

AB IPBox 350Prime PVR

The return of the penguin

A few months ago we had a chance to test quite a unique receiver. It was based on the Linux operation system, had an open-source firmware, a rich variety of plugins, and a very user-friendly PVR. We're talking about the AB IPBox 250S PVR from the Slovakian company AB Com, which was presented in one of the previous issues of TELE-satellite International magazine (Issue 07/2007). Since then, it became a real legend, and the manufacturer decided to produce an even more advanced version of it, AB IPBox 350Prime PVR

When opening the package we didn't expect a big surprise, since from the outside, according to the pictures on the manufacturer's website, it had to look almost identical to its "older brother". But already the contents of the box attracted our attention: besides the receiver, there were two separate tuners included – for DVB-T and DVB-C, since AB IPBox 350Prime PVR also supports terrestrial and cable reception.

The receiver itself also had a few surprises to discover. On its rear panel, besides the regular 2 scart connectors, RCA, S/PDIF, RS-232, Ethernet port, LNB input and loop-through output, we found the newly added main power switch, as well as the USB port, which can be used for software upgrades or file exchange with different plugins, installed on the receiver. The front panel is identical to the 250S, and contains the Standby, Menu, Exit, OK, Left, Right, Up and Down buttons, as well as the smart-card reader and a segment display. AB IPBox 350Prime PVR is also available in two color variants – silver and black.

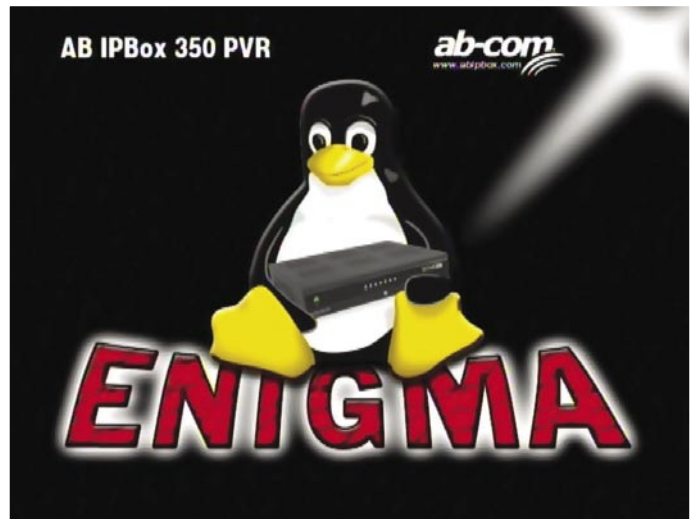
Why change the good things? The previous model had a very

nice remote control. It might have been designed quite simply, but it was lying in the hand perfectly, and all the buttons were clearly marked. It was also able to control your TV set as well, and it was possible to choose from several hundreds of TV manufacturers. Did all this become history? No way. The remote control of AB IPBox 350Prime PVR is as good, because it looks and works exactly the same.

Installation

When you switch the AB IPBox 350Prime PVR on for the very first time, you are greeted by a nice penguin, holding a receiver. Right below you can read the name of the firmware, installed on this receiver by default – the legendary Enigma. It was also available for the previous model, but in our tests back then we used an "image" from "Highland team". And even though "Highland team" also has an image now for the 350Prime PVR, we decided to give Enigma a closer look.

In a few seconds after the



Welcome screen of Enigma software |

penguin picture, the wizard will appear, which will guide you through the installation process. In the first window, the receiver will ask you to select your time zone, in the second – to choose the DiSEqC option that would better match your antenna configuration. AB IP Box 350Prime PVR offers three options: no DiSEqC (direct connection to one LNB), Simple DiSEqC (for 2 LNBs/satellites) and Complex DiSEqC (all further variants). AB IP Box 350Prime PVR supports all DiSEqC versions, from 1.0 till 1.3 (USALS).

