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TELE satellite

GLOBAL DIGITAL TV MAGAZINE

10-11/2010



Company Report **SPAUN**

Kevin Spaun conquers new territories with economical, energy-efficient power supplies



Company Report **SMARTWI**

Kurt Olesen jumps to second generation products and expands into new markets



Company Report **DOEBIS**

Rainer Werking greatly bolsters product range and starts up new ventures



Test Report

SVEC SK60-PWT19

The Amazing Dish That Can be Mounted Upside-down



Test Report

NetUP

**It's so easy:
Become Your Own IPTV Programming Provider**



CHANGHONG

Professional in STB

What Satellite Receiver DO YOU WANT



✓ **HD** ✓ **DVB-S2**

✓ **PVR** ✓ **CAS**

✓ **H.264/MPEG4**

✓ **open tv**



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www.TELE-satellite.com

Dear Readers,

This time TELE-satellite gave the Innovations Award to a product that is actually "on the other side". Normally TELE-satellite focuses on receivers and not transmitters. So, why the change? Because with IPTV - TV via the Internet - a new era is beginning to unfold! Why is that?

Let's take a closer look at reception technology: it doesn't matter if it's satellite reception, terrestrial reception or cable reception: there was always two sides to the technology - a transmitter and a receiver. It didn't matter if the TV signal was sent wirelessly, that is, transmitted via satellite or terrestrially, or through a cable like in a cable TV network, every channel had to be transmitted simultaneously and then selected by the tuner in the receiver.

But this basic principle doesn't hold true for IPTV: the IPTV transmitter only sends the specific program that the receiver at the other end has asked for. There is no tuner anymore! At first glance this doesn't sound all that earth-shattering but after taking a second look you realize that an IPTV receiver is by far much less expensive. An IPTV receiver is a receiver without a tuner. Some manufacturers even name these receivers "tuner-less boxes"; the remaining components of an IPTV receiver are nearly identical to those that can be found in every satellite, terrestrial or cable receiver.

Receivers without tuners also means something else: no antenna anymore! The viewer was always responsible for the costs to set up a proper antenna whether it was a satellite dish or a terrestrial antenna. With a cable network, the provider was responsible for the costs involved in installing the coax cable all the way into the viewer's living room. But the provider was later able to recover these costs through the monthly charge the viewer had to pay for the cable service. In other words, the reception costs were always placed in the laps of the viewers.

With IPTV these costs have for the most part disappeared. An Internet connection is considered standard today as is the connection to an electric power grid. TELE-satellite never discussed how to supply a receiver with power; it was obvious! And these days it's also safe to assume that every TV viewer has an Internet connection. No need to worry about things that are obvious. If you can assume that every household has an Internet connection, this means that IPTV has become an inexpensive alternate way to watching TV. And this is also true for programming providers who have to consider this as well.

Admittedly, since we are worldwide still in the beginning stages of high-speed Internet access, the reality is that we haven't come quite far enough yet, but it is clear that development is going in this direction. With IPTV the transmission of a channel as well as the reception of that channel is so inexpensive that anyone could potentially be a programming director.

The endless freedom that satellite TV gave to us a few decades ago is now being relived in the IPTV age with the endless freedom now available to programming providers: anyone can be a programming director and they can transmit as many channels as they want. No more limitations!



Alexander Wiese
Editor-in-Chief TELE-satellite



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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8A Nicou Pattichi Street, 3071, Limassol, Cyprus
Tel: +357 2533 3652 / Fax: +357 2533 4642

FULAN

Fulan Electronics Ltd

www.fulansoft.com

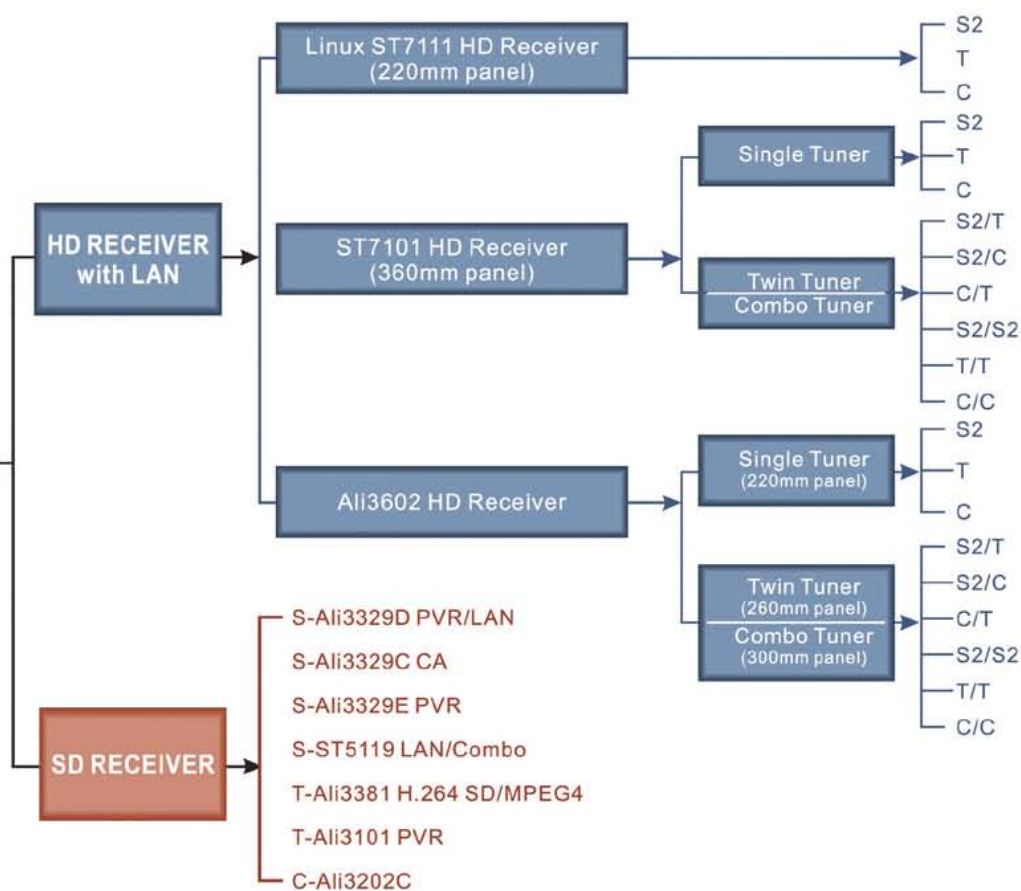
TOP DIGITAL HD BOX DESIGNER FROM CHINA



Linux
HD Box

ONE BOX ONE DREAM-LINUX BOX

RECEIVER
OVERVIEW



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Industrial Park, Nanshan Dist., Shenzhen, China.

NETUP DVB-IP GATEWAY 4X

IPTV Gateway for DVB Signals 12



SK60-PWT19

OFFSET DISH OF SVEC

Two-way Mountable
Offset Dish for
Ku Band 24



HORIZON HD-S2

Antenna Alignment
Meter..... 34



JQB4P - 4.3° QUAD MONOBLOCK LNB OF JIUZHOU

Universal Ku Band
Monoblock Quad LNB
for 4.3° Spacing 40

INNOVATION AWARD:

Products Leading into the Future10

AWARD Winning:

Signal Analyzers of 21st Century46

Company Report:

Satellite Wholesaler
DOEBIS, Germany54

Company Report:

Wireless Card Reader Producer
SMARTWi, Denmark.....62

Company Report:

Power Supply Manufacturer
SPAUN, Germany.....68

Company Report:

AZBox Satellite Distributor
SMART INNOVATIONS, Netherlands.... 78

Company Overview:

Best Digital TV Companies
of the World.....86



Software Report:

Satbeams, a Website for
Professionals..... 102

DXer Report:

Satellite DXer Pepsi from
Chengdu, China..... 106

Museum Report:

Radiomuseum Ringsted, Denmark ... 110

DTT of the World 120

News:

HDTV & 3D Programmes..... 122

News:

Satellites 130

World Satellites 132

History:

20 Years Ago 134

History:

10 Years Ago 138

TELE-satellite Magazine

Worldwide 144

ADVERTISERS

8DTEK	59
ABC-BIZNIS	57
AB IPBOX	22-23
ALUOSAT	103
AZBOX	147
AZURE SHINE	125
BOIINGSAT	67
BOXSAM	35
BYA ELECTRONIC	131
CABSAT 2011	105
CCBN 2011	123
CEBIT EURASIA 2010	125
CES 2011	127
CHANGHONG	2
CNBROADCASTING	131
CONVERGENCE INDIA 2011	143
CSTB 2011	111
DISHPOINTER	128

DOEBIS	8-9
EEBC 2010	85
FULAN ELECTRONICS	5
GLOBALINVACOM	25
GLOBALSAT	61
GOLDENMEDIA	43
HORIZON	65
INFOSAT	109
JIUZHOU	77, 148
MFC	113
MOTECK	129
NABSHOW 2011	115
NETUP	122
PREVAIL	32-33
SATBEAMS	130
SATCATCHER	75
SATELLITE GUYS	124
SATELLITE SUPERSTORE	81

SEATEL	79
SKYWORTH	7
SMARTWI	41
SOWELL	39
SPAUN	17
SVEC	15
TECHNOMATE	4
TEHNICB	117
TELEMANN	29
TELETEK	99
TENOW	71
TEVII	117
TOPREAL	83
TOOWAY	129
TRIMAX	126
WEISS	113
YINHE	19



OUTSTANDING STB HARDWARE MANUFACTURER FROM CHINA



HT12 DVB-T HD PVR

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



HTS11 DVBS2+T HD Combo

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



HS14 DVBS2 HD Twin Tuner

- 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,



S1L DVB-S SD CA+PVR+LAN

- 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



S1M DVB-S Sticker CA+PVR

- MPEG-2 digital @ fully DVB-S compliant
- 4000 channels TV and Radio programmable
- On Screen Display with multi-language
- PVR, Timeshift, CA optional with Conax embedded



S1N DVB-S SD FTA+PVR

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



WE ARE DISTRIBUTOR OF

TOPFIELD

STRONG
DIGITAL TV

VANTAGE

JAEGER HUMAX

SELSAT

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.

- PVR** Playing recorded programmes up to 64 times speed at maximum
- GAME** Featuring a double-player game „Battle Tank“
- UCC** Playing media contents of YouTube
- DivX** Supporting video files of DivX 3.11, 4.1 and 5.x

TOPFIELD

SRP-2410



- Is fully compliant with DVB-S and DVB-S2.
- Supports DiSEqC 1.0, 1.1, 1.2 and USALS.
- Two common interface slots for conditional access modules.
- Can store up to 7,000 TV services and 3,000 radio services.
- Presents Electronic Program Guide (EPGs).
- Supports time-shift up to 5 hours at maximum.
- Records two services at the same time while displaying another service.
- Can record directly to an external hard drive (through USB/eSATA ports).
- Plays back recorded programmes at up to 64 times speed at maximum.
- Plays back video files in DivX, MPG, MP4, VOB, MKV and FLV format.
- Displays image files in JPEG format
- Provides a network game named Battle Tank.
- Provides various ways for firmware update (OTA, USB, LAN).
- Makes it easier to transfer files from/to the receiver by means of an embedded web/FTP server.



TOPFIELD

TF 7700 HTCO



VISEO+
einfach. genial. digital.



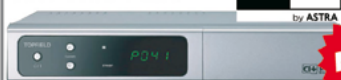
HDTV DVB-T Receiver,
Conax embedded

- 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

HDTV Receiver Selection

TOPFIELD

CBP-2001CI+



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+



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

HDCI 2010



HDTV - DVB-S Receiver

- 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



STRONG

SRT 6205 - PVR Ready



USB recording capability

- Digital Satellite Receiver
- UHF Modulator to connect the receiver to TV
- 2 Common Interface slots
- USB port

SRT 7100



HDTV Receiver, USB PVR Ready

- HDTV (1080i) receiver for all digital FTA TV and Radio programmes via satellite*
- With IR extender for freedom of placement
- USB port for recording of TV and radio programmes, playing MP3 music and viewing JPG images

JAEGER

HD+2011CI+



HDTV - DVB-S Receiver

- USB 2.0 host for playback of external hard drive or USB flash drive
- 1 x Common interface slot



- PVRready. Direct recording via USB on external storage media possible
- HDTV & SDTV
- 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

Dishes

GIBERTINI TRIAX PRODELIN.



Big dishes directly from our warehouse!

- 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
- 180 cm
- 240 cm
- 300 cm
- 370 cm

Balcony mounting parts



25 cm distance - Steel
50 cm distance - Steel

120 cm length
- Ø 6 cm

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



NEW



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

VT-1 Full HD PVR



NEW

DVB-S Twin FULL HDTV Receiver

- Two DVB-S2 tuner
- 4:3, 16:9, HDTV 720p, HDTV 1080p
- Video MPEG ISO 2/4, MPEG-4 HD / H.264
- 2x USB
- HDMI
- 2 CI and 2 Smart card Reader
- Time shift supported

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



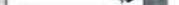
Professional multisatellite system



- 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 quattro 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

LNBs

- MTI
- BEST
- INVACOM
- ALPS
- INVERTO
- MAXIMUM
- TITANIUM, etc.
- Single Universal
- Twin Universal
- Quattro Universal
- Quad Universal
- Octo LNB
- Monoblock Single Universal
- Monoblock Twin Universal
- Monoblock Quad
- C Band
- Circular
- and many more



Inverto



- Red Extend - 40mm, 0,3dB
- Black Premium - 40mm, 0,2dB
- Black Ultra - 40mm, 0,2dB
- Black Multiconnect - 23mm, 0,2dB

All available as:

- Single Universal
- Twin Universal
- Quattro Universal
- Quad Universal

Full LNB range INVERTO available from stock

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

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

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



Full range

Flat-Dishes

SELF SAT

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

SELF SAT Flat-Dishes available as:

H30D / H30D2 / H30D4

STRONG

Slimsat SA 61

- Satellite antenna with integrated Single LNB
- Simple: Installation within a few minutes

NEW

Unicable solution

Inverto digital-labs

NEW

IDLP-USS200-CU010-8PP

This cascadeable Unicable switch is the smallest form factor Unicable switch enabling the reception of 2 satellites and installations with up to 8 satellite receivers over a single cable. In addition to its eight User Bands Unicable output, the multiswitch also features two legacy outputs, a terrestrial antenna input and is powered by an external power supply



INNOVATION

PRODUCTS LEADING INTO



INNOVATION
TELE
satellite
AWARD 08-09/2009

GLOBAL INVACOM OPTICAL LNB
The first worldwide production-ready optical satellite reception and transmission system with excellent results – an investment that already makes sense today



INNOVATION
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satellite
AWARD 10-11/2010

NetUP DVB-IP Gateway 4x
Perfect ease of use, combined with reliable technology – ideal for IPTV providers.



AWARD

THE FUTURE

INNOVATION
TELE
satellite
AWARD MAGAZINE



NetUP DVB-IP Gateway 4x

Now You Can Be an Armchair TV Director Too!



Up until a few years ago TV via Internet or Ethernet was beyond our imagination. Today, however, high-capacity fibre-optic cables and the continuing rollout of broadband connections right to the living room have become a reality. IPTV is one option out of many and these days competes against satellite and cable television. Have you ever thought about how content is actually distributed via IPTV?

To answer that question we looked at the DVB-IP gateway offered by NetUP, which is the ideal system for small systems like at hotels or hospitals, but also for private users or anyone else, who wants to distribute TV content on the Internet.

The NetUP DVB-IP Gateway 4x is a professional product, which means all technology is packed into a 19-inch housing. On addition, all important connection interfaces are located both on the front and rear panels, which is another clear indication that the gateway is not for presentation next to the TV, but should rather be installed in a dedicated server cabinet or professional 19-inch rack.



On the front panel you find a two-line LCD display indicating the current mode of operation and providing valuable help during initial installation of the network interfaces.

Speaking of which, there are a total of six such interfaces, all of which can be set up individually. Above these connections there are 10 LEDs and to the right five buttons allow direct control of the unit. Apart from the network interfaces mentioned above there are two USB ports for hooking up external storage media and an RS-232 port for putting out status information to an external console.



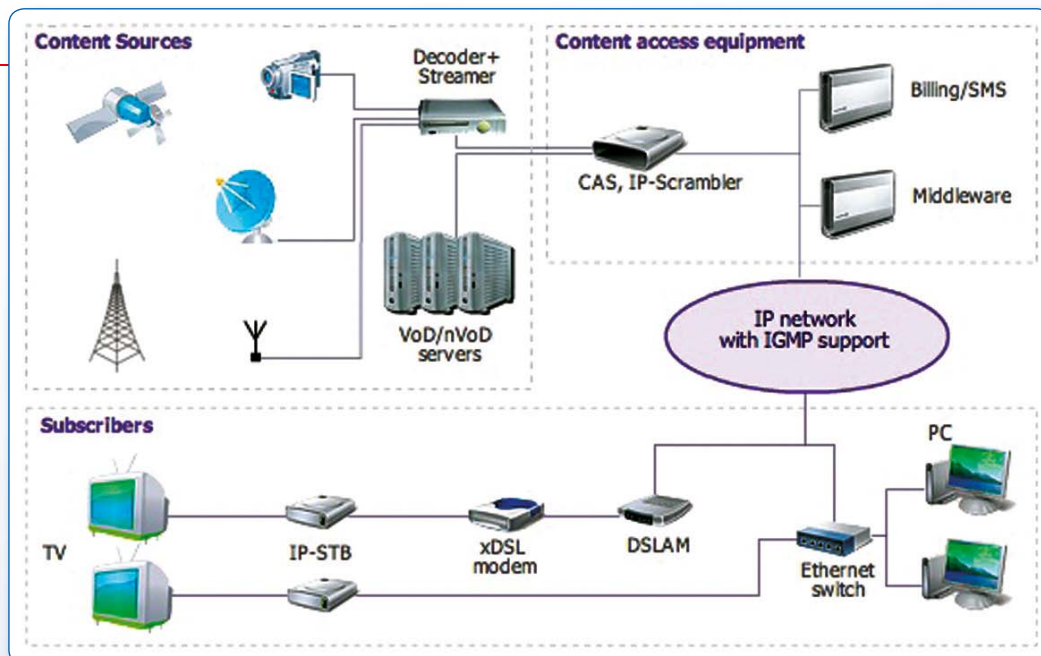
Four satellite IF inputs strike us when looking at the rear panel. They are required to receive the signals for further processing.

As we're talking about a professional device here it goes without saying that each tuner input is equipped with a dedicated Common Interface slot. This means a maximum of four CI modules can be used in connection with this gateway, which also comes with a mechanical power switch.

All components boast extraordinary build quality, with the integrated power supply unit alone letting most competitors turn pale by comparison. The modulator comes with 2 GB of flash memory and a 1 TB hard disk.

Professional use in most cases means permanent use, so a sufficient number of internal fans is paramount to breathe in a steady stream of fresh air. Without these, many sensitive components would risk overheating, which ultimately would result in failure.

Here too, it is more than evident that this gateway is not designed for use in the living room, as the fans create noise that easily equals that



■ Diagram of an IPTV network

of a standard vacuum cleaner. Watching TV next to the gateway is virtually impossible – but as mentioned previously, the gateway should be located in a dedicated server room anyway, where the fans can buzz away happily.

The manufacturer ships this system with a full range of mounting accessories so that the housing can be fitted into any standard 19-inch rack or server cabinet. The manual that comes with the gateway has a very user-friendly design and should answer any question that might ever arise.

Before being able to access the gateway for the first time

a network connections has to be established.

To this end one of the six available network interfaces is connected either directly with a PC or with a router, and is assigned an IP address. The five buttons on the front panel come into play here, as well as the LCD display.

In theory, you can set IP addresses for all three network interfaces directly on the unit; for the sake of simplicity we do recommend to start with one port and deal with the remaining five through the web interface that becomes available once the first port is hooked up. This way all settings can

be selected in the PC's web browser. As soon as the first IP address is assigned to the gateway, all you need to do is enter this address in your browser's address line to access the built-in web server.

You need to enter correct user name and password, which is set to standard values by default. We strongly recommend setting an individual user name and password to make sure the gateway is protected from unauthorised access.

The web interface is extremely easy to use and resembles MS Windows – so it will be familiar to most. In the main menu there are five



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French	Français	www.TELE-satellite.com/TELE-satellite-1011/fra/netup.pdf
Hebrew	עברית	www.TELE-satellite.com/TELE-satellite-1011/heb/netup.pdf
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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-1011/tur/netup.pdf

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items (Files, IPTV, System Administration, System Configuration and System Status), with configuration and administration drawing most attention, of course.

With the help of this integrated web interface all six network ports can be managed separately, and usage data for each of the ports can be retrieved as well.

In case you're wondering why a total of six Ethernet ports are available, when a single one should do, the answer is quite simple: With several Ethernet ports it is possible to distribute channels on various different levels, which means that one level might supply channels that are not available on another distribution level.

Thus it is possible to create up to six different channel packages, which are all received and processed by the same gateway, but can be made up of completely different channels and which can be distributed, marketed or sold individually. In addition, each network adaptor can be assigned different IP addresses so that several levels are available within the same network architecture. Finally, there is also the question of bandwidth as high-definition content may call for distribution on more than one connection.

Our test device came with

four DVB-S2 tuners, which means we were able to receive, process and distribute satellite signals.

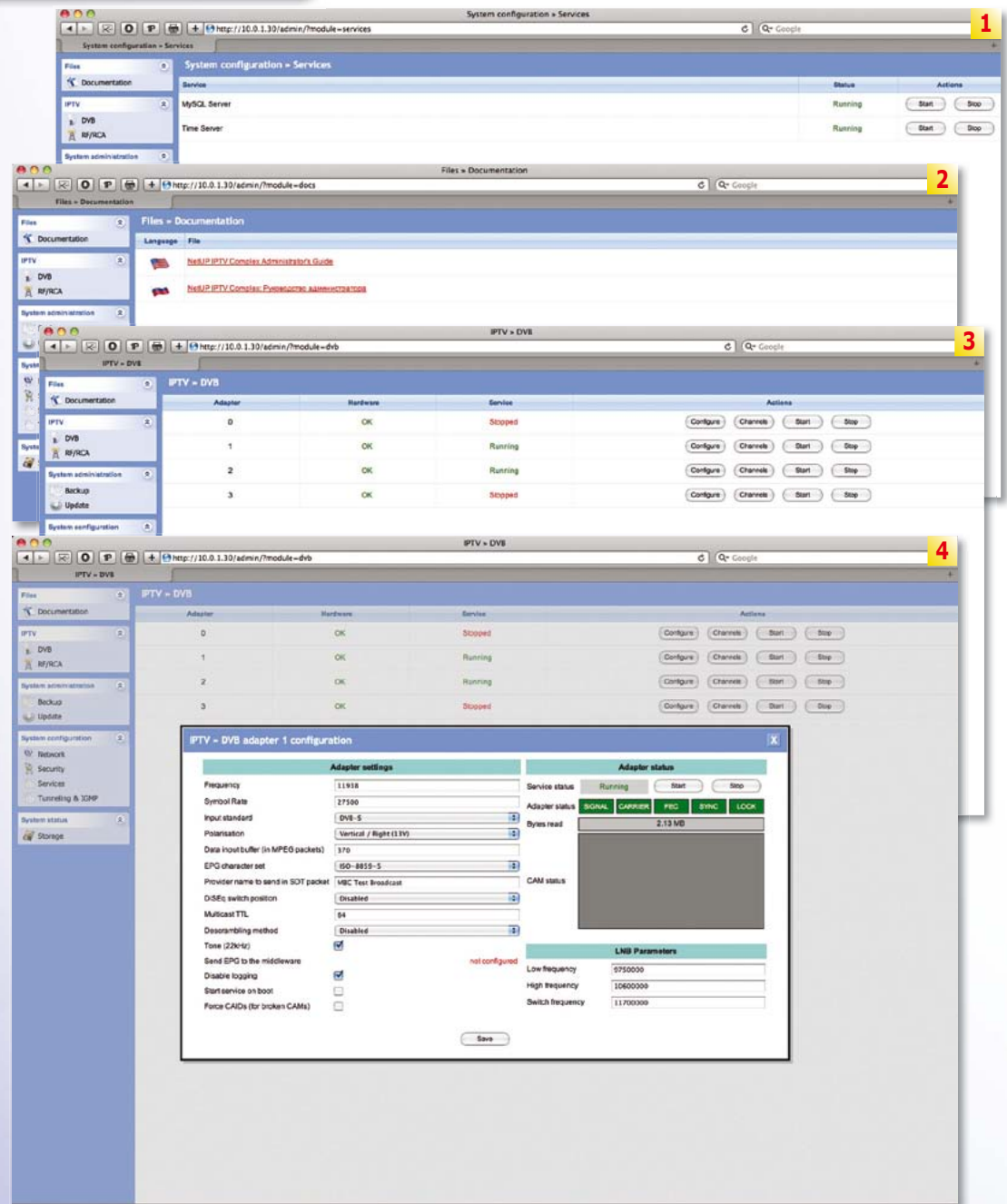
Depending on customer

specifications, however, the NetUP DVB-IP Gateway 4x will also be able to receive DVB-T, DVB-C and analog signals, with reception modules being exchanged similar to Plug&Play hardware components.

The manufacturer is currently working feverishly on implementing this feature,

we have come to expect from receivers for use at home – such as automatic search, extensive DiSEqC options, blind scan and other technical gadgets – are not available, as this is professional equipment focussing on an altogether different scope of application.

With the NetUP DVB-IP



1. Main menu of the web server

2. The manual is stored right in the gateway as PDF

3. Four tuners are available for individual configuration

4. Setting reception parameters

Each of the four DVB-S2 tuners can be set up and configured individually. Features

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becky@svec.com

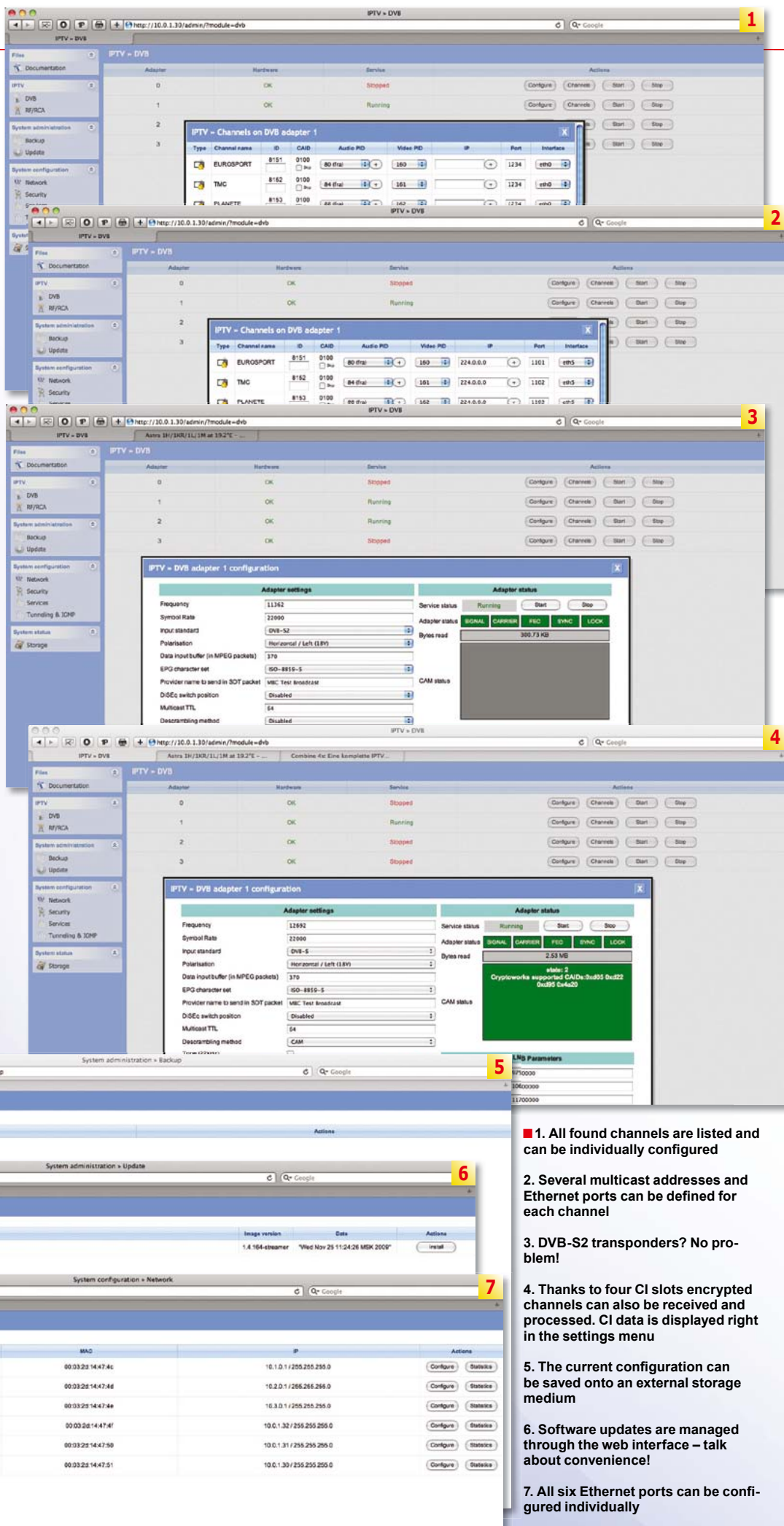


Gateway 4x it is possible to set individual LOF parameters for each tuner, as well as defining simple DiSEqC 1.0 configuration and activating the 22 kHz signal. In addition you need to key in the required transponder frequency, symbol rate used and polarisation – complete with the corresponding power supply for the LNB.

As soon as the gateway has detected an active transponder based on the supplied parameters, five green blocks (for signal, carrier, FEC, sync and lock) appear. If there are reception problems, one or more blocks is/are coloured red, giving an indication of where the problem lies.

Channel selection comes next. Once the tuner has identified and locked a signal, a dedicated menu item is used to display the complete transponder content. Each detected channel (no matter whether TV or radio) is shown with all its technical specifications (audio and video PID).

If more than one PID is provided (in case of multiple audio tracks, for example) you can define which PID is to be distributed. It is then neces-



The screenshots show the following steps:

- 1. All found channels are listed and can be individually configured**: A screenshot of the 'IPTV - DVB' main interface showing a table of detected channels (EUROSPORT, TMC, PLANETE) with their respective parameters and status (Running/Stopped).
- 2. Several multicast addresses and Ethernet ports can be defined for each channel**: A screenshot showing the 'IPTV - Channels on DVB adapter 1' configuration window, where specific multicast addresses and ports are assigned to channels.
- 3. DVB-S2 transponders? No problem!**: A screenshot of the 'IPTV - DVB adapter 1 configuration' window, showing detailed settings for a DVB-S2 transponder, including frequency, symbol rate, and various status indicators.
- 4. Thanks to four CI slots encrypted channels can also be received and processed. CI data is displayed right in the settings menu**: A screenshot showing the 'IPTV - DVB adapter 1 configuration' window with the 'CAM' status section expanded, displaying details for a Cryptoworks CI module.
- 5. The current configuration can be saved onto an external storage medium**: A screenshot of the 'System administration - Backup' window, showing options to create a backup of the current system configuration.
- 6. Software updates are managed through the web interface – talk about convenience!**: A screenshot of the 'System administration - Update' window, showing the current software version and available updates.
- 7. All six Ethernet ports can be configured individually**: A screenshot of the 'System configuration - Network' window, showing a table of six Ethernet interfaces (eth0 to eth5) with their IP addresses and status.

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SPAROS 611 CA HD

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- Integrated Multidecryption CA-Module
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DVB standards



sary to assign a multicast IP address, a port and one of the six Ethernet interfaces to each selected channel. It is also perfectly possible that a channel can be assigned to more than one Ethernet interfaces and multicasts or ports, in order to distribute it on several levels.

It goes without saying that the NetUP DVB-IP Gateway 4x is able to handle EPG data of received channels, which is forwarded to the middleware for further processing and this way provided to the IPTV set-top boxes.

In our test setup we chose to send signals from four different satellites to the gateway. In detail, the signals came from the following transponders: BBC on ASTRA 28.8° East, MBC on NILESAT at 7° West, ORF on ASTRA 19.2° East and a fourth transponder on TURKSAT at 42° East. Even when pushing the tuners to the limit with a rather weak signal from ABS1 at 75° East all four of them were able to put out flawless video and audio. We simply could not ask for more!

Altogether we arrived at an impressive 32 TV channels which were bundled into a multicast using the IP address 224.200.200.201. We also could have left the port with 1234, for example, and distributed the individual channels using separate IP addresses such as 224.200.200.202, 224.200.200.203 and so on.

