



global presence of his meters



Product Report

**Chrispin Bowin introduces an** ingenious way to effortlessly handle coax cable



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## Over a decade of experience in digital set top boxes

we have models for worldwide market



#### DVB-S2 + T2 HD MPEG-4 With CI/CA

- : Full HD DVB-T2 & S2 Compliant
- : CA slot (Optional) & Cl slot (Optional)
- : USB: Multimedia playback, PVR & Time shift
- : HDMI 1.3/HDCP 1.2 Copy protection
- : Output: HDMI, Scart (Optional) CVBS, Y Pb Pr (Optional)
- : Stereo Audio output, Coaxial, USB
- : Earthnet Support (Optional)











DVB-T/T2 DVB-T2 With CI+ DTMB-TH ISDB ATSC **Hybrid Set Box** DVB-S2 + DVB-T/T2 DVB-C **OTT BOX** DVB-S/S2

#### **DVB-T2 MPEG-4**

- > DVB-T2 MPEG4 HD
- > T2 1.31 profile, support with T2 LTE
- > Multi Media Player for Music/Picture/Movie
- > EWS System (Early Warning System)
- > 3D Image player
- > HDMI full HD 1080P output







HDT2-132A

#### DVB-C HD MPEG-4/H2.64 With CA

- > CA Interface: NDS , Verimatrix, Novel Super TV, ABV, Suma Vision, etc.
- > Mail: 1 Alert Setting: on/off the alert message. 2 View message
- > AVM Setting audience view measurement On/Off in secure engineer menu
- > Pairing STB and smartcard pairing Channel List view the channels
- > OTA Over the air software download
- > HDMI, CVBS, L/R, Coaxial, Ethernet(optional), USB









PCH208-B1

#### DVB-S2 SD MPEG-4/H.264 With CA

- > DVB-S2 MPEG4 HD with CA
- > DiseqC 2.0 compatible
- > Multi Media Player for Music/Picture/Movie
- > HDMI full HD 1080P output
- > CVBS, L/R, Coaxial, USB











SDS2-6381

#### OTT Android TV + DVB-T/T2 Combo

- > OTT plus DVB-T/T2
- > Android 4.0 / 4.2 / ARM Cortex A9 Dual Core 1.5GHz
- > 1GB DDRIII SDRAM / 4GB NAND FLASH
- > Built-in Wi-Fi module 802.11 b/g/n
- > Online Live TV and VOD Flash/HLS
- > HTML5 Playback and PlayReady/Widevine DRM
- > Thousands of applications from network markets & specific sources













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### Dear Readers,

In this issue of TELE-audiovision we will present a device that well and truly can be labelled innovative: an Android-based receiver. But mind you, it's not only that this box uses the Android operating system, it also introduces a number of seemingly small, but actually hugely helpful functions that add so much value to the device. My favourite feature is the remote control, which doubles as a virtual computer mouse that translates hand movements into cursor movements. What a brilliant idea! Finally, it makes sense to use your TV panel and receiver to surf the web right from your living room sofa.

As a matter of fact, this new receiver is a logical step in a development we have been following for some time now: Receivers are not just receivers any more, but have evolved into command centres capable of much more than just receiving TV channels and sending a signal to the TV. Let's be honest – in view of the technology that is available today, watching TV is a linear and one-directional affair. All you can do is change channels and accept the programs offered by content providers at a given time. This type of passive watching is a little yesterday, don't

you think? Most of us have huge TV panels at home that will happily accept and present any type of audio/video input. So all you need is an intelligent receiver that you can match to your top-notch flatscreen TV. A new realm of possibilities will then open up right before your eyes, allowing you to surf the Internet, watch your own photos and videos, stay connected through social networks and do many other things that can be shown on a TV panel.

It will be the job of future receivers to provide all those options. Receiving TV channels via the air, cable or satellite will still be an important feature, but only one among many. Internet access will be another one, in addition to all things digital. Receivers will turn into all-rounders and act as command centres taking care of all kinds of digital signals for your living room TV.



Alexander Wiese

Editor-in-Chief TELE-audiovision Magazine



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Letter to The Editor www.TELE-audiovision.com/letter/

Published by TELE-audiovision Magazine GmbH, Aschheimer Weg 19, 85774 Munich-Ufg, GERMANY/EUROPE

Design Németi Barna Attila

Advertising www.TELE-audiovision.com/ads/ or email to alex@tavmag.com
Hard Copies of TELE-audiovision Magazine are available to advertisers only
Printer TERC-PRESS Nyomdai és Kereskedelmi Ágazat, Pillangó park 9, 1149 Budapest, HUNGARY/EUROPE

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TELE-audiovision was established in 1981 and today is the oldest, largest and most-read digital tv trade magazine in the world.

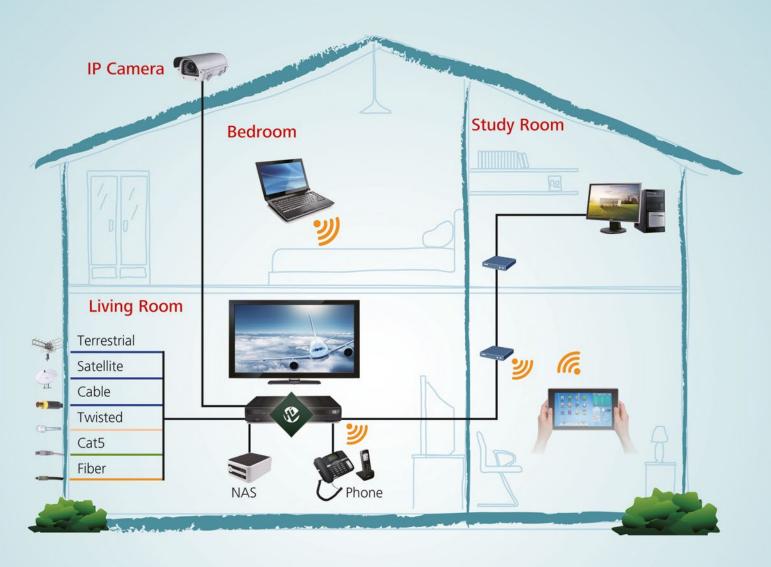
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Redaktion TELE-audiovision, Postfach 1234, D-85766 München-Ufg
Chefredakteur Alexander Wiese (verantwortlich) Anschrift wie Verlag
Verlag TELE-audiovision Magazine GmbH, Aschheimer Weg 19, D-85774 Unterföhring
Inhaber: Alexander Wiese, Verleger, Unterföhring
Anzeigen Alexander Wiese (verantwortlich), Anschrift wie Verlag

## Hisilicon

### **Home network SoCs and Solutions**



#### **Hisilicon STB SoC Key Features**

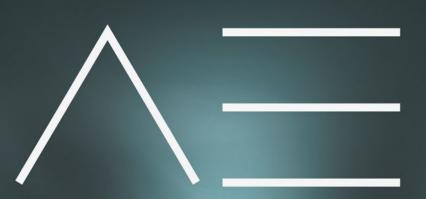
- High performance ARM Cortex A9 CPU
- Integrated with DVB-C or DVB-S/S2 Demodulator
- Hardware decoder supporting Full HD
   H.264/MPEG2/MPEG4/AVS/Real/VC-1/FLV/VP6/VP8
- Hardware encoder supporting H.264 SVGA
- · High performance 2D and 3D engine
- · Advanced security features
- · Dual Ethernet, Dual USB 2.0, HDMI 1.4

#### **Solution Features**

- Low cost HD-STB solution with 3DTV
- · Quick Boot-up, Low Power Consumption
- 3D Games, 3D UI
- · Linux/Android 4.0
- Full-service PVR
- · Video phone, VOIP
- DVB, IPTV, OTT, Hybrid STB
- · Cloud computing, Thin Client solutions









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## BREAKING NEWS!

## Stay Tuned for Live Reports In This TELE-audiovision Iss

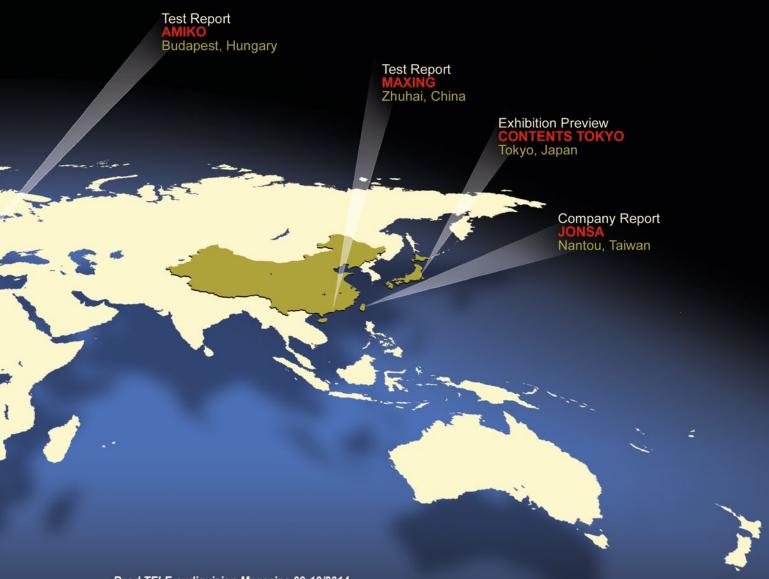


09-10/2014



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Company Reports are written by TELE-audiovision's editorial staff on location

