

DATA SHEET

DTR 94160TA HD

(MPEG4 - HD - DVB-T - PVR)



Version 8 – 26/09/2008

BOXER



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**Mechanical design and specifications are subject to change without prior notice*

HARDWARE FEATURES

Transmission standards

DVB-T, MPEG-2, MPEG-4, VC1

TERRESTRIAL FRONT END

Terrestrial RF Input

2 tuners (with internal splitter)

Input frequency range:

UHF: 470 - 862 Mhz (8 MHz BW)

VHF: 174 - 222 MHz (7/8 MHz BW)

COFDM bandwidth: 7 & 8 MHz

RF input level: -90 to -20 dBm

RF impedance: 75 Ohm

Tuning step: 166.66 KHz

Loop through output frequency range: 47 - 862 MHz

Terrestrial Demodulator

COFDM mode: 2k / 8k

Support: SFN

Modulation: QPSK, 16-QAM, 64-QAM

Code rate: 1/2 to 7/8 non hierarchical mode

Guard interval: 1/4, 1/8, 1/16, 1/32

De-interleaver: 12 x 17 Forney

Error-correcting code: RS (204, 188, 8)

RF OUTPUT

Loop through output freq. Range 47-862 MHz

INDOOR ANTENNA POWER SUPPLY

Output: +5 V DC, 50mA max, +5 V on the core of the cable

ETHERNET 10/100BT

Fully integrated IEEE 802.3/802.3u

10/100 base T- Physical layer

Auto-negotiation 10/100, Full/Half duplex

Adaptive equaliser, baseline wander correction

PROCESSOR AND MEMORIES

Processor: **ST7101***, ST7109

266MHz 450 Mips

RAM memory: DDR 160 Mbytes

Flash memory 16 Mbytes

EEPROM emulated into Flash

HARD DISK DRIVE

Capacity: 160GB, **250GB***, **320GB***

Up to 80h (at 5Mb/s)

Noise under operation (typ) : <30dBA

USB Connection

Host USB 2.0 high speed (480Mbits/s)

Supported device: mass storage

Device formatted only in FAT32 with only 1 logical partition

Maximum number of connections:

2 devices

VIDEO DECODER

MPEG-2

Standard MPEG-2 MP@HL for 50Hz

Input rates (max): 15 Mbit/s

MPEG-4 PART 10 / H.264

MPEG-4 AVC HP@L4 (HD) for 50Hz

Input rates (max): 20 Mbit/s for HP@L4

MPEG-4 AVC HP@L3 (SD)

Input rates (max): 10 Mbit/s for HP@L3

CABAC and CAVLC decoding

Supports all intra/inter prediction modes and block sizes

I, P and B picture types

Fidelity range extensions (8x8 Transforms,

8x8 Spatial Prediction Mode, Dynamic

Quantization Matrix)

Windows Media 9

WMV9 MP@ML and AP@HL

Input rates (max): 15 Mbps

AUDIO DECODER

MPEG-1/ MPEG-2 Layer I

MPEG-1/ MPEG-2 Layer II

DOLBY: AC3

HE-AAC

DOLBY AC3+*

AC3 DOWNMIXING

Audio decoder, sampling rates 32, 44.1, 48 kHz

OUTPUT RESOLUTION / FORMAT

HD: 1280x720 @ 50Hz progressive, or

1920x1080 @ 50Hz interlaced - Aspect

ratio 16/9

Unscaled (original format) or scaled

(HD>SD) by set up menu

SD : 720x576 - Aspect Ratio: 4:3 and 16:9

Conversion : Pan and Scan, Letter box

Scaling : SD > HD

HD or SD: Resizing : down ¼ and up no

Limit

SD INPUT/ OUTPUT

TV SCART

RGB out, CVBS, Audio R/L

AUX SCART

CVBS, S-video, RGB in, Audio R/L

Macrovision copy protection 7.0.1

HD OUTPUT

HDMI (version 1.3) with HDCP

- Audio (stereo mode selected):

PCM output + downmix from AC3

- Audio (multichannel mode selected):

PCM output from MPEG-1 layer I&II and

MPEG-2 layer II

YPrPb

AUDIO OUTPUT

Audio output (Audio R/L, RCA)

Mono stereo in case of MPEG-1 layer II,

Two channel down mix in case of AC3

Electrical S/PDIF

2 channel PCM in case of MPEG1-layer II

Originally received beat stream in case of AC3.

