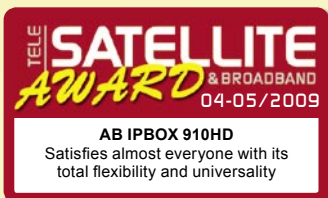


AB IPBox 910HD

How powerful can a modern Linux HD PVR receiver be?



The progress in receiver manufacturing is simply amazing! Could we have thought several years ago, when we endlessly struggled with

analogue receivers, that a similarly looking box would not just only give us a fantastically coloured and unbelievably clear picture, but also would allow playing music and video files, sending e-mails, playing games? The border between computers and receivers is disappearing, giving birth to family-friendly devices with a huge potential for more advanced users.

And ABCom, famous for its powerful Linux-based receivers is certainly helping to make this happen. They are decently doing their homework, constantly upgrading hardware and software. It's especially pleasant to see that several drawbacks of their previous model are already fixed. Today we had a chance to test AB IPBox 910HD, a close twin to 900HD, that we've examined a couple of issues ago (TELE-satellite 08-09/2008).

The newer model kept all advantages of the previous one. Both high and standard definition channel reception, both in DVB-S and DVB-S2, both in MPEG-2 and MPEG-4. You would rather prefer to help your grandma continue

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watching soap operas on terrestrial tv, when the analogue broadcasts were shut off? 910HD would help you there too. Replacing DVB-S tuner with DVB-T is a matter of minutes. Same is true for a DVB-C cable tuner.

From a distance you would hardly notice any visible difference between 900HD and 910HD. But the little things is something that counts here. Front panel kept the elegance of 900HD, that would make it fit even for exclusive interiors. Besides the 2 CI slots, which are located behind a magnet-held flap, a bright and easy-to-read VFX-display is to be found here, together with 8 buttons, which let you operate almost all basic functions of the receiver.

Rear panel is also as good as before, but something also went further here. If the DVB-S tuner is installed, as in our test model, in the left corner you would find an LNB-input with a corresponding Loop-Through output. All the computer and network stuff is dealt via USB-port, RS-232 and

Ethernet connectors. HDMI, S/PDIF and Y/Pb/Pr outputs are responsible for the crystal-clear picture and sound. One Scart and three RCA connectors are there rather for backwards compatibility, since they would hardly let you appreciate all the benefits of HDTV. E-SATA port and a power supply output for an external harddisk are there, although 910HD lets you install a SATA HDD also inside the box! It will be started when the receiver is started, no more hassle with endless cables and connectors. But now you have a choice, if you want your recordings on the go, an external HDD can still be used.

Next to the main power switch there is a ventilator fan that protects the powerful electronics of the receiver from overheating. A really smart add-on! However, most delicate users might find it a bit loud. However, it's no problem going to a computer store and selecting a more quiet one.

Remote control is an exact copy of the one shipped with

TELE-satellite World

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Available online starting from 27 March 2009

Initial Setup

It might seem that official firmware from ABCom didn't change much, at least in the first steps. The same wizard guides you first through the Language Selection screen (OSD can be displayed in English, Russian, French, Italian, Dutch, German, Danish, Czech, Slovakian, Hungarian, Norwegian, Polish, Portuguese, Spanish, Swedish, Greek, Turkish, Korean, Croatian, Bosnian, Serbian, Bulgarian, Romanian and Finnish, preferred languages can be also selected for audio, subtitles and teletext), then to Local Time Settings screen. Again, a wide range of choices - either to set the time manually or to let the

a previous model. Actually, this even caused some confusion at first here in our test lab since we still used the 900HD. Operating signals are the same, however, the remote of 900HD/910HD can also be programmed for controlling previous IPBoxes, should you have one. It's also easy to program it to operate your TV set as well, there are hundreds of models to choose from on the last pages of the user's manual. As for its design, we don't regret the words said in the test report of 900HD, it's loaded with buttons, but they are so logically organized, that you get used to it very fast. And with a special button for many of receiver's functions, it's easy not to get lost.





Satellite Configuration |



Setting USALS positioner |

receiver get it automatically from the stream; time mode and daylight saving time options are also there.

On the next step you would already need your antenna connected. In case of a satellite tuner, first press the red button to add step-by-step all satellites you're planning to watch. Each can be programmed with own freely-selectable LOFs on the same screen. All DiSEqC versions are supported (1.0, 1.1, 1.2 and 1.3), which can make AB IPBox 910HD the heart of your multi-satellite system. Once all needed satellites are found, press "Exit" to return to the wizard screen.