At the receiving end we used an AzBox Ultra HD (see test report in previous TELE-satellite issue 08-09/2010), which currently is one of only very few receivers capable of processing IPTV alongside DVB-S2. Setting up the AzBox for receiving the channels of our very own IPTV network was a breeze and we were

able to zap up and down a list of 32 channels in next to no time at all. Of course there's no point in setting up such an IPTV network for a single client receiver, which is why we expanded our installation to include various PCs in our editorial office for IPTV access.

The VLC player software (available at www.videolan.org for various operating systems) has turned out to be a handy solution for IPTV reception on the PC, and no matter how hard we tried, there was no way we could ever make the gateway falter. As a matter of fact, there wasn't even the slightest hiccup. This

meant we had to devise a test that would give the gateway the hardest time imaginable. What about transmitting British TV to a colleague in Thailand via IPTV?

Off we went and started with setting up a VPN connection using two Netgear VPN routers at each end before turning on the IPTV gateway. Only seconds had passed before our colleague contacted us on Skype to let us know that our attempt was successful.

For what it's worth, we do have to mention at this stage that we have very fast Internet access at our office, which

1. Precise statistical data is collected for each Ethernet port

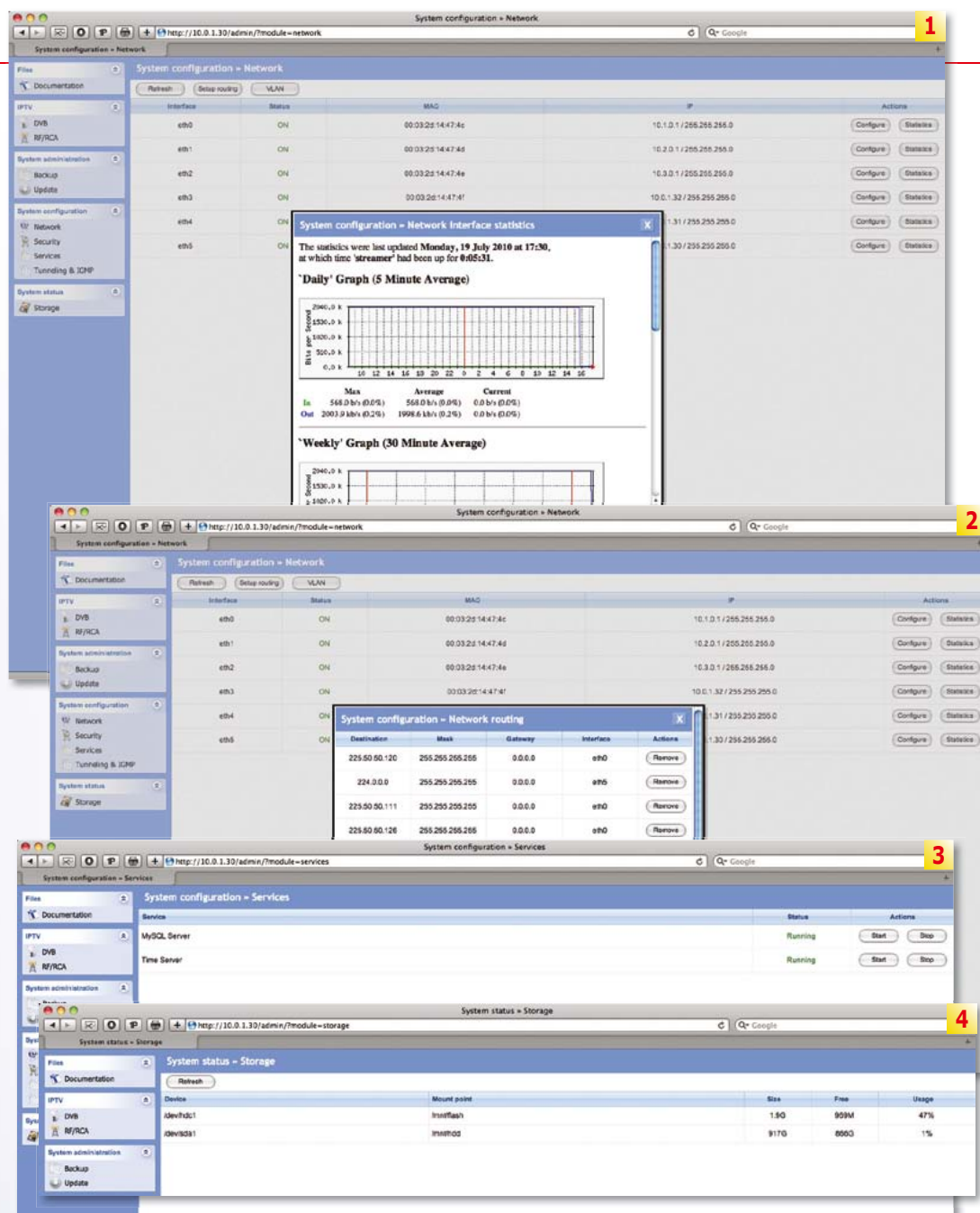
2. Network routing

3. A MySQL server as well as a time server are also available

4. Lots of VOD content can be stored on the built-in 1 TB hard disk

offers uploading speeds in excess of 20 Mbit/s. Anything less would not be sufficient for high-resolution content. At any rate, our Thai buddy was overwhelmed by the audio and video quality as well as zapping speed of the IPTV package we sent to him.

Thanks to DVB-S2 support the gateway is not only capable of receiving and distributing SDTV but also HDTV MPEG4/H.264. We detected





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- Support IRDETO, CONAX CA Chipset-pairing
- Supported Multi-language OSD supported
- USB: PVR, photo viewing, mp3 file playing



HD DVB-S/S2 H.264 CA

- Fully DVB-S and DVB-S2 compliant
- MPEG2/4, H.264 HD/SD decoding (MP@HL/ML)
- CAS support such as Irdeto, Conax...
- Usb PVR ready, timshifting, Live channel Pause
- Low power consumption



SD DVB-S 2tuner USB PVR

- 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)



HD DVB-C H.264 CA

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- CAS support such as Irdeto, Conax, NovelSuperTV, Sumavision
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- Digital album or slide show through USB2.0



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SD DVB-S/S2 H.264 CA

- Fully DVB-S and DVB-S2 compliant
- MPEG2/4, H.264 decoding (MP@HL/ML)
- CAS support such as Irdeto, Conax...
- Electronic Program Guide(EPG)
- USB: PVR, photo viewing, mp3 file playing



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- Disecq 1.0 and 1.2 compatible



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no fault when playing back HDTV content via IPTV. In addition, the gateway automatically detects and adjusts to technical parameters such as modulation and error correction, which is a feature we cannot praise highly enough.

The overall impeccable impression of the NetUP DVB-IP gateway is further complemented by a number of routing options, the integrated 1 TB hard disk as well as a very user-friendly software update feature. All it requires is to download the latest firmware from the manufacturer's website and then transfer it to the NetUP DVB-IP Gateway 4x via the network using FTP. It immediately appears in the update menu, complete with exact version number, and can be loaded and installed with a simple click.

All six Ethernet ports are 10/100/1000 Mbit LAN compatible, which means they support the current maximum that is technically feasible. The gateway itself is capable of simultaneously processing up to four transponders with an overall bandwidth of up to 240 MB/s. With its dimension of 430x44x411 it exactly fits into a standard 19-inch rack or a server cabinet, and its weight is a whopping 11.5 kg (mainly due to its high-end power supply unit). As you would expect from professional equipment, the gateway automatically reboots after power failure and returns to

the operating mode last used. Voltages from 90 to 240 VAC and 47 to 63 Hz can be handled by the power supply unit, which allows for global use of the gateway. When running the NetUP DVB-IP Gateway 4x draws approximately 100 W of power.

While the NetUP DVB-IP Gateway 4x is one component of many that make up a fully-fledged IPTV network, it can of course also be used for its own sake, just like we did in our test setup. It is responsible for processing and converting a DVB signal into an IPTV compatible format and thus serves as an interface between DVB input signal and IPTV network.

Client receivers, on the other hand, simply switch between channels and packages using different IP addresses and ports. With this approach in mind the gateway might act as a convenient backbone for supplying signals to several monitors within a building, and – naturally – for distributing satellite, cable or terrestrial signals via a network or the Internet. Speaking of which, it yet remains to be seen whether we will be allowed to disconnect our test gateway, as our Thai colleague seems to have become a BBC addict in the meantime. He is strongly opposed to us ending this test, as the BBC channels he can receive at the moment are not available otherwise in Thailand.

In most cases, however, the DVB-IP gateway will be used as an integral component in a much more complex IPTV network. To this end the gateway is connected to middleware which creates a provider-specific graphic OSD and presents channels processed by the gateway in an easy-to-use and visually pleasing design. Operators may even add VOD (video on demand), billing or other customer-specific features, which make such an IPTV network a perfect system for hotels, hospitals, apartment buildings or similar fields of application.

We should add at this stage that NetUP does not only offer its gateway as a single component, but also complete IPTV systems by way of turnkey solutions. These may include corresponding middleware and VOD, apart from the gateway at the core of the network.

The IPTV Combine 4x is one of these systems, and

here again we can say with conviction that the manufacturer does not offer half-hearted solutions: Both the DVB-IP Gateway 4x and the IPTV Combine 4x with built-in middleware are based on exactly the same hardware. So if a client already operates the DVB-IP Gateway 4x and needs to upgrade his system to IPTV Combine 4x with built-in middleware and VOD services all he needs to do is purchase extended software to magically unlock all Combine 4x features without having to change a single hardware component.

This upgrade option is also one of the reasons why every DVB-IP Gateway 4x is shipped with an enormous 1 TB hard disk in the first place. Its full capacity is only required once the gateway has turned into an IPTV Combine 4x with VOD, when the hard disk is filled with content for users to watch whenever they feel like it. We believe you can gather from what you have read so far



AzBox HD Ultra channel list consisting of both DVB-S and IPTV channels



that we were truly impressed with the DVB-IP Gateway 4x during our test. Extraordinary build quality and perfect ease-use are among its key characteristics.

While you have a comprehensive and well written manual at hand at all times, it would probably even be possible to set up and run the system without it. Naturally, technical details and useful hints can only be found in the written documentation.

NetUP uses very low threshold tuners which deliver a stable signal even under far from perfect reception conditions.

Thanks to a total of six Ethernet ports output signals can be freely configured and distributed on different levels. An additional highlight is hidden behind the convenient update feature that can easily turn the gateway into an IPTV Combine 4x with built-in middleware and VOD.

Glossary:

DVB-IP Gateway

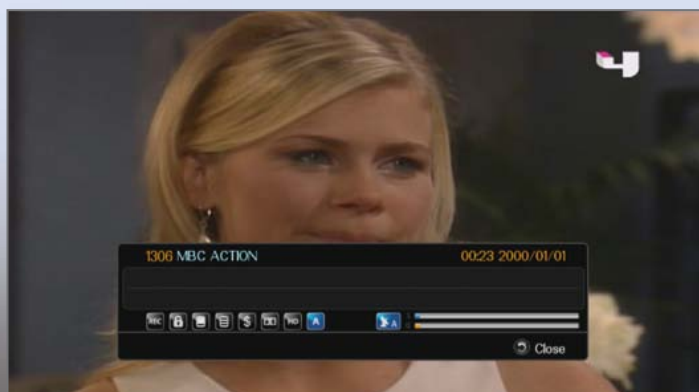
Converts DVB signals received via satellite, cable or antenna so that they can be distributed via an IPTV network.

Middleware

Takes care of displaying content in a visually pleasing way. Creates on-screen menus for IPTV receivers and thus provides a graphic interface for end users.

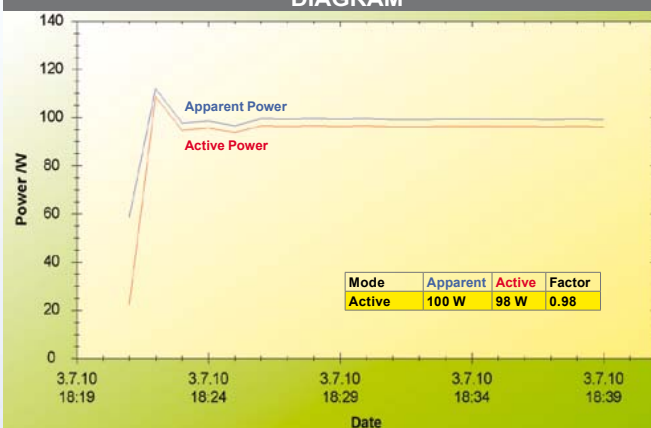
VOD

Allows permanent access to stored multimedia content. Users are able to start, pause and stop playback at any time, without being restricted to scheduled times.



MBC4 via IPTV on the AzBox Ultra HD

ENERGY DIAGRAM



Expert Opinion



- Excellent build quality
- Easy to use
- Low threshold tuner
- Versatile network options
- SDTV and HDTV reception
- DVB-S2 compatible
- Upgrade option to IPTV Combine 4x standard



Fan noise

TECHNICAL DATA

DATA	
Manufacturer	NetUP, Olof Palme Street 1, Floor 7 resp. Postbox 87, 119311 Moscow, Russia
Fax	+7 499 143 5521
E-Mail	info@netup.tv
Model	DVB-IP Gateway 4x
Function	IPTV Gateway for DVB Signals
Tuners	4
Max. simultaneous Transponders	4
Max. bandwidth	240 MB/s
DiSEqC	1.0
Ethernet ports	6 x Gigabit Ethernet 10/100/1000 MB/s
CI Slots	4
USB Connector	yes (2)
RS232	yes
Dimensions	430x44x411mm
Power	90 ~ 264 Volt, 47 ~ 63 Hz
Weight	11.5kg
Consumption	~ 100W





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SK60-PWT19 Offset Dish of SVEC



Turn Your
Antenna
Upside
Down

Those who live at low and medium latitudes tend to think that an offset dish has always its LNB support arm below the reflector. But is this really a must to install a dish in such a way? What about putting the arm above the dish? Well, there is no law forbidding that but due to practical reasons, this mostly makes sense for rather low elevation satellites (below 30°). This practical reason is keeping the reflector as vertical as possible to prevent rain, snow and dirt to gather in it.

■ The SVEC dish mounted „upside-down“: SVEC's unique mast mount allows the dish to be mounted in reverse. This is suggested for areas closer to the pole regions, this means in areas where the elevation for the desired satellite ranges from 0 to 40 degrees. Another use is in certain circumstances, f.i. on a crowded balcony, putting the arm above the reflector might be the solution when mounting the arm below reflector would not fit.

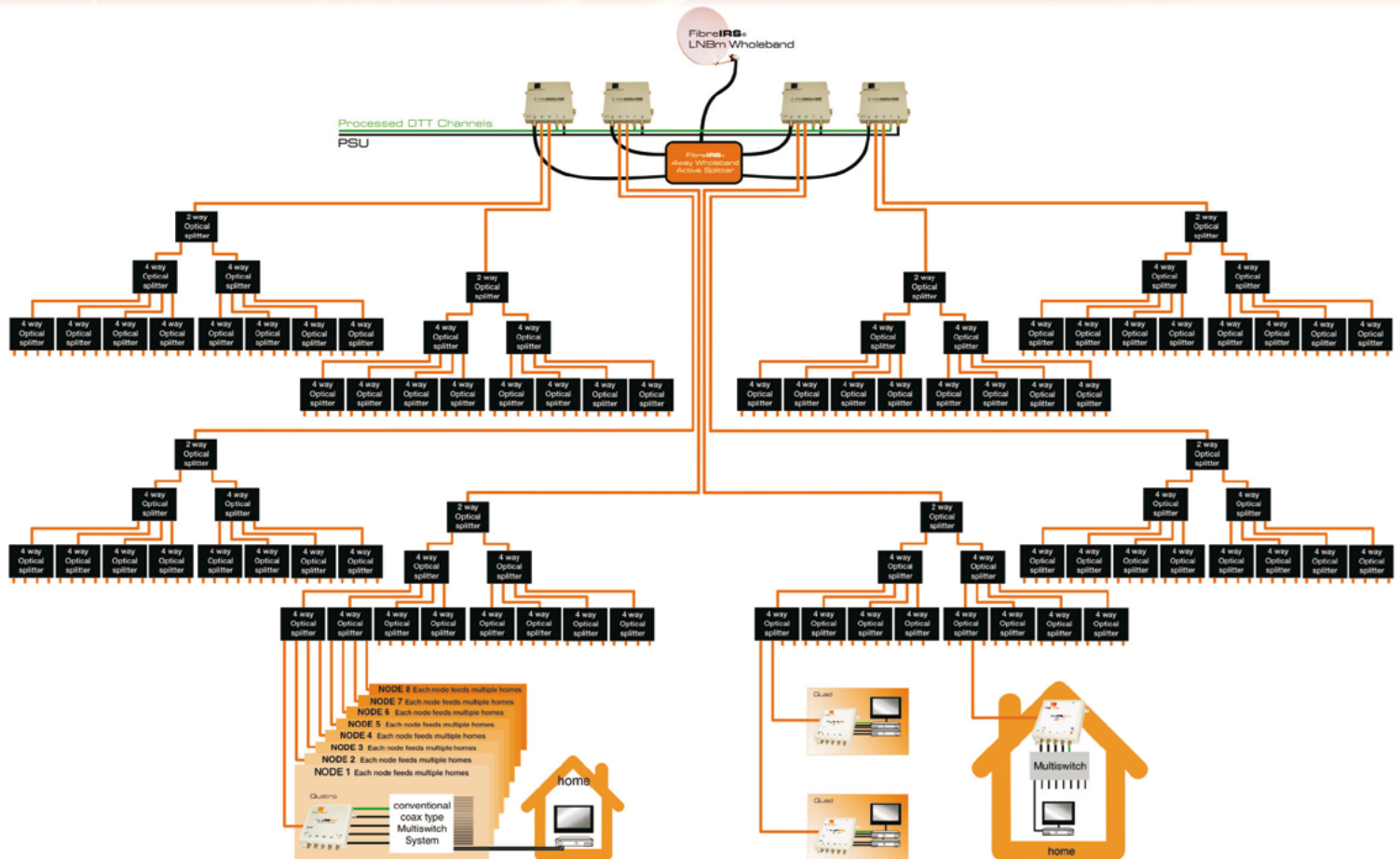
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 completing the picture

An offset dish receives satellite signals not perpendicularly coming to its reflector surface but at an angle of about 25°. This means that to receive a satellite at the elevation of 25°, the reflector is positioned vertically. If the elevation is lower, the reflector must be tilted toward the earth what may look as if something is wrong with our dish. Why not to turn it upside down and position the LNB support arm above the reflector? That's exactly what SVEC have done with their SK60-PWT19 60 cm offset dish for Ku-Band!

SVEC shipped us a neatly packed carton box with two sets of SK60-PWT19. Everything was in perfect condition. We were happy to notice that this dish comes with assembly drawings and a bill of materials what is very helpful in assembly process. Every part of the kit was very well finished off and matched all other parts without any problem. Assembly was nothing but fun. If you have already a vertical pole to mount the dish, all you need to use is a 10 mm spanner and Phillips screwdriver.

Due to the fact that both azimuth and elevation angle adjustments depend on two screws each, it is really easy to rotate and tilt the dish smoothly. The SK60-PWT19 will not slip down the pole even if you loose the 2 screws of the pole bracket too much. There is another long screw crossing the top part of the pole bracket and the dish will rest on this screw. That screw is the axis of the elevation adjustment

■ TELE-satellite test editor Jacek Pawlowski is measuring the performance of the SVEC 60cm dish SK60-PWT19





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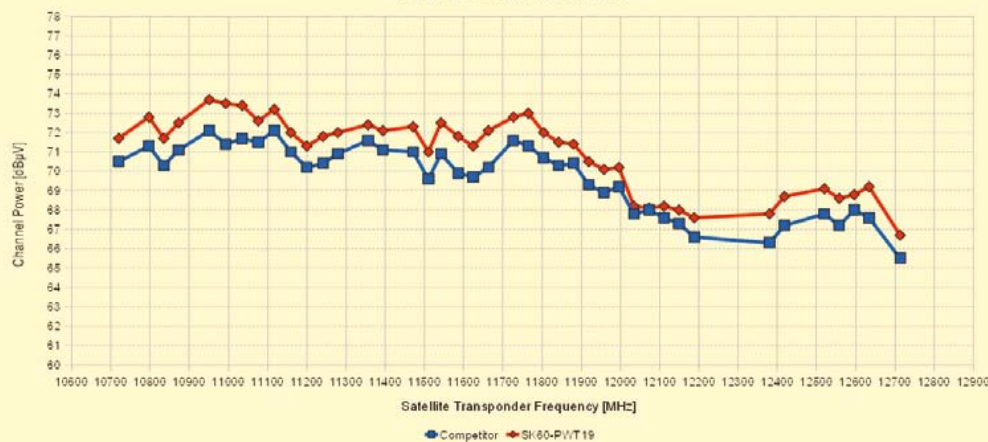
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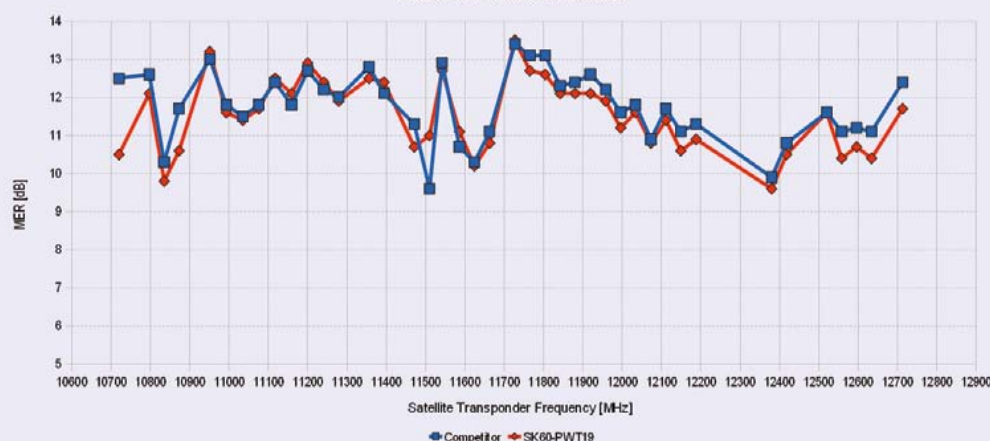
SK60-PWT19 Compared with a Competitor Product

Hotbird 13E Vertical Polarization



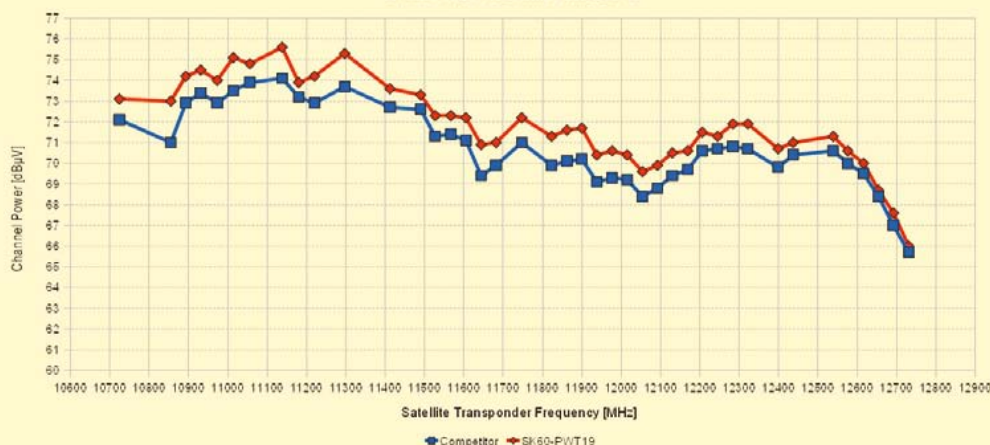
SK60-PWT19 Compared with a Competitor Product

Hotbird 13E Vertical Polarization



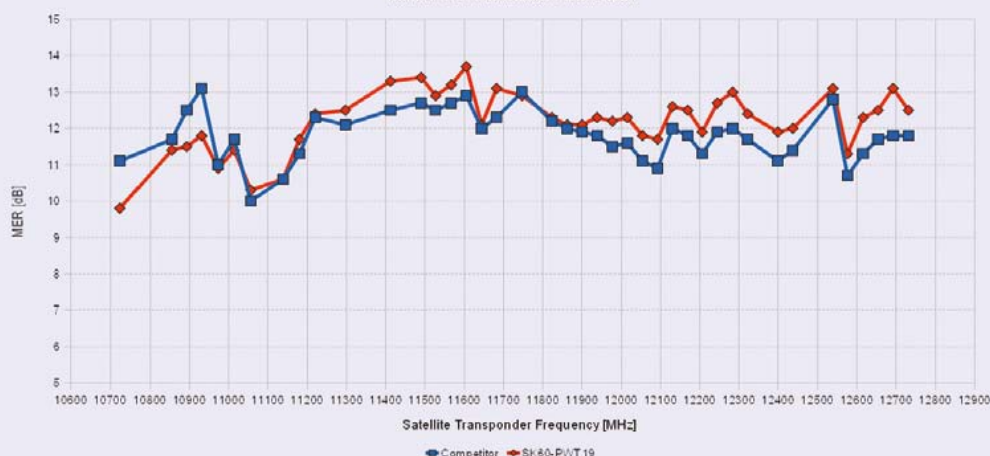
SK60-PWT19 Compared with a Competitor Product

Hotbird 13E Horizontal Polarization



SK60-PWT19 Compared with a Competitor Product

Hotbird 13E Horizontal Polarization



mechanism. In some cases, this might be a disadvantage because the dish must sit on the top of the pole. So if you plan to use the same pole for a satellite antenna and a terrestrial antenna, you might have to think it over. Usually, the satellite dish is mounted below and the terrestrial yagi antenna above to minimize the impact of wind on the pole.

The assembly drawings that accompanied the dish showed two ways of assembly: the regular way with the LNB arm below the reflector (elevation range 30-90°) and the reversed way with the arm above the reflector (elevation range 0-40°). You can see both variants in the photographs. The "upside down" mount looks a little bit weird, but everything works OK assuming that your satellite elevation is in the range 0-40°.

It is still more reasonable to use the traditional way for the satellites between 30-40° because the reflector is more vertical – so there is lower risk of collecting rain, snow or dust in it. However, if you like triggering curiosity among your neighbours, the reverse mount can be your choice.

SVEC gives you more than a complete dish. There is an additional bended pole along with the foot that you can use to attach the whole assembly either to the wall, or to the roof. Interesting thing is: it does not need to be a vertical or horizontal surface. You have smooth adjustment from 0 through 90° so you can use anything what is solid enough to become a base of the antenna.

In our test we used one of our existing vertical poles.

Signal measuring for DVB-S2, DVB-S, DSS

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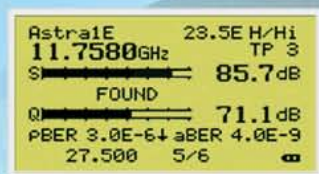
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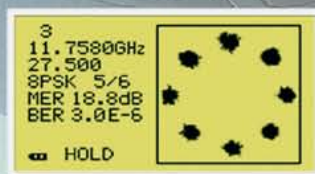
Li-Poly Battery (7.4V 3800mA)



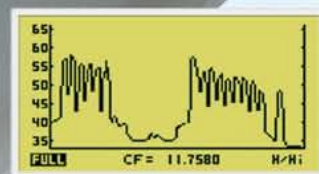
Satellite signal measurement
(Analog / Digital)



MER(SNR), BER measurement
(Analog / Digital)



I/Q Constellation Diagram
(QPSK / 8PSK)



Spectrum analyzer
(with Rotator control)

We first measured a competitor's 60 cm offset dish and then put the SK60-PWT19 on the pole. The graphs tell the whole story. The SVEC dish performed very well indeed. We managed to achieve

stronger signal by about 1 dBμV and the same signal quality as from the competitor's product. Our conclusion – everything is perfect with antenna geometry of this SVEC dish.

Expert Opinion

+

Very good workmanship
Wide elevation range: 0~90°
Smooth and easy adjustment of elevation and azimuth
Rigid design
Excellent geometry = high gain
Additional bended pole in the set for wall/roof assembly



Jacek Pawlowski
 TELE-satellite
 Test Center
 Poland

-

Designed to be mounted on the top of the pole which limits its versatility a bit

TECHNICAL DATA

Manufacturer	Sichuan Video Electronic Co., Ltd.
Web page	www.svec.com.cn
Email	svec@china.com
Fax	+86-028-87838898
Model	SK60-PWT19
Description	Offset Dish for Ku-Band
Dimensions	60 x 66 cm
Offset angle	25.36°
Ku-band Gain @ 12.5GHz	35.3dB
F/D ratio	0.58
Focus length	32.4 cm
Mounting type	Pole and wall mount
Material	Steel
Finish	Polyester powder coating with light gray color
Elevation alignment	0~40° and 30~90°
Resistance to wind	60 m/sec

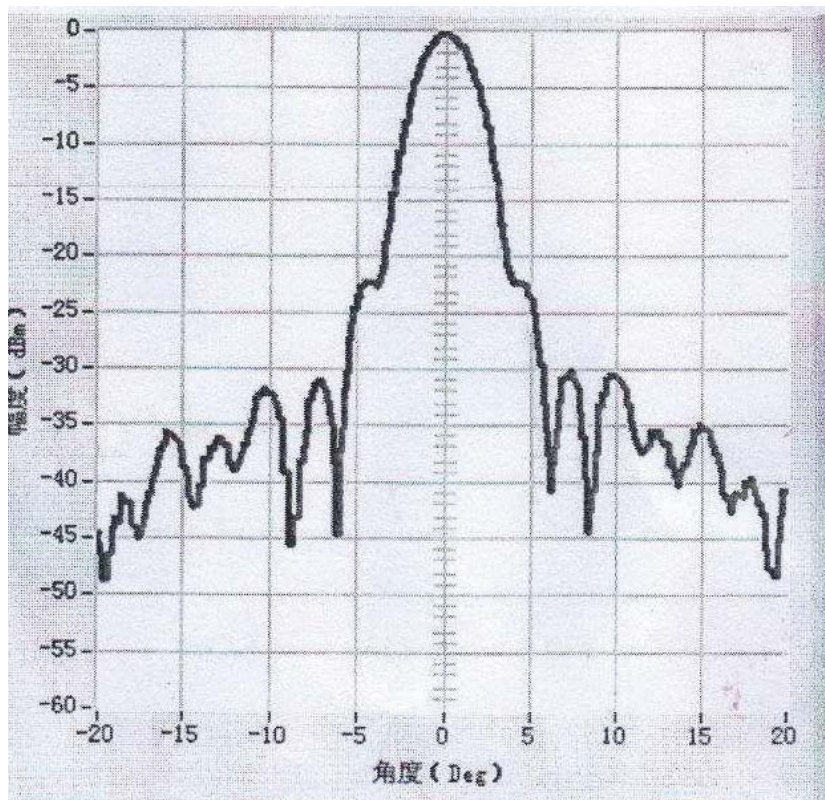


■ This is how the SVEC 60cm dish arrives with the customer: all parts can easily be assembled

SK60-PWT19 Offset Dish by SVEC

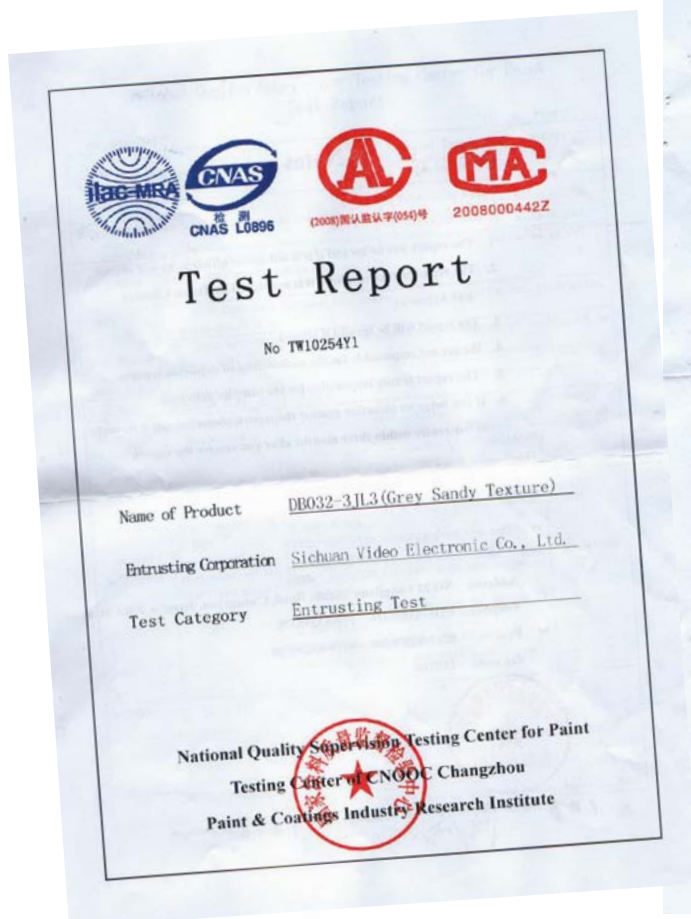
Far Field Testing Report

Far Field Testing in the Microwave Room at 11.0 GHz and beam width: 3.05. The graph shows a first side lobe with -30.0 dB. SVEC's offset dish is indeed a high gain model.



