CardSplitter

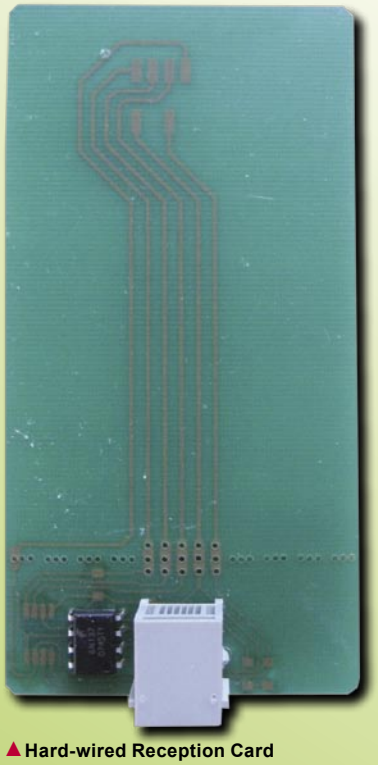
PayTV Throughout the Entire House

TELE SATELLITE AWARD & BROADBAND 06-07/2008

CARDSPLITTER
Well designed technically with exceptional range and excellent quality

▲ **Hard-wired Control Unit for max. 4 Cards**

To receive PayTV throughout the entire house, there were up until now only three more or less practical solutions: you either ran coax cable to every room in the house and built up your own cable network or you used video transmitters to distribute the picture to multiple TV's. The main problem with these two solutions is that the same channel always ended up on all the TV's. The third option would be to have more than one PayTV subscription although for most consumers this alternative is out of the question.



▲ **Hard-wired Reception Card**

If you think about it, thanks to new products such as the Laser LNB from Invacom introduced in the previous issue of TELE-satellite we can assume that satellite, cable or IPTV signals will be made available in every room in the house at some point in the future with the help of modern fiber optic technology. This makes the problem of PayTV decryption on multiple TV's all the more important.

One solution would be card splitters that make it possible to use one card to supply multiple TV's. The company CardSplitter sent us a package for this test report with an assortment from their product line:

- Wireless CardSplitter Type B for Viaccess, Conax, Cryptoworks, Mediaguard and Irdeto cards
- Hard-wired CardSplitter CSPRO-8 for Irdeto cards
- Hard-wired CardSplitter CSPRO-4 fur Viaccess, Conax, Cryptoworks and Mediaguard cards

Also included was, of course, an assortment of reception cards (wireless and hard-wired) as well as the necessary antennas.

Even while unpacking we could see that all the products were quality-made and left us with a good impression. The least expensive version that can handle a maximum of four cards was delivered without a housing; a housing is only available with the 8 to 16 output versions.

A 6~9V power source is needed although the control box also accepts 12V. A power supply was not included by the manufacturer.

CardSplitter CSPRO-4/8

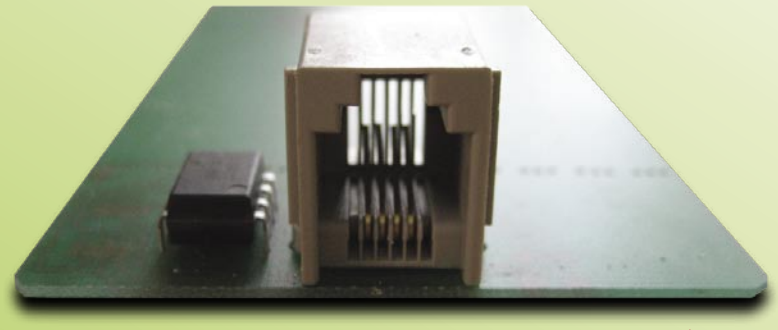
First of all, the hard-wired version of the CardSplitter becomes interesting when the end units aren't too far apart and are actually quite close to each other. A classic example would be a second receiver with a built-in video recorder that would let you record one PayTV channel while watching another one live.

