

DGStation RELOOK 400S

Linux OS, Twin Tuner PVR

The Sky is the Limit!

This latest model from the well known Korean manufacturer DGStation, the Relook 400S has been introduced to the market very recently and has also arrived at the test labs of Tele-Satellite

for an in-depth examination. Unlike the majority of today's digital PVR receivers, the Relook 400S operates under Linux, and what makes it unique for time being, is the double tuner!

present inside the receiver. After this, we could finally connect the unit and power it up.



After unpacking, we discovered a full sized unit (approx. 37 x 27 x 7 cm) of an elegant sober design in metallic grey colour. On the front, you see just one big round on/off button which lights-up in blue upon its circumference as soon as the receiver is plugged into the mains, goes off during operation but blinks as a feedback, when commands are received from the remote control. Next to it is a wide window for the VFD (Vacuum Fluorescent Display). This whole front panel is in fact a flap and once opened, it reveals 8 pushbuttons to operate the PVR, two card readers and two CAM slots.

The rear panel is even more surprising: Besides the classical two Scarts, the RCA analogue outputs for stereo and video and a serial interface, you will discover two sets of LNB in/outputs for the 2 tuners, a UHF modulator, an opti-

cal digital audio output, a USB and an Ethernet interface and even a power switch. The remote control is rather small for the considerable amount of functions it has to command on a PVR receiver and people who use glasses for reading will certainly need them for this remote. A plus point is that it can be configured to command your TV set. The overall workmanship of this receiver makes a very solid and visually appealing impression.

Features

After the external appreciation, let's now take a closer look on the features of the Relook 400S. According to the manufacturers' specifications and besides all the classical features found on most of today's set top boxes, this receiver is capable of recording two channels, while it plays back another recording. In case a Viaccess CAM

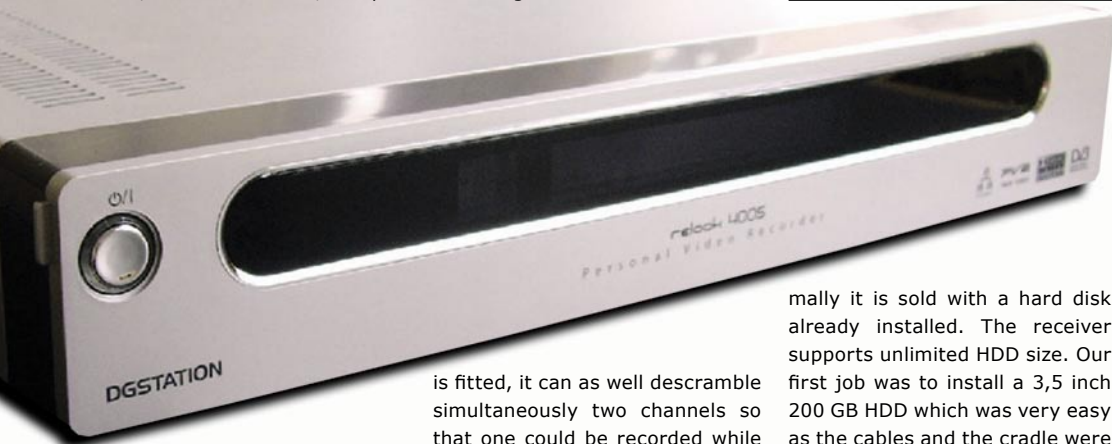
you watch the other one. No CAM is needed for the playback of a scrambled pre-recorded program. The channel memory allows up to 10'000 channels to be stored, which is very convenient since the Relook 400S implements the DiSEqC 1.0, 1.1, 1.2 and 1.3 or USALS protocols.

The unit that was sent to us did not include a hard disk. Nor-

The Relook 400S first displays a message to announce that it is preparing the hard disk, this takes a certain time depending on the disk size. After this the user is invited to select the various main options like the menu language, the time zone etc. The TV output signal can be configured RGB, CVBS or YUV. Since this receiver has two tuners, we decided to connect the first tuner to an antenna on a Stab USALS motor and looped the signal trough to the second tuner.

The next step is somehow unusual since each satellite the user would like to access, has to be installed in the tuner menu as a different LNB (i. e. one for Hotbird, another for Astra etc.), and here again each of these LNBS has to be assigned the appropri-

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| TEST RESULT SATELLITE INTERNATIONAL TELE | Features | |
| | Channel Memory | |
| | Channel Scan Speed | |
| | Channel Switching Speed | |
| | Video Quality | |
| | Audio Quality | |
| | Tuner Sensitivity | |



is fitted, it can as well descramble simultaneously two channels so that one could be recorded while

mally it is sold with a hard disk already installed. The receiver supports unlimited HDD size. Our first job was to install a 3,5 inch 200 GB HDD which was very easy as the cables and the cradle were

ate DiSEqC protocol, in our case USALS. While each satellite/LNB is assigned, the signal strength and it's quality are displayed on the menu page. The next step is to scan these satellites. The scan is rather slow but complete. After all, does this slowness really matter since such a scan is certainly not performed every day? The satellite fans who decide to look for new channels will certainly know in advance the frequencies and could enter them manually to memorize this very

particular station they are looking for. Even better, the transponder list can be edited thanks to the "Relook PC Editor" software and the USB port which allows updates from SatcoDX.