Salt-spray Testing Report

This report shows that SVEC's dish surface stays unharmed even after 700 hours (1 month) of continuous salt spray. This is an excellent result and makes the SVEC dishes stand out from competitor's products. SVEC's coating secures an outstanding longevity of these dishes.



National Quality Supervision Testing Center for Paint
Test Report

No. TW10254Y1 Total:1 Page:1

Name of Product	DB032-3JL3 (Grey Sandy Texture)	No. of Sample	TW10254
		Trademark	/
Manufacturer	Alko Nobel Powder Coatings (Chengdu) Co., Ltd.	Entrusting Date	March 4, 2010
		Arriving Date	March 5, 2010
Description Of Sample	The appearance of the 4 test panels on steel plates delivered by the entrusting corporation is grey and flat.		
Basis of Test	HG/T 2006-2006 Thermosetting powder coatings (exterior use, first grade, specular gloss $\leq 60^\circ$)		
Test Method	GB/T 1771-2007 Paints and Varnishes—Determination of resistance to neutral salt spray		
Rating Method	/		
Test Date	March 10, 2010~April 12, 2010		
Test Item	Technical Requirements	Test Results	Item's Conclusion
Neutral Salt Spray Test	500h: the creepage from the scribe $\leq 2.0\text{mm}$; no abnormal phenomena on the unscribed areas	The followings are the test results of the test panels during 700 hours neutral salt spray test: 24h~168h, the creepage from the scribe is 0.1mm~0.5mm. 192h~288h, the creepage from the scribe is 0.6mm~1.0mm. 312h~600h, the creepage from the scribe is 1.1mm~1.9mm. 624h~700h, the creepage from the scribe is 2.1mm~2.4mm. 24h~700h, there is no change on the unscribed areas of the paint film.	Qualified
Remarks:			
Approver: [Signature]		Checker: [Signature]	Tester: [Signature]
Date of Sign and Issue: April 14, 2010			

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WDE-4220 MPEG-2/4 ENCODER

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WDQ-3204 QAM MODULATOR

WDE-H2220 HD ENCODER

WDT-1204 TS RECEIVER

4 OUTPUT RETURN OPTICAL RECEIVER

WR8602JDS ROOM OPTICAL RECEIVER

OPTICAL SWITCH

WR8602RJL ROOM OPTICAL RECEIVER

1550nm INTERNAL MODULATION OPTICAL TRANSMITTER

1550nm EXTERNAL MODULATION OPTICAL TRANSMITTER

1310nm EXTERNAL MODULATION OPTICAL TRANSMITTER

ERBIUM DOPED FIBER AMPLIFIER



CATV OPTICAL FIBER COMMUNICATION SYSTEM PLATFORM WOS-3000

Horizon HD-S2 Satellite Signal Meter As Easy to Use as Its Older Brother



The HD-S2 is the successor of the HDSM USB PLUS - the satellite signal meter TELE-satellite presented in issue 10-11/2007. At that time the meter was not compatible to DVB-S2. But now of course it is! But this is not the only improvement Horizon have introduced in their new meter. We will address the novelties later in the report but first we would like to emphasize that the most important characteristics of this meter - its ease of use, has been preserved. We could repeat the title of the report in which we were describing its predecessor: "even a total dummy can use it". It still holds true!

As with all other Horizon meters, when the HD-S2 is delivered, its internal battery needs to be charged for about 8 hours. Power supply is built-in so you only need to link up the included mains lead to charge the internal battery. You can also use the DC car charger lead to top-up the charge. When fully charged, it serves for more than 8 hours

at maximum load. This is possible thanks to the modern Lithium-Polymer (Li-Po) battery. The battery is accessible through a flap door on the underside of the meter, so it is possible to replace it in the future or disconnect it if you think you will not use the HD-S2 for some time.

The front panel consists

of two F connectors, LCD screen with backlight and a four button keypad. There is a plastic cover that is attached to the front panel. The meter is well protected from rain drops when used in the field. The output F-connector which probably will not be used very often is protected with a rubber cap. Rain has no chance to get inside the instrument.

Another "layer of defense" against hostile environment is the nylon carry case. It has a practical pocket on its side and a quick start guide on the inner surface of the flap. Velcro openings allow you to connect cables without removing the meter from the bag. Neck strap of adjustable length lets you free both of your hands to handle a satellite dish.

Usage

If you are familiar with any other type of Horizon meters – a satellite, cable or terrestrial one, you really do not need much time to figure out how to operate their new HD-S2. The up arrow takes you to the setup menu and the down arrow to the regular operation. Up/down buttons are used to navigate the



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- USB2.0 host for PVR function
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Products Lines

- HD DVB-S/S2
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- HD DVB-T
- HD ISDB-T
- SD DVB-C
- SD H.264 DVB-T
- Advanced Security CAS supported for all models.



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Website:www.boxsam.com Email:OM@boxsam.com

menu and left/right ones to select option/value for a given menu item.

There are twelve menu items in the Setup Menu: Backlight (on/off), Clicking (on/off), Brightness (0...15), Contrast (0...50), Sleep (1...30 minutes or always on), Language (English, French, Indonesian, Spanish, Italian, German, Dutch, Polish, Swedish, Danish, Norwegian, Croatian), RF power units (dBμV/dBm/dBmV), LNB voltage (zero or 13/18V), Defaults, Azimuth (Mag/True), Firmware version and a list of European Cities.

The last item requires some explanation. The Horizon HD-S2 can calculate the satellite dish elevation and azimuth any given satellite. In order to use it, you have to select your location. The menu option "Eur

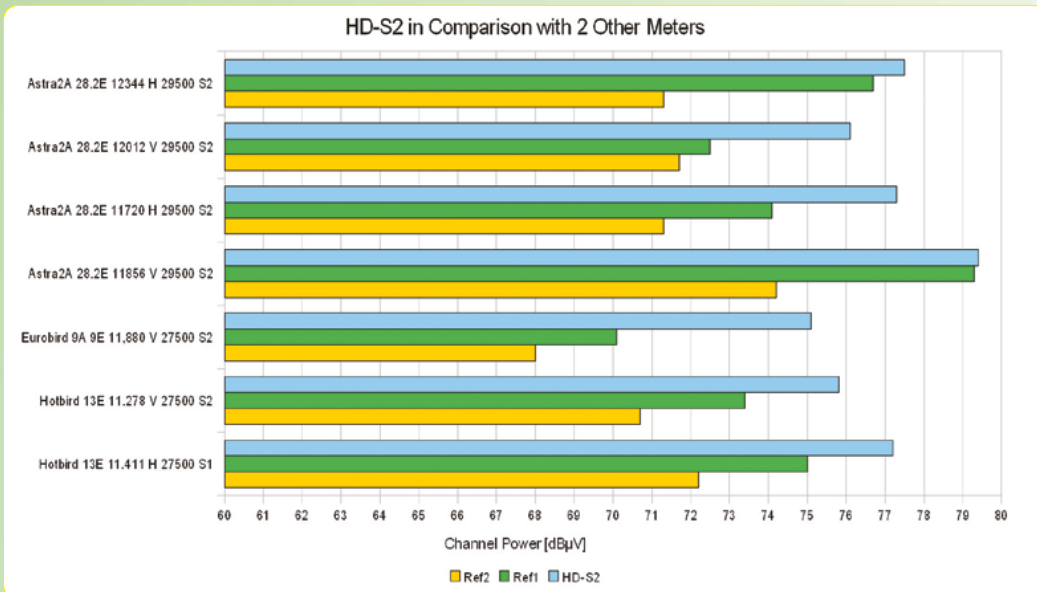
Cities" indicates which lookup region is loaded. Choosing a city close by to your location speeds up the process. Depending on your choice the dish azimuth will be calculated related either to geographical or magnetic pole.

When everything is set accordingly to our preferences, we can leave the Setup Menu by switching the meter off. Now we can connect the LNB output to the INPUT connector on the HD-S2 front panel and switch the meter on

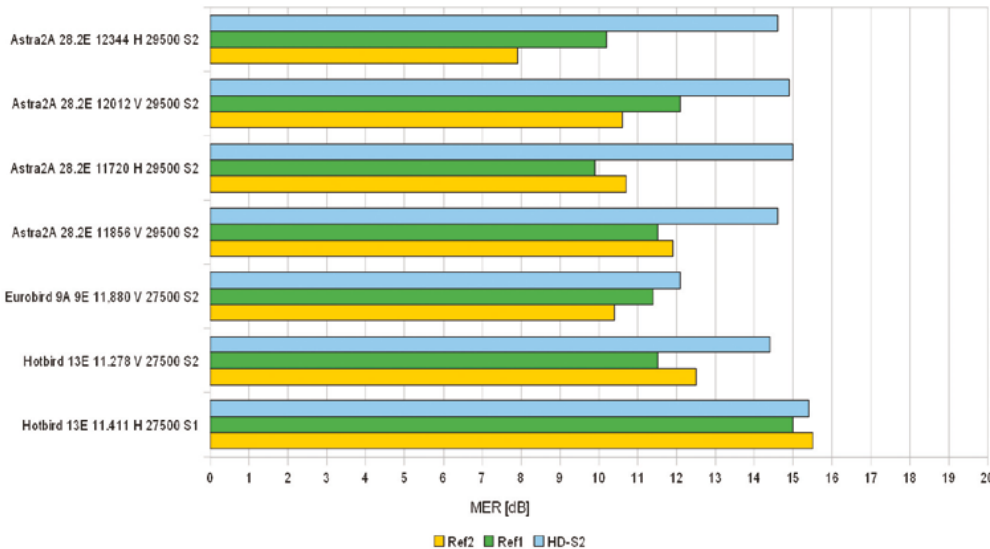
with the down arrow button. After the welcome screen, the meter displays the signal search screen. At the top, there is a satellite name and below a signal strength bar and channel power value in dBμV (or the other units set in the Setup Menu). With left/right arrows, you can change the satellite and once the satellite you are interested in is displayed, it is time to start turning round the dish.

While sweeping the dish, you do not have to look at the HD-S2 display because it generates beeps. They change in pitch and repetition rates depending on signal strength. It is very easy to detect the right position of the dish just by listening.

As soon as the meter locks to the received signal, the padlock symbol on the screen is displayed as locked and an additional bar is shown. It presents Modulation Error Ratio (MER). Its value in dB is shown just below the bar. MER is measured with 0.1 dB resolution which is more than enough to precisely align the dish. However, Horizon did



HD-S2 in Comparison with 2 Other Meters



one step more. After pressing the arrow down button, we can see a magnified (zoomed) display of signal strength and MER. The readings are even more sensitive to changes in antenna position than before.

Another arrow down press and we can see Bit Error Rate (BER) for DVB-S signal or Derived Bit Error Rate (DER) for DVB-S2. If this is

not enough, we can leave the signal search screen (with the up arrow button), and select the Spectrum item in the main menu. The Horizon HD-S2 will then show us a part of the spectrum with the channel under test in the screen center. Above the spectrum a number of parameters is presented in an alternating way: center frequency, frequency span, LNB polarization and

22 kHz signal presence. In low signal level conditions, we should use the neighboring menu item: Spectrum with a magnifying glass symbol.

Another interesting menu item we can visit is the Constellation. As you can expect, it displays signal constellation diagram (QPSK, 8PSK or APSK – depending on signal). Additionally, LCD reads signal

frequency, symbol rate, modulation, FEC, IQ swap and presence of pilots (DVB-S2).

The HD-S2's default list of our test sample contains 20 transponders from the 13 most popular European satellites. The units shipped to other regions of course will show the respective popular satellites. Horizon's web page www.horizonhge.com contains a download subpage for the HD-S2, from where in future these country specific lists can be downloaded.

However, if you are not happy with their list, you can as well generate your own list. There are four DVB-S and another four DVB-S2 custom transponders the user can program himself. They are accessible in the Customize menu item. You define here all necessary parameters: LOF frequency, 22 kHz signal, transponder frequency, symbol rate, FEC (can be left Unknown = Auto), LNB voltage, IQ swap and pilots (for DVB-S2 only; can be left as Auto).

An important feature of the meter is its ability to send DiSEqC commands. The HD-S2 is compatible with DiSEqC 1.0 and 1.1. In separate menu items, you can select one of the 2 satellites, one of the 4 satellites or one of the 16 satellites. Moreover, the Horizon HD-S2 can send appropriate commands to drive dual horn systems in which you select not only one of the two satellites but also the sub-band and polarization. Unfortunately, you can not use HD-S2 to control DiSEqC motors.

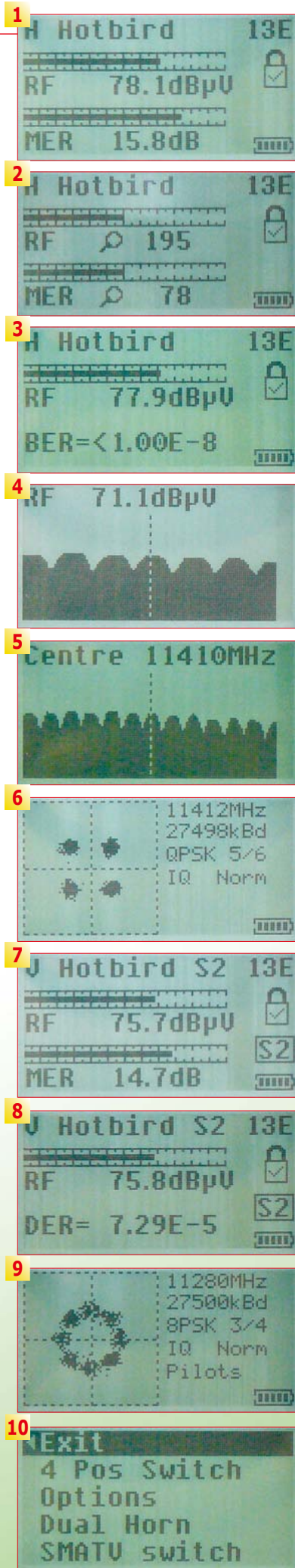
If you think that's everything the HD-S2 can do for you, you are wrong. For example, it has special menu items specially for testing the Internet-via-Satellite service Astra2Connect which searches for the transponders dedicated for

Log Entries													
ID	Name	Longitude	dBm	dBuV	dBmV	Locked	Pilots	IQ Swap	MER	QBER	Nominal Freq kHz	Measured Freq kHz	Nominal Sym. Rate
00009-001	V Hotbird 13E	13.0E	-37.65	71.1	11.10	Y			15.9	4.677300E-004	11199000	11200963	27500
00009-002	H Hotbird 13E	13.0E	-36.85	71.9	11.90	Y			15.1	6.000000E-008	11410000	11412363	27500
00009-003	V Hotbird tp124	13.0E	-36.35	72.4	12.40	Y			14.9	5.858730E-003	10992000	10993433	27500
00009-004	H Hotbird tp125	13.0E	-36.95	71.8	11.80	Y			14.1	5.701860E-003	11013000	11014205	27500
00009-005	V Hotbird tp126	13.0E	-37.5	71.7	11.70	Y			14.0	3.613100E-004	11013000	11014206	27500
00009-006	H Hotbird tp127	13.0E	-37.15	71.6	11.60	Y			13.6	9.672500E-004	11054000	11055715	27500
00009-007	V Hotbird tp128	13.0E	-36.95	71.8	11.80	Y			14.8	1.200000E-007	11075000	11076440	27500
00009-008	H Hotbird tp129	13.0E	-37.5	71.7	11.70	Y			14.2	5.598350E-003	11056000	11057218	28000
00009-009	V Hotbird tp130	13.0E	-37.25	71.5	11.50	Y			15.0	6.532850E-003	11117000	11117970	27500
00009-010	H Hotbird tp131	13.0E	-36.75	72.0	12.0	Y			13.1	5.322470E-003	11137000	11138694	27500
00009-011	V Hotbird tp132	13.0E	-37.55	71.2	11.20	Y			15.2	6.147380E-003	11158000	11159476	27500
00009-012	H Hotbird tp133	13.0E	-37.15	71.6	11.60	Y			14.4	4.838330E-003	11179000	11180185	27500

Horizon's HD-S2 internal memory content viewed with the Log Reader application after running Log All function with a HOTBIRD 13E satellite signal

	A	B	C	D	E	F	G	H	I
1	ID	00009-001	00009-002	00009-003	00009-004	00009-005	00009-006	00009-007	00009-008
2	Transponder	V Hotbird 13E	H Hotbird 13E	V Hotbird tp124	H Hotbird tp125	V Hotbird tp126	H Hotbird tp127	V Hotbird tp128	H Hotbird tp129
3	Longitude	13.0E	13.0E	13.0E	13.0E	13.0E	13.0E	13.0E	13.0E
4	RF dBm	-37.65	-36.85	-36.35	-36.95	-37.5	-37.15	-36.95	-37.5
5	RF dBuV	71.1	71.9	72.4	71.8	71.7	71.6	71.8	71.7
6	RF dBmV	11.10	11.90	12.40	11.80	11.70	11.60	11.80	11.70
7	Locked	Y	Y	Y	Y	Y	Y	Y	Y
8	Pilots								
9	IQ Swap								
10	MER	15.9	15.1	14.9	14.1	14.0	13.6	14.8	14.2
11	QBER	4.677300E-004	6.000000E-008	5.858730E-003	5.701860E-003	3.613100E-004	9.672500E-004	1.200000E-007	5.598350E-003
12	Nominal Frequency kHz	11199000	11410000	10992000	11013000	11013000	11054000	11075000	11056000
13	Measured Frequency kHz	11200963	11412363	10993433	11014205	11014206	11055715	11076440	11057218
14	Nominal Symbol Rate kS/s	27500	27500	27500	27500	27500	27500	27500	28000
15	Measured Symbol Rate kS/s	27500	27500	27500	27500	27500	27501	27500	28001
16	Standard	DVB-S1	DVB-S1	DVB-S1	DVB-S1	DVB-S1	DVB-S1	DVB-S1	DVB-S1
17	Code Rate	QPSK 5/6	QPSK 5/6	QPSK 2/3	QPSK 3/4	QPSK 3/4	QPSK 5/6	QPSK 3/4	QPSK 3/4

The HD-S2 log can be exported to a csv file and then imported to any spreadsheet editor



this service. Another rather unusual function is the LNB drift measurements which can be used for example to check if the LOF drift is the reason of loosing the signal in a reception system. Furthermore, the HD-S2 can even test a LNB/ cable for short/open circuits.

Finally, it can log the measurement results in the internal memory. Using the Log Reader application for PC downloadable from Horizon's website you can view the stored results as well as transfer them from the HD-S2 to your PC in an ASCII file format.

More exotic functions like SCR Output test and Histogram Function will be available via downloads from Horizon web page. They will extend the versatility of the meter for the real specialists. 21 V LNB supply is needed for SCR (Single Cable Router) and HD-S2 has no problem with that. It has a special menu item: LNB 21V.

Performance

To verify the meter's accuracy, we compared it with 2 other higher class instruments – more complex and much more expensive than the HORIZON HD-S2. As you can see in the graphs, the HD-S2 readings were a little bit on

the optimistic side, always giving superb readings.

However, if you use the meter for antenna alignment – what is after all its main application – the HD-S2 gives exact figures for installation. You will always tune your reception systems for maximum signal strength and quality. With one meter the maximum is at MER = 11.5 dB and with the other at MER = 15 dB. But you get

the maximum at exactly the same dish position.

More important is that the meter reacts very fast: both in locking to the signal when you turn the dish and in showing signal quality changes when you fine tune it. Moreover, MER readings are quite stable if the antenna is not moving. These features are more important for a practitioner than absolute accuracy.

Expert Opinion

+

Lightweight, compact and easy to use satellite antenna alignment meter. Practical bag. Very good battery. Unexpectedly many features in an apparently simple instrument. Fast locking and reacting to signal changes.



Jacek Pawlowski
TELE-satellite
Test Center
Poland

-

DiSEqC 1.2 and USALS not supported.

TECHNICAL

DATA

Manufacturer	Horizon Global Electronics Ltd.
Phone	+44 - 1279 417005
Fax	+44 - 1279 417025
E-mail	sales@horizonhge.com
Web page	www.horizonhge.com
Model	HD-S2
Function	Antenna Alignment Meter
Input frequency	950~2150 MHz
Compatibility with frequency bands	C, Ku and Ka
Modulation	DVB-S, DVB-S2 and DSS
Signal level	40dBµV to 110 dBµV
Symbol Rate	1~45 Msps
LNB supply	250 mA nom., 750 mA max.
Number of pre-programmed satellites	up to 4000 (horizontal & vertical polarization)
Power supply	100~240 V, 50/60 Hz, 0.8A max. 12 V DC, 1.5 A max.
Operational time when fully charged	8 hours typ.

TELE-satellite World

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"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

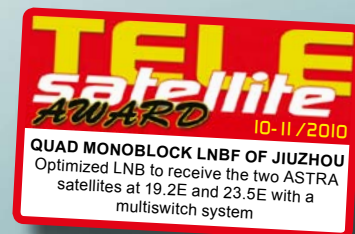
- Fully DVB-S/DVB-S2 /MPEG-2/MPEG-4/H.264 Compliant
- PIP (Picture In Picture) Function
- PVR Recording (Viewing one channel and Recording another channel Simultaneously)
- Recording TV and Playback JPEG/MP3 with External Storage

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...

JQB4P - 4.3° Quad Monoblock LNBF of Jiuzhou for ASTRA 1 on 19.2° E and ASTRA 3 on 23.5° E



In Europe, probably the most popular monoblock LNBF's are made for 6° spacing. Little bit less popular are LNBF's for 3° spacing. But what if you want to receive 2 satellites that are 4.3° apart – like ASTRA on 19.2° East and ASTRA on 23.5° East? Neither 6° nor 3° degree monoblock LNBF will do. Fortunately, some manufacturers noticed the market need and developed the 4.3° monoblocks. One of such market oriented manufacturers is Jiuzhou, a company well known to TELE-satellite readers. Some time ago, we tested their 6° monoblock (TELE-satellite 06-07/2008). This time we decided to take a very close look at the JQB4P – quad monoblock for 4.3° satellite spacing.

The monoblock is contained in a metal box sealed with silicon. It is rather heavy so you should select a dish with rather solid LNBF support arm. Along with the LNBF we get a plastic adapter for 40 mm LNBF holders. Without the adapter,



you would need a 23 mm holder. When we installed JQB4P in our standard 40 mm holder and tightened the screws, it still had too much freedom to skew. The simplest remedy was to wrap the

original 23 mm neck with a layer of tape and then put the adapter on it. In this way we created extra friction and there was no risk that the monoblock would change its position spontaneously.

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Fig. 1. Comparison of JQB4P vs. Reference Monoblock

Central LNB, ASTRA 3 (23.5 East), Pol.=V

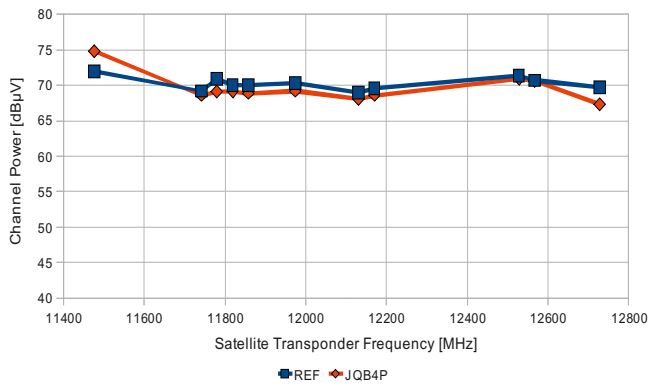


Fig. 2. Comparison of JQB4P vs. Reference Monoblock

Central LNB, ASTRA 3 (23.5 East), Pol.=H

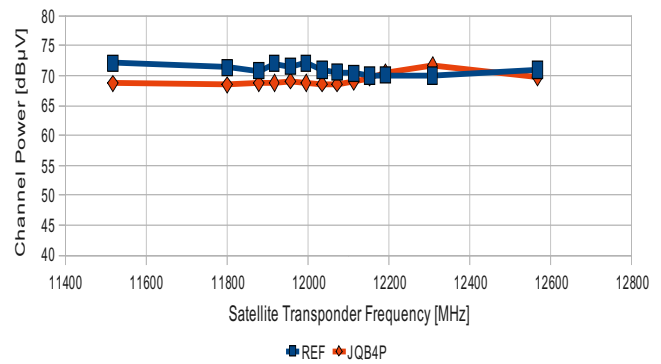


Fig. 3. Comparison of JQB4P vs. Reference Monoblock

Off-Center LNB, ASTRA 1 (19.2 East), Pol.=V

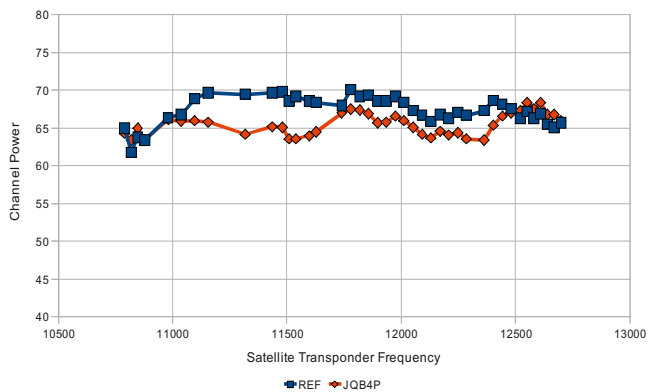


Fig. 4. Comparison of JQB4P vs. Reference Monoblock

Off-Center LNB, ASTRA 1 (19.2 East), Pol.=H

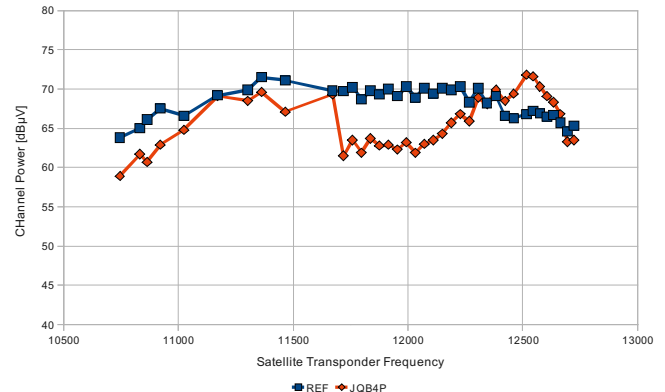


Fig. 5. Comparison of JQB4P vs. Reference Monoblock

Central LNB, ASTRA 3 (23.5 East), Pol.=V

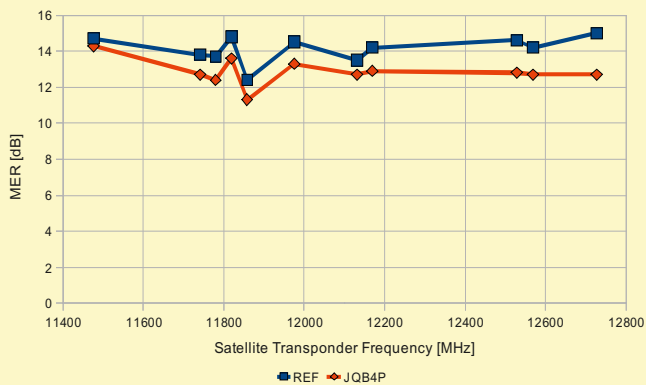


Fig. 6. Comparison of JQB4P vs. Reference Monoblock

Central LNB, ASTRA 3 (23.5 East), Pol.=H

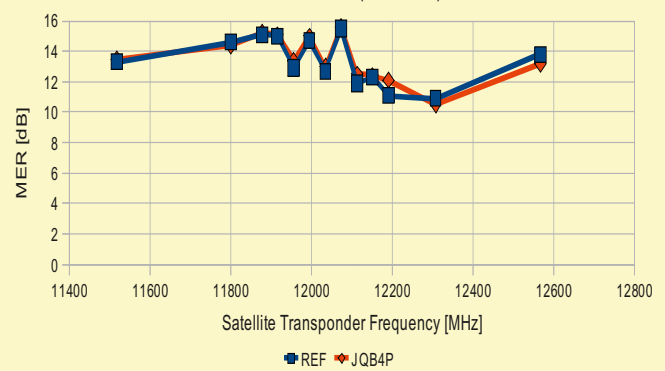


Fig. 7. Comparison of JQB4P vs. Reference Monoblock

Off-Center LNB, ASTRA 1 (19.2 East), Pol.=V

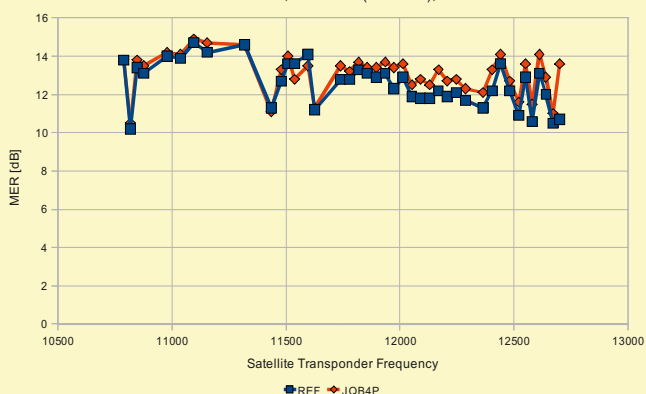
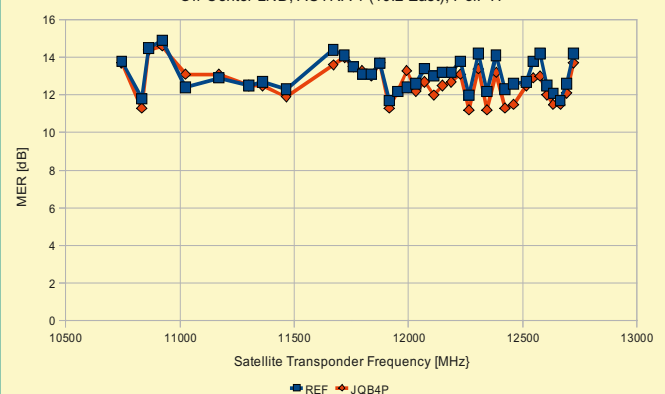


Fig. 8. Comparison of JQB4P vs. Reference Monoblock

Off-Center LNB, ASTRA 1 (19.2 East), Pol.=H





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Fig 9. Comparison of the Four Outputs of JQB4P

Central LNB, Astra 3 (23.5 East), Pol.=V

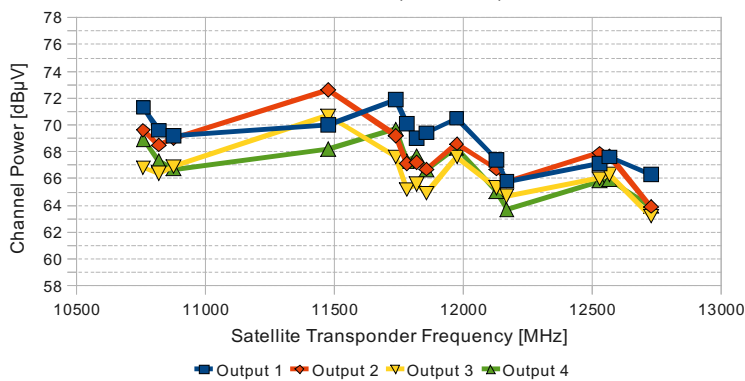


Fig. 10. Comparison of the Four Outputs of JQB4P

Central LNB, Astra 3 (23.5 East), Pol.=H

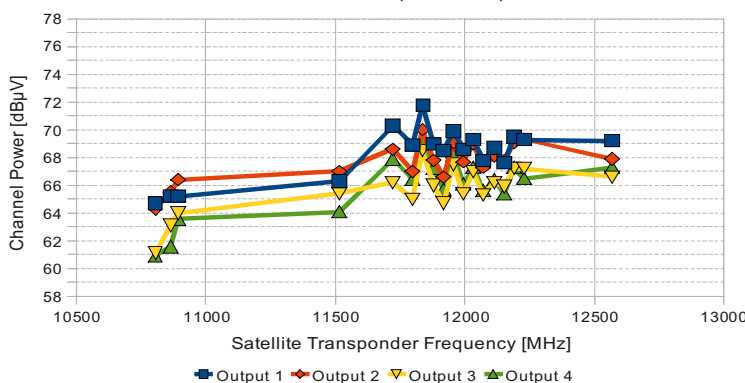


Fig. 11. Comparison of the Four Outputs of JQB4P

Central LNB, Astra 3 (23.5 East), Pol.=H

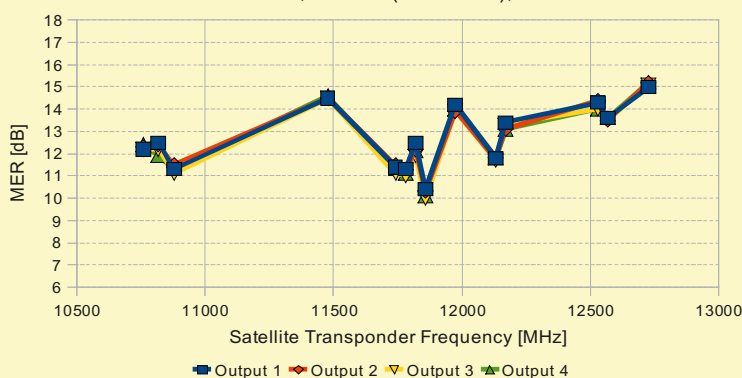
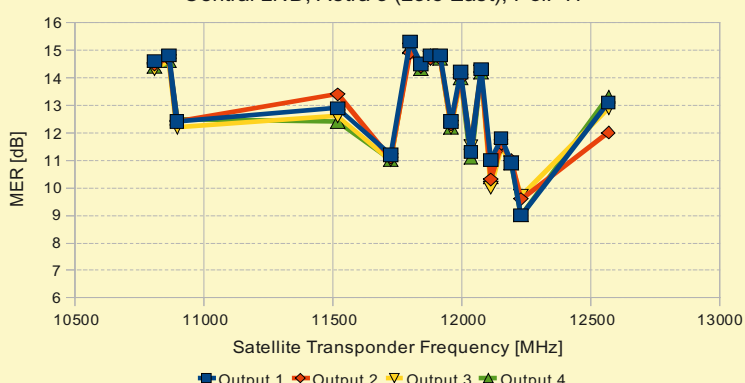


Fig. 12. Comparison of the Four Outputs of JQB4P

Central LNB, Astra 3 (23.5 East), Pol.=H



The first test we did was to compare the performance of Jiuzhou quad LNB with our reference LNB. The reference was a low noise universal single monoblock for 4.3° spacing (NF=0.2dB). We used 85x80 cm offset dish with f/D ratio 0.6. Both the LNB's in the focus and LNB's off-center were measured and compared with one another.

