Icecrypt
S3500HDCCI

- • *extremely tiny but fully equipped Linux receiver*
- • *includes a sophisticated blindscan mode*
- • *less than 1 second for FTA channel zapping*
- • *can be upgraded with lots of useful applications*
- • *uses a very powerful chipset*

TELE-satellite Magazine
Business Voucher
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TELE
satellite
AWARD
12-01/2012

Icecrypt S3500HDCCI
Extremely small and
extremely powerful

Energy Efficiency Rating
eco
friendly
0.4
power factor
Tested by TELE-satellite

STANDBY / REMOTE

FullHD 1080p USB DVB

S3500HDCCI

ICECRYPT

Ferrari Engine
in a Mini Morris

You could easily pass by and do not pay any attention to this unpretentious small box. Actually it is that small that you could put two S3500HDCCI receivers side by side on a single page of this TELE-satellite magazine. Placing it near a 50 inch flat panel TV creates an amusing impression. It is like putting a mouse near an elephant. However, the possibilities of this "mouse" are astonishing!

Its front panel is very ascetic – just three buttons and a single status LED shining either in red or green. However, as soon as you look at the rear panel you start thinking that perhaps your very first impression is quite wrong. PCMCIA connector for CA modules, card reader slot, USB for external memory or hard disk, Ethernet for connection to the Internet, HDMI and optical S/PDIF ports are not necessarily the things you expect to find in a simple small box.

You might be a little bit surprised that there is neither a SCART connector nor three color RCA outputs with CVBS video and stereo audio but closer examination reveals that there is a mini jack connector between HDMI and S/PDIF ports. Having suitable A/V cable (mini jack to 3xRCA) you can easily route analog video and audio to your old TV-set or VHS recorder if you still have one. Additionally, there are: 12 V DC power input connector, RS-232C port and a connector for an optional infra red receiver if you want to hide the S3500HDCCCI but still be able to control it with its remote control. Of course, a plug type power supply unit is also included.

A look at the remote control units leaves no doubt - S3500HDCCI is equipped with PVR functions and even some trick modes normally associated with much bigger receivers. The remote sits

