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GLOBAL DIGITAL TV MAGAZINE

08-09/2010



Company Report **Golden Media**

Rose Chakir leads a new European distributor with receivers produced in North Africa



Company Report **AB IPBOX**

Juraj Masaryk targets retailers and providers with European made boxes



Company Report **Boxsam**

Jeffrey Zhao reveals ambitious plans to expand globally



Company Report **Global Invacom**

Ivan Horrocks charges into the future with the latest Fibre Optic products

DXer Report
The Czech
Satellite Hunter
Who Doesn't
Watch TV



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www.TELE-satellite.com

Dear Readers,

In this issue we are introducing for the first time a receiver that can also receive IPTV. We'll be seeing more of IPTV technology in the future but it won't put too much pressure on other technologies. We will be getting used to the idea of receivers using more than one reception technology. Today it's not just that receivers will have to have two built-in tuners (because of PVR), but these tuners will have to handle different reception methods (satellite, terrestrial, cable). And then there are those boxes that won't need any tuners, namely IPTV receivers: they would need Internet reception.

That the first of these combination receivers using different technology tuners are already becoming available makes it somewhat clear that for years the very idea that the PC at home was making the receiver rather redundant, is wrong. The reasoning was: a receiver is really nothing more than a PC and a PC can already be found in almost any home - so what do you need a receiver for?

Yes, but that was missing the point. Computers really can't do everything a receiver does, on the contrary, the receiver is fastly regaining ground.

First of all, not many people have a real desktop PC sitting at home anymore in which you could simply install a satellite or terrestrial PC card. Laptop computers are becoming more and more popular and the situation is different here when it comes to receiving TV channels. It's true, you can find laptops that already come with built-in PC cards for terrestrial TV but for satellite reception you won't find any laptops already set up for that. Laptops are used extensively for playing back your favorite DVDs but not for TV reception.

The receiver is and will continue to be the best device to use with your flat-screen TV but up until now it has been limited to satellite, terrestrial and cable. The fast increasing number of TV channels being streamed over the Internet could thus far only be received with completely separate receivers.

But not anymore! Future receivers will more and more include the capability to receive IPTV content as well and the biggest advantage would be that all the different TV channels can easily be organized in just one place. The big discovery and really the reason why receivers exist today would have to be the remote control and the ability to program the receiver with channels.

The old rule is still true: the end user doesn't care what path a TV channel takes to get to his TV screen, he just wants to be able to easily switch from one channel to another. This is a job that a receiver and its remote control are equipped to handle best. So, the future looks like this: receivers that can receive signals from different paths along with wide-ranging sorting capabilities.



Alexander Wiese
Editor-in-Chief TELE-satellite

*P.S: My favorite radio station of the month - laptop reception since for the moment there aren't any receivers available that can playback HiFi Internet radio: Student Radio "Mt Scopus Radio" from Jerusalem with lots of international music and little talk.
<http://msradio.huji.ac.il/wwwroot/listen.htm>*



Technomate

Linux High-Definition



**Linux
Inside**



**TM-800 HD
running Enigma**

- ✓ Open Source Linux Satellite HD running Enigma
- ✓ Supports internal 2.5" HDD
- ✓ 2x USB 2.0 Ports: PVR function, MP3 & JPEG Playback & Software Transfer
- ✓ Record 1 Channel & watch another at the same time
- ✓ Optional WiFi module
- Unlimited Channels • 1080p, 1080i, 720p, 576p & 576i • MPEG-2, MPEG-4 & H.264
- Timeshift • Built-in Upscaler to Improve Standard Picture Quality
- Ethernet • RF Modulator • 1 Smart Card Reader & more!

Linux Open Source Running Enigma

TM-500 / TM-600

- ✓ Open Source Linux running Enigma
- ✓ Unlimited Channel Memory
- ✓ Ethernet Communication Port
- ✓ 2x Scart Outputs
- ✓ RF Modulator
- ✓ Smart Card Reader
- ✓ Super Sensitive Tuner
- ✓ Internal Power Supply

TM-600 Extras

- ✓ 3x USB 2.0 PVR (Front, Internal & Rear)
- ✓ Record/Playback Scrambled & Free-To-Air (FTA) Channels by USB
- ✓ USB 2.0 for Software Download & MP3 Playback
- ✓ Component Output (YPbPr)



TM-500



TM-600

TM-7100 HD TRIPLE TUNER PVR 2x Satellite HD Tuners & 1x Terrestrial Tuner



- ✓ Supports up to 1TB S-ATA 3.5" & 2.5" HDD
- ✓ Easily remove HDD via HDD Bay on side of TM-7100 HD
- ✓ 2x USB 2.0 Ports: PVR function, MP3 & JPEG Playback & Software Transfer
- ✓ Record:
 - 1 Channel from each Tuner & Playback a Recorded File at the same time
 - 3 HD Satellite Channels at the same time (2 have to be on same TP)
- ✓ 2x Smart Card Readers & 2x Common Interface (CI)
- ✓ Ethernet Communication Port, RF Modulator, Blind Search & more!



Technomate

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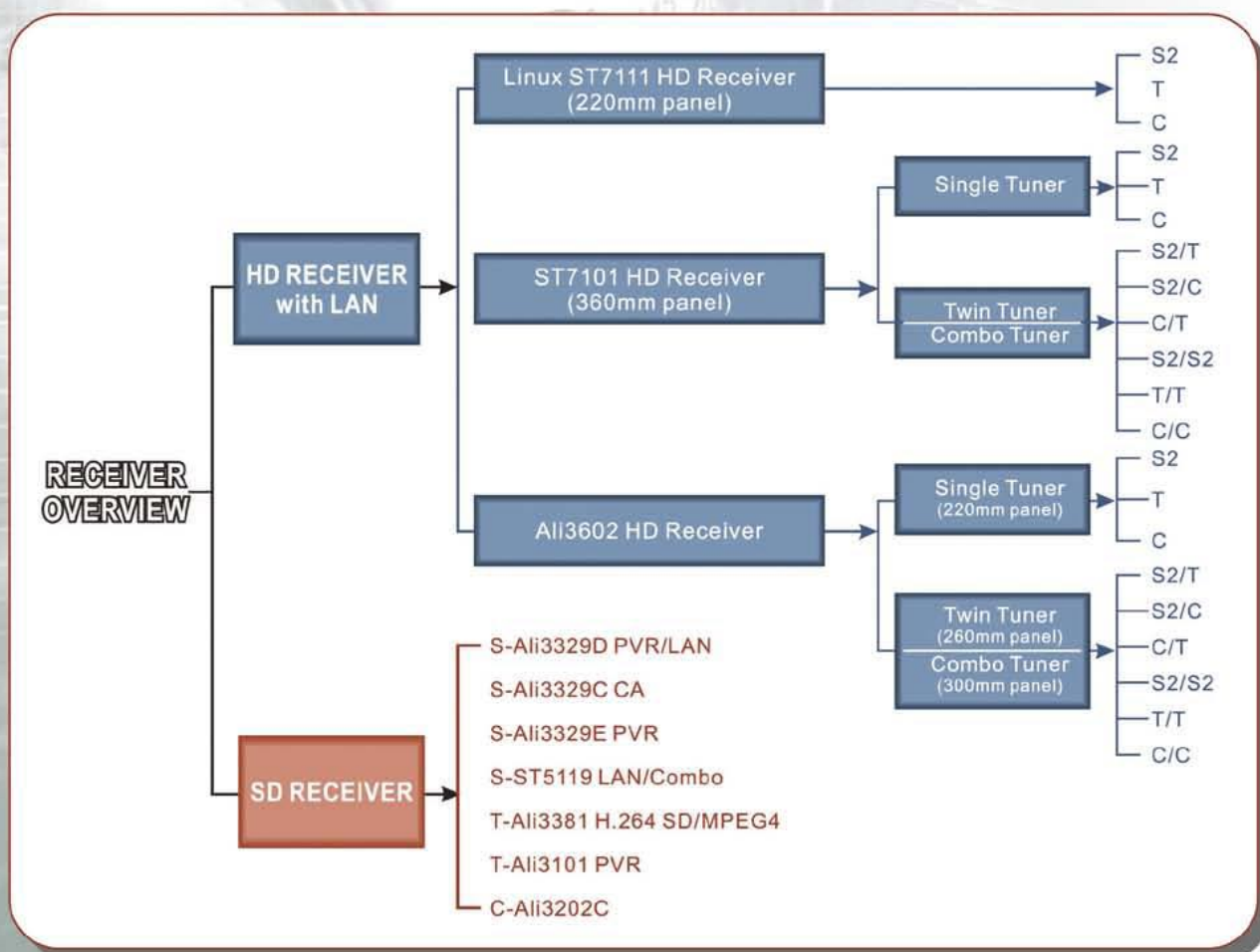
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Linux
HD Box

ONE BOX ONE DREAM-LINUX BOX



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Industrial Park, Nanshan Dist., Shenzhen, China.



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OUTSTANDING STB HARDWARE MANUFACTURER FROM CHINA

DVB-S SD FTA+PVR



S1N

- MPEG-2 digital & fully DVB-S compliant
- 4000 channels TV and Radio programmable
- Fully support to 7 days Electronic Program Guide (EPG)
- Disseq 1.0, 1.1, 1.2 and USALS, Unicable
- PVR, Timeshift, CA optional with Conax Embedded

DVB-S SD CA+PVR+LAN



S1L

- MPEG-2 digital @ fully DVB-S Compliant
- 4000 channels TV and Radio programmable
- Fully support to 7 days electronic program guide
- 10/100 Mbps Ethernet
- Software upgrade by USB, OTA, RS232 and LAN
- PVR, Timeshift



DVB-T HD PVR

HT12

- SD MPEG-2/HD H.264 & fully DVB-T compliant
- 4000 channels TV and Radio programmable
- Support multi-language OSD
- PVR, Timeshift



DVBS2+T HD Combo

HTS11

- Fully DVB-S2/DVB-T compliant
- 4000 channels TV and Radio programmable
- Support multi-language OSD
- PVR Timeshift.



DVBS2 HD Twin Tuner

HS14

- Fully DVB-S2 compliant
- 4000 channels TV and Radio programmable
- Plug-in two S2 tuner
- Fully support to 7 days Electronic program Guide
- 1 x CI, CA optional with Conax Embedded
- PVR, Timeshift,



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TOPFIELD

STRONG
DIGITAL TV

VANTAGE

JAEGER HUMAX

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ANTENNA SYSTEM

SMW
SWEDISH MICROWAVE AB

INVACOM
Innovation in Communications

MICROELECTRONICS
TECHNOLOGY INC.

ALPS GIBERTINI

ALLVISION

Inverto
digital-labs

SPAUN

Stab

TOPFIELD

Topfield Media Solution

SRP-2100



Features available at launch

- Fully compliant with DVB-S2.
- * High profile level 4.1 H.264/AVC streams @ 30fps
- * High or main profile level 3.1 H.264/AVC streams @ 60fps
- * HD MPEG2 4:2:0 streams @ 30fps
- * SD MPEG2 4:2:0 streams @ 60fps
- Supports DiSEqC 1.0, 1.1, 1.2 and USALS protocols for dish control.

Experience the future of digital receiver

- Stores up to 7,000 TV services and 3,000 radio services.
- Displays picture-in-picture with two HD services.
- Supports time-shift up to 5 hours at maximum.
- Records two services simultaneously while displaying another service.
- Able to record directly to both an external hard drive and a built-in hard drive (USB/eSATA).
- Playing recorded programmes at up to 64 times speed at maximum.
- Enables you to sort out any undesirable parts such as commercials during the programme.
- Supporting video files of DivX 3.11, 4.1 and 5.x.
- Displays JPEG image files.
- Featuring a double-player game 'BATTLE TANK'.
- Plays media contents of YouTube.
- Firmware updates available: over-the-air, with a USB memory stick, and from the Topfield's firmware server via Internet.



PVR
Playing recorded programmes up to 64 times speed at maximum



GAME
Featuring a double-player game 'Battle Tank'



UICC
Playing media contents of YouTube



DivX
Supporting video files of DivX 3.11, 4.1 and 5.x

TOPFIELD

TF 7700 HTCO



VISEO+
einfach. genial. digital.



HDTV DVB-T Receiver, Conax embedded

- Receives MPEG2- und MPEG4-encoded free and Pay-TV programs
- Certified for the premium-DVB-T VISEO+
- HDMI Digital video & audio output in 576p, 720p und 1080i
- Conax-System with cardreader for VISEO+
- HDMI Video-output

TOPFIELD

TF 6500 T HDMI



Digital DVBT-Receiver

- Fully DVB-T compliant
- 2000 service TV & Radio programmable
- Multilingual Audio/menu text supported
- Service list editing
- Favorite service list editing
- Electronic Program Guide (EPG) supported
- Subtitle/Teletext supported
- Firmware and data information transfer from receiver to receiver
- Exciting games embedded
- HDMI output

HDTV Receiver Selection

TOPFIELD

CBP-2001CI+

HD +



HDTV DVB-C Receiver

- HDTV PVR ready to external storage devices via USB port
- Output to 576i, 576 p, 720 p, 1080i with Upscaling SD content
- Playback of DivX, DivX HD, MKV-and VOB video files *
- Display subtitles (* .srt) media files
- Playback of MP3 files and display JPG image files
- Timeshiftpuffer with a length of up to 5 hours
- Fast forward and rewind with up to 64 x speed
- Numeric display
- 2 CI + shafts modules for pay TV
- Storage of 7000 tv and 3000 radio programs
- Firmware upgrade over USB4

TOPFIELD

SBP-2001CI+

HD +



HDTV DVB-S Receiver

- HDTV PVR ready to external storage devices via USB port
- Output to 576i, 576 p, 720 p, 1080i with Upscaling SD content
- Playback of DivX, DivX HD, MKV-and VOB video files *
- Display subtitles (* .srt) media files
- Playback of MP3 files and display JPG image files
- Timeshiftpuffer with a length of up to 5 hours
- Fast forward and rewind with up to 64 x speed
- Numeric display
- 2 CI + shafts modules for pay TV
- Storage of 10.000 tv and radio programs
- Firmware upgrade over USB4

JAEGER

HD+2011CI+

HD +



HDTV - DVB-S Receiver

- USB 2.0 host for playback of external hard drive or USB flash drive
- PVRready. Direct recording via USB on external storage media possible
- HDTV & SDTV
- 1 x Common interface slot
- 1 x smart card reader
- EPG (7 days in advance)
- Video-resolution 1080p, 1080i, 720p, 576p
- optical signal to the align the antenna
- 5000 Program presets
- Multilingual screen menu
- HDMI out with HDCP
- Radio reception with background display
- Standby power consumption < 1 Watt

STRONG

SRT 6205 - PVR Ready



USB recording capability

- Digital Satellite Receiver
- UHF Modulator to connect the receiver to TV
- Display showing channel number
- 2 Common Interface slots
- USB port: for playing music files and viewing photos, playback of TV programmes recorded by the receiver

SRT 5246 Hybrid



Satellite + Terrestrial FTA

- For all digital Free-To-Air TV and Radio programmes via terrestrial antenna and satellite
- Audio- and Video in DVD quality
- Mosaic function: 4 or 9 TV channels in overview

JAEGER HDCI 2010

HDTV - DVB-S Receiver



USB 2.0

HDMI

1x Common Interface



- 1 x Common interface slot
- HDTV & SDTV
- Video-resolution 1080i, 720p, 576p
- USB 2.0 host for playback of external hard drive or USB flash drive
- Easy find software (works only in conjunction with easy find LNB)
- 5000 Program presets
- HDMI out with HDCP

Dishes

GIBERTINI TRIAX emme esse

- 40 cm - White
- 70 cm - White, Black, Red
- 90 cm - White, Black, Red
- 100 cm - White, Black, Red
- 120 cm - White
- 130 cm - White, Black
- 160 cm - White

Balcony mounting parts



ALSO AVAILABLE:

- Balcony stand 100 cm Aluminium
- Balcony stand 100 cm Steel
- Balcony stand "Holland"
- Balcony holder L-form 25 cm
- Balcony holder L-form 50 cm



HD+ and CI+

New HD+ and CI+ Products available



TOPFIELD

TF 6200 VI



Digital Satellite Receiver with VIACCESS embedded

- Fully DVB-S compliant
- VIACCESS CAS embedded
- 5000 service TV & Radio programmable
- Multilingual audio/menu text supported
- Service list/Favorite service list editing
- 256 color On-Screen Display (OSD)
- Electronic Program Guide (EPG) supported

HDTV Receiver Selection

VANTAGE

HD 8000 S



DVB-S HDTV Twin PVR

- Two DVB-S2 tuner
- Ethernet Port (Just HD7100 Series)
- Fully DVB-S / DVB-S2 (H.264) HD compliant
- USB 2.0 supported
- HDMI
- 2 CI and 2 Smart card Reader

TOPFIELD

TF 7750 HDPVR



HDTV-DVB-S Receiver, Twin Tuner

- Twin tuner for two simultaneous HD recordings
- Receive DVB-S/DVB-S2 standard
- Front USB to connect of an external storage medium
- Time shift supported
- Output in 576i, 576 p, 720 p, 1080i
- 2 Common interface

Multifocus Dish



Professional multisatellite system



- Suitable for M-ML dishes
ø 85/100/115cm
- Mount with Skew adjustment of the dish for a perfect alignment of the received satellites
- Multi-feed-holder designed for an easy pointing

An innovate system to receive the signal from various satellites at the same time, using one fixed mount, high gain, offset dish. When there is a big difference between longitude of the receiving dish and that of the transmitting satellite, the pointing of the dish leads to

another "disalignment" between the antenna axis and the Clarke belt. This system, by the rotation of the parallel dish, allows axis realignment, assuring a stronger signal.

Optical fibre LNB



Innovation in Communications

Fibre LNB / Fibre Flange LNB



with optical fiber connection

The Fibre Optic LNB can feed the whole Ku-band to up to 32 end-points.

Full LNB range INVACOM available as:

SNH-031, TWH-031, QTH-031, QDH-031, SNF-031, TWF-031, QTF-031 and QDF-031

AVAILABLE ACCESSORIES:

Optical 2, 4 or 8 way MDU can imitate a twin, quad or quattrio LNB, and you can have up to 32 MDUs from one Fibre Optic LNB



1x2, 1x4 or 1x8 optical fibre coupler



Optical cable from 1,0 meter up to 200 meters

Parts

Multifeedholder for 2, 3, or 4 LNB



Wallmounts

- 15 cm distance - Aluminium
- 25 cm distance - Aluminium
- 35 cm distance - Aluminium
- 45 cm distance - Aluminium
- 55 cm distance - Aluminium
- 35 cm distance - Steel
- 45 cm distance - Steel
- 50 cm distance - Steel
- 70 cm distance - Steel



- F-Connector - 7 mm
- F-Connector - 7 mm waterresistant
- F-Connector - 4 mm and more

Remotesystems

- AV-Linker - Videosender for remote control
- Remote Blaster
- Zipline 2 and more



Koaxialcable

- High Quality coax cable
- Minicable Coax
- Mini-Twincable Coax
- > 100 dB / > 110 dB



Motors

Aktuatoren/ Actuators

- Mini Actuators - 6", 8", 10", 12"
- Regular Actuators - 12", 18", 24"
- Heavy Actuators - 24", 36"



H-H Mounts

- SG 99 / SG 99 II - up to 1,00 m
- SG 107 - up to 1,10 m
- SG 2500 A DiSEqC 1.2 - up to 1,00 m
- Stab HH100 DiSEqC 1.2 - up to 1,00 m
- Stab HH120 DiSEqC 1.2 - up to 1,20 m

Multiswitches/ DiSEqC-Switches

DiSEqC-Switches

- SPAUN
- DTRON
- JAEGER
- JOHANSSON
- MAXIMUM
- BEST



From 2 in/1 out up to 17 in/36 out



Full range

Flat-Dishes

SELF SAT H10D / H10D2

- Works on all Ku-band Satellites
- Cross polarization improved
- Ideal for High Definition reception

SELF SAT Flat-Dishes also available as:

H21D / H21D2 / H21D4

H30D / H30D2 / H30D4

MAXIMUM Flat-1

- Receives alle programs broadcasted by european satellites
- 2 LNB (twin) output for 2 set-top-boxes plugged
- 60/70 cm equivalency



Unicable solution



IDLP UST110-CUO10-8PP

Unicable-Standard one cable solution. Cascadable multiswitch for up to 16 users.



Ultimate Spectral Efficiency DVB-C2 is around the corner

Jacek Pawlowski

The old DVB-C standard has been in use since 1994. The time for a second generation standard came in 2006 when European cable operators expressed their big concerns about the limited bandwidth they have for the distribution of their services. The major goal was the more efficient use of the available bandwidth in cable networks. The DVB-C2 standard was developed by experts from 20 different companies and scientists from various universities. Kabel Deutschland, one of Europe's major cable operators, provided the chairmanship for this effort. The standard was finalized last year and supplements the DVB-S2 and DVB-T2 standards developed earlier.

The need for better utilization of coaxial cable bandwidth is understandable. While in satellite TV it's enough to turn the dish to another satellite and again have a frequency spectrum of 1 or 2 GHz, this can't be done with cable TV unless you install additional cables and nobody wants that. The growing competition from IPTV as

well as the growing popularity of HD channels has forced cable operators to take action.

DVB-C has extremely efficient modulation and error correction schemes – far better than DVB-S and DVB-T. Improving it significantly in DVB-C2 was not a walk

in the park. Yet, they succeeded! In the worst case, DVB-C2 offers a 30% gain in spectral efficiency over DVB-C. This figure grows to 80% if you upgrade from DVB-C based on 64-QAM. But even a 30% increase allows a provider to transmit 60 Mb/s through a 6 MHz channel (the maximum for 256-QAM in DVB-C is only 38.47 Mb/s).

As a reminder: one HD channel requires about 20 Mb/s. The best quality SD channels need 4-5 Mb/s while many of them typically use only 2-3 Mb/s. Speaking of channel bandwidths, there are 6 and 8 MHz channels in coaxial cable TV channel plans. However, DVB-C2 permits the creation of wider channels with much higher bandwidths. Such a new wide channel does not have to be necessarily a multiple of 6 or 8 MHz. The bonus is that we do not waste bandwidth for channel separation and the spectral efficiency goes even higher.

As you might expect, the technical solutions of DVB-C2 have quite a bit in common with DVB-S2 and DVB-T2. Forward error correction (FEC) is composed of Bose-Chaudhuri-Hocquenghem (BCH) outer code and a Low Density Parity Check (LDPC) inner code. The role of BCH is to eliminate the error floor which may be produced by the LDPC decoder in the receiver. It adds a mere 1% redundancy. LDPC is for correcting transmission errors and has code rates ranging from 2/3 to 9/10.

The modulation also had to change. Multi-carrier OFDM (known from terrestrial transmission) rather than single carriers QAM has been adopted for DVB-C2. The particular carrier in OFDM is modulated with QAM: the choices range from 16-QAM up to 4096-QAM (4k-QAM). Some sources say that it may even be extended to 64k-QAM in future revisions. Not all LDPC code rates are allowed for every QAM constellation. Table 1 lists the possible combinations.

The new error correction algorithms ensure much better noise performance over classical DVB-C. For example, mathematical simulations show that we can expect an improvement of 7 dB in signal-to-noise ratio after switching from DVB-C to DVB-C2 (same QAM constellation and FEC)! DVB-C2 is very close to the Shannon limit which means it transmits almost

LDPC	16-QAM	64-QAM	256-QAM	1k-QAM	4k-QAM
9/10	+	+	+	+	+
5/6	+	+	+	+	+
3/4	+	+	+	+	
2/3		+			

■ Table 1. Possible combinations of LDPC coding rates and QAM constellations.

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

abcdefghijklmnopqrstuvwxyz

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abcdefghijklmnopqrstuvwxyz

W3

®

Video

casting

as many bits per second in a given bandwidth as is physically possible. Further improvement in spectral efficiency is practically impossible. So, if we ever hope to see DVB-C3, the potential improvement won't be related to efficiency but rather to something else.

It must be already obvious to our readers that today's DVB-C receiver will not be able to receive the future DVB-C2 signal. DVB-C2 is not backward compatible with DVB-C. Of course a DVB-C2 receiver will be able to receive the new and the old standard, similar to DVB-S/S2 equipment.

A very interesting feature of DVB-C2 (identical to that of DVB-S2 and DVB-T2) is its ability to carry not only DVB transport streams with MPEG2/4 video but also the so-called generic stream which was developed specifically to transport Internet IP data. IP data can be sent either on its own or in combination with an MPEG stream. The concept called Physical Layer Pipe (PLP) was developed for this purpose and because of this, DVB-C2 becomes a

transparent data link for all kinds of digital information

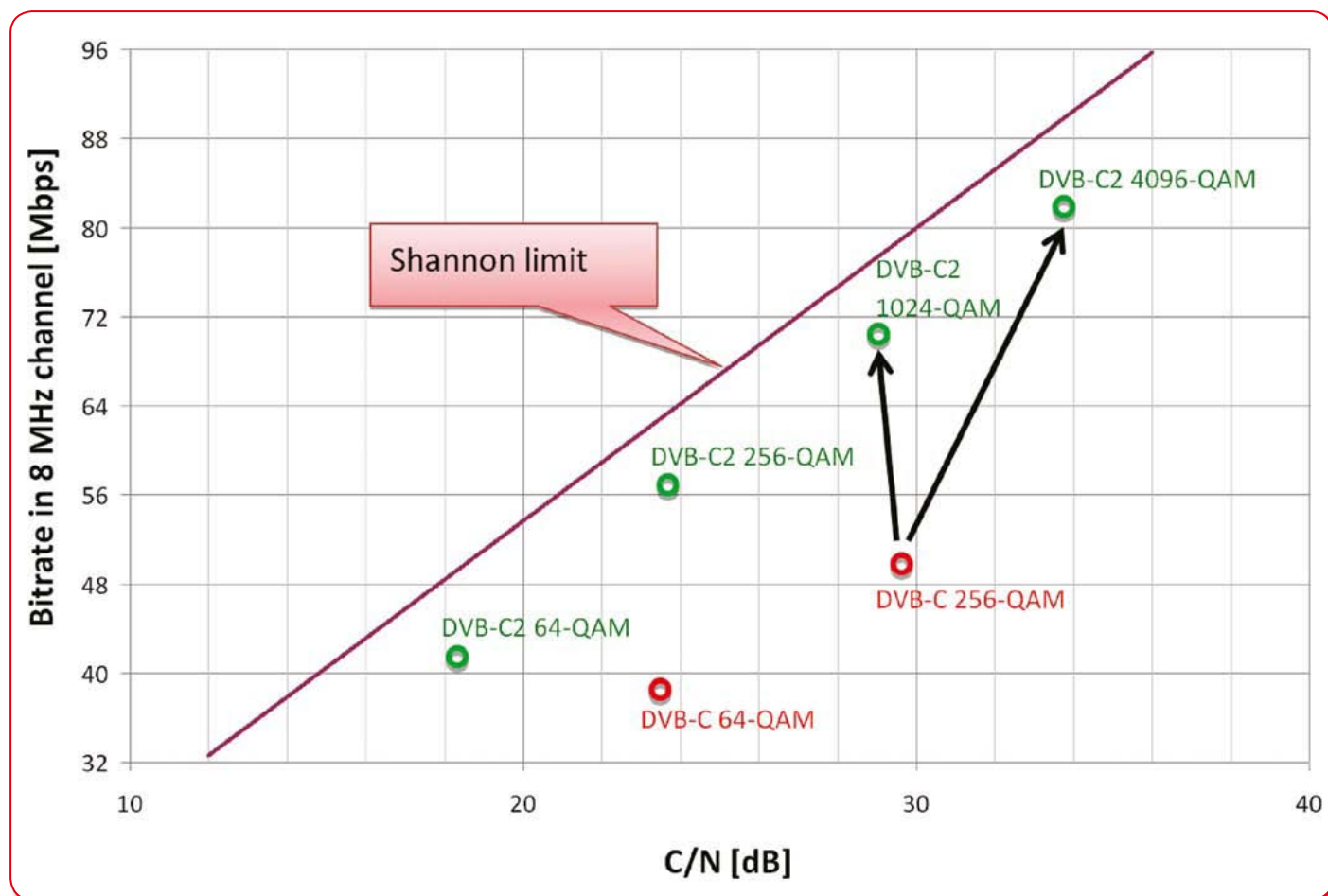
This extra flexibility is important because when combined with DOCSIS it enables the broadcaster to smoothly switch to more interactive services (unicasting, on-demand content, etc.). DVB-C2 was late compared with DVB-S2 and DVB-T2. Implementation of "older brothers" was often combined with the introduction of HD and MPEG4. In such cases it was easier to make a decision about the extra cost necessary for the upgrade. Since HD and MPEG 4 are already present in many cable headends and end-user boxes, the operators might wonder if the increase in efficiency alone justifies the switch to DVB-C2.

Fortunately, DVB-C2 is similar to DVB-T2 so the chipset prices should be comparable to existing solutions. Most likely T2 chips will simply be re-engineered for C2 compliance. Hopefully, at some point in the near future, the same tuner would be able to receive both DVB-C2 and DVB-T2, but we are still waiting to see that. It took

four years for DVB-S2 to become commercially available after the specification was frozen so it may also take a few years for the cable standard.

The future of DVB-C2 will look much brighter when it is adopted as a physical layer by the forthcoming new DOCSIS 4 standard; this is very likely to happen. However, even now, many of the leading cable network operators in Europe have declared their intention to immediately introduce DVB-C2. Among them are; YouSee (Denmark), Numericable (France), Kabel Baden Württemberg, Unitymedia, Kabel Deutschland (Germany), Ziggo (The Netherlands), ZON (Portugal), ONO (Spain) and Com Hem (Sweden). They supply more than 35 million homes which in turn translates to 35 million DVB-C2 set-top-boxes. DVB-C2 is almost certainly on the roadmaps of many IC and equipment manufacturers worldwide.

For more information on DVB-C2 you can check out the DVB organization at: www.dvb.org, www.dvb-h.org, www.mhp.org and www.dvbworld.org.



■ Table 2. After upgrading from DVB-C 256-QAM to DVB-C2 1024-QAM it becomes possible to send roughly 20 Mbps more data in the same channel while keeping the same C/N (no need to boost signal power). If we decide to switch to DVB-C2 4096-QAM and increase the C/N by 5 dB, we could then send 30 Mbps more!

The background of the entire image is dark with several bright red comet-like streaks. One prominent streak starts from the upper left and points towards the center. Another streak starts from the lower right and points towards the center. There are also smaller, fainter streaks scattered around.

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AZBox Ultra HD

A Small Elegant HDTV Receiver

The series of HDTV boxes from AZBox has a new addition to the family: the small AZBox Ultra HD that just like its big brother, the AZBox Premium HD Plus (see our test report in TELE-satellite issue 04-05/2010), is also shipped from the factory in an elegant package. Upon opening the package, you'll find that there are two separate boxes. One of the boxes contains the receiver while the other box has the external power supply and the remote control.