If you examine Figures 1 through 4, you will notice that the quad JQB4P generates only slightly lower output than the single device. For the high end of the Ku-band it is even better than our reference. We can say that the output level of JQB4P is strong enough for low and medium size distribution networks. Only for the antenna setups with very long cables you should consider adding amplifiers.

And what about noise performance? Can a quad device match the performance of a single monoblock? The measurement results are shown in the Figures 5 through 8. JQB4P performance is very good, practically the same as our reference. Usually, a quad device has worse MER results than a single device but not in this case. Only for the vertical polarization of the central LNB we can observe slightly worse performance. The horizontally polarized signals are handled equally well as in the reference single LNB. We have even better results with the off-center LNB. Here, the JQB4P is better for the vertical polarization and practically the same for the horizontal one.

The next thing we wanted to test was the equality of the four outputs of JQB4P. Figures 9 through 12 tell the story: there are practically no differences between the four outputs. Especially MER results are almost identical. It means that none of the four signal paths is superior or inferior compared with the others.

This could have been the end of our test but we decided to check something more. There is yet another satellite which is in similar angular distance from Astra 3 on 23.5° E. We mean Astra 2 on 28.2° E. The difference is not 4.3° but 4.7° but who knows, perhaps it will be possible to use JQB4P for this pair of satellites? We repositioned the monoblock in the holder so that now the off-center LNB was in the opposite side and checked the signal. To our delight, our meter displayed immediately green smiley's that meant the reception was possible. To compare it, we took another set of measurements – see Figures 13 and 14. Close examination shows

TECHNICAL DATA	
Manufacturer	Sichuan Jiuzhou Electric Group Co. Ltd, China
Internet	http://www.jiuzhou.com.cn/
E-mail	overseas@jiuzhou.com.cn
Telephone	+86-816-2468428 / +86-816-2468360
Fax	+86-816-2468903 / +86-816-2469241
Model	QJB4P
Function	Universal Ku-Band Monoblock Quad LNB for 4.3° spacing
Noise Figure	0.6 dB max.
LOF	9.750 and 10.600 GHz
Frequency Stability	± 1 MHz max. @ T=25° C ± 3 MHz @ T= -30...+60° C
Gain	50 dB min.
Gain Variation	8 dB p-p (max.)
Cross Polarization Isolation	20dB (min.)
Phase Noise at 1 kHz Offset	-60 dBc/Hz
Phase Noise at 10 kHz Offset	-80 dBc/Hz
Phase Noise at 100 kHz Offset	-100 dBc/Hz
DC Current Consumption	250 mA (max.)
Operating Temperature	-40...+60° C
Waterproof	+60° C WATER FOR 5 MINUTES
Holder Diameter	23 MM

Available online starting from 1 October 2010

Jacek Pawlowski
TELE-satellite
Test Center
Poland

Sat A : ASTRA 1 19.2°E				Sat B : ASTRA 3 23.5°E			
ILNB= 193mA				ILNB= 195mA			
RF 62	QU. 78	RF 66	QU. 48	RF 61	QU. 80	RF 65	QU. 69
11720 Hi H 27.500 DVB-S	11720 Hi H 27.500 DVB-S	12515 Hi H 22.000 DVB-S	12515 Hi H 22.000 DVB-S	10979 Lo V 22.000 DVB-S	10979 Lo V 22.000 DVB-S	12363 Hi V 27.500 DVB-S	12363 Hi V 27.500 DVB-S
T1	T2	T3	T4	T5	T6	T7	T8

Sat A : ASTRA 3 23.5°E				Sat B : ASTRA 2 28.2°E			
ILNB= 197mA				ILNB= 190mA			
RF 57	QU. 81	RF 64	QU. 85	RF 66	QU. 81	RF 63	QU. 58
10803 Lo H 22.000 DVB-S		12725 Hi V 27.500 DVB-S		11836 Hi H 29.900 DVB-S		11914 Hi H 27.500 DVB-S	
T1	T2	T3	T4	T5	T6	T7	T8

2. The monoblock can be successfully used for another pair of satellites: ASTRA 3 (23.5° E) and ASTRA 2 (28.2° E) – 4.7° spacing. Also now, our meter detects very good signal strength and quality.

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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-1011/tur/horizon.pdf

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Antenna Alignment Meter
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	LCD display



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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-1009/tur/spaun.pdf

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
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Built-in Monitor	120x64 3.5" LCD color display

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Website	www.horizonhge.com
Function	DVB-C and analog cable TV meter
Frequency Range	51-858 MHz
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Built-in Monitor	LCD display

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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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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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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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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



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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 "



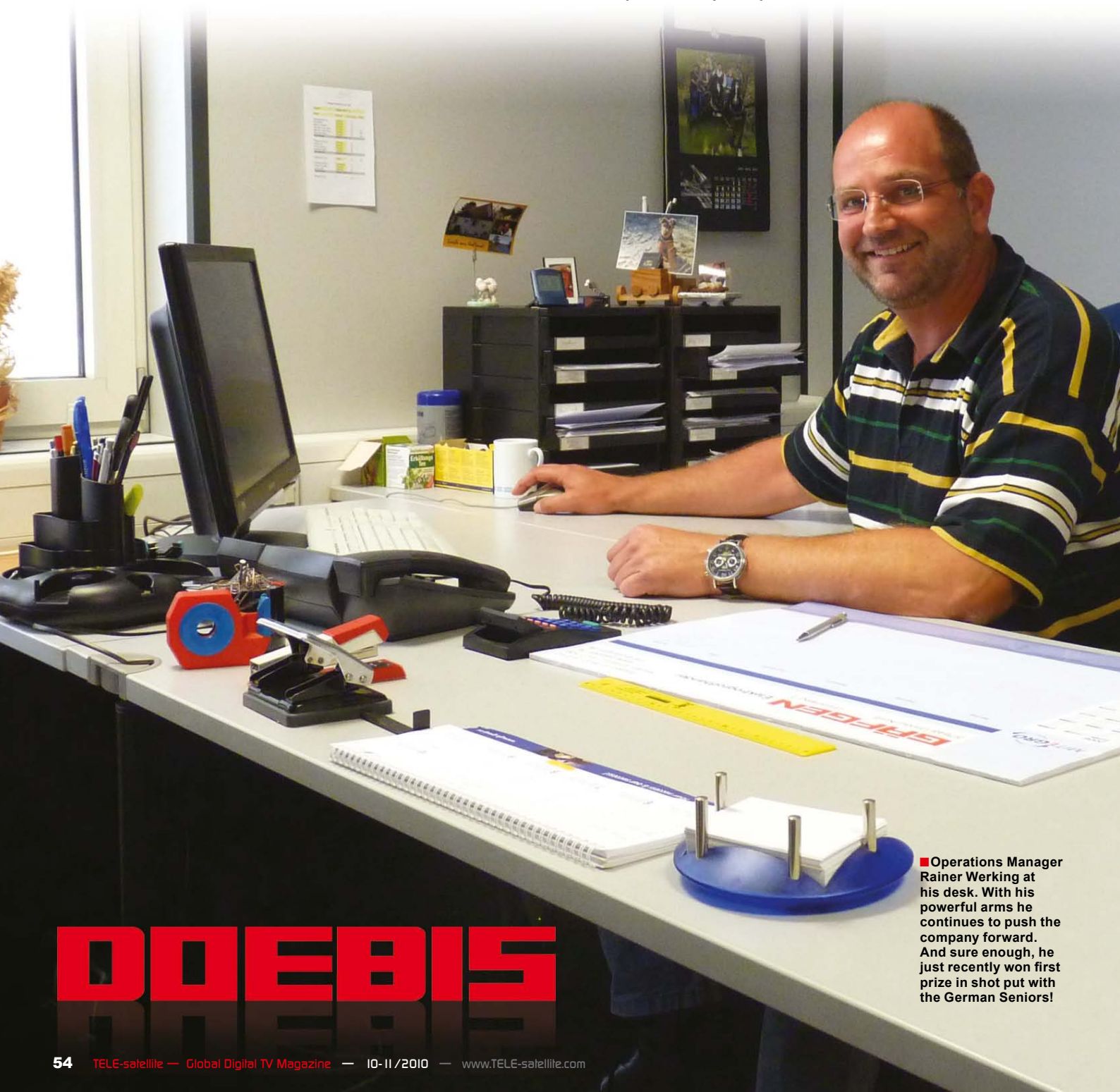
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DOEBIS is Expanding

Exactly three years ago TELE-satellite published a report on DOEBIS, a satellite wholesaler in Germany. We thought it was a good time to ask DOEBIS how they withstood the all-around crisis. We received a rather surprising answer: "We're expanding!" says Rainer Werking, Operations Manager at DOEBIS. The company used the economic crisis that took hold in 2008 and instead of scaling back they opted for a counter strategy: they used the opportunity to invest and primarily expanded their sales force.



■ Operations Manager Rainer Werking at his desk. With his powerful arms he continues to push the company forward. And sure enough, he just recently won first prize in shot put with the German Seniors!

DOEBIS



**Mündersbach
(Frankfurt)**



■ Entrance to DOEBIS' headquarters in the Mündersbach Industrial Park, not too far from the Frankfurt autobahn

■ Key Account manager Wolfgang Pflaum is always on the phone with his customers and members of his Sales Team.

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Available online starting from 1 October 2010

■ Claus Ruebesam is Customer and Technical Service Manager. Here he is demonstrating the HDTV Receiver HDCI 2010, one of DOEBIS' JAEGER receivers, with which DOEBIS wants to increase sales figures.



Wolfgang Pflaum has been the Key Account Manager since the end of 2009. He has been familiar with the satellite industry since its beginning. He thinks back: "My first receiver was a MASPRO." That was 1988 and since then he's been working in various positions in the satel-

lite industry. His job at DOEBIS was to expand the Key Account Sales Team: "Right now we have 10 employees in our Sales Team to handle the large number of customer requests on a daily basis", reports Wolfgang Pflaum on his activities. This large mobilization of the Sales

Team has paid off: "We are expecting to see an increase in sales of 25% for 2010", explains Rainer Werking while glancing at the sales figures, "and for 2011 we're looking for another 10% increase."

Those are excellent sales results

FROM A DIFFERENT PERSPECTIVE

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- 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

and Wolfgang Pflaum explains the reason for this: "We've added two very strong brand names to our assortment: TOPFIELD for the high-end segment and STRONG for the middle segment." DOEBIS quickly let their customers know about these two new names and thus realized very good sales results. But DOEBIS doesn't sell to end-users, so, who are DOEBIS' customers then?

"DOEBIS' main customers have always been in the specialist and installation category", reports Wolfgang Pflaum. The new activities of the Key Accounts Team have expanded to include classic mail-order catalog shippers as well as

online dealers domestically and internationally. The high demands of these customers are also given very special attention.

Rainer Werking gives us a peek at the geographical layout: "75% of our volume takes place in the German-speaking countries while 25% go abroad." These percentages are actually the same as they were three years ago when we first reported on DOEBIS (TELE-satellite 10-11/2007). In comparing the numbers from three years ago we noticed something else: "Product distribution has also remained about the same", says Rainer Werking, "70% are receivers, 10% LNBs and 5% signal analyzers."

For the long term, DOEBIS is expecting a pull back in the number of receivers, particularly the cheaper SD receivers. "For this reason DOEBIS is looking for new markets. We're building on quality and new technologies", says Rainer Werking as he explains their diversification strategy. As far as HD receivers go, Rainer Werking has a little surprise for us: "We've developed our own receiver brand!"

DOEBIS recently began marketing their own receiver line under the name JAEGER. This line is the result of many customer suggestions. "With the JAEGER HDCI 2010 we offer a high definition receiver in DVB-S2 and with



■ A look at DOEBIS' rather large warehouse. The company is very centrally located and can deliver to customers equally in northern Germany as in southern Germany as well as all the neighboring countries.



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

Worldwide Dealers Are Welcome, And Your Sales Territory Will Be Well-Cared

Milestone DTV Device Creator

MPEG4", explains Rainer Werking, "another model is the JAEGER HD+ 2011." These two receivers are available now; a third model will be introduced with the publishing of this issue; the HDTV Receiver JAEGER HD+ 2011 CI+.

TELE-satellite is planning a test report on this model in an upcoming issue. "Our JAEGER models are 'Assembled in Germany'", reveals Rainer Werking. Key Account Manager Wolfgang Pflaum continues, "For 2010 we expect sales of the JAEGER boxes to be around 5%; for 2011 we project an increase to 10%. For the medium term we're looking for the JAEGER receiver line to make up about 20% of DOEBIS' receiver sales."

As long as we're on the receiver subject, we wanted to know what different ranges you could receive with DOEBIS receivers. Rainer Werking was ready

with the answer: "In 2010, 65% of the receivers came with satellite tuners, 10% with terrestrial tuners and 25% with cable tuners. In 2011 we're expecting an increase in cable tuners to 30% and a drop in terrestrial receivers to 8% and in satellite receivers to 62%."

DOEBIS' managers are looking forward to 2012: "The last of the analog TV transponders will be turned off forcing millions of viewers to upgrade to digital receivers", comments Rainer Werking, "by then our warehouse will be full of digital receivers."

If you take a look at DOEBIS' product palette, you'll see that it is made up of high-quality products from some of the biggest names in the business. It should then come as no surprise that DOEBIS also offers the fiber-optic LNB. "Already 5% of our dealer customers have opted only for the optical LNB", reveals Rainer

Werking, "For 2011 we expect this number to increase to 10%."

It might still take a little time, but the time will come when only fiber optic LNBs will be sold. "These LNBs may be expensive but they are far better and can be used in any application.", confirms Rainer Werking. TELE-satellite categorically agrees with this sentiment. It usually is the early-birds that carve a path that all the others eventually have to follow.

DOEBIS is definitely one of those early birds. They see these new opportunities and pounce on them.

DOEBIS has been around now for 22 years and in this time has experienced all the highs and lows in the satellite industry and yet has managed to continue to grow. That's what success looks like!

The New Receivers Made by Doebis:

JAEGER

■ JAEGER HD+ 2011 HDTV DVB-S2 Receiver



■ JAEGER HDCI 2010 HDTV DVB-S2 Receiver with CI and USB





- .MPEG2/MPEG 4 / H.264
- .Linux Operation System
- .2 Common Interface Plus (CI+) & Conditional Access
- .TWIN TUNER
- .LAN (web browser, YouTube, Internet Radio, VFTP, SMB)
- .CEC (Consumer Electronic Control)
- .USB PVR/USB Update/ USB Wifi/ Keyboard Connection (4*USB Available)
- .Timeshift supported
- .Unicable supported
- .Multi-media (mkv, avi, mov, flv, mp4, jpg...)
- .10/13 digits VFD and LCD Display Optional
- .Extension to ISDB-T, DVB-T, DVB-C HD, and Combo Optional
- .CE & RoHS, LPC, EuP, FCC, Reach Compliant

Model: S1-33HD



Satellite Meter/Terrestrial Meter



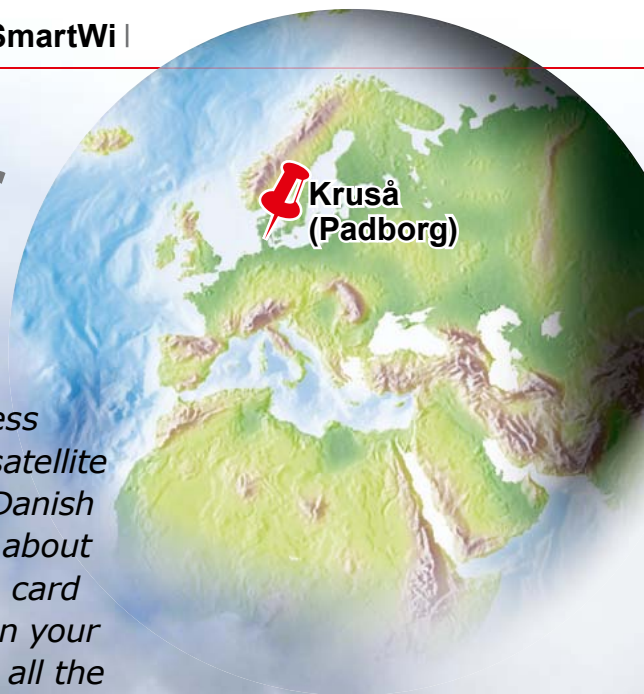
LCD TV | Digital TV with DVB-S/T/ S2/ISDB-T Build-in/Removable



Display Size
26"
32"
42"

SmartWi to Conquer Provider Market

Readers of this magazine have been familiar with wireless card reader manufacturer SmartWi for years. In TELE-satellite issue 06-07/2007 we published the first report on this Danish company which has come up with a glorious idea: How about transmitting data from a pay TV provider's subscription card to a second card in the same household? All of a sudden your viewing pleasure can be extended from the living room all the way to the bedroom, den or any other room at your place. Pay TV wherever you like – and a smart idea like that deserves a proper name too: smart Wifi, or SmartWi in short.



smartwi®

Kurt Olesen is the smart brain behind SmartWi. He founded the company in 2005 and when we visited him for the first time in 2007 he was riding a gigantic wave of success. 60,000 SmartWi products were sold in 2007, but sales figures gradually decreased in the years to follow. "In 2010 we will sell approximately 35,000 SmartWi devices."

Still, Kurt Olesen has an extremely confident outlook on the future – and for a reason: "Around the publication date of this issue of TELE-satellite and at the IBC exhibition we will launch the second generation SmartWi," Kurt Olesen explains and proudly shows us the new SmartWi model. "It works the same way as the first generation," he continues. "Customers simply plug the pay TV card into the unit and are then able to watch pay TV on a second TV using an additional card which is connected to the main device via radio signals."

The new SmartWi has made a quantum leap, which can be clearly seen even from the outside. Kurt Olesen's son Jens Glad is responsible for technology and design within the business and has determined the stylish looks of the device. While the first generation reeked of computer geek, the new SmartWi boasts a winning design that almost cries out for presenting it with pride, rather than hiding it deep behind the cabinet. It's a style asset and will easily win over the lady of the house as well – so don't expect objections against yet another technical gadget.

It goes without saying that looks are not deceiving in this case. Just listen to Jens Glad listing all the innovations that have taken place inside: "The main thing is the faster processor and the new program memory, which has doubled in capacity from the previous version." This makes the second generation SmartWi

considerably faster and much more responsive. But there is more.

"The built-in antenna is now arranged in a layout that lets it run all the way along the longitudinal side of the device, which makes for decidedly better transmission capacities when compared to the older layout," Jens explains.

Another highly interesting feature is the second card slot on the box. "The new SmartWi has all the hardware required for using two smartcards at the same time," according to Jens Olesen. Models that are currently shipped are not activated for dual card use, but a software update will unlock that feature shortly.

SmartWi products of the first generation were mainly sold to end customer, and Kurt Olesen is determined to enter uncharted territory in this area too. The second generation SmartWi is clearly

■ This house in the small town of Kruså in southern Denmark, right across the border from Germany, hosts SmartWi. Three flagpoles proudly carry SmartWi flags and catch the attention of passers-by.



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Available online starting from 1 October 2010

■ Kurt Olesen is the founder and managing director of SmartWi. Here he shows a latest generation SmartWi. This enhanced version is intended to win over content providers and consequently boost the company's business significantly.



targeted to the provider market. "This is also why we have changed the design and switched to black," adds Jens Glad, who is responsible for that decision. "With the new design content providers will be able to offer the SmartWi under their own brand name."

Incidentally, he is absolutely right when

■ Preview images of the new SmartWi: the first generation device with its uninspiring design on the left, and the second generation SmartWi and its stylish looks on the right. The old SmartWi takes in the subscription card on the side, while the card completely disappears in the new version, creating a more subtle appearance.

stating that providers stubbornly ignore a huge market in terms of second or third TVs in homes. "Do you really know anybody with only one TV set?" Kurt Olesen wants to know. Still, most providers leave these customers in the dark because they either force them to order a second subscription at full price (which is out of the question for most), or offer a

second smartcard at somewhat reduced rates – but then again there's no way of knowing who will actually use these additional cards and no way of making sure they stay in the same household.

If, on the other hand, providers decide to either directly offer the SmartWi to their subscribers or at least officially licence it, each subscriber will be able to use his second or third TV in a legal way, as the wireless range of the SmartWi only covers a single home. This way content providers need not fear illegal card sharing, as this is not possible with the SmartWi system in the first place.

Kurt Olesen is absolutely convinced that „content providers could tap into a huge new market.“ On the other hand he is also aware of an underlying dilemma: „Technicians at provider companies are usually open for the SmartWi, but the marketing departments – which could not care less about technology – simply don't grasp what our product is all about.“

However, one thing Kurt Olesen is sure of: The new design will catch the attention of marketing people as well, which is actually the first step on the way to launching the second generation SmartWi in the provider market.

As a matter of fact, the SmartWi is a product which only covered a small



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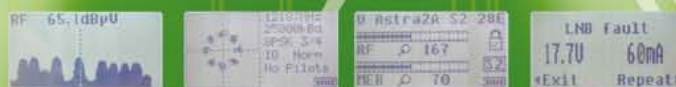
Combo



DVB-Terrestrial



DVB-Satellite



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■ Jens Glad is the son of founder Kurt Olesen and is in charge of technology. Here he can be seen programming SmartWi's. Each product is tagged with a unique software code and labelled with an individual serial number. This way it is possible to track each single SmartWi.



■ Ejgild Lund is the administration manager at SmartWi. He takes care of office work, invoicing and bookkeeping.



market niche when it was first introduced. This niche, though, was constantly extended thanks to a spirit of innovation and a strategy of perseverance.

A company that started out with a staff of three has meanwhile turned into a 6-person operation. And this number is set to rise even further as soon as SmartWi will get a foothold in the provider market.

The first sign of success is already manifest: „Slovak provider SATRO is already using SmartWi even today,” Kurt Olesen says and provides testament to the company's new course of action.

SmartWi is firmly set on its journey from humble start-up to established market player thanks to a gradual yet consistent development of an initial niche product. Another exciting success story!



■ Slovak content provider SATRO is already offering the SmartWi system to its subscribers.



Factory address:
 No. 3 PingGong One RD, Technology Industrial Zone, NANPING Town, Zhuhai, China
 Tel: +86-756-8699310 Fax: +86-756-8699312
 Mobile: +86-13823060786
 E-mail: sales@boiingsat.com
 Attn: Joseph

 TAIWAN & MACAU Office address:
 RUA TRIBUNA 118A CHUNPEK GARDEN RCA Macau
 Tel: +853-439694 Fax: +853-438633
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Power Supply Units Made by SPAUN – guaranteed!

■ SPAUN administration office (front) and production premises (right) in Singen, southwest Germany



Every multi-switch and every amplifier comes with one, and of course every receiver has one, too: a power supply unit which is required to connect the device to the mains. It has become such an everyday component of virtually any electronic device that we have stopped thinking about how it actually works. SPAUN, on the other hand, has given it a great deal of thought and has arrived at a remarkable conclusion. Kevin Spaun is the managing director of SPAUN, one of the most renowned quality manufactures of multi-switches and other accessories for satellite signal distribution. He tells us what it's all about.

■ Kevin Spaun, managing director of SPAUN POWER GmbH





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Available online starting from 1 October 2010



In the southwesternmost corner of Germany, right on Lake Constance, lies the small town of Singen, which is where SPAUN has been headquartered for more than 40 years. All the experience gained in decades of technological expertise has always been put into making great products even better. Today, the brand name SPAUN is a by-word for high-quality and innovative products in the satellite business and beyond. This has led to SPAUN starting to offer a 5-year complete warranty for its products some years ago.

In the course of all these years, SPAUN founder Friedrich Spaun and his son Kevin, who has meanwhile taken over management of the company, noticed one thing. „Whenever a device was sent in for repair, the one component that was faulty in most cases was the power supply unit,” Kevin Spaun reveals. „And by the way, this diagnosis is true for almost all electronic devices.”

Electrolytic capacitors in these devices are usually to blame for failures. „On the market there are a number of different electrolytic capacitors with differing product lives. Less expensive

models are designed for a total service life of 3,000 operating hours, while more sophisticated types may last for 10,000 hours and more.” Obviously, electrolytic capacitors do not stop working all of a sudden after 3,000 or 10,000 hours – the product life given refers to average hours under maximum operating temperature and maximum power intake. As these extreme conditions only occur in rare situations the capacitors usually exceed these rated operating hours by far.

Like most manufacturers of electronic devices SPAUN used to source its power supply units from third-party suppliers. After all, a company producing multi-switches should not focus on power supply units, right? Well, if the guiding principle is quality and you provide a 5-year extended warranty on all your products, your focus has to be on every single component. „At first we demanded from our supplier to only use top-quality electrolytic capacitors,” Kevin Spaun remembers. But at the end of the day, even this requirement was not enough to guarantee the quality SPAUN demanded.

In addition to quality and reliability, a premium manufacturer also has to look at energy efficiency, and so SPAUN finally realised that its specifications for third-party power supply unit manufacturers had become so complex and demanding that it started making sense to look at in-house production of these components. „Independent manufacturers always have to strike a balance between component cost and component quality in order to offer a competitive pricing arrangement. If we, on the other hand, produce everything ourselves, we have the whole process under our own control and are able to select each individual component so that the final product meets our stringent demands. This is the only way to achieve the quality we expect.”

Once this decision had been made everything went very fast: SPAUN POWER GmbH was founded as a new company and a new production hall was set up as well. „We invested some 2 million EUR,” Kevin Spaun explains while showing us around the new production facilities. The new company has been up and running for two years now. „We’re in a position

■ A display cabinet in the reception area shows a range of SPAUN products. The company does not only produce switch-mode power supply units but also all

kinds of multi-switches as well as DiSEqC switches and components for signal distribution, including fibre-optic transmitters and receivers.



to produce approximately 500.000 power supply units a year," he goes on. "With this number of units we are not only able to equip all of our own products, but also supply third-party companies." As a matter of fact, more than 10% of the annual production are sold to other companies which have come to realise that an initially higher cost for top-quality switch-mode power supply units is more than compensated by extended service life in the long run. Kevin Spaun details the reasoning behind: "Quality always wins. Even if it may sound smart at first from a purely financial point of view to use cheaper components, this cost benefit all but vanishes when components fail after only a short time. Choosing high quality right from the start turns out to be a much wiser decision."

This is of particular importance for products that have a life cycle lasting for many years. "We supply our products for signal distribution systems in hotels or large residential buildings," he continues. "Some of these premises have several thousand users and the electronic equipment has to work reliably for years or even decades without failure." A company such as SPAUN can only meet that quality target with top-quality products. If the power supply units required for that goal are not available on the market, then SPAUN has to resolve to in-house manufacturing.

Yet, quality is not the only attribute that has led SPAUN to set up in-house power supply unit manufacturing. "Our switch-mode power supply units consume up to 25% less energy than conventional components." One thing that should not be underestimated in this regard is the fact that most SPAUN products are turned on all the time and thus constantly require electric power. After all, a multi-switch or amplifier must be running and available at all times. It goes without saying that SPAUN multi-switches have been equipped with an energy-saving standby mode for years, but additional energy savings of close to 30% are a huge benefit even in these scenarios.

"Quite frankly, our new power supply units pay for themselves," Kevin Spaun states and explains the maths. The electricity bill of users will be lower every month "and all our power supply units are designed to take in any voltage between 100 and 240 V, which makes them truly universal," he adds with a hint at the potential for SPAUN products for companies outside Europe as well. "Currently SPAUN POWER employs three highly-specialised engineers and in the near future we will launch a range of switch-mode power supply units



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PCIe DVB-S2 Dual Tuner card (TBS6981)

1. Dual DVB-S2/S Transponders Receiving simultaneously
2. Windows XP/Vista/7 Compatible. Windows 7 Media Center, DVBDream, DVBViewer, DVBlind, ProgDVB, Skynet, TSreader supported.
3. Linux driver for all kernels. MythTV, VDR, XBMC, supported.
4. Low profile size.



DVB S2



PCIe DVB-S2 TV Tuner card (TBS 6920)

1. DVB-S2/S Transponders Receiving.
2. Low profile size.



PCIe DVB-S2 TV Tuner card (TBS 6925)

1. CCM, VCM, ACM and Multi Input Stream mode supported.
2. 8PSK/QPSK/16APSK/32APSK mode.



USB DVB-S2 BOX (TBS QBOX S2)

1. DVB-S2/S Transponders Receiving.
2. DVB-S2/S DIRECTV 8PSK QPSK demodulator.
3. USB 2.0 interface



USB DVB-S2 CI BOX (TBS 5981)

1. DVB-S2/S Transponders Receiving.
2. CI supported.
3. USB 2.0 interface

DVB C



USB DVB-C stick

1. DVB-C Frequencies Receiving.
2. 16,32,64,128 and 256 QAM supported.
3. USB 2.0 interface.



USB DVB-C CI BOX

1. DVB-C Frequencies Receiving.
2. 16,32,64,128 and 256 QAM supported.
3. CI supported.
4. USB 2.0 interface

DVB T2



PCIe DVB-T2/T/C TV Tuner card

1. Receiving system: DVB-T2/DVB-T/DVB-C.
2. Low profile size.

for providing power to LEDs. We expect that to be a significant growth market in the future. Naturally, we are also able to use our extensive expertise for developing and manufacturing customer-specific solutions as well." The new switch-mode power supply units do not only consume less energy, but also use energy much more efficiently than before. "We're looking at an efficiency factor of more than 90%," Kevin Spaun proudly states.

Finally, Kevin Spaun sheds light on a highly advantageous strategy for extending the service life of SPAUN power supply units. "We generally design the power supply units for our products so that they run at approximately 60% capacity." Staying below that threshold greatly reduces the risk of failure during permanent use.

SPAUN has learned all the tricks of the trade in its four decades as a top-notch manufacturer of high-quality products. The decision to also produce power supply units in-house is an additional step in optimising the total manufacturing chain and in further enhancing the company's high-quality and reliable products. It's great to see that a strict focus on quality leads to long-term success and it's pleasing to see that the core focus on price, which seems to be so prevalent these days, is not always the way to lasting success.