Press "yellow" button for the next step that takes you right to channel searching. The screen that appears has two tabs, Automatic and Manual. Names pretty much explain their function. The first one simply goes for the

pre-programmed or found-NIT frequencies for channels, while the latter one allows you to enter all the parameters manually. Of course, Modulation and special FECs for the DVB-S2 are not forgotten.

Regular automatic or manual channel searching is not something that Schumacher would enjoy, but still fast enough for our regular viewer. It took us 9 minutes to scan a satellite position with 105 transponders. For the impatient ones who simply can't wait to have the first picture on the screen there is a "Quick load" function, which simply loads the pre-stored channel list. So if you would rather get a more actual channel list, it pays to be patient.

All further options can be logically found in the main menu, which also leaves a *deja vu* feeling at first. But we know that the programmers

were busy, so there should be something new! Ok, here we can select all the screen parameters, like aspect ratio, TV system, Dolby, Scart, HDMI and S/PDIF output formats. Here's a submenu where we can connect our 910HD to the local network and/or Internet, check parameters of the harddisks or make a factory reset. Aha! There's also a DivX video player now, but the entire multimedia part deserves some special words, so stay tuned!

Where were we? Ah, it's a satellite receiver after all. So before we go crazy experimenting with Linux, Telnet and FTP, let's grab the remote and have a look at its basic functions, receiving digital channels that is.

Everyday use

Channel list looks identical to the one in 900HD, all the useful goodies are there. Various sorting options, you can have the channels organized alphabetically, FTA/encrypted, by satellite or provider. Pressing yellow button activates the "jump" function, which is helpful in case you have thousands of channels sorted from your multi-satellite system, for example, it goes to the next letter, if you've selected the alphabet sorting. However, to organize things even better, don't forget about the FAV button that lets you quickly access the favorite channels. There are 5 pre-defined favorite groups - Sports, Drama, News, Movie and Music. Pressing the "i" button allows to create as many new ones as you wish, or delete, rename, move, edit or lock existing ones.

Pressing "i" in the main channel list gives access to similar editing options, including our 900HD favorite - editing the default audio volume for each channel. An elegant solution

to an old problem - how many times while zapping around the next appearing channel rocked your room with unexpectedly loud sound? Now it's enough to simply adjust it's volume in the channel list and voila! Nobody will complain anymore that your TV set is way too loud!

Talking about zapping, 910HD will not make the zapping maniacs happy, but 1 second between channels is perfectly well for the regular viewers. It can be faster within the same transponder, or a bit more between DVB-S and DVB-S2, between SDTV and HDTV. But at least you can be sure that almost no channel will get out of your sight! Even such hardcore SCPC broadcasts as Calabria Channel on HELLAS SAT 2, with SR of just 1425! A special bitrate plug-in would help you check if the picture and sound of the channel is really as good as the broadcaster promised.

PIP is also as good as it used to be. Two channels from the same transponder can be displayed in identically-sized windows, the second one can be shown in a smaller window behind the main one, channels then can be toggled between. Since the remote control is identical to 900HD, it's the same second top row of buttons on it.

Nice and user-friendly two-mode EPG is also here in all its glory. One click of EPG button lists upcoming events for the selected channel, press it the second time and you have a real program guide, with all neighbouring channels showing their EPG information, as long as it's available from the broadcaster. Just one single click of the button with a red circle on the remote, and your favorite show is marked for recording.

This is where the wonderful PVR comes into sight. 910HD doesn't just let you connect an external HDD to USB or E-SATA port, it already has one inside. Our test model was shipped with a 500 GB HDD, which is quite large to handle not just the PVR recording, but also DivX movies and MP3 music storage. But while we focus on the PVR, it's worth noticing the "Envelope" button, which lets you access all the records in a couple of clicks, and the wonderful Timeshift option. Activate it in "Advanced Setup" - "HDD setup" menu, and you can feel the power of magic - pause the live broadcast in any moment, take care of any urgent problems that all of a sudden disturb you from your favorite movie, and then resume exactly from the same place you left it! It's also easy to "rewind" the broadcast to a special moment that you want to see again. And you don't need to be a rocket scientist to get used to all this, everything is a matter of 1-2 clicks!