Test Reports are written by TELE-audiovision's engineering staff located at

different strategic reception points around the world





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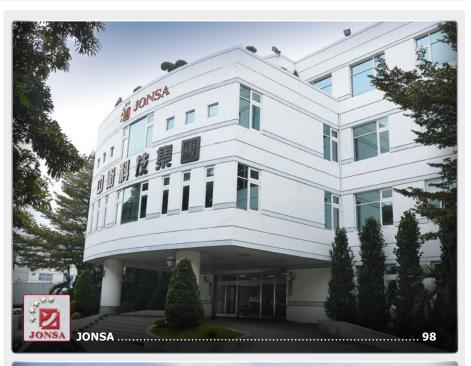
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#### CREATING EASY LIFE



#### **Smart Center Box**

- Android 2.2, 1080P HD
- Multi-screen interaction
- Content sharing with Pad, phone, STB
- Multi-media player
- 3D somatic games
- HTML 5 browser
- IP camera
- Smart remote control
- Changhong APP store



#### **Products & Technologies**

- DVB-C/T/S/C2/T2/S2, ISDB-T, IPTV
- Conax/Nagra/Irdeto/NDS
- MHEG-5/Opentv/NDS Core/MHP
- Android/OS21/Linux/µ\_iTron
- OTT/HBBTV/CATCH UP TV/UNICABLE

#### **Company Profile**

Established in 1998, Sichuan Changhong Network Technologies Co.,Ltd is now one of the largest professional STB suppliers in China. With the experienced R&D team and qualified project management, Changhong Network provides the consumers with leading products and technical solutions...









MHEG-5



NDS Core

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#### SICHUAN CHANGHONG NETWORK TECHNOLOGIES CO.,LTD

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#### HSM

#### Specifiction:

System: Basic on Android 4.0 ICS

OSD: 3D Graphical User Interface(Support OpenGL ES2.0)

**DVBS/DVBS2** Demodulator

Mpeg2, Mpeg4(H.264) decoder, fully DVBS&DVBS2 compliant

Storage 8000 TV and Radio programs

Video codec: H.264(MPEG4-AVC, VC-1), MPEG2, DviX3/4/5/6, Xvid

Audio codec: MP3, AAC, OGG, MPEG, MPEG Audio, Dolby AC-3

Container: MP4, AVI, MKV, FLV, MPEG TS

**DLNA 1.5 compliant** 

Networking-WIFI AP, Ethernet



#### Feature:

**Multi-Screen shifting** (DLNA and AIRPLAY Alike) OTT (Over the top) **Android Market** Web Browser Twitter, Facebook, YouTube...

Motion sensing games **Powerful Media** OTA(over the air) 2.4G wireless interface Support 3D and 3D convert 2D function



8888888\*\*\*



#### HS1J

- Video decode: MPEG2 SD, MPEG2 HD, H.264/AVC SD, H.264/AVC
- Interface: Single Ciplus, SCART, dual USB2.0, LNB, HDMI, RCA, Digital Audio, Ethernet
- Video Resolution: 480i/p, 576i/p, 720i/p, 1080i/p
- Function: Manual/Auto search, Edit Channel, EPG, Subtitle, TXT, PVR, RSS, Weather Forecast, Youtube, Game, 32 FAV group, Media
- · Language: English, French, German, Italian, Spanish, Portuguese, Russian, Turkish, Arabic, Polish etc



#### **HTAB**

- Video decode :MPEG2 SD, MPEG2 HD, H.264/AVC SD, H.264/AVC HD
- Output Interface: HDMI, SPDIF, USB, SCART
- Video Resolution: Full HD 1080P, 1080i
- DVB Function: Manual search, Edit Channel, EPG, Subtitle, TXT, PVR, Meadia player



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#### HS1C

- Pluggable tuner, support S2+S2/S2+T2/S2+C
- Video decode: MPEG2 HD/SD H.264/AVC HD/SD Output interface:Single CI plus,,dual USB2.0, HDMI, SPDIF, YPbPr/SCART Features:
- youtube,google map,picasa,Weather Forecast, RSS,Fastscan search,PVR
- Support WIFI



SD MPEG-2/HD H.264 & fully DVB-T compliant,

- Output Interface: HDMI,Scart,SPDIF
- Video Resolution: Full HD 1080P,
- Function: Manual search, Edit Channel, EPG,
- Subtitle, TXT, PVR
  - Wifi(option):RSS Reader, Weather Forecast, maps,
- Picasa, Google, Youtube, Youporn, Vimeo, etc.



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# Professional Readers W

本杂志全球有35万多读者



Global Digital TV Trade Magazine

Published in all Major World Languages

















## **Vorldwide**















#### **Top 25** Countries > 3200 Readers

COUNTRY	Readers #
Brazil	38,048
Germany	26,685
United States	22,206
China	16,661
Italy	14,147
France	12,848
UK	11,674
Iran	10,881
Turkey	9,835
Indonesia	9,787
Algeria	9,613
Netherlands	8,646
Portugal	8,277
Romania	7,895
Spain	6,574
Russia	6,376
Belgium	5,994
Morocco	5,902
Bulgaria	5,496
Egypt	5,041
Poland	5,015
Hungary	4,731
India	4,612
Canada	3,921
Saudi Arabia	3,883
Greece	3,843
Czech Republic	3,680
Argentina	3,588
Ukraine	3,558

## Readers' Breakdown

Manufacturers	7%
Distributors	12%
Wholesaler	17%
Dealers	24%
Installers	9%
Satellite Provider	2%
Cable Provider	10%
IPTV Provider	6%
Program Provider	11%
Private Enthusiasts	2%

#### Top 25 to 105 Countries > 130 - 3200 Readers

Chile	3,167
Switzerland	3,011
Tunisia Blovakia	2,725 2,605
Pakistan	2,573
Austria	2,562
Croatia	2,548
/enezuela	2,401
raq	2,275
Sweden Norway	2,196 2,183
Malaysia	2,176
srael	2,067
Australia	2,041
Mexico	1,968
Serbia Colombia	1,900 1,778
South Africa	1,629
JAE	1,508
reland	1,501
Denmark	1,339
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	Burundi Fiji Gambia Guinea Laos St. Vincent & Grenadines Somalia Eritrea Liechtenstein Papua New Guinea Sao Tome and Principe Sint Maarten Swaziland Belize Guernsey Cayman Islands Anguilla	15 15 15 15 15 14 13 12 12 12 12 11 10 10 9

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## Welcome to a New Generation:





## Amiko A3

- innovative operating system based on Android
  - very fast blind scan
  - very fast channel switching
  - comes with integrated Cyrillic and Arabic fonts
  - remote control with breakthrough design

### A Android-based multipurpose box for all TV and streaming options

Look at the new Amiko A3 receiver for the very first time and - if our reaction is anything to go by - you'll stand in awe before this beautifully designed piece of technology that wants to be so much more than a bland set-top box. Made from high-quality aluminium coating, the casing alone appears like a thoughtthrough piece of art, rather than a bunch of electronic components screwed togeth-

The front panel is perhaps the most striking manifestation of the manufacturer's focus on design and looks: All it visibly boasts is a four-digit segment display and an On/ Standby button together with

a status LED. Nothing else disturbs the flawless harmony of the receiver's front. Turn the box around and you'll notice that this innovative device is by no means all bark and no bite.

On the contrary, the Amiko A3 shines with all connection options you should reasonably require, such as the obvious LNB input, RJ45 network socket, micro SD slot, internal card reader for pay TV reception, HDMI connection for crystal-clear video and mind-blowing audio, USB OTG interface, as well as an S/PDIF connection and USB 2.0 interface. Not visible from the outside but the more important is the built-in WLAN

to connect the box wirelessly to the Internet.

What about power supply? The Amiko A3 comes with an external 12V power pack

hard-disk slot on the bottom

of the box. At first sight this

area looks much like a bat-

tery compartment, and in ac-

tual fact it can be opened and

accessed just as easily. The only difference is that it can take up any 2.5-inch harddisk, which is another major bonus of this new receiver: Your storage medium is hidden behind the shiny case of the Amiko A3, rather than positioned on top or behind the receiver, with all the cabling that comes with an external USB solution. We like how Amiko has run their focus on smart looks right through to even the smallest detail, as it goes to show how much thought and effort this manufacturer has put into its latest

er signature feature of the

Amiko A3. Contrary to what

we have experienced so far.

this remote does not run on

batteries, but uses a built-in





## WS-6936





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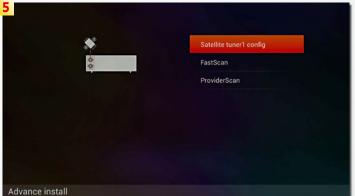












battery pack that is charged via a micro USB interface. For one thing, that's good for the environment as there are no replaced batteries that need to be thrown away or - in some countries - recycled.

More importantly, however, this new approach opens up a whole new world of options and features. What do we mean by that? Stay glued! For example, this remote control comes with a gyro sensor which can turn it into a computer mouse with a single touch of a button. Just place your finger on the corresponding button and the remote control will convert all hand movements into mouse signals and will send them to the receiver. A brilliant feature, especially for gaming and surfing the web.