nicely in hand though its rubber keyboard is rather typical for not so expensive models.
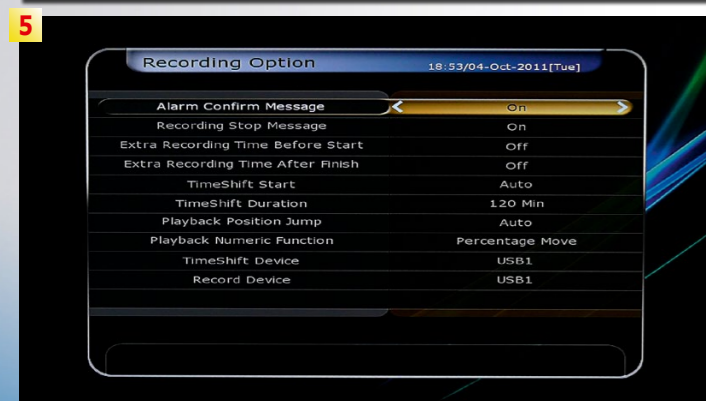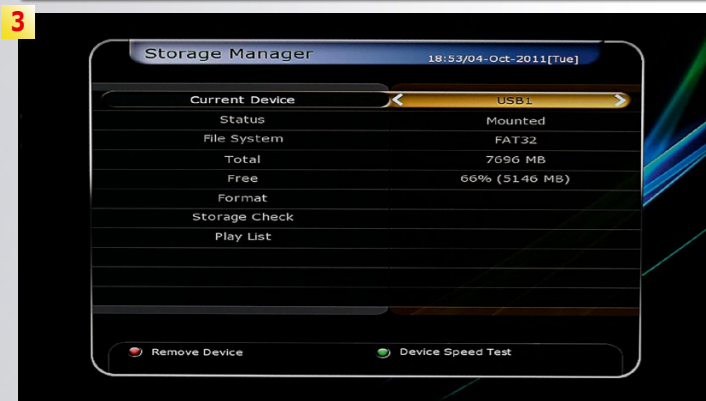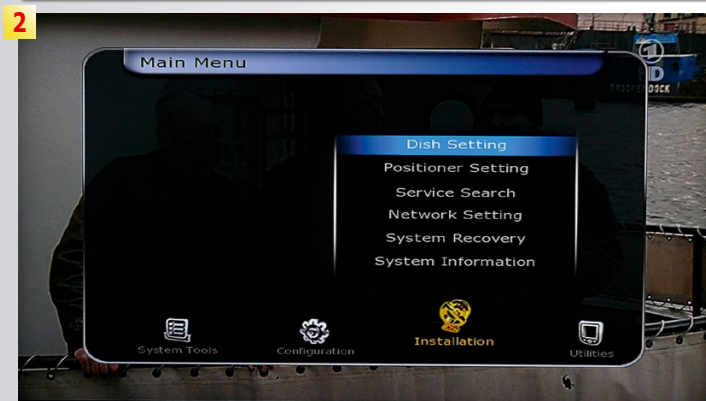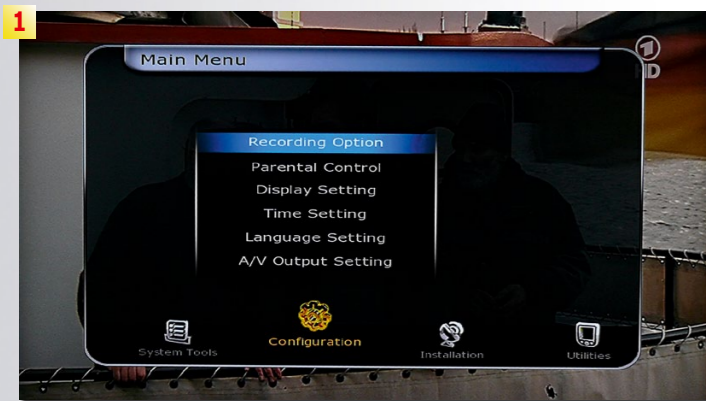
But this is not the end of the surprises. When you connect the S3500HDCCCI to your TV set and see its full color on-screen graphics and when you experience the speed of operation you can not believe that it all comes from this tiny box. And that's not all. It is a Linux based receiver! It means a possibility to install many interesting plugins and add-ons available on the Internet for this kind of receivers. S3500HDCCCI is like a top class receiver without some not-so-necessary features. But the power of its processor, capacity of internal memory or Internet related functions are the same as in top class receivers. Even blindscan channel search is available! Can you believe it?

OK, but let's start from the beginning. This Icecrypt receiver right after the first

power up asks you to select the OSD language. The choice is pretty wide: English, French, German, Dutch, Greek, Spanish, Arabic. Italian, Portuguese, Turkish, Russian, Polish, Czech, Swedish, Suomi, Danish, Norwegian, Slovenian, Slovak, Macedonian, Romanian, Serbian, Hungarian and Thai. The next installation step is the selection of local time zone and turning on or off light saving time.

When you are through with these basic settings, S3500HDCCI takes you to the service search menu. Before the search, you have to select the right satellite and check the configuration of your antenna system. The Icecrypt box is compatible with all DiSEqC protocols (1.0, 1.1 and 1.2). We checked during our test the operation with 1x4 and 1x8 switches as well as a DiSEqC motor. Everything worked perfectly. You can use any type of LNB with

ICECRYPT

1

Main Menu

Recording Option
Parental Control
Display Setting
Time Setting
Language Setting
A/V Output Setting

System Tools   Configuration   Installation   Utilities

2

Main Menu

Dish Setting
Positioner Setting
Service Search
Network Setting
System Recovery
System Information

System Tools   Configuration   Installation   Utilities

3

Storage Manager   18:53/04-Oct-2011[Tue]

Current Device	USB1
Status	Mounted
File System	FAT32
Total	7696 MB
Free	66% (5146 MB)
Format	
Storage Check	
Play List	