Next window will let you select the satellites you are planning to receive and configure their parameters. Once this is done, next step is again offering you three choices – regular automatic channel

search, multi-satellite channel search and manual channel scan. During the automatic search, the receiver will first try to lock to the signal of one of the transponders, and should this succeed, will offer you to start the channel scan itself. When the transponders are scanned, a very informative window appears, telling you the estimated remaining scan time, number of scanned transponders and found channels, as well as the data of currently processed transponder. The channel search itself can't be called very fast, it took around 18 minutes to process 94 transponders in the automatic scan mode, which resulted in 1379 TV and 453 radio channels. But! If something is slow, something else has to be really fast. And this is something we'll discover a



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little further on. Once the channel search is completed, you'll land in the main channel list. Already here you can experience the menu style of Enigma. Prepare to use the colored buttons a lot. In the channel list, pressing the red one will display all channels, the green one will let you select the particular satellite (with sub-options - newly found, sorted by provider or all channels), yellow - will list all the broadcasters that the receiver found, and the blue one - give you access to the favorite lists, which are at this moment still empty. But anyhow, you are one click away from having the first picture on your TV screen !

Still, before we start watching TV, let's explore a bit more. When you press the "Menu" button, don't expect a long list of items to appear on the screen. Here you will see one at a time, and can switch between them using Left and Right buttons. The first item, "TV mode", fills the channel list with TV channels, second - "Radio mode" - with radio stations respectively. The third one is "File Mode", here the channel list turns into the list of files, available on one of the connected hard disks or USB devices. Fourth - "Information" - doesn't just tell you the model of the receiver you're using, but

also the detailed information about the channel currently selected, including all the PIDs, video format, aspect ratio, encryption system, and even bitrates for audio and video, which are measured on the fly from the transmitted signal!

Fifth menu item is called "Shutdown", here you can find the various receiver restarting options. Sixth is "Setup", the main place to configure AB IP Box 350Prime PVR. Everything you would ever want to modify, personalize or remove, you can find here. Including satellites, transponders, channels, network, languages, hard disks, USB devices etc. Seventh is called "Games", which provides quick access for installed plugins. Eighth submenu is "Timer" for programming the recording events, and ninth allows to switch the picture from the receiver to the one available from your VCR.

Everyday use

So now let's grab that remote and prepare for a ride, really fast ride! And even though the channel search didn't hit the speed record, zapping sure does. The manufacturer didn't lie about it being "less than a second". The channels within the same transponder get changed in about 0.2-0.3

seconds, between different transponders - in 0.5-0.7 seconds. When you put your AB IP Box 350Prime PVR into Standby mode, and later switch it on again, the picture will also appear in approximately 0.3 seconds, which is amazingly fast.

Together with the picture of the new channel, you will see two info bars on the screen - in the top and in the bottom part. The upper one will inform you about the channel number, name, used encryption systems, as well as SNR, AGC and BER. The bottom one is more about the channel contents, displaying the names and starting times of the current and following event. It also tells you if the channel has teletext, subtitles and EPG. Speaking of the latter, it's also quite interesting. AB IP Box 350Prime PVR offers it two ways - either EPG is displayed for the current channel only, or with neighboring channels as well. In the latter mode, you can press the numerical keys



Expert Setup Menu |



Hard Disk Setup |



Receiver Information |



Info Bars |

from 1 to 6, this way, the EPG data can be displayed for any period from 1 to 6 hours simultaneously. Of course,



EPG data is not limited to 6 hours, you can use the cursor keys to go as much further as you wish and provider made available.

Teletext decoder is also amazingly fast, but this is something we would expect now anyhow from a modern receiver. Switching between pages is as fast as between channels with AB IP Box 350Prime PVR, so you would hardly want to return to your TV set's teletext decoder.

PVR, USB and LAN

And here comes the fun part for those who love to play around. Of course, the PVR here is something that any family member would enjoy, but the latter two are for the true experimenters. For the Personal Video Recorder to be used, first you have to install the hard disk into the receiver. Unfortunately, this involves opening the case, and at the moment this model is not offered with a HDD already built in. But once everything connected, all you have to do is to format the hard disk (Setup - System Settings -

Harddisk setup). Right after that you can start recording your favorite shows in a flash.