Added to that is a touchsensitive scroll wheel and a dedicated button for voicecontrolled operation. Apart from those - any many more - innovative features, Amiko has opted for a minimalist look, in keeping with the receiver itself. This makes the remote control easy to use and rather self-explanatory with the least possible number of individual buttons.

One word of advice on the remote control, before we look at setting up the Amiko A3 for the first time: This new remote comes with a standby button, which must be switched on before it can be used. You don't need to worry about switching it off again,

- 1. Spark 2 Logo
- 2. Video resolution options
- 3. DiSEqC 1.0 settings
- 4. DiSEqC 1.1 settings
- 5. Extended installation
- 6. Extended installation satellite configuration
- 7. Editing satellite entries
- 8. FastScan search on all frequencies of a pay TV provider
- 9. Network search is supported
- 10. Channel search
- 11. The integrated blind scan feature works extremely reliably
- 12. Transponder editor
- 13. DiSEqC 1.3 settings
- 14. Blind scan active transponders being identified
- 15. All favourites lists can be (re)named freely

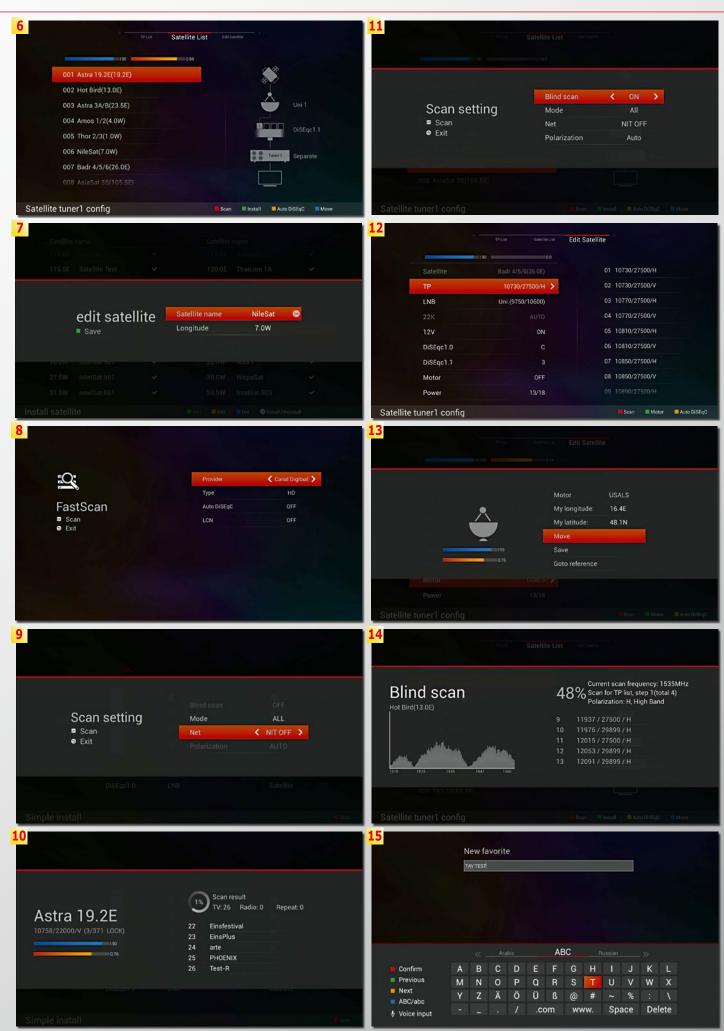
however. Three hours after the last input or command it will power down automatically to save battery pack capacity.

When the receiver is turned on for the very first time, an installation wizard pops up and guides you through the initial setup routine, which covers all required basics: video output resolution (with 1080p available as an option, as we can happily confirm), OSD language and network parameters. As far as the latter is concerned, the Amiko A3 will accept cabled network access just as well as WiFi (802.11 b/g/n) through its built-in WLAN. Even Internet access through a cellphone network (provided you buy the required USB stick that is available as an accessory) is possible.

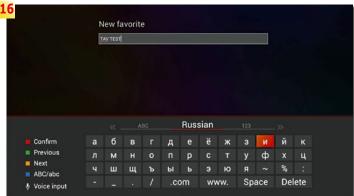
We did appreciate the fact that the internal clock of the receiver can be set to obtain the correct time from the Internet instead of from a DVB channel. Some channels persistently transmit inaccurate time codes, which may cause troubles down the line with timed recordings, for example. The Internet is more reliable here, so thank you Amiko A3 for providing that option. The initial setup is completed with adjusting the receiver to the reception equipment at hand, and once again you're given all options you should ever require, including DiSEqC protocols 1.0, 1.1, 1.2 and 1.3, as well as unicable solutions, complete with manual LOF input, if needed. A total of 53 European and Asian satellite positions plus their current transponder data are pre-stored already. It goes without saying that new entries can be added at any time, and existing entries can be edited, if need be.

As far as search modes are concerned, the Amiko A3 has in store the standard automatic mode, a manual scan and a blind scan mode which worked excellently in our test. It did not take more than two minutes for a blind scan on HOTBIRD 13° East, which was not only extremely fast but also very reliable, finding all active transponders on that position and saving the data









- 16. OSD keyboard with Cyrillic characters
- 17. OSD keyboard with Arabic characters
- 18. Recently watched channels
- 19. Extended EPG information
- 20. Searching for entries in the channel list
- 21. Channel logos can be downloaded from the Internet and are then shown right next to the channel name
- 22. Pre-stored channel lists for various satellites or pay TV providers are available for download from the Internet
- 23. Channel list of the Amiko A3
- 24. Info bar of the Amiko A3

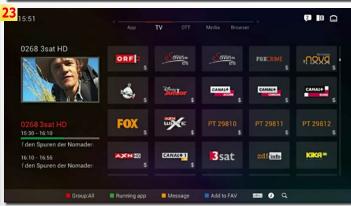


















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onto the overall channel list. Any search can be restricted to free-to-air channels only or to channels on transponders of any selected provider.

Once the initial search is completed the Amiko A3 will turn into standard reception mode. Time to look at the operating software used for this receiver. It comes by the name of Spark 2 and is the latest development of the Spark operating system. What's truly surprising here is the fact that - contrary to the vast majority of satellite receiver operating systems -Spark 2 is based on Google's

AMIKO

Android operating system rather than on Linux. To be more precise, Android 4.2 Jelly Bean is the underlying version. We found (and very much appreciated) that Spark 2 is not merely your run-ofthe-mill mainstream operating system with a couple of in-house apps added on top of a standard Android version, but an individual solution that combines manufacturerspecific apps with the powerful foundation of the Android operating system. As a consequence, Spark 2 offers the vast range of tried-and-tested Android features together with a software solution that is perfectly tailored to the Amiko 3 hardware. That's a remarkable achievement, and one that provided us with great joy and ease of use during our everyday test.

Of course, it's not all about software alone, and we cannot put enough praise on the fact that Amiko has made wise decisions about which hardware components to use. At the heart of the matter is a

Cortex A9 1.5 GHz dual core processor, which can draw on 1 GB of RAM (which can be expanded by inserting a Micro SD memory card at the rear side of the box) and 8 GB of ROM. Ample power to guarantee flawless TV and PVR enjoyment, but also to make use of the extensive list of Android-based games.

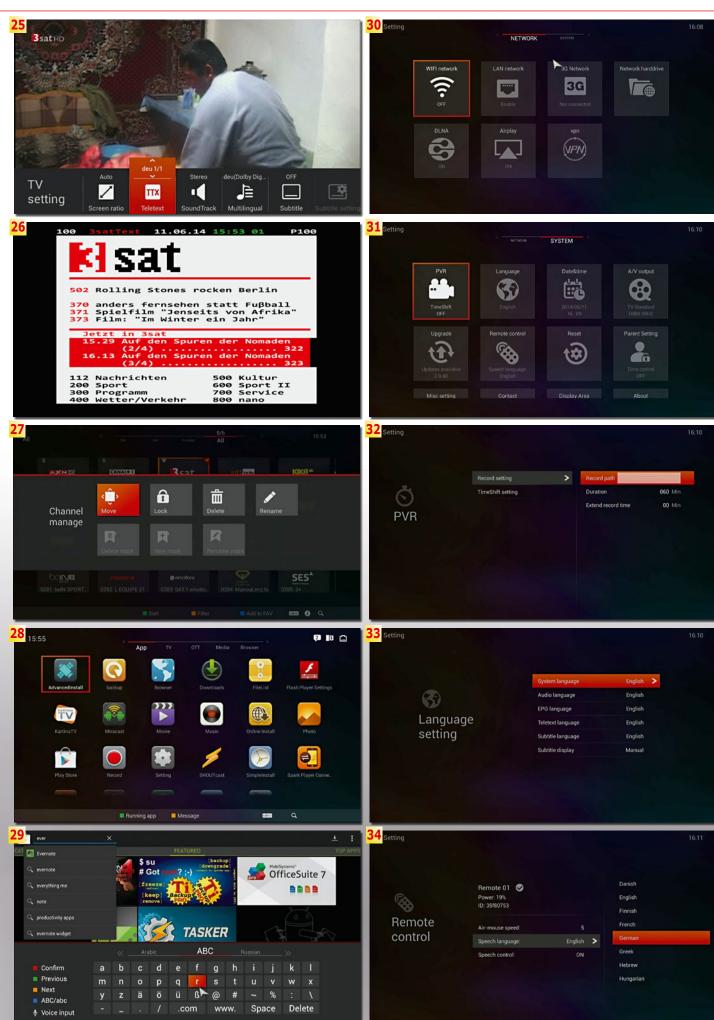
A touch of the OK button on the remote control opens up the channel list that presents all detected and stored channels in a smart layout. All the perfectionists out there will be delighted to know that a dedicated menu item is available for downloading channel logos from the Internet, which will then be shown right next to the channel names on the list. We tried that out during our test and can confirm that this feature worked nicely on a number of satellite positions, even though you will find that not every single channel comes with a corresponding logo on the Internet. Considering the sheer number of channels on the list (we're talking thousands...!) and the fact that each day dozens of channels are either switched on or off the channel logo feature works surprisinaly well.