Remove Device   Device Speed Test

4

Service List Manager

[All Service]   Locked Services

217 TAQUILLA XX
218 TAQUILLA 5
219 SVC_30522 Service
220 ServusTV HD Oes...
221 ServusTV HD Deu...
222 SVC_29802 Service
223 Das Erste HD
224 ZDF HD
225 arte HD

Select Edit Mode
Lock/Unlock Servi...
Move Services
Delete Services
Skip Services

Astra 1F 1M
11362 [H] 22000

Sort Lists [Default]   Select Edit Mode
Service Find

5

Recording Option   18:53/04-Oct-2011[Tue]

Alarm Confirm Message	On
Recording Stop Message	On
Extra Recording Time Before Start	Off
Extra Recording Time After Finish	Off
TimeShift Start	Auto
TimeShift Duration	120 Min
Playback Position Jump	Auto
Playback Numeric Function	Percentage Move
TimeShift Device	USB1
Record Device	USB1

the receiver: single, universal or unicable. Of course, all LOFs are supported.

There are no fewer but five channel search modes: Automatic, Manual, Advanced, Fast and Blindscan. Automatic scan is a most common search mode based on the factory preprogrammed satellite and transponder data. There are 162 satellites available from all over the world! In the unlikely event that the satellite you are looking for is not on the list, you can add it manually as there are four user defined positions added at the bottom of the list. The Manual search mode let you choose a specific transponder to search. The Advanced mode is similar to Manual but you can define audio, video PIDs and detect in this way normally hidden channels. The Fast mode is a search dedicated for a particular satellite provider. Presently S3500HDCCI has two possibilities here: Canal Digitaal and TV Vlaanderen.

The most exciting mode is naturally the blindscan. The receiver scans the frequency band and tries to detect transponders without referring to any preprogrammed transponders data. In this way, it can discover also the brand new transponders that did not operate when the manufacturer was releasing the firmware and created satellite and transponder data for S3500HDCCI . There is no need to scan always the entire band in both polarizations. The receiver allows you to specify narrower frequency range and choose polarization.

