

IP-STB series for the complete TV experience



Positioned at the frontline of next generation IP set-top boxes, the Kreatel® IP-STB 1900 series extends the possibilities for broadband television. Advanced video formats and HDTV are standard on all models, but the main advantage lies in its flexibility.

PVR

With the option of an integrated hard disk drive, the Kreatel IP-STB 1900 series enables the full range of personal video recording functionality. Time shift, recording and viewing separate streams, instant or scheduled recording are features that bring more flexibility into consumers' life.

TV from many sources

The Kreatel IP-STB 1900 series is perfect for operators looking to optimize bandwidth. Advanced video formats such as MPEG-4/H.264 or VC-1 can be seamlessly combined with digital terrestrial television, cable or satellite broadcasts.

A media center in disguise

Although perfectly suited for high quality video and priced as a set-top box, the Kreatel IP-STB 1900 series really has the possibilities of a media center.

It can be used as the centerpiece of the home network, playing personal media files and showing picture slideshows on the TV set. It supports chatting, mailing, gaming – it is all up to what the operator decides to offer.



A broad range of services

The operator should always be in charge of the applications offered on the STB. That is why a range of leading middleware applications can be used with the Kreatel IP-STB 1900

series, as well as applications and services developed by the operator in-house or by any third party. There are multiple development environments available, such as html/JavaScript and C++. The challenge lies in finding out what the next sizzling hot, must-have application will be – not in developing it.

Past, present, future

The Kreatel IP-STB 1900 series is compatible with previous STB generations and can be installed in parallel thanks to the shared Kreatel TV Software. A single software platform to maintain and operate means huge savings in time and cost, and still you stay prepared for what the future may bring. When selecting the Kreatel IP-STB 1900 series, you benefit from many years of development, deployment experience and well documented reliability while you embrace all new features and possibilities.



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Technical Specification

Basic configuration Kreateel IP-STB 1900 series

Hardware

Electronics

- ▶ Microprocessor: RISC processor with integrated TV video processing and MPEG decoder, performance 450 DMIPS, 1.2 GFLOPS
- ▶ Main memory: 128 MB DRAM
- ▶ Video memory: 32 MB DRAM
- ▶ Flash memory: 4 MB
- Accessories
 - ▶ Infrared remote control
 - ▶ Infrared keyboard (optional)

Streaming video

- ▶ MPEG-1, 800 kbits/s to 3 Mbits/s, CIF 352x288
- ▶ MPEG-2, transport stream - PAT, PMT, video and audio streams, constant and variable bit rate, 2-25 Mbit/s, up to MP@HL 1080i@30 fps
- ▶ H.264, PAT, PMT, video and audio streams, up to 20 Mbit/s, up to HP@L4.1 (1080i@30 fps)
- ▶ VC-1, PAT, PMT, video and audio streams, up to 20 Mbit/s, up to AP@L3 (1080i@30 fps)
- ▶ High definition video:
 - 1280x720@50 or 60 fps (progressive scan)
 - 1920x1080@50 or 60 fps (interlaced scan)
- ▶ 4:3 and 16:9 video format (format detection, scaling to letterbox, center cut-out and SCART signaling)

Video-on-Demand

- ▶ Support for Interactive Video-on-Demand (IVOD) and Near Video-on-Demand (NVOD) Protocol RTSP
- ▶ Verified compliance with leading video server suppliers

Streaming audio

- ▶ MPEG, Layer 1,2,3
- ▶ PCM
- ▶ AC3

Graphics

- ▶ 24 bits/pixel RGB for computer graphics
- ▶ 24 bits/pixel RGB for video
- ▶ 720x576 pixels resolution for computer graphics (PAL)
- ▶ 720x480 resolution for computer graphics (NTSC)
- ▶ Picture-in-Graphics

- ▶ On Screen Display (OSD)
- ▶ Alpha blending
- ▶ Color keying
- ▶ 2D graphics accelerator
- ▶ Spatial - temporal deinterlacing using motion detection and estimation
- ▶ Independent flicker filtering of graphics

Operating system

- ▶ Linux-based OS

External interfaces and connectors

Front panel

- ▶ LED for status indication
- ▶ IR-receiver
- ▶ Smartcard reader [ISO 7816-1/2/3/4]
- ▶ Alpha numeric display

Rear panel

- ▶ 1 x RJ45 for Ethernet 10/100 Base-T
- ▶ 1 x SCART for RGB, S-video and composite out
- ▶ 1 x SCART for composite in/out and RGB loop through
- ▶ 3 x RCA for component video
- ▶ 1 x HDMI for digital video
- ▶ 2 x RCA for analog stereo
- ▶ 1 x RCA for electrical digital 5.1 sound
- ▶ 1 x Toslink for optical digital 5.1 sound
- ▶ USB port for peripherals [USB 2.0]
- ▶ 1 x mains power connector

Security

- ▶ SSL (version 3.0, 64 and 128 bits)
- ▶ PKI (box login, encryption/decryption) (Optional)
- ▶ Macrovision copy protection ver. 7.01 (Optional)

Electrical values

- ▶ Power supply:
 - external PSU 6V (Kreateel IP-STB 1910/1920)
 - internal 110V-240V (Kreateel IP-STB 1960/1970)
- ▶ Power consumption: <7 W full load (Kreateel IP-STB 1910 model)

Model specific options

DVB-T

(Kreateel IP-STB 1920 and 1970)

- ▶ DVB-T[ETSI EN 300 744]
- ▶ Extra connectors: 2 x DIN Jack for DVB-T input and loop through

PVR

(Kreateel IP-STB 1960 and 1970)

- ▶ 80 GB hard disk drive (other sizes optional)
- ▶ Time shift and scheduled recording
- ▶ Possible recording formats: MPEG-2, H.264 and VC-1
- ▶ Trick play

	Advanced video formats	HDTV	DVB-S/C/T	PVR
Kreateel IP-STB 1910	✓	✓		
Kreateel IP-STB 1920	✓	✓	✓	
Kreateel IP-STB 1960	✓	✓		✓
Kreateel IP-STB 1970	✓	✓	✓	✓