There's so much to see with such an extensive channel list, and here the scroll function of the remote control comes into play extremely nicely. Much like working with a tablet computer, for example, you use your finger to move over the scroll wheel navigating can hardly be easier! And speaking about easy: Simply keep the language selection button of the remote

- 25. Selection of audio track and/or subtitles
- 26. OSD teletext decoder
- 27. Channel manager
- 28. List of installed apps
- 29. Google Play Store
- 30. Network settings
- 31. Device settings
- 32. Recording settings
- 33. Language settings
- 34. Remote control settings with a list of languages that support voice recognition











- 巛 ОК 3 2 6 9 0 HUIKO:
- 35. Spark App Store
- 36. Games available in the Spark App Store
- 37. Multimedia apps in the Spark App Store
- 38. OTT section with apps for YouTube, Kartina TV, SHOUTcast and weather
- 39. YouTube App
- 40. Web browser amazingly easy to use thanks to the gyro function built into the remote control
- 41. Reading TELE-audiovision with the Amiko A3
- 42. Web browser
- 43. Unfortunately, it is not possible to watch a second channel live while one channel is being recorded
- 44. EPG view
- 45. Creating timer entries
- 46. List of recorded events
- 47. The integrated multimedia player supports almost all current audio and video formats
- 48. Playback of short videos downloaded from the web with the Amiko A3
- 49. Audio playback

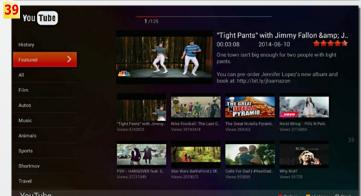




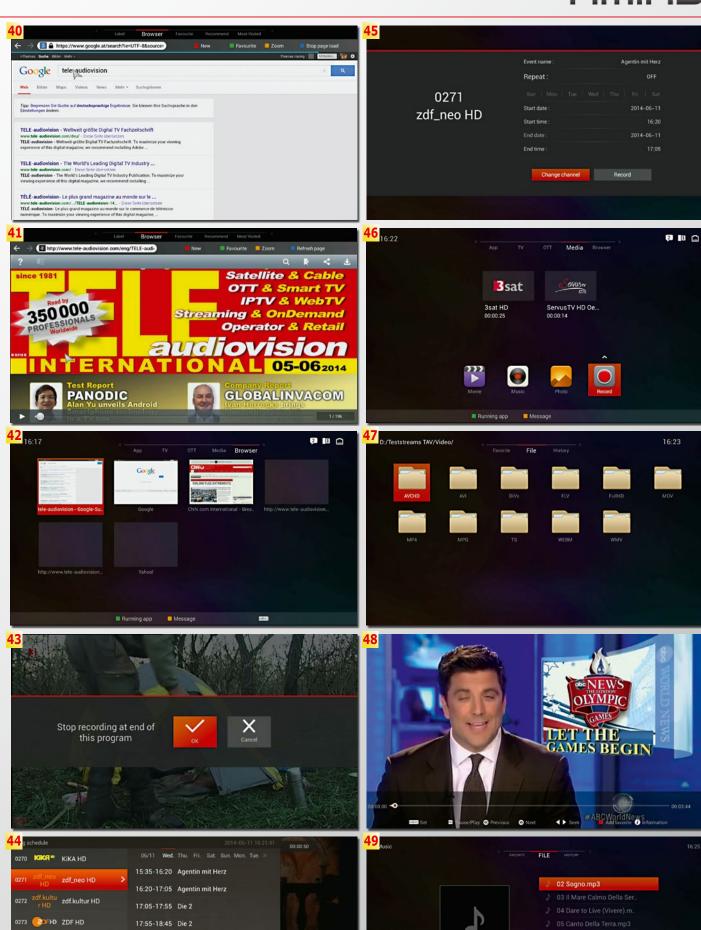












18:45-19:30 Die Rettungsflieger

21:45-23:10 Kommissarin Lucas

■ Guide switch ■ Go to now ③ ⑤ Switch date

19:30-20:15 SOKO Leipzig

0274 RT HD

0275 RT Esp HD 0276 RT Esp HD

0277 COND bein SPORTS 2... \$









pressed and say the name of the channel you're looking for. The receiver software will pick up your request and will immediately display all corresponding channels that are available. Press OK if the one you want is included and start watching it in the blink of an eye. This all worked amazingly well during our test, even using different languages.

And while we're at it, the OSD keyboard of the Amiko A3 does not only come with Latin characters, but also with Cyrillic and Arabic letters by default. This means users in regions where those languages are spoken can work with this receiver right away and don't have to download and install extension packs to localize the software.

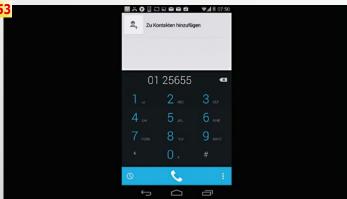
Even in channel list view

- 50. Image viewer
- 51. Recording controls
- 52. The screen content of an Android-based smartphone or tablet can be transmitted to the Amiko A3 using the Miracast feature
- 53. Using the Amiko A3 to display the content of an Android-based smartphone on the TV panel at home
- 54. A huge range of games is available for downloading to the Amiko A3
- 55. Weather app
- 56. Voice-controlled operation of the Amiko A3

concise EPG information on the currently selected channel is presented. The same is true whenever you switch to a new channel, when an info bar is shown for a short time. Obviously, you can easily look up extended EPG information as well, which either provides details on the current and next events of seven channels at a time, or can be set to display the entire schedule of a single channel.

Channel switching of the Amiko A3 is very fast and never takes more than one second. Video and audio quality are just as brilliant and leave nothing to be desired. In terms of convenience features, this receiver sports a clever timer function giving users a range of repeat timer options, complete with automatic after-run and a host of additional useful features. You might want to know that the Amiko A3 does not come with dedicated PVR buttons on the remote control. All those features (playback, fast forward, rewind, etc.) are controlled with the OK button and the arrow keys.

We did like the editing functions provided for the channel list, which are very efficient and sport an easy-to-use layout and design. It's always a













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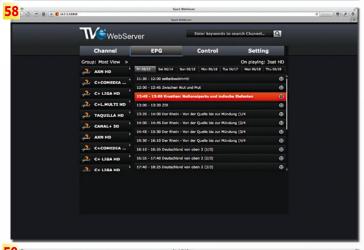
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- 57. Web server of the Amiko A3 with live streaming of the currently received TV channel
- 58. EPG view via the web browser
- 59. Virtual remote control via the web browser
- 60. Controlling several functions and features of the Amiko A3 via the web browser

great idea to bring some order into an extensive channel list, and with the options offered by the Amiko A3 you really have no excuse for not creating a list that's perfect for you. Favourites lists usually are a favourite, if you'll excuse this pun. This way, each family member can have his or her individual channel list with all of their most liked channels.

Flexibility is also a given thanks to the receiver's Android-based operating system that allows to download apps from the Internet for any imaginable purpose. Users can either turn to the well-known Google Play Store or to the Spark App Store, both of which combined offer a sheer endless variety of third-party apps for download.

We went for a number of popular apps from the Google Play Store during our indepth test, all of which were happily accepted. The Spark App Store, on the other hand, boasts a streamlined offer of apps targeted specifically to Amiko receivers like the A3. Here you will find customised apps for Facebook, Twitter, Dropbox, Skype, various games and multimedia apps. What they have in common is that they have been specially develped to make them perfect matches for Amiko receivers.

Generally speaking, the Amiko A3 has many aces up its sleeve when it comes to Internet access, OTT and multimedia. Apart from preinstalled apps for YouTube, Shazam, SHOUTcast or Kartina TV, it features a media player that works with virtually all current audio and video file formats, as well as an image viewer. The Amiko A3 even includes the XBMC media player for a real Home Theater experience.

It's quite obvious that users benefit enormously from the underlying Android operating system, which provides a very capable foundation for multimedia usage. The integrated web browser deserves special praise, since it is miraculously easy to operate and use, not least thanks to its interplay with the remote control's vir-

tual mouse. We could hardly take our hands off this feature during our test, and it turned out we used the Amiko A3 for an awful lot of Internet surfing, music and video playback and image viewing apart from actually watching TV, that is. The web browser even integrates a Flash Player, supporting motion pictures and videos.