The Automatic search of ASTRA satellite on 19.2° East took 3 minutes and 45 seconds with the network option
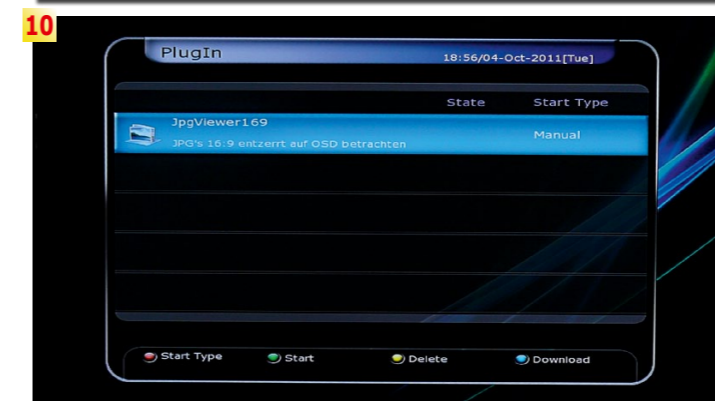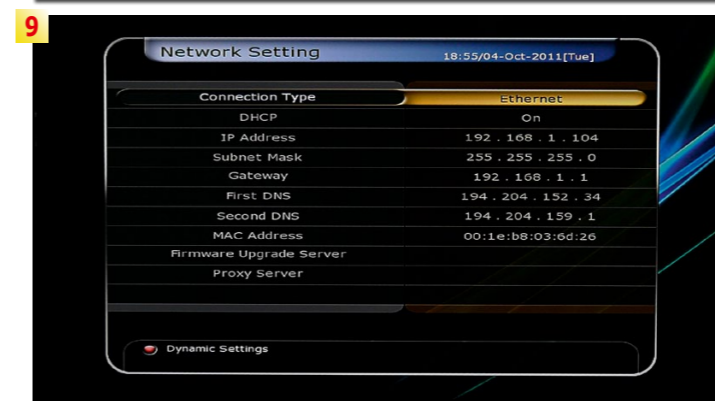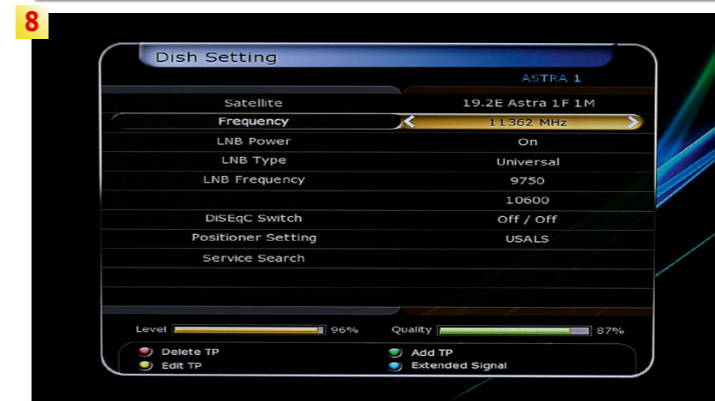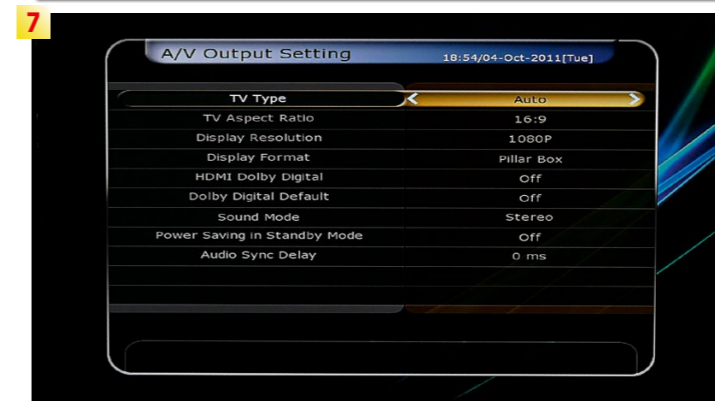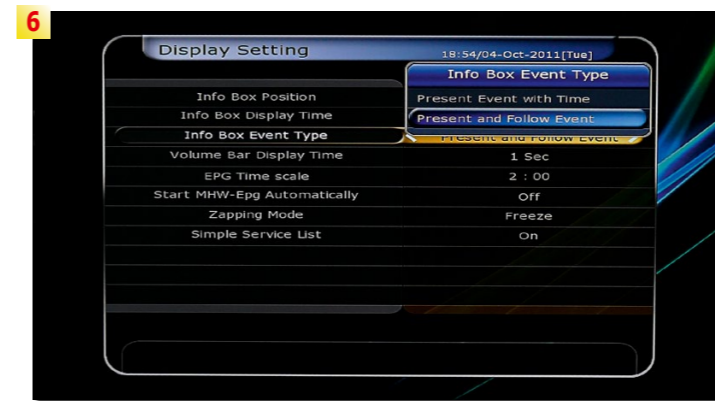
1. Configuration menu
2. Installation menu
3. Storage Manager
4. Service List Manager
5. Recording Options

turned off. The S3500HDCCI found 894 TV services and 221 radio services. When we turned the Network option on, the channel search time increased to 6 minutes and 20 seconds but the box was able to find 21 additional TV services. The scan ended up with 915 TV and 221 radio channels.

After testing the Automatic search mode, we did the reset to factory defaults and started the Blindscan. We set the receiver to scan the whole band and both polarizations. We were prepared for quite a long wait but to our great surprise, S3500HDCCI was through after merely 10 minutes and 15 seconds. It announced it had found 918 TV and 221 radio channels. The results are impressive. Icecrypt box did a really good job!

We searched a number of other satellites using our DiSEqC motorized dish as well as DiSEqC switches: 1x4 and 1x8. Everything worked perfectly. Occasionally, S3500HDCCI halted during a channel search and we had to restart the scan. However, this did not cause any loss of previously stored channels.