CONDITIONAL ACCESS

Smart card reader:

1 x ISO/IEC 7816, level 1/2/3

DATA PORT

1 x RS232 through Aux SCART

1 x USB 2.0 Host (High Speed)

1 x Ethernet

FRONT PANEL

4 digits "ambre" color display

IR sensor: 38 KHz

1 bicolor led

1 x USB 2.0 Host

3 buttons (On/Off, P+, P-)

1 smart card reader

REAR PANEL

1 x IEC169-2 female (terrestrial in)

1 x IEC169-2 male (terrestrial out)

1 x RJ45 (ETH 10/100BT)

2 x SCART (TV, AUX)

1 x HDMI

6 x RCA YPrPb, Stereo L/R, S/PDIF

POWER SUPPLY

External power supply (220-240V ~60 Hz/ 12V

DC 2A max)

Power Consumption max: < 35 W

Standby < 5 W (in full powerdown mode)

MECHANICAL

STB Color: Black and silver

STB Size (wxdxh): 411 x 210 x 41mm

STB Weight: 2.3 kg

STB Operating temp.: 0°C to +40°C

Packing size: 494 x 320 x 91 mm

Packing Weight (Total): 3.8 kg

Storage temp.: -25°C to +65°C

ACCESSORIES

URC60 Remote Control with Batteries

External AC/DC adapter

Ethernet cord (3 m)*

SCART cord (1 m)

HDMI cord (1.5 m) *

User manual

(*) option



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MIDDLEWARE FEATURES

Boot and loader: Sagem secured Loader
Conditional access: Viaccess cardbased
Middleware: Sagem included **Boxer Navigator** functionalities.

NOTE: the hardware configuration of the product is Terrestrial and IP. The software configuration is only Terrestrial. The download of a software will allow the use of the box in IP, following the agreement on a specification and a scope.

GENERAL AND BROADCASTED FEATURES

QUICK START INSTALLATION

- Quick guided installation at first time switch-on
 - OSD language (Swedish, English, Norwegian, Finnish, Danish, French)
 - TV format
 - Complete scanning
 - Choice of Network (NIT)
 - HD ready Display recognition

BOX SET UP

- Channel search
 - Complete scanning with « ALL Services list » and « NIT list » automatically generated
 - Ordering according LCN, best services, neighbor countries network management
 - Lists Automatically updated in case NIT version evolution
 - OSD warning message for re-scan in case of new MUX recognition
 - DTT Signal information and diagnostic
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- Video settings
 - HD Mode :
 - Resolution : 1080i, 720p
 - SD Mode :
 - Resolution : 720 x 576i
 - TV format : 16/9, 4/3 letter box, 4/3 pan & scan
 - TV SCART : RGB, PAL
 - AUX SCART : PAL, S-video
 - Default values
- Audio settings
 - Digital Audio : 5.1 or PCM 2.0
 - PCM 2.0 / AC3 5.1 level adjustment
 - Default values

- Factory Reset (total re-installation)

- Product Data

- CA Data

USER PREFERENCE SET UP

- Language/country
 - OSD language : Swedish, English, Norwegian, Finnish, Danish, French
 - Preferred audio track
 - Preferred subtitle
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- Service lists manager
 - NIT list : selection of the user preferred NIT
 - User defined lists builder
 - Service name edition
 - Add / Remove
 - Ordering
- TV and Radio dedicated lists
- User settings

- Locking
 - Change pin code
 - Channel locking
 - Programme locking based on DVB EIT rating
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- User preferences
 - Zap banner time out adjustment

INFO BANNER

- Zap banner with Channel number, channel name, present event name, present event duration, content, hour
- More infos banner with added functions:
 - Scroll of channels with present event name, present event duration,
 - Scroll of channels with next event name, next event duration,
 - Present event synopsis,
 - Choice of audio track (dual mode included)
 - List selection

EPG (embedded)

- 7 days EPG list with video resized based on EIT schedule
- Include service list, short events, synopsis
- Selection of service list
- 5 Mo cache memory

SUBTITLES

- DVB subtitle version 1.3.1

TELETEXT

- OSD Teletext magazine level 1.5
- VBI re-insertion

CONDITIONAL ACCESS

- VIACCESS (ACS 3.0)