Last, but by no means least, we should look at how the receiver cooperates with other devices or features you may use. Let's start with the integrated web server, which can be set up to fully control the Amiko A3 from any place on earth that has access to the Internet. It provides users with a virtual remote control and offers access to the channel list and to EPG data. This way, it's possible to easily create timer entries for PVR recording, or to edit existing entries.

What's more, you can watch the receiver's live TV picture in your web browser, so no matter whether you're in your office in town or on vacation on the other end of the world, you can always use this streaming function of the Amiko A3 to watch your local channels from home. After trying out this feature we can confirm that it not only sounds good in theory, but also works reliably in practise.

But even that's not all: Dedicated apps for Android and iOS have been developed for accessing the Amiko A3 from any mobile device that runs on one of those two operating systems. Here, too, a virtual remote control is at hand, in addition to a virtual touch pad for controlling the mouse cursor. This way it's child's play to switch between channels, create a timer entry, look up EPG data or even transmit music, pictures or videos from your smartphone or tablet to the Amiko A3 and from there to the TV panel.

In addition, this brilliant feature works both ways, which means the app on the smartphone or tablet is also capable of displaying the currently received TV channel from the Amiko A3. You can even use this app to send







OFF





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67 🗔 📆 😡 🖻

Record setting

Timer

4

Repeat

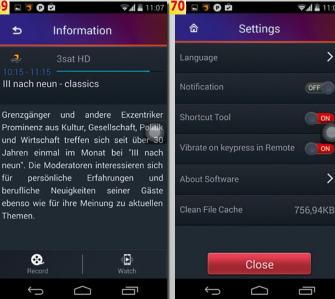
**Date Start** 

Date End







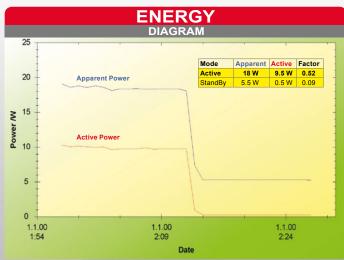


- 61. Dedicated apps are available for both iOS and Android, which allow controlling the receiver right from the smartphone or tablet
- 62. Spark 2 app for Android
- 63. Virtual remote control
- 64. Touch pad
- 65. Channel list of the Amiko A3 on the smartphone
- 66. Live TV streaming from the Amiko A3 to the smartphone
- 67. Creating timer entries right on the smartphone
- 68. EPG view on a smartphone
- 69. Extended EPG information
- 70. Settings of the Spark 2 app
- 71. Messages can be transmitted to the receiver right from a smartphone or web browser









15 minutes of active operation, followed by 15 minutes in standby

messages to the receiver, so that you can remind your (TV watching) kids to take care of their homework, for example, or not to watch too much TV. Apple fans will be happy to note that Airplay is also supported by the Amiko A3.

The Amiko A3 is a shining example of a new generation of receivers. One which uses state-of-the-art operating systems across different devices to offer breathtaking possibilities and to make use of all available synergies. Still, it takes an innovative manufacturer to put all pieces of that puzzle into place – Amiko has achieved just that and has created a very unique user experience.



- Extremely reliable software, smoothly tailored to the hardware components.
- . Android-based operating system gives users access to millions of different apps.
- Flawless integration of satellite reception into Android operating system.
- Smart user interface that is both pleasing to the eye and easy to use.
- . Using dedicated apps the receiver can easily be controlled via smartphone or tablet.
  - Integrated web server.
  - · Regular software updates and enhancement.
- It is not possible to watch another channel live while a recording is taking place, not even when both channels are transmitted on the same transponder.



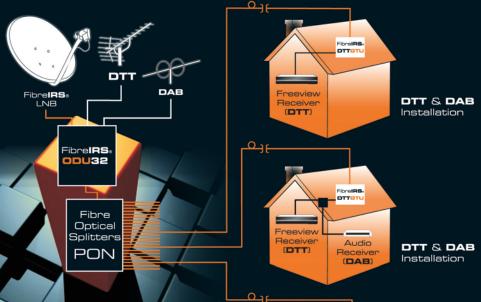


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Digital Satellite DTT & DAB Installation



# Envir Reel By PerfectVision®





# "We are more efficient when we use the EnviroReel"







If you've ever installed a satellite system, you already know that it's not easy to unroll coax cable. If this is your job and you do this on a regular basis, it can become frustrating. "Longer lengths of cable can easily get tangled up in knots and it can be a chore to untangle it all", is what you'll hear from every installer. "Coax cable should not be bent too sharply so you should be careful when untying any knots or, better yet,

don't let the cable get knotted up at all." This age-old problem on how to properly unroll coax cable was solved in an ingenious way by the company PerfectVision: the EnviroReel Cable Management Solution - an enclosed cable reel with many additional features.

Chrispin Bowen is the EnviroReel product manager and has been responsible for working with DIRECTV to bring the EnviroReel Solution

to market. They also distribute installation supplies that Pay TV installers in the USA need for their work. "Our products are all checked out and approved for use by the satellite operator DIRECTV." Or, to put it another way, anyone that wants to install satellite systems for DIRECTV must use products approved by DIRECTV. Because of this PerfectVision operates six warehouses across the USA that store all the products a DIRECTV installer would need. These products would then be delivered from these warehouses to local install-

Chrispin Bowin describes the system to us: "DIRECTV utilizes a network of owned and affiliated installation companies. The affiliated installation companies are known as Home Services Providers that account for the balance of the overall network."

DIRECTV places a premium on the employees' safety as well as the importance of environmental culture and by supervising the installation process DIRECTV can actively shape this culture in close cooperation with its supplier, PerfectVision, who provide to the DIRECTV installation network all the necessary material. "Officially, PerfectVision is the manufacturer of these products and the company Perfect10 does the actual shipping of these products", expands Chrispin Bowen on the specifics.

One of PerfectVision's warehouses can be found in Fontana, east of Los Angeles, in California. Here they store DIRECTV satellite dishes, the matching LNBs, masts, angle brackets, smaller parts such





as clamps and lastly coax cable. "We offer four different kinds of coax cable each available in black and white." This includes single coax cable as well as dual coax cable (two cables in one) with or without ground wire. "It is especially high-quality cable that consists of a pure copper inner conductor and not a copper-clad conductor that you might find in less expensive coax cable", explains

3.Alex Talentino has been working for DIRECTV for five years and for three years has been supervisor for all of the satellite installers for DIRECTVs service station in Riverside, California. He is responsible for the installation (and maintenance, upgrades, etc.) of DIRECTV's satellite reception systems in the Los Angeles area.

4. Morning briefing at 6:30AM. On this particular Thursday Adrian Dimech paid a visit to this DIRECTV service station. He is the Region Vice President of DIRECTV Home Services and is reminding the technicians in his presentation to comply with safety



# **Highlights**



### **BluBox SOTx**

- Up to 16 SAT IF levels and terresstrial over a single fiber optic cable
- 19" base unit with redundant switch mode power supply
- Distribution to up to 32 optical nodes possible
- Configuration and monitoring via LAN/IP

### **WhiteBox**

9

- Modular headend for multiple conversions
- 19" base unit with redundant switch mode power supply
- Configuration and monitoring via LAN/IP



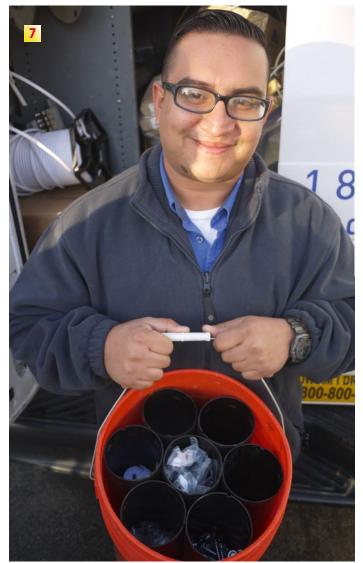
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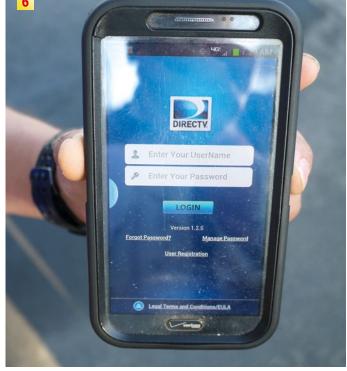


- Intuitive operating thanks to a 10" Touch Screen
- DVB-S/S2, DVB-T/T2, DVB-C, HDTV TV displaying
- · Compact and robust aluminium die-cast housing
- Supplied in a stable carrying case!









5. A locked metal box is reserved for each satellite installer. The installers each let headquarters know what supplies are needed and every Thursday morning each installer loads his van with those supplies. The white rolls are spare coax cable rolls for the EnviroReel. Each roll consists of 1000 feet (300 meters) of cable.