SPAUN POWER Switch-mode Power Supplies

Designation	Nominal Power	Voltage
SNT 4019	9 W	13 V
SNT 4025	17 W	13 V, 19 V
SNT 4040	25 W	13 V, 19 V (adjustable)
SNT 4042	55 W	5 V, 13 V, 19 V
SNT 4044	110 W	13 V, 19 V

Note: all types have an efficiency factor of approx. 90%

What is a Switch-mode Power Supply?

Switch-mode power supply (SMPS) converts the mains AC voltage (110-240V, 50/60 Hz) to low DC voltage required by electronic devices of all sorts (TV-sets, satellite receivers, laptops, multiswitches etc.). DC voltage is stabilized what means that it does not change if we draw more or less current from the SMPS.

The old type power supply unit (so called "linear power supply unit") requires a big and heavy transformer which converts high AC voltage to low AC voltage as well as a regulating transistor with a heatsink to stabilize DC voltage. Regulating the DC voltage in a linear mode leads to significant power losses what generates undesired heat. Hence the need for a heatsink.

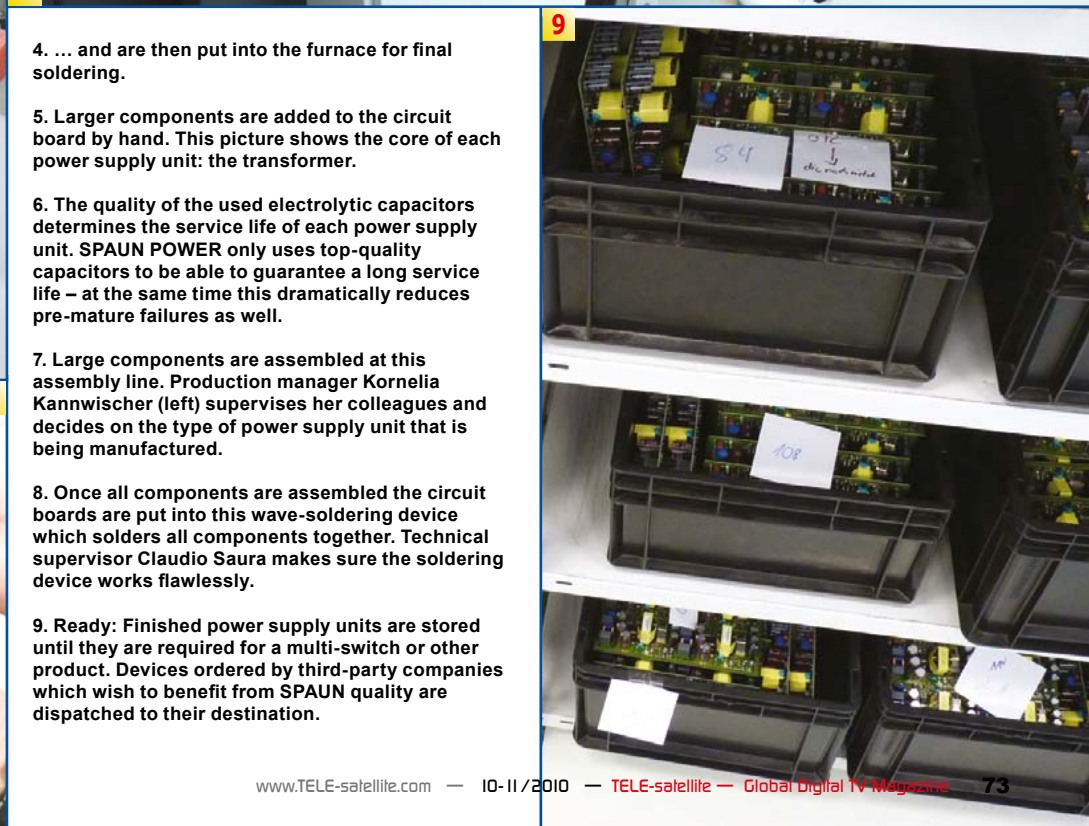
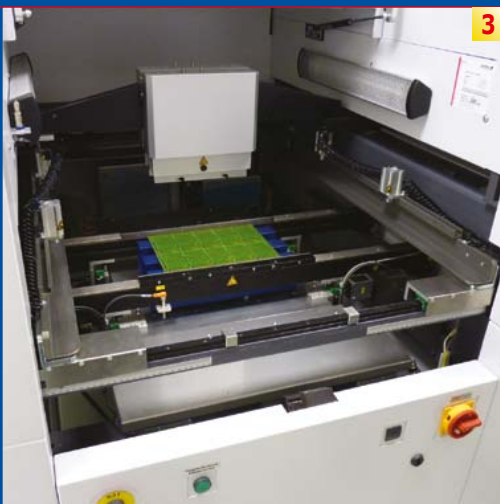
SMPS first converts AC mains voltage to DC voltage and then switches it on and off with high frequency (50 kHz up to 1 MHz) what produces a rectangular waveform. Usually a transformer is still needed but this time it is much smaller because the higher the frequency, the smaller the transformer that is required to handle it. The regulating transistor with a big heatsink is no longer needed because the voltage is regulated by changing the ratio of on/off states.

SMPS is therefore much more compact and lightweight and it is also more energy efficient. These are its main advantages. It is also more complex than traditional linear PSU. Despite that, SMPS are used almost exclusively in today's electronic equipment.

Power Supply Unit Production Process at SPAUN POWER

1. These rolls hold SMD components. Each roll stores 5.000 individual components.
2. Soldering paste is applied to the circuit boards.
3. The SMD insertion machine automatically places the SMD components at the corresponding position on the circuit board. This picture shows 10 circuit boards still attached to each other for the 40/25 power supply unit. This means that ten power supply units are manufactured simultaneously...





4. ... and are then put into the furnace for final soldering.

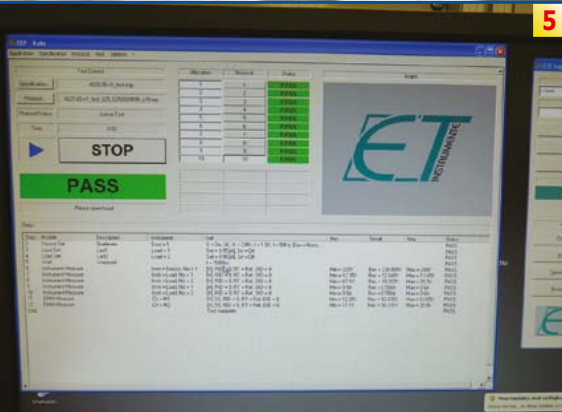
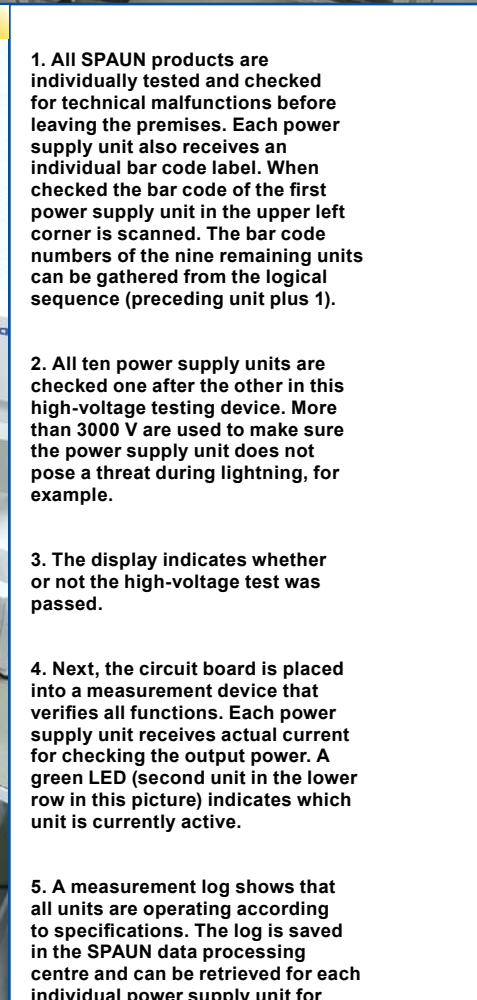
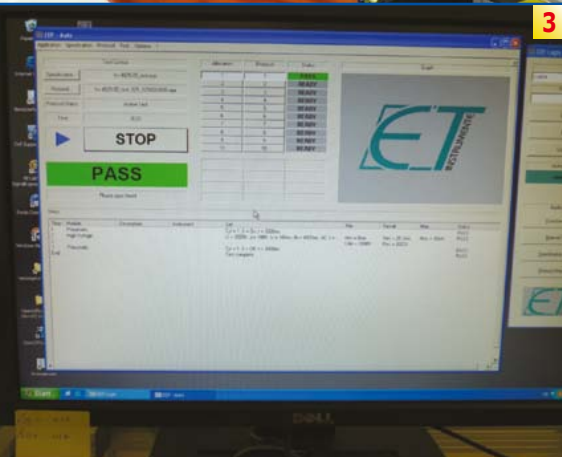
5. Larger components are added to the circuit board by hand. This picture shows the core of each power supply unit: the transformer.

6. The quality of the used electrolytic capacitors determines the service life of each power supply unit. SPAUN POWER only uses top-quality capacitors to be able to guarantee a long service life – at the same time this dramatically reduces pre-mature failures as well.

7. Large components are assembled at this assembly line. Production manager Kornelia Kannwischer (left) supervises her colleagues and decides on the type of power supply unit that is being manufactured.

8. Once all components are assembled the circuit boards are put into this wave-soldering device which solders all components together. Technical supervisor Claudio Saura makes sure the soldering device works flawlessly.

9. Ready: Finished power supply units are stored until they are required for a multi-switch or other product. Devices ordered by third-party companies which wish to benefit from SPAUN quality are dispatched to their destination.



Quality Assurance at SPAUN POWER

1. All SPAUN products are individually tested and checked for technical malfunctions before leaving the premises. Each power supply unit also receives an individual bar code label. When checked the bar code of the first power supply unit in the upper left corner is scanned. The bar code numbers of the nine remaining units can be gathered from the logical sequence (preceding unit plus 1).

2. All ten power supply units are checked one after the other in this high-voltage testing device. More than 3000 V are used to make sure the power supply unit does not pose a threat during lightning, for example.

3. The display indicates whether or not the high-voltage test was passed.

4. Next, the circuit board is placed into a measurement device that verifies all functions. Each power supply unit receives actual current for checking the output power. A green LED (second unit in the lower row in this picture) indicates which unit is currently active.

5. A measurement log shows that all units are operating according to specifications. The log is saved in the SPAUN data processing centre and can be retrieved for each individual power supply unit for decades to come.

6. Once all testing and measuring is completed the circuit boards are cut to arrive at ten individual power supply units. All employees working in the SPAUN POWER production floor have to wear antistatic shoes.

7. In addition, the floor is laid out with antistatic material and a warning sign at the entrance urges each visitor to use special caution inside this area.

SATCATCHER DIGIPRO ST COMBO

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HIGH

USALS

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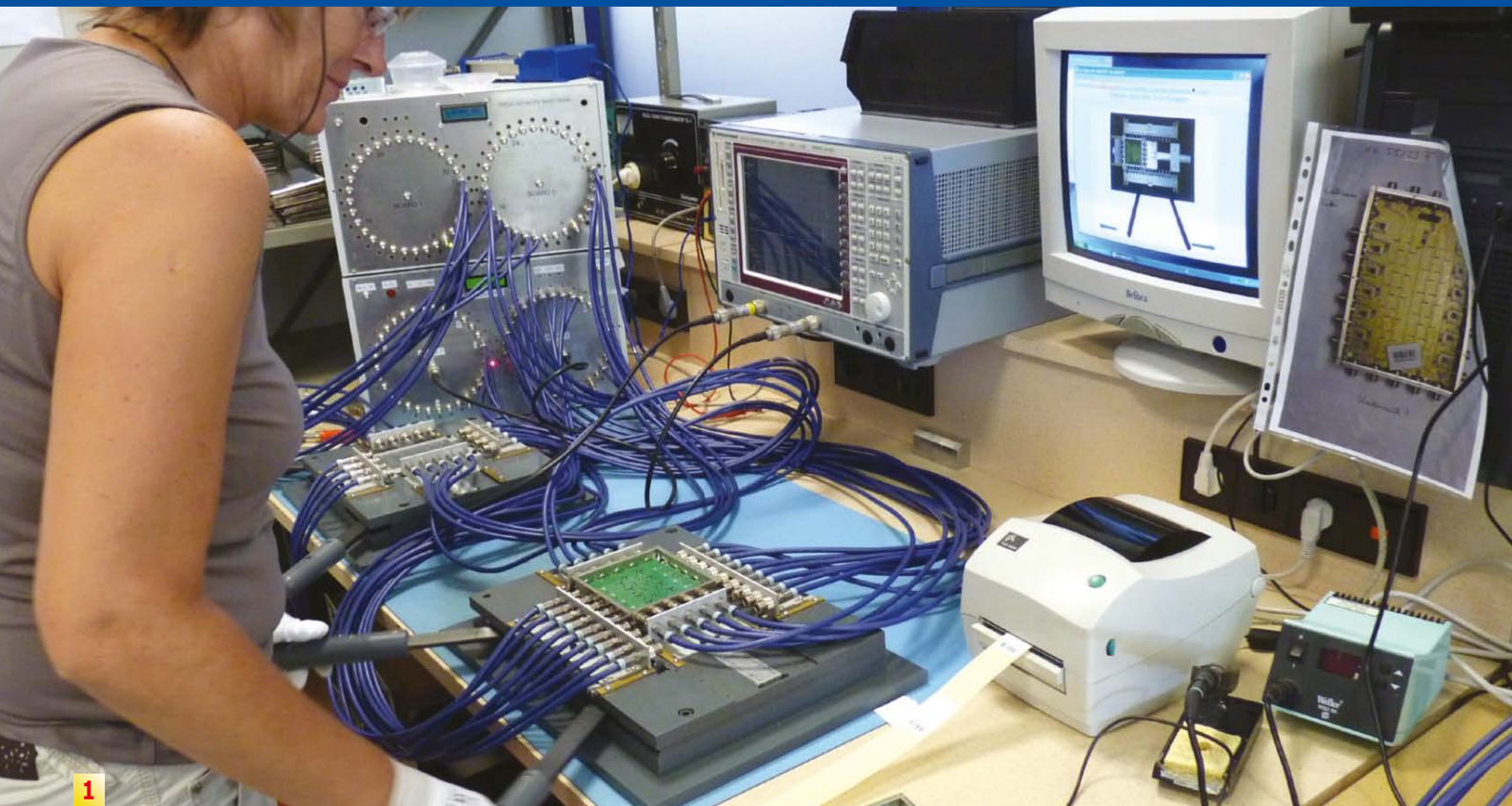
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DVB-S 1GB	EXCEL-TV MK4 NIT

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ALL PRODUCTS ARE AVAILABLE FROM YOUR LOCAL DISTRIBUTOR IN YOUR OWN LANGUAGE !



1



2



3



4

A SPAUN Power Supply Unit in a SPAUN Multi-switch

1. An additional function check is performed before a SPAUN power supply unit is integrated into a SPAUN multi-switch. A dedicated log accompanies each check.

2. Only now the SPAUN power supply unit reaches its final destination inside a SPAUN multi-switch. This employee solders the three connection pins (0, 13 and 18 V) of the power supply unit.

3. It's not over until a final electrical surge test is passed: The fully assembled device, with all functions already verified, is connected to the 3000 V testing device once again. Only if this final check is passed will SPAUN release the product for sale.

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The AZBox Champions from Holland

It really helps to not only have a good product but to also have a very ambitious sales team. A perfect example of this is the company Smart Innovations in northeastern Holland. The three owners of the company are very much involved with its operation and have helped make the AZBox receivers one of the top selling brands not only in The Netherlands but also in Belgium and Luxemburg. For these three countries, Smart Innovations has taken over distribution of the AZBox.



Zutphen
(Amsterdam)



AZBOX

■ At the moment, Smart Innovations still resides in one of the apartments in this house in the town of Zutphen in northeastern Holland. The move to a new office is coming very soon.

Something new is happening at Sea Tel®



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Sea Tel's logo has changed with the addition of Cobham's name, but Sea Tel's superior products and service remain the same. Along with the new logo and the recently released 2406 60cm antenna, Sea Tel is pleased to announce a smaller, lighter 60 cm Tx/Rx antenna system, the USAT 24, an Ultra Small Aperture Terminal. Plus the new ST14 TV-at-Sea antenna features an advanced pedestal assembly, made of durable nylon polyamide injection molding used on aircraft antennas. Tests reveal 1.3 dB more signal than competitors.

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AZBOX



The three-man company currently resides in a residential area in the small town of Zutphen, not too far from Apeldoorn and roughly 100 km from Amsterdam. At the moment the warehouse is in the founder's garage but this won't be the case much longer. The company will shortly move to a larger building which will include a warehouse.

We found out how it all started from Herbert Verheijden; he's really the founder of Smart Innovations. "I started the company in 2005", he explains to us. He's been involved with satellite reception since 1995. "My first receiver was the PACE 500 G4. Back then it was one of the first digital receivers available", he remembers. His first satellite dish was 80cm in diameter.

He is a software engineer by trade and thus was especially interested in digital signal modulation technology. Via the Internet it didn't take long for him to find people with similar interests with which he could exchange ideas. "We still use the www.sat4all.com Satellite Bulletin Board today to communicate with our customers", explains Herbert Verheijden.

He met
André Pelgrim

through this satellite board and found out that he didn't live all too far away from him and was therefore able to meet up with him in person on many occasions.

Over the years the two of them worked closer and closer together. The third member of the team is Rinus Lindoorn. He's the founder and chairman of the 'De Transponder' satellite club which provides extensive information for satellite enthusiasts via its web site www.detransponder.nl.

In 2007 the three of them became equal partners in Smart Innovations with each owning exactly one third of the company. Their jobs are all very clearly defined: Herbert Verheijden is responsible for the company's vision, André Pelgrim handles the technical side of operations while Rinus Lindoorn watches over the small company's finances. All three of them have a dedication to satellite technology and above all the AZBox.

Herbert Verheijden explains how the connection to the AZBox came about: "We met Hugo Condessa, the head of

AZBox, at ANGA 2005 and learned about his products. We recognized right away that his boxes were ideal for our market because of its quality and price." The Smart Innovations team immediately began translating the receiver manuals, receiver menus and promotional materials into Dutch. "We also started our own support forum at www.azbox.nl", adds Herbert Verheijden.

The start of the company didn't go all too smoothly at first: "In our first year 2007 we managed to sell only 500 receivers and our second year 2008 wasn't much better", explains Rinus Lindoorn, responsible for the financial side of things. The three agree that the main reason for this weak beginning was that AZBox only offered SD receivers at the time.

In 2009 however, sales increased dramatically: "In 2009 we sold 1400 high definition receivers and in 2010 we expect that number to climb to 3000", Rinus Lindoorn says confidently. The increase in sales is also due to some other factors. Rinus Lindoorn regularly visits the dealers in Holland, Belgium and Luxembourg to highlight the advantages of the AZBox:

■ The smart idea from Smart Innovations: they are working on a box to convert Infrared to Bluetooth. This would make it possible to control the AZBox and a state-of-the-art TV system from a single remote control.

Installation

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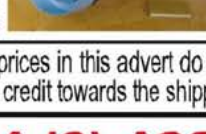
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■ Herbert Verheijden is the founder of Smart Innovations.



■ Rinus Lindoorn is responsible for the financial side of Smart Innovations.

■ André Pelgrim is responsible for the technical side of things.



antennas with a total of 31 LNBs plus one LNB on a rotary dish.

As it turned out, the AZBox had a software bug in its DiSEqC control that allowed the receiver to access 30 LNBs without any problems, just not the last 2 LNBs. They would never have found out about unique problems such as this if they didn't make themselves available to answer everyone's questions.

At the moment Smart Innovations wholesale dealer network is made up of 25 active dealers in The Netherlands, five in Belgium and one in Luxembourg. We want to know what sales are like for the individual AZBox receiver models; Rinus Lindoorn looks at his books and says: "The AZBox Premium Plus makes up 50% of our sales, the Premium model accounts for 30% while the Elite box makes up for 20%." Those are all high definition models.

The actual tuner selection is rather interesting: "60% of AZBox receivers are delivered with satellite tuners, 30% come with combination satellite and cable tuners and the remaining 10% are strictly cable boxes."

We noticed that terrestrial tuners are not in the mix at all. Rinus Lindoorn confirms, "There's hardly any demand for terrestrial reception in Holland." When the subject turned to the future, André Pelgrim finally had the opportunity to present a surprisingly new idea: "The AZBox is the only receiver with a real 1080-line picture and therefore is the perfect match for top-of-the-line TVs."

What conclusion can be drawn from this? "One of the absolute best brand names available is, for example, Bang & Olufsen. But when you check out the remote control, you find out that it operates via Bluetooth while the AZBox works with Infrared." The trio has thus come up with an interesting idea: and that would be to work with a supplier of converters on a box that could convert Infrared to Bluetooth. "In this way we're trying to make the AZBox recognizable with high-end TVs."

"I visit roughly 30 firms every year", he explains.

The other two colleagues don't sit idly around either; they are actively promoting the AZBox in satellite forums as well as in their own support forum. "We quickly answer every question we receive", comments Herbert Verheijden adding that the customer is never alone.

The three of them actually enjoy answering questions. "We are regularly surprised ourselves! For example, recently a customer told us that he has 32 LNBs but could only access 30 of them." A satellite viewer with 32 LNBs? That was new to them. Sure enough, satellite enthusiast Gerard van den Braak in Eindhoven has two multifocus

Smart Innovations is making quite a name for itself. All three business partners are satellite enthusiasts who are intimately familiar with the AZBox's every detail. They keep coming up with new ideas to make the AZBox even more popular. With such a dedicated sales team AZBox should continue to move upward in the marketplace!



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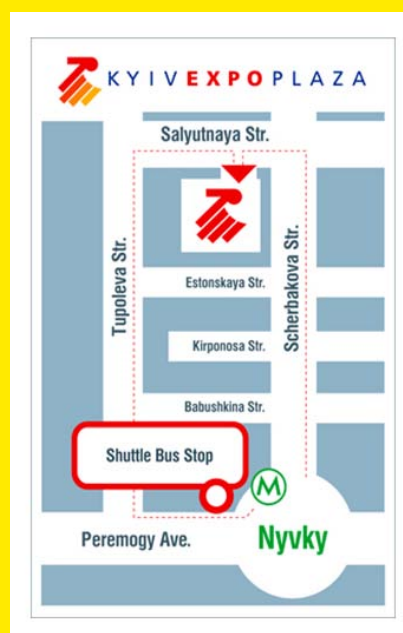


Beijing Topreal Technologies Co.,Ltd is a professional designer and manufacturer of digital TV head-end system. We have developed products with our own brand,which cover from DVB-S receiver,encoder(MPEG-4 HD/SD encoder,MPEG-2 SD encoder),multiplexer,scrambler,modulator to Set-top-box. We also offer value-add products like subtitle insertion system,EPG,STB advertisement service system,browser,channel tracing table.All the products fully comply with DVB standard.

EEBC 2010

www.eebc.net.ua

EEBC show will take place at the exhibition center - KyivExpoPlaza. The exhibition center brings to bear ten years of experience in the Ukrainian exhibition business and the cutting-edge achievements of global construction and engineering technologies. The center is ideally suited for holding international trade shows and has a certificate of the Global Association of the Exhibition Industry (UFI) in the "Exhibition centers" category.



The topics of EEBC 2010 exhibition:

- Digital terrestrial broadcasting
- Cable, satellite, mobile and Internet television
- HDTV
- Satellite communication and broadcasting systems
- Cinema and video production
- Content

How to get there

KyivExpoPlaza is located in the Western part of Kyiv, not far from the city centre, near to Nyvky metro station (1.5 km from it) and near to one of the city's main artery roads, Prospect Peremohy. The exhibition centre is convenient to get to from any part of the city.

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By public transport:

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4 minutes by shuttle-bus from Nyvky metro station
15 minutes on foot from Nyvky metro station

CONFERENCES

DURING THE EXHIBITION EEBC 2010

20 October

- International conference «Telecommunication and broadband networks»
- International conference «Corporate and Enterprise communication systems: new opportunities and practical deployments». Endorsed by UMTS Forum/Day 1.
- DIGITOLOGY press courses. Organizer: Industrial Television Committee/Day 1.
- Conference organized by Internet Association of Ukraine

21 October

- International conference «Satellite communication and broadcast technologies»
- International conference «Corporate and Enterprise communication systems: new opportunities and practical deployments»/ Endorsed by UMTS Forum/Day 2
- Forum of cable TV operators of Ukraine
- DIGITOLOGY press courses. Organizer: Industrial Television Committee/Day 2
- Round table organized by Association Wireless Ukraine

22 October

- International conference «Advanced Broadcasting Technologies. HDTV, 3D TV»
- International conference «Information technologies as enabler for the effective implementation of business strategy at the enterprises and businesses»

International conference

«SATELLITE COMMUNICATION AND BROADCAST TECHNOLOGIES»

within the context of the program "Ukraine on Air"

Date: 21 October 2010, Venue: exhibition centre "KievExpoPlaza", Pavilion 1; conference-hall 2

10:30-11:00 Registration of the participants

Conference opening. Welcome address by the Organizers

Session 1

CURRENT SITUATION AND DEVELOPMENT TRENDS OF SATELLITE COMMUNICATION MARKET

- Plans and prospects of global satellite fleets in Ukrainian market
- Digital broadcast development: offers from leading suppliers for Ukrainian market
- Technology convergence and evolution of the standards
- Multimedia content delivery to the terrestrial digital broadcasting networks
- Coffee break

Session 2 CAPACITIES AND POTENTIAL OF NATIONAL SPACE INDUSTRY

- National Satellite Communication System: from project to launch?
- Legislative provision for NSCS effective functioning
- Standardization and certification
- Coffee break

Session 3

ADVANCED SERVICES IN SATELLITE BROADCAST AND COMMUNICATIONS NETWORKS

- Development prospects of direct broadcast satellite in Ukraine
- Current offerings from DTH platforms
- Multimedia services and applications in satellite networks
- Summary

Invited participants: satellite operators, DTH platforms, fixed telco operators, mobile communication operators, ISPs, broadcasters, operators of terrestrial, cable and satellite networks, technology and solution providers, system integrators, state & regulatory bodies involved in the development of digital technologies, scientific and research institutions

Conference languages: Ukrainian, Russian, English. Simultaneous translation is provided

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- Telecommunication and broadband networks
- "Media & Sat Leaders 2010" -  MEDIASAT Magazine Awards in the Sphere of Broadcast
- DIGITOLOGY press courses. Day 1. Organizer: Industrial Television Committee

21 October

- Satellite communication and broadcast technologies
- Forum of cable TV operators
- DIGITOLOGY press courses. Day 2. Organizer: Industrial Television Committee

22 October

- Advanced Broadcasting Technologies. HDTV, 3D TV

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SMARTINNOVATIONS

Satellite Distributor, Netherlands

COMPANY REPORT | Satellite Distributor SMART INNOVATIONS, The Netherlands

The AZBox Champions from Holland

It really helps to not only have a good product but to also have a very ambitious sales team. A perfect example of this is the company Smart Innovations in northwestern Holland. The three owners of the company are very much involved with its operation and have helped make the AZBox receivers one of the top selling brands not only in The Netherlands but also in Belgium and Luxembourg. For these three countries, Smart Innovations has taken over distribution of the AZBox.



The AZBox receiver is shown in the foreground, with a house and a satellite dish in the background. The text describes the company's success in distributing the AZBox receivers in the Netherlands, Belgium, and Luxembourg.

www.TELE-satellite.com/TELE-satellite-1011/eng/smartinnovations.pdf

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PRODUCT NEWS | Fibre Optic Products

GlobalInvacom Expands Product Palette

The British company GlobalInvacom has expanded its optical LAN product palette. TELE-satellite, in the 04-05/2009 issue, introduced the new optical LAN product palette. TELE-satellite, in the 04-05/2009 issue, introduced the new optical LAN product palette. TELE-satellite, in the 04-05/2009 issue, introduced the new optical LAN product palette.



The product palette is shown in the foreground, with a man holding a fibre optic cable in the background. The text describes the company's expansion into fibre optic products.

www.TELE-satellite.com/TELE-satellite-1009/eng/globalinvacom.pdf
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SATBEAMS

Software Programming, Belgium

www.satbeams.com

SOFTWARE REPORT | Satellite Footprints

Satbeams A Website for Professionals

Alexander Derjagin has set some lofty goals for himself. He is the founder and operator of the satbeams.com website. The main purpose of which is to reach the professionals. That's a rather ambitious goal as he wanted to find out from two persons how he intends to reach it. We met up with him in Brussels, Belgium, the city he calls home.



The website is shown in the foreground, with a satellite dish in the background. The text describes the founder's goals and the website's purpose.

www.TELE-satellite.com/TELE-satellite-1011/eng/satbeams.pdf

EESHOP

Satellite Shop, Netherlands

COMPANY REPORT | Satellite Shop in the Netherlands

EESHOP.NL

The Dutch company Eeshop.nl has expanded its product palette. TELE-satellite, in the 04-05/2009 issue, introduced the new optical LAN product palette. TELE-satellite, in the 04-05/2009 issue, introduced the new optical LAN product palette.



The storefront and interior of the Eeshop.nl store are shown. The text describes the company's expansion into satellite products.

www.TELE-satellite.com/TELE-satellite-1005/eng/eeshop.pdf

BEST DIGITAL TV COMPANIES in EUROPE

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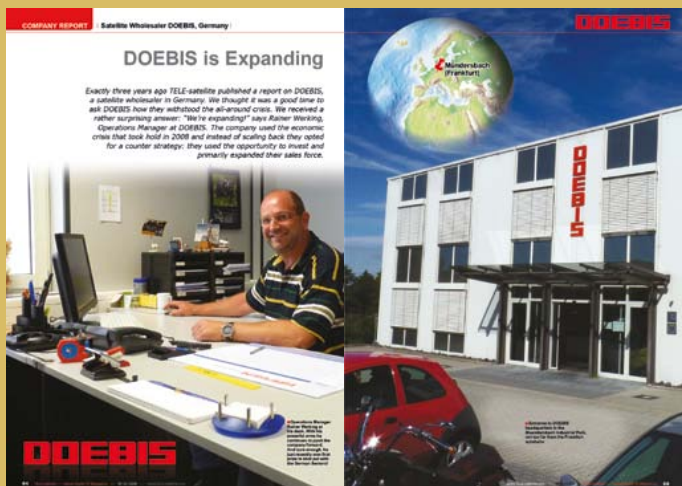


www.doebis.de

COMPANY REPORT Satellite Wholesaler DOEBIS, Germany

DOEBIS is Expanding

Exactly three years ago TELE-satellite published a report on DOEBIS, a satellite wholesaler in Germany. We thought it was a good time to ask DOEBIS how they withstood the air-around crisis. We received a rather surprising answer: "We're expanding!" says Rainer Wörner, Operations Manager at DOEBIS. The company used the economic crisis that took hold in 2008 and instead of scaling back they opted for a counter strategy: they used the opportunity to invest and primarily expanded their sales force.



www TELE-satellite.com/TELE-satellite-1011/eng/doebis.pdf

SMARTWI

Wireless Card Reader Producer, Denmark



www.smartwi.net

COMPANY REPORT Wireless Card Reader Producer SmartWi

SmartWi to Conquer Provider Market

Readers of this magazine have been familiar with wireless card reader manufacturer SmartWi for years. In TELE-satellite issue 06-07/2007 we published the first report on this Danish company which has come up with a ground plan for their transmitting data from a pay TV provider's subscription card to a second card in the same household. If it's a sudden your viewing pleasure can be extended from the living room all the way to the bedroom, then or any other room at your place. Pay TV whenever you like – and a smart idea for their deserves a proper name too: smart Wi, or SmartWi as short.



www TELE-satellite.com/TELE-satellite-1011/eng/smartwi.pdf
www TELE-satellite.com/TELE-satellite-0709/eng/smartwi.pdf

SPAUN POWER

Power Supply Manufacturer, Germany



www.spaun.com

COMPANY REPORT Power Supply Unit Manufacturer

Power Supply Units Made by SPAUN – guaranteed!