Channel zapping is fast and pleasant in S3500HDCCI: less than one second for the FTA channels and a little longer for the scrambled channels what is natural as descrambling takes extra time. An information box that appears right after a channel change is clearly designed and apart from the typical data, it can show you something extra. If set so in the Display menu, the information box shows you not only the title and start and end times of the present event but also the title and start and end times of the following event. It might at first sound as a negligible improvement but after a very short time of using it, you feel so comfortable with

6

Display Setting   18:54/04-Oct-2011[Tue]
                                    Info Box Event Type

Info Box Position	Present Event with Time
Info Box Display Time	Present and Follow Event
Info Box Event Type	Present and Follow Event
Volume Bar Display Time	1 Sec
EPG Time scale	2 : 00
Start MHW-Epg Automatically	Off
Zapping Mode	Freeze
Simple Service List	On

7

A/V Output Setting   18:54/04-Oct-2011[Tue]

TV Type	Auto
TV Aspect Ratio	16:9
Display Resolution	1080P
Display Format	Pillar Box
HDMI Dolby Digital	Off
Dolby Digital Default	Off
Sound Mode	Stereo
Power Saving in Standby Mode	Off
Audio Sync Delay	0 ms

8

Dish Setting   ASTRA 1

Satellite	19.2E Astra 1F 1M
Frequency	11.362 MHZ
LNB Power	On
LNB Type	Universal
LNB Frequency	9750
	10600
DiSEqC Switch	Off / Off
Positioner Setting	USALS
Service Search	

Level   96%   Quality   87%

Delete TP   Add TP
Edit TP   Extended Signal

9

Network Setting   18:55/04-Oct-2011[Tue]

Connection Type	Ethernet
DHCP	On
IP Address	192 . 168 . 1 . 104
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1
First DNS	194 . 204 . 152 . 34
Second DNS	194 . 204 . 159 . 1
MAC Address	00:1e:b8:03:6d:26
Firmware Upgrade Server	
Proxy Server	

Dynamic Settings

10

PlugIn   18:56/04-Oct-2011[Tue]

                                    State   Start Type

JpgViewer169   Manual
JPG's 16:9 entzerrt auf OSD betrachten

Start Type   Start   Delete   Download

this feature that you do not ever want to switch back to traditional an information box with only present event shown. Other satellite receivers offer you a possibility to see the future event after pressing right arrow. But if you love channel zapping, the Icecrypt solution saves you time and increases the pleasure of playing with your receiver.
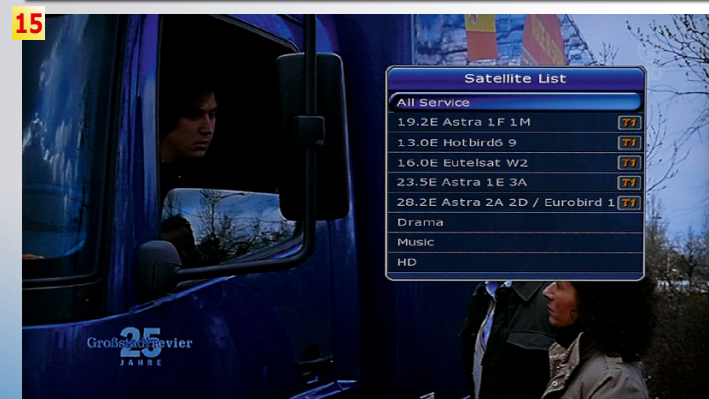
Another improvement is the ability to set the audio volume as normal, increased or decreased for every channel independently. Every satellite fan will appreciate this feature. Thanks to that you can zap channels more comfortably without any fear that suddenly you will wake up the whole house by entering a channel with unnaturally high audio level. Once you pinpoint such channel, you set its audio to be 30% down and every next time you visit the channel its audio is somewhat muted. It also works the other way - if you find a channel with too low audio, you can set it individually to be played 30% louder.

The pleasure of operating the S3500HDCCI is additionally increased due to trick modes it offers: picture in picture and mosaic picture. Picture in picture lets you easily choose a channel to monitor in an inset, interchange the main and the monitored channel or show them in equal size side by side. And everything with just a single button press. The mosaic shows you 12 frozen screenshots of 12 different channels (assuming there are 12 or more on the current transponder) and one channel active in the middle.