Since two receivers would be needed for this task, the supplied card could be split for both units. The CSPRO series is available with connections for 4, 8 or 16 reception cards. Don't let the pictures fool you; every connection on the control unit can handle two reception cards. Even the smallest version with only two jacks can handle four cards independent from each other.

Everyday Use

No initialization or other similar preparations are necessary before using the CardSplitter for the first time. The user must merely insert the PayTV card in the control unit and connect it to a proper power supply. Thereafter, the connection between the reception card and the control unit is made possible with the help of the included cable.

We first chose to play with a Cryptoworks ORF (Austrian TV) card that the control unit recognized without any problems. The red LED on the front panel went out to signify this. Next we connected the cable to two receiver cards and placed these together with the matching CI modules into two receivers and waited patiently for the decryption of the PayTV channels. But they remained dark and both receivers informed us that invalid cards were being used. We contacted the manufacturer who already knew of this problem. He explained to us that the reception cards are totally blank when first used in the receiver and that the ATR must be transferred to the card's EPROM. This only takes

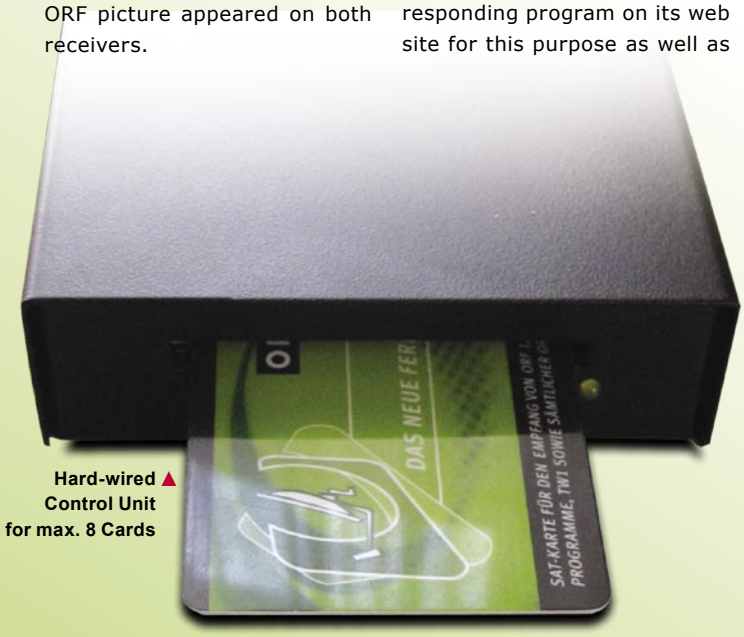


Reception Card Connector ▲

a few milliseconds but for some receivers this is too long and thus they identify the card as invalid since the ATR could not be read.

To get around this problem, the card merely needs to be removed from the receiver momentarily and then reinserted in the CI module. Since the ATR is already available on the card and also stored there, it will from then on be recognized without any problems.

The tip from the manufacturer was right on the money; after we momentarily removed both cards from the CI module and reinserted them, the decrypted ORF picture appeared on both receivers.



Hard-wired Control Unit for max. 8 Cards

Because of this first success, we became a little more daring: we took four Cryptoworks modules and some receivers out of TELE-satellite stock and built four CI receivers for our test purposes. We quickly connected the four reception cards supplied to us by the manufacturer and, as expected, the four CI receivers did not disturb the CardSplitter in any way. Two colleagues began channel surfing at high speed yet the CSPRO mastered this test as well without any noticeable decryption delay.