6. How does a satellite installer know where to go and install a satellite system? Very simple: he logs into the system via a mobile DIRECTV App and then finds out to which customers he has to drive to. In this way each technician can stay in touch with their headquarters through a Samsung Smartphone that each technician was given back in October 2013. "It allows us to optimize the technicians workload", explains supervisor Alex Talentino, "and also lets us see where each technician is located. As soon as another job comes in we can use the GPS data and how much estimated time is remaining on a current job to determine which technician should be dispatched to the new job." In this way, downtime is minimized; this makes sense for the technicians since they get paid by the job, not by

7. This is Jose Torres, one of DIRECTV's satellite installers. He came up with the idea to put the used rolls of EnviroReel coax cable in a bucket. Jose has used this recyclable reel part in a reusable way, which complies with a reduce/reuse/recycle, sustainability practice. This was an unexpected side effect of



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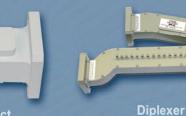
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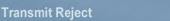






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### The EnviroReel cable dispenser in use at a customer site

- 8. This is Marcelo Galindo. He's been working for DIRECTV for seven years and installs satellite dishes. He tells us, "When I arrive at a customer location, the first thing I do is set up safety cones to protect the van."
- 9. After Marcelo Galindo has spoken with the customer and determined what work needs to be done (in this case it's an expansion of the satellite system), he checks out the security form. For this customer he takes note that there's a dog on the property as well as how dangerous the dog is. Every step is documented so that there can be no argument or misunderstanding at a later
- 10. This is what the inside of the EnviroReel cable dispenser looks like: the cable reel is already half empty. It won't be long before Marcelo Galindo will need to replace it with a new reel.
- 11. Now he's ready: Marcelo Galindo has put on his safety helmet and his safety gloves; now he's pulling the coax cable out of the EnviroReel cable dispenser.
- 12. When needing to pull cable, he'll simply take the EnviroReel cable dispenser wherever he needs the cable. The carrying handle makes it easy to carry even if the reel were still full.









# Intelsat / GVF Type Approved







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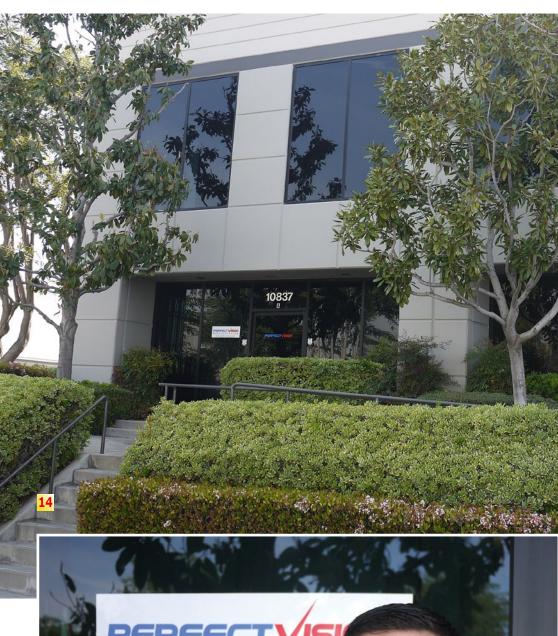
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Chrispin Bowen to us.

Because of this Strategic Partnership with DIRECTV, PerfectVision is not just sitting back and relaxing but this is precisely what the company doesn't do. "With EnviroReel we've developed a cable dispenser that makes the job of an installer more efficient", says Chrispin Bowen, co-developer of the EnviroReel who is consistently working on improving it.

Oddly enough, the work efficiency of the installer was not the original idea behind the development of the EnviroReel. "Coax cable is typically shipped in boxes. When a roll is used up, the empty box is left over. But with so much cable being used, there were a large number of empty boxes that were simply tossed away." The original idea was to reduce this waste by packing the cable in such a way for satellite installers so as to minimize the number of boxes that would end up in the trash.

"But as we started working on this concept we realized that we could greatly simplify and optimize the entire process." The result is a multifunctional solution for one problem that has been around as long as coax cable itself:

14. In Fontana, east of Los Angeles, can be found one of PerfectVision's six USA warehouses. All of the satellite installers that set up DIRECTV systems are supplied from here. The EnviroReel Cable **Management Solution is** currently being deployed with operators in Canada, Latin America, and the Middle East. PVM is expecting expansion into Europe in 2015.

15. Chrispin Bowin is PerfectVision's Product Manager and worked with PVM's Engineering team for the conception and development of the EnviroReel. He and his team visited nearly 300 locations across the USA. to explain the new system. 'The original idea for the EnviroReel came to life in the summer of 2012 and by April of 2013 the EnviroReel was put into service. Since then more than 500,000 coax cable rolls were used!" That's almost 95,000 miles (150,000 km).



# Titanıum Satellite

# Next Generation Technology





### Titanium Satellite

# C1WPLL

C band LNBF - \$40US

Titanium Satellite provides a **Lifetime Warranty on the C1WPLL** against frequency drift! (If you are not completely satisfied with the performance of the Titanium C1WPLL, we will promptly refund your purchase!)

The C1WPLL Phase Lock Loop C-band LNBF technology provides exceptional reception of weak satellite signals and the most demanding high FEC S2 channels in the wideband 3.4 - 4.2GHz range. For optimum C-band performance in regions with terrestrial WiFi service operating in the 3.4 - 3.7GHz frequency range, we offer the C1PLL model. The C1PLL features a cut filter to remove the 3.4 - 3.7 range.

inovation

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Sales: sales@titaniumsatellite.com Support: support@titaniumsatellite.com 00-4373 US/CA TOII Free quality value www.titaniumsatellite.com



16

"Transportability. The installers first have to transport the cable reels to the installation location. The EnviroReel has a single handgrip. Then it has to be easy to unroll the cable so the cable is stored on a roll in the EnviroReel. Since installations can often take place in less-than-clean environments, the cable in the EnviroReel is completely protected. The EnviroReels can also be easily stacked or, quite the opposite, the box won't mind if you just toss it in your car." Additional advantages include, for example, protection against moisture: standard cable boxes quickly soften up due to moisture.

Then there is safety, so high on DIRECTV's agenda: "The EnviroReel cable dispenser has an integrated handle de-

16. In the warehouse Logistics **Operations Manager Javier** Tolentino shows us the spare coax cable rolls for the EnviroReel cable dispenser. They are shipped to the warehouse on these pallets.

17. Close-up view of a cable roll. It contains extremely high quality cable, the only type authorized by DIRECTV.









sign, which is a safer alternative than a cardboard box that does not. This allows for much easier lifting and handling of the cables."

The EnviroReel has quickly gained acceptance with DI-RECTV satellite system installers. One of DIRECTV's service station for their own satellite installers is in Riverside, California, near Los Angeles. 68 technicians are concentrated here.

Once a week on Thursday they meet here and pick up the latest information on what DIRECTV has planned. Mostly though they load up their service vans with new supplies. We spoke with the technicians: "A 1000-foot (300-meter) roll of cable lasts on average about three days."

in second. "The ratio is about 20 to 1 for the single cable." Typically, an installer will have two EnviroReel boxes in their vans with these two types of cables. "We also usually run with one or two spare rolls of 1000-foot (300m) single coax cable, so that we

The single coax cable without

ground wire is the most often

used cable while the single

cable with ground wire comes

The DIRECTV installers are paid by the job. That means they'd like to avoid as many delays as possible.

can reload the EnviroReel any

time."

"That's why we like Enviro-Reel so much; it allows us to work much more efficiently", says Alex Talentino. He's the supervisor of all 68 technicians in DIRECTV's Riverside service station. He's been working with the company for five years. "We were the first operation to begin using the EnviroReel. That was back in April 2013." Each technician is given two EnviroReel cable dispensers and none of them want to part with these boxes.

PerfectVision has created a simple solution that puts to bed an age-old frustrating

problem with coax cable rolls. It has undergone many stages of development and now solves many other practical problems simultaneously, all without any electronics or software. It's just a mechanical tool.

And development isn't over: PerfectVision is busy expanding EnviroReel with more useful add-ons. Most welcomed by the technicians is a roller bag, which no longer requires the dispenser to carry but allows the EnviroReel cable dispenser to roll along (like an airport suitcase). Equally awaited by the technicians is a smaller 500' cable dispenser and a shoulder bag for easy carrying it along to where the cable is needed.

And lastly PerfectVision is expanding the system to also offer category cable (aka Ethernet cable) and thus expanding the range of potential users to include the technicians installing data network systems.

PerfectVision has clearly created a completely new product segment, which it can now expand to several new areas, where cables of any types need to be carried along by the technicians.



19. This is how it used to be: warehouse employee Mirna shows us a cable roll in cardboard packaging. PerfectVision ships this version to satellite installers that haven't yet switched over to the EnviroReel cable dispenser.

20. PerfectVision also offers other types of cable that are primarily used in cable head-end stations and in cable distribution centers. They are smaller in circumference and are available in different colors. PerfectVision is also working on an EnviroReel solution for this type of cable; four of these narrower cable rolls fit in one EnviroReel cable dispenser.





# MX LNBs of

- Single and Quad LNBs excellent for receiving weak satellites
- Twin LNB ideal solution for strong satellites and extensive distribution systems
- excellent workmanship
- performance equal to other best quality LNBs on the market





# Maxing Electronic Technology



# **Good For Strong** and Weak Satellites

We have already presented one LNB of Maxing Electronic Technology - the MB04 universal LNB for Ku Band with an integrated DiS-EqC switch (see TELE-audiovision 07-08/2014). This time we picked some other LNBs of their huge collection of models, namely the more commonly used versions of Single, Twin and Quad LNBs for Ku Band. Maxing gave them these model names: MX-16, MX-KT22C and MX-KQ24C respectively.