In case you see something on you'd like to record, just press the button with the red dot. It's also possible to select the recording start/stop time in the Timer menu, or use the EPG. In the latter you just have to select the show you're interested in, then press the blue button, which takes the program name and start/stop times to the Timer menu, where it can be adjusted further. While recording, the receiver displays the remaining disk space on its segment display, so you will always know, how much more you can record. Later all the recordings can be easily accessed in File Mode - Recorded Movies menu.

Serious step forward was done with adding a USB port to AB IP Box 350Prime PVR. However, unfortunately, it was probably not planned out to the end to be as user-friendly as possible. It can't be used for the PVR recording, only for software updates and plugin installation. There is one nice fea-

ture, however, that a lot of users would enjoy - take your USB dongle, copy your favorite music in MP3 format, and go to File Mode - usb-disk menu. When the channel you watch starts with a commercial break, you can listen to couple of your favorite tunes. However, to do this, first the USB dongle has to be formatted in Ext3 file system by the receiver (Setup - System Settings - Usbdisk Setup). Then, either you have to copy the files from the computer with a Linux OS, either use a program like LTOOLS by Werner Zimmermann for Windows machines. Unfortunately, it's not possible to access a USB-dongle formatted by the AB IP Box 350Prime PVR directly from Windows.

And while the USB part still needs some work to be done on, the LAN part is as good as it used to be. And even better. We connected the receiver to the WiFi router we have here in the test lab, then used Setup - Expert Setup - Communication Setup to configure it. According to the type of your network, you can choose the DHCP mode to get all the needed parameters auto-



Teletext!



DVB-T Channel Search!



DVB-T reception in Budapest, Hungary!

matically, or to manually enter the IP address of the receiver, net mask, name server and the gateway.

Once all the settings have been cared about, just open your favorite web browser, and enter the IP address of the receiver. Once prompted for the UserID/password, enter "root" for the first and "ipbox" for the latter. Right after that you'll see a feature-loaded page of the receivers web "server". The variety of supported functions is amazing. You can edit channel lists, check EPG, read teletext right on your computer, start/stop the PVR recording. You're just clicks away from changing various settings, without the need to endlessly browse through the OSD menu with the remote control. Parameters of the currently selected channel are displayed in the upper part of the page. You can see the current and next program names, current channel's SNR, AGC and BER, as well as it's Video and Audio PIDs.

Downloading the PVR recordings from AB IP Box 350Prime PVR to your computer is also perfectly simple. In the web interface, use the "Movies" menu, then select the program you'd like to download and click the "Download" button. And if you prefer the FTP, use the same IP address, same UserID and Password, then just go to the hdd\movie directory. Plain and simple!