Every multi-switch and every amplifier comes with one, and of course every receiver has one, too: a power supply unit which is required to connect the device to the mains. It has become such an everyday component of virtually any electronic device that we have stopped thinking about how it actually works. SPAUN, on the other hand, has given it a great deal of thought and has arrived at a remarkable conclusion. Kevin Spaur is the managing director of SPAUN, one of the most renowned quality manufacturers of multi-switches and other accessories for satellite signal distribution. He tells us what it's all about.



www TELE-satellite.com/TELE-satellite-1011/eng/spaun.pdf

GOLDEN MEDIA

Manufacturer and Distributor, Germany



www.cynextra.com

COMPANY REPORT Manufacturer and Distributor Golden Media, Germany

New On The Market: Golden Media

SmartWi after you open this issue of TELE-satellite, a young company will be celebrating its first birthday. During Golden Media, based in Sigmaringen near Stuttgart in Germany, it was only 1st birthday in September 2009 and has had surprising growth since then. We wanted to find out the secret to their quick success.



www TELE-satellite.com/TELE-satellite-1009/eng/goldenmedia.pdf

MEDIA BROADCAST

Broadcasting Services, Germany

STATION REPORT | Earth Station Usingen, Germany

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 satellites. Dishes using large dishes it's a welcome change to explore really huge antennas. These can only be found in professional settings, of course, and in particular where TV channels are beamed up to a satellite or 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.

TELE-satellite World | www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-1009/eng/mediabroadcast.pdf

SPAUN

High Quality Accessory Manufacturer, Germany



www.spaun.com

COMPANY REPORT | High Quality Accessory Manufacturer

Spaun at 40 years

Moving into the new decade with many new products

Alexander Weiss

Well, actually, this time we're 40 years old. The company Spaun doesn't celebrate its 40th anniversary until 2010. But because we had a very good year and a really good one, we decided to celebrate it a little earlier. We're celebrating 40 years of our company. We're celebrating 40 years of our company. We're celebrating 40 years of our company.

TELE-satellite World | www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-0811/eng/spaun.pdf

SMART

Receiver Manufacturer, Germany

COMPANY REPORT | Receiver Manufacturer Smart

Being 'SMART' in Germany's Black Forest

When you hold this issue of TELE-satellite in your hands the company Smart Electronics will only have been in existence for less than a year. It's relatively new, but it's a very young company, but still it can boast its own production facilities and dedicated sales channels. How can a start-up business develop so fast? That's exactly what we want to find out when we set out on our journey to the south-western corner of Germany, home of the world famous Black Forest cuckoo clock and a byword for precision and the art of craftsmanship.

TELE-satellite World | www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-0901/eng/smart.pdf

GT SAT

LNB Distributor, Luxembourg

COMPANY REPORT | LNB Distributor GT-SAT

GT-SAT

This is a very GT-SAT is a Luxembourgian company. It's a company that's been in existence for a long time. It's a company that's been in existence for a long time. It's a company that's been in existence for a long time.

TELE-satellite World | www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-0805/eng/gtsat.pdf

NANOXX

Wholesaler and Receiver Manufacturer, Germany

COMPANY REPORT | Wholesaler and Receiver Manufacturer Nanoxx

Two X's Mark the Spot in Frankfurt

NANOXX

The trademark of the receiver manufacturer's Nanoxx product are the two X's. These two X's also appear in the Nanoxx company name. We wanted to find out about the secret of the two X's. We found Marcel Hübner in the small town of Lendebach north of Frankfurt, Germany. He is the founder and President of Nanoxx and chose the name Nanoxx for his line of receivers. It's actually a clever name as the two large X's truly stand out.

TELE-satellite World | www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-0901/eng/nanoxx.pdf

TECHNISAT

TV Manufacturer, Germany

COMPANY REPORT | Technisat TeleDigital AG

TV Made in Germany

Alexander Weiss

There are only a few TV manufacturers left in Germany. One of them is Technisat. Technisat is a company that's been in existence for a long time. It's a company that's been in existence for a long time. It's a company that's been in existence for a long time.

TELE-satellite World | www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-0709/eng/technisat.pdf



BEST DIGITAL TV COMPANIES in S/E EUROPE

AB IPBOX

Satellite Receiver Manufacturer, Slovakia



www.abipbox.com



www.TELE-satellite.com/TELE-satellite-1009/eng/abipbox.pdf

AZBOX

Satellite Receiver Manufacturer, Portugal



www.azbox.com



www.TELE-satellite.com/TELE-satellite-1001/eng/azbox.pdf

PULSTAR

Satellite Installer, Spain



www.TELE-satellite.com/TELE-satellite-0911/eng/pulstar.pdf

PROMAX

Accessory Manufacturer, Spain



www.TELE-satellite.com/TELE-satellite-0909/eng/promax.pdf

Uplink Technology, Italy

www.TELE-satellite.com/TELE-satellite-0903/eng/abcbiznis.pdf

www.TELE-satellite.com/TELE-satellite-0809/eng/antech.pdf

www.TELE-satellite.com/TELE-satellite-0903/eng/mennyfix.pdf

www.TELE-satellite.com/TELE-satellite-0809/eng/stab.pdf

www.TELE-satellite.com/TELE-satellite-0811/eng/teleippica.pdf

- High Production Volume ■ Quality Controlled
- Customized Product Case ■ Customized Product Software
- Aftersale Service

BEST DIGITAL TV COMPANIES in MIDDLE EAST

 **YAHYA**

**ATLANTA
COMINTOUCH
ECHOLINK**

ATLANTA

Satellite Wholesaler, UAE



www.TELE-satellite.com/TELE-satellite-1007/eng/atlanta.pdf

ECHOLINK

Satellite Wholesaler, UAE



www.TELE-satellite.com/TELE-satellite-1007/eng/echolink.pdf

COMINTOUCH

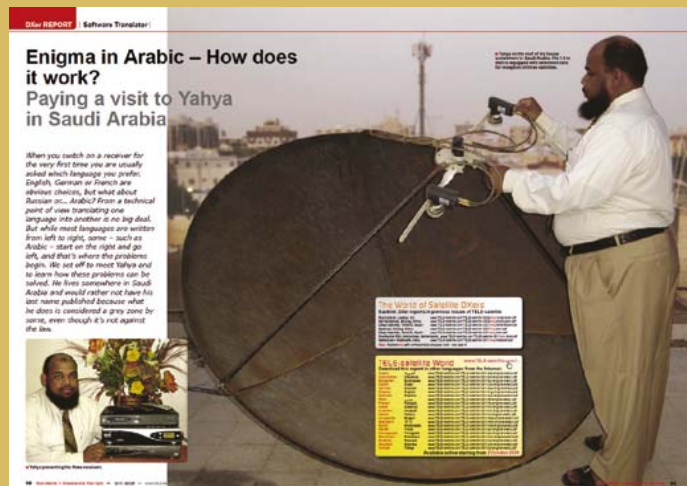
Satellite Wholesaler, UAE



www.TELE-satellite.com/TELE-satellite-1007/eng/comintouch.pdf

YAHYA

Software Programming, KSA



www.TELE-satellite.com/TELE-satellite-0911/eng/yahya.pdf



SQUARE PLAN

Satellite Dealer, South Africa



www.TELE-satellite.com/TELE-satellite-0811/eng/squareplan.pdf

CNBC

Satellite Channel, South Africa



www.TELE-satellite.com/TELE-satellite-0709/eng/cnbc.pdf

SAMMEG

Satellite Wholesaler, South Africa



www.TELE-satellite.com/TELE-satellite-0801/eng/sammeg.pdf

TELEMEDIA

Satellite Uplink, South Africa



www.TELE-satellite.com/TELE-satellite-0709/eng/telemedia.pdf

BEST DIGITAL TV COMPANIES in ASIA

YONGSAN NASA CNS TOPFIELD
ARION
SEKISAT

 **INFOSAT
FASHION TV**

 SUBUR SEMESTA

CISS

Satellite Wholesaler, Singapore



www.TELE-satellite.com/TELE-satellite-1007/eng/singapore.pdf

TOPFIELD

High-End Receiver Manufacturer, Korea



www.TELE-satellite.com/TELE-satellite-0905/eng/topfield.pdf
www.TELE-satellite.com/TELE-satellite-0801/eng/topfield.pdf

INFOSAT

Dish Manufacturer, Thailand



www.TELE-satellite.com/TELE-satellite-0907/eng/infosat.pdf
www.TELE-satellite.com/TELE-satellite-0803/eng/infosat.pdf
www.TELE-satellite.com/TELE-satellite-0705/eng/infosat.pdf

ARION

High Quality Receiver Manufacturer, Korea



www.TELE-satellite.com/TELE-satellite-0903/eng/arion.pdf
www.TELE-satellite.com/TELE-satellite-0801/eng/arion.pdf
www.TELE-satellite.com/TELE-satellite-0701/eng/arion.pdf

OPERATOR MARKET Qualified

Classification for Best Digital TV Companies



Attributes of Qualified Company:

- High Production Volume ■ Quality Controlled
- Customized Product Case ■ Customized Product Software
- Aftersale Service

NASA CNS

Satellite Wholesaler, Korea



www.TELE-satellite.com/TELE-satellite-0805/eng/nasacns.pdf

FASHION TV

Satellite Channel, Thailand



www.TELE-satellite.com/TELE-satellite-0811/eng/fashiontv.pdf

SUBUR SEMESTA

Dish Manufacturer, Indonesia



www.TELE-satellite.com/TELE-satellite-0805/eng/subursemesta.pdf

YONGSAN

Satellite Shop, Korea



www.TELE-satellite.com/TELE-satellite-0807/eng/koreasatshop.pdf

SEKISAT

Satellite Wholesaler, Korea



www.TELE-satellite.com/TELE-satellite-0801/eng/sekisat.pdf

BEST DIGITAL TV COMPANIES in CHINA

 SHALOM **CHANGHONG**

 **SVEC**
SKYWORTH

MOTICK MT

AZURESHINE 

BOXSAM

Receiver Manufacturer, China

www.boxsam.com



www.TELE-satellite.com/TELE-satellite-1009/eng/boxsam.pdf

SVEC

Professional Dish Manufacturer. China

www.svec.com.cn



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

YINHE

High Volume Receiver Manufacturer, China

www.vinhe.com



www.TELE-satellite.com/TELE-satellite-1007/eng/vinhe.pdf

SKYWORTH

Receiver Manufacturer, China

www.skyworthdigital.com



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

CHANGHONG

Receiver and TV Manufacturer, China



www.changhong.com

COMPANY REPORT | Receiver and TV Manufacturer CHANGHONG, China

Large-scale Quality and Innovation Made by CHANGHONG

CHANGHONG is one of the largest volume manufacturers of receivers with headquarters in Nanjing in the Jiangsu province of south-eastern China, some 130 km from the province capital of Chengdu. Not only do millions of satellite and terrestrial receivers leave the production premises every year, but also an equal number of flat-screen TVs, so that the company ranks among the most important digital corporations in the world.

Looking at their business today, it is hard to imagine the humble beginning of the company. Founded in 1985, it was a small enterprise with only a few employees. Over the years, however, it has grown into a large-scale manufacturer of receivers and TVs. Today, the company has a production capacity of 10 million receivers and 1 million TVs per year. The company's products are sold in over 100 countries and regions, and it has a strong reputation for quality and innovation.

The company's success is due to its focus on quality and innovation. It has invested heavily in research and development, and has a strong focus on quality control. The company's products are known for their reliability and performance, and it has a strong reputation for customer service.

CHANGHONG is a leading manufacturer of receivers and TVs in China, and its products are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

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

MTI

LNB Manufacturer, Taiwan

COMPANY REPORT | LNB Manufacturer MTI

News From Innovation Road

MTI is a leading manufacturer of LNBs in Taiwan, and its products are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

The company's products are known for their reliability and performance, and it has a strong reputation for customer service. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

MTI is a leading manufacturer of LNBs in Taiwan, and its products are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

www.TELE-satellite.com/TELE-satellite-0707/eng/mti.pdf

SHALOM

Satellite Installer, China

COMPANY REPORT | Satellite Installer, Beijing, China

Shalom Beijing

Shalom Beijing is a leading satellite installer in China, and its services are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading installer in the industry.

The company's services are known for their reliability and performance, and it has a strong reputation for customer service. The company's focus on quality and innovation has helped it to become a leading installer in the industry.

Shalom Beijing is a leading satellite installer in China, and its services are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading installer in the industry.

www.TELE-satellite.com/TELE-satellite-0911/eng/shalom.pdf

AZURESHINE

Professional Dish Manufacturer, Taiwan



www.azureshine.com.tw

COMPANY REPORT | Satellite Dish Manufacturer Azure Shine

Dishes in Focus

Azure Shine is a leading professional dish manufacturer in Taiwan, and its products are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

The company's products are known for their reliability and performance, and it has a strong reputation for customer service. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

Azure Shine is a leading professional dish manufacturer in Taiwan, and its products are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

www.TELE-satellite.com/TELE-satellite-0707/eng/azureshine.pdf

TAIWAN SATELLITE

Satellite Installer, Taiwan

COUNTRY REPORT | Best Installer in Taiwan

Taiwansatellite.tv, Taipei

Taiwansatellite.tv is a leading satellite installer in Taiwan, and its services are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading installer in the industry.

The company's services are known for their reliability and performance, and it has a strong reputation for customer service. The company's focus on quality and innovation has helped it to become a leading installer in the industry.

Taiwansatellite.tv is a leading satellite installer in Taiwan, and its services are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading installer in the industry.

www.TELE-satellite.com/TELE-satellite-0707/eng/taiwansatellite.pdf

MOTECK

Antenna Motor Manufacturer, Taiwan



www.motek.com

COMPANY REPORT | Antenna Motor Manufacturer MOTECK

MOTECK's Motor Professionals

MOTECK is a leading antenna motor manufacturer in Taiwan, and its products are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

The company's products are known for their reliability and performance, and it has a strong reputation for customer service. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

MOTECK is a leading antenna motor manufacturer in Taiwan, and its products are sold in over 100 countries and regions. The company's focus on quality and innovation has helped it to become a leading manufacturer in the industry.

www.TELE-satellite.com/TELE-satellite-0707/eng/motek.pdf



Operator Market Qualified

BEST DIGITAL TV COMPANIES in S CHINA

ALUOSAT 卫星
LAOGE 卫星
SMIT 卫星

JIUZHOU 卫星
KAIFA 卫星
INTELLITECH 卫星

JIUZHOU

Receiver Manufacturer, China



www.jiuzhou.com.cn

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 50th 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: "Jiuzhou Park".

TELE-satellite World www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-1003/eng/jiuzhou.pdf
www.TELE-satellite.com/TELE-satellite-0903/eng/jiuzhou.pdf
www.TELE-satellite.com/TELE-satellite-0803/eng/jiuzhou.pdf
www.TELE-satellite.com/TELE-satellite-0703/eng/jiuzhou.pdf

ALUOSAT

Satellite Consultant, China



www.aluosat.com

COMPANY REPORT Satellite Consultant, China

Aluo-sat Knows Everybody!

Let me name the company that has been active in the satellite field in China for many years, but also because he is a high profile figure in many other satellite areas as well. Since China is entering the 21st year in 2009, now is a good time for visiting Luo Shi Gang in his office in Shenzhen.

TELE-satellite World www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-0905/eng/aluosat.pdf

KAIFA

Satellite Receiver Manufacturer, China

COMPANY REPORT Satellite Receiver Manufacturer Kaifu, China

The Birth of a New Receiver Manufacturer Kaifu in China Starts Production

For the time this issue of TELE-satellite will be published, Kaifu will have been manufacturing satellite receivers for just a few weeks. When we paid them a visit, they were just finishing the installation of their assembly line and an initial test run was soon to follow. Who recently in Kaifu and after makes this company think they're ready to step into the market as a satellite receiver manufacturer?

TELE-satellite World www.tele-satellite.com

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

LAOGE

Satellite Installer, China

COMPANY REPORT Satellite Installer, China

Shenzhen Satellites

As of now private satellite reception is still illegal in China, but in actual fact you can already find a large number of only you look hard enough. Satellite installers advertising their services in English and setting up systems for foreigners, for example, don't have much to fear from the authorities.

TELE-satellite World www.tele-satellite.com

www.TELE-satellite.com/TELE-satellite-0903/eng/laoge.pdf

WINNING SOLUTIONS FOR SAT TV DISTRIBUTION



www.teletek.com.tr

Made in Turkey

www.TELE-satellite.com/TELE-satellite-0809/eng/intellitech.pdf

www.TELE-satellite.com/TELE-satellite-0703/eng/smit.pdf



BEST DIGITAL TV COMPANIES in AMERICA

GLOBAL SATELLITE

Satellite Dealer, USA

COMPANY REPORT Satellite Dealer, Fort Lauderdale, USA

Satellite Reception on a Ship

Where actually would you buy a satellite antenna for a ship? Well, naturally, you'd go to the coast. And if you're looking for a satellite antenna for reception of TV and radio, you should go where the expensive yachts are since almost every one of them has a satellite TV system installed on it. A good place would be Fort Lauderdale in Florida in southeastern USA. Many yachts can be found anchored here or stop here on their way to the Caribbean. And this is where you'll find Global Satellite.

Right in the middle of the busy and scenic Florida coastline, Global Satellite is a satellite antenna dealer and distributor. The company is located in Fort Lauderdale, Florida, and is the only satellite antenna dealer in the area. The company has been in business since 1997, and has a reputation for being the best in the business.

Global Satellite has a large inventory of satellite antennas, including the most popular models from Intelsat, Hughes, and Inmarsat. The company also offers a wide range of services, including installation, repair, and maintenance. The company is a member of the International Satellite Dealers Association (ISDA) and is a proud member of the local community.

Global Satellite is a family-owned business, and the owner, John Smith, is a former naval officer. He has a deep understanding of the satellite industry and is committed to providing the best service to his customers. The company is a leader in the field of satellite antennas and is a trusted name in the industry.

Global Satellite is a satellite antenna dealer and distributor. The company is located in Fort Lauderdale, Florida, and is the only satellite antenna dealer in the area. The company has been in business since 1997, and has a reputation for being the best in the business.

www.TELE-satellite.com/TELE-satellite-1007/eng/globalsatellite.pdf

COWMIX

Satellite Dealer, USA

COMPANY REPORT Satellite Dealer COWMIX in Arizona, USA

JT is COWMIX

Satellite reception has been linked with pay-TV for many years in the USA. But this has slowly been changing: free-to-air (FTA) reception is becoming more and more popular. The USA is a land of immigrants and since many providers from around the world send their programming to the USA for free, it makes sense that so many want to be able to watch TV in their mother-tongue or perhaps even their grandmother-tongue. Why should you pay a monthly fee to watch English-language programming when you can watch channels in their original language for free?

John Smith, owner of COWMIX, has been in the business since 1997. He has a deep understanding of the satellite industry and is committed to providing the best service to his customers. The company is a leader in the field of satellite antennas and is a trusted name in the industry.

COWMIX is a satellite antenna dealer and distributor. The company is located in Arizona, USA, and is the only satellite antenna dealer in the area. The company has been in business since 1997, and has a reputation for being the best in the business.

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

QUALITY SATELLITE

Satellite Dealer, USA

COMPANY REPORT Satellite Dealer Quality Satellites, San Diego, California

The Southwestern-most Satellite Dealer in the USA

Are you located in the extreme southwestern corner of the USA? If you take one more step and you fall into the Pacific ocean? Well, if you happen to be there and have the need for a satellite dish, TELE-satellite can recommend one for you: QUALITY SATELLITES in San Diego. Located just far from the Mexican border, they have been offering a large selection of FTA receivers since 2007.

Quality Satellites is a satellite antenna dealer and distributor. The company is located in San Diego, California, and is the only satellite antenna dealer in the area. The company has been in business since 2007, and has a reputation for being the best in the business.

www.TELE-satellite.com/TELE-satellite-1005/eng/qualitysatellite.pdf

SEATEL

Maritime 3-Axis Dish Manufacturer, USA

www.cobham.com

COMPANY REPORT Maritime 3-Axis Dish Manufacturer

SeaTel's Five-Satellite Antenna

Alexander Wies

Self-adjusting satellite antennas are typically used on ships; they automatically adjust the position of the antenna according to the movement of the ship so that the antenna is always properly pointed to the desired satellite. The principle here is on "five-satellite". But what if you want to receive five satellites at the same time? SeaTel, a division of Cobham, PLC, a large group of companies manufacturing and engineering various different communication systems for aviation, transport, government, etc., recently developed just such a system. TELE-satellite reported on their first prototype back in the 12-11-2009 issue. But now that they are mass producing these antennas, we want to see one of these systems in normal operation. So off we go to Florida to SeaTel's regional office in Fort Lauderdale where one of the first of these five-satellite antennas were recently shipped to.

The report was written in Florida, 2009 and the first prototype was shipped to the first customer in the USA. The first customer was a shipowner who wanted to use the antenna for his ship. The antenna was installed on the ship and the shipowner was very satisfied with the results. The antenna was able to receive five satellites at the same time and the shipowner was able to watch TV in his mother-tongue. The antenna was a great success and the shipowner was very happy with the results.

SeaTel is a satellite antenna manufacturer and distributor. The company is located in Florida, USA, and is the only satellite antenna manufacturer in the area. The company has been in business since 2009, and has a reputation for being the best in the business.

www.TELE-satellite.com/TELE-satellite-0911/eng/seatel.pdf
www.TELE-satellite.com/TELE-satellite-0901/eng/seatel.pdf

Satbeams

A Website for Professionals



Alexander Derjugin has set some lofty goals for himself. He is the founder and operator of the satbeams.com website the main purpose of which is to reach the professionals. That's a rather ambitious goal so we wanted to find out from him personally how he intends to reach it. We met up with him in Brussels, Belgium, the city he calls home.

First we wanted to know how satellite reception came into his life. He explains, "I'm originally from Moscow. I worked there as an IT manager for a big 'Fast Moving Consumer Goods' company. The company transferred me with my family to their European headquarters in Brussels back in 2001."

There Alexander Derjugin started to work as an IT consultant in the area of web infrastructure. In 2003 his department was outsourced to another big

international company providing global IT services he continues to work as a Managed Web Service consultant.

Working in another country is a big challenge and it was very important for Alexander to setup his first satellite dish to receive Russian programs! "If we couldn't receive Russian TV, my wife would be very upset and we would just pack and go back to Moscow", jokes Alexander Derjugin. As it turns out, he has his wife to thank for getting his start

■ Alexander Derjugin, founder and operator of the satbeams website. In the lobby of a hotel in Brussels, Belgium, he uses his laptop to explain the functionality of satbeams.com.

in satellite reception. "My first satellite system consisted of an 80cm antenna that I used back then to receive SIRIUS at 4.8 east and HOTBIRD at 13 east", he explains. Not long after that, he expanded his system to 100cm.

Meanwhile, Alexander Derjugin wanted to learn more about this mysterious technology. As his colleagues and friends also learned of his interest they began asking him more and more questions related to satellite reception. One thing led to another and he eventually became a satellite specialist.

As Alexander worked most of the time with web technologies, he one day came across the idea to combine satellite footprints with Google Maps. That was back

CHINA

SATELLITE RECEIVERS
TERRESTRIAL RECEIVERS
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



ALuoSat 阿罗卫视
Export Digital TV Products from China

LUO SHIGANG
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85774 Munich-Ufg, GERMANY

Tel: +49-151-40405196

Fax: +49-89-92185023

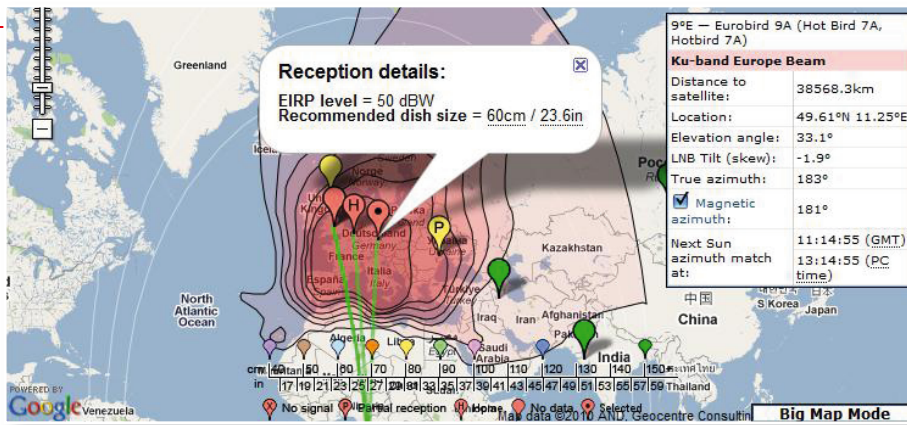
Email: luo.shigang@ALuoSat.com

Website: www.ALuoSat.com

We help you find the manufacturer in China
that matches your needs and requirements

Contact us with your specifications and we
do the rest

ALuoSat 阿罗卫视
Export Digital TV Products from China



■ An example from the satbeams.com website: the footprint of EUROBIROD 9A is projected online onto Google Maps. You can zoom into and out of the map with the footprints matching each individual map. Satbeams has created an electronic version of the footprint of every satellite. Professional users can license the data and then use the data on their own website.

in 2006 and after few months of hesitation he decided to implement this idea. "In the Fall of 2007 I contracted several talented programmers who helped me develop the necessary software as well as electronically convert the satellite footprints", he explains. In the middle of 2008 the web site went online with its first version. Initially, Alexander wanted to use the domain name "satcoverage" but a friend suggested that "satbeams" would be better. "That name is short, easy to remember and gets right to the point", he says.

At first Alexander Derjugin wanted to gear his web-site more

towards satellite DXers, in other words towards hobbyists. He implemented the solution that satellite DXers could click on their location via Google Maps and then enter in realistic reception results. But he wasn't satisfied with the results and decided to redesign the website. In July 2009 the new version of Satbeams went live.

Now almost every satellite footprint from around the world was digitized and could be projected onto Google Maps. "Dozens of volunteers help me keep all of the satellite data up-to-date", he says. So in addition to satellite technical details and footprints all of the associated transponder data is also displayed.

Now he's in the process of making his website more user-friendly. "I am focused on 'usability' to improve the user experience", he explains, "you can search by channel name or your address and filter the

charts by any field like 'language' or 'band'. All of the data is linked together and you can reach almost any information with just 2-3 clicks of the mouse."

Alexander is constantly thinking about how he can make his website even more user-friendly. "But above all I want to reach out to professionals and implement additional features that would be useful for them. For example satellite providers would be interested to know if their footprint overlaps with footprints of other satellites." So Alexander is thinking of the best way to overlay multiple footprints on the worlds map which would make it easy to see what satellites cover the same area.

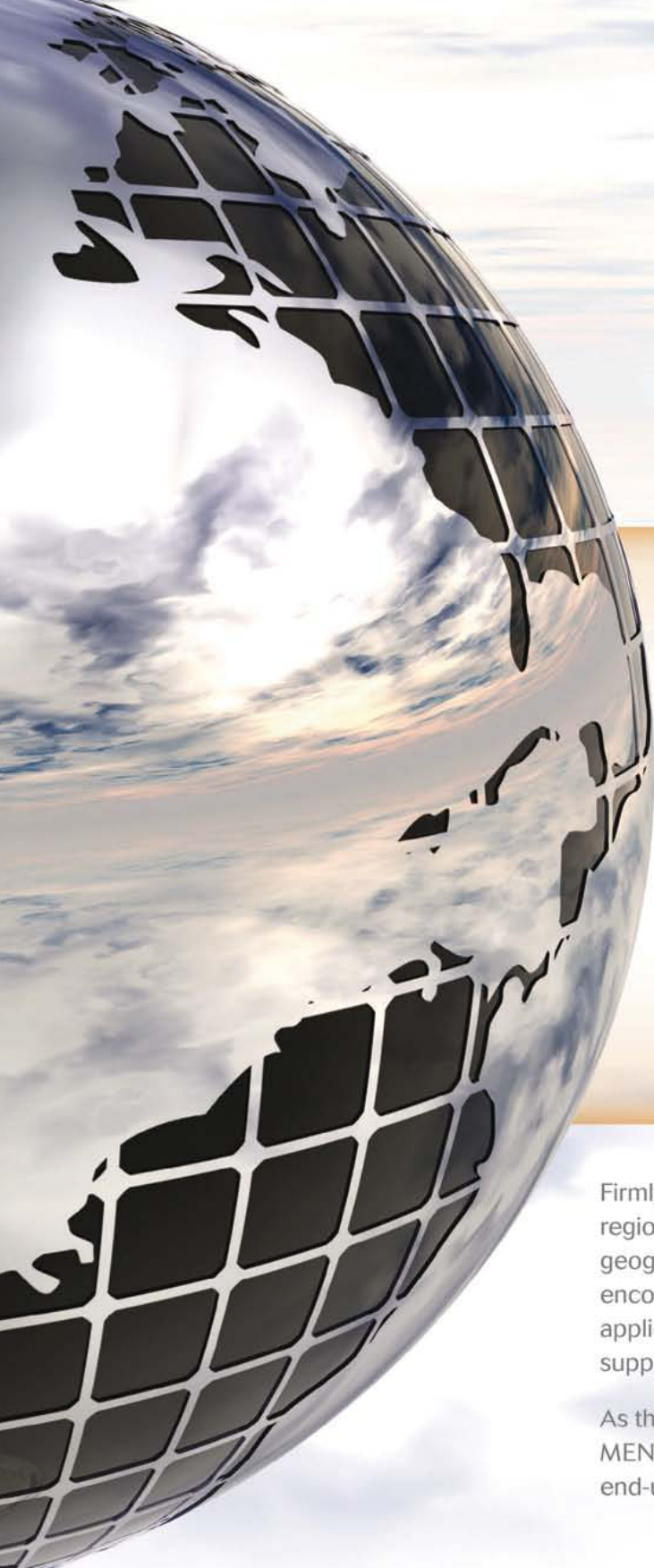
He sees the future of Satbeams with specialised applications. "Interested companies could license the footprint data from me", says Alexander Derjugin, "with the monthly licensing fee the footprint updates are locked in."

What kind of companies could use his services? "First and foremost would be Internet-via-Satellite providers", comments Alexander Derjugin, "Satbeam's first customers came from this sector. The footprint data would also be interesting for uplink stations, for satellite providers and also for SNG operators who need to find the proper footprint for their VSAT systems."

Alexander Derjugin discovered an interesting market segment with Satbeams. A website geared specifically towards the satellite professionals seems to be a very good idea!



■ This is what the home of Alexander Derjugin looks like. A Channelmaster 120cm antenna with a C-band and Ku-band LNB can be seen all the way to the left. This antenna is motorized and can be moved from 57 east to 45 west. A T90 multisatellite antenna is in the center and sports eight LNBs for reception of satellites from 4.8 east to 53 east and all the way to the right is a 125cm antenna for 40 east reception.



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Pepsi's Dishes



Satellite DXers are a rather new species in China. One of the select few is Pepsi in the city of Mengyang of Sichuan province in south-western China. Why would anybody choose the nickname Pepsi, you may ask? Well, that's not difficult to guess: Pepsi used to work for the company by the same name.

■ Where does the DXer live? Easy to guess, it's the building on which antennas can even be seen from the street below. Pepsi's apartment is in this mixed residential and business block, because here he can freely install antennas on the roof.



He has since moved on and now holds a technician's positions at a local packaging company, even though he still sticks to his nickname. We meet Pepsi for lunch at a typical restaurant in his hometown and he tells us how it all began: "I started out in 2004 with a 1.5 m dish which I used to pick up signals from ASIASAT 3 at 105.5° East." It was technology rather than content that got him hooked on this hobby. "I hardly ever watch TV," Pepsi admits, "it's rather the challenge of trying to receive even more satellites that keeps me going." This enthusiasm led to an increasing number of satellite dishes over the years. Next to several small dishes with diameters ranging from 45 to 90 cm Pepsi also uses 1.8 and 2.4 m antennas.

With great expectations and anticipation we take the trip to Pepsi's place in a residential area of the city of Mengyang, some 40 km north of the capital of Sichuan province. Pepsi's apartment is located on the second floor of the building and it becomes evident right upon entering that watching TV is not exactly Pepsi's favourite pastime. Only one TV set can be seen in the living room, but a total of six receivers. Pepsi loves the technical aspects of satellite television, yet could hardly care less about what kind of content is transmitted.

All of his antennas are mounted on the roof of the building's staircase. "Here they don't get in the way of anybody, and nobody gets in my way," Pepsi explains. As a matter of fact, he purposely moved into this area so that he would be able to pursue his hobby without restrictions. "Where I used to live before it was not possible to install large antennas," says Pepsi. "It was my hobby that made me move to Mengyang." Talk about commitment!

Pepsi even spends his spare time helping other people install their satellite dishes and he has become a well-established satellite expert even beyond his city.

Eventually, his hobby might turn into his profession one day. "I am currently working on larger projects too, which involve supplying several apartments



The World of Satellite DXers

Previous TELE-satellite DXer Reports can be Read Here:

<http://www.SatcoDX.net>

■ Pepsi on his way up to the roof of the staircase. The 1.8 m dish points at THAICOM.



with satellite television." It looks like Pepsi will soon be able to make money out of his hobby, for which we wish him good luck.