The LNBs we put to our test bench this time looked

from the outset typical for Ku Band LNBs. They were finished off very well. The only small drawback we noticed was that their labels were made of paper. So, you can not expect them to survive long when installed outside on a dish. However, do you really care? Once installed, you usually do not pay any more attention to the LNB on your dish. Even if the label is eventually peeled off by rain and wind this will not trigger any problem or esthetic discomfort. That's why we do not

regard this as a serious imperfection.

What really counts is the performance. We decided to use our Toroidal multifeed dish with 8 LNBs. For the purpose of this test we replaced one of its LNBs with one by one the Maxing LNBs. The original LNB served as the reference to which the Maxing MX LNBs were to be compared to. You should know that it was a low noise (NF=0.2 dB) contemporary LNB of very good quality. We decided to use the LNB poiting to the AS-TRA satellite on 19.2 East. Although this satellite was very strong in our location, it did not necessarily mean that the test was easier to pass.

such environment Τn (Toroidal dish and strong signals) you may expect quite interference from neighboring satellites so additional to the low noise figure the LNB under test must also offer a low phase noise, high cross polarization isola-

Tested & Recommended Product by TELE-audiovision Magazine

> Excellent workmanship give excellent reception results

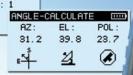


tion and high resistance to intermodulation. The most practical way to evaluate all those parameters at once is to compare the LNB under test to another one of a different brand. And that's what we did.

As usually, we compared the LNB power output which is directly related to signal strength and Modulation Error Ratio (MER) which in turn is related to the signal quality. The first two graphs present the signal strength. Evidently, the MX-16 was weaker than our reference, the MX-KT22C was visibly stronger and the MX-KQ24C was more or less equal.









# Satellite Meter

- Supports DVB-S/S2
- · C, Ku, Ka or L band
- · MER and BER
- Spectrum function
- · Supports DiSEqC 1.0/1.1
- · Signal level and quality display together
- 128×64 matrix LCD with back-lighted
- · Large lithium battery capacity, over 4 hours working time
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- · All standards in one: QAM(J.83A/B/C), 8VSB, DVB-T/H/T2, DVB-S/S2
- · Digital/Analog TV and Satellite TV analysis
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- Fast spectrum analysis with 5~2150 MHz frequency span

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- Support SD&HD Video format
- CI module (Common Interface) for encrypted channels
- TS-ASI input and output
- TS record and TS replay
- IPTV analysis option
- · GPS option
- · HDMI, LAN and USB interface
- · Easy to use
- High resolution 7" TFT LCD with bright display for indoors and outdoors use
- W245×H194×L105, light weight
- Working time >5 hours (battery)



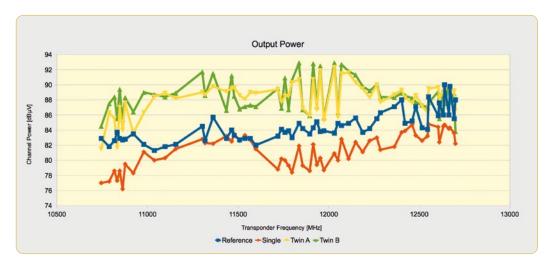


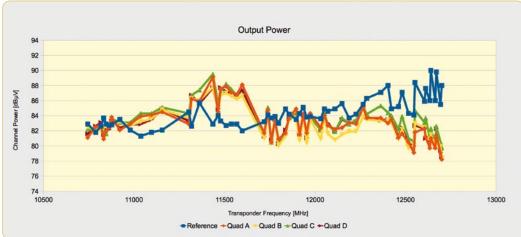




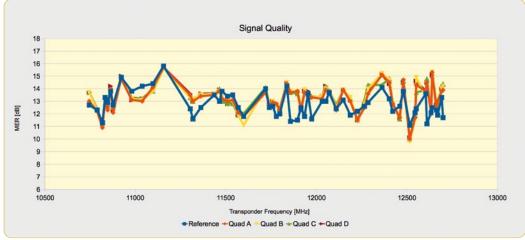
TR101 290 Three level Monitoring











What is worth mentioning, both outputs of the Twin LNB and all four outputs of the Quad LNB were almost identical. So none of the outputs was weaker or stronger than the others with the same LNB.

Then we measured and processed the MER results. And here we had another picture. We may say that the MX-16 matched our reference, the MX-KT22C was somewhat worse and the MX-KQ24C was again almost equal to the reference.

The reason for this is clear: the MX-KT22C has been designed as a high output LNB and due to that its noise performance is not as good as the normal output level companions (Single and Quad in this case), whch is due to increased intermodulation in such high gain LNB. However, this makes this LNB a favorite for receiving strong satellites connected to a distribution system with significant signal loss due to long cables or many switches.

The MX-16 and MX-KQ24C did not have such a strong output signal but performed very well in signal quality measurements. We can recommend them even for difficult reception conditions. They they perform as well as the best LNBs on the market.

Finally, we measured current consumption of all LNBs. Here are the results:

MX-16-72 mA

MX-KT22C-104 mA

MX-KQ24C-152 mA.

The d.c. currents are quite reasonable and similar to other devices of this kind. They will not cause any problem for any receiver or multiswitch.













# Titanium ASC1

- Robust heavy duty positioner
- Can drive the largest dishes
- Fully DiSEqC-1.2 compatibility for use with modern receivers
- Can be used as a stand-alone device to move the dish
- Configurable through a PC



# Titanium Satellite



# The Best Way to Move your **Big Dish to any Position**

The Titanium ASC1 is a true heavy-duty dish positioner. It's appearance is very impressive; much different from those common positioners that come in small plastic boxes. It actually looks like it was built for military use: heavy, massive and robust; any satellite enthusiast's heart will jump just looking at it - at least our hearts went into overdrive!

The internal components are protected by two heavy steel plates with the product name Titanium engraved on the top. These plates have a hole on each side large enough for your hands that lets you easily carry the Titanium ASC1. You can even take the positioner right up to the dish when setting it up (i.e. to define the limits of the actuator). The overall design looks great and is very practical.

The Titanium's case is painted in a matt black color and the front features an unusually large LCD display capable of displaying 4 lines with 20 characters each more than enough to completely control every function. To the left side of the display are the buttons that let you navigation within the menu structure as well as two big buttons to drive the dish east and west. The front panel also contains the IR-receiver for the remote control. Spoiler alert: you do not need to read the manual







is really easy to use.

On the back panel you'll find the typical connectors for one actuator and the skew control as well as a power socket (you can plug in a regular grounded power

adapter is needed) and an RS-232 port with a DB9 connector. There are two LNB jacks to connect the LNB and the receiver if you want to control the Titanium ASC1 through DiSEqC 1.2. The insimple, yet comfortable, design that lets you fully control the Titanium ASC1.

Finally, there is a fuse compartment in the unlikely event of a short circuit or a power spike. We appreciated

unfortunately, accidents do happen no matter how careful you try to be...

At first the size of this positioner caught us by surprise. Well, it turns out it's not just for show. Just like

# Titanium Satellite

with premium audio amplifiers, which are similar in size, it is big for a reason: there's a huge power transformer inside the chassis. Large transformers like that generally need to be protected and cooled, but since a fan can be the source of really annoying noise, the Titanium

ASC1 was constructed with two steel plates with air inlets on the side to keep everything cool.

So why does the Titanium ASC1 need such a large transformer inside in the first place? Because in this way it can drive actuators that draw as much as 5





Amps. Take the largest polar mount you can find, install it on the biggest dish you can buy and the Titanium ASC1 can drive it without any effort. Other positioners provide much less power and therefore would have a much harder time trying to move heavy dishes.

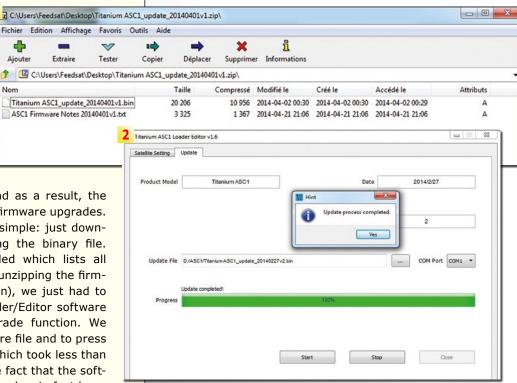
Another unique aspect of the Titanium ASC1 is the fact that it can work as a standalone device. It easily replaces older generation receivers that have an inte-

### **Firmware Upgrade**

Before we tried out the Titanium ASC1 in the field we checked the Titanium website (www.titaniumsatellite.com) and downloaded its latest firmware. In fact, Titanium does invest a lot of resources improving every

detail of the Titanium ASC1 and as a result, the user can benefit from frequent firmware upgrades.

The upgrade process is very simple: just download the ZIP archive containing the binary file. Laudable: a text file is included which lists all changes of the firmware. After unzipping the firmware binary file (\*.bin extension), we just had to use the included Titanium Loader/Editor software and select the Firmware Upgrade function. We were asked to select the firmware file and to press a button to start the process, which took less than one minute. We appreciated the fact that the software confirmed that the firmware has in fact been flashed correctly: it is always nice to get that kind of feedback.