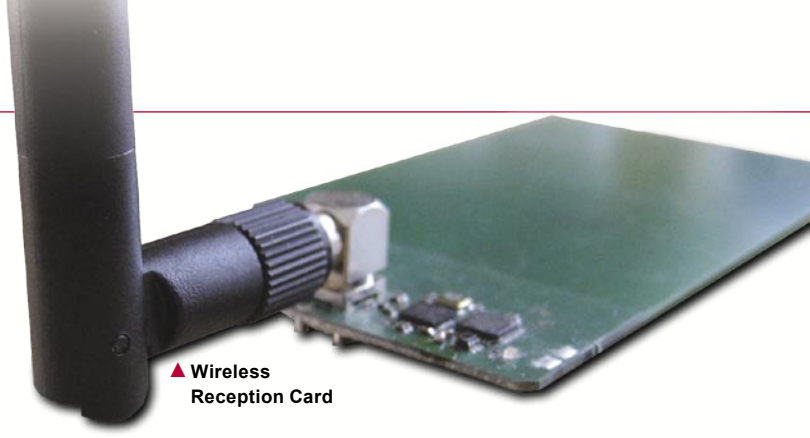
Tests using Mediaguard and Conax Smartcards that we also split to multiple receivers were equally successful. Last but not least we also tested a Euro1080 card as well as the Irdeto version; both of these also functioned correctly.

Once the ATR has been written to the reception card, it must be deleted again if another encryption system is to be used. For reception cards that are used with Viaccess, Conax, Cryptoworks or Mediaguard, this is not a problem – the card must first be inserted momentarily in the control unit. Unfortunately, it is not as easy with Irdeto cards; once this CA system has been used, these cards must be deleted on a PC with the help of a card reader. The manufacturer offers a corresponding program on its web site for this purpose as well as precise download instructions.

Wireless CardSplitter

In addition to the hard-wired versions, CardSplitter also offers a wireless version. Compared to the CSPRO, the wireless version can handle five different encryption systems: Irdeto, Conax, Viaccess, Cryptoworks and Mediaguard.

On the front panel are a red LED and a green LED that show the unit's operational status as well as, of course, a card reader. On the top side is the WLAN antenna and on the back is the power connection that would like to be supplied with 6~9V but can also handle 12V.



Wireless Reception Card

Everyday Use

Unlike the hard-wired version, the wireless version must undergo an initialization process before it can be used for this first time. The reason for this is fairly obvious: you really only want authorized cards to be processed and not the entire apartment building.

First the control box is turned on without a card and then the PayTV card to be used is inserted. It is then automatically checked and its reaction time confirmed. This is critical for later use of the CardSplitter since the control unit knows exactly how much time the card needs to react to commands. A constant, slowly-blinking LED signifies that the test is complete and that the card can be removed.

Next, all of the cards are momentarily inserted in the control unit to initialize them, confirm the transmission frequency and read in the ATR. The control unit only serves as a power supply; the transmission of data and other parameters occurs wirelessly.

