokia Streamer.
- Nokia Streamer is recognized, when the phone is switched on.
- The information of available channels and services is sent in ESG data through DVB-H network and is shown in Mobile TV application
- ESG data consists of channel-, programme and other metadata information.
- TV-like services will be opened in Mobile TV application using embedded Real One Player.
- ESG data may also consist of online weblinks. By clicking a weblink in Mobile TV application, the web browser will be automatically opened in the phone. These web links can be located on Main page, Channel Id area or on Other Services view.

### 3. Key Features

- Built in solution – easy installation, no extra wiring
- Antenna integrated into Nokia Streamer module
- Software application follows the phone's graphical UI (S90)
- All needed settings to receive a channel or a service will be set automatically
- Video Streaming playing time more than 3 hours with Time Slicing technology (1500 mAh battery).

### 4. Technical Data

#### Hardware

Input frequency range: See variant information

IF bandwidth: 5, 7 or 8 MHz (see variant information)

Supports hierarchical mode

Input signal: MPEG-2 TS

Output signal: UDP/IP packets

Min. and Max. Input signal levels follows MBRAI specification

#### Variants

SU-22: 472-702 MHz / IF Bandwidth 8 MHz

SU-24: 1672.5 MHz / IF bandwidth 5 MHz (U.S only)

SU-25: 536,625 MHz / IF bandwidth 7 MHz (Australian only)

#### Software

Mobile TV application is based on Symbian 7.0 OS.

#### Dimensions

Adds phone depth ~4mm, see picture above.

#### Supported DVB-H parameters

Nokia Streamer SU-22 supports all DVB-H parameters

According to EN 302 304.

Note:

MPE-FEC and 4k mode are not supported

#### Recommended DVB-H parameters for mobile reception

8k QPSK or 16 QAM, CR=1/2, (MPE-FEC CR=3/4, 512 Rows)

#### Recommended video/audio codecs:

Video: QCIF H.263 @10-15 fps; bitrate 250-300 kbps/channel

Audio: AMR-WB; max 23 kbps or AAC, typical 44 kbps (max 96 kbps)

#### DVB-H engine specification:

Frequency: 470-702 MHz (DVB-T UHF ch. 21-49)

IF Bandwidth: 8 MHz (7 MHz support requires a different SAW)

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Modulations: QPSK, 16QAM, 64QAM (Hierarchical mode)  
FFT: 2k and 8k (Note! No 4k support)  
Code Rate: 1/2, 2/3, 3/4, 5/6, 7/8  
Guard Interval: 1/4, 1/8, 1/16, 1/32