- . Unzipping the archive shows the two files: the binary file for the firmware and a text file explaining the firmware changes
- 2. The new firmware has been successfully loaded into the Titanium



For a reliable solution!

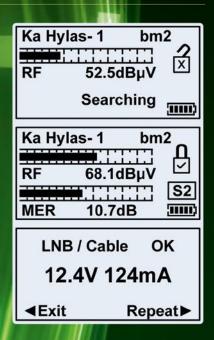
Winners of the Queen's award for international trade 2007, Horizon Global Electronics is a UK Company established in 2001 specialising in the design and manufacture of hand held test equipment for the digital satellite and TV sector. Our strength lies in being able to find innovative solutions to leading technology issues.

# Introducing the new HD-S2A!



The HD-S2 satellite meter features all the functions you will need to perform DVB-S and DVB-S2 satellite installations.

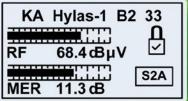
The HD-S2A developed for Avanti Broadband features tone functions for Hughes Ka-Band ODU polarisation selection.



# The cost effective Nano S2A

The Nano-S2A satellite meter is the ideal cost effective solution for Hylas-1 and Hylas-2 VSAT installations. The Nano-S2A features tone generation for Hughes ODU polarisation control along with a lock state indicator that supports DVB-S2 advanced modulation schemes. The signal level and quality indicators make this the easiest meter to use ever. One button does it all. The Nano-S2A can be receiver or battery powered.















Phone:

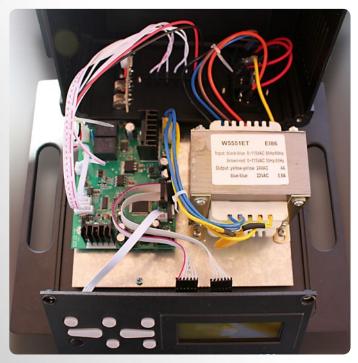
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# Titanium Satellite



■The Titanium ASC1 is very heavy, so what's inside? A huge transformer that will drive the biggest dish thanks to its 5 amp output. We also found exceptionally well designed PCBs with professional cables. Everything is assembled with great care. Thumbs up to Titanium for excellent workmanship!

grated 36V actuator control. There are many enthusiasts out there that still use these older receivers just to move their dishes and use modern receivers to watch TV. These same enthusiasts probably wouldn't want to part with their modern receiver; instead they could replace their old receiver/ positioner with this modern version and keep everything else just the same, especially since the modern receiver may already be set up with custom satellite settings and thousands of channels.

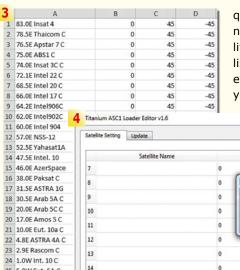
However, the Titanium ASC1 also supports DiS-EqC-1.2. This would let you hide the ASC1 out of view and control everything via DiSEqC 1.2 commands that are supported by all of today's modern receivers.

COM Port COM1 -

Thanks to the big LCD display, the Titanium ASC1 can be used without being connected to any TV or receiver. Of course, normally you would usually do this only during the initial setup, but the ASC1 makes it extremely convenient: once the actuator is connected to the dish, you would want to be able to drive the dish from east to west and back again to check the mechanical installation. You would also want to be able set the hardware limits of the actuator and normally you would want to set the software limits as well. The Titanium ASC1 makes it possible to do all of this without having to connect a receiver. This is really an outstanding feature! If you ever have to correct something on your dish, you

### **Editor Software**

The Titanium Loader/Editor software which we used to upgrade the firmware can be used to edit and cus-



User File D:/ASC1/Satelitenlist\_Europa C-Band\_1012.2013.csv

tomize the Titanium ASC1's satellite configuration. It wouldn't make sense to try to edit satellite names on the Titanium itself, at least it would not be a comfortable thing to do.

Using the PC is much better and quicker, especially because the Titanium website offers complete satellite lists for different regions. These lists are \*.CSV files, which can be edited using Excel. This means that you could, for example, get your de-

ellite data read successfully!

Yes

sired satellite list from your favorite listings website and adjust it to the required format using Excel.

The format is simple; it contains just four columns: the name of the satellite with up to 14 characters, the position (number of actuator impulses), the horizontal skew and the vertical skew (both as an angle).

We enjoyed this widely open format and noticed that the Titanium Loader/Editor software is very straight forward to use, too. You can download the satellite configuration from the Titanium ASC1 or upload to it. These processes take about a minute and it feels very reassuring to have a backup of the satellite configuration on a PC.

This allows maintaining multiple profiles in case you really need more than 99 satellite configurations (or 200 satellite configurations with the soon to be released new firmware). You could have a Ku-band profile and a C-band profile and swap it as needed.

3. Excel could be used to edit this satellite list for the Titanium ASC1

4. Another option is to edit the satellite list with the Titanium Loader/Editor software

25 5.0W Eut. 5A C 26 11.0W Exp. 44 C

27 18.0W Int. 901 C

24.5W Intel. 905 31 27.5W Intel 907

28 20.0W NSS7 C 29 22.0W SES 4

32 31.5W Intel 25 33 40.5W SES 6 34 43.0W Intel 11

35 45.0W Intel 14

36 50.0W Intel 1R

37 53.0W Intel 23

39 61.0W Amazo. 3

15

# MYTECH



### Android 4.2 OS OTT Box with DVB-S2 & 3D GPU

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- Support DVB-S/DVB-S2 Satellite Compliant
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- 4 USB 2.0 support Mouse and Keyboard, 3G DONGLE, PVR
- popular applications and games under Android OS
- Support Google Search, Web browser, Email, XBMC, Skype
- ■Support G-multiscreen
- ■CE & FCC approval





### ISDB-T+DVB-S2 HDTV Combo CA LAN GPRS Box

- ARM Cortex A9 CPU up to 1GHz frequency and 5000DMIPS
- Support DVB-S/DVB-S2 Satellite Compliant
- Video-On-Demand (VOD) and Over-The-Top (OTT) Services Support
- 4 USB 2.0 support Mouse and Keyboard, 3G DONGLE, PVR
- popular applications and games under Android OS
- Support Google Search, Web browser, Email, XBMC, Skype
- Support G-multiscreen
- CE & FCC approval

### About us

Gotech is a leading digital solution provider for the international digital TV market and specializes in the provision of digital set-top-boxes and digital TV sets. It deploys a wide range of digital STB to satellite, terrestrial, cable and IPTV/OTT markets, from entry-level receivers to advanced multi-tuner high definition digital TV recorders with integrated or removable hard disc drive. Its devices are deployed across Europe, the Middle East, Latin America, North Africa and Australia.

### MKTECH

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# Titanıum Satellıte



# Titanium Satellite



can simply carry the solidlybuilt Titanium ASC1 out to the dish by one of its handles. Then connect to the actuator and a power source - you'll then be able to drive the dish to any stored position, reset the limits, etc. And you don't even have to be right next to the Titanium ASC1; just use the included remote control. And yes, we did try it: it works outside under full sunlight.

In fact, to really check out all of the capabilities offered by the Titanium ASC1,

we paid a visit to one of the best known satellite enthusiasts in Europe: 'Feedsat', as he is known all over the Internet forums and blogs. Feedsat has quite a remarkable garden in the South of France: between perfectly trimmed grass, a pond and a swimming pool, you will find two prime focus dishes, one with a diameter of 3.1m plus polar mount, the other is currently 2.8m in diameter (soon to be extended to 3.2m and equipped with a polar mount). There's also

a 1.8m offset dish. All three of these dishes are used for the C-band, but the smaller 1.8m dish has a Ku-band LNB as well.

Which of these dishes do you think we selected for testing the Titanium ASC1? Of course we opted for Feedsat's largest dish, the Winegard 10' Pinnacle TVRO 3.1m dish, made in the USA. This is a really huge and heavy dish; the polar mount is massive and the installed actuator is hungry for power. In fact, most regular positioners would have a hard time driving this dish and would enter an over-current state. If you keep overdriving it, you might end up destroying the device.

Not so with the Titanium ASC1. After connecting the wires, which only required a few minutes, we were able to drive the dish back and forth without any effort. The movement of the actuator was always smooth and con-

To further test the Titanium ASC1 in actual use we

# Titanium Satellite



connected one of our reference meters, the Deviser S7000 (presented in TELEaudiovision 09-10/2013, you can read the test report here: www.TELE-audiovision.com/13/09/deviser). This allowed us to see the real-time spectrum and thanks to the waterfall diagram we

could register and count all of the satellites featuring Cband transponders.

At first we were using the Titanium ASC1 directly to drive the dish. Having the remote control available made it so convenient to operate the dish that we almost forgot that we could also con-

trol the dish with the Deviser by using simple DiSEqC 1.2 commands. Once we realized that we could do that, we went ahead and tried it out to make sure that all the possible DiSEqC 1.2 commands are really supported: GOTO, STORE, STEP, LIMIT and RESET.

While the GOTOxx command is fairly standard and should have no trouble working on a positioner that is to be connected to a modern satellite receiver, we were not so sure about how well it would behave with the remaining commands.

The first command we

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