Multimedia options

Since the firmware of 900HD/910HD is being constantly developed, both boxes now offer possibility to play both audio and video files, as well as display photos, stored either on an external HDD or USB memory stick, or on the internal HDD in 910HD, where such files can be uploaded over FTP (take the receiver's IP from "Advanced Setup" - "IP setup" menu, use "root" as a UserID, and "ipbox" as password) to "media" directory.

"Multimedia" submenu also has some PVR functions included, these are "Recorded files" for the stored PVR recordings, and "Recording Schedule" for the old-fashioned recording timer programming. Remaining three options are solely for the above mentioned "outside" files. Photos can be viewed either individually, by double-clicking their names with "OK" button,

or as a slide show, which can be programmed by pressing the yellow button. MP3 player greets the user with a bit more advanced screen, showing the regular music player operating buttons, as well as the currently played track time and its bitrate.

And while no bad words

can be said about these two, Video/DivX player still needs some work to be done. In a test movie, which played perfectly on our PC, 910HD didn't have the audio and video synchronized. Video was 1-2 seconds behind. Nevertheless, it works, and the synchronization issue will be addressed in upcoming updates.



Updating the firmware

For such powerful and truly universal receiver it's important to keep the internal software up-to-date, because it's enormous potential is still not fully uncovered. ABCom attempted to simplify it, by adding the possibility to down-

load and install the firmware right from the box, without any external devices needed. But, unfortunately, something went seriously wrong. The 910HD we got had a firmware version 8340, while according the manufacturers website, the most actual one is 8360. The most obvious way was

to go to "Advanced Setup" - "Network Update" menu. And what have we here? Two totally outdated firmware releases! This issue definitely needs to be taken care of by the manufacturer. We had to select another way to update the receiver's firmware by using the USB memory stick.

From the hardware point of view AB IPBox 910HD hardly leaves anything to be desired. All needed connectors, possibility to switch tuners as plug-and-play, ability to receive DVB-S and DVB-S2, MPEG-2 and MPEG-4, HDTV and SDTV. You can even copy all your favorite films, music files and photos to its hard disk. Play games or check the weather forecast. Easily install hundreds of available software addons. Or turn the receiver into something totally new by installing one of the alternative firmwares.

ABCom keeps doing its homework, and while the majority of basic things are perfectly working in 910HD, it's a good, future-proof choice!



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Expert Opinion

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A receiver that would satisfy almost everyone, since it can change completely with different firmware types.

In case the official one is installed, it's really easy to control, even children wouldn't have problems finding a favorite cartoon channel.

An alternative firmware can even make a hardcore DXer happy.

Total flexibility and universality - DVB-S, DVB-S2, MPEG-2, MPEG-4, HDTV and SDTV are perfectly received. Easy replacement of a tuner can make it a cable or terrestrial box.

Possibility to install an internal HDD leaves the mess with external wires behind, but an external HDD can still be connected additionally.

A true multimedia box, combining satellite/cable/terrestrial digital TV with listening to music, watching DivX music and browsing photos.



Nickolas Ovsyadovskiy
TELE-satellite Test Center Hungary

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Channel search and switching could be a bit faster.

DivX playback should be checked that audio and video are perfectly synchronized.

Cooling fan on the rear panel could have been replaced with a more quiet model.



Channel List



PIP mode with sub-channel selection

TECHNIC DATA

Manufacturer	AB-COM s.r.o., Gogolova 1, 955 01 Topolcany, Slovakia
Tel	+421-38-5362611
Fax	+421-38-5322027
Internet	www.abipbox.com
Email	info@abcom.sk
Model	IPBox 910HD
Function	Digital Linux-based HDTV PVR receiver for DVB-S, DVB-S2, DVB-C and DVB-T reception
Channel Memory	10000
Symbol Rate	1-45 Ms/sec.
SCPC	yes
DiSEqC	1.0/1.1/1.2/1.3
USALS	yes
Scart	1
HDMI	yes
A/V output	3 x RCA
YUV output	3 x RCA
UHF output	no
S-Video output	no
0/12 volt connection	no
Dig. Audio connection	yes
Ethernet port	yes
USB 2.0 port	yes
RS-232 interface	yes
EPG	yes
C/Ku band compatible	yes
Power Supply	110-245 VAC, 50/60 Hz
Dimension	300x60x240 mm



SCPC reception with SR of just 1425

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