■ Using an extension rail Pepsi has converted his 2.4 m antenna into a multi-feed dish for reception of nine different satellites.



■ Pepsi presenting his receiver collection in the living room.



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A Satellite Expert's Museum

Alexander Wiese

Over the course of many years satellite expert Bjarne Nielsen has worked up his reputation as Denmark's 'Mr. Satellite'. In retirement now, he has found a new passion in his position as organiser of and driving force behind the 'Radiomuseum' in the small town of Ringsted, not far from the Danish capital Copenhagen. In a TELE-satellite exclusive Bjarne Nielsen opens the museum doors and recalls major events that shaped his life.

Let's start with a remarkable fact: For 15 years Bjarne Nielsen was the publisher and editor-in-chief of Denmark's first and only satellite-related magazine, with the last issue having appeared in the year 2005.

"I published a total of 165 issues," Bjarne Nielsen recalls. "Each magazine issue featured a test report and a company report, as well as an up-to-date frequency chart." A peak circulation of 4000 was printed in 2000 in the heyday of Bjarne's magazine, but towards 2005 this number had declined to 1400 copies. At the same time the Danish postal service decided to increase postage fees with the result that the whole magazine operation had become uneconomical.

What made Bjarne Nielsen create and publish a satellite magazine in the first place? In 1966 he had began to work as a teacher at the Ringsted technical vocational school, covering the fields of TV and radio engineering – well... what else? One of his students made a career as service manager for Swedish company LUXOR in Motala, which in 1980 was in the process of developing its first satellite receiver. At the time, satellite receivers usually came from the United States.

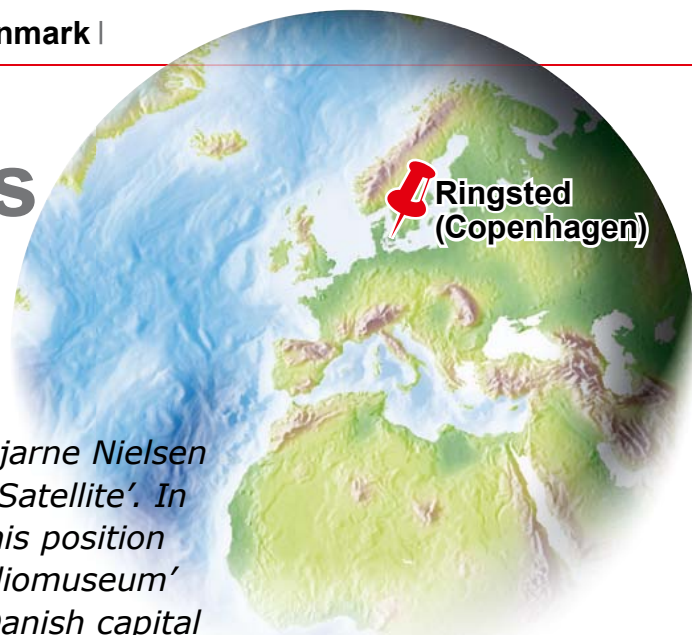
Bjarne Nielsen managed to obtain satellite reception equipment from LUXOR and "in 1982 I was able for the very first time to watch satellite television thanks to a 2-metre dish," he remembers. "I picked up Russian

TV from GORIZONT, transmitted in the 4 GHz range."

Half a year later LUXOR invited him to its Motala headquarters and it was there that Bjarne Nielsen was able to see signals from OTS, the first European broadcasting satellite, with the help of a huge 3-metre antenna.

All his efforts were focused on setting up a dish of his own and by the end of 1983 a 1.8-metre antenna had become an addition to his house to receive CS1 at 13° east.

In case you're still in doubt, we're dealing with a serious case of satellite virus infection here, and in his role as a vocational teacher



■ Three museums in a row in the Danish town of Ringsted: the Radiomuseum (centre), the mill museum (behind) and Ringsted local museum (right). Bjarne Nielsen runs the Radiomuseum.



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1

Bjarne Nielsen took his chances and raised his students' interest for this new technology as well.

However, it didn't stop there. Danish companies dealing with satellite products were quick to see the potential of this dedicated teacher and asked him to organise technical seminars for engineers and installers. "In 1984 and 1985 I held lots of 3-day seminars to teach more than 1000 professional installers how to set up satellite antennas," Bjarne Nielsen proudly states. His school supported these activities as well, as they were counted as part of the teaching process. This eventually led to the establishment of a satellite magazine in 1990. "My school was the official publisher and I was 'only' the editor," he recalls laughingly because nonetheless, all of his free time was put into the magazine.



2

"We even went so far as to stage our own satellite fair at the school," he adds. "It took place in 1990 and we were proud to showcase virtually all Danish satellite companies." The fair was repeated one more time, but as it was only successful from a technical point of view rather than from a financial aspect, it unfortunately had to be stopped after only two events.

Let's move on to an altogether different stage now and find out what in the world made Bjarne Nielsen run his own museum? "By my very nature as a teacher I was in touch with hundreds of young people, all of whom knew that I collected old TV and radio sets. Time and again they would come to school with a disused device, and I was all the more happy for it." In all those years he never had to actually buy a radio or TV, each single one was donated.

In 1998 Bjarne Nielsen came up with the idea of displaying all those marvellous wonders of technology in a dedicated museum, and in 2000 he was able to make that dream a reality. The Radiomuseum Ringsted was ready to open its doors! The building hosting the museum was made available by the municipality of Ringsted and lots of locals offered a helping hand to adapt the place for its new use as a museum.



3

1. Celebrating 110 years: An EDISON phonograph dating back to the year 1900 is one of the collection's highlights. This system uses a wax cylinder to record sound.

2. As early as 1936 company AEG invented a tape recorder. The Radiomuseum features a unit that was manufactured in 1938.

3. The BEOCORD from the year 1948 used steel wire rather than magnetic tape to record voices. "2.2 km of steel wire are wound up on a single roll. The wire is led through the device with a speed of 50 cm per second, which means 2.2 km of wire provide a recording time of one hour," Bjarne Nielsen explains. "By the way, Danish inventor Valdemar Poulsen had this system patented in 1898. At the time, however, the available technology was not ready for real-world implementation. For this you need amplifying which became available only with the invention of tubes."

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RADIO - MODTAGEREN

første apparater i Danmark ca. 1922

Første radiofonitidende

1922. Helt nye, der blev radiofonitidende, kom ud i Danmark 1922 af jyske. Tidende, som blev udgivet i København, var det første af sin art i Danmark. Det var en lille, sødelig, og meget interessant, og det var det første af sin art i Danmark. Det var en lille, sødelig, og meget interessant, og det var det første af sin art i Danmark.

Radiofonis Udvikling

- 1889 Heinrich Hertz fandt gennembrud radioudvikling.
- 1895 Guglielmo Marconi fik patent på radio.
- 1904 Valdemar Poulsen (Danmark) konstruerede første radio.
- 1910 Kyststationen i København fik radio.
- 1912 Radio i USA.
- 1913 Radio i Danmark.
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■ With a microphone from 1942 (the year of birth of Bjarne) it feels like time travel. That's the way the pop stars of the time sang their songs on stage.

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HØJTTALEREN

første i Danmark ca. 1915



"Some 500 items are on display here," Bjarne Nielsen explains and directs our attention to a breathtaking range of TV and radio sets. But the real surprise is yet to come: "What you can see here is just 10% of what I have collected – a total of 5000 items are stored in a repository." Now this is quite a revelation – where could Bjarne Nielsen possibly store so many items?

We're wasting our breath here: "In my old school, from which I retired five years ago. Much of the basement there is used up by my TVs and radios," he says and smiles. Indeed, Bjarne Nielsen has collected an almost unbelievable range of different apparatus, and what makes his collection even more unique is the unexpected number of products made by Danish companies. These days only few people are aware that Denmark used to boast a significant TV and radio industry in the past, because today hardly any of these companies are still in business.

Enthusiasm and commitment don't diminish with age, and Bjarne Nielsen is perfect proof of that. He has even started to publish a new magazine, only that this time it deals with historic TV and radio sets. Some may think of anybody with such a passion for old technology as an idiot, and Bjarne Nielsen happily picked up this notion for the title of his magazine. While he could not quite get himself to call it radio idiots, he went for Radioten instead. A community of 'radiots' is in the making and Bjarne Nielsen gets together with like-minded enthusiasts on a regular basis to restore old devices. With a well of personal knowledge and expertise available with his co-collectors and with the help of measurement devices from all times, the results of such restorations are nothing short of impressive.

One of the unique aspects of the Radiomuseum is its technical capability to copy



1. This portable radio is impressive proof of the state of technology 75 years ago. It was produced in 1935 and had to do without transistors and microchips of any kind.

2. Danish company RUHE produced this TV set (right) in the year 1950. In 1949 first test broadcasts were transmitted from Copenhagen and these sets were made specifically for receiving these signals. "The official launch of TV in Denmark took place in 1951," Bjarne Nielsen tells us. And what has seemingly fallen out of the TV to the left? "That's the remote control," he replies. What today is a standard feature for home entertainment devices was a genuine sensation at the time. "Of course a remote control in the 1950s was not wireless but rather attached to the main set with a long cable, yet even an early model such as that came with two buttons." One might wonder what the remote control was used for back then. Surely it was for switching channels, right? "Are you kidding?" Bjarne answers. "There was only one channel available in the first years of television. One button was for adjusting volume, the other for brightness." In a time and age with virtually thousands of satellite channels at your fingertips isn't it hard to imagine a time when you had no choice at all?

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1

old video and audio tapes and save them on present-day storage media. "We have at hand video recorders for all systems that have ever been on the market, and naturally we keep these systems operational at all times." Even ancient steel tapes can be played back – which comes as a genuine surprise. "Steel tape was the predecessor of magnetic tape and was used in the 1940s and 1950s."

Time and again audio and video tapes from decades ago pop up and the Radiomuseum is the place to go for playing back or copying their often valuable content. "This can be particularly interesting if the tapes include recordings of company assemblies, for instance, and in some cases such historic content may even have legal ramifications." In cases like this the Radiomuseum even bridges an existing market gap, as there are hardly any official institutions that keep age-old technology up and running the way Bjarne Nielsen does.

In a time and age in which modern satellite receivers are discarded after only a few years of use only to be replaced with yet another new device, a visit to the Radiomuseum in Ringsted is a step back in time. Modern technology is put in perspective when you wander past a sheer endless number of old devices, some of which still working after 100 years – if maintained and serviced properly. Bjarne Nielsen and his helpers definitely know how to do just that. His Radiomuseum is well worth a visit.

More information: www.rfr.dk



2

1. Bjarne Nielsen uses the museum's basement to keep all types of video recorders up and running. All systems are perfectly maintained and can be used at the touch of a button. "Bring us any kind of old video recording and we'll be able to copy the content on DVD," he proudly says.

2. A rare sight: Bjarne Nielsen's fully functional steel tape recorder is a genuine marvel. Even today it can be used to play back steel tape rolls that are 50 years old (like the one he holds in his hands), and to copy them onto present-day storage media.

3. The basement of the vocational school he used to teach at is a maze that serves as storage area for the Ringsted Radiomuseum. Close to 5000 radio and TV sets stand side by side, including the first HDTV set made in Europe, which used the D2-MAC standard at the time. While this transmission standard is long gone, the TV set remains a reminder of technical innovation in days gone by.

4. Of course, old satellite technology is a given for Bjarne Nielsen too. Here he is seen next to an old presentation antenna made by TRIAX, with the TRIASAT 2000 analogue receiver from 1990 in his hand.





■ DVB-T

MPEG-2

Algeria
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Australia
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Denmark**
Finland**
France
French Guyana
Germany*
Greece*
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Ireland
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Netherlands
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DVB-T MPEG-4

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■ DVB-T

MPEG-4

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Bulgaria
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GERMANY

OVER 1 MILLION CARDS SHIPPED FOR HD+

In the German market, HD+, the high definition services platform, has enjoyed considerable success, with over 1 million smart cards now already shipped to equipment manufacturers. With a broad range of some 20 HD+ set top box models available, the offer can also be accessed with other receivers via a CI+ module, of which over 100,000 have been sold. SES Astra is managing the HD+ platform for commercial HD broadcasting in Germany.

HUNGARY

ANTENNA HUNGARIA TESTING 3DTV WITHOUT GLASSES

Antenna Hungária and iPont have concluded a 3DTV test, broadcasting 3D video content through a DVB-T system and visualizing it on a special "glass-free" device. The software from iPont allows users to watch TV in 3D without wearing special glasses. The video content was broadcast in FullHD format with 8Mbit/s speed.

SCANDINAVIA

HDTV BOOSTS Telenor REVENUE

Telenor Satellite Broadcasting (TSB) revenues increased 6.1% to US\$ 43.9 million in its 2010 second quarter ending in June. TSB said its revenues have been driven by the continued growth of its HDTV services in the Nordic region, as well as price increases for service delivery. Following the launch of the Thor 6 satellite last year, the operator is likely to announce a follow-up satellite in the near future due to better than expected take-up of capacity on Thor 6.

SPAIN

SES ASTRA HELPS SOGECABLE BOOST HD DEPLOYMENT

SES Astra is further intensifying its cooperation with Sogecable and supporting the development of its HD DTH offer. As part of the cooperation, SES Astra is providing two additional satellite transponders to Sogecable in 2010 at its 19.2 degrees East orbital position. SES Astra is the leading HD platform in Europe, with 135 HD channels and around six million HD viewers on its satellite fleet.

TURKEY

BBC HD LAUNCHES ON TURKSAT

BBC HD has launched on satellite operator Turksat's digital cable network, bringing hit shows all subtitled in Turkish. BBC HD becomes the second BBC-branded channel to launch in Turkey, with BBC Entertainment already on Turksat, TT Net and Digiturk TV. The HD channel also airs in Poland,

Australia and Scandinavia. Turksat's cable platform claims it now has more than 1.2 million subscribers.

UNITED KINGDOM

CHANNEL FIVE ABANDONS PROJECT CANVAS

Channel Five has pulled out of Project Canvas, the BBC-backed venture to bring VOD to Freeview and Freesat. Five, which has been put up for sale by its parent company RTL, is one of seven partners in the venture, which is expected to launch next year. One of the conditions each partner has to adhere to is to fund an equal share of the development costs. The BBC Trust has said that the cost of Project Canvas, including development, launch, and the first four years' running costs, will be £115.6 million. Meanwhile, Five HD launched on satellite platform Sky+HD and cable platform Virgin Media's V+HD service.

VIRGIN MEDIA BOOSTED BY HD UPTAKE

Virgin Media has posted strong 2Q results, with revenues up 7.1% to £ 964 million thanks to a notable increase in HD customers. It said about 260,000 customers signed up for HDTV in the quarter, a year-on-year increase of 79%, taking its total HD user base to 1.2 million. Virgin Media is currently offering a total of 26 HD channels.

BSKYB TO LAUNCH 3D NETWORK

BSkyB will launch its 3D network on October 1 and has signed deals with Disney, Fox, Universal, Warner Brothers, Paramount and DreamWorks to "showcase the very best of Hollywood in 3D." Other programming includes live coverage of golf's Ryder Cup and English Premier League football. Sky 3D

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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will be available to subscribers who take the most expensive package, with no extra charges. A 3D football channels has been available since April and some 1500 pubs and clubs have signed for it.

BSKYB PROFITS UP ON HDTV

BskyB said annual operating profit rose 10% as more clients signed up for HDTV service. Some 30% of subscribers have taken the HD service so far. BskyB, which has 9.86 million customers, is aiming for 10 million by the end of 2010. The company attracted viewers to HD services after cutting installation prices for set-top boxes. It added 90,000 net new customers in the fiscal fourth quarter, and a net 429,000 of its customers signed up for HDTV.

NORTH AMERICA

CANADA

CRTC APPROVES APPLICATIONS FOR 4 NEW HDTV CHANNELS

Federal regulator CRTC approved four applications for new national, English-language Category 2 specialty high definition television channels in Canada. The new HD channels include "Velocity," "Adventure," "KISS," and "The Love Channel". Applications for all four channels came from Jay Switzer, the former president of Chum TV. Although the applications have been approved by the federal regulator, there is no guaranteed the stations will actually make it to air. All four licences will expire 31 August 2016.

UNITED STATES

DIRECTV AND PANASONIC TO LAUNCH 3D CHANNELS

DirectTV and its partner Panasonic, which provides content, have made decisions to bring 3D viewing on home on 3D-enabled HDTV. The two companies announced that they will launch new DirectTV channels to offer movies, sports and other 3D content all through the day and night. Direct TV has already launched ESPN in June. DirecTV and Panasonic believe that the number of 3D HDTV's in the US will go up to two million by the end of this year.

DISH NETWORK'S HD PENETRATION REACHES 55%

With a subscriber count of close to 14 million, Dish Network has a vast customer base to leverage and generate profits by offering additional advanced services like HD programming. Dish's HD penetration has grown at a rapid pace in recent years. This figure increased from about a mere 3% in 2006 to about 20% in 2009. The company currently delivers more than 200 national HD channels as well as HD locals in 156 markets.

RCN BOOSTS HDTV LINE-UP

RCN Corporation added seven new MTV Networks and BET Networks High Definition (HD) channels to its line-up in June. The channels include Comedy Central, CMT, MTV, Nickelodeon, Spike, VH1 and BET. Programming is also available free on RCN's VOD, which increased the HD content in RCN's VOD library to more than 100 viewing choices.

HDTV HOUSEHOLDS OPT FOR HD VOD

About 50% of households with HDTV will watch VOD in HD and other premium channels, accord-

ing to Centris Research. The report found that 68 million U.S. households have at least one HDTV, triple the number of homes since the first quarter of 2007. HDTV households had an average monthly cable bill US\$ 17 higher than comparative homes without HDTV. Centris believes the higher bill is likely due to HDTV households being more inclined to subscribe to premium cable channels, pay for DVR and access VOD, among other services. The report also found that nearly 30% of HDTV households do not actively watch HD content.

DIRECTV ADDS 15 HD CHANNELS

DirectV added 14 new HD channels: Hallmark HD; Lifetime HD; HBO2 HD East; HBO Zone HD; Showtime Beyond HD; Showtime Next HD; Showtime Women HD; TMC Xtra HD East; Starz Cinema HD • Starz in Black HD; Encore HD East; CSN Bay Area HD (regional sports channel); CSN California HD (regional sports channel); and FSN Florida HD (regional sports channel.) and GoITV. DIRECTV now claims to have more than 150 HD channels.

SONY PLANS HD MOVIE CHANNEL

Sony Pictures Television has plans to launch two new movie channels later this year, one of which, tentatively titled Sony Pictures Movies HD, would be the company's first wholly owned cable channel in the U.S. devoted to movies. The channel, tentatively scheduled to debut October 1, is being designed to exploit Sony's large film library and offer cable and satellite television operators another HD channel to market their packages.

**COMCAST TO CARRY 16
STARZ HD NETWORKS**

Comcast has agreed to carry Starz's 16 premium movie channels in both SD and HD, although it

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did not say in which markets the channels will be available. The cable operator still provides less than 50 HD channels in many small and mid-size markets due to bandwidth constraints and other issues. Comcast has frequently issued national press releases saying it will carry a certain HD channel, but it might take months (if then) before it's actually added to each market.

DIRECTV ADDS FOX SOCCER HD

DirecTV has added the Fox Soccer Channel in High-Definition just in time for the start of the English Premier League season. The Fox Soccer Channel has the broadcast rights to carry EPL games. DirecTV is also working to add Fox Soccer Plus in HD as well.

VERIZON ADDS TWO NEW HD CHANNELS TO FIOS TV

Verizon's FiOS TV customers received two new HD channels in July, as the company launched Nat Geo WILD HD and Investigation Discovery HD. These two channels join FiOS TV's channel lineup which includes up to 142 HD channels and more than 3,300 HD VOD titles every month.

LATIN AMERICA

BRAZIL

EMBRATEL OFFERS 9 HDTV CHANNELS TO SUBSCRIBERS

The Via Embratel HDTV service started being marketed in June, initially in Rio de Janeiro and Sao Paulo. A total of nine HD channels are available initially. To receive the free-to-air HD channels, subscribers must request a terrestrial module,

which is coupled to high-definition decoder, as is the case with Sky HDTV. According to Antonio Joao, executive director of Via Embratel, the HD decoder produced by Pace will undergo constant updates.

NET CLAIMS LEADERSHIP POSITION IN HD SEGMENT

According to the president of Net Servicos, the Brazilian triple-play operator is the absolute leader in the high definition segment, increasingly moving away from second placed Sky Brasil. Speaking during a conference call with journalists, he did not want to mention the number of subscribers, saying only that in June the growth in HD was 44 percent higher than expected for the month. The manager is betting that the growth follows the sales of HD TV sets and that the acceleration of sales of subscriptions is maintained even after the World Cup.

CHILE

MOVISTAR LAUNCHES HD PACKAGE

Spanish operator Movistar (Telefonica group) has launched a package of 9 HD channels via satellite, which will thus be added to the packages that this operator already offers in this South American country. The Movistar TV HD Plus service is sold from €10 per month (depending on the chosen receiver) and can be received through two terminals: one simple and one with integrated internal hard drive.

ASIA & PACIFIC

WORLD CUP BOOSTS HDTV SET SALES

According to market research firm GfK Asia, in the first week of June alone, combined sales of HDTVs in eight Asian markets — Malaysia, Hong

Kong, Indonesia, Thailand, Singapore, South Korea, Taiwan, and Vietnam reached almost 90,000 units, hitting a total value in excess of RM 235.4million (US\$74 million). GfK Asia said this reflected a massive 250% growth in units sold compared with the same period last year.

INDIA

OPERATORS LAUNCH HDTV PRICE WAR ONLY TWO CHANNELS AVAILABLE IN HD IN INDIA

A price war took place in the DTH segment during the World Cup in South Africa, with broadcasters that air HD content slashing rates by 50%. Tata Sky launched HD services at Rs 2,599, forcing market leader Dish TV to cut prices by more than 50% within days of launch. The competition has intensified as rivals such as Videocon and Airtel launching similar services. Currently, only a dozen or so channels such as Discovery, National Geographic, Colors, Zee TV, Star Plus, Star Movies and Sun TV are available in HD, while another 12 or so channels are expected to be added in the coming months.

JAPAN

JAPANESE HAVE NO PLANS TO ACQUIRE 3DTV GLASSES

Almost 70% of Japanese consumers have said they have no plans to buy a 3D TV for their home. Respondents said they were turned off by the special viewing glasses and also blamed steep price tags and scarcity of available content for their lack of interest, the survey by the price comparison website operator Kakaku.com showed. Of those who have no plans to buy a 3D TV, nearly 70% cited the hassle of wearing special

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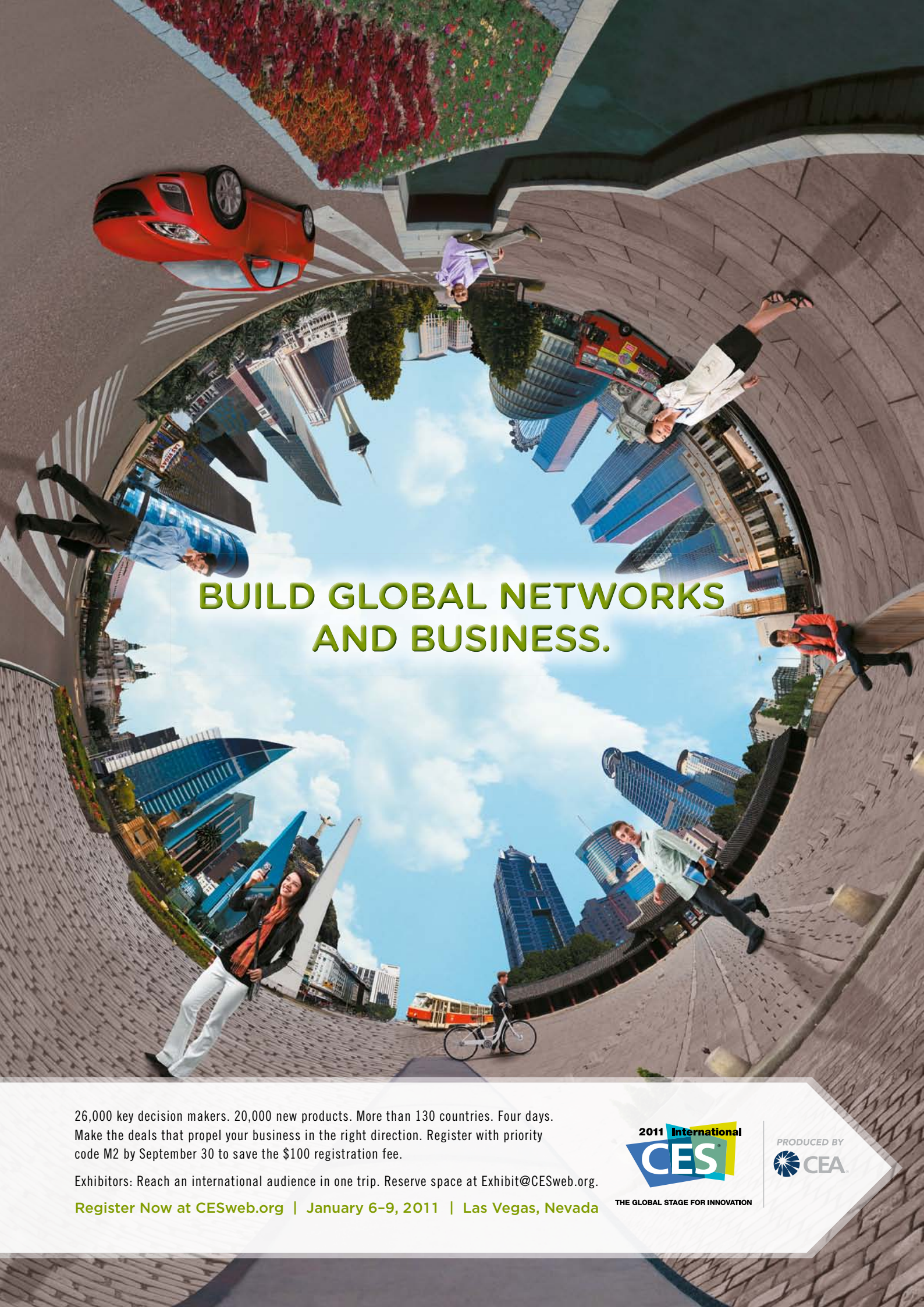


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glasses, 57% said prices were too high and close to 40% said there was not enough 3D content.

SKY PERFECTV LAUNCHES 3D FOOTBALL

Sky Perfectv launched Channel 3D 169, Japan's first dedicated 3D channel. The platform plans to offer 18 J League games live in 3D this season. Sky Perfect parent company JSAT has 3.7 million subs.

SINGAPORE

SINGTEL FIRST IN REGION TO DELIVER 3D

Singapore Telecommunications (SingTel) claims it is the first operator in the region to enable content providers and TV broadcasters to deliver 3D TV content to consumers in Singapore and abroad via high-speed satellite and land-based platforms. SingTel, which is one of the partners in 3-D TV trials, said it would play a 'vital' role by providing the infrastructure and capabilities to allow local broadcasters, such as mio TV. This is possible with its state-of-the-art 3-D-enabled broadcast play-out facility, which is housed at the Bukit Timah Satellite Earth Station, the first of its kind in Asia Pacific.

SOUTH KOREA

WORLD CUP BOOSTS 3D TV SALES

South Korean firms have enjoyed a boom in sales of 3D TV sets thanks to rising demand stoked by the World Cup in South Africa. Samsung Electronics has sold more than 26,000 3D TVs in the domestic market so far this year, including 6,000 in June, according to a company spokesman. Samsung aims to sell some 600,000 3D TVs at home and abroad in the first half of this year and 2.6 million by the end of this year. Samsung's domestic rival LG Electronics also saw a jump in 3D TV sales

in June, selling more than 3,000 units at home. It plans to release 3D models abroad later this year.

FULL 3D TV TO ARRIVE IN 2-3 YEARS

Korean audiences could receive full 3D TV services in two to three years, according to the head of public broadcaster KBS. Kim In-Kyu believes that this as a likely timetable if the government's trial of full HD terrestrial broadcasting in October was successful. In an interview with ABU News, Dr Kim said KBS had widened the interest in 3D TV by successfully carrying out 3D live broadcasts of sports events on a terrestrial channel for the first time in the world in May. He added that the number of 3D TV sets sold worldwide exceeds anyone's expectations and those more than 80 million 3D TV sets sold by the end of 2015.

TAIWAN

ECHOSTAR LAUNCHES HDTV SERVICE

EchoStar International Corporation has launched DishHD, a new satellite TV service that provides a wide variety of HD video channels distributed directly to consumer homes via a small satellite antenna and a digital set-top box.

THAILAND

TRUEVISIONS PLANS DOZENS OF HDTV CHANNELS

TrueVisions, the pay-TV subsidiary of True Corporation, is moving aggressively to promote its HDTV service to expand its foothold in the new segment, by launching three such channels out of its 110 cable programmes in total. True is confident about the HDTV market potential in Thailand after signing up 12,000 subscribers to the service during the

World Cup tournament. The company planned to introduce dozens of HDTV channels this year under its annual budget of 500 million baht.

AFRICA

SOUTH AFRICA

MULTICHOICE TO LAUNCH HD MOVIE CHANNEL IN OCTOBER

MultiChoice has announced that subscribers can look forward to a new HD channel on October 1. The channel will be called M-Net Movies HD and will complement the three existing channels already available to premium subscribers: M-Net HD, Discovery HD, and SuperSport HD. Another HD sports channel which will initially be dedicated to English Premier League Football, called SuperSport HD 2, launched in August.

WORLD

DISCOVERY ANNOUNCES GLOBAL 3D PLANS

Discovery Communications' 3D channel, due to bow in the U.S. early next year, will roll out more slowly around the globe, according to CEO David Zaslav. The high costs involved in 3D and the dearth of content were the main reasons why Discovery had teamed up with Sony and Imax on the 3D channel. One third of the content on the new network would be provided by Discovery, but not all its programming would work in the format. Zaslav added that there was a chance that Discovery 3D could launch before the end of the year, but a 2011 start-date was more likely.

DishPointer AR

See where to point your dish, live on the iPhone screen!

The revolutionary DishPointer Augmented Reality app is now available on the app store. Just point your iPhone anywhere towards the sky and see all the satellites lined up on the live video screen.

See the Video

See DishPointer AR in action on YouTube!

This app uses the iPhones GPS, motion sensor and compass to calculate all the satellite positions and overlays them on the camera. At a glance you will see where to point the dish and any obstacles blocking the line of sight.

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References



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EUROPE

Eutelsat Communications has selected Thales Alenia Space to build a 40-transponder Ku-band satellite enabling a 50% increase in capacity operated at its 21.5° East orbital position. Scheduled for launch in third quarter 2012, the satellite will replace Eutelsat W6. The new satellite will be based on the Thales Alenia Space Spacebus C3 platform, with a scheduled in-orbit lifetime exceeding 15 years. It will be equipped with one broad footprint covering Europe, North Africa and Central Asia, and two dedicated high-power beams for regional coverage of North Africa and the Middle East.

Space Systems/Loral (SSL) has been awarded a contract to manufacture a new spacecraft for Hispasat. The Amazonas 3 satellite is designed to replace Amazonas 1 at 61 degrees West and is scheduled to be available for launch in 2012. The new satellite will be capable of operating up to 33 simultaneous Ku-band transponders and 19 simultaneous C-band transponders over Europe and North and South America. It will have a launch mass of approximately five tons and will produce nearly 14-kW of power at end of life.

Sea Launch Company has signed an agreement with a subsidiary of EchoStar Satellite Services, providing EchoStar with the ability to launch up to three satellites on the Sea Launch system. Sea Launch expects to launch the satellites using the reliable Zenit-3SL launch vehicle from its launch site at 154 degrees West. Sea Launch has successfully launched previous EchoStar satellites, including EchoStar IX in 2003.

Argentina's satellite operator Arsat (Empresa Argentina de Soluciones Satelitales, Sociedad Anonima) has chosen Arianespace for the launch of its satellite Arsat-1, scheduled for mid-2012 through an Ariane 5 or Soyuz from Kourou (French Guiana). Made by the Argentine company INAPV and with a take-off weight of 2,900 kg, it will be fitted with 24 Ku-band transponders, providing a wide range of telecommunications services, data transmission and TV for the Argentine, Chilean, Uruguayan and Paraguayan markets.