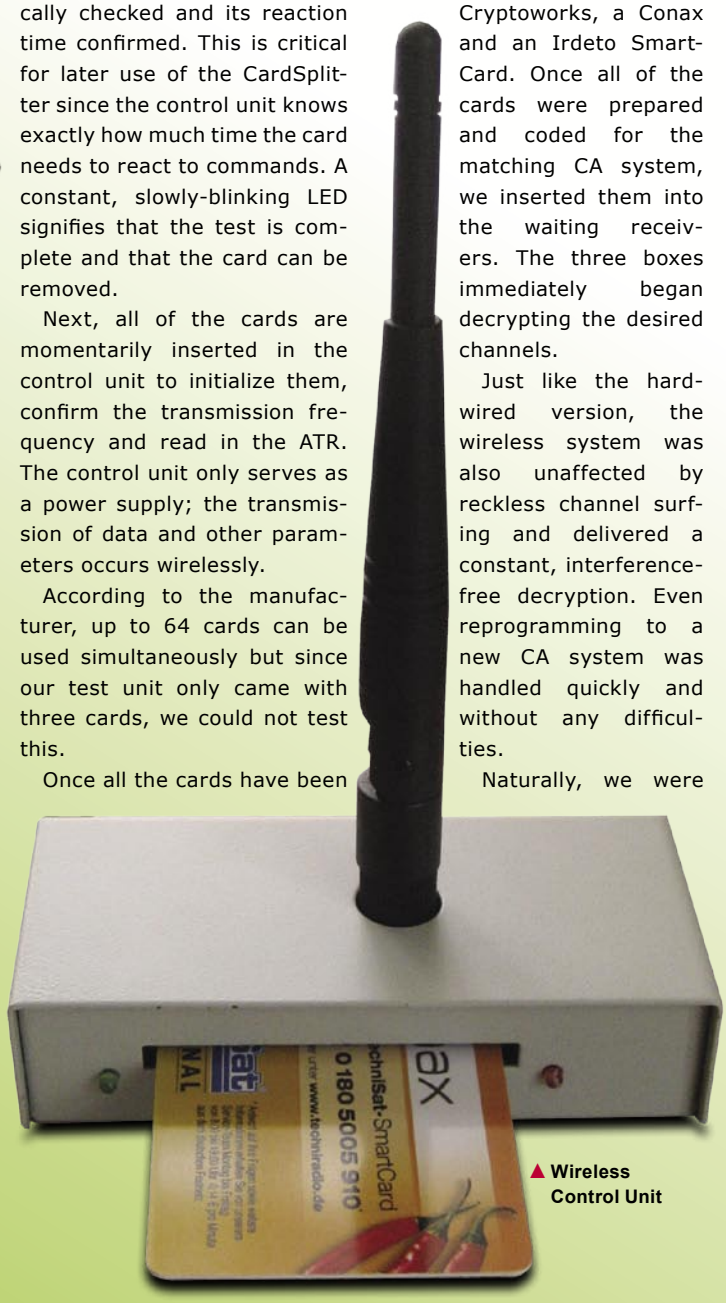
According to the manufacturer, up to 64 cards can be used simultaneously but since our test unit only came with three cards, we could not test this.

Once all the cards have been initialized, it is suggested to lock additional cards out of the control unit so that no additional unauthorized cards can be set up. This is actually quite easy: simply disconnect the power from the control unit momentarily and with the card still inserted reconnect the power. To unlock simply remove the card and power the control unit back up.

Just like the hard-wired version, the wireless CardSplitter also had to prove itself with a Cryptoworks, a Conax and an Irdeto SmartCard. Once all of the cards were prepared and coded for the matching CA system, we inserted them into the waiting receivers. The three boxes immediately began decrypting the desired channels.

Just like the hard-wired version, the wireless system was also unaffected by reckless channel surfing and delivered a constant, interference-free decryption. Even reprogramming to a new CA system was handled quickly and without any difficulties.

Naturally, we were



Wireless Control Unit

■ Hard-wired Splitter System

quite interested in the range of this wireless system and were quite surprised at the results: The reception cards placed on the third floor of our office building functioned effortlessly despite the control unit being located on the ground floor and even through relatively thick walls. Outdoor results were even better; we tested the PayTV signals using the gazebo of a TELE-satellite employee some 300 meters away. The system worked perfectly without any delays or interference.

The modul we tested had a power of only 1 mW; according to manufacturer, soon a model with 250 mW will be released. Future plans include models with 0.5 W and 1 Watts. Even a model with LAN connector is in the pipeline!

This means, signals in urban areas have a range of 100-500 meters while direct, line-of-sight transmissions without any obstacles could have a range of as much as 2 km!

Compared to similar systems from other manufacturers, the products from CardSplitter have far better range. To achieve this, the user must utilize visible receiving antennas on the reception cards. But since these can be adjusted 360° horizontally and 90° vertically, you should surely be able to find a position that doesn't get in the way and yet still delivers excellent reception. Especially practical is the ability to cascade multiple control units so that when serially cascaded the range is extended and when cascaded in parallel the reception capabilities are increased. For our tests we used the appropriate CI module for each CA system; multiple tests with the internal card reader did not result in any problems.