6. Info box can be set to show present and following events
7. A/V Output Settings
8. Dish Settings
9. Network Settings
10. We installed the free JpgViewer plugin downloaded from the Internet

With the arrow buttons you navigate among the screenshots deciding which channel you want to see live.

An interesting solution – not so popular in other receivers - is regarding channels from a single satellite like one of the favorite lists. For example, you can have the favorite lists: Drama, Sports, News, but also Astra 19.2° E and Hotbird 13° E. Thank to this, you do not need to have an extra button on the remote called SAT or something like that. We like this approach and recommend the other manufacturers to adopt this idea.

EPG works in two modes: grid mode and list mode. The grid mode is a table in which a channel name is shown in the first column while the channel events are shown as rectangles in the same line, to the right of the channel name. The length of the rectangle is proportional to the event duration. The list mode shows the event titles of the present channel listed one below the other. While the grid mode is more convenient when making decisions what to watch on which channel right now or in the near future, the list mode is quicker when you want to find a favorite event in the more distant future. EPG S3500HDCCI allows you not only to mark an event for automatic recording but also to set a reminder. If you do so, three minutes before the start of the chosen event, you will see a message telling you that in three minutes your receiver will tune to the other channel to present you the event.

All channel edition functions that you may ever need are there. You can delete, move, or copy a channel to one of many favorite lists and so on. And also here you have a feeling that the user interface has been thought

11. Free TV+ lets you choose from YouTube and Earth Touch services

12. Searching Queen clips on YouTube

13. Service List

14. Searching specific service on the list

15. Satellites are regarded as a kind of a favorite list

over profoundly. There are no unnecessary button presses required. If you want to move or delete a bigger number of channels, it does not take you that long as in the other receiver models. Excellent job!

Not only during channel edition but also in normal viewing, when you invoke the channel list with the OK button, you have plenty of possibilities to sort channels and search for specific channel or provider names. At the beginning, it may look a little bit confusing – that many options you have. Fortunately, everything is so logical that you master handling your receiver in a short time. And because the S3500HDCCI is exceptionally fast, running even more complex functions that require a lot of navigation over menu structure is as immediate as simple functions in other receivers.

Speaking about the menu, as soon as you enter it, you realize how configurable your S3500HDCCI is. The list of things is very long – you can get a good feeling on what you can do with this receiver by looking at the screenshots we did for you. Even such small things like the timeout of the volume adjustment bar graph can be adjusted. Satellite fans will be delighted having that many possibilities at their fingertips.
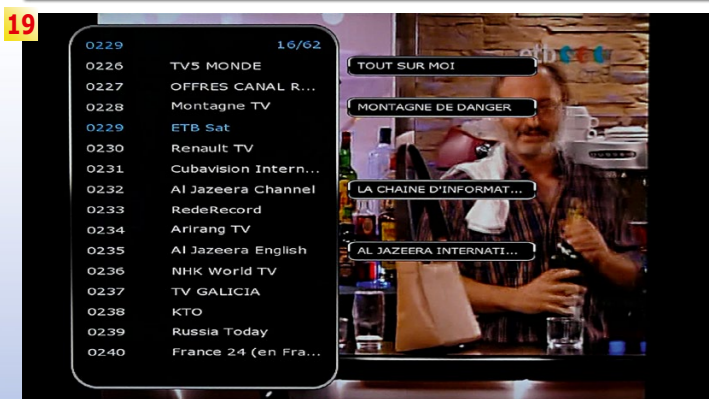
And as we are at the customization, we would like to remind you that the Icecrypt receiver is Linux based. This means that you are able to install plugins and add-ons developed for this and similar receivers. Not every plugin developed for Linux based

receiver will work on every model so some experimenting may be necessary. Among the most exciting possibilities is the web browser. We installed a viewer for JPG files. That's because on our TV-set, the S3500HDCCI tended to display 4:3 JPG photos stretched unnaturally to a 16:9 aspect ratio. To get correct proportions, we had to degrade video resolution to 576p. The plugin solved the problem for high video resolutions. All our photos are shown correctly now. That's a small example how useful a plugin can be. Where to find plugins? The most convenient way is to start with the Internet forums dedicated to Icecrypt receivers and then explore the forums for other Linux based receivers. As we noted, some plugins originally developed and tested for the other receiver brands will also work when installed on S3500HDCCI.