We here in the test center like this arrangement for two reasons: first of all no excessive heat buildup will take place within the tight confines of the AZBox Ultra HD and second, if the power supply were to ever fail, it would be easy to replace it. AZBox continues to be a frontrunner when it comes to features like this.

The AZBox Ultra HD is completely black and comes off as being noble and dignified. On the front panel are six buttons that can be used to control the receiver in the absence of the remote control. There are also two status LEDs for power and LAN.

CI slots are not to be found



although there is a card slot located on the side of the receiver. This card slot was not activated in our test receiver; this option has been saved for future firmware versions.

The receiver is nicely equipped: it comes with a DVB-S2 tuner input as well as a looped through output, an HDMI interface, three RCA jacks for YUV, a 0/12V jack, an RJ45 and USB 2.0 interface, three additional RCA jacks for CVBS and analog audio, an optical digital audio output and a main power switch. These interfaces can all be found on the rear panel.

Its technical data such as a Linux operating system, two

128 MB DDR memory modules (one for the receiver and the other for the video display) and a 300 MHz CPU provides an overall very positive impression.

The included remote control is somewhat small such that, for example, the PVR buttons are sitting so close to each other that some users might have difficulty with them. Otherwise the overall workmanship of the remote is quite good as we have to come to expect from AZBox.

Since this receiver is fairly new, our test box didn't come with a user manual; but one will be available by the time production begins. And if the user manual will be anything

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Available online starting from 30 July 2010

like that for the Premium or Elite HD, then for the Ultra HD it'll be just as detailed and valuable.

As soon as the box is turned on for the first time, the AZBox Setup menu appears. Since this receiver can receive not only DVB-S2 signals but can also be used as an IPTV box to access the Internet, it's not surprising to find a

multitude of different settings. It starts with selecting the desired language and setting the clock to the correct time. In addition to English, French and German, the receiver can also be set to Portuguese, Dutch, Czech, Russian, Spanish, Polish, Serbian, Hungarian, Greek, Bulgarian, Slovakian and Turkish. The desired audio and subtitle language can be selected directly in the settings menu.

As you would expect with any decent digital receiver, the AZBox can adjust the internal clock automatically via satellite. Thanks to the network connection and the resulting link to the Internet, the receiver can also get the time signal via the Internet - this is a new feature for a satellite receiver.

And while we're on the subject of the Internet, in order to make this receiver compatible with a network, there are naturally some additional settings that need to be taken care of even if this only means acquiring a valid IP address through DHCP.

If the network doesn't have an integrated DHCP server, then the IP address, subnet mask, gateway and DNS server can be entered manually.



You Tube

HI-SPEED
USB

Timeshift

HDMI
DOLBY



Full HD
1080



IP





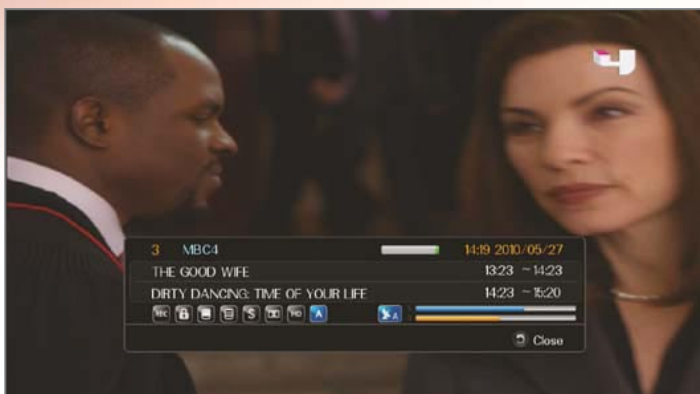
Main Menu |



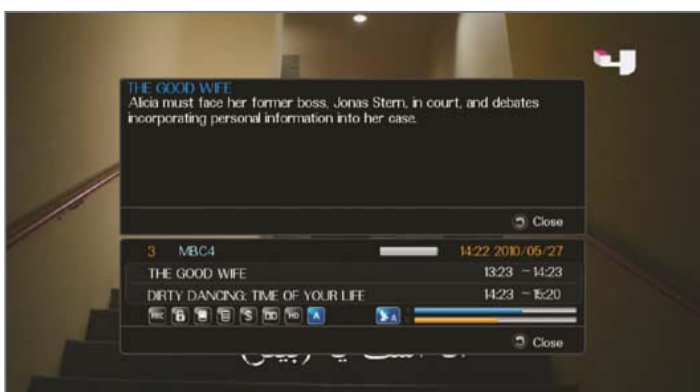
Blind Scan |



Channel List |



Info Bar |



Expanded Info Bar |

The OSD shows that a network connection can be achieved not only with the RJ45 jack but also with WLAN. Unfortunately we couldn't activate the WLAN option during our tests and the technical specifications also did not suggest that the necessary hardware was even available.

Since the reception of IPTV requires a fast Internet connection, the manufacturer included a Speedtest in the AZBox so that you can check for yourself to see if your Internet connection is good enough for IPTV and other media content.

The AZBox uses every aspect of a network connection so that, for example, an FTP server as well as a file server and a Telnet server are available; they can be activated and configured as needed in the Setup menu.

The manufacturer even thought of the use of a dynamic DNS service so that the receiver can be accessed anywhere in the world not only through an IP address but also through an easy to remember domain that you can set up for free at www.dyndns.org. More on this subject can be found for example in TELE-satellite issue 06-07/2010.

Just like with the external

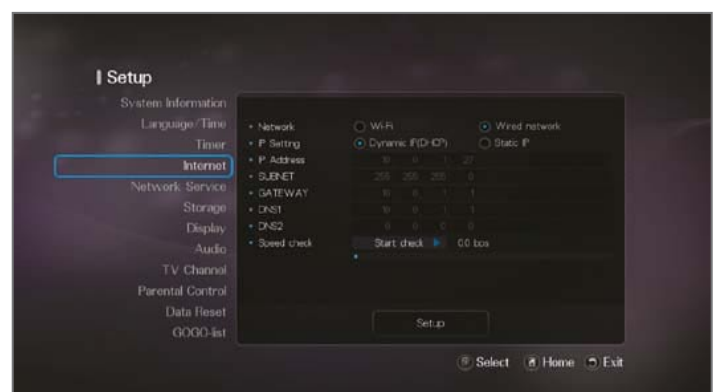
power supply, the manufacturer also opted for an external hard drive. In so doing, AZBox has remained true to the concept of simplicity and above all leaving the hard drive choice up to the end user.

To make sure that the customer doesn't have to first open up the receiver in order to install or swap out a hard drive, the manufacturer fashioned a cover on the top side of the box that is held in place with just a few screws thus providing easy access to the hard drive. This makes it easy for anyone to add or exchange a hard drive. Through a corresponding entry in the setup menu, the hard drive can be formatted and made available for use in the AZBox.

Thanks to the integrated DVB-S2 tuner, the AZBox is perfect for reception of high resolution content. Naturally, the matching HDMI video output must also be there and can be set for 576i, 576p, 720p, 1080i and 1080p.

If your TV doesn't have an HDMI input, the video signal can also be supplied via YUV, S-Video and CVBS. Along with that, there are a variety of modes available to display a 4:3 signal on a 16:9 TV.

The AZBox has a multitude of audio settings options letting you match this receiver



Network Settings |

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with any digitally compatible stereo system. For example, a Dolby Digital or DTS signal can be presented in PCM or RAW.

as 1.2 and 1.3 (USALS) for motorized antennas are also available.

In our tests we were quite pleased with the AZBox's picture quality as well as its audio quality. HD content was especially impressive and thanks to the 1080p output, this receiver is also ready for the next leap in HD technology. The heart of it all can be seen in the Setup submenu "TV Channel" in which numerous settings for both DVB-S2 and IPTV can be handled.

To fill up the internal channel memory, the AZBox offers not only an automatic channel scan for one or more satellites, there's also a manual transponder scan and if desired there's even manual PID entry for the DXer.

Last but not least, there's also a Blind Scan feature that lets you enter a start and end frequency as well as the desired frequency steps and polarization. Naturally, satellite and transponder entries can be edited, deleted or added. Also practical, considering the lack of a CI slot, is the ability to limit a channel scan to TV, radio, encrypted or free.

The preprogrammed satellite list includes 173 satellites from Europe, Asia and the Americas and include relatively up to date transponder data. For each individual entry a variety of parameters such as LOF and 22 KHz can be set up.

An automatic channel scan of HOTBIRD demonstrated that the AZBox didn't miss a beat here; it found 1314 TV channels and 416 radio channels in just a little over six minutes. A Blind Scan of the same satellite needed a little more time to complete but managed to find 1416 TV channels and 431 radio channels in just about 13 minutes and stored them in the receiver's internal memory.

The DiSEqC protocols 1.0 for up to four satellites, 1.1 for up to 16 satellites as well

SCPC reception was just as impressive; the AZBox was



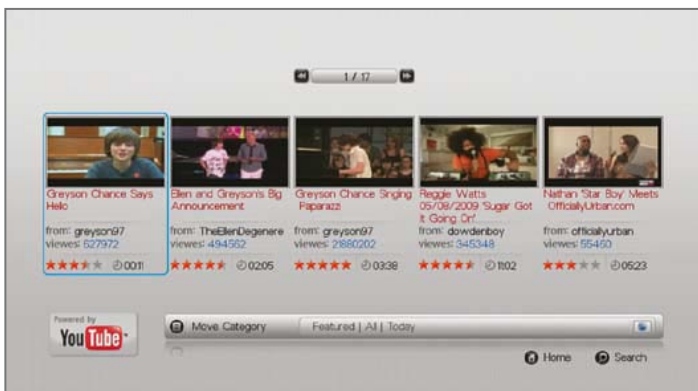
Channel List with both DVB-S2 and IPTV Channels |



IPTV Channel Info Bar |



Internet Browser |



YouTube Player |



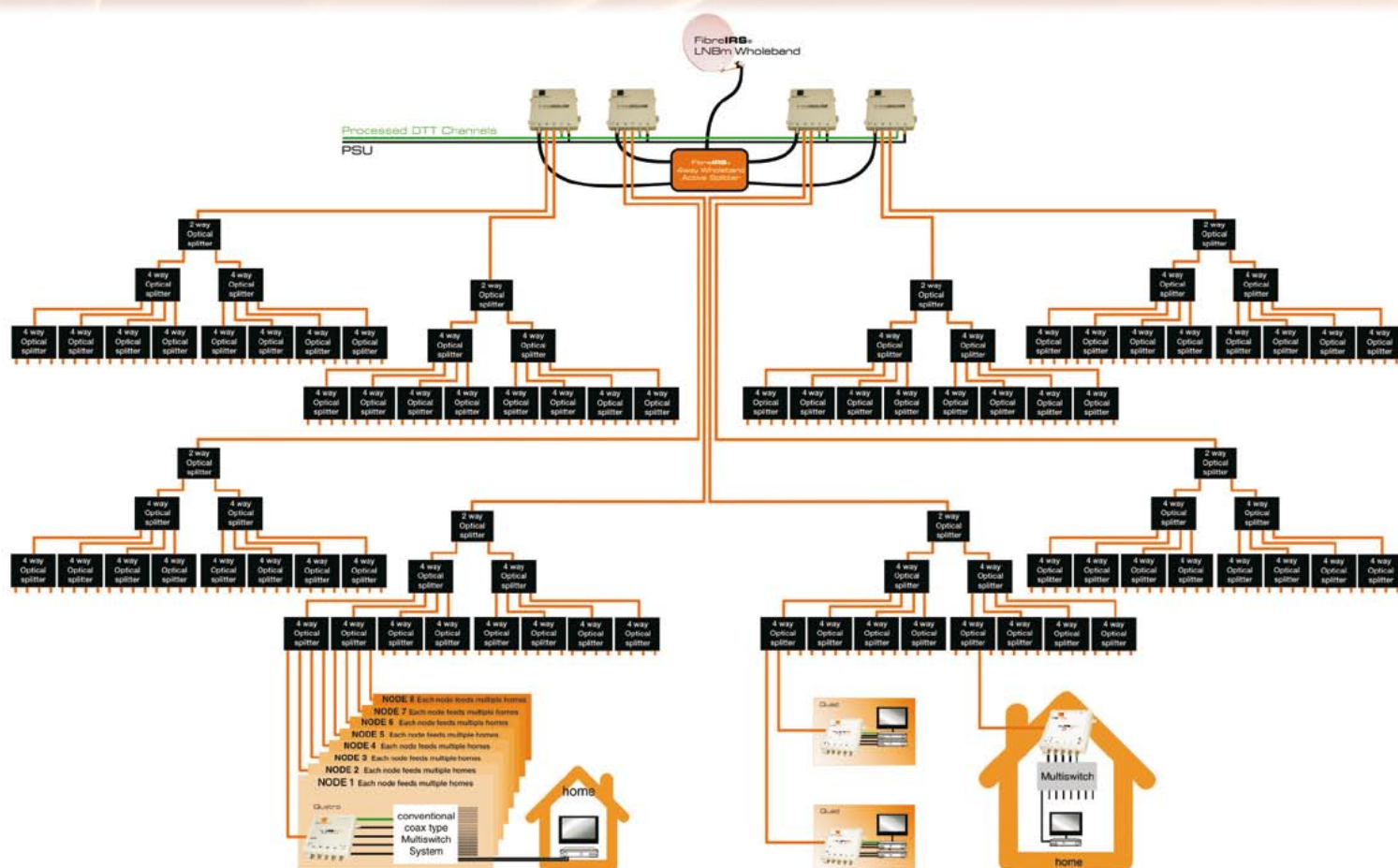
SCPC Reception of "Videolina" with an SR of 1.824 Ms/s |

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able to handle a 1.824 Ms/s signal on EUTELSAT W7 at 36 east without any problems. Additional tests with weaker signals further proved the capabilities of the receiver's tuner.

Besides TV and radio reception via satellite, the AZBox can also handle IPTV reception. We connected the receiver to our internal eight-channel network and after entering the necessary parameters (IP address and ports), we were able to store all of the available channels individually in the channel list. The time needed to switch between channels was good to say nothing about the exceptional picture quality!

For IP channels, the user can enter the IP address as well as the port and stream type of the desired IPTV channel into the AZBox. You can also choose whether the receiver should automatically go into DVB-S2 mode or not when it's turned on.

To round things off, the Setup menu also comes with an access control feature that can limit access to specific menu sections or channels.

Of course the Internet connection isn't just for the

channel list; it can also be used to download new software directly to the receiver. And this not only guarantees that the receiver itself can be kept up to date with the latest software, but it also reduces the chances of the user incorrectly installing new software and thereby rendering the receiver useless.

Once all the settings have been taken care of, you can leave the Setup menu. The AZBox then switches over to the all-encompassing Main menu. Its eleven submenus include TV, YouTube, Plugins, Movies, Music, Photos, Data Manager, FTP, RSS News, Browser and Settings.

If you select TV, the AZBox switches to DVB-S2 mode and activates the built-in tuner. An Info Bar provides detailed information on the current and upcoming programs as well as displays the specific data of a channel such as encryption, teletext, subtitles, HD, etc.

Just like with most other digital receivers, a double push of the Info button provides expanded programming information on the current channel, while a push of the EPG button activates the electronic programming

guide. This can show either information on up to seven channels or more detailed information on a single channel. Since we are dealing with a PVR receiver, timer entries can of course be set up directly from the EPG; even the desired recording medium (internal hard drive or external USB device) can be chosen here.

A push of the OK button opens up the channel list that can display up to 16 channels at the same time on one page. This actually makes it fun to comb through an extensive channel list. The list can be sorted alphabetically, by frequency, by satellite, by genre, by provider, by country or by CAS/FTA. Channels you like to watch more often than others can be moved into one of the Favorites lists. Other actions such as the deleting or renaming of channels can also be taken care of in this menu.

Since the AZBox can immediately display the EPG data of a stored channel (if available), it's easy to find a good movie to watch in the evening from the hundreds of pos-

sible TV programs that are available.

For the YouTube feature, the manufacturer included a fully functional player for the popular video portal with numerous settings capabilities. This involves not only activating region specific YouTube content, but you can also select categories, feeds and enter in date limitations. And let's not forget that there's also a search function.

The AZBox has its own plug-in interface that allows resourceful developers from around the world to expand the capabilities of the receiver. Especially interesting is the ability to directly download plug-ins via the Internet through this interface. The end user no longer needs to sift through the Internet for matching enhancements; he can choose corresponding plug-ins directly with the remote control and load them into the receiver's memory with the push of one button.

Thanks to ever-increasing Internet data transfer rates, it has become standard prac-



tice to not only download pictures and music from the Internet, but videos as well. Not bad at all, but who wants to always watch content on a PC? This is where the AZBox comes into play; thanks to the USB 2.0 interface, an external hard drive or USB stick can be used to store video content.

The receiver is actually very accommodating and can accept almost all of the popular video formats such as XVID in SD and HD, DIVX, MPEG1 and MPEG2, MPEG4.2, WMV9 and H.264 in various versions.

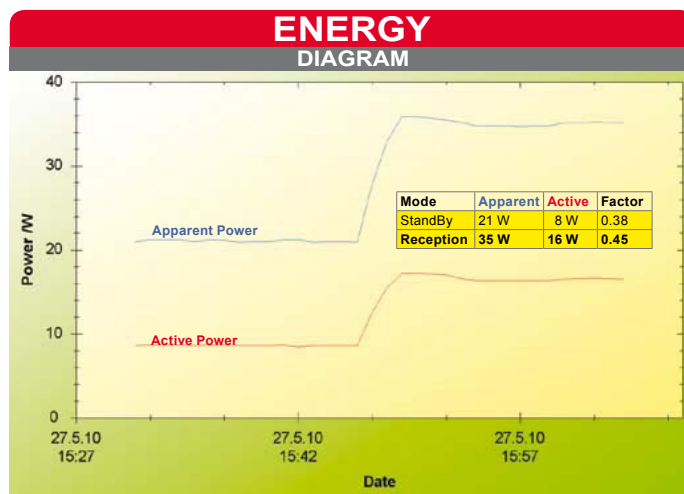
The AZBox can also take the place of your CD collection; it can play back music in a variety of formats including MP1, 2 and 3, as well as AAC, M4A, WAV, WMA, FLAC and OGG. The receiver can also handle a number of MP3 related features such as title display. To be honest, we didn't expect anything different from AZBox.

To top it all off, this multimedia powerhouse can also

display pictures in JPEG, BMP and GIF formats. It also comes with a file manager and has the capability to receive RSS News.

The path from RSS News feeds to a web browser isn't far at all; the manufacturer must have thought this too and included a fully functional Internet browser in the AZBox Ultra HD. Obviously it can't take the place of a typical PC browser because of the lack of a mouse, but if there's a commercial break and you, for example, quickly want to check the weather forecast for the next couple of days, it will definitely do the job.

The AZBox is a small receiver with many sides to it that would be quite at home in the living room. It is perfect for those who can do without features like a twin tuner but like the idea of Internet access and the ability to jump into the world of IPTV. The receiver's firmware gave us no problems during our tests; we did not experience any software crashes or other problems at all.



First 15 minutes: Standby

Second 15 Minutes: receiver boot process followed by active operation with channel switching, recording, playback, etc.

Expert Opinion



- Complete Internet integration including IPTV.
- Powerful Blind Scan function.
- Flexible hard drive interface.
- Limited internal heat buildup thanks to an external power supply.



Thomas Haring
TELE-satellite
Test Center
Austria

Operating the Internet browser somewhat cumbersome.

TECHNICAL DATA

Manufacturer	Opensat, Edificio OPENSAT, Lagoa C.P 4950-283 Mazedo, MNÇ Portugal
Fax	+351 251 652 966
E-Mail	info@AZBox.com
Model	AZBox Ultra HD
Function	Digital HDTV DVB-S/2 and IPTV receiver with various Multimedia & Internet Features
Channel Memory	15000
Symbolrate	2-45 Ms/sec.
SCPC Compatible	yes
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
USALS	yes
HDMI Output	yes
Scart Connector	no
Audio/Video Outputs	6x RCA
Component Video Output	yes
S-Video Output	yes
UHF Modulator	no
0/12 Volt Connector	yes
Digital Audio Output	yes
EPG	yes
C/Ku-Band compatible	yes
PVR-Function	yes
USB 2.0 Connector	yes
Ethernet	yes
E-SATA	no



United Colors of Horizon: HD-TM USB PLUS Is Red

After testing a yellow meter (TELE-satellite 10-11/2009), a blue meter (TELE-satellite 06-07/2010) and a gray meter (TELE-satellite 12-01/2010), why not to take a look at a red one? Red is the color used by Horizon for its terrestrial instruments. The HD-TM USB PLUS is an improved version of their HDTM model. The USB port allows you not only to update the firmware or channel plan but it also lets you download any measured results to a PC for future reference. The PLUS means that analog TV signals can also be detected and that more signal parameters can be measured (like MER). The frequency range is extended and even a simple spectrum analyzer is now available.

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The HD-TM USB PLUS comes with a very practical nylon carrying case, an AC charging cable, a DC car charger, a USB cable, a rain cover for the front panel, an "F" male-to-male adapter, an "F" to UHF adapter and two 10 dB attenuators. The battery pack (NiMH 3300 mAh) is installed inside the meter and lets you operate the unit for up to 7 hours. It can be accessed by opening a flap on the bottom side of the case. So, if needed, you can replace the battery pack or simply disconnect it if a longer period of inactivity is expected. This is very practical.

The HD-TM USB PLUS looks very similar to the satellite and cable counterparts in the Horizon product family. Except for the model designation printed on the front panel, the only way to distinguish between the different models is the color of the plastic housing. The display, the keyboard and the connector are all in exactly the same place.

The 128x64 pixel graphic



HORIZON

For a reliable solution!

LCD is located more or less in the center of the front panel. The "F" jack to install the "F" male-to-male adapter or the F-UHF adapter is on the left and the keyboard is on the right side of the display. The term "keyboard" might be overstating it a little bit; there are only four push buttons.

The meter can be charged by simply connecting one side of the AC charging cable to the back of the meter and the other end to a wall outlet. The AC voltage range that can be used with the meter is wide enough so that you can use it almost anywhere in the world. There is no external power supply unit. Everything is hidden in the meter case. When you are on the go, you can recharge the battery using the 12 VDC socket in your car and the car charger cable that comes with the HD-TM USB PLUS.

The carrying case has a strap you can use to hang the meter around your neck. The nylon case has openings for cables so you don't have to take the meter out of it when charging the internal battery. Additionally, the case has a pocket on its side in which you can keep, for example, adapters and attenuators. The attenuators are needed only when a very strong signal is measured – greater than -20 dBm (>87 dBμV). This could be the case if the meter is connected close to an antenna amplifier output. Just like Horizon's other models, a quick start guide is visible on the nylon case cover when you open it to use the meter. This meter has quite a few of these small but nice surprises.

Usage

The up arrow button dis-



plays the Setup menu which consists of 8 items: Brightness, Contrast, RF units (dBm, dBmV, dBμV), Squelch (level under which signals are ignored = level of noise), Sleep (time after which the meter turns itself off), Language (English, French, German, Italian, Spanish, Dutch, Polish, Swedish, Danish, Norwegian, Croatian, Finnish), Version (of the firmware) and Defaults (returning to factory settings). The up/down arrows are used to select the item while the left/right buttons will change the current setting. If you press and hold the up arrow for a second or so the unit will go off. That's why this button is also marked OFF.

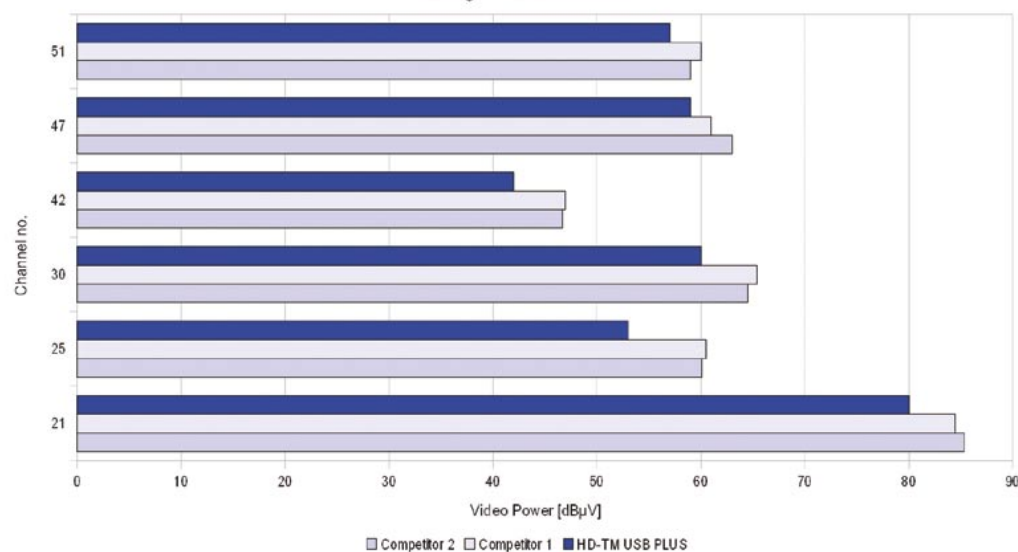
The down arrow turns the meter on for normal operation. After the welcome screen, the Main Menu appears which consists of nine items: Choose transmitter, Full scan, Short scan, Slope test, Manual scan, Log channel, Log transmitter, Log all, Antenna amp. We will focus on three of them: Full scan, Short scan and Log all.

A Full scan does exactly what you'd expect it to do. It starts at the lowest frequency and goes up from

there. Every time it finds an analog carrier or a set of COFDM signal carriers it stops and displays the first screen of signal measurement results. The down arrow cycles through the result screens. Although not every parameter can be measured (for example: the meter does not calculate noise margin for DVB-T and it does not show constellation diagrams), the most important parameters are measured or calculated. So, we have power levels and signal quality parameters (C/N for analog and MER for

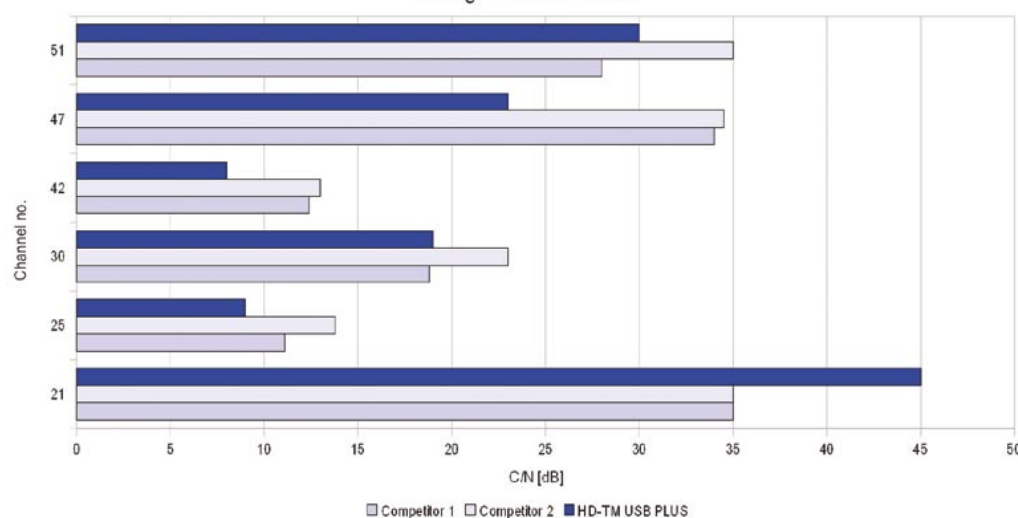
graph 1

Analog TV Measurements



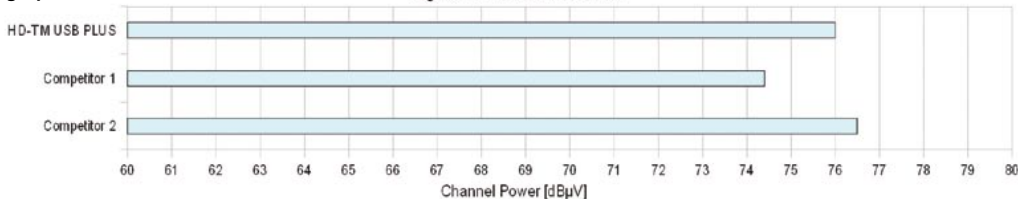
graph 2

Analog TV Measurements



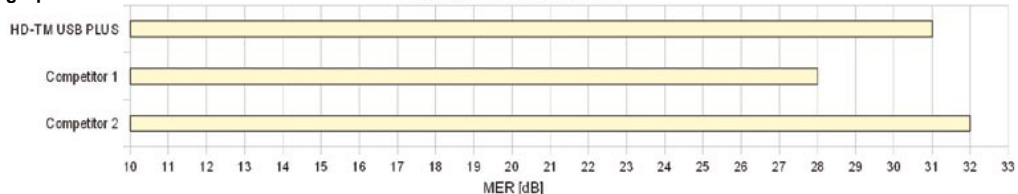
graph 3

Digital TV Measurements



graph 4

Digital TV Measurements



digital signals). The HD-TM USB PLUS automatically detects DVB-T parameters: QAM order, symbol rate, FEC and guard interval. We even have small spectrum views although its functionality is limited.

When in full scan mode, the meter displays the country settings (in our case it was: "Polska (Poland)") what means that the country specific setup has been installed in the meter. This is even more evident when

you enter Short scan. Here the meter only scans those digital channels that should be available in your region. To select your region, go to Choose transmitter from the Main Menu, select the region of your country and the cor-

rect digital transmitter frequencies are assigned to the Short scan mode. Very, very convenient!

We are really happy that Horizon included the Log-all function in the HD-TM USB PLUS. Thanks to this feature you can do a full automatic scan of the entire bandwidth and store the results of every identified signal in the meter's memory - both analog and digital. This is a very nice addition to the Log channel and Log transmitter features which deal with single signals. After downloading the Log Reader software for MS Windows from Horizon's web page, you can see the results stored in the meter's internal memory and download them as an ASC file. This file can then be then opened by any worksheet or text editor.

The HD-TM USB PLUS can provide DC voltage to power an antenna amplifier. It can be either 5 V or 12 V DC. It has a slope test which can be helpful in detecting excessive attenuation in the antenna cabling.

Our general impression when using this meter is that it is quite fast and very easy to use! Aligning a terrestrial antenna with it is nothing but fun. It can be also very helpful in finding any faults in antenna installations. Sure, it's not a Rolls Royce among signal analyzers, but it does offer surprisingly much for such a low price!