ADDITIONAL FUNCTIONS

- Format selection via remote-control on YUV and HDMI output
 - Large and 16/9 on HD program
 - 4/3, zoom 14/9, zoom 16/9, full screen on SD program
- Mini services list with Change list function
- Audio volume adjustment and Mute control on TV SCART and Hifi output,
- Favorite list access by dedicated remote control key
- Automatic AUX mode by survey of the low speed (PIN8) of the AUX SCART

PVR FEATURES (Video Recording)

LIVE TV IS AUTOMATICALLY AND CONTINUOUSLY RECORDED INTO A 2-HOUR CIRCULAR BUFFER

- **Become the master of your TV experience:** pause live TV, rewind and watch timeshifted videos from start, fast forward the boring sequences and replay the interesting ones, whenever you want. The size of the buffer is 2 hours. Back record (transform the video buffer in one recording)
- **Catch'up** allows you to instantly go back to the live.

IMMEDIATE RECORDING

- **One touch immediate recording** (Any program on the stream is recorded from a single key on the remote control). By pressing several times the immediate recording key, the recording duration in increase by steps of 30 minutes up to four hours.
- **Playback** (Any program from the HDD can be played after/during recording).
- **Fast rewind, Fast Forward** with sampled pictures displayed.
- **Accelerated play** (Backward and forward). Up to 600 times nominal speed.

WATCH AND RECORD FEATURES

- Watch a live program and record another one at the same time
- Record two different programs simultaneously
- Record one program and view the same program in a deferred mode

RECORDINGS SCHEDULING

- **Up to 30 events scheduling.** The record settings can be set for a single event or frequent ones (every week, every day from Monday to Friday, from Monday to Saturday or from Monday to Sunday).
- **Recording capability,** even if another channel or recorded program is being watched, thanks to the two tuners.
- **Easy recording scheduling** through the EPG* (Program Guide)
- **Build your own TV Channel**

* depends on operator's signal features

AN ENHANCED DIGITAL VCR

- Digital audio-video storage, so you can playback **without any quality loss.**
- **Recorded films list.** Easy to navigate, it allows searching a recorded program by getting a description with Name, Channel, Duration, Detailed Description and a preview in a resized video window. Then you can watch it in full screen from start, or erase it. The being recorded program is shown too, so you can watch it from start before the end of the recording.
- **Used HDD space info**
- **Available subtitles are recorded**
- **AC3 Audio is recorded**
- **Available audio channels are recorded**
- **« Mount » function:** allows you to make one continuous record from several ones.
- **« Edit » function** allows you to delete sequences from a record
- **Archive on VCR whenever you want to,** thanks to the AUX SCART
- **Recording renaming**
- **Recorded programs directory.** Create directory, delete, rename

MEDIA LIST MANAGER FEATURES

- **The Media List Manager allows the end user to play and manage photo pictures and digital audio files from USB mass storage device (USB Key, external USB HDD) and from the hard disk drive**
- **Fast and easy access to the Media List Manager inserting a USB mass storage device or pressing the *Media* key of the remote control .**

PICTURE FEATURES

- **Fast and easy download** of pictures from a USB key to the HDD or from the HDD to USB key
- **Create pictures playlist**
- Selection features: one picture, some pictures, a group of pictures
- **Transfer or duplicate** a selection from a directory to another one
- Manage pictures differently in each directory
- Delete a selection of pictures
- **Preview in mosaic (9 per page)** : navigate, select and display one
- Display pictures with information, zoom and left/right photo rotation features, save the rotation
- **Slideshow mode.** Speed selection (3s, 5s, 7s, 10s, 15s, 20s) and loop mode
- Access to radio and digital audio files mode during the visualisation
- Picture format: Jpeg
- Picture size max 24 Mega pixels

DIGITAL AUDIO FILES FEATURES

- **Play digital audio files from USB key**
- **Fast and easy download** of digital audio files from a USB key to the HDD and from the HDD to the USB key
- **Digital audio files library management on HDD**
- **Create and edit digital audio playlists on HDD or USB**
- **Display audio files with information (artist, album, title, track...)**
- **Transfer or duplicate a selection from a directory to another one**
- **Delete a selection of files**