The Internet support forum (English, Greek and Swedish) provided by the manufacturer is also worth mentioning; it offers numerous tips and also quick help should any problems arise.

TELE-satellite World

www.TELE-satellite.com/...

Download this report in other languages from the Internet:

Arabic	العربية	www.TELE-satellite.com/TELE-satellite-0807/ara/cardsplitter.pdf
Indonesian	Indonesia	www.TELE-satellite.com/TELE-satellite-0807/bid/cardsplitter.pdf
Bulgarian	Български	www.TELE-satellite.com/TELE-satellite-0807/bul/cardsplitter.pdf
Czech	Česky	www.TELE-satellite.com/TELE-satellite-0807/ces/cardsplitter.pdf
German	Deutsch	www.TELE-satellite.com/TELE-satellite-0807/deu/cardsplitter.pdf
English	English	www.TELE-satellite.com/TELE-satellite-0807/eng/cardsplitter.pdf
Spanish	Español	www.TELE-satellite.com/TELE-satellite-0807/esp/cardsplitter.pdf
Farsi	فارسي	www.TELE-satellite.com/TELE-satellite-0807/far/cardsplitter.pdf
French	Français	www.TELE-satellite.com/TELE-satellite-0807/fra/cardsplitter.pdf
Greek	Ελληνικά	www.TELE-satellite.com/TELE-satellite-0807/hel/cardsplitter.pdf
Croatian	Hrvatski	www.TELE-satellite.com/TELE-satellite-0807/hrv/cardsplitter.pdf
Italian	Italiano	www.TELE-satellite.com/TELE-satellite-0807/ita/cardsplitter.pdf
Hungarian	Magyar	www.TELE-satellite.com/TELE-satellite-0807/mag/cardsplitter.pdf
Mandarin	中文	www.TELE-satellite.com/TELE-satellite-0807/man/cardsplitter.pdf
Dutch	Nederlands	www.TELE-satellite.com/TELE-satellite-0807/ned/cardsplitter.pdf
Polish	Polski	www.TELE-satellite.com/TELE-satellite-0807/pol/cardsplitter.pdf
Portuguese	Português	www.TELE-satellite.com/TELE-satellite-0807/por/cardsplitter.pdf
Romanian	Românesc	www.TELE-satellite.com/TELE-satellite-0807/rom/cardsplitter.pdf
Russian	Русский	www.TELE-satellite.com/TELE-satellite-0807/rus/cardsplitter.pdf
Swedish	Svenska	www.TELE-satellite.com/TELE-satellite-0807/sve/cardsplitter.pdf
Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-0807/tur/cardsplitter.pdf

Expert Opinion

Thomas Haring
TELE-satellite Test Center Austria

+

The link between control unit and reception cards functioned nicely even with longer distances; distances of several hundred meters is possible out in the open. Inside a building the setting up of a connection between multiple receivers and transmission units was easily possible. Through the card-reader programmed cards you can be sure that no unauthorized access will occur.

The manufacturing quality of the products is quite good as is the support of the various encryption systems.

-

If a few other CA systems such as Nagravision or NDS were also supported, the system would be perfect. The interference put out by the control unit should be reduced.

TECHNIC

DATA

Manufacturer	Decibit, 59/273 M.2, Soi Sukhonthasawat, Ladprad 71, Bangkok 10230, Thailand
Website	www.decibit.com
Distribution	www.splitter.cc
Email	info@splitter.cc
Model	Hard-wired or Wireless Smartcard Splitter System
Supported CA Systems	Irdeto, Mediaguard, Viaccess, Cryptoworks, Conax
Hard-wired Connections	4, 8 or 16 Reception Cards
Wireless Connections	up to 64 Cards
Range	max. 500m in urban use up to 2km direct line-of-sight with higher power models
Power Requirements	6~9V

■ 3 Control Units, 3 Wireless Reception Cards, 6 Hard-wired Cards