Performance

Once we became familiar with operating the HD-TM USB PLUS, it was time to compare it with different meters from other brands. We took more advanced instruments to check if the meter readings were in line with them. The first test con-



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- CAS support such as Irdeto, Conax...
- Usb PVR ready, timeshifting, Live channel Pause
- Low power consumption



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- Two DVB-S Tuner
- Record current channel and another channel while watching current channel
- Support Timeshift function & PIP function
- Multi-language OSD supported
- Electronic program guide (EPG)



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- MPEG2/4, H.264 HD/SD decoding (MP@HL/ML) supported
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- Dynamic Hi-Fi Stereo Sound System
- Digital album or slide show through USB2.0



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- Fully DVB-T/MPEG-2/MPEG4 H.264 Compliant System
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- Logical Channel Number(LCN)
- Subtitle, teletext function supported
- USB: PVR, photo viewing, mp3 file playing



SD DVB-S/S2 H.264 CA

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- CAS support such as Irdeto, Conax...
- Electronic Program Guide(EPG)
- USB: PVR, photo viewing, mp3 file playing



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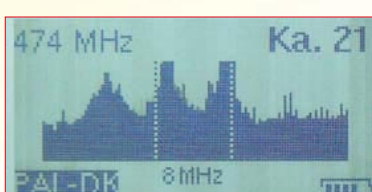
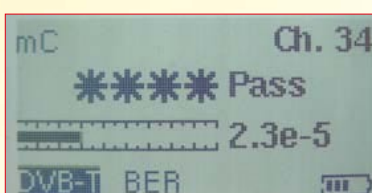
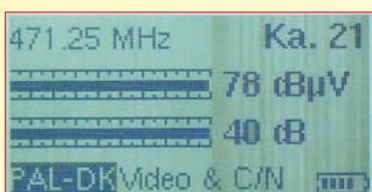
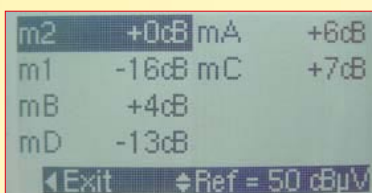
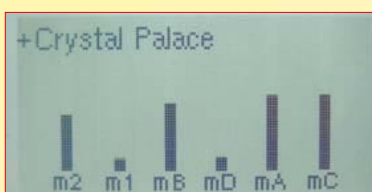
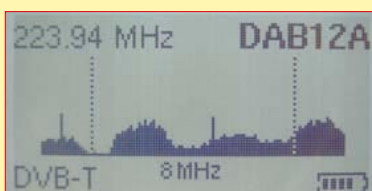
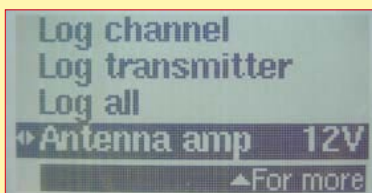
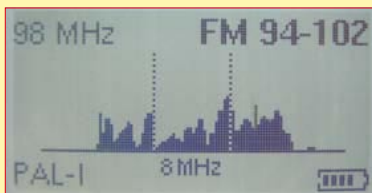
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cerned analog TV measurements. (See the graph 1., 2.)

The video level measurement results were somewhat lower than those of the competitors but the difference was not dramatic. The spread among C/N results was quite big but there was a big difference not only between the HD-TM USB PLUS but also between two competitors we used for reference. That's because every meter has to choose the frequency where only noise is present for establishing the noise level. And every meter can use a different point in the frequency spectrum. That's why the so-called "automatic C/N measurement" can be so unpredictable. We should not compare the C/N if the measurements were taken by different meter models. So, what's the point?

If we turn an antenna, we will always observe an improvement in C/N if we move it in the proper direction -no matter which meter we were to use. But if we want to compare two antenna installations, we need to use the same meter! We should not measure one installation with one meter type and the other with another type. Do not compare the C/N of analog signals measured with different meters!

The situation is better with digital signals. Here, instead of C/N, we usually measure MER which is also directly related to signal quality. Since the meter does not have to arbitrarily choose any noise level but instead measures the spread of IQ vectors, it is an excellent measure and is much less dependent on the meter type or brand that is used.

And how was it for the HD-TM USB PLUS? Not bad,

really. It basically matched the results obtained from both competitors with its power channel measurement results as well as its MER results. (See the graph 3., 4.)

In a few years, analog TV will disappear completely from the airwaves. Evidently the HD-TM USB PLUS is quite ready for that moment. Its accuracy in digital signal measurements leaves nothing to be desired.

Expert Opinion

+

Small, lightweight, and very easy to use. Very fast. Accurate digital signal measurement. Customizable for a given region of the world (country) just by downloading the proper setup from the manufacturer's web page. Built-in power supply unit. Affordable. USB-Port allows export of measurement data. Simple built-in spectrum analyzer.



Jacek Pawlowski
TELE-satellite
Test Center
Poland

-
Not DVB-T2 compliant

TECHNICAL

DATA

Manufacturer	Horizon Global Electronics Ltd., England
Fax	+44 (0) 1279 417 025
E-mail	sales@horizonhge.com
Web page	www.horizonhge.com
Model	HD-TM USB PLUS
Function	Digital and analog terrestrial TV meter with spectrum analyzer and USB data output
Input frequency	49~861 MHz
Signal level	-92.1dBm to -20 dBm
Masthead amplifier supply	5 or 12V, 100 mA max.
Power supply	100~240 V, 50/60 Hz, 0.31A max. 12 V DC, 0.8 A max.
Operational time when fully charged	7 hours typ.

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- High output levels between
102 and 108 dBμV



Optical Transmitter

- Frequency range of 47 ... 2200 MHz
- Laser output power: +6 dBm

Optical Receiver

- 4-way / 1-way in a compact housing
- Remote power through one coax output possible

SPAROS 611 CA HD

- HD-Display (MPEG4 H.264)
- Integrated Multidecryption CA-Module
- Return path measurement
- Constellationdiagram for all DVB standards



Opensat 9900 HDPVR

The Really Fast Receiver



The sleek black Opensat 9900 HDPVR distributed by Slovakia's ABC Bizniz comes with all the usual outputs expected from a high definition receiver. HDMI and component video are accompanied by two Scarts, and the old faithful fallback of composite video is also available. Audio is covered by an S/PDIF output, backed up with the standard left and right stereo RCAs. Picture quality through HDMI and component are as excellent as you'd expect from high definition and when an HD resolution is chosen, standard resolution broadcasts are upscaled.

The single tuner has a loop-through output so another receiver can be connected. There's also an RS232 connection and an Ethernet port. The single USB port is located on the side of the receiver, near the front. This is a good halfway house between a hard to reach port on the back if you're connecting and reconnecting often or an obtrusive cable sticking out of the front if you have a permanently connected hard



drive. A port at both the front and back would have been perfect to cover both of these scenarios, but this would of course add to the production cost. There are also two common interface slots and one for a smartcard.

Switching on the receiver gives the first pleasant surprises. There's no wait for software to boot up, no pretty logo to sit through for those impatient seconds that last forever when you know the show you want to see is already starting. As soon as the power button is pressed, we're up and running and this speed is echoed throughout the whole machine. There's no delay from pressing a button to the action hap-

pening on-screen. Switching between channels and navigation of the menus is nice and quick. It's a real pleasure not to have to wait at all.

Complementing the speed of the menus is their modern look and feel. Their crisp silver and yellow colour scheme with clear sharp black text is a world away from the old days of blocky slow menus we've seen too much of over the years. A lot of thought has clearly gone into their design and ease of use for which Opensat should be congratulated. So many times a good receiver is spoiled by a poorly designed, confusing or slow interface. This one keeps everything fast, simple and clear - top marks.

Setting up the antenna is as simple as it can be thanks to DiSEqC and USALS. All we'd expect from this kind of setup is available, from

TELE-satellite World

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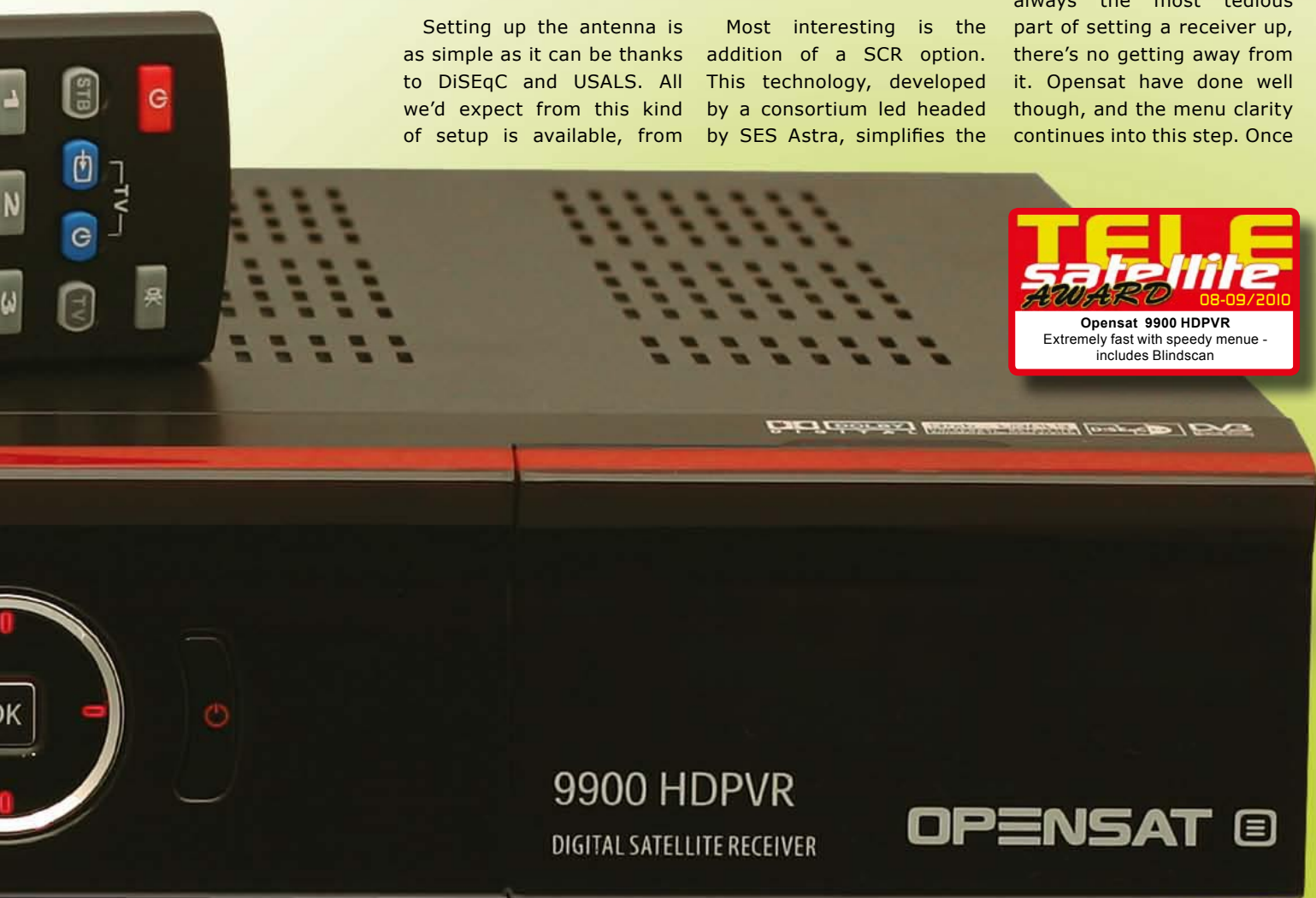
Available online starting from 30 July 2010

selection of DiSEqC ports for multiple LNBs through to a fully motorised system with the positions calculated from the user's latitude and longitude. Just about every other setup possibility is covered. A host of preset options are available for LNB types and if yours is somehow not included, all the required frequencies needed can be added manually.

Most interesting is the addition of a SCR option. This technology, developed by a consortium led headed by SES Astra, simplifies the

delivery of satellite signals to multiple receivers by feeding them from a single cable utilising clever splitters. This greatly simplifies cabling for those who want to watch TV in multiple rooms. How I wish this technology was available years ago when I pulled the house apart to wire up my own system.

Scanning for channels is always the most tedious part of setting a receiver up, there's no getting away from it. Opensat have done well though, and the menu clarity continues into this step. Once



9900 HDPVR
DIGITAL SATELLITE RECEIVER

OPENSAT

DIGITAL SATELLITE RECEIVER

OPENSAT



Programme info



Channel find function



Motor settings



EPG



Recordings list

the satellites we want to scan are set, the Multisat search will search each one in turn – either for all channels or just free-to-air.

As always, the channels found in the multisat scan, or the standard single satellite

scan, depend on the transponders that are pre-programmed into the receiver, have been added though using the network search option or input manually. For the viewer who needs to get everything though, a blind search is also avail-

able. This has some welcome options that are sometimes forgotten – such as being able to set the frequency range to be scanned along with the desired polarity and frequency step. These are always appreciated by those of us who like to go after feeds that are grouped in specific areas of a satellite's frequency range. On the flip-side, in the blind search we sadly can't choose to save only FTA channels. A final fast search option exists for viewers of the Canal Digitaal, TW or TeleSAT packages on Astra 1, where only channels from the selected provider are scanned.

Once the channels are in memory, a comprehensive editing section allows them to be sorted, renamed, deleted, moved or added to one of the

favourites lists. The manipulation of the favourites lists is the quickest I can ever remember using, it is so fast it is almost a pleasure instead of a chore – I never thought the day would come when I would hear myself saying that. Up to 200 channels can be added to each of the eight favourites lists, which can be renamed as required.

Everyday use

Navigating the large number of channels in the receiver after scanning continues the fast and logical feel of the setup menus. The main navigation buttons on the remote are large and well-spaced. A nice option is a dedicated "find" button. Where was CNN amongst the thousand channels in the list? Don't worry about

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HIGH

USALS

PERFECT MOTOR SETUP

ASDTM

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DVB - S TEST
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UNICABLE
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DVB-S 1GB	EXCEL-TV MK4 NIT

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Xvid playback |



EPG |

trawling through page after page of channels, however fast it may be ... just hit the find button and enter the first characters of the channel name and the list will filter itself before your eyes. It's like the auto-completion on a Google search. I love it.

Two other helpful buttons give quick access to important functions. "AV+" brings

up a small menu to change the audio mode, aspect ratio and letterboxing. "Opt" meanwhile gives options to individually change the audio track, subtitles and volume for each channel. This is great for boosting the channels that broadcast very quietly, and is just as useful when used in reverse to reduce the volume of those annoying channels who transmit eve-

rything with audio pumped up so loud you're in danger of blowing your windows out just by innocently tuning into them.

More innovative buttons exist – the HD button gives us a channel list of only the HD channels, and this can also be used as a filtering button when inside the channel list. The more obscurely named "M-F" button gives access to multi-feed channels. There's also a recall button, but not just the usual recall button – this is recall on steroids, giving us a menu listing the 10 last viewed channels to choose from.

Recording and timeshifting

Out of the box, this receiver was in danger of seeming a little basic but has already proved itself thanks to the intuitive menu system and speed. But remember the "PVR" in the name – with the addition of a USB device, it becomes a good PVR too.

Having recently treated myself to a 1.5 terabyte external hard drive (I am still staggered I can go out and buy such huge amounts of storage space), I excitedly hooked it up. The promise of having days or weeks worth of space was amazing. Unfortunately, all I got was a message saying it was already full! Believe me, even I have trouble filling that much

space. Perhaps like me the receiver was perplexed with what to do with such a big blank canvas to work on. Or maybe the drive was incompatible in some way. It is hard to know and probably not the fault of the receiver.

Thankfully my old faithful 40GB USB drive worked perfectly. In fact, even a USB memory stick will do the job. I tried it with an everyday 4GB memory stick, and it worked with only occasional jumps at the start of recording or playback, even with the high amounts of data needed for high definition. For those who don't need to use the recording functions often, or perhaps would only use time-shifting, an inexpensive memory stick could be all that is needed to utilise this part of the receiver.

The recording functions are best accessed via the EPG. Here again, some good design has been used, navigation is easy and intuitive. Two views can be chosen – the traditional grid, or a list of all programmes on a single channel. This comes into its own in places like ASTRA 1, where a full set of EPG information is available. It's such a pity that even now in the age of the PVR that so many channels still only transmit the data for the current and next programmes.

Pressing the record button



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adds the show into the receiver's timer, which is best thought of as being just like the timer found on an old VCR, remember those?

This is one place where we do find some limitations. There are only seven slots available, and we can only record one channel at a time, even if we choose two channels from the same transponder – although we are allowed to watch a different channel from the same transponder while a recording is in progress.

The timer entries can be edited to run daily or weekly which helps a little, but just seven available timer slots are simply inadequate for life in today's multi-channel world.

If you're able to live within these limits, the recording system does work well. When a recording is in progress, the channel list is trimmed down to only those that can be viewed without interrupting the recording; if you try to view a channel or access a menu that isn't available due to the recording, an unobtrusive box appears in the corner of the screen to remind you of how long is left

until the recording finishes.

Recordings are accessed from the play button which is located amongst a group of 20 smaller buttons at the bottom end of the remote. These are a little small and take some getting used to, it is quite easy at the start to get mixed up between play, pause, record, fast forward, slow motion and others. Like all controls though, it gets easier with practice.

Recordings are stored as the programme name with the time appended, with the date in the next column. This is just about OK to identify the show you wanted to replay, but I miss being able to press a button to get the programme information that would have been transmitted with the EPG data. This seems to be something overlooked by many PVRs these days. Isn't it possible to save this data with the recording so it can be accessed later?

In addition to recording and playback from satellite, the receiver can access pictures and MP3 files from the USB device. These follow the rest of the receiver in being easy to navigate and use. But that's not all. The

innovation I like most is the excellent implementation of DivX, Xvid, AVI, MPG and MP4 video files.

Not just the preserve of movie piracy on the internet, DivX and Xvid are good tools for compressing video into smaller files. I've built up quite an archive of material over the last few years, painstakingly transferred first from their source onto rewritable DVD, then finally converted into Xvid and archived permanently onto disk. I've always wanted to find something to make this process simpler, and to take out the quality loss from having to transport the recording via disk to the computer. Yes, I did try a PC card receiver, but didn't really get on with it too well, but that's another story.

Extra trickery

Often, the PVR will store its data in some kind of format that makes easy conversion difficult or even impossible. But the 9900 stores its files in a standard format, .trp. This can't be viewed on a computer right away by most popular media players, but whizzing it through a freeware conversion program called TSremux makes

it into a standard .ts transport stream file. Now it can be edited with your favourite editor, and turned into an AVI. You'll have to take my word for it, but the Xvid playback screenshot from Germany's ZDF Info was recorded from ASTRA 1 on the 9900, quickly converted into an Xvid AVI and played back again on the 9900 from a memory stick. Fantastic!!

There are no editing functions on the receiver, unless you want to go through the conversion route on a computer, which would be much too arduous to just cut out commercials or trim the start and end of a recording.

Time-shifting is also present – this can be turned on permanently in the setup menus, or accessed as required by pressing the pause button. One minor annoyance, again something that is strangely present in many PVRs these days, is that you have to choose either to record permanently or timeshift.

Once you're timeshifting and decide that the programme is worth keeping, you can't hit record to save it permanently. If you do



try this, the timeshift will be stopped, and a permanent recording starts at that point. It'd be much nicer if the already timeshifted material could be saved as the start of the recording, and then it continues from there.

An additional useful touch is both the receiver's software and channel data can be quickly backed up and restored from the USB device. Just like a computer, a backup can save you from a lot of stress if an upgrade or channel scan goes wrong. After all, who hasn't at one time scanned HOTBIRD while pointing at ASTRA and ending up with a crazy channel list from where the frequencies are the same? OK, maybe it's just me! But be warned, one day it will happen to you too,

and then you'll remember that backup!

Conclusion

This receiver is quite a surprise. The initial worries of having only one tuner and no hard drive are balanced by easy menu navigation and the ability to convert and edit the recordings on a computer.

The addition of innovations like AVI playback and SCR support are genuinely helpful for those who use them. There are obvious limitations when only one tuner is available. If you can live within these limits, you'd probably be very pleased with this receiver.

Expert Opinion

+

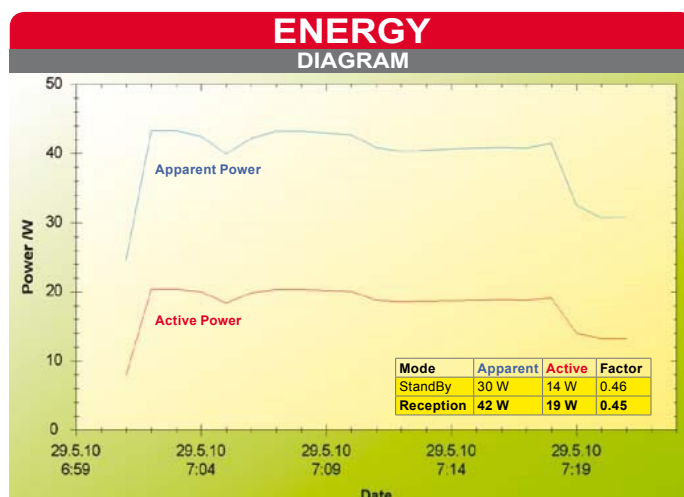
**Clear, good looking, intuitive menus and EPG
DivX / Xvid playback
Recordings made in a convertible format
SCR support**

-

**No inbuilt hard drive – but this means you
can choose one to suit your needs and budget
Only one tuner
Only 7 timer entries available
No editing of recordings**



Andy Middleton
TELE-satellite
Test Center
UK



TECHNICAL DATA

Distributor	ABC BIZNIS s.r.o., Krušovská 4646, 955 01 Topoľčany, Slovakia
Tel/Fax	+421 38 5313508
www	www.opensat.info
Model	9900HDPVR
Satellites	70
SCPC compatible	Yes
USALS	Yes
DiSEqC	1.0/1.1/1.2/1.3
Scart connectors	2
Symbol rates	DVB: 1000-45000
MPEG2 modes	MPEG-2, MPEG-4, H.264
Audio outputs	2 (left & right)
Video outputs	Composite, Component, HDMI
Resolutions	1080i, 720p, 480p/576p, 480/576i
UHF output	No
0/12 volt output	No
Digital audio output	S/PDIF
EPG	Yes
C/Ku-band compatible	Yes
Power supply	100-240V AC



Technomate TM-1M and TM-3D Monoblock LNBs

- how much performance do you have to sacrifice?

Technomate's single and multiple LNBs presented in previous issues of TELE-satellite proved to be devices with exceptionally good performance. We decided to test their monoblock products to see if their performance is similar to their more popular companions. When using a monoblock, at least one of the LNBs is positioned outside of the antenna's focal point which typically results in some deterioration of signal strength and quality. That's because not as much signal reaches the off-center LNB compared to the focal point LNB. There's also the potential for signal interference from neighboring satellites. But how much worse is the signal at the off-center LNB? We conducted a test to find the answer.

TELE-satellite World

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Czech	Česky	www.TELE-satellite.com/TELE-satellite-1009/ces/technomate.pdf
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English	English	www.TELE-satellite.com/TELE-satellite-1009/eng/technomate.pdf
Spanish	Español	www.TELE-satellite.com/TELE-satellite-1009/esp/technomate.pdf
Farsi	فارسی	www.TELE-satellite.com/TELE-satellite-1009/far/technomate.pdf
French	Français	www.TELE-satellite.com/TELE-satellite-1009/fra/technomate.pdf
Hebrew	עברית	www.TELE-satellite.com/TELE-satellite-1009/hob/technomate.pdf
Greek	Ελληνικά	www.TELE-satellite.com/TELE-satellite-1009/hel/technomate.pdf
Croatian	Hrvatski	www.TELE-satellite.com/TELE-satellite-1009/hrv/technomate.pdf
Italian	Italiano	www.TELE-satellite.com/TELE-satellite-1009/ita/technomate.pdf
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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-1009/tur/technomate.pdf

Available online starting from 30 July 2010



We selected two Technomate products for our test: the TM-1M – the classical 6 degree monoblock and the TM-3D – a less popular 3 degree monoblock LNB. The workmanship of both products is very good. The TM-1M is designed to match standard 40 mm LNB holders but because of the small spacing between the two LNB's, the TM-3D requires a specific holder with a 60 mm diameter. Both monoblocks

can be switched by the DiSEqC 1.0 command "Position A/B" and both are universal Ku-Band LNB's. That means they have the standard LOF's: 9.75 and 10.6 GHz that are selected using a 22 kHz signal; the polarization is selected by the supply voltage (13V for vertical and 18V for horizontal). As you can see, these monoblock LNB's are compatible with almost every modern satellite receiver available today.

Installation

Installing the TM-1M was a piece of cake. We just replaced the single LNB in an 85 cm offset antenna aligned for HOTBIRD. The off-center LNB should automatically be ready to receive ASTRA. And indeed, our meter immediately detected both satellites with very good signal strength and quality (see the meter screenshot).

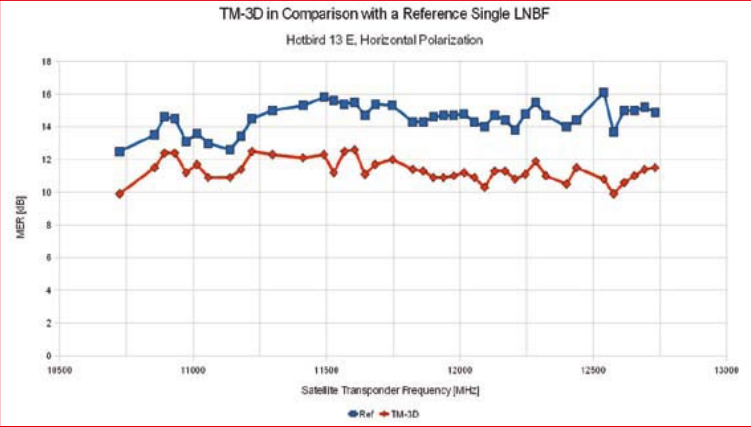
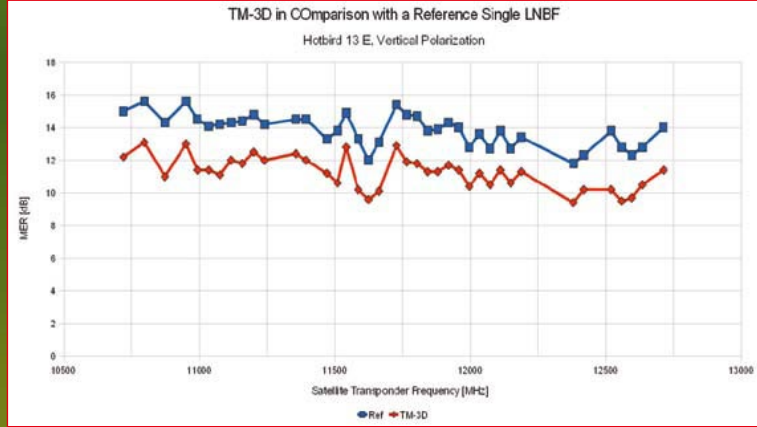
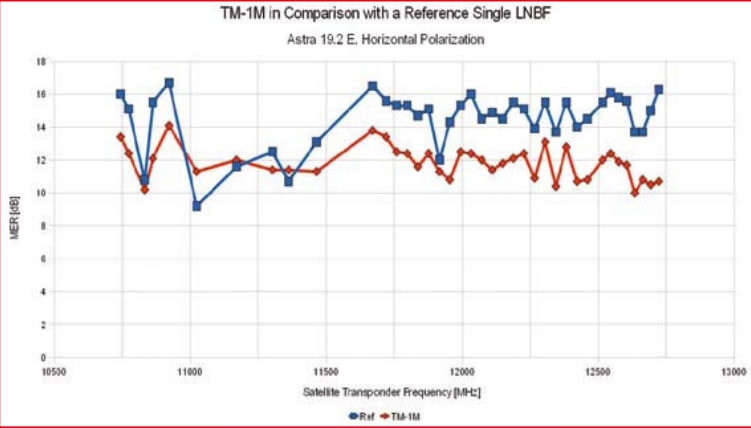
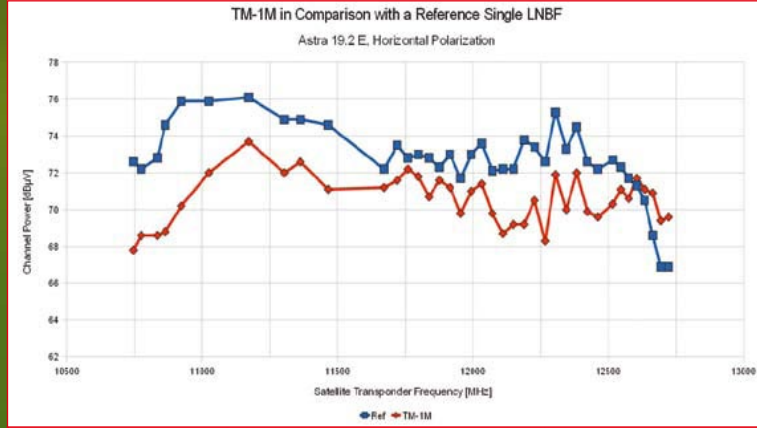
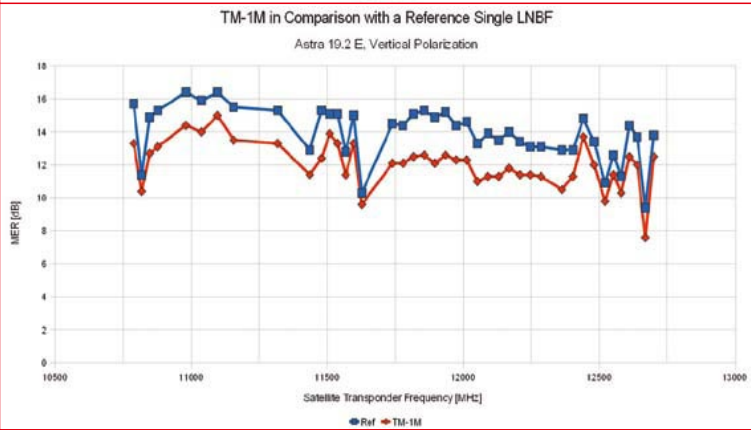
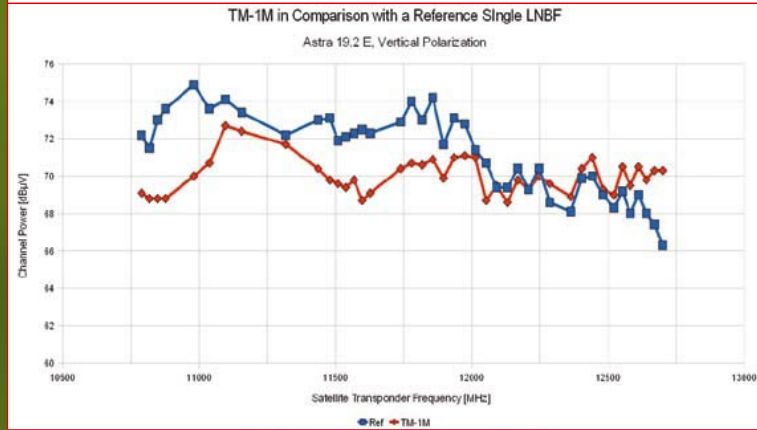
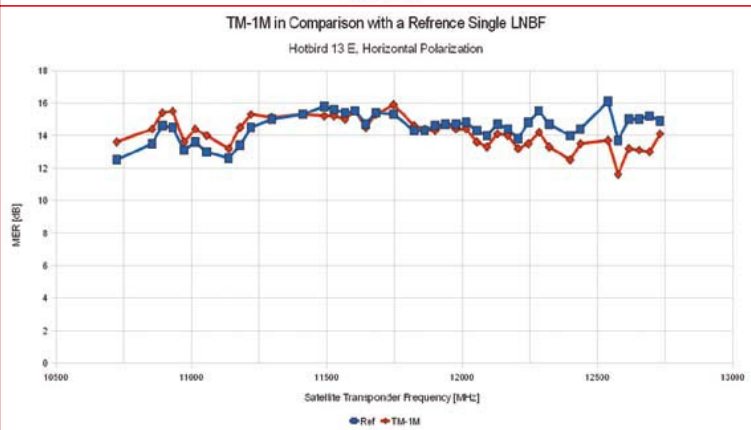
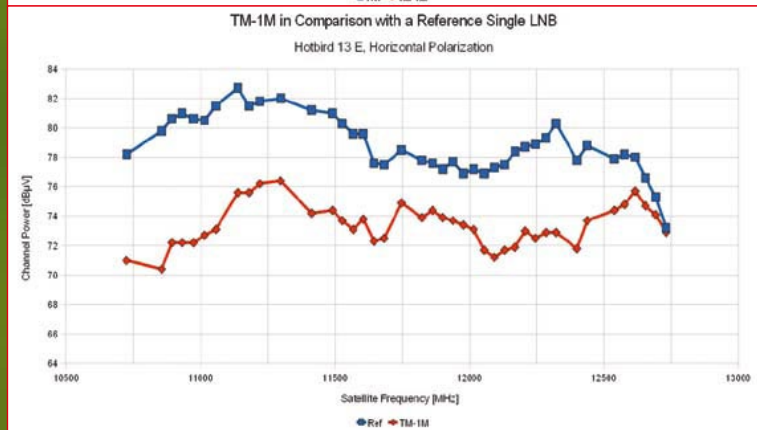
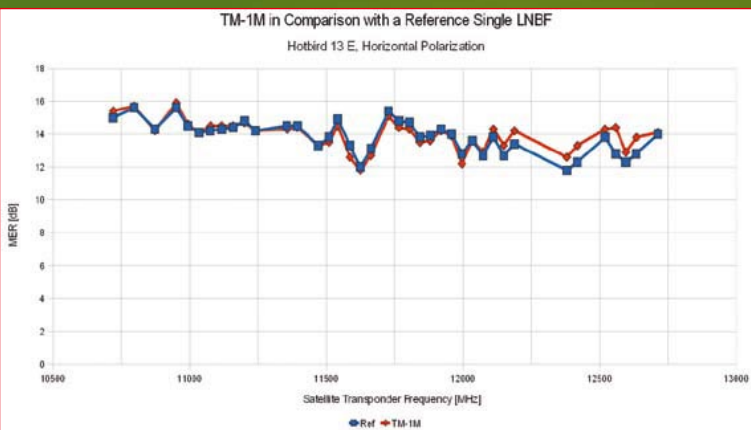
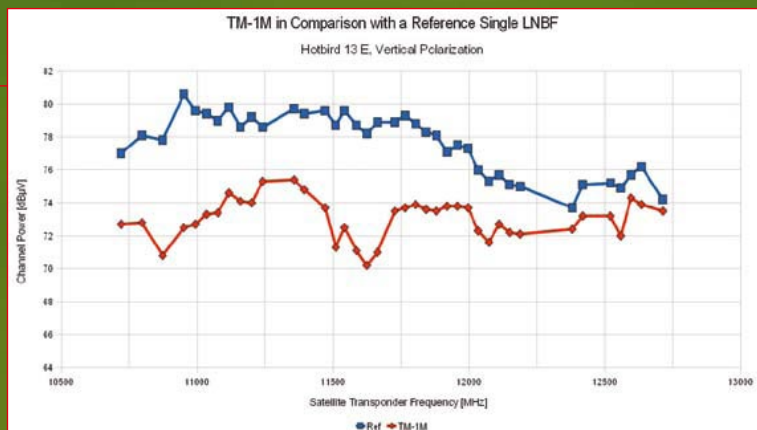
We had more fun with the TM-3D. Since none of our dishes had a suitable holder, we had to arrange a temporary mount. It was not very solid but it enabled us to take measurements. We chose the pair: HOTBIRD 13E and EUTELSAT 16E. With this monoblock type both LNB's are located off-center. We decided to setup the antenna for EUTELSAT 16E as its signals were weaker in our location. This proved to be a good strategy and in a minute or so we had both EUTELSAT 16E and HOTBIRD 13E ready for measurements. Again, our meter showed us that everything was working perfectly.