Many plugins require connection to Internet. Achieving this with the S3500HDCCI is simple: you only need a router supporting DHCP. Everything goes automatically. However, if you wish, you can configure your connection manually. But this is not all. The receiver can connect with a Wi-Fi network via an external USB device. It is somewhat slower than a cable connection but if you do not have a PC network available in your living room – that can be the only option. Consult the user manual for compatible USB devices.

Icecrypt box has a USB port as well as all required buttons on its remote control, so it must be ready for PVR operation. And indeed, not only regular recording and time-shift functions are provided. You can record as many as three channels at the same time while watching two others (using PIP function for example). Of
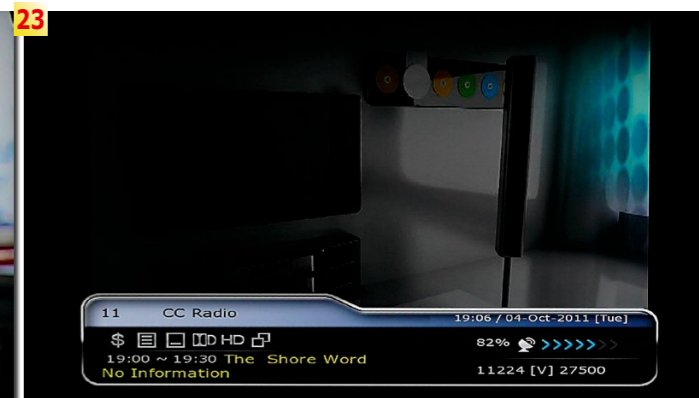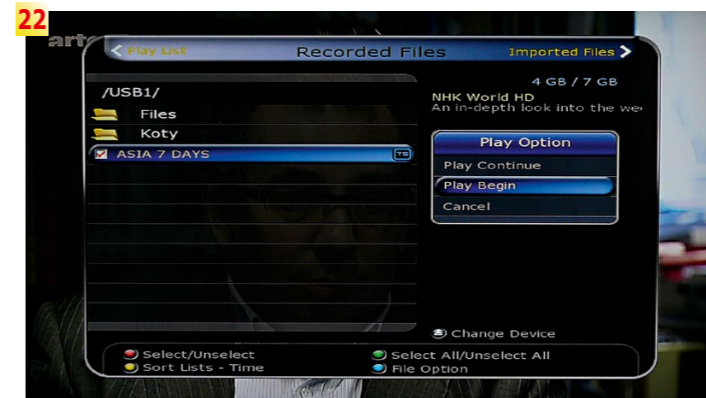
course, one can take full advantage of such great performance having not one but two tuners. If you think you might be needing concurrent recording and watching channels from different transponders, you should think of another Icecrypt model – the two tuner STC6000HD PVR that we presented recently in TELE-satellite 10-11/2011.

Actually, when we turned on the small S3500HDCCI, we had the impression of a déjà vu. The OSD looked pretty much the same as in STC6000HD PVR. OK, we said to ourselves, that's a reasonable approach to reuse thousands of lines of software code for the next product. But will this software work fast enough in this small box, presumably with

simpler and cheaper chipset? And as you already know, it worked as fast as in its bigger brother. Evidently, the chipset is not any simpler and cheaper. That's why we titled our report as we did. You take a seat in a small Mini Morris, press the pedal and you get flattened by acceleration produced by its engine. Evidently, this is not what you expect from a small and apparently lower performance product. S3500HDCCI by no means can be named low performance. On the contrary, this is the top class product stripped from the second tuner, VFD display and a few interfaces that did not fit on a small rear panel. But the speed and power are unchanged.

Even the remote controls

are interchangeable between the two models. For some people who would love to have not one but more Icecrypt receivers in their A/V cabinet this may be a problem. But for a vast majority of users, this problem is only theoretical.