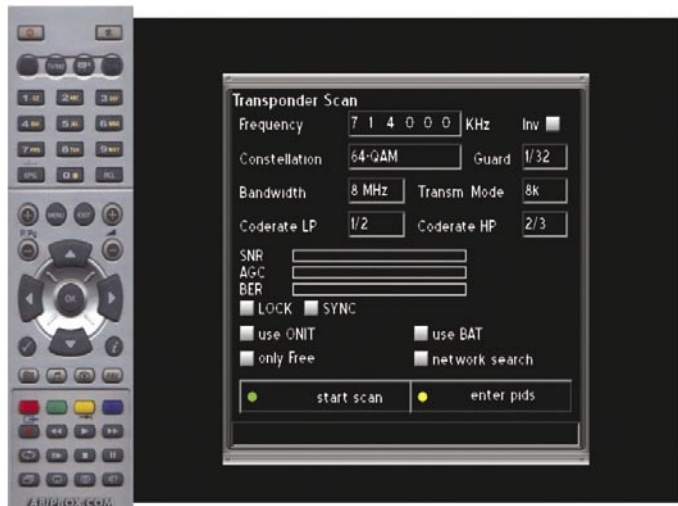
Terrestrial Reception

As we've already mentioned, besides satellite reception, AB

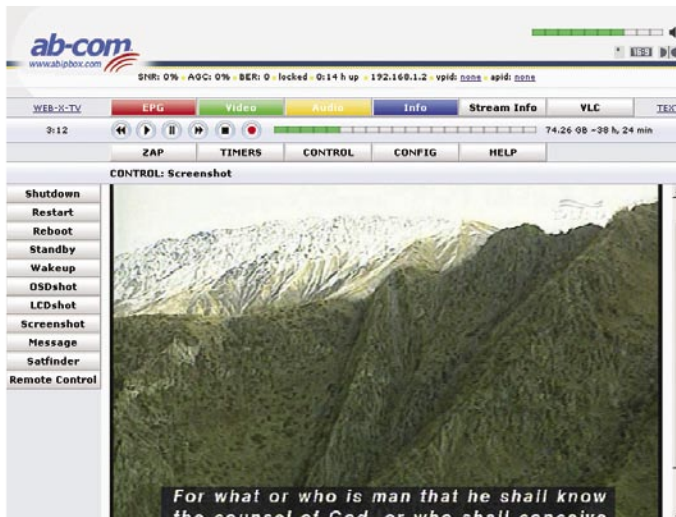
IP Box 350Prime PVR can be used to watch digital terrestrial transmissions in DVB-T. "Plug-and-play" tuners, offered by the manufacturer, are very easy to install – just like replacing a regular network card with another. Just open the case, remove one screw and replace the card – that's it!

Enigma software, installed on AB IP Box 350Prime PVR by default, completely supports such "plug and play" technology. It detects the new tuner automatically and changes the menus accordingly. For example, the transponder scan screen no longer expects the frequency in MHz, but in kHz, instead of Symbol Rate and FEC you'll find Constellation and Bandwidth. Unfortunately, it's not possible to enter channel numbers directly. For beginners it might take time to find the proper frequency equivalent for a particular VHF/UHF channel. But other than that, channel scan ends in a flash, and you can already enjoy the programming from the nearby TV tower in perfect digital quality! Zapping is as fast as with satellite reception, EPG, Teletext, and all other features you're used to are also available in DVB-T. For AB IP Box 350Prime PVR it doesn't matter, where the signal comes from. It will process it and produce a crystal clear picture, regardless, if it came from the satellite, or traveled a shorter distance, from your local TV tower.

Certainly, the DVB-C tuner works the same. AB IP Box 350Prime PVR offers you to use all three DVB variants, by satellite, terrestrial, and via cable. A very thought through concept!



Virtual Remote Control |



Enigma's Web Interface |

Expert Opinion



Nikolai Ovsyadovskiy
TELE-satellite
Test Center
Hungary

+
AB Com succeeded to hit the target again! DXers should have nothing more to desire – it's possible to enter all the PIDs, and read such parameters which are hardly shown by any other receivers. At the same time, almost any member of the family would enjoy the super-fast zapping, offered by AB IP Box 350Prime PVR. Web interface of this receiver allows to set almost any parameter with just a couple of clicks via your PC. And not to forget the simplicity of switching from DVB-S to DVB-T, DVB-C and back! Linux-based receivers become powerful as never before!

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Unfortunately, still some things need to be improved. USB interface can't be called user-friendly, you can't use a USB device for PVR recording, plus, if Windows is your operation system, there may be problems with accessing your USB dongle formatted in Ext3 by the receiver. It would also be nice to add a possibility to enter VHF/UHF channels in the DVB-T mode to help the beginners.

TECHNIC DATA

Manufacturer	AB-COM s.r.o. Gogolova 1, 955 01 Topolcany, Slovakia
Homepage	www.abcom.sk
Tel	+421 38 5322 038
E-mail	info@abcom.sk
Model	350Prime PVR
Function	Linux-based digital receiver, suitable for terrestrial, cable and satellite DVB reception
CPU	IBM PowerPC 405
CPU Speed	350 MIPS
Channel Memory	4000
Symbol Rate	1~45 Ms/s
SCPC Compatible	Yes
USALS	Yes
DiSEqC	1.0/1.1/1.2/1.3
Digital Audio Output	Yes
EPG	Yes
C/Ku-band compatible	Yes
Power supply	AC110~220V, 50Hz/60Hz
Power consumption	25W max.