Later we checked another pair: ASTRA19.2E and ASTRA23.5E. Although we knew they were more than 3 degrees apart, we wanted to check out how far we could "stretch" the 3 degree monoblock. As you can see in another meter screenshot, it was impossible to get two "green" results. One of the satellites was on the reception edge (in yellow). However, if you have a smaller dish, say 70 cm instead of a typical 85 cm offset one, the 3 degree monoblock will become something like a 4.5 degree monoblock.

Performance

The TM-1M was the first to be tested. We first measured a reference LNB mounted on a dish aligned for HOTBIRD 13E. Then, we installed the monoblock and measured the LNB located in the antenna's focal

 **Technomate**

About Sowell

"Sowell" was the first R&D team who introduced the NXP (conexant) DVB solution to the Chinese market successfully. Within 5 years, it becomes a professional manufacturer for digital broadcasting products based on various chipset solutions.

"Creation and innovation" is the spirit of our R&D team so that we can keep the leading position in this field in China.

"Quality is life", this is the slogan of our factory. We not only invest big capital to enlarge the scale of production but also to the quality control system. Today our factory has 300 workers, 6 production lines, and another 5 production lines will be introduced to assure 600,000pcs per month manufacture capacity at the end of 2010.



2010 Focus

NXP8735 Linux HD DVB-S2



Features

- Fully MPEG-2/MPEG-4(H.264/VC-1) and DVB-S/DVB-S2 Compliant
- Multi-media Function (Playback TS, MKV, AVI, DivX, XviD, VOB, RMVB, RM etc.)
- Linux OS Embedded with Powerful compatibility

- Recording&Playback with External Storage Devices(e-SATA / USB2.0 / HDD)
- Support HDMI output (up to 1080i)
- PIP in One TP
- Conax CAS7.0 Embedded
- Ethernet Embedded
- <1 Watt (Optional)
- Support Youtube
- FTP Download
- USB Hub
- Support SMB
- BT Download
- CPU: PNX8735 MIPS
- Clock Frequency: 320MHz
- Flash Memory: 64M bytes nand flash
- DDR1 Memory: 128M bytes

DVB Series

Digital Satellite Receiver

- >>NXP8735 Linux HD DVB-S2
- >>ST7111 Twin Tuner HD DVB-S2
- >>ST7101 HD DVB-S2
- >>NXP CX388 Twin tuner DVB-S
- >>NXP CX303 DVB-S

- >>NXP CX302 DVB-S
- >>NXP CX301 DVB-S
- >>GX6107 Twin Tuner DVB-S
- >>GX6101 Low-cost DVB-S
- >>CT216s DVB-S

Digital Terrestrial Receiver

- >>NXP8735 Linux HD DVB-T
- >>ST7101 HD DVB-T

Digital Cable Receiver

- >>ST7101 HD DVB-C
- >>NXP CX303 DVB-C

HD/SD COMBO Receiver

- >>NXP8735 Linux HD S2+T COMBO
- >>ST7101 HD S2+T/C COMBO
- >>NXP CX303 DVB-S+T COMBO
- >>NXP CX302 DVB-S+T COMBO+CI

(Plug-in tuner function)

ST7111 Twin Tuner

ST7111 Twin Tuner HD DVB-S2

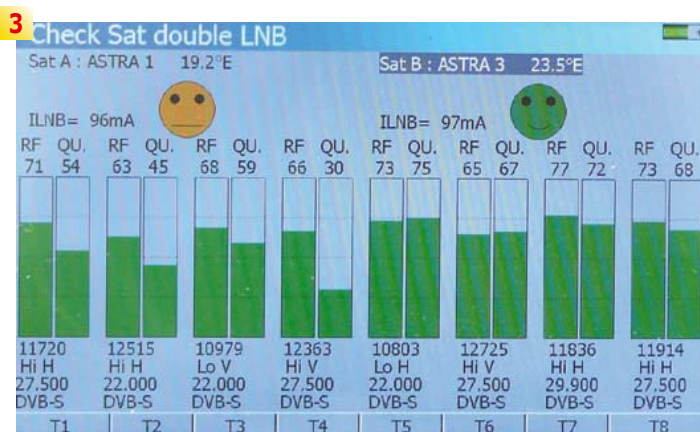
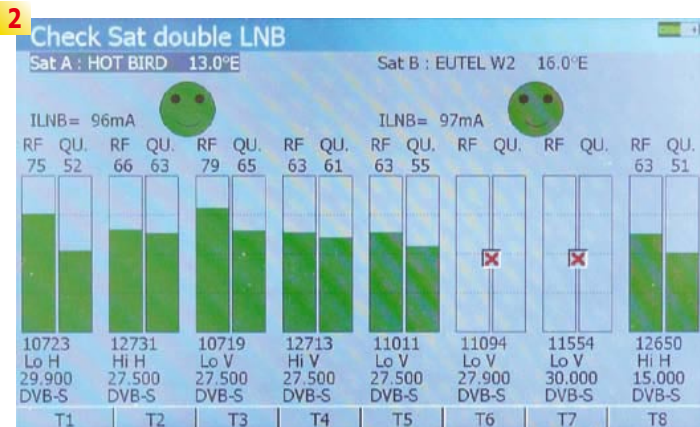
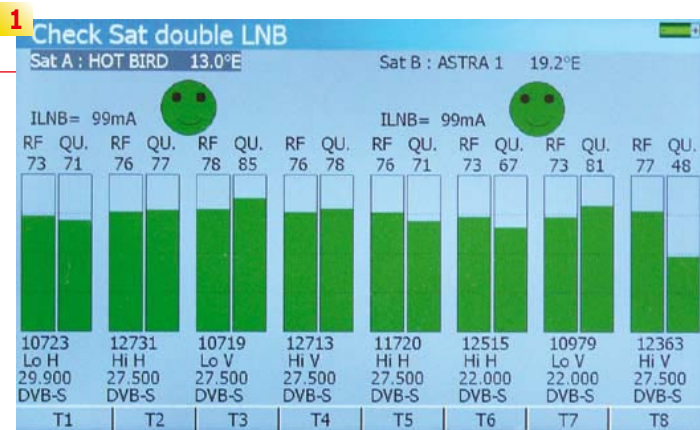
Features

- Fully DVB-S/DVB-S2 /MPEG-2/MPEG-4/H.264 Compliant
- PIP (Picture In Picture) Function
- PVR Recording (Viewing one channel and Recording another channel Simultaneously)
- Recording TV and Playback JPEG/MP3 with External Storage

Devices (USB2.0 / HDD)

- Advanced Time-shift function
- Format Resolution: 1080i, 720p, 576p
- Conax CAS7.0 Embedded
- Ethernet Embedded(Optional)

LINUX HD DVB-S2+T COMBO&HD DVB-T2 coming soon...



1. TM-1M is receiving HOTBIRD 13E (in the focus) and ASTRA 19.2E (off-center). Strength and quality of both signals is excellent.

2. TM-3D is receiving HOTBIRD 13E and EUTELSAT 16E which orbit the Earth exactly 3 degrees apart. Despite the fact that both LNBs were off-center, signal strength and quality were very good. You can see the results for 4 transponders of HOTBIRD 13E and 2 transponders of EUTELSAT 16E. 2 other transponders of EUTELSAT were outdated and therefore we switched them off during this measurement.

3. We tried to catch 2 satellites flying 4.3 degrees apart. These were two ASTRAS: 19.2E and 23.5E. As you can see, TM-3D did not ensure superb results but the reception was still possible. Should you have a smaller dish like 70-75 cm, this monoblock should be a perfect choice for such satellite spacing.

point. As you can see on the graphs with channel power, the LNB under test delivered a slightly weaker signal than our very good reference single LNB. However the signal was still in line with most of the competitors available on the market.

But what about signal quality? To compare it, we measured the MER (Modulation Error Ratio) – first for our reference LNB and then for the

TM-1M monoblock's central LNB. The results were excellent! The TM-1M was just as good as our very good reference LNB.

Next it was time to measure the off-center LNB. We compared the results with the reference single LNB fitted on the same dish and aligned it for Astra 19.2E. So the monoblock LNB was off-center while the reference LNB was positioned perfectly in the antenna's focal

point. Obviously, the monoblock LNB could not be as good as the reference.

We again noticed a slightly lower signal level but more interesting were the MER results. The graphs tell the whole story. For the great majority of transponders, the decrease in MER was only 1 dB. That's very little. It can be compared to a setup with a fixed antenna equipped with not-so-excellent LNB's.

After achieving such great results with the 6 degree monoblock, we moved on to

the TM-3D. The results we achieved were very similar to the results of the off-center LNB in the 6 degree monoblock. The decrease in MER was from 0.5 to 1.5 dB for both satellites and the monoblock had slightly lower output power than our reference. That's because our reference LNB was an exceptional device both in C/N performance as well as output power. It is really difficult to find anything matching it. To save space, we published just one graph showing the MER of the TM-3D compared with the reference.

Expert Opinion

+

The TM-1M (6 degree) and TM-3D (3-degree) monoblock LNB's are top performance devices. Even the LNB's located off-center deliver very good quality signals. Their workmanship leaves nothing to be desired.



-

There are small errors in Technomate's data sheets which may confuse the customer. For example, the feed horn mounts are specified as 40 mm for both models while the TM-3D requires a non-standard mount of 60 mm. The noise figure is specified as 0.2 dB in the attached booklet but 0.1 dB on the carton box.

TECHNICAL DATA

Manufacturer	Technomate
E-mail	info@technomate.com
Website	www.technomate.com
Function	Universal multiple LNB's for Ku-Band
Models	TM-1M 6-degree monoblock LNB TM-3D 3-degree monoblock LNB
Input frequency	10.7~12.75 GHz
Output frequency	0.95~2.15 GHz
LOF's	9.75 and 10.6 GHz
LO temperature drift	±3 MHz (-40~+60° C)
LO Phase Noise	-60 dBc/Hz @ 1kHz offset -80 dBc/Hz @ 10 kHz offset -100 dBc/Hz @ 100 kHz offset
Noise figure	0.2 dB
Conversion Gain	56 dB typ.
Gain flatness characteristics	5 dB over entire band
1 dB output compression	0 dBm min.
LO spurious	-60 dBm max.
Intermodulation (1.7 GHz)	-60 dBm max.
Image rejection	40 dB min.
Cross polarization isolation	20 dB min.
Port-to-port isolation	20 dB min.
Reflector type	Offset
F/D ratio	0.6
Operating temperature	-40~+60° C

8dtek™

Xtra-S



SIZE: 129mmx101mmx35mm

Minisat-plus S2/NIT/DSS



SIZE: 107mmx85mmx26mm

Minisat-basic S2/NIT



SIZE: 107mmx85mmx26mm

Unicable Ready



Installation Meter & Full Measurement Device for DVB-S & DVB-T
 Input Frequency : 950~2150 MHz [DVB-S] & 46~868MHz [DVB-T]
 Input Impedance : 75 Ω, Input Level -65~-25dBm
 BER, S/N (MER), FEC Measurement, [DVB-S]
 BER, S/N (MER), CON, GUA, MOD Measurement [DVB-T]
 Auto Search, Blind Search, NIT Search, Manual Search [DVB-S]
 TP Scan, Auto Full Frequency Scan [DVB-T]
 DiSEqC1.0/1.1/1.2, USALS Supported [DVB-S]
 13V/18V, 22K [DVB-S] & 5V/12V/18V/24V output support [DVB-T]
 Real Time & Multi Analyzing Spectrum for both DVB-S & DVB-T
 Dish Antenna Angle Calculator [DVB-S]
 Multi-Language OSD: English, German, French, Spanish, Italian, Swedish, Russian, Arabic, etc.
 Global Satellite List [DVB-S], Global UHF & VHF Frequency List Selection [DVB-T]
 LED & Audio Indication for Signal Lock
 Satellite Name & Degree Auto Detect & Display [DVB-S]
 Multi-Channel (8) Simultaneous Measurement [DVB-T]
 Satellite List Editable by Editor via PC
 3.5 Inch High Definition TFT LCD Screen
 RCA AV-IN Function for STB, Camera, etc
 RCA AV-OUT for External Display, TV, etc.
 Accessories : RCU, Compass, Car Charger, Adaptor, Water-Proof Bag, Shock-Proof Rubber Shield

COMBO-JET



SAT-JET



SIZE: 129mmx101mmx35mm

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Milestone DTV Device Creator

The New WiFi Option for SPAROS Signal Analyzer

Powerful Analyzer Becomes Even More Functional

The excellent SPAROS 609 satellite meter of high-quality manufacturer SPAUN has been already presented in TELE-satellite 08-09/2009. It is a very universal and powerful TV signal analyzer suitable for satellite, cable and terrestrial signals. It measures practically everything you could ever want to measure. In meantime, SPAUN has expanded its range of SPAROS signal analyzers and even added an additional measurement mode for its SPAROS series. Because everything related to basic digital TV broadcasts has been already covered by their regular device, they turned to WiFi. As IPTV gains in importance, WiFi signals play also an ever larger role in receiving TV via the Internet.

■ WiFi receiver connected to a SPAROS 609



CHINA

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CABLE RECEIVERS
IPTV BOXES
SATELLITE DISHES FOR
KU-BAND, C-BAND, VSAT
LNBS, FEEDS
MULTISWITCHES, CABLES
FIBRE OPTIC COMPONENTS

DVB-S, DVB-S2
DVB-T, DVB-T2
DVB-C, DVB-C2
ISDB-T, ATSC, DMB-TH
DOCSIS

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Email: luo.shigang@ALuoSat.com
Website: www.ALuoSat.com



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Of course, WiFi is not only used for IPTV but for regular access to the Internet too. A SPAROS signal analyzer with a WiFi extension can measure all 14 WiFi channels ranging from 2412 MHz to 2484 MHz. Each channel is 22 MHz wide. The channels overlap one another.

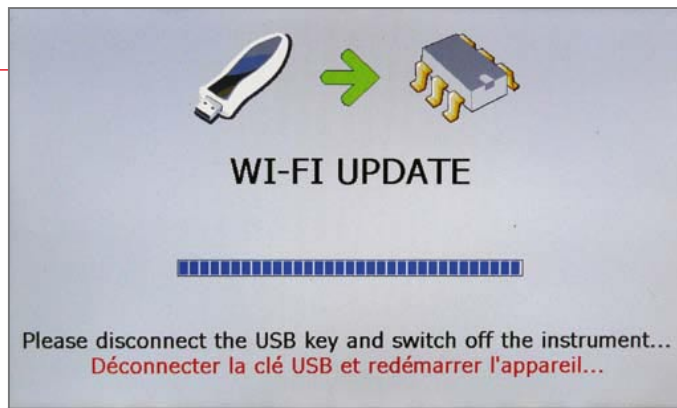
When in WiFi mode, we can make the SPAROS either show a map (table) with all detected WiFi networks, or make it measure only a selected one. Except for signal strength, we have the following information: ID of the network, channel number, channel center frequency and channel bit rates. Based on the listed bit rates, one can figure out which IEEE 802.11 protocol versions are supported by the network under test. In the attached screenshot, these are: 802.11 a, b and g. Other functions of SPAROS we know from digital TV modes, like frequency spectrum view, are inactive in WiFi mode.

When you add the WiFi extension to a SPAROS signal analyzer, the first thing you should do is upgrade of the SPAROS firmware. This is very simple indeed. You insert the USB stick that comes with the WiFi receiver to the USB port in your SPAROS and the upgrade process starts automatically. It lasts just a minute or so and

after that you are supposed to remove the stick and restart the meter. From that moment on, you will be able to see the WiFi option ticked in the meter welcome screen and the meter is ready for the extension.

The next step is naturally connecting the WiFi receiver itself. To make it operational we have to go to the menu and select a map which we want to use for the WiFi measurements. Then we switch it to WiFi mode. A single press of the "measure a map" button will start detecting the WLAN's in your location. The meter button switches the meter to single network mode in which more data about a network is displayed.

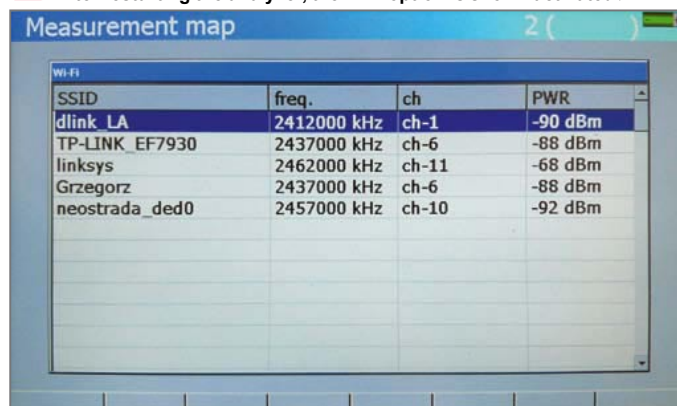
The WiFi extension for SPAROS signal analyzers is a nice addition to this powerful device. It shows us not only what networks are available in the 2.5 GHz band but also what the signal levels are. In this way we can immediately say which networks are really usable in a given location and most importantly can make a decision if signal level is sufficient for mobile IPTV. The meter also comes handy in case of installing a WiFi network in a building. Locations of the transmitter sites can be determined and checked with the WiFi extension to the SPAROS.



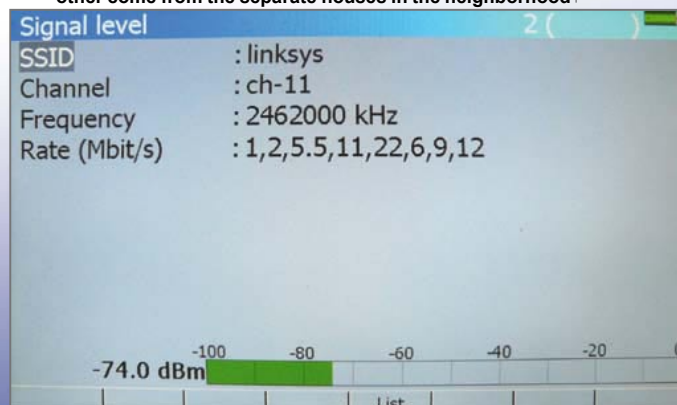
A SPAROS signal analyzer has just been upgraded to handle the WiFi measurement receiver!



After restarting the analyzer, the WiFi option is shown activated!



Five WiFi signals have been detected. Except for the local "linksys", all other come from the separate houses in the neighborhood!



Only the "linksys" network is strong enough for our notebook to link up

Expert Opinion

+ Simple installation and usage. High sensitivity of the WiFi receiver.

- You cannot store the results in a log to monitor longer periods.



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- Video resolution 576i,p/720p/1080i • Various video output (HDMI/YPbPr/Scart/CVBS)
- Multimedia functions (MP3/JPG/DivX play support) • VFD display
- PVR ready through USB 2.0 interface • RJ-45 Ethernet interface (9900HDPVR model)
- Blind Scan/Fast Scan/Unicable support • Background recording&playback while recording function

Netgear Coax-Ethernet Adapter MCAB1001

Breathing New Life Into Old Cables

Modern satellite receivers, media players, game consoles or DVD players have one thing in common: they feature a network interface. In the past, manufacturers had experimented for some time with USB or FireWire interfaces and had equipped their devices with these connection types, but in many cases the results could not meet users' expectations. While USB or FireWire is the connection of choice for hooking up external storage media, digital cameras and similar devices, they are less than perfect for data exchange, communication or remote access.

In recent years Ethernet has sprung to prominence as a worthwhile alternative and now that major chip producers are able to provide high-capacity network chipsets with high data throughputs at competitive prices, Ethernet interfaces find their way into more and more electronic

devices. TELE-satellite test centers are long-standing witnesses of this trend and these days you'd be hard pressed to find a PVR receiver that does not come with LAN connectivity. The situation today is even more striking considering that Ethernet was hardly ever used only a few years back.

However, now that most devices only wait to be connected to an Ethernet network many of us are faced with a situation that leaves them without adequate infrastructure in their own apartment or house. While WLAN might spring to mind as an appropriate solution we have to take into

account that only few home entertainment components are WLAN compatible and that longer distances over two or more floors drastically reduce WLAN transfer rates. For our purpose, WLAN might actually create more problems than it solves.

I, like so many, was facing the same problem. My satellite receiver in the living room had to be connected to the PC in the home office upstairs. I had been using WLAN but this meant I also had to get used to slow data transmission speeds at times and to the odd transmission breakdown every once in a while. It really was high time to start looking for alternatives.

A new coax Ethernet adaptor has been available in the US for a short time now and it sounded like a godsend to me. When my house was last refurbished some 20 years ago nobody thought about providing LAN cables to each room (in actual fact, this type of cable did not even exist at the time), but a clever soul decided back then to lead a coax cable to every room for distribution of terrestrial television signals.

I had been using this available infrastructure to set up my personal small cable network at home which carried the signal of two cameras as well as the UHF output signal of the living room satellite receiver. This allowed us to watch one of the cameras or the selected channel of the satellite receiver all over the place.

Naturally, this type of cabling is not suited for satellite reception as the cable is led in a linear way from one wall outlet to the next.

Then again, this is where the Netgear MCAB1001 coax Eth-



NETGEAR

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0.1dB 40mm quad

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ernet adapter comes into play, which is designed specifically for such a cable setup.

After opening the package of the MCAP1001 I discovered two Netgear coax Ethernet adapters, two corresponding power packs as well as two short coax cables with female connectors. Added to that is a software CD and an installation guide. Each of the two adapters features a terrestrial signal input, signal output, Ethernet interface and two switches on the back, one of which can be used to turn on/off LED illumination and the other is required to enter configuration mode.

As far as installation is concerned Netgear requires the coax Ethernet adaptor to be looped into the coax network. To achieve this the adaptor's signal input is hooked up to the coax output of the wall outlet. The adaptor's signal output is then connected to the device (TV, etc.) that had previously used the wall outlet. A network cable now takes care of connecting the MCAB1001 to the network and/or the devices (PC, digital receiver, DVD player, games console, etc.) that need to be linked up.

Coming back to my personal setup at home, I simply connected the coax Ethernet adaptor in the home office to the DSL modem of my Internet provider, while in the living room I created a direct link between my satellite receiver and the Netgear adapter.

To establish a connection between the two adapters I used the existing coax cabling between rooms. It didn't take long to set everything up and to supply the two Netgear boxes with power. After another 10 seconds my digital receiver had obtained its allo-

cated IP address from the DSL modem and established a connection via this newly created network.

I quickly checked whether I could access the receiver from the PC and whether the receiver was able to go online, and – as a matter of fact – both worked, making the smile on my face even broader. Could it really be that simple? Who would have thought it doesn't take a degree in IT science to establish a network connection between two rooms that are some 50 m of cable apart?

However, the smile on my face suddenly froze when I tried to call up the video from one of the connected cameras on the living room TV. The signals from these two cameras also use the existing coax cables to reach all corners of my house but grey noise was all my TV was able to produce.

Even though many of us consider it a waste of time, there are situations when a close look at the operating manual of a new gadget works wonders. So I went to look for it, only to find out that I had to download it from the Internet first, using a link provided on the included CD.

Having at hand the manual a short while later, I was able to quickly identify the problem: The Netgear coax Ethernet adapter features two operating modes. One uses the full frequency range of the coax cable, which means that additional UHF/VHF transmissions are not possible. The second mode only uses the range above 862 MHz, which allows additional transmission of terrestrial signals in the UHF and VHF ranges. By default, the adapter comes set up for the first mode, which explains

why I was not able to receive camera signals on the TV. What I now had to do is install configuration software on my Windows PC (only the Windows operating system is supported) and connect the first of my two adapters to the PC using a network cable. Pressing the configuration button activates the adapter's built-in DHCP server so that the PC is allocated an IP address and the connection between adapter and PC can then re-established for direct communication.

Netgear expressly states that PC and adapter must be directly connected to allow for reliable IP address allocation. In case a router or DSL modem is in the way configuration may not be possible. Thanks to the provided configuration tool I was able to quickly establish a connection with the adapter and to change the operating mode to allow for terrestrial TV reception. Of course the same procedure is required for the second adapter as well. Once the initial setup was recreated again, both Internet access from the receiver and receiver access from the PC worked flawlessly again, with video from my cameras on the TV providing icing on the cake.

How does it work?

The Netgear MCAB1001 uses the MoCA (Multimedia over Coax Adapter) standard. MoCA is a non-profit organisation which is working towards making existing coax cables available for network use. With the help of this standard end users are able to access their multimedia and home entertainment components more easily and conveniently and access the Internet from all these devices. To make this work the network signal is modulated in the 1 GHz band

using OFDM and is then transmitted via coax cable. The data throughput that can be achieved using this technology largely depends on the selected operating mode and may easily exceed 100 Mb/s. In its specifications Netgear states a maximum transmission speed of 270 Mb/s. Incidentally, OFDM stands for Orthogonal Frequency Division Multiplex and consists of an implementation of multicarrier modulation into a modulation process that uses several orthogonal carrier signals for digital data transmission. This is also why it is considered a special type of FDM (Frequency Division Multiplexing) in which the orthogonality of carriers to a large extent restricts the overlapping of signals.

Transmission speed

We performed several tests with a laptop PC which was either directly connected to the DSL modem or to the network interface of the Netgear adapter. Surprisingly enough, we could not detect any change in transmission speeds.

Conclusion

Those of us with existing coax cabling in the house or apartment but without availability of LAN cables might well go for the Netgear MCAB1001 coax Ethernet adapter. The system is easy to set up, worked flawlessly in our test and is able to provide very high transmission speeds. You should take note, however, that continued use of the UHF/VHF ranges is only possible with the respective operating mode which has to be selected during the configuration process. Additional signals (such as satellite signals) cannot be transmitted via the same coax cable since the required frequency range is reserved for the coax Ethernet adapter to avoid interference.