The Arabsat 5A satellite was successfully launched on June 27 from French Guyana by the Ariane 5 rocket. Arabsat 5A, manufactured by French companies Astrium and Thales, will be located on the 30.5 degrees East orbital position. The satellite

Eutelsat Communications and ictQATAR (representing the State of Qatar) have selected Space Systems/Loral to build the satellite they will jointly own and operate at the 25.5° East location. Due to enter into service in early 2013, this satellite will provide coverage across the Middle East, North Africa and Central Asia to follow on from Eutelsat's Eurobird 2 satellite, which is currently operated at 25.5° East. In addition to securing Ku-band continuity for Eutelsat and additional Ku-band resources for ictQATAR, it will initiate a Ka-band capability.

Malaysian billionaire Ananda Krishnan announced plans to buy out satellite operator Measat Global Bhd. for US\$ 207 million to secure full control of the company. The Star newspaper said Krishnan's decision to take Measat Global Bhd. private was made after "considering the huge capital that needs to be ploughed into Measat... estimated at some US\$ 1 billion over the course of the next two or three years".

WorldSpace plans to relaunch its services in South Africa if a bid by former chairman Noah Samara to buy the company is approved, according to local daily "Business Day". WorldSpace, whose satellite radio service was available in Europe, Africa and Asia, filed for bankruptcy protection in 2008 after repeated failures to meet debt obligations.

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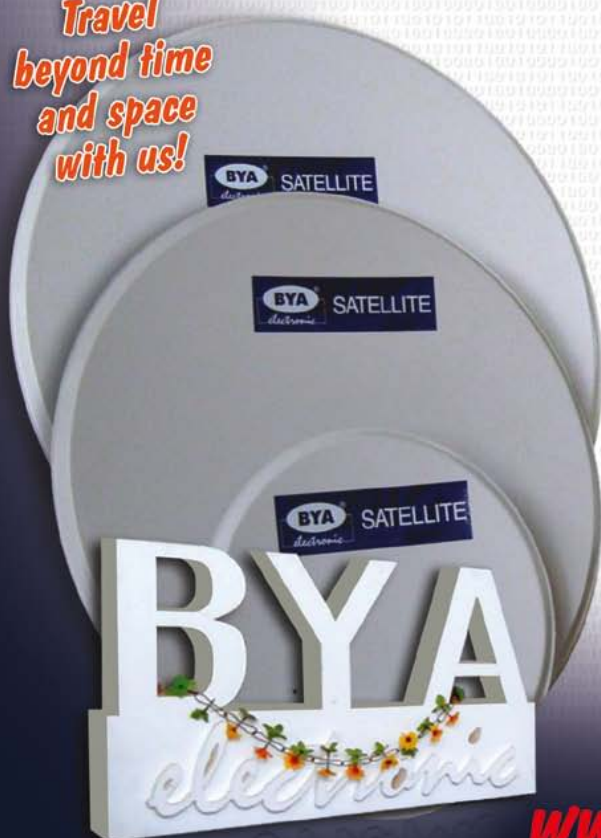
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- 023.5 East ▶ ASTRA 3A,3B - Europe
- 025.5 East ▶ EUROBIRD 2 - Europe, Asia
- 026.0 East ▶ BADR 4,5,6 - North Africa, Middle East
- 028.2 East ▶ EUROBIRD 1 - Europe
- 028.2 East ▶ ASTRA 2A,2D - Europe
- 028.2 East ▶ ASTRA 2B - Europe, Nigeria
- 030.5 East ▶ ARABSAT 2B - Middle East
- 030.5 East ▶ C-Band: ARABSAT 2B - Asia,Middle East
- 030.5 East ▶ ARABSAT 5A - Middle East
- 030.5 East ▶ C-Band: ARABSAT 5A - Asia,Middle East
- 031.0 East ▶ TURKSAT 1C - Europe, Asia
- 031.5 East ▶ ASTRA 1G - Europe
- 033.0 East ▶ EUROBIRD 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
- 053.0 East ▶ EXPRESS AM22 -Europe, Middle East, North India
- 054.8 East ▶ INTELSAT 709 -Europe
- 055.0 East ▶ C-Band: INSAT 3E - India
- 056.0 East ▶ BONUM 1 - East Russia
- 057.0 East ▶ NSS 12 - Europe, Russia, Africa, India
- 057.0 East ▶ C-Band: NSS 12 - Europe, Russia, Africa, India, Global
- 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 ▶ 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 ▶ 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 5A - 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 ▶ ASIASEAT 5 - East Asia, India, Middle East, Thailand
- 100.5 East ▶ C-Band: ASIASEAT 5 - Global
- 103.0 East ▶ C-Band: EXPRESS A2 - Russia, China
- 105.5 East ▶ ASIASEAT 3S - East Asia, South Asia, Australia
- 105.5 East ▶ C-Band: ASIASEAT 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: CHINASAT 5B - 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 ▶ ABS 7 - South Korea
- 118.0 East ▶ C-Band: TELKOM 2 - India, Thailand, Malaysia
- 122.0 East ▶ ASIASEAT 4 - East Asia, Australia
- 122.0 East ▶ C-Band: ASIASEAT 4 - Global
- 124.0 East ▶ JCSAT 4A - Japan
- 125.0 East ▶ C-Band: CHINASAT 5C - 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 ▶ ABS 5 - Myanmar
- 146.0 East ▶ C-Band: ABS 5 - 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



Edited by
Alexander Wiese

20 Years Ago

Travel into the Past

TELE-satellite Magazine Issue 11/1990

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NETWORK SS6000

EUROPE'S FIRST CHOICE IN SATELLITE TELEVISION

Die On-Screen-Graphics des Network SS6000 Stereo Satelliten-Receivers ermöglichen eine unvergleichlich einfache Bedienung des Gerätes. Die Bildschirmeinblendungen, die man normalerweise nur bei teureren Systemen findet, informieren den Benutzer auf einen Blick über den Status jedes einzelnen der 32 Kanäle.

Die Frequenz, Polarität, Audiofrequenz, Kontrast und Decoder-Informationen können geprüft und direkt mit der Fernbedienung geändert werden. Das bedeutet z.B., daß die mehrsprachigen Programme schnell gefunden, eingestellt und abgespeichert werden können.

Die On-Screen-Graphics ist nur ein Teil des Gesamtbildes. Die gute Empfindlichkeit des Receivers stellt einen ausgezeichneten Empfang sicher. Zwei SCART-Buchsen, eine zum direkten Anschluß des Fernsehgerätes, die andere für den Decoder, sind eingebaut.

Ein weiteres Plus des Network SS6000 Stereo Receivers ist seine Ausrüstung mit dem Wegener Panda 1 Rausch-Reduktions-System, das genau auf die vom ASTRA Satelliten ausgestrahlten Stereosendungen ausgelegt ist. Das bedeutet, daß der Receiver 100 % kompatibel mit ASTRA ist - was mit anderen "Stereo-Systemen" nicht immer der Fall ist.

Außerdem: Der SS6000 ist in Großbritannien für Network entwickelt und wird dort produziert. Das erlaubt den zollfreien Export innerhalb der EG.

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PANDA

Patent für ein Rausch-Reduktions-System
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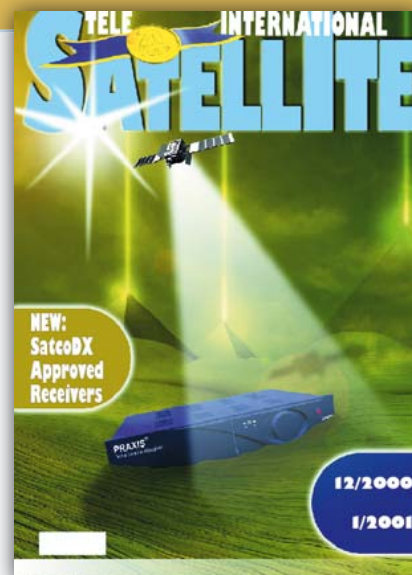
Edited by
Alexander Wiese

SAMSUNG DSR 9000 FTA

In the search for a digital FTA receiver that is loaded with features but is easy to use, the TELE-satellite International test group stumbled onto the SAMSUNG DSR9000 FTA. One of the requirements of this search was the automatic downloading of software updates via satellite. Receiver software is constantly being improved or updated and not every digital receiver owner has the ability to use a PC to upgrade the receiver's software via the serial interface. Samsung's receivers are distributed worldwide and thus software upgrades are made available through various satellites around the world. In central Europe, the ASTRA satellite at 19.2° East can be used for this service. The silver colored chassis and the overall design of this receiver gives the impression that this is an expensive box. The four-digit display shows one of the 2000 possible channels and it can easily be seen even in bright sunlight. A round ring-button lets you change channels and adjust the volume without having to use the remote control. The backside of the box is also nicely laid out. The IF signal is looped-through allowing an additional receiver (analog) to be connected. Two Scart connectors let you connect the box to a TV and a VCR. Audio and video outputs are also available via three RCA jacks. These could be used to connect additional equipment such as a TV projector. The serial interface can be used to upload new software into the receiver if for some reason it were not possible to do this via satellite. Terrestrial antenna signals are also looped-through and the onboard modulator (PAL B/G, I, K in our test model) operates in the entire UHF range. The remote control sits comfortably in your hand with all functions clearly marked thus reducing the likelihood of pressing the wrong button. The first thing the receiver will do after it has been properly set up and configured for the existing antenna will be to look for new software. If a new update is available, it will just take a few minutes to complete the download. The actual installation of the receiver is extremely simple. It must be pointed out that - aside from the easy-to-understand menus - this receiver also has excellent graphics in its On-Screen display. As a worldwide receiver, the DSR9000 FTA offers six different languages for its menus, EPG and soundtrack. If you happen to be using a Solarsat antenna (test report in TELE-satellite International 10-11/2000), you will find a special calculation program in the menu. After the antenna and LNB parameters are stored, the active satellites can simply be selected. The integrated DiSEqC 1.2 allows the use of more than one LNB or can be used to drive an appropriate motor. The automatic search function scans all of the

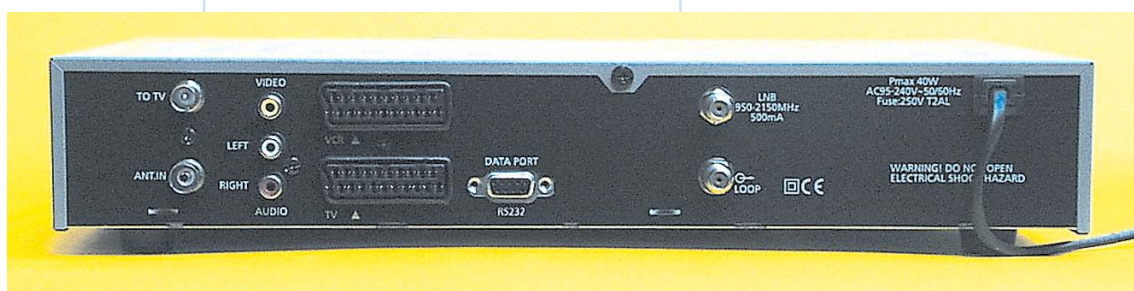
10 Years Ago

Travel into the Past
TELE-satellite Magazine
Issue 12/2000



desired satellites (up to 16) in one shot. Only about seven minutes was needed for the Scan function to handle 80 transponders. If necessary the PID's for video, audio and PCR can be manually entered. It's even possible to connect the receiver to a SMATV system. Once programmed, specific channels can be stored in three different priority lists. Considering that this is a digital receiver, switching between channels is actually quite fast, on average about 1/2 second. Unfortunately, this still does not make for very good "Zapping", but even if you were to try, you wouldn't have to worry about any unexpected system hang-ups. In our tests, critical C-Band signals (1.9 Ms/sec) were easily handled without any loss of signal even though, according to the manufacturer, the box can handle 2-45 Ms/sec. The Electronic Program Guide (EPG) is very nicely laid out. Here you can display current and future programming information. When switching between channels, a small transparent program information bar appears near the bottom of the screen providing channel name and current program data. A simple push of a button selects the proper soundtrack. The DSR9000 FTA is also Teletext compatible. Switching over to radio mode can

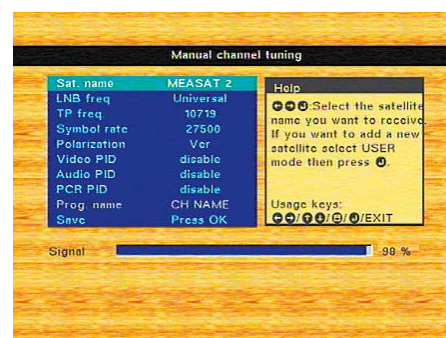
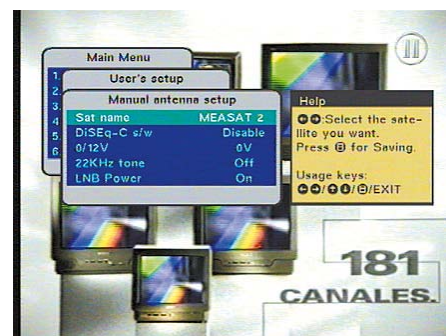
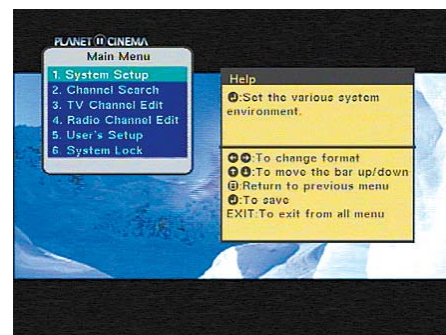
easily be done with the remote control. Program information will then appear on the screen and will also include an attractive background. The EPG can also be accessed in this mode. Unfortunately, the DSR9000 FTA does not have a digital audio output. While we were conducting our tests, new software version 105 became available and was uploaded into the box via satellite. Several bugs that were in version 100 were fixed and there were also obvious improvements with Skyplex signal reception. With the DSR9000 FTA, Samsung has developed a truly user-friendly and easy-to-use receiver that is an excellent choice for anyone not interested in receiving Pay TV signals. Clean graphics and menus that are self-explanatory leave behind a lasting favorable impression. Once the box was upgraded to version 105, there were no more lock-ups. Switching channels was better than average and the automatic scan function works quite fast. The receiver comes with a comprehensive user manual. If it were up to us, we would have liked to see a digital audio output and perhaps even a third Scart connector. The good local service provided by the regional importer is also a "plus" worth mentioning.



MediaCom FTA-Gold

In our unceasing hunt for an easy-to-use free-to-air (FTA) receiver with sufficient channel memory, C- and Ku-band compatibility, single and multi channel per carrier (SCPC/MCPC) capability and the ability to control a mechanical C/Ku polarizer, we came across the MediaCom FTA Gold. Free-to-air means that we need not waste any time looking for some CI module slots to allow the reception of PAY-TV. The dark and stylish front panel includes a light green display showing the selected channel number. The FTA Gold has more than sufficient storage capacity with a 3000 channel memory for TV and an additional 2000 channel memory for digital satellite radio. Six unpretentious keys allow operating the receiver without the remote. On the back panel the first feature that catches the attention are the quick-clamps for connecting a mechanical polarizer. This is very important for combined C and Ku-band reception. The receiver also allows for the standard configuration with 13/17 Volt switching of the polarization angles. The IF from the antenna can be looped through and thus made available to an additional receiver. Unfortunately the "two-scart" solution seems to have won over most manufacturers of digital satellite receivers, including MediaCom for the FTA Gold. Analog stereo is output from two RCA connections and an additional connection delivers the video signal. A programmable 0/12 Volt output is available for external switches. The serial interface is designed to permit upgrading the operating software, but it could just as well be used to copy the SatcoDX channel information into the box. Unfortunately the receiver we tested was not yet SatcoDX compatible. A terrestrial TV signal is looped through and an UHF modulator can be tuned over the complete UHF range. All PAL modes and NTSC are supported. The remote control deserves special praise. The buttons are clearly labelled and the layout is very logical. With a touch of a button the screen image can be frozen which is a useful feature. First of all the language of the on-screen display (OSD) menu can be selected from five available languages, including Arabic. The OSD can be changed into transparent mode in five steps and the time-outs for the graphics can be individually set. The brightness of the video is also adjustable in five steps. The FTA Gold is pre-set for almost all satellites around the world. All that is left to do is set up the local oscillator frequencies (LOF) for one or several LNBs. Ten sets of values are already stored in the software but of course the parameters can also be freely selected. The various LNBs and the corresponding dish motor are controlled with DiSEqC 1.2. The search function can be performed either in 'normal' mode (to find all signals) or in 'FTA' mode, where only clear or unencrypted signals will be found. After the initial scan, any time later you can use the 'update' function to scan all transponders for new signals without overwriting pre-existing

and unchanged channels. The receiver takes eight minutes to search an 80-transponder satellite. The graphic design of the search menu is particularly good. Individual transponders can be searched for channels using the manual search mode. It is also possible to key in the PID parameters manually. After a complete scan there are usually some channels to be deleted, moved or added to the favourite list. It is also possible to 'lock' certain channels. The editing menu displays the channel being edited in a small window on the screen and lists all technical specifications at the same time. All these features are very easy to use. In addition, there is an on-screen keyboard which can be used to name and rename the channels. Of course the same facility is available for all radio stations that have been found in the search. Once the receiver is set up and programmed, switching between channels takes 1.2 seconds, which is not very fast. It has to be mentioned in that context, however, that some delays are caused by the broadcaster having changed the packet information data (PID). This means that the receiver has to detect the correct parameters first from the data stream. When changing channels the most significant data about the channel (if provided) and the time are on shown screen for a few seconds. The FEC, polarization and PID data are also shown. Certain channels can be added to the favourites list and can then be accessed quickly by pressing a corresponding button on the remote. There is a sleep mode, which can set to shut down the receiver after a period of time for all those day or night couch potatoes. The MediaCom FTA Gold deserves our Global Approval without any qualifications. Features like mechanical polarizer control, SCPC compatibility, global satellite memory and C/Ku-band reception make it a really universal box. At the same time it is easy to use and has a very well designed on-screen menu plus online help. It is an ideal FTA receiver for the whole family because everybody will be able to use it. The handbook explains all steps of the installation and operation in an easy-to-understand way. During the extended testing there were no system crashes. Unfortunately this is still not always the case when talking about digital receivers.

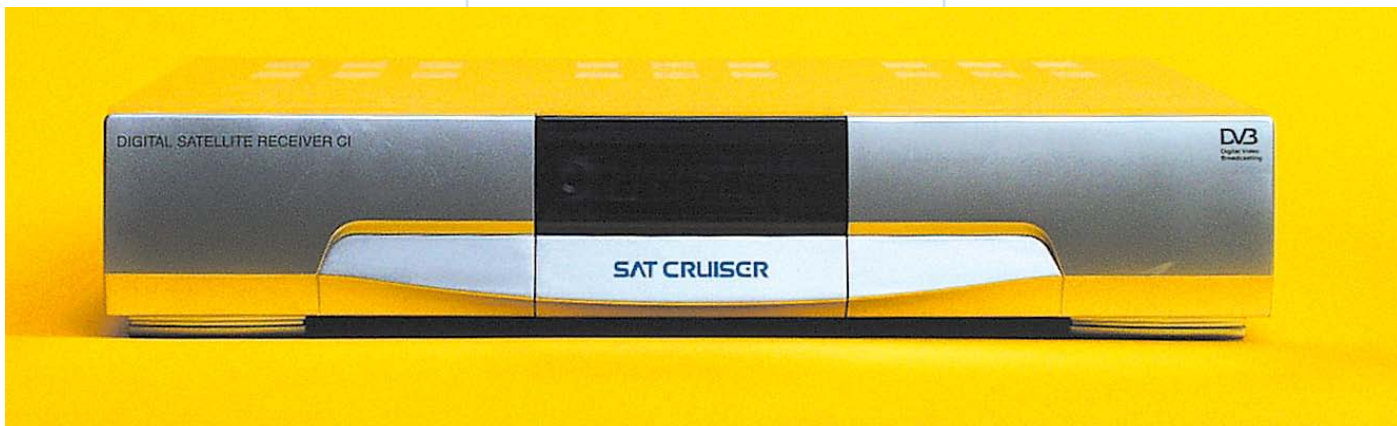


AMT Sat Cruiser DSR-301CI

The situation with channel scanning in the satellite TV world is not entirely unknown: you have the frequency, but all the other data is missing. The FEC and Symbolrate values are not always available in the charts, especially when it involves a brand new feed-signal. Even the best satellite receiver doesn't provide much help here. The only solution would seem to be a receivers Band-Scan function. Unfortunately, this isn't all that much fun, since this type of scan could take the entire night and by then that feed has already disappeared. But with the new Sat Cruiser DSR-301CI from AMT, search technology has taken a giant step forward. In a special menu, all you need to do is enter the frequency of the signal - nothing else is needed.

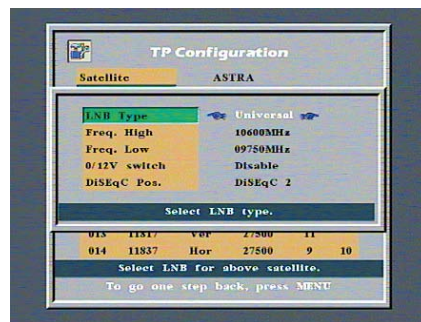
The modulator operates in all the different PAL formats across the entire UHF range. In NTSC mode, the modulator switches over to channel 3 or 4. The serial interface allows new software and updated program data (SatcoDX compatibility coming soon) to be uploaded. When the box is first placed into service, you will be prompted to select a language to be used for the On-Screen display (OSD) and the audio sub-carrier. From English to German, Farsi, Arabic and even Russian, most of the important languages are available. An extra special feature is the integrated PAL/NTSC converter. Depending on the TV being used, PAL, NTSC or AUTO can be selected. The colors of the OSD can be set for two individual users. The European version of this receiver is pre-programmed with 13 satellites with room for 10 more.

up to block specific programs from a particular age group. In our test, a 12 year old managed to find his way to an inappropriate channel in just four minutes. The Sat Cruiser DSR-301CI from ATM is a solid, easy-to-use family receiver able to receive free (FTA) and Pay TV (all known CI systems) signals. But this box even has something to offer to more knowledgeable users with its manual PID entry and its symbolrate automation. It is a little weak at the knees with its 1000 channels; a little more would have been better. The user-manual serves as an excellent guide during the installation and using it on a daily basis is nothing more than child's play. Thanks to the regional pre-programming, the NTSC/PAL selection, the language choices and the universal power supply, the DSR-301CI is truly useable worldwide.



After only a few minutes all possible symbolrates have been scanned and even the FEC values are under control. The result is a new, unlisted channel. This is an important feature that deserved to be highlighted right from the start. This receiver is designed to be used as an FTA/CI unit. With the right CI module and appropriate card, this box can be used for Pay TV reception. Otherwise, it will work just fine as an FTA receiver. One drawback: only a meager 1000 channels are available. Since this box is DiSEqC compatible, multiple LNB's or antennas can be connected. It won't be long before you run out of memory space. The nicely shaped, silver-colored cabinet has two flaps on the front panel that hide the CI slots and the auxiliary control buttons. These buttons can be used to program the box if the remote control decides it doesn't want to play anymore. The green four-digit display shows the current channel. The backside of the unit is fitted with all the usual standard equipment. The IF is looped-through and two Scart connectors together with three RCA jacks link the receiver to external audio/video equipment. A fourth RCA jack provides the controlled 0/12 volt output.

The LNB's are matched with the proper local oscillator frequencies (LOF's). The receiver's menu has the universal and standard values already pre-programmed into the box. Other LOF values can be manually entered. The subsequent scan of an 80-transponder system lasted only seven minutes. The scan can be set up to search for "FTA-only" or "All" channels. Individual transponders can likewise be activated. If it becomes necessary to enter in PID data manually, a corresponding menu is available. At this point the enormously helpful automatic symbolrate search function is certainly worth mentioning again. The Sat Cruiser accepts symbolrates anywhere between 2 and 45 Ms/sec and was even able to work with a 1.8 Ms/sec signal (SCPC) with no difficulty. The DSR-301CI is packed with a very powerful editing function. Programs can be quickly and easily moved, deleted or even temporarily blocked. Priority channels can be quickly stored in a special list. An integrated "typewriter" lets you add names to stored channels and satellites. With a 0.7 second channel switching time, this receiver is one of the faster ones. Holding down the channel selection button does not seem to bother the Sat Cruiser as it does not seek revenge by locking-up on you. To prevent the DSR-301CI from being improperly used by the younger generation, the box can be set



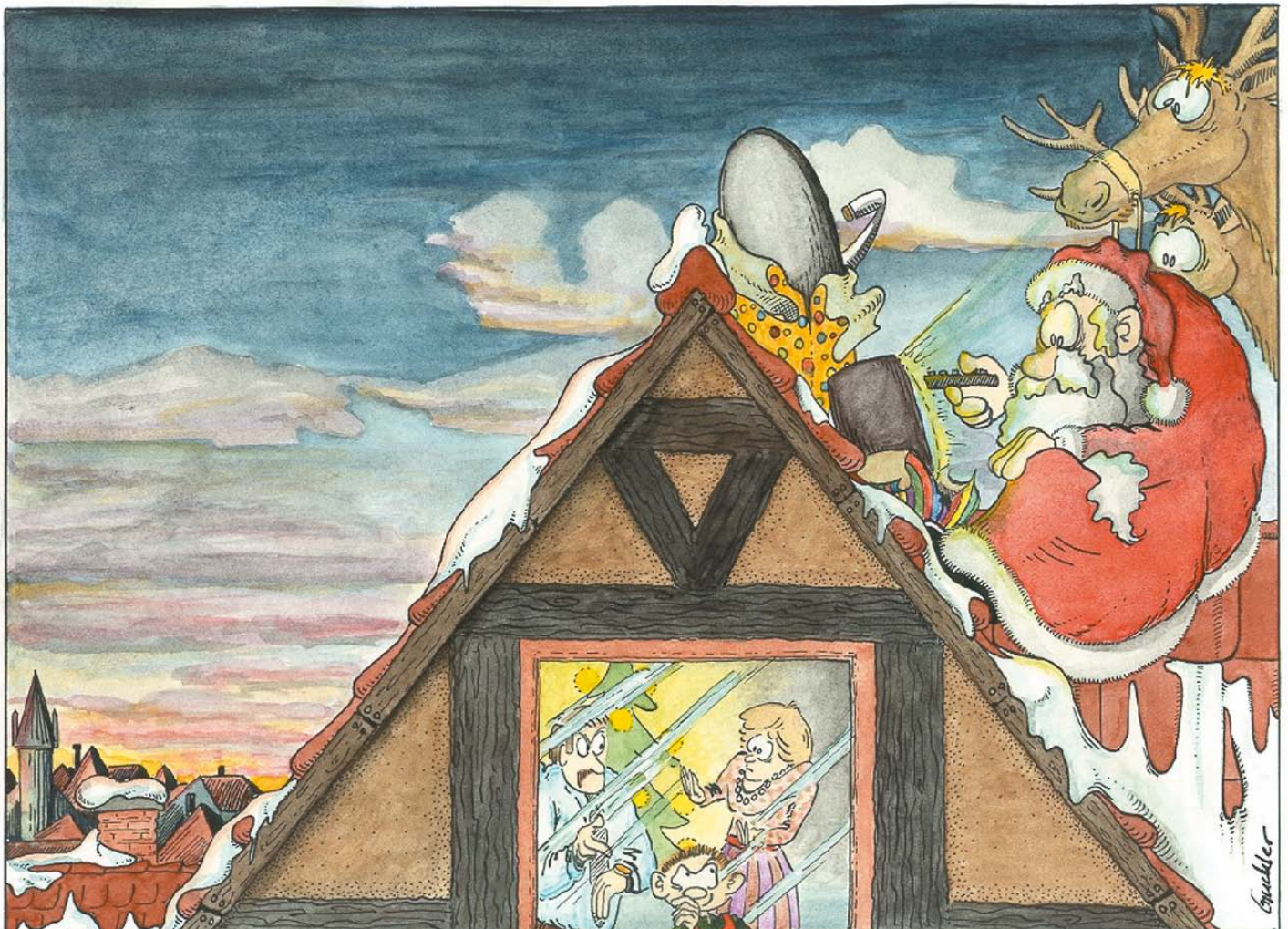
ATTISAT Satellite Systems

In 1997 satellite communication specialists and investors met in Athens. One side brought with them a concept and the other brought the necessary solutions to make the project a reality. The goal was the design, the production and the distribution of a flat antenna. At first this doesn't sound like anything special since similar antennas already exist on the market. What appeals to the investors is the plan to create a product independent of subcontractors. Likewise with manufacturing technology, they also wanted to go their own way. Almost every production machine and test station should be their own design. This is a further step towards independence. With the product came the thought that the antenna should not be re-invented, instead it should stand out from the rest of the field through first class quality and design flexibility induced by customer suggestions. The flat antennas that are currently available have problems with both their life-expectancy - they are not always weather-proof - and with uniform gain across the entire Ku-Band. Specialists and Investors joined forces and the result was the formation of the internationally renowned company ATTISAT Satellite Systems. They are strategically located between the city center and the airport in Athens where the Flat antenna is produced. Over three years have passed since this company was formed. Their antenna has gained recognition in the market and the plan is to ramp up production to about 200,000 per year. The investors, who have thus far contributed nearly 1,000,000 Euros to this effort, have not regretted their decision. In a modern building, the FL 500 is manually assembled using a cleverly designed system. Through the use of special markings on each piece, mistakes



have been virtually eliminated. At the end of the production line, every antenna must undergo a thorough test. Various satellites from around the world can be simulated with signal generators. If an antenna does not perform as expected, it is removed, dismantled and analysed to determine "why" so that the same fault does not occur again in the future. Team spirit among the employees is a major reason why they can ship a quality product. None of them have an 8 to 5 job, instead, the hours they work

are based on the daily requirements. Delivery problems have been for the most part eliminated. ATTISAT is also involved in the development of V-Sat systems, the manufacture of microwave devices and the development and production of RX/TX outdoor systems for Internet/Multimedia via satellite. They also have their own R&D (Research and Development) department whose function is to handle development contracts from customers in the Satcom industry.



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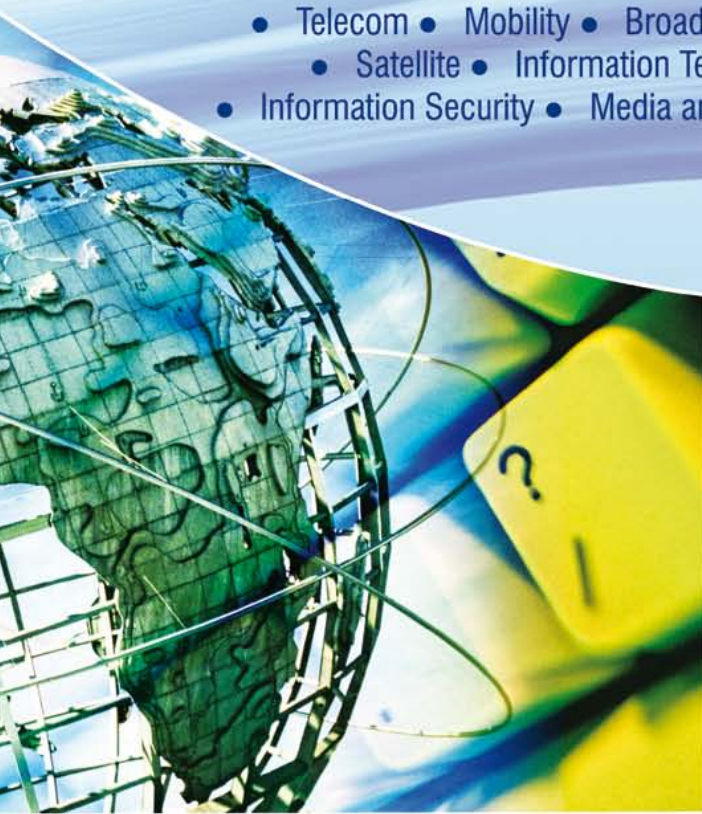
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TELE-satellite Deadlines & Exhibitions

Number	Issue	Deadline	Hardcopies	Available Online
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
<i>TELE-satellite Magazine will be present at this exhibition:</i> 3 - 5 May 2011 ANGA Cable 2011 Trade Fair for Cable, Broadband and Satellite Exhibitions & Congress Center, Cologne, Germany www.angacable.com				
				
1107	06-07/2011	1 April 2011	20 May 2011	3 June 2011
<i>TELE-satellite Magazine will be present at this exhibition:</i> August 2011 Broadcast & Cable 2011 International Fair of Technology in Equipment and Services for Television Engineering, Broadcasting and Telecommunications Immigrantes Exhibition Center, São Paulo, Brazil www.broadcastcable.com.br				
				



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but full of colors.



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