All the reception tests we did proved that S3500HDCCI has a very sensitive tuner and can deal with very weak signals as well as signals with small and high symbol rates. Sometimes when you switch to a low symbol rate channel, like 2000 kbps, you have to wait longer before you can watch it. It is not one second but 3-4 seconds before the receiver locks to the signal. This happens also in other receiver brands as most of the receivers are optimized for higher symbol rates.

Except for a small problem with the aspect ratio of photographs when watched in high resolution settings, we did not encounter any problems when dealing with multimedia. MP3 files as well as AVI and MPG files were played back correctly, not to mention of course the playback of recordings done with the receiver. It is very con-

16. EPG – grid mode
17. PIP mode works perfect for HD channels
18. Mosaic View
19. Simple Service List
20. Selecting soundtrack
21. Picture viewer
22. A recorded file is about to be played
23. Radio channel

venient to connect an external USB HDD and keep there all your multimedia files.

Before we end this report, we would like to mention one important feature of the box. This is the power saving mode. Normally, when this mode is not activated, the receiver consumes about 10 Watts in normal operation and 5 Watts in standby. Switching from standby to operate takes only 4 seconds. But when you activate in the menu the option called "Power saving", the power consumed in standby drops almost to zero (well below 1 Watt). The receiver consumes almost no electric energy. Naturally, it has to take longer to wake up from such a deep standby. And this is 35 seconds. It is up to the user, but we think that many of them will choose to be eco-friendly and turn this option on.

Expert Opinion

Extremely powerful and fast HD PVR receiver matching the top class models.
Almost endless configuration options but still very user friendly.
1080p video output.
All DiSEqC protocols
Very good video and audio quality
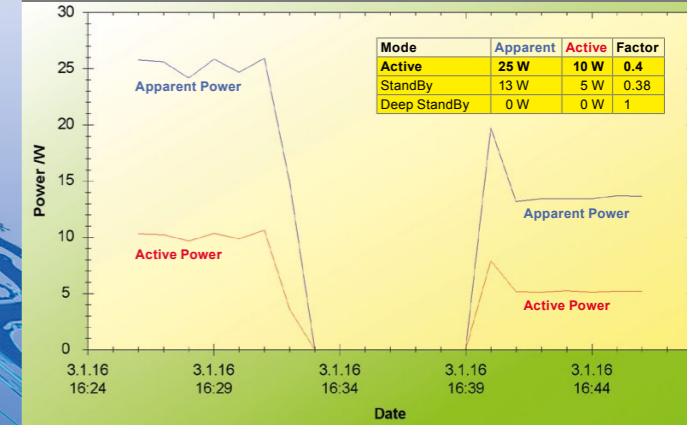Small power consumption and extremely eco-friendly power saving mode

+

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It can halt occasionally during channel scans and you have to restart the scan then.

Jacek Pawlowski
TELE-satellite
Test Center
Poland

TECHNICAL DATA

Manufacturer	Icecrypt, Great Britain
Fax	01795 427 666
E-mail	info@icecrypt.com
Web page	www.icecrypt.com
Model	S3500HDCCI
Function	HD PVR enabled satellite receiver
Input Signal Standards	DVBS / DVBS2, MPEG2 and MPEG4
Input Frequency	950 ~ 2150 MHz
Symbol Rates	2-67.5 Ms/sec for DVBS and 2-52.5 Ms/sec for DVBS2
DiSEqC	1.0, 1.1, 1.2
Audio	AC-3 Dolby Digital and MPEG 1 Layer 1,2 and 3
Video	From 480i through 1080p
Number of Channels Stored	10.000
Power Supply	AC 100 ~ 240 V 50/60 Hz
Power Consumption	12 V/2A plug adapter: 24 W max (10W in our tests)
Dimensions	220 x 35 x 145 mm

ENERGY DIAGRAM

Mode	Apparent	Active	Factor
Active	25 W	10 W	0.4
StandBy	13 W	5 W	0.38
Deep StandBy	0 W	0 W	1

First 10 minutes: operate mode, next 5 minutes: standby mode (power saving ON), last 5 minutes: standby mode (power saving OFF).