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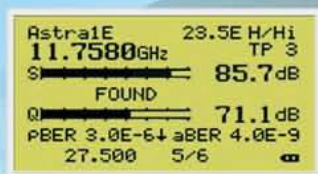
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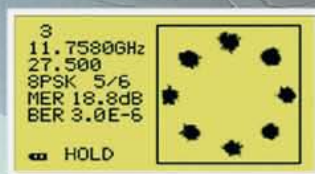
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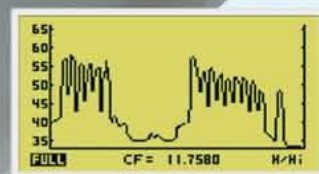
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Channel Memory	15000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
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Website	www.opensat.info
Function	Digital HD Receiver with PVR via USB
DVB-S2/LAN	• / •
Channel Memory	8000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
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Website	www.jiuzhou.com.cn
Function	Digital PVR DVB-T Receiver
DVB-T2/LAN	— / —
Channel Memory	1000
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	• / •



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Website	www.technomate.com
Function	Triple Tuner HDTV Receiver
DVB-S2/LAN	• / •
Channel Memory	10000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
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Scart/Digital Audio	• / •



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Manufacturer	Opsat
Website	www.azbox.com
Function	HDTV DVB-S2 receiver with various Multimedia & Internet Features
DVB-S2/LAN	• / •
Channel Memory	15000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
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Manufacturer	Skyworth
Website	www.skyworthdigital.com
Function	Miniature SCART Receiver with PVR Function
DVB-S2/LAN	— / —
Channel Memory	4000
DiSEqC	1.0 / 1.2 / 1.3
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Manufacturer	AB-COM
Website	www.abipbox.com
Function	Digital Linux-based HDTV PVR Receiver
DVB-S2/LAN	• / •
Channel Memory	10000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
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Manufacturer	AB-COM
Website	www.abipbox.com
Function	Digital Linux-based HDTV PVR receiver for DVB-S, DVB-S2, DVB-C and DVB-T
DVB-S2/LAN	• / •
Channel Memory	10000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / •

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Manufacturer	ABC BIZNIS
Website	www.opensat.info
Function	Digital DVB-S CI-PVR Receiver
DVB-S2/LAN	— / —
Channel Memory	4000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / —
Scart/Digital Audio	• / •



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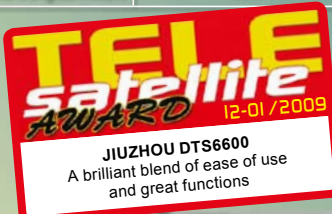
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Manufacturer	Jiuzhou
Website	www.jiuzhou.com.cn
Function	Digital PVR Satellite Receiver for SDTV/HDTV
DVB-S2/LAN	• / —
Channel Memory	5000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / •



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Turkish	Türkçe	

Manufacturer	SPAUN Electronic
Website	www.spaun.de
Function	TV Signal Analyzer with WiFi Receiver
Frequency Range	45~865 MHz (terrestrial) and 950~2150 MHz (satellite)
Video Output	RCA Composite
Built-in Monitor	7 inch 16:9 color LCD display

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Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Digital and analog terrestrial TV meter with spectrum analyzer and USB data output
Frequency Range	49~861 MHz
Video Output	—
Built-in Monitor	LCD display

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Manufacturer	SatCatcher
Website	www.satcatcher.com
Function	Signal Meter for DVB-T, analogue TV, digital DAB radio, analogue FM radio
Frequency Range	46-870 MHz
Video Output	—
Built-in Monitor	120x64 3.5" LCD color display



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Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	DVB-C and analog cable TV meter
Frequency Range	51-858 MHz
Video Output	—
Built-in Monitor	LCD display



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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-1003/tur/trimax.pdf

Manufacturer	8dtek Technology
Website	www.8dtek.com
Function	DVB Signal Meter with tv monitor for DVB-S and DVB-T
Frequency Range	950~2150 MHz (satellite) and UHF/VHF (terrestrial)
Video In/Output	RCA/RCA
Built-in Monitor	3.5" LCD color display

Manufacturer	Trimax Technology
Website	www.trimaxtec.com
Function	Satellite Meter with TV and Spectrum
Frequency Range	930~2150 MHz
Video Output	RCA Composite
Built-in Monitor	3.5" LCD color display



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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-1001/tur/nanosat.pdf

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Handheld Satellite Meter for fast and easy Dish Alignment
Frequency Range	950-2150 MHz
Video Output	—
Built-in Monitor	128x64 Pixel LCD

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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-1001/tur/optiscan.pdf

Manufacturer	Global Invacom
Website	www.globalinvacom.com
Function	Signal Analyzer with an Optical Input
Frequency Range	950(160)-2150 MHz
Optical Range	+10 to -25 dBm
Video Output	—
Built-in Monitor	Eight-digit LCD display

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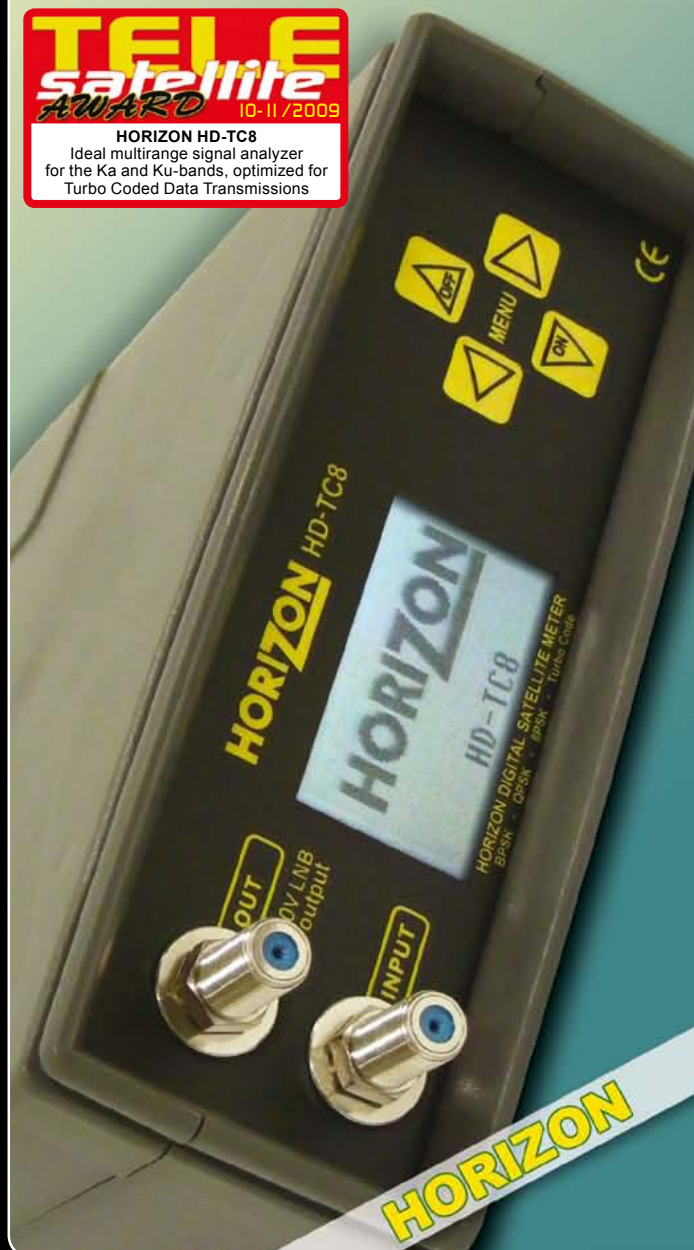
Manufacturer	SatCatcher
Website	www.satcatcher.com
Function	Fully-fledged Signal Meter with TV display
Frequency Range	930-2150 MHz
Video Output	RCA Composite
Built-in Monitor	120x64 3.5" LCD color display

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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-0911/tur/horizon.pdf

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Satellite Meter optimized for Ka-Band
Frequency Range	950-2150 MHz
Video Output	—
Built-in Monitor	LCD display



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Manufacturer	SPAUN Electronic
Website	www.spaun.de
Function	TV Signal Analyzer
Frequency Range	45~865 MHz (terrestrial) and 950~2150 MHz (satellite)
Video Output	RCA Composite
Built-in Monitor	7 inch 16:9 color LCD display



SPAUN SPAROS 609

Extremely versatile and easy-to-use state of the art TV signal analyzer

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Manufacturer	PROMAX Electronica
Website	www.promax.es
Function	Universal Satellite Signal Meter and Analyzer
Frequency Range	5~1000 MHz (terrestrial) and 950~2150 MHz (satellite)
Video Output	Scart connector
Built-in Monitor	Transflective TFT 6.5 "



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New On The Market: Golden Media



■ Golden Media's headquarters in Rudersberg near Stuttgart, Germany. 10 employees work here in a 500 Sq-m building. The General Manager Rose Chakir lives in a house just to the left of the office.

Shortly after you open this issue of TELE-satellite, a young company will be celebrating its first birthday, namely Golden Media, based in Rudersberg near Stuttgart in Germany. It was only first founded in September 2009 and has had surprising growth since then. We wanted to find out the secret to their quick success.





**Rudersberg
(Stuttgart)**



ment with the European Union in which manufactured products coming out of the Tangier Free Zone can be shipped to Europe for very low customs tariffs. She adds, "Shipping times from Morocco to Germany are just three days!"

Golden Media has discovered a very interesting niche: a production location near Europe but with labor costs from outside of Europe. Rose Chakir has some other reasons for this business strategy: "We operate here not only with very short transport distances but we also have the flexibility to modify contracts with very short notice. This wouldn't be possible if we had to ship by sea, a method that could take several weeks." And there's even another reason: "We can monitor quality with our own engineers on site since travel times between Germany and Morocco are minimal."

This business concept is interesting and the success they've had since the founding of the company proves the strategy was correct. With just 10 employees Golden Media managed sales of nearly 100,000 receivers in just their first half year.

We wanted more details about this and went to speak to Daniel Schaal. He is the company's Technical Manager and therefore knows how the receivers are equipped. He explained to us what types of receivers were sold the first six months: "60% of all of our receiver sales were HDTV models and 10% were SD models. The remaining 30% were terrestrial boxes of which 10% were MPEG2 models and 20% were MPEG4 models."

Daniel Schaal also notes that, "We're selling MPEG4 models even in countries where terrestrial is still in MPEG2 because sooner or later MPEG4 will also find its way there and customers want receivers now that won't become obsolete when that day comes."

In addition to satellite, terrestrial and cable receivers, Golden Media also provides accessories such as coax cable, satellite dishes and LNBs. As far as LNBs go, Golden Media is very nicely stocked. "We even have Combo LNBs for the C-band and Ku-band", comments Daniel Schaal, "Another highlight is our twin LNB for circular polarization." According to Rose Chakir, "we've already sold 250,000 LNBs in our first six months."

Knowledgeable readers will recognize

In one of the many small towns that surround Stuttgart that have many small but very hard working businesses, you will find three satellite dishes in front of an administration building that tells everyone driving by that this is the headquarters of a satellite company. That company is Golden Media.

Just the appearance of the building itself suits the company name but the term "gold" reminds you of the Gold Soukhs in The Middle East. Actually, this association is exactly right; Golden Media developed a concept where

a manufacturer and distributor can manage to have success even in times where price is becoming more and more important.

Who better to explain this company concept than the General Manager Rose Chakir. She explains to us: "We are working very closely with a manufacturer that produces their products in the Tangier Free Zone in Morocco."

This location all by itself doesn't quite explain Golden Media's success; she continues: "Morocco has a special arrange-

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Available online starting from 30 July 2010

■ GIM's fabrication building in the Tangier Free Zone in Morocco. Golden Media's receivers are produced here. The capacity of GIM allows production for other distributors under other brand names.



that circular LNBs aren't really used in Western Europe. So where is Golden Media shipping all of these products?

The right person to pose this question to is Ilia Velitchko, Sales Manager. He's responsible for the Baltics and Eastern Europe and explains, "40% of our sales go to the Baltics and Eastern Europe, 35% to Western Europe and 25% to North Africa."

The company was an international business from the beginning and from that we get the final reason why Golden Media was so successful right from the starting block: the employees of the company are very experienced professionals in this field.

Rose Chakir has been selling satellite receivers since 1994. Her office was her living room and her stockroom was her Grandfather's tool shed behind the house. She still lives there today and Golden Media's buildings are only four meters away on the same plot of land. She certainly doesn't have a long commute to work!

"But our warehouse here is no longer big enough", she explains, "we've rented a professional warehouse in a neighbor-



■ Ilia Velitchko is responsible for Golden Media sales in the Baltics and Eastern Europe.



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- Video bit rate adjustment range: 1.1-10Mbit/s (SD); 3-20Mbit/s (HD) ;
- Complied with H.264/AVC High Profile Level 4.0 video coding;

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▶ **Other Products :**



TP-1101 Simulcrypt Scrambler



TP-1200 TS Re-multiplexer



TP-1300 MPEG-2 Encoder



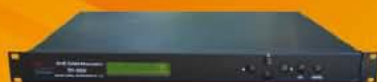
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TP-1520 Ad Generator



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**TP-3000 DVB-T MPEG-2
USB RECEIVER**



Transmitter



**TP-2100 DVB-C H.264 HDTV
TWIN TUNER PVR STB**

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■ Rose Chakir shows us Golden Media receivers in the showroom. The company also sells accessories such as cable, LNBs and multiswitches.



■ Technical Manager Daniel Schaal is heavily involved with defining the right technical parameters for their receiver products.



ing town." From there shipments go to Eastern and Western Europe. "Shipments to North Africa naturally go through our office in Morocco. We are on an expansion course and would love to work with other distributors in other countries."

Golden Media is deeply involved with local dealers in Morocco. "We're working on expanding our business into Algeria and other African countries", comments Rose Chakir regarding the company's

strategy, "but we're also expanding in Europe and are negotiating with additional distributors."

Golden Media is clearly growth oriented and is even looking for more employees: "We need people for sales positions."

A look at the future takes us once again to Technical Manager Daniel Schaal. What kind of boxes should we expect from Golden Media?

"Currently we're bringing the Uni-box series to the market", explains Daniel Schaal, "The speciality here is the tuner sockets - you can insert whatever tuners you need, for example, a satellite and terrestrial combo or even two satellite tuners."

The interesting thing about the Uni-box concept is that for all the different variations only one main board is needed. "We worked out this idea together with our development partners", says Daniel Schaal, "and production is being handled by GIM in Morocco." But there's more: "We are about to release a Linux based single tuner receiver for DVB-S/T/C; It should become available in the third quarter."

Daniel Schaal continues, "There will also soon be a DVB-T2 receiver that is being developed primarily for the British market but will also be available in Europe. In the first quarter of 2011 there will be a combo receiver for IPTV and HDTV and in the third quarter of 2011 we will have a 3D box." Obviously, Golden Media has planned its future for the near term and is focusing on products that the market wants.

We went back to Rose Chakir: what is Golden Media focusing on? "We offer excellent quality in the medium range price market and with the upcoming Linux boxes we are expanding into the higher priced market."

But Rose Chakir also sees opportuni-

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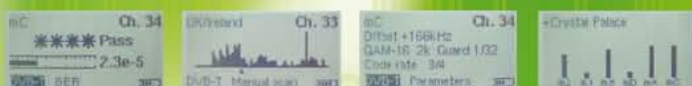
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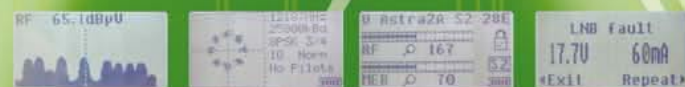
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■ Exporting formalities are handled here. Nadja Chakir, in the back, handles the Baltics and Eastern Europe while Claudia Hauger is responsible for Western Europe and North Africa.



■ Helga Pohl, in the foreground, takes care of administrative issues and in the background is Brigitte Widmaier who handles Western European sales.

ties in the lower priced market as well, "above all in the African market, but not with cheap receivers, rather with HDTV models at inexpensive prices." This is being made possible by their cooperation with the manufacturer GIM. "130 people are employed there", she says and notes that the transport costs to North African countries are even less than those to Europe.

Another important aspect is the various agreements between Morocco and many African countries. Morocco is an excellent location to lock in these new locations. "Other distributors in these areas can also link up with us", explains Rose Chakir, "either directly through us or in direct cooperation with GIM." GIM anyhow gets all the technical guidelines from Golden Media.



■ The most important part of a business: Hanan Wieland handles invoices and payments.

Golden Media has discovered an interesting niche with production in North Africa which in turn means lower transportation costs to Europe and naturally also for Africa.

With the right product selection and the willingness to work with new distributors, there's really nothing to stop this company from growing!



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Receivers made by BOXSAM

BOXSAM can easily be considered an up-start company as it was founded only in 2002 with a seed capital of 15 million USD. Starting out with CATV products BOXSAM expanded its business to cover satellite receivers and some other interesting products as well in 2004. We paid a visit to this company to learn about their way of doing business.

■ BOXSAM headquarters in Jinhua, some 200 km southwest of Shanghai. The Chinese characters on the roof mean "Science and Technology Centre" – an apt description for an ambitious manufacturer like BOXSAM.



■ BOXSAM is a private company with Xiaofeng Huang being the main investor and General Manager.



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Available online starting from 30 July 2010

BOXSAM is headquartered in the city of Jinhua in the eastern Chinese province of Zhejiang. With a population of around one million it is considered a small city by Chinese standards.

Jeffrey Zhao is Vice President of BOXSAM and his main area of responsibility is the Operator Market, which covers sales to content providers and network operators. He tells us that back in 2004 – the first year of receiver production – only 100,000 boxes left the premises. "By 2009 that figure had increased to three million receivers of all kinds, and for 2010 the target stands at five million receivers," states Jeffrey Zhao.

No production facilities can be seen anywhere near the headquarters, so

the question arises where manufacturing actually takes place. Jeffrey Zhao has the answer: "Our manufacturing premises are located 6 km away." In the beginning both administration and production were at the same place, "but demand soon outstripped capacity and so we built a 17,000 square meter manufacturing hall some time ago. Currently we are in the process of setting up a second manufacturing hall with some 40,000 square meters, which should be finished by the end of 2010. At that time we will also move our administration and offices there."

Next, a company driver appears to take us to the production building where a total of 700 employees are kept busy on four floors. "In addition, we employ

almost 100 engineers in the city of Xi'an, which hosts an outstanding technical university," Jeffrey Zhao explains.

BOXSAM's pride and joy are four SMT lines for assembling circuit boards with truly breathtaking speed: "We operate three Samsung surface-mount technology lines and a brand new one from Panasonic," Jeffrey Zhao tells on a tour around the hall. Naturally, all SMT lines are located in a clean room which can only be accessed through wind locks in which all dust particles are sucked from clothes. Artie Lee is the SMT Manager and he explains in the clean room that the four SMT lines have a combined maximum daily output of 28,000 circuit boards. "But this would mean running at top gear – on an average day we finish



BOXSAM 浙江博尚电子有限公司 ZHEJIANG BOXSAM ELECTRONIC CO., LTD.



■ BOXSAM Vice President Jeffrey Zhao in front of a display wall with a selection of the company's products.

approximately 20,000 boards." A total of 92 employees work in the SMT department to supervise insertion machines and to make sure a steady supply of required components is available.

Finally, Vice President Jeffrey Zhao points to the construction site right opposite the existing premises. "This is where our new manufacturing hall

is taking shape. We will use it also for antenna and LNB production."

This makes us prick our ears. How come BOXSAM is planning to break new ground with a whole new product line-up? "BOXSAM was granted one of the very few licences by the Chinese government for production and domestic sale of satellite antennas and LNBs. Taking

into account the fact that BOXSAM is also one of the official manufacturers for the Chinese DTH system we identified a great business opportunity and will be offering dishes and LNBs as well." While there is an endless number of dish and LNB manufacturers in China, most of them only possess export licences and are restricted from selling their products domestically in China – at least officially.

■ BOXSAM production hall with a net floor area of 17,000 square metres. The many dishes in front give a clear indication of what is going on inside.



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■ Tuner components for the mini DVB-T receiver are prepared.

It seems BOXSAM has friends in many places, not least among government officials. Jeffrey Zhao smiles and counters with interesting background information: "We are one of the suppliers to a syndicate pushing the roll-out of digital terrestrial TV (DVB-T) in African countries." Now we're talking! "We already ship MPEG-4 DVB-T receivers with built-in CONAX and chipset pairing to Nigeria, Kenya, Burundi, the Central African Republic, Rwanda and Uganda," Jeffrey Zhao reveals even more details. "Zambia, Mauritius and Guinea will follow shortly." This comes as quite a surprise

– we would never have thought that BOXSAM is one of the companies rolling out DTT in Africa!

We're even more curious now. What does the range of BOXSAM products look like with regard to turnover? Jeffrey Zhao calls up some tables on his laptop computer and states that "in 2009 some 50% of sales were achieved with DVB-S receivers, 40% with DVB-T receivers and the remaining 10% with DVB-C. The situation will be a bit different in 2010 with a production share of 40% envisaged for DVB-S, 35% for DVB-T and 15% for DVB-C. The HDTV market share with

■ View of the production hall with the RoHS assembly line (lead-free as a requirement for products dispatched to Europe, for example).

DVB-S2 receivers will increase to 10%."

Which regions are prime markets for BOXSAM products? "30% each go to Europe and the Middle East," Jeffrey Zhao goes on, "while 15% each go to South-east Asia and Africa, with the remaining 10% being exported to South America." Yet, even though BOXSAM devices can be found virtually all over the world, the BOXSAM name does never pop up in all these countries. Jeffrey Zhao explains why. "We act as an OEM manufacturer and only supply large trading partners and content providers." This, however, is set to change, as Jeffrey Zhao reveals some of the company's future strategies. "In 2010 we will enter the market with our own brand name in India, the CIS countries, the Middle East and Africa."

To that end BOXSAM has already devised campaigns and opened regional

■ Construction site of the new production hall which will cover a total of 40,000 square metres.





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■ Faults are examined in a separate clean room. This is where a BOXSAM employee uses X-rays to detect any deficiencies.

sales offices. Jeffrey Zhao proudly tells us that "in 2008 we opened an office in Spain, followed in 2009 by Dubai and by the end of 2010 both Moscow and Sao Paulo will have a BOXSAM office."

That's what we can well and truly call a global strategy and with this in mind it comes as now surprise that BOXSAM is also a regular at many special fairs and exhibitions. "In 2010 we will have stands at SET in Sao Paulo, IBC in Amsterdam and IFA in Berlin," he goes through this year's agenda. "And in 2011 we will present ourselves at CSTB in Moscow, CABSAT in Dubai, the Hong Kong and Canton Fair as well as at ANGA in Cologne."

So which innovative products will

■ Meet Artie Lee, Manager of the SMT production lines. They, too, are RoHS certified.

BOXSAM launch in the near future? "Q3 will see the presentation of a DVB-S2/T combo receiver, apart from MPEG-4 DVB-T and DVB-C receivers with built-in CONAX and chipset pairing," Jeffrey Zhao states and continues that "pay TV providers might also like the fact that we are fully NDS licensed." Apart from DVB receivers BOXSAM also manufactures ISDB-T receivers for South America and even products you might not really expect from a receiver manufacturer, such as a Worldspace radio, for example. "Unfortunately, this is only a niche product," Jeffrey Zhao admits, "and demand is quite low." A different but just as surprising product that sells remarkably well is a small DAB and FM receiver. "In Britain we're hard pressed to meet demand," he explains, "while in other countries hardly anybody asks for it." Digital DAB radio covers almost all of Great Britain, but other countries are yet to experience the DAB breakthrough. When that happens, BOXSAM will be perfectly positioned to provide required consumer hardware. Yet there's one more BOXSAM gadget that has caught our attention: tiny scart receivers for DVB-T. "One model sports a movable scart connector," Jeffrey Zhao says and explains "we sell whole truckloads of these in southern European countries like Portugal, Spain and Italy."

In the end, we leave BOXSAM with a surprising revelation: This is a company that is way up there with the best in many fields and does not hide its ambitions of becoming a global player. BOXSAM boxes are ready to conquer the world!

Production of a Power Pack for a Satellite Receiver.



1. This is what a circuit board for four power packs looks like, before it is punched in this machine.

2. Larger components are added manually to power pack circuit boards.

3. From assembly to testing: this employee checks the performance of a finished power pack circuit board.

Receiver Assembly



1



2



3



4



5



6

1. Assembly of a receiver's front panel.

2. Circuit boards are fitted into the receiver case.

3. After assembly is completed, receivers are tested on this line. Each receiver has to undergo 15 different checks, starting at this line with functional testing of the power pack. Apart from

making sure video and audio meet specifications, each receiver is even subjected to manual vibration testing. A dedicated employee is in charge of each testing station.

4. All receivers that have passed the tests are piled up here before being moved to the ground floor warehouse.

5. Rack after rack with a virtual endless supply of components for all the insertion machines.

6. BOXSAM acts as an OEM manufacturer for many trade brands and content providers. Here you can see Yimin Hong, Vice President Manufacturing, in a room with sample products manufactured for different brands.

GlobalInvacom Expands Product Palette



The British company GlobalInvacom invented the optical LNB. TELE-satellite reported on this futuristic invention back in its 04-05/2008 and 08-09/2009 issues. In the meantime, GlobalInvacom has expanded its optical LNB product palette. TELE-satellite, in the 04-05/2010 issue, introduced the newest versions, a PFA optical LNB, (until then optical LNBs were only available for offset antennas) and an expansion of the terrestrial optical LNB system in which the transmission of both satellite and terrestrial signals on two optical frequency ranges are carried on one optical cable.

But progress hasn't come to a stop at GlobalInvacom. Since the TELE-satellite 04-05/2010 issue, there have been more additions and expansions of the optical LNB system. Ivan Horrocks, Director of Sales and Marketing for GlobalInvacom, explains us the latest in optical cables, namely a ducting/direct burial cable.

This cable can be used, for example, to link two locations together where the first location with the satellite antenna is perhaps on top of a mountain and the second location might be down in a valley. The cable would simply be buried underground between the two locations and be completely invisible. It's specifically designed to be buried for long stretches underground.

■ GlobalInvacom's Technical Support Richard Brooke shows us a 50m bundle of their new optical earth cable especially designed to be buried underground. If desired, it can be custom-made (with or without attached connectors).



■ New at GlobalInvacom: a housing with four stacked ODU32 components that provides eight identical optical connections, capable of feeding 256 points.

Not only is this cable especially resistant to chemicals that might be found in the ground, its orange GlobalInvacom color would be easy to spot if underground work were ever performed at a later time where the cable was buried.

"We updated our splitter with built-in jacks", explains Ivan Horrocks while glancing at the deep black splitters available in 2, 3, 4 and 8 output versions. "The installer merely needs to connect the prefabricated cables," says Ivan Horrocks as he points out the optical connectors. The older splitter versions were fitted with fixed connector cables. This new version provides greater flexibility for installers by making it easier to match cable lengths to each specific application.

GlobalInvacom also came up with a new idea with its distribution technology. "We stacked four ODU32 components on top of each other and bundled them together in a single housing", explains Ivan Horrocks as he shows us a sample unit. "This provides eight identical optical outputs which further expands the capabilities of our system."

This variation is best suited where the distribution is not done serially, that is from one connection to the next one, but rather from one central location out in all different directions. In a case like this you'd want as many identical signal sources as well as optical connections as possible.

To top it all off, Ivan Horrocks revealed to us that GlobalInvacom is in the process of expanding its distributor network. "Up until now we were mostly active in Europe and the Middle East", he explains, "but now we are working on expanding into Asia."

GlobalInvacom already has a distribu-

tor in Malaysia; distributors from other Asian countries are invited to contact Ivan Horrocks at GlobalInvacom's headquarters in Great Britain.

GlobalInvacom is constantly expanding its product variations so that it is

always better positioned to upgrade even more sophisticated installations.

In this way the super-modern optical reception system from GlobalInvacom can always find new customers and users.



■ GlobalInvacom modified the optical splitter with connector jacks: the optical connection cables can now be directly plugged into the splitter.

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Available online starting from 30 July 2010

AB IPBox

New Manufacturer in Central Europe

AB IPBox was only established in January 2010, which might have you think it would take some time to get a foothold in a highly competitive market. On the contrary, AB IPBox counts on the expertise and technical know-how of its owners and employees. We wanted to find out more about this new player and visited the company in the small Slovak town of Topoľčany. After all, it doesn't happen every day that a new start-up enters the receiver playground.



■ A few months ago newly founded receiver manufacturer AB IPBox moved into this new building in Topoľčany, Slovakia. The same building also houses wholesale distributor AB-COM.

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References



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■ Juraj Masaryk (right), managing director of AB IPBox presents the new AB IPBox 9900HD receiver to TELE-satellite editor-in-chief Alexander Wiese. This particular model comes with various different front panel designs, which can be seen on the display shelf.

We are greeted by familiar faces in the brand-new office and manufacturing premises of AB IPBox: The managing director is Juraj Masaryk, who used to hold the same position at wholesale distributor AB-COM. Incidentally, AB-COM is located in the same building and so it comes as no surprise when Juraj Masaryk informs us that AB-COM acts as exclusive wholesale distributor for AB-IPBox in the Czech and Slovak Republics. „We do, however, also cooperate with additional exclusive distributors,” Juraj Masaryk adds, „namely in Germany, Russia, the Ukraine, Switzerland and – above all – Italy.” What an unexpected surprise: A company that was founded

only a few months ago already has in place exclusive distribution arrangements in much of Central and Eastern Europe. „In addition, we work with dealers in other countries such as the Baltic states, Poland and the Balkan states as well as Austria, of course,” Juraj Masaryk goes on.

If you look at a map of Europe it becomes obvious that Slovakia is a brilliant location for serving all countries in Central and Eastern Europe. Transport routes are short so that receivers can be shipped with very high efficiency.

Which leads us to the big question:

What is so special about AB IPBox that makes this new player so successful in all of these countries? Juraj Masaryk goes back to basics and highlights one of the major rules of any successful businessman: „We never rely on a single solution but always follow a concurrent strategy.” Not only has Juraj Masaryk a plan B up his sleeve at any time, he even works on plans A as well as B at the same time. „Experience has shown that you can never completely rule out

■ AB IPBox's top-of-the-range model: The 9900HD boasts two DVB-S2 tuners, two CI slots, two smartcard readers, two scart euroconnectors and of course PVR. A test report for this box is scheduled for one of the coming issues of TELE-satellite.



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unexpected problems. But if and when they occur, they must never stop operational processes." Juraj Masaryk uses the following example to explain what he means by that. „Once we detected a software bug in one of our receiver lines, which caused the image on the TV screen to freeze after a given time. This problem could only be solved by re-setting the receiver."

What this meant was that the products could not be released for sale. „At the time we already had a second receiver in store with totally different software, otherwise we would have had to stop supplying the market with our products." Without a plan B a major problem like a software bug has the potential to ruin a company. „This has taught us to never ever rely on a single solution only," Juraj Masaryk emphasises the company credo and refers to AB-COM wholesale distribution sharing the same building. „Thanks to close cooperation with AB-COM even our distribution processes are based on two pillars and don't have to rely on a single product group."

So what product range is on offer from a company that deliberately decides to offer much more than a single product group? Juraj Masaryk has a convincing answer: „In general, we have two product lines. On the one hand we offer Linux-based receivers which are developed and manufactured by us. On the other hand we offer SKD (semi knock down) boxes sourced from Asian pro-



■ This is what it looked like in August of 2009...

viders which produce them according to our own specifications and for which the final assembly takes place in our manufacturing hall in Europe." Final assembly in Europe has two important advantages: All boxes are submitted to stringent tests and meet all European requirements. What's more, they are classified as local products and obtain the „Tested in Europe" seal.