After the scan, you always end up with an almost endless list of TV and radio stations. Many of them will either be scrambled or not interesting for the one or the other particular user. To organize such a crowded channel list, the user has two options: Either manually, or the second and more elegant way is to use this very same "Relook PC Editor". This program is free to download at the site of the manufacturer www.dgstation.co.kr.

Daily Use

Now that all these preliminaries have been dealt with, the next step would be to sit back and start watching your favourite channels. The switching from one channel to another is immediate, even on scrambled channels, the picture quality is flawless. Owning a PVR with a double tuner is factually a challenge for the user not to miss any of his favourite transmissions. The Relook doesn't deceive here, neither. Just press the Record button while you watch a movie and it will be stored on the hard disk. The default duration of the recording is 2 hours but this setting can be modified in the menu. This way you don't have to worry about the ending time of your recording.

Another way to achieve a recording is via the EPG, in this case the receiver inserts a "reservation" time before and after the programmed recording to allow for any changes in the schedule. Last but not least, thanks to the double tuner, a second simultaneous recording can be started manually or programmed in the



EPG. In our antenna configuration, this could only be achieved on a channel from the same transponder but in case of a different LNB for the second tuner, said recording could be from another transponder or satellite. The time shift function is available too. All these recordings on the hard disk can be downloaded to a PC where in a first pass they will have to be transformed into MPEG format and then edited with your preferred edition software. This transformation is taken care by the "Make PS" software available at DGStation's website.

Linux, Ethernet, USB and Co.

So far, we have described features that could be found on numerous other receivers. The Relook 400S has mastered them during our tests without any problems. But what makes this box so special is its firmware compiled in Linux. Since Linux is an operating system with an "open source" philosophy, DGStation have made public the source code of their firmware to allow any interested user to develop his own modifications, improvements or add-ons. Alternative firmware is already available through the numerous forums on the Web which transform the Relook 400S to an even more powerful tool for the satellite enthusiast, and this seems just to be the beginning! Talented programmers are constantly trying out new features very similar to those developed for another receiver from a German manufacturer that was tested

here at TELE-satellite approx. two years ago. The second reason all this has been made possible, is the presence of an Ethernet port. This way, the Relook 400S becomes an extension of your PC, can exchange data with it, connect to the Internet etc. As they say, The Sky is the Limit!

Despite all this, the Relook 400S remains a well thought-out receiver for the whole family with a very stable operation. On our test receiver we used the latest official firmware from DGStation, version 1.18 and never experienced any lock-ups, even after an intensive use.

TECHNIC DATA



| | |
|-----------------------------|---|
| Manufacturer | DG Station, Rm.401, Bldg. A, Bundang Techno Park 150, Yatap-Dong, Bundang-Gu, Sungnam-Si Gyunggi-Do, Korea (Zip. 463-070) |
| Fax | +82-31-781-9016 |
| Email | Sales@dgstation.co.kr |
| Internet | www.dgstation.co.kr |
| Model | Relook 400S |
| Function | Digital FTA + CI 2 PCMCIA twin tuner satellite receiver and PVR |
| Channel memory | 10000 |
| Network | Ethernet RJ-45 10Base T / 100 Base-TX-8MB Flash + Expandable 96 MB SDRAM |
| CPU | IBM Power PC405, 350 MIPS |
| DiSEqC | 1.0 / 1.1 / 1.2 / 1.3 |
| USALS | Yes |
| Programmable/12 V | No |
| Digital Audio Output | S/PDIF (optical) |
| Scart connectors | 2 |
| Video/Audio Output | 3 x RCA |
| Colour system | PAL D/K, B/G, I |
| S-VHS Output | No |
| Modulator | Yes |
| SCPC compatible | Yes |
| EPG | Yes |
| Teletext | Yes (OSD und VBI) |
| Power Supply | 90 -240 VAC 50/60 Hz |
| Power Consumption | 50 W max. 7 W standby |

Expert conclusion



The Relook 400S deserves the attribute "very attractive" for its' design as well as for the characteristics. The menus are logical and easy to navigate. A special mark should be given to the "VFD" display.



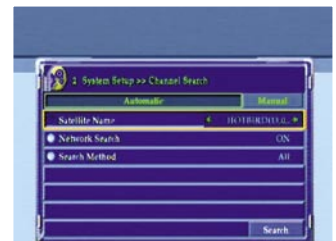
Yanis Patalidis
TELE-satellite
Test Center
France



The remote control for a receiver of this class would have deserved to be designed more ergonomically. The noise of the small fan for the cooling of the hard disk and the CPU inside the receiver can sometimes be disturbing but this could be solved with new instructions in another firmware release.



Main menu |



Automatic channel search |



Channel list |



USALS setting |