

AB IP Box 250S PVR

Linux-based treasure box

If you ever traveled to Slovakia you probably know that the small town of Topolčany is mainly famous for its beautiful medieval castle and wonderful beer. But now new times are coming, and the company AB-COM, with headquarters in Topolčany, is becoming even more well known, and not just inside Slovakia. And this has a reason. Linux-based satellite receivers keep gaining popularity world-

The first praise goes to the designers – we opened the package, delivered to our office, to find simply, but at the same time, stylishly designed receiver. AB IP Box 250S PVR is available in two color variants – black and silver. Front panel contains a horseshoe-shaped Standby button, seven control buttons (Menu, Exit, OK, Left, Right, Up and Down), which allow to control the majority of receiver's functions, and a numerical display, which shows the number of the currently selected channel, current time in Standby mode, as well as the service information when needed.

Last, but not least, there is an universal smartcard reader slot, which, with pre-installed firmware, allows to get access to channels encrypted in Xcrypt or Firecrypt.

Rear panel greets us with the first surprise. It starts quite usual – LNB input with a corresponding loop-through output, two Scart connectors, three RCAs outputting the Video and Stereo sound, Digital Audio output and a RS-232 port. And an Ethernet port, which will play a very important role in the interaction with AB IP Box 250S PVR. Design of the remote control is very simple, but at the same time, quite logic. The only unusual thing is that the EPG button is located right next to the "0" key, below all other numbers. All other buttons are where you expect them to be, so you will get used to it quite quickly.

The remote control of AB IP Box

wide. Mainly among DXers, fans of satellite reception, who enjoy experimenting, but also among the regular users as well. AB-COM didn't just follow this trend, but also put a lot of effort into each released model. No wonder that the previous AB IP Boxes received such positive response. We were lucky to get a chance to test the latest one, AB IP Box 250S PVR.



250S PVR can also control your TV set, list of the supported models (a very BIG list!) can be found on the last pages of the receiver's user manual.

Installation

Even the regular user, who is not planning to endlessly experiment with his receiver, will find the installation quite simple. After the first power-up and the welcome screen, AB IP Box 250S PVR will ask if you would like to format the installed hard disk. If you choose not to do it now, it can be formatted later from the main menu.

Clear and understandable wizard will guide you through the installation process. First the box wants to know which languages you would prefer for the on-screen menu, audio and subtitles. Second screen allows configuring the local time, as well as the video settings.

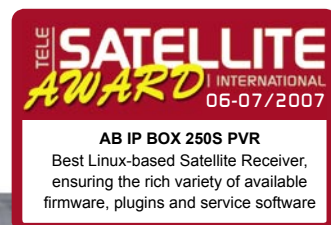
Third one is for the LNB selection. First increase the number of installed LNBs in the menu, then highlight the appearing string. Clicking OK will bring a sub-

window to the screen with all the needed parameters, including the satellite name, LOF, which can be absolutely flexibly selected, and the DiSEqC settings. AB IP Box 250S PVR supports all DiSEqC versions from 1.0, 1.1, 1.2 to USALS, so it can easily become the heart of your multi-satellite reception system.

Logically, the next step is the channel search. Scanning 78 pre-programmed transponders on ASTRA 1 position at 19.2 deg. East took 6 minutes 10 seconds. SCPC reception was tested on EUTELSAT SESAT at 36 deg. East, and AB IP Box 250S PVR didn't disappoint us here. Channel search can be performed in Automatic or Manual mode, with possibility to select a network search, to leave out encrypted or FTA channels, or to keep all. You do not need to worry too much about filling channel memory: AB IP Box 250S PVR top limit is 10,000 channels!

Channel switching speed is pretty fast – less than a second for the channels within the same transponder, and a bit more (but still within 1.5 seconds) for differ-

ent transponders. Channel names with non-Latin character sets (f.e. Cyrillic) are displayed correctly, so does the EPG information too. However, EPG screen itself still awaits some improvements to be done. It is fast, all the information is loaded and displayed appropriately, but switching between days and channels can be con-



fusing at first. It also might take time until you figure it out, how to navigate through the main menu. It consists of three main items – "User's option", "System Setup" and "About". Three icons in the left part of the screen – with two faces, a sprocket and a question mark represent respectively each of them. You can switch between these three items with Left and Right buttons on the remote control or receiver's front panel, while the sub-items are navigated with Up and Down buttons.

Channels can be arranged into an unlimited number of favorite lists, with default ones called "Sport", "Drama", "News", "Movie" and "Music". Adding channels to them only requires couple of clicks. Switching between the "Favorite" mode and "Full Channel List" mode happens by pressing the "FAV" button on the remote control. Main list can be sorted alphabetically, by provider, encryption mode or satellite. Moving channels around or deleting the unwanted ones is also a matter of seconds.

PVR

Of course, presence of these three letters in the model name is already promising the possibility to record and play. The test unit we've got was equipped with 80 GB HDD, which is enough for recording approximately 40 hours of video. It's possible either to record the programming manu-



ally, by pressing the button with red circle on the remote control, or by selecting your favorite TV shows from the EPG. Pressing the same red circled button in the EPG mode will mark the program for recording. Recordings of video and audio material, as well as "timer reservations" are handled in a special menu, called "File List Management", which can be accessed by pressing the button with an envelope. It is also here, where you can choose the video or audio recordings to be played. But! There is much more, what you can do with them. Remember the nice Ethernet socket on the receiver's real panel? Maybe we can get the recordings to the PC somehow? Or maybe it's good for anything else?

The power of Linux

AB IP Box 250S PVR would be a regular PVR-receiver, if not its architecture. Being built on IBM PowerPC405 processor with Linux operation system, firmware of this receiver is an open-source project. Receiver's architecture turned out to be compatible with alternative firmwares released for other Linux-based receivers, after some slight modifications they can also be used with AB IP Box 250S PVR. Those which were already converted and are tested to be working with it, can be found on the official AB-COM support website. We found its address on a white sticker attached to the receiver's packaging - <http://www.abcom.sk> and <http://www.download.abcom.sk>.

But before we start experimenting, it makes sense to visit the nearest electronics store and buy two cables - the cross-over Ethernet cable and a null-modem cable. Then from the website mentioned above we download two programs - "PC Editor" and "Flash Tools". You can also download several "image" files, the ones that you'd like to try. Make sure that the electricity ain't going to disappear in the next minutes, and let the experimenting begin!

If you're afraid of damaging your receiver by uploading the new firmware from the PC, AB IP Box 250S PVR gives you another option. It can be connected directly to the Internet via PPPoE or Dialup. Several web and FTP sites with official or alternative firmware are already pre-programmed. The chosen version will be downloaded directly into the

receiver's memory and installed.

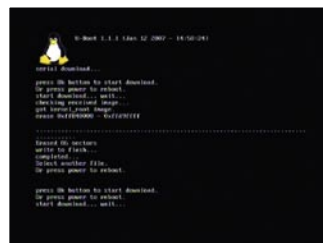
However, we went a different way, by testing both the Ethernet and RS-232 connection. RS-232 firmware upgrade with Flash Tools software can take up to half an hour or more, but it will be done for sure, since some earlier versions of the official firmware might not support the Ethernet upgrade. The latter is done from the PC Editor program, there AB IP Box 250S PVR model is called "CubeCaFe". But it's not only for the firmware upgrade. Channel lists can be conveniently edited, and later re-uploaded to the receiver. Import of the SatcoDX *.sdx files is completely supported in the PC Editor.

Once the Ethernet connection is established, you can find the information about it in the "About" - "Network Info" menu. Make note of the IP address assigned to the box. Because if you open your favorite web browser and type it in, you will see a lot of interesting things. First you will be prompted for a user ID and a password (use "relook" for both), and after you enter them, you'll land in "Geckow Webinterface", the "web-server" of your AB IP Box 250S PVR. Here you can check the EPG, address the receiver with a virtual remote control, schedule programs for recording and save recorded programs on your computer. AB IP Box 250S PVR also has an "FTP-server", you can connect to it by using any FTP client, entering the IP of your box, using "root" as the user name and "relook" as the password. You can find the recordings in /var/media/video directory. However, if you download them via the FTP, you'll have to convert them to .mpg first, by using the simple "MakePS" utility, which is also available at the official AB-COM support website.

Since this is an open-source system, there are not just a lot of various firmwares available, but also lots of plug-ins. For example, you can install games, MP-3 player or other utilities. All of them, and a lot more, can be found on the website mentioned above. But that's not all. AB IP Box 250S PVR hides a lot more treasures inside, which we'll let you discover by yourself.

Because if we'll tell you everything, it wouldn't be so much fun to experiment, would it? And satellite reception is no longer just watching TV channels or listening to radios, it's much, much more now.

TECHNIC DATA	Manufacturer	AB-COM, Topoľčany, Slovakia
	Fax	+421 38 5322027
	E-mail	info@abcom.sk
	Model	AB IP Box 250S PVR
	Function	Digital Linux-based PVR satellite receiver
	Processor	IBM PowerPC 405
	Channel Memory	10000
	Symbol Rate	Up to 45 Ms/s
	SCPC Compatible	Yes
	USALS	Yes
	DiSEqC	1.0, 1.1, 1.2, 1.3
	Scart connectors	2
	Audio/Video outputs	3xRCA
	UHF Modulator	No
	S-Video	No
	Component output	No
	0/12V connection	No
	Digital audio output	Yes
	LAN	Yes
	EPG	Yes
	C/Ku-band compatible	Yes
	Power supply	AC220V, 50Hz / AC110V, 60Hz



Firmware upgrade via RS-232 |



Default welcome screen |



Main Menu |



Channel List of SESAT 36 East |



Recording Management |



Receiver's web interface |

Expert conclusion

AB IP Box 250S PVR is just the thing for those who love to experiment. Linux-based open source project ensures the rich variety of available firmware, plugins and service software. Its Ethernet port expands the possibilities even further, since the receiver can be almost completely controlled via the Internet from the next room or from any place thousand kilometers away. Of course, all the usual functions are where they are expected to be, so the regular users won't be disappointed either.



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EPG and the Main Menu of the official firmware could be a bit more user-friendly, but this is a minor software problem, which doesn't affect the big picture and, hopefully, will be solved soon. Anyhow, it takes only a few minutes to upload an alternative one.