We at the TELE-satellite are of course interested the most in the Linux-based receiver line. „A team of four software engineers is currently working on that line, particularly on drivers for those receivers," Juraj Masaryk explains. Three models are currently available, with all of them geared towards the

higher end of the market. „The AB IPBox 9900HD Plus with two DVB-S2 tuners, two CI slots, two smartcard readers, two scart euroconnectors and of course PVR is our top-of-the-range receiver." With the two USB interfaces that are also a standard feature this box can be turned into a genuine miracle machine. „For example, you may want to hook up a DVB-T tuner stick," Juraj Masaryk suggests and shows us one USB interface on the back panel and a second one behind a flap on the front panel. „This way you have a triple receiver or – if you so desire – even a quadruple receiver."

AB IPBox 99HD and 55HD are the designations of the two other Linux receivers from AB IPBox. Juraj goes on



■ The realm of AB IPBox sales managers.



■ ... and again in 2010. The two-storey administrative building can be seen in front, with warehouse and dispatch and repair facilities in the back.

by revealing another little secret: „We will make available the SDK (Software Developer Kit) for this series shortly!“ By the time you read this issue of TELE-satellite it should already be available for download from the AB IPBox website at www.abipbox.com. „With the SDK all software tinkerers are free to whip up new software solutions and creative features,” says Juraj Masaryk and adds that a whole range of additional software plugins will be already available from the AB IPBox website for those who want even more features for their box. Internet radio, YouTube, weather forecasts or picture viewers are only some of the plugins that can be installed. „If any of your readers believes they have come up with a worthwhile application

they are free to get in touch with us and we might even decide to add it to our existing range,” Juraj Masaryk says. It’s refreshing to see that AB IPBox is open to ideas from independent software developers.

While the new HD100 series is based on the Linux operating system it is nonetheless just as interesting. „This series is characterised by value for money and is intended for use as second or third receivers,” Juraj Masaryk explains. The idea behind is that for the living room one of the usual suspects is chosen as satellite receiver, while brand and features play little or no role when used in the bedroom, children’s bedroom or even kitchen. „You don’t need to show

off your receiver in these secondary rooms, all you need is a box that works and can be hidden behind the TV,” Juraj states and at the same time hints at the reduced size of HD100 series receivers. „They are available for all transmission standards from DVB-S2 to DVB-T, DVB-C and all the way to IPTV.” If justified by demand, AB IPBox will also offer this series of receivers for ATSC and ISDB-T.

Which leads us right to the next question: What is the customer segment targeted by AB IPBox? „It is especially with HD100 series boxes that we clearly focus on the provider market,” Juraj says. „The new up and coming IPTV providers in particular are interested in low-cost



■ View of the warehouse which is jointly used by receiver manufacturer AB IPBox and wholesale distributor AB-COM.

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Available online starting from 30 July 2010



■ View of the repair shop. In case a receiver shows a malfunction AB IPBox does all repairs right here on-site.

receivers," Juraj Masaryk continues and also states that IPTV end customers in most cases already use other receivers. „In such a case size does matter – only that here smaller is better, and this is exactly one of the key features of the HD100 series."

It might come as a surprise that AB IPBox is a very lean company, despite its comprehensive product range. "A total of 24 staff are employed," Juraj Masaryk has the numbers. "16 of which work in receiver manufacturing, four are responsible for sales and another four take care of technical support." If you're interested in meeting those responsible at AB IPBox in person and in looking at all their products you may want to visit EEBC in Kiev/Ukraine this year or ANGA in Cologne/Germany next year. "Of course we also use local fairs and exhibitions as platforms for our company, such as INVEX in the Czech Republic and HI END in Slovakia. Both will take place in November," Juraj Masaryk adds.

It turns out that all that diversification talk is not just marketing chatter. For one thing, AB IPBox falls back on two different operating systems for added flexibility. And then there are the products themselves, which clearly target different market segments. Even with this multi-faceted strategy AB IPBox manages to keep prices low and remain competitive, which seems to be just the right recipe for success.



■ AB IPBox reception area: The national sales team works on the ground floor while the first floor hosts the export sales team, marketing department and management.





7



8

AB IPBox Employees

1. Radovan Cifra, Sales Manager
2. Ing. Michal Grežo, Marketing Manager
3. Svetlana Masaryková, Accountant
4. Martin Ďurisný, Service Engineer
5. Michala Kováčová, Accountant
6. Juraj Halo, Sales Manager
7. Juraj Bobula, Sales Manager
8. Peter Valo, Sales Manager

An
AB IPBox
Receiver
is Born:



6



1



5



3



4



4

1. The SDK (semi knock down) receiver components are assembled by AB IPBox to create the final receiver.

2. A female member of staff does some soldering on the receiver's main board.

3. Finished receivers waiting for final inspection.

4. Ready for dispatch: All that's still missing is the users' manual which is added with the languages required for various markets.

Schott Internet Agency - Nothing but Data. Big Time



■ The Schott Internet agency is located in this nicely sized family home. The Schott family lives upstairs, while the ground floor houses company headquarters. The VSAT antennas in the front yard point towards ATLANTIC BIRD at 12.5° West, two more dishes pick up signals in parallel from EUROBIRD 3 at 33° East. Another dish is aligned to EUROBIRD 9 at 9° East and the small antenna right in front is a Ka band dish for HOTBIRD at 13° East.

The Schott Internet agency has been in existence since 1999 and had Internet-via-satellite in its product portfolio right from the very beginning, even though that was a very new approach to Internet access at the time. It all began with 1-way technology which means that user requests (uplinks) were transmitted via conventional telephone landlines and only data downlinks were provided via satellite. While Beate Schott is the official founder of the company, her husband Stephan Schott is the mastermind behind the Schott Internet agency. Now in its eleventh year of operation the company is still domiciled in the large Schott family residence in Viereth-Trunstadt near Bamberg in northern Bavaria (Germany).



■ Interesting attention to detail: Ka band reception of HOTBIRD at 13° East is complemented with a second Ku band LNB directed to ASTRA at 19.2° East for TV reception. What was originally a round reflector later received a slightly modified shape with the help of an oval plate, so that both orbital positions can be received with this antenna in large parts of Europe – provided the horizontal beam of the Ka band is available at the respective location.



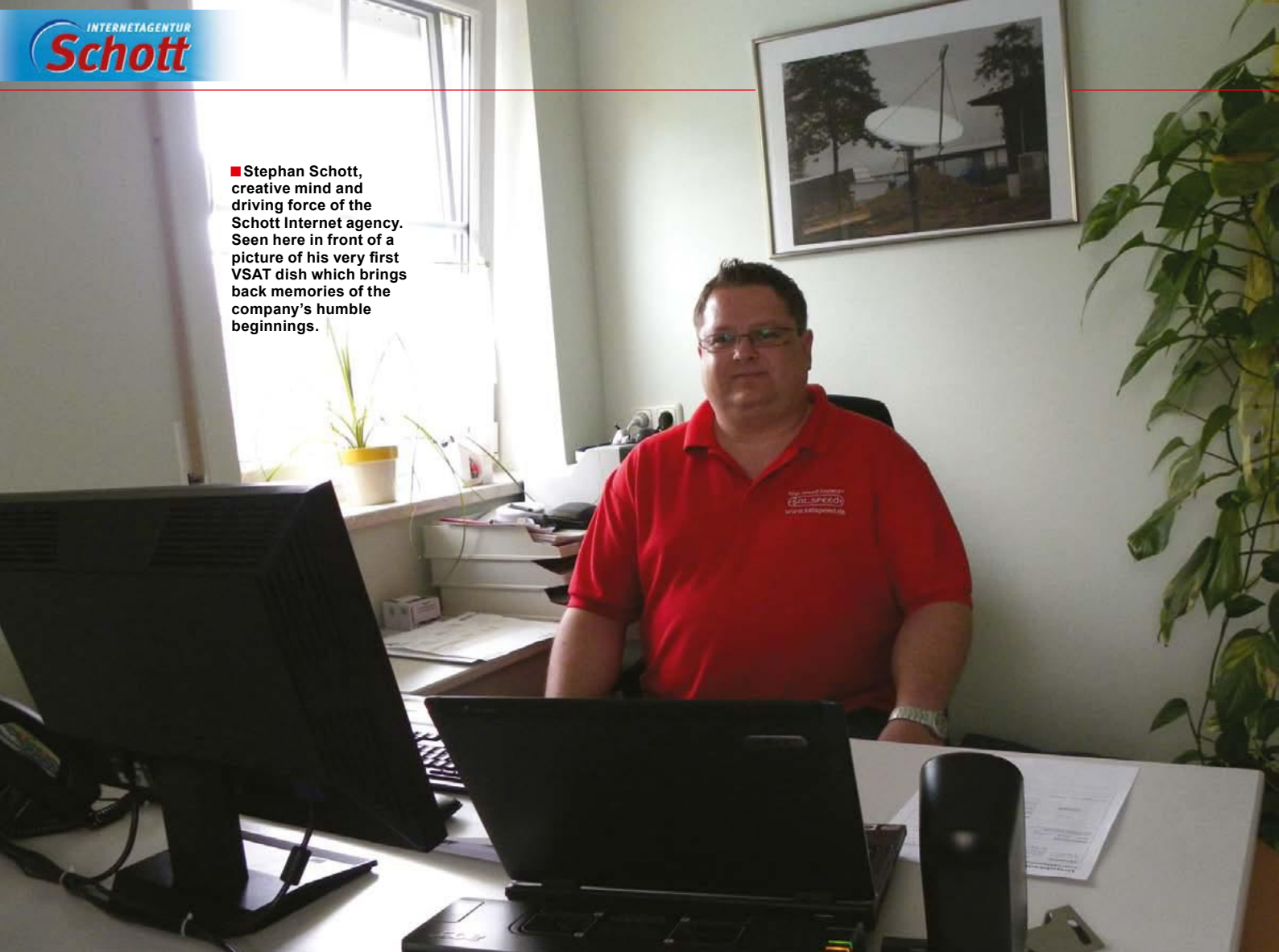
"Two additional external members of staff work full-time from their home office," Stephan Schott continues.

It is no surprise then that the Schott Internet agency is currently looking for new premises. "We're planning to hire one or two additional employees in the course of this year and there simply isn't enough space available here." While it's not certain yet where his business will operate from in future Stephen Schott reveals that "we will probably build our own company building."

Driving down the road the joint family/company home is easy to spot with its range of satellite antennas right in front of the building. Inside, Stephan Schott has reserved the basement for the company. "We have 85 square metres at our disposal," he explains and shows us a total of four rooms equipped with desks for a staff of nine.

That sounds like a major investment so it would be interesting to find out how much turnover a company like the Schott Internet agency with its eleven

■ Stephan Schott, creative mind and driving force of the Schott Internet agency. Seen here in front of a picture of his very first VSAT dish which brings back memories of the company's humble beginnings.



employees is able to generate. Stephan Schott walks down memory lane: "In our first year of business we achieved a turnover of half a million euro, but we have grown considerably ever since. After ten years we reached five million in 2009 and for 2010 we expect our turnover to increase to 5.5 million euro." What kind of services do the Schotts cover to achieve such remarkable success?

Stephan Schott explains that "first and foremost we don't act as a re-seller who only distributes existing technology. For one thing, we independently procured all our satellite capacity. Even more importantly, we also developed the technology ourselves and created our own 'Satspeed' product."

With in-house servers, company-specific compression processes and dedicated technology the Schott Internet agency is able to provide genuine 2-way Internet, which means that both uplink and downlink are transmitted via the user's satellite dish.

"We mainly use the EUTELSAT fleet of satellites, in particular ATLANTIC BIRD at 12.5 West, EUROIRD 3 at 33° East, EURO-

BIRD 9 at 9° East and of course HOTBIRD at 13° East."

This implies that all data sent via the 'Satspeed' service pass through the EUTELSAT uplink station in Turin, Italy. "However, we route all data through our own processing centre in Nuremberg in Germany," Stephan Schott hastens to add. "Our processing centre is linked directly to the Turin uplink station by way of fibre-optic lines. Our in-house technicians also use remote access for PC and server maintenance in Nuremberg."

Why are the servers located in Nuremberg rather than on site? The reason is that the Nuremberg location is perfectly hooked up to the Internet backbone network. "However, this solution also offers an added benefit: Anybody using our 'Satspeed' service automatically receives a German IP address."

Many competing service providers also fall back on the EUTELSAT infrastructure but assign Italian IP addresses because of the Turin uplink station. As more and more companies use geo-location on their

websites – which means they categorise website visitors based on IP addresses – it makes sense to use the IP address of a given country or region.

Is the 'Satspeed' service also available beyond Germany? Managing Director Daniel Steinlein has the answer. "In Spain, Greece and Croatia we cooperate with resellers who offer our service under the 'Satspeed' brand."

In other countries such as Great Britain and Ireland the Schott Internet agency has licensed its technical know-how to local providers. "In these countries the service carries the brand name of the respective provider," explains Daniel Steinlein and adds that "at the moment we're negotiating with potential licensees in Poland, Turkey and France."

This is clear proof that the Schott Internet agency is busily pursuing its European expansion plans. What started out as a grossly underestimated niche product only a few years back has developed into a market segment in its own right that witnesses continuous growth.

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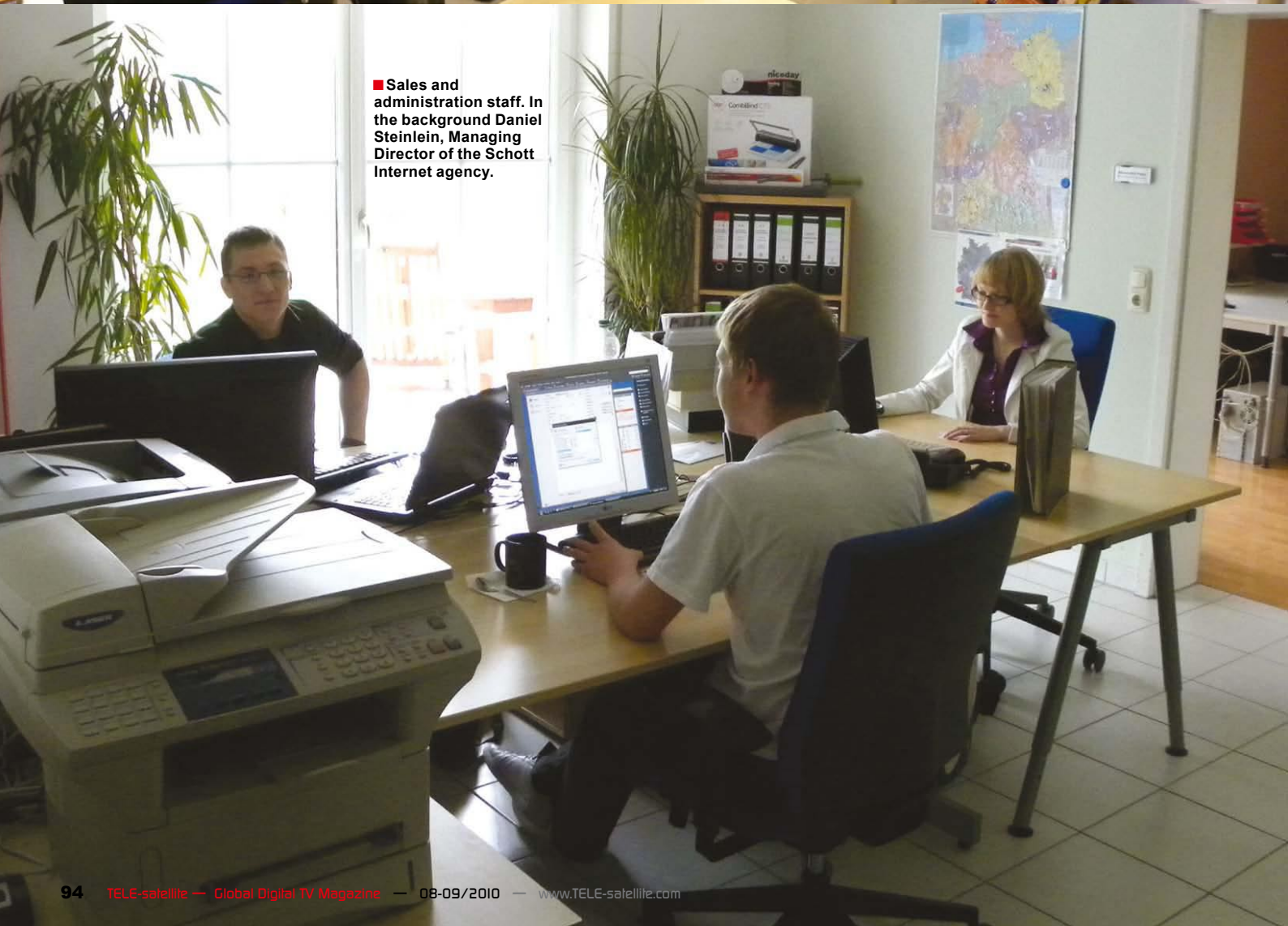


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■ Customer service at Schott: customer advisers assist clients with setting up their Internet service accounts.



■ Sales and administration staff. In the background Daniel Steinlein, Managing Director of the Schott Internet agency.



NetUP IPTV Combine 4x

Overview

The NetUP IPTV Combine 4x is an all-in-one solution designed to provide IPTV and VOD in small deployments of up to 1000 users, such as for the hospitality industry. The device includes Middleware able to handle up to 1000 IP set-top boxes, DVB to IP gateway with 4 DVB-S/S2 inputs and 4 CI slots, VOD server for 50 concurrent streams with 1 TB of HDD space for video content storage, and IPTV Billing system, all already installed and integrated. The solution allows to deploy IPTV promptly and at minimal costs. IPTV Combine perfectly suits hotels, business centers, educational institutions, hospitals, yachts, housing estates, etc.

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— true battlers

This is a young team on its way to the top in the European satellite receiver market under their own brand COMPENSAT. ABC OBIZNIS was also founded at the end of 2004 and has managed to become a major supplier of satellite receivers in the same time span. Unfortunately, the path to success was cluttered by the tragic death of the company's founder in 2008. We wanted to find out how ABC OBIZNIS was able to cope with this tragic event.



"The tragic accident happened with a sudden blow. It was a great shock for all of us. We were all very close to the founder. He was a very hardworking and very talented person. He was the one who started this company and he was the one who made it what it is today. We are all very sad about his death, but we are also very proud of what he has achieved. We will continue to work hard to make the company even bigger and better. We will miss him very much, but we will keep his memory alive by continuing to work hard and by achieving the goals he set for himself."



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ABC OBIZNIS



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Satellite Receiver Manufacturer, Slovakia

COMPANY REPORT | Receiver Manufacturer AB IPBC, Slovakia

AB IPBox New Manufacturer in Central Europe

AB IPBox was only established in January 2015, which might have you think it would take some time to get a foothold in a highly competitive market. On the contrary, AB IPBox counts on the expertise and technical know-how of its owners and employees. We wanted to find out more about the new player and visited the company in the small Slovak town of Topolčany. After all, it doesn't happen every day that a new start-up enters the receiver playground.

AB IPBox is a small company with a big vision. The company is focused on the development of new receiver models and the expansion of its product range. The company is also active in the field of receiver testing and certification.

Satellite receivers

AB IPBox

Jozef Hlavinka, co-owner and managing director of AB IPBox, is a former engineer at the Slovak Radio. He has been working in the field of receiver testing and certification for many years. He is also a member of the Slovak Radio Association.

AB IPBox

The idea started for Jozef Hlavinka in the autumn of 2014. He was looking for a new challenge and wanted to start his own business. He decided to focus on the production of satellite receivers. He had a lot of experience in the field of receiver testing and certification, and he wanted to share his knowledge with others. He also wanted to create a company that would be able to compete with the established players in the market.

AB IPBox is a small company with a big vision. The company is focused on the development of new receiver models and the expansion of its product range. The company is also active in the field of receiver testing and certification. The company is currently working on the development of a new receiver model, which will be able to receive signals from a larger number of satellites. This will allow the receiver to be used in a wider range of locations.

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COMPANY REPORT

Executive Interview: DOBBS

"Only the Best"TM Alexander Wiese

Only the best receive excellent brand quality, that is certainly understandable. However, for Alexander Wiese, CEO of the German company, it is a matter of principle to hire only the best. The concentration on quality naturally is a natural consequence of focusing on specific markets and price segments, but also a direct consequence of the company's growth strategy. The concentration on quality naturally is a natural consequence of focusing on specific markets and price segments, but also a direct consequence of the company's growth strategy.

Founded in 1987 by three businessmen, this company has since grown to a global company. With a total of 1,500 employees, it is a family-owned and run company. The company's success is based on its commitment to quality and its focus on the automotive and industrial sectors. The company's success is based on its commitment to quality and its focus on the automotive and industrial sectors.

Interview: Alexander Wiese, Managing Director, Alexander Wiese

Alexander Wiese, CEO of DOBBS, is a man of many talents. He is a former professional athlete and a successful businessman. He is a man of many talents. He is a former professional athlete and a successful businessman.

Interview: Alexander Wiese, Managing Director, Alexander Wiese

Employees working in a modern office environment. The office is equipped with the latest technology and has a professional atmosphere. The employees are focused on their work and are committed to the company's success.

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Employees working in a modern office environment. The office is equipped with the latest technology and has a professional atmosphere. The employees are focused on their work and are committed to the company's success.

26

Advertisement for DOBBS, a company specializing in satellite dishes and related equipment. The text mentions 'Alexander Wiese, CEO of DOBBS' and 'Only the Best'.

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INFOSAT



Satellite Dish Manufacturer, Thailand

COMPANY REPORT Dish Antenna Manufacturer INFOSAT, Thailand

Innovation Out of Thailand

Even a long-standing product such as a C-band antenna still has room for improvements. A few months ago, INFOSAT in Thailand introduced a U.S. market engagement strategy to the market. The result was immediate success! The driving force behind this new product is Nong Tangsomphon, founder and owner of the company. INFOSAT is not new to the pages of TELE-satellite; we previously reported on him and his new line in TELE-satellite issue 02-03/2007 and 02-03/2008.

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JIUZHOU



Satellite Receiver Manufacturer, China

COMPANY REPORT DTT at Jiuzhou, China

Terrestrial Receivers at Jiuzhou

Our readers are very familiar with Jiuzhou - have a look at TELE-satellite issue 02-03/2007. In 2008 Jiuzhou celebrated their 10th birthday and moved into their new Jiuzhou Electric Building (see TELE-satellite issue 02-03/2008). In September 2009, when the Shenzhen Metro Line 1 was extended, Jiuzhou became close to a Metro station. It's a five minute walk to the station which has a nice and fitting name: "Ji Tech Park".

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MOTECK



Antenna Motor Manufacturer, Taiwan

COMPANY REPORT Antenna Motor Manufacturer MOTECK

MOTECK's Motor Professionals

Having founded in 1996, MOTECK has been a leading manufacturer of satellite motors for over 13 years. The company's products are widely used in the satellite industry and have a good reputation in the market. MOTECK's products are known for their high quality and reliability. The company has a strong R&D team and a complete production line. MOTECK's products are sold in many countries and have a wide market share.

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SKYWORTH



Receiver Manufacturer, China

COMPANY REPORT Receiver Manufacturer Skyworth, China

Quality Control at Skyworth

One of the largest receiver manufacturers in the world is Skyworth. Skyworth Group Co., Ltd. is one of the leading manufacturers of TV sets in China. The company started its research as early as 1970 and in 2002 a subsidiary was established under the name of Shenzhen Skyworth Digital Technology Co., Ltd. These 33 years of experience in satellite technology made the company more and more professional. In 2007, Skyworth claims to be the leading STB and set-top box manufacturer in China.

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www.TELE-satellite.com/TELE-satellite-1003/eng/skyworth.pdf

SVEC



Professional Dish Manufacturer, China

COMPANY REPORT Professional Dish Manufacturer SVEC, China

SVEC Dishes from Chengdu/Sichuan

Alexander Wiese

The Sichuan province is well known outside of China for its spicy cuisine. A natural favorite is the "Hot Pot", in one pot with two separated sections a very spicy soup and a mild soup are heated up into which ingredients are used to cook in different types of food for a few minutes. This could be many slices of meat or vegetables. Along with that you drink sweetened strong tea to offset the spiciness of the Hot Pot. The company SVEC in Sichuan's capital city of Chengdu, a city with eight million inhabitants in southwestern China, has its own spicy menu. SVEC is looking for new challenges adding to their production of satellite dishes; they want to play a much bigger role in the world market with high quality products.

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YINHE



High Volume Receiver Manufacturer, China

COMPANY REPORT High Volume Digital TV Receiver Manufacturer YINHE, China

Organized for the Future

Receiver Manufacturer YINHE Presents Their Factory

Alexander Wiese

Chinese high volume manufacturer YINHE is one of the top five producers in China. Although this company is well known within China, it is only the readers that recognize the name YINHE outside the country since abroad it is only an OEM. In other words, the YINHE designed boxes (Original Design) are marketed by other companies, primarily dealers and programming operators, under their own brand name. YINHE therefore is just the manufacturer (OEM) and for the time being it will stay that way. There are no plans for YINHE to move into the export market with their own brand name. But don't look like inside one of these high volume manufacturing plants TELE-satellite wanted to find out.

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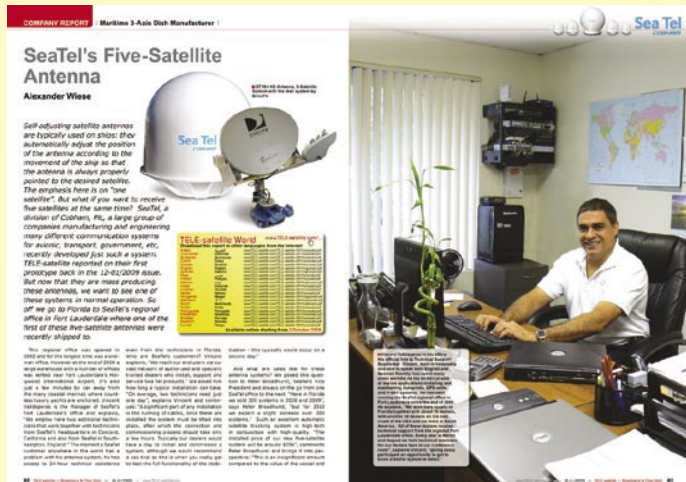
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Jiri, the Racer

Jiri Vanek lives in Jablonec nad Nisou, a Czech town with a population of 50,000. In younger years he used to do race driving – "I even came in third once with my Skoda 130RS in a mountain race," Jiri proudly remembers. Car mechanic springs to mind as an ideal profession for a race driver, and that's actually what Jiri has done for a living. He used to spend long hours at the turning lathe and with this technical background it's only a small step to becoming a satellite enthusiast with a special liking for rather individual solutions. In Jablonec nad Nisou (incidentally, the Czech word jablon means apple tree) Jiri's house can easily be spotted thanks to the many dishes mounted all over.

■ Satellite enthusiast Jiri Vanek and his 2.6m dish.

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■ Jiri Vanek in the attic of his house: The difference between all those shiny satellite receivers ("Currently I have 20 of them," he adds up) and rather out-of-fashion CRT TVs could not be more striking. Jiri focuses on technical reception aspects and could not care less about what's on TV.



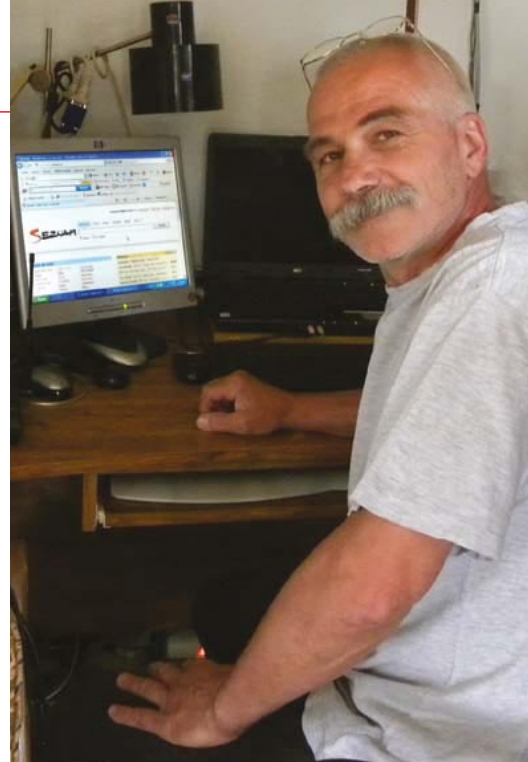
■ Have you ever wondered what the home of a true satellite enthusiast looks like? Here we are at Jiri's house, covered all over with satellite dishes and not minding what his family or neighbours think. On the left (in the garden, waiting for assembly) a 2.5m dish, a 1.8m Ku band dish on the wall, and a smaller 1.3m offset dish below which is also for Ku band reception. The large antenna in the centre is Jiri's main dish and boasts a diameter of 2.6m. It has been used in a professional environment before and therefore even comes with a heating system. This antenna is used for C band reception. On the right there is a 2.4m dish mounted on a 7m pole. Incidentally, all dishes are equipped with actuators and thus can be rotated, with the two large dishes featuring motors for both elevation and azimuth. This way the dishes can be rotated in all directions. "I use the CHAPARRAL Monterey motor control," Jiri explains – a unit that has been out of production for some time now.

The attic of Jiri's house is filled to the brim with receivers of all sorts. While watching a Chilean channel beamed from INTELSAT 805 he tells us of how his hobby gradually turned into passion. "In the year 1986 I set up my first satellite antenna." At the time Europe saw its first satellite channels spring up and Jiri was fascinated by this emerging transmission technology right from the start.

It wasn't long before he added a second satellite antenna (this time with a diameter of 1.4 m) and in 1996 he installed his first C band dish. "That year I spent my vacation in South America and was amazed by all the really huge C band antennas there," Jiri remembers. Back home the first thing he did was get a large C band antenna, of course. When asked about his favourite channels it turns out he doesn't like to watch TV too

much. What sounds odd at first seems to be a common trait of many satellite enthusiasts: It's not what's on TV that is important, but how to master technical challenges and find solutions for tricky reception problems. The journey is rated much higher than the destination, so to speak.

Of course with his technical background and metal-working skills Jiri is in an excellent position for overcoming problems. "I even built a number of polarisers myself," he states with pride and points to his LNB rotation motors. His workshop is a genuine treasure for all kinds of LNBs and polarisers and impressive proof of his long-standing commitment to satellite reception. His passion even goes as far as to offer other satellite DXers help and support in his free time so that their installations can deliver the same results



■ Jiri in front of his PC, updating the website of his DXer club.

■ The back of the huge 2.6m dish can be seen when looking out of a window. Note the way Jiri solved the problem of pole mounting: He used empty drums which he only filled once the construction was completely set up.

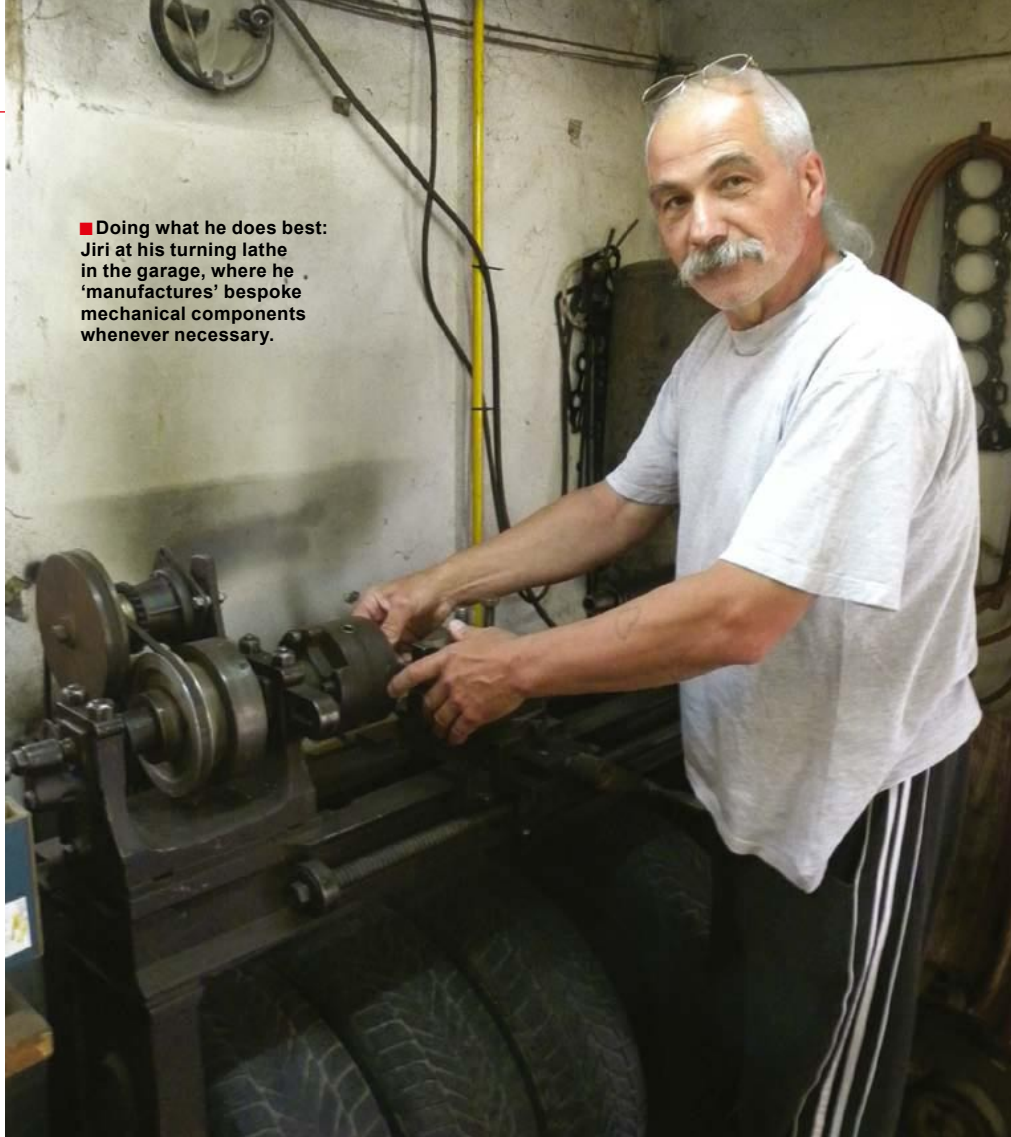


as Jiri's. "Recently I set up a dedicated DXer's club, which currently has 27 members in the Czech Republic and three in Slovakia," Jiri continues. The club's name – "Vanspeed Sat DX Klub" – suits perfectly when we take into account that Jiri also used the name Vanspeed when he was a self-employed car mechanic. "You can see many photos of various satellite antenna installations on our website at <http://vanspeed.myspace.cz>," Jiri goes on and adds that club meetings take place two to three times a year for exchanging opinions and ideas. "We're always happy to welcome any DXer to our meetings, no matter where they come from," Jiri extends an invitation to interested readers.

When asked about his plans for the future Jiri has a surprise in store. He is planning to set up a 6m dish shortly. "I already ordered all components and am currently working on the mast construction." Jiri hopes to be able to receive CHINASAT 9 at 92.2° East with this monster antenna, but that is something that remains to be seen. "Elevation is extremely low, but perhaps it's possible nonetheless," Jiri expresses his hopes.

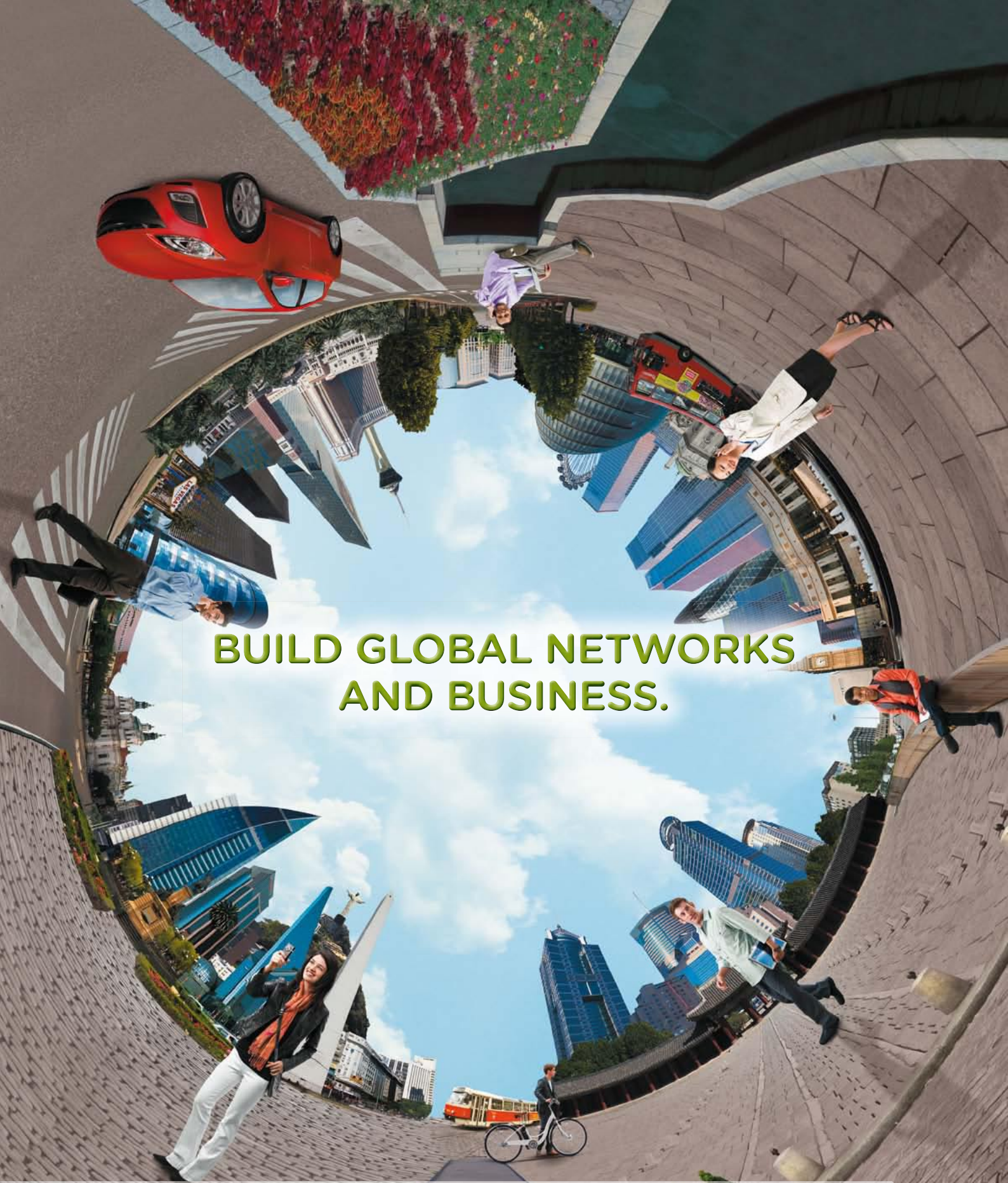
His house stands on one of the town's hills, so chances are CHINASAT signals will actually make it all the way to Jiri's house – at least in theory. One thing is for sure, though: We'll all keep our fingers crossed.

■ **Doing what he does best:** Jiri at his turning lathe in the garage, where he 'manufactures' bespoke mechanical components whenever necessary.



■ **Proudly made by Jiri:** Two samples of his work – polarizers which rotate the whole LNB. All mechanical components seen here are custom-made by Jiri Vanek. The upper model is for Ku band reception, and the lower model for the C band.





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Satellite Reception with a 19 Metre Dish

30 Years of Satellite Reception and Uplink in Usingen near Frankfurt

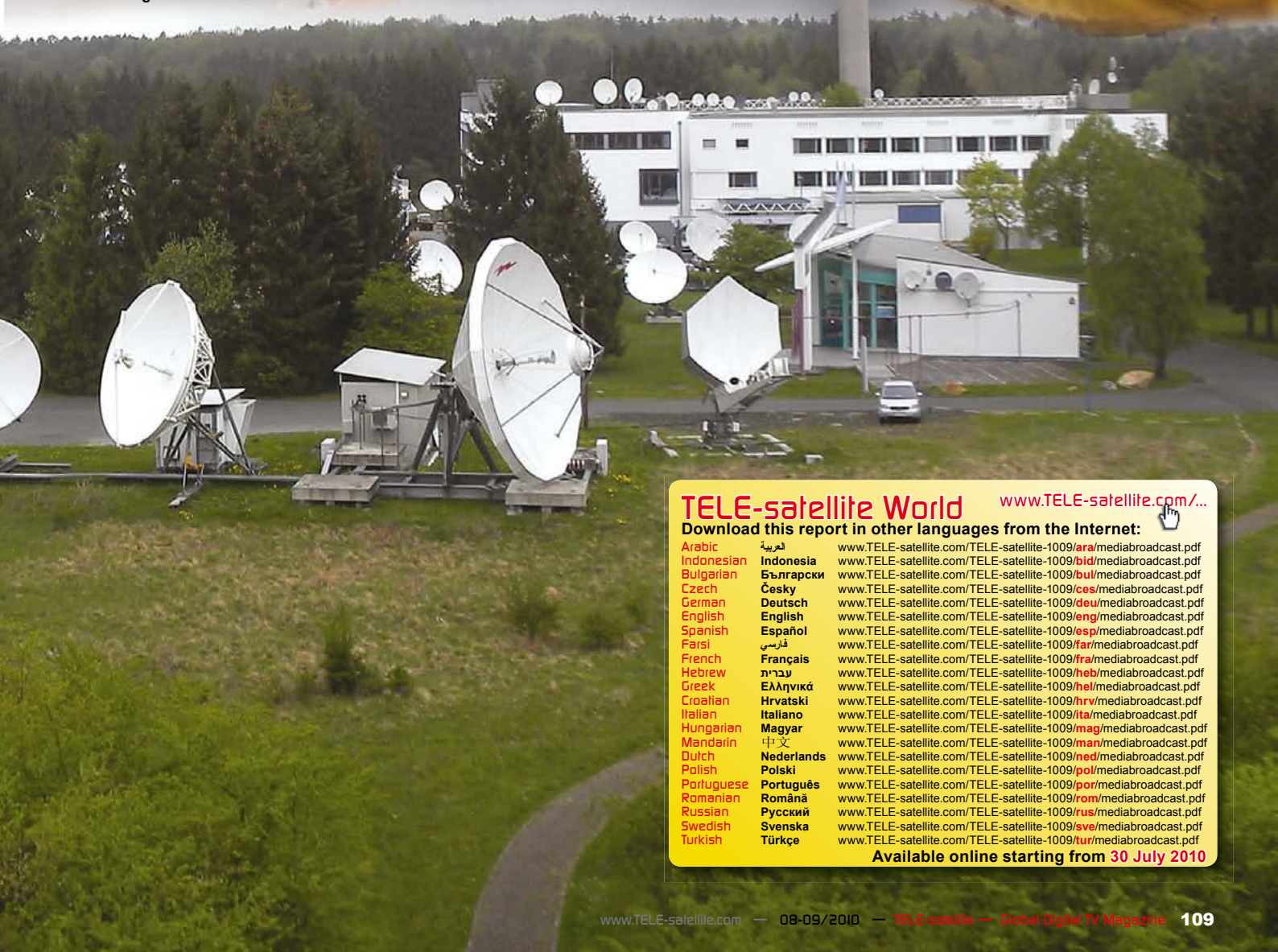
In an age of ever decreasing antenna sizes and only very few satellite DXers using large dishes it's a welcome change to explore really huge antennas close-up. These can only be found in professional settings, of course, and in particular where TV channels are beamed up to a satellite: at satellite earth stations. One of Europe's top 5 stations is located close to the small town of Usingen, not far from Frankfurt in Germany.

■ View of a section of the Usingen earth station, which boasts a total of 110 antennas.





■ Station manager Lothar Stöckmann (left) sums up the technical details of the Usingen earth station for Luo Shigang (right), technical editor of Chinese specialised magazine "Satellite TV & Internet IP" in the station's meeting room.



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■ Antenna no. 2 with a diameter of 19 metres. Earth station manager Lothar Stöckmann stands in front of the dish with his arms spread apart to demonstrate the sheer size of this antenna.

A total of 110 satellite antennas on an area of 1.2 million square metres are any DXer's pure delight! All this equipment is used commercially, though, and each single dish is assigned a specific task. Lothar Stöckmann is the manager of the Usingen earth station and tells us of how it all began. „80 years ago this area was being used as a field airstrip.“ The reason was that the surrounding mountains held back rain clouds and wind gusts with the effect that „average rainfalls are much lower here than in Frankfurt, for example,“ Lothar Stöckmann highlights the peculiarities of that part of the world.

Back then all electronic communication between Germany and the rest of the world was routed through Frankfurt and when data loads became more and more demanding and a new shortwave station

was being planned in 1955 the Usingen region with its favourable weather conditions came to mind. Soon after, the former field airstrip was converted into a transmission station, because less rain invariably means less interference in shortwave and satellite transmissions.

At the time, however, nobody talked about satellites. „It was only on 1 February 1979 when our first 18.3 meter satellite antenna became operational,“ Lothar



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■ Inside one of the huge antennas: hollow conductors are used to guide and switch satellite signals.

> Usingen Teleport		
Antenna Farm	No.	Satelliten Position (example)
 11 m – 19 m	8	➤ Intelsat 10, 704, 902, 903, 905, 907 ➤ Eutelsat Eurobird 1 und 2 ➤ Arabsat BADR-6
 7 m – 9 m	6	➤ Intelsat 706 ➤ Eutelsat Eurobird 9 ➤ Astra 1E und 1F
 3,7 m – 5,6 m (inkl. trailer mounted antennas)	46	➤ Intelsat 1R, 3R, 12, 702, 904, 905 ➤ Eutelsat EB 3, HB 6, 8, W2A, W6, W7, AB1 ➤ Astra 3A ➤ Express AM1, AM 22 ➤ Sirius ➤ NSS 703 ➤ Telstar 11N

Page 35
Usingen Earth Station, Stöckmann, 12.12.2009

■ Slide with a list of satellites from and to which signals can be transmitted from Usingen.



■ The Usingen earth station is a professional operation which means that failures of the public power grid must be compensated. Seen here is one of two diesel generators which are capable of providing enough power for all transmission components. Approximately once a year there is a real power failure (if a power line is cut during road works, for example) and in such a case the back-up systems starts automatically. "About twice a year we experience scheduled power outages which are necessary for maintenance or repair of the grid, for instance," the responsible technician explains. "Apart from that, we let the diesel generators run at capacity for a certain period of time every three months to make sure the engines stay operational at all times." Whenever this is done any excess power is even fed back into the public grid. "We have enough diesel available to run our generators for four weeks in a row," the technician emphasises that the Usingen earth station is self-sufficient for prolonged periods.

Stöckmann remembers. In that day and age this was a sensational story, considering that „in the whole of Europe only a handful of similar dishes were being operated. At first we only performed tests for OTS.“ Mind you, however, we're not talking satellite TV but attempts to transmit digital data for voice communication. It was more than two years later, on 14 July 1981, that the first antenna for satellite TV was commissioned. „It was used for INTELSAT V,“ Lothar Stöckmann states and adds „our transmission only partly dealt with television, the remaining capacity was used for voice data.“

Things really got moving in 1984 when the first commercial TV stations from Germany were beamed up to the first TV-only satellite. Starting from 1 January 2000 the first digital DVB-S signals have been transmitted to satellites from Usingen.

It was the German Post Office that initially founded the Usingen earth station. During the course of going private of public corporations in Germany the time had come also for the Usingen earth station of leaving behind state ownership. Today, Media Broadcast, a division of the leading European broadcast and media provider TDF, runs the earth station. TDF has a total workforce of more than 5000 employees, some 1150 of which work for German operating company Media Broadcast.

Media Broadcast takes care of the technical transmissions of more than 850 German program providers. Added to that are 110 content providers from

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abroad, such as American Forces TV for which Media Broadcast provides transmission technology. For Czech Television network CR the company uplinks all

■ **The battery room:** all electric power drawn from the public grid runs through these batteries at all time. This in turn means that the batteries can take over immediate power supply in case of sudden power failure or outage. Think laptop computer: whenever you unplug the power cord from the mains, the internal battery pack takes over and provides power without interruption. Seen here is Holger Crump, press officer of Media Broadcast, next to rows of 200 batteries each. With a voltage of 2 V per single battery each row provides 400 V. With this huge amount of cells the Usingen earth station can be run for two hours without any external power supply. You might wonder why all this equipment is needed if the diesel generators are supposed to go on immediately anyway in case the power grid fails. The reason is not to avoid a single second of content not being transmitted, but rather to make sure all servers keep running. "After one minute without power all servers are set back to zero," Lothar Stöckmann explains. "And since virtually everything is server-based these days the cost of rebooting hundreds or even thousands of servers by far outstrips the cost of all these batteries."

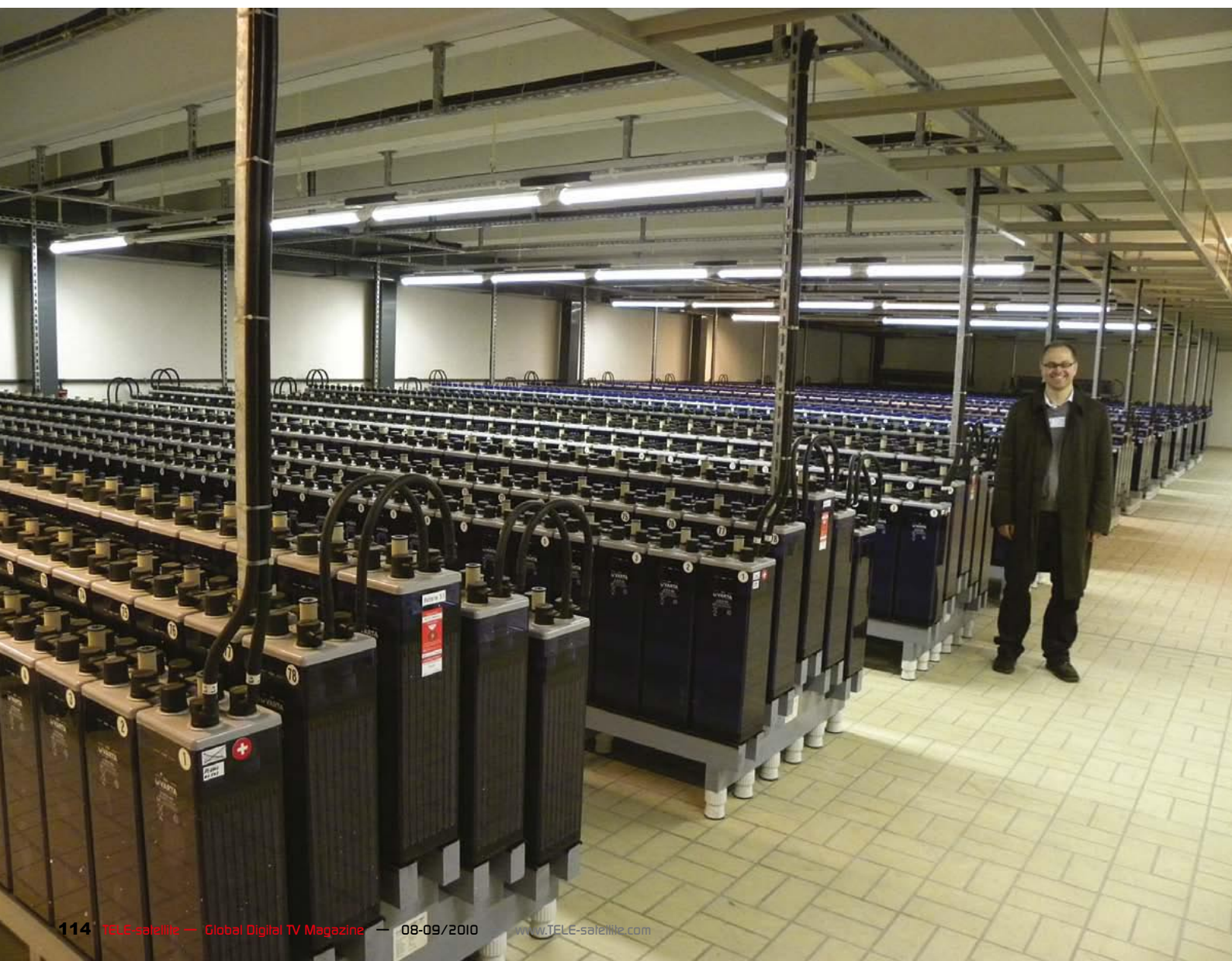
HDTV broadcasts. Media Broadcast also provides technology for the in-house TV network of a major automaker.

One of the more peculiar aspects of the company is that fact that it also operates the DVB-H network in Austria right from its Usingen location. Lothar Stöckmann lets us know how that comes about: "Commercial TV channels are received here in Usingen, and in addition we receive additional channels from Austria via fibre-optic cable. We then bundle all channels into a single multiplex, reduce the data rate to DVB-H standard and send the complete package back to Austria via fibre-optic cable. In Austria these channels are transmitted via DVB-H countrywide to all service subscribers."

This clearly demonstrates that the Usingen earth station is not only active in satellite transmissions but also right on track when it comes to implementing

new technologies. "Our control centre handles the complete IPTV offer of Deutsche Telekom as well," Lothar Stöckmann continues. "Almost 200 TV channels are picked up here – in part directly via satellite and also via dedicated data lines. We use these signals to create an IPTV signal which is then available all over Germany."

The Usingen earth station is a fore-runner when it comes to technical innovations, but even technology that is classified as a thing of the past by some still serves a very useful purpose. Lothar Stöckmann gives us a brief run-up of an upcoming project: "We will install another 11 metre antenna for the C band this year." This makes the Usingen earth station nothing short of a paradise with tried-and-tested satellite technology side by side with the latest digital innovations. Once you're here you'll never want to leave again!





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* some
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■ DVB-T

MPEG-4

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Spain**
Uganda
Ukraine*
Vietnam
Zambia

Digital Terrestrial Television of the World
Dominant System per Country

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Global Digital TV Magazine

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Chile
Ecuador
Paraguay
Peru
Venezuela |  DMB-TH
China |
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Edited by
Branislav Pekic

EUROPE

EUROPE

SES ASTRA LAUNCHES 3D DEMO CHANNEL
SES Astra has launched Europe's first 3D demo channel which is available free-to-air via the 23.5 degrees East orbital position. It will initially target retailers and installers featuring high quality 3D content including sports, music and entertainment.

FOOD NETWORK HD LAUNCHES ACROSS EUROPE

Food Network has launched an HD service across the EMEA region. It has also partnered with Orbit Showtime Network (OSN) on the new HD service in the Middle East and North Africa. Food Network's HD service follows on the heels of a standard definition version of the network, which launched to around 10 million EMEA households in February.

TRACE PREPARES FOR LAUNCH OF HD CHANNEL

French broadcaster Trace TV has partnered with UK sports production company IMG Sports Media Production to provide HD content for its new sport and lifestyle channel Trace Sports HD. The deal includes up to 250 hours of premium original HD content.

ITALY

SONY RECEIVES DGTVI CERTIFICATION FOR HDTV SETS

Sony has signed an agreement with Italy's DGTVi for HD certification, enabling customers to access the pay-TV services of major Italian broadcasters. All Bravia LCD TV models include the Slot Common Interface Plus (CI+) to access pay-TV channels on DTT in HD. The Silver label indicates the TV sets that integrate the HD tuner and the slot for CI CAM+ capable of receiving the HD channels both free-to-air and pay-TV. The Gold label means the TV set also permits the reception of numerous interactive services.

ITALIANS TO WATCH WORLD CUP IN 3D

The South Africa World Cup will be the first in Italy to be available in 3D, with selected games screening on 20 movie screens belonging to Space Cinema. The company will air about a dozen key matches starting in the final days of the second round, including all of the games from that point and onward featuring Italy. Tickets will cost between €10 and €15.

MALTA

MELITA LAUNCHES HDTV SERVICE

Melita has launched a HD service and a new netbox HD, which features an innovative EPG and media centre and includes a 320 GB hard disk and USB inputs. Besides sports content, including live World Cup matches, Melita's HD content includes 10 new HD channels which will be added for free to the XL channel line-up. Melita is waiving the €10 monthly rental fee of the set-top box until October 1. Customers who are currently subscribed to Melita's digital television may keep their digital set-top box on another TV for free until December 31.

NORWAY

VIASAT DISTRIBUTES TV2 HD CHANNELS

Viasat Broadcasting will distribute on its DTH satellite pay-TV platform the three premier league HD channels of TV 2. The channels TV 2 Premier League HD, TV 2 Premier League HD 2 and TV 2 Premier League HD 3, will be available for Viasat's subscribers from the start of the 2010/11 season in August 2010 until the end of the 2012/13 season.

POLAND

BBC HD LAUNCHES IN POLAND

BBC HD has launched in Poland, initially being available on satellite platform N and cable provider UPC Polska. BBC Worldwide Channels said the network's launch is the first step in a new partnership between the channel distributor and N.

SERBIA

TOTALTV LAUNCHES HYBRID TV SERVICE

TotalTV has announced the launch of new hybrid services, enabling the reception of both DVB-T and DVB-S signals via a hybrid HD/DVB-T box. The software for the TotalTV receiver was created in cooperation with NDS Group.

UNITED KINGDOM

HD HELP INCREASE PROFITS FOR BSKYB

BSkyB has reported its pre-tax profit almost doubled in the nine months to the end of March, driven by a 76% jump in take-up of its HDTV service. The broadcaster says there were 428,000 net additions to its HD service in the period. The launch of Sky 3D, Europe's first 3D television channel, has gotten off to a good start, with more than 1000 venues signed up, while plans call for the launch of the service to residential customers later in 2010.

SCOTTISH TV LAUNCHES HD SERVICE

On occasion of the World Cup, Scottish TV (STV) launched its first High Definition service, STVHD. It is a completely separate channel on DTT/Freeview and on Virgin Media. STV is currently working with Sky, Freesat and ITV Network with a view to making STVHD available via satellite as soon as possible.

NORTH AMERICA

UNITED STATES

ECHOSTAR VIP-TV DELIVERS IP VIDEO SERVICE TO DUNCAN CABLE TV

EchoStar Satellite Services is delivering its ViP-TV service to Duncan Cable TV in Vermont. With a ViP-TV-connected head-end, Duncan Cable will be able to deliver more than 45 popular HDTV channels. Duncan Cable provides video services to more than 2,800 residents and businesses in Southern Vermont and sought a platform that would enable it to offer competitive HD video services using its existing IP network.

HDTV PENETRATION REACHES 65%

According to a report from the Consumer Electronics Association, 65% of U.S. homes now owning at least one HDTV set, up 13% from a year ago. Consumers are also buying HDTVs as secondary sets. The average household now has 1.8 HD televisions, up from 1.5% a year ago. The study also says 23% of Americans plan to buy an HDTV in the next 12 months.

DISH NETWORK OFFERS 200 HD CHANNELS

Dish Network now offers 200 national HD channels, which include the addition of EPIX HD, G4

HD, Turner Classic Movies HD, Headline News HD, History International HD, Nat Geo Wild HD, ShortsHD, and Style HD. Dish Network recently became the first and only company to launch all three Univision networks in HD - Univision HD, TeleFutura HD and Galavision HD.

OUTDOOR CHANNEL GOES HD

Outdoor Channel became 100 per cent native HD in June, marking a major milestone in the network's growth. It has also led to over 250 HD system launches in 2010 alone, making the channel currently available in over 4 million homes. Approximately 75 distributors carry the network's HD service. Likewise, Outdoor Channel HD has already entered 98 U.S. broadcast markets in 2010, including 18 out of the top 25 markets.

DIRECTV BEGINS LOCAL HD ROLLOUT IN 16 NEW MARKETS

DirectTV has begun expanding its local HD broadcast coverage to an additional 16 markets. By the end of 2010, the operator expects to provide local channels' access to more than 97% of U.S. households. When the rollout is complete, it said it will be offering local broadcast outlets in 172 markets (all but 17 with local HD).

DIRECTV FIRST TO CARRY GOLTV HD

DirectTV has become the first multi-channel video provider to sign-up to carry Go!TV's newest network, Go!TV HD. The service will launch on DIRECTV in August after the World Cup and be available to all DirectTV HDTV customers. It will feature the full programming lineup in 1080i HD, with sound in state-of-the-art Dolby AC3.

LATIN AMERICA

MGM HD CONTINUES LATIN AMERICAN ROLLOUT

MGM is continuing to roll out its channel MGM HD in Latin America, launching in two more countries. MGM Worldwide Networks has signed deals to place the Spanish-language network on Cablevision in Argentina and Mexico, and on Sky in Mexico. A Portuguese-language version launched in Brazil last year.

BRAZIL

NET EXPANDS WITH 3D, HDTV

Net has announced investments of BRL 200 million this year alone to expand its digital network and pave the way for expansion of the 3D technology. Subscribers that are equipped with the Net HD or HD Max boxes are already prepared to receive 3D images. The operator is also planning to increase the number of HD channels in order to effectively compete with Sky Brasil.

SKY BRASIL TARGETS 400,000 HD SUBSCRIBERS

One year after launching the bundled HD packages, Sky Brasil already has 200,000 HD subscribers. The operator expects to reach 400,000 users of the HD service later this year. The current HD offer, which includes 29 free and pay-TV channels, is likely to be expanded with another six new channels by the end of 2010.

TVA OFFERS 20 HDTV CHANNELS

TVA is now offering a total of 20 HD channels, including six free-to-air TV channels. Among the new HD channels are Telecine HD, Telecine Popcorn HD, PFC HD, Globosat HD, Multishow HD, TNT HD, Space HD, Nat Geo Wild HD, Fox/NatGeo HD, Discovery Theater HD, TLC HD, HBO HD and Rush HD. The prices of the HD packages range from BLR 119 to BRL 204.



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AUSTRALIA

NINE FIRST TERRESTRIAL BROADCASTER TO AIR IN 3D

Nine Network claims it has become the first terrestrial broadcaster in the world to offer 3D programming. By broadcasting the annual National Rugby League State Of Origin series to viewers in 3D, Nine was ahead of other broadcasters worldwide who offered matches from the FIFA World Cup in 3D.

CHINA

CHINESE REGULATOR GREENLIGHTS 3D BROADCASTS

China's state broadcasting authority has said that it will start rolling out trial 3D TV shows during 2010 in some cities. Du Baichuan, a deputy chief engineer of the State Administration of Radio, Film and Television, told the Guangzhou Daily the regulator was preparing a standard for the country's 3D TV industry chains.

MIDDLE EAST

SAMSUNG AND ORBIT IN HDTV PARTNERSHIP

Samsung Electronics has signed a sponsorship agreement with Orbit Showtime Network (OSN) to support the network's HD decoder roll out and channel line-up. The agreement will span OSN's complete Middle East footprint from May 1, 2010 to

September 30, 2011, offering viewers 75 premium channels including eight HD channels - such as OSN Movies, Show Sports 1 HD, Nat Geo Wild HD, and Food Network HD among others.

ETISALAT AND DU LAUNCH 3D SERVICES

Etisalat and du have launched 3D TV services in the UAE but will not impose any extra charge for the new service in the country. E-Vision, Etisalat's cable TV unit, is providing 3D TV to all its triple play eLife customers and to E-Vision customers without any additional fee at this stage. Its competitor du is providing all of its TV customers can watch 3D TV on channel 699 under the basic TV package.

INDIA

BIG TV LAUNCHES HD DVR SERVICE

Reliance Big TV has rolled out India's first HD set-top box with Digital Live TV Recording capabilities across top 100 cities. The competitive advantage of Reliance Big TV HD DVR is its capability to record up to 200 hours of programming. In the non-south market, Reliance Big TV is launching the entry offer at Rs. 7990/- bundled with three months of Diamond Pack. In the southern market the entry offer is priced at Rs. 7,790/- bundled with five months of value pack with a full bouquet of sports channels.

DISH TV LAUNCHES HD SET-TOP BOX

Dish TV has launched HD set-top boxes in June, becoming the third DTH operator to have rolled out HDTV after Sun Direct and Reliance Big TV. The Dish Tru HD bouquet has five channels -- Zee TV HD, Zee Cinema HD,

Discovery World HD, National Geographic HD and ESPN Sports HD. Zee Studio and Zee Café in HD will also be introduced at a later date.

ISRAEL

PENTHOUSE BECOMES FIRST HD ADULT CHANNEL

Penthouse has become Israel's first HD adult entertainment channel after launching on the Hot cable platform. Penthouse HD will join an HD line-up that already includes a number of Hot's own channels, plus others such as Eurosport, Nat Geo and MGM.

JAPAN

BS CHANNELS TO BECOME HDTV

NHK is set to merge its newer Broadcast Satellite High Vision channel into its longer-running BS1 and BS2 channels, which will both become HD. BS1 will continue to be mostly a news and current affairs channel, while BS2 will feature cultural and entertainment programming.

SOUTH KOREA

DISNEY CHANNELS IN HD IN SOUTH KOREA

SK Telecom Co. and the Walt Disney Company (DIS) have formed a joint venture to launch Korean-language versions of the Disney Channel and Playhouse Disney Channel. They will be available in HD multiplex as well as SD format over cable, direct-to-home and IPTV platforms and related on-demand digital media services in South Korea from spring 2011.

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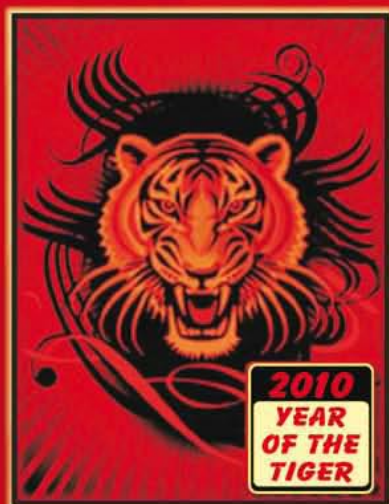


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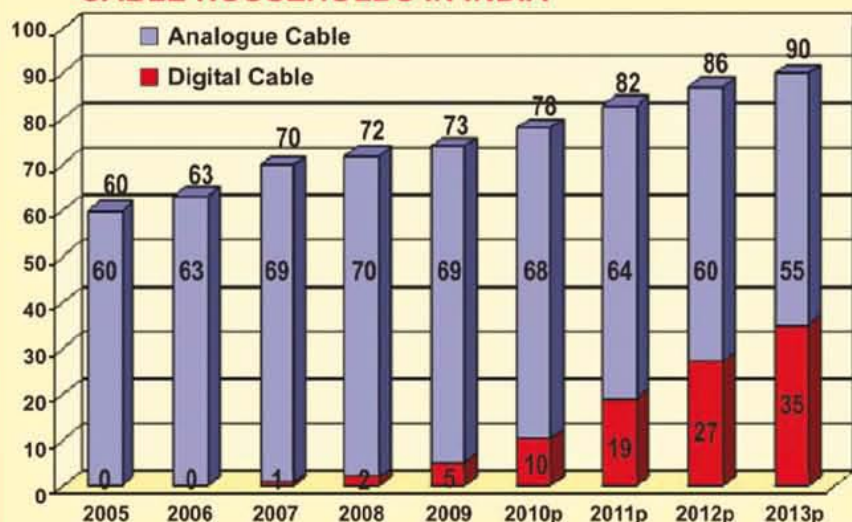
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YOUR COMPETITORS WILL ALL BE THERE, WILL YOU?



INTELSAT 10-02 - Europe, Middle East, North India ◀ 359.2 East (000.8 West)

C-Band: INTELSAT 10-02 - Europe, Africa, South East Asia ◀ 359.2 East (000.8 West)

THOR 3, 5, 6 - Europe ◀ 359.2 East (000.8 West)

AMOS 2, 3 - Europe, Middle East ◀ 356.0 East (004.0 West)

ATLANTIC BIRD 3 - Europe ◀ 355.0 East (005.0 West)

ATLANTIC BIRD 3 - Europe ◀ 355.0 East (005.0 West)

NILESAT 101, 102, ATLANTIC BIRD 4A - Middle East ◀ 353.0 East (007.0 West)

TELECOM 2D - France ◀ 352.0 East (008.0 West)

ATLANTIC BIRD 2 - Europe, America, Middle East ◀ 352.0 East (008.0 West)

EXPRESS AM44 - Middle East ◀ 349.0 East (011.0 West)

C-Band: EXPRESS AM44 - Europe, North Africa, Middle East ◀ 349.0 East (011.0 West)

ATLANTIC BIRD 1 - Europe, America ◀ 347.5 East (012.5 West)

TELSTAR 12 - Europe, South Africa, Am. ◀ 345.0 East (015.0 West)

INTELSAT 901 - Europe, Middle East ◀ 342.0 East (018.0 West)

C-Band: INTELSAT 901 - Europe, Africa, Atlantic Ocean Region ◀ 342.0 East (018.0 West)

C-Band: NSS 5 - Africa ◀ 340.0 East (020.0 West)

NSS 7 - Europe, Middle East, Africa, America ◀ 338.0 East (022.0 West)

C-Band: NSS 7 - Europe, Africa, America ◀ 338.0 East (022.0 West)

INTELSAT 905 - Europe ◀ 335.5 East (024.5 West)

C-Band: INTELSAT 905 - Europe, Africa, America ◀ 335.5 East (024.5 West)

INTELSAT 907 - Europe ◀ 332.5 East (027.5 West)

C-Band: INTELSAT 907 - Europe, Africa, America ◀ 332.5 East (027.5 West)

HISPASAT 1C, 1D - Europe, America ◀ 330.0 East (030.0 West)

INTELSAT 903 - Europe ◀ 325.5 East (034.5 West)

C-Band: INTELSAT 903 - Europe ◀ 325.5 East (034.5 West)

TELSTAR 11N - Europe, Africa ◀ 322.5 East (037.5 West)

C-Band: NSS 10 - Europe, Africa, America ◀ 322.5 East (037.5 West)

NSS 806 - Europe ◀ 319.5 East (040.5 West)

C-Band: NSS 806 - America, Europe ◀ 319.5 East (040.5 West)

C-Band: INTELSAT 3R - Europe, North America ◀ 317.0 East (043.0 West)

INTELSAT 11 - Brazil ◀ 317.0 East (043.0 West)

C-Band: INTELSAT 11 - Brazil ◀ 315.0 East (045.0 West)

INTELSAT 14 - Europe, North Africa, South America ◀ 315.0 East (045.0 West)

C-Band: INTELSAT 14 - America ◀ 315.0 East (045.0 West)

INTELSAT 1R - America ◀ 315.0 East (050.0 West)

C-Band: INTELSAT 1R - America ◀ 315.0 East (045.0 West)

INTELSAT 707 - America ◀ 307.0 East (053.0 West)

C-Band: INTELSAT 707 - America, Africa ◀ 307.0 East (053.0 West)

C-Band: INTELSAT 805 - America ◀ 304.5 East (055.5 West)

INTELSAT 9 - Mexico, Brazil, Europe ◀ 302.0 East (058.0 West)

C-Band: INTELSAT 9 - America ◀ 302.0 East (058.0 West)

C-Band: INTELSAT 16 - America ◀ 302.0 East (058.0 West)

AMAZONAS 1 - Brazil, South America ◀ 299.0 East (061.0 West)

C-Band: AMAZONAS 1 - America ◀ 299.0 East (061.0 West)

ECHOSTAR 3, 12 - Conus ◀ 298.5 East (061.5 West)

TELSTAR 14 - Brazil, Mercosul ◀ 297.0 East (063.0 West)

STARONE C1 - Brazil ◀ 295.0 East (065.0 West)

C-Band: STARONE C1 - South America ◀ 295.0 East (065.0 West)

STARONE C2 - Brazil ◀ 290.0 East (070.0 West)

C-Band: STARONE C2 - South America ◀ 290.0 East (070.0 West)

NAHUEL 1 - America ◀ 288.0 East (072.0 West)

AMC 6 - North America ◀ 288.0 East (072.0 West)

C-Band: AMC 6 - North America ◀ 288.0 East (072.0 West)

DIRECTV 1R, NIMIQ 5 - Conus ◀ 287.5 East (072.5 West)

C-Band: DIRECTV 1R, NIMIQ 5 - Conus ◀ 287.5 East (072.5 West)

HORIZONS 2 - North America ◀ 286.0 East (074.0 West)

C-Band: BRASISAT B3 - Brazil ◀ 285.0 East (075.0 West)

ECHOSTAR 4, 8 - America, Mexico ◀ 283.0 East (077.0 West)

SIMON BOLIVAR - South America ◀ 282.0 East (078.0 West)

C-Band: SIMON BOLIVAR - South America ◀ 282.0 East (078.0 West)

AMC 5 - North America ◀ 281.0 East (079.0 West)

NIMIQ 4 - Canada ◀ 278.0 East (082.0 West)

C-Band: AMC 9 - North America ◀ 277.0 East (083.0 West)

C-Band: BRASISAT B4 - Brazil ◀ 276.0 East (084.0 West)

AMC 16 - North America ◀ 275.0 East (085.0 West)

AMC 3 - North America ◀ 273.0 East (087.0 West)

C-Band: AMC 3 - North America ◀ 273.0 East (087.0 West)

GALAXY 28 - America ◀ 271.0 East (089.0 West)

C-Band: GALAXY 28 - America ◀ 271.0 East (089.0 West)

NIMIQ 1 - Canada ◀ 269.0 East (091.0 West)

C-Band: GALAXY 17 - North America ◀ 269.0 East (091.0 West)

GALAXY 25 - North America ◀ 266.9 East (093.1 West)

GALAXY 3C - North America ◀ 265.0 East (095.0 West)

C-Band: GALAXY 3C - North America ◀ 265.0 East (095.0 West)

GALAXY 19 - North America ◀ 263.0 East (097.0 West)

C-Band: GALAXY 19 - North America ◀ 263.0 East (097.0 West)

GALAXY 16 - North America ◀ 261.0 East (099.0 West)

C-Band: GALAXY 16 - North America ◀ 261.0 East (099.0 West)

DIRECTV 11 - America ◀ 260.8 East (99.2 West)

AMC 4 - North And Central America ◀ 259.0 East (101.0 West)

C-Band: AMC 4 - North America ◀ 259.0 East (101.0 West)

C-Band: AMC 2 - North America ◀ 259.0 East (101.0 West)

DIRECTV 4S, 8 - America ◀ 259.0 East (101.0 West)

AMC 1 - North America ◀ 257.0 East (103.0 West)

C-Band: AMC 1 - North America ◀ 257.0 East (103.0 West)

AMC 15 - North America ◀ 255.0 East (105.0 West)

C-Band: AMC 18 - North America ◀ 255.0 East (105.0 West)

ANIK F1R - North America ◀ 252.7 East (107.3 West)

C-Band: ANIK F1R - North America ◀ 252.7 East (107.3 West)

C-Band: ANIK F1 - South America ◀ 252.7 East (107.3 West)

ECHOSTAR 10, 11 - America ◀ 250.0 East (110.0 West)

ANIK F2 - North America ◀ 248.9 East (111.1 West)

C-Band: ANIK F2 - North America ◀ 248.9 East (111.1 West)

SATMEX 6 - America ◀ 247.0 East (113.0 West)

C-Band: SATMEX 6 - America ◀ 247.0 East (113.0 West)

SATMEX 5 - America ◀ 243.2 East (116.8 West)

C-Band: SATMEX 5 - America ◀ 243.2 East (116.8 West)

ANIK F3 - Conus ◀ 241.0 East (119.0 West)

C-Band: ANIK F3 - America ◀ 241.0 East (119.0 West)

ECHOSTAR 7 - Conus ◀ 241.0 East (119.0 West)

DIRECTV 7S - Conus ◀ 241.0 East (119.0 West)

ECHOSTAR 9, GALAXY 23 - North America ◀ 239.0 East (121.0 West)

C-Band: ECHOSTAR 9, GALAXY 23 - North America ◀ 239.0 East (121.0 West)

GALAXY 18 - North America ◀ 237.0 East (123.0 West)

C-Band: GALAXY 18 - North America ◀ 237.0 East (123.0 West)

C-Band: GALAXY 14 - North America ◀ 235.0 East (125.0 West)

AMC 21 - North America ◀ 235.0 East (125.0 West)

GALAXY 13, HORIZONS 1 - North America ◀ 233.0 East (127.0 West)

C-Band: GALAXY 13, HORIZONS 1 - North America ◀ 233.0 East (127.0 West)

CIEL 2 - America ◀ 231.0 East (129.0 West)

GALAXY 27 - North America ◀ 231.0 East (129.0 West)

C-Band: AMC 11 - North America ◀ 229.0 East (131.0 West)

C-Band: GALAXY 15 - North America ◀ 227.0 East (133.0 West)

C-Band: AMC 10 - North America ◀ 225.0 East (135.0 West)

C-Band: AMC 7 - North America ◀ 223.0 East (137.0 West)

C-Band: AMC 8 - North America ◀ 221.0 East (139.0 West)

C-Band: NSS 9 - America ◀ 183.0 East (177.0 West)

Satellites of the World

002.0 East ▶ ASTRA 1C - Europe

002.8 East ▶ C-Band: Rascom 1 - Africa

004.0 East ▶ EUROIRD 4A - Europe, Asia

004.8 East ▶ SIRIUS 4 - Europe, South Africa

007.0 East ▶ EUTELSAT W3A - Europe, Africa

009.0 East ▶ EUROIRD 9A - Europe

010.0 East ▶ EUTELSAT W2A - Europe

010.0 East ▶ C-Band: EUTELSAT W2A - Global

013.0 East ▶ HOTBIRD 6,8,9 - Europe, Middle East

015.8 East ▶ EUTELSAT W2M - Europe, Madagascar

015.8 East ▶ EUROIRD 16 - Europe, Madagascar

015.8 East ▶ EUTELSAT SESAT 1 - Europe

017.0 East ▶ C-Band: Amos 5I - Africa, Middle East

019.2 East ▶ ASTRA 1H,1KR,1L,1M - Europe

021.6 East ▶ EUTELSAT W6 - Europe, Asia, West Africa

023.5 East ▶ ASTRA 1E,1G,3A - Europe

025.5 East ▶ EUROIRD 2 - Europe, Asia

026.0 East ▶ BADR 4,6 - North Africa, Middle East

028.2 East ▶ EUROIRD 1 - Europe

028.2 East ▶ ASTRA 2B - Europe, Nigeria

028.2 East ▶ ASTRA 2A,2D - Europe

030.5 East ▶ ARABSAT 2B - Middle East

030.5 East ▶ C-Band: ARABSAT 2B - Asia,Middle East

031.0 East ▶ TURKSAT 1C - Europe, Asia

031.5 East ▶ ASTRA 2C - Europe

033.0 East ▶ EUROIRD 3 - Europe

033.0 East ▶ INTELSAT 802 - Africa

033.0 East ▶ C-Band: INTELSAT 802 - Europe

036.0 East ▶ EUTELSAT W7 - Europe, South Africa, Asia, Russia

036.0 East ▶ EUTELSAT W4 - Russia, Nigeria, Africa

038.0 East ▶ PAKSAT 1 - Pakistan, North India

038.0 East ▶ C-Band: PAKSAT 1 - Pakistan, India, Middle East, Africa

039.0 East ▶ HELLAS SAT 2 - Europe, Middle East, Asia

040.0 East ▶ EXPRESS AM1 - Europe, Russia

040.0 East ▶ C-Band: EXPRESS AM1 - Europe, Russia

042.0 East ▶ TURKSAT 2A - Europe, Russia

042.0 East ▶ TURKSAT 3A - Europe, Russia, North India

045.0 East ▶ INTELSAT 12 - India, South Africa, Middle East, Europe

049.0 East ▶ C-Band: YAMAL 202 - Global

050.8 East ▶ GALAXY 26 - Europe, Middle East, North India

051.0 East ▶ ASTRA 1F -

053.0 East ▶ EXPRESS AM22 -Europe, Middle East, North India

055.0 East ▶ C-Band: INSAT 3E - India

056.0 East ▶ BONUM 1 - East Russia

057.0 East ▶ NSS 12 - Europe, Russia, Africa, India

060.0 East ▶ INTELSAT 904 - Europe

060.0 East ▶ C-Band: INTELSAT 904 - Europe, Africa, Global

062.0 East ▶ INTELSAT 902 - Europe, Middle East

062.0 East ▶ C-Band: INTELSAT 902 - Europe, China, Australia, South Africa, Global

064.2 East ▶ C-Band: INTELSAT 906 - Europe, Africa, South India, Global

066.0 East ▶ INTELSAT 702 -Europe,Russia

068.5 East ▶ INTELSAT 7 - South Africa

068.5 East ▶ C-Band: INTELSAT 7 - Europe,Asia,Africa

068.5 East ▶ INTELSAT 10 - Africa, Europe, Middle East

068.5 East ▶ C-Band: INTELSAT 10 - Global

070.5 East ▶ EUTELSAT W5 - Europe,Middle East, India

074.0 East ▶ EDUSAT, INSAT 4CR - India

074.0 East ▶ C-Band: INSAT 3C - India

075.0 East ▶ ABS-1 - Europe, Asia, Middle East

075.0 East ▶ C-Band: ABS-1 - Global

075.0 East ▶ EUTELSAT W75 - Middle East, North India, China

076.5 East ▶ APSTAR 2R - North East Asia

076.5 East ▶ C-Band: APSTAR 2R - Global

078.5 East ▶ C-Band: THAICOM 2 - Thailand, East Asia

078.5 East ▶ THAICOM 5 - Thailand

078.5 East ▶ C-Band: THAICOM 5 - India,China,Thailand, Global

080.0 East ▶ EXPRESS AM2 - Russia, Europe

080.0 East ▶ C-Band: EXPRESS MD1 - Russia, North India

083.0 East ▶ INSAT 4A - India

083.0 East ▶ C-Band: INSAT 4A - India, Middle East

083.0 East ▶ INSAT 3B - India

083.0 East ▶ C-Band: INSAT 2E - Asia, Middle East, Europe

085.2 East ▶ INTELSAT 15 - Middle East

087.5 East ▶ C-Band: CHINASAT 1 - China, India, Middle East

088.0 East ▶ ST 1 - India, Malaysia

088.0 East ▶ C-Band: ST 1 - India, Thailand

090.0 East ▶ YAMAL 201 - Russia, North India

090.0 East ▶ C-Band: YAMAL 201 - Russia, North India

091.5 East ▶ MEASAT 3 - Malaysia, South Asia

091.5 East ▶ C-Band: MEASAT 3 -Global, Thailand, Australia, East Asia

091.5 East ▶ C-Band: MEASAT 3A -Global

092.2 East ▶ CHINASAT 9 - China

093.5 East ▶ INSAT 3A,4B - India

093.5 East ▶ C-Band: INSAT 3A,4B - India, Middle East

095.0 East ▶ NSS 6 - India, Middle East, South Africa, North East & East Asia, Australia

096.5 East ▶ C-Band: EXPRESS AM 33 - Asia, Russia,China

100.5 East ▶ ASIATASAT 5 - East Asia, India, Middle East, Thailand

100.5 East ▶ C-Band: ASIATASAT 5 - Global

103.0 East ▶ C-Band: EXPRESS A2 - Russia, China

105.5 East ▶ ASIATASAT 3S - East Asia, South Asia, Australia

105.5 East ▶ C-Band: ASIATASAT 3S - Global

108.0 East ▶ NSS 11 - South Asia, North East Asia, China

108.0 East ▶ C-Band: TELKOM 1 - Indonesia

110.0 East ▶ BSAT 1A,2A,3A, N-SAT 110 - Japan

110.5 East ▶ C-Band: SINOSAT 1 - China, Asia Pacific

113.0 East ▶ KOREASAT 5 - South Korea, North East Asia

113.0 East ▶ C-Band: PALAPA D - Asia, Australia

115.5 East ▶ C-Band: CHINASAT 6B - Global

116.0 East ▶ KOREASAT 3 - South Korea

118.0 East ▶ C-Band: TELKOM 2 - India, Thailand, Malaysia

122.0 East ▶ ASIATASAT 4 - East Asia, Australia

122.0 East ▶ C-Band: ASIATASAT 4 - Global

124.0 East ▶ JCSAT 4A - Japan

125.0 East ▶ C-Band: SINOSAT 3 - China

128.0 East ▶ JCSAT 3A - Japan

128.0 East ▶ C-Band: JCSAT 3A - Asia

132.0 East ▶ VINASAT 1 - Vietnam

132.0 East ▶ C-Band:VINASAT 1 - Asia, Australia

132.0 East ▶ JCSAT 5A - Japan

134.0 East ▶ APSTAR 6 - China

134.0 East ▶ C-Band: APSTAR 6 - Asia, Australia

138.0 East ▶ TELSTAR 18 - India, China

138.0 East ▶ C-Band: TELSTAR 18 - Asia, Australia

140.0 East ▶ EXPRESS AM3 - Russia, China

140.0 East ▶ C-Band: EXPRESS AM3 - Russia, China

144.0 East ▶ SUPERBIRD C2 - Japan

146.0 East ▶ AGILA 2 - Myanmar

146.0 East ▶ C-Band: AGILA 2 - India, China

150.0 East ▶ JCSAT 1B - Asia

152.0 East ▶ OPTUS D2 - Australia, Newzealand

154.0 East ▶ JCSAT 2A - Japan

154.0 East ▶ C-Band: JCSAT 2A - Asia&Oceania&Hawaii

156.0 East ▶ OPTUS C1,D3 - Australia, Newzealand

160.0 East ▶ OPTUS D1 - Australia, Newzealand

162.0 East ▶ SUPERBIRD B2 - Japan

166.0 East ▶ INTELSAT 8 - Australia, Newzealand, North East Asia

166.0 East ▶ C-Band: INTELSAT 8 - Pacific

169.0 East ▶ C-Band: INTELSAT 2,5 - Pacific

172.0 East ▶ GE 23 - South Pacific, South East Pacific

172.0 East ▶ C-Band: GE 23 - Pacific

180.0 East ▶ INTELSAT 701 - Australia, Pacific

180.0 East ▶ C-Band: INTELSAT 701 - Pacific



New Satellites

to be launched soon



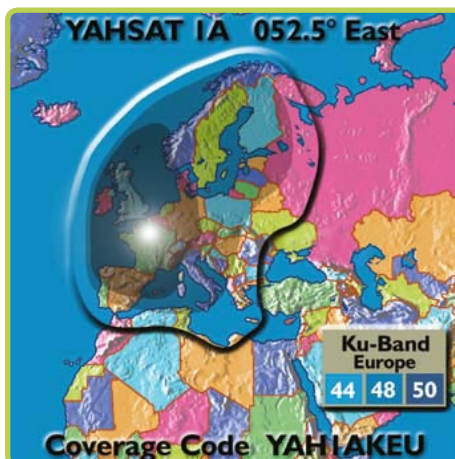
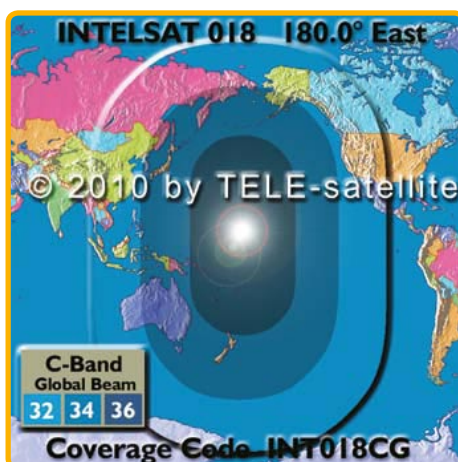
Edited by
Aleksandar Medic

INTELSAT 18

This satellite, intended primarily for Asia-Pacific region, has 24 C-band (16 x 72 MHz and 8 x 36 MHz) and 12 Ku-band (72 MHz) transponders. It has been built by Orbital Sciences Corporation using its Star-2 platform. The satellite will provide 4.9 kW of power and has a lifetime of 15 years. Its C-band transponders will cover north and south hemispheres. Ku-band signals from INTELSAT 18 will cover western parts of USA, French Polynesia, Australia, New Caledonia and other Pacific Islands. After its launch on Zenit 3 vehicle from Baikonur Cosmodrome in Kazakhstan, the satellite will be positioned on 180° East where it will replace INTELSAT 701.

YAHSAT 1A & 1B

YAHSAT 1A is the first of two satellites that the Al-Yah Satellite Company (Yahsat), a subsidiary of a state-owned Mubadala Development Company from UAE ordered in 2007 from a consortium made up of EADS Astrium and Thales Alenia Space. The second satellite, YAHSAT 1B will be launched several months after YAHSAT 1A. Both satellites will be located at 52.5° East and they are Eurostar E3000 spacecrafts with a launch mass of 6 tonnes and an electrical power of 12 kW. The mission life of the satellites is 15 years and they will serve military and commercial purposes. Yahsat will use these satellites to offer broadcasting, broadband Internet and telecommunications services including telephony in the Middle East, Africa, Europe and South West Asia. YAHSAT 1A will have 21 Ka-band, 23 Ku-band and 14 C-band transponders (8 with 36 MHz and 6 with 54 MHz bandwidth). Yahsat 1B will only feature Ka-band payload. YAHSAT 1A will be launched into orbit aboard an Ariane 5 rocket, while YAHSAT 1B will be put into orbit on a Proton vehicle.



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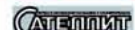
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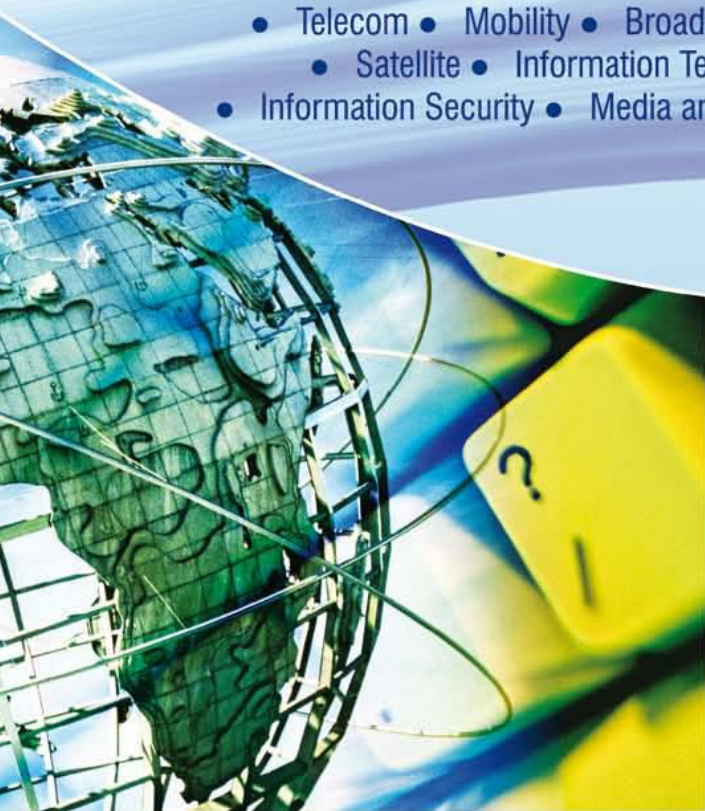
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TELE-satellite Deadlines & Exhibitions

Number	Issue	Deadline	Hardcopies	Available Online
1011	10-11/2010	6 August 2010	17 September 2010	1 October 2010
<i>TELE-satellite Magazine will be present at this exhibition:</i> 21 - 23 October 2010 SCaT India 2010 South Asia's Largest Tradeshow Of The Indian Cable & Satellite Television Industry World Trade Centre, Cuffe Parade, Mumbai, India www.scatmag.com/scatindia				
				
1101	12-01/2011	8 October 2010	19 November 2010	3 December 2010
<i>TELE-satellite Magazine will be present at this exhibition:</i> 6 - 9 January 2011 2011 International Consumer Electronics Show (CES) The Global Stage for Innovation Las Vegas Convention Center, Las Vegas, USA www.cesweb.org				
				
1103	02-03/2011	3 December 2010	14 January 2011	28 January 2011
<i>TELE-satellite Magazine will be present at these exhibitions:</i> 8 - 10 February 2011 CABSAT Middle East North Africa MENA 2011 The Leading International Digital Media Event for Middle East, Africa & South Asia Sheikh Saeed Halls, Dubai International Convention and Exhibition Centre, Dubai, UAE www.cabsat.com				
				
23 - 25 March 2011 CCBN 2011 Asia-Pacific's Largest Broadcasting Show China International Exhibition Center, Beijing, China www.ccbn.tv				
				
1105	04-05/2011	4 February 2011	18 March 2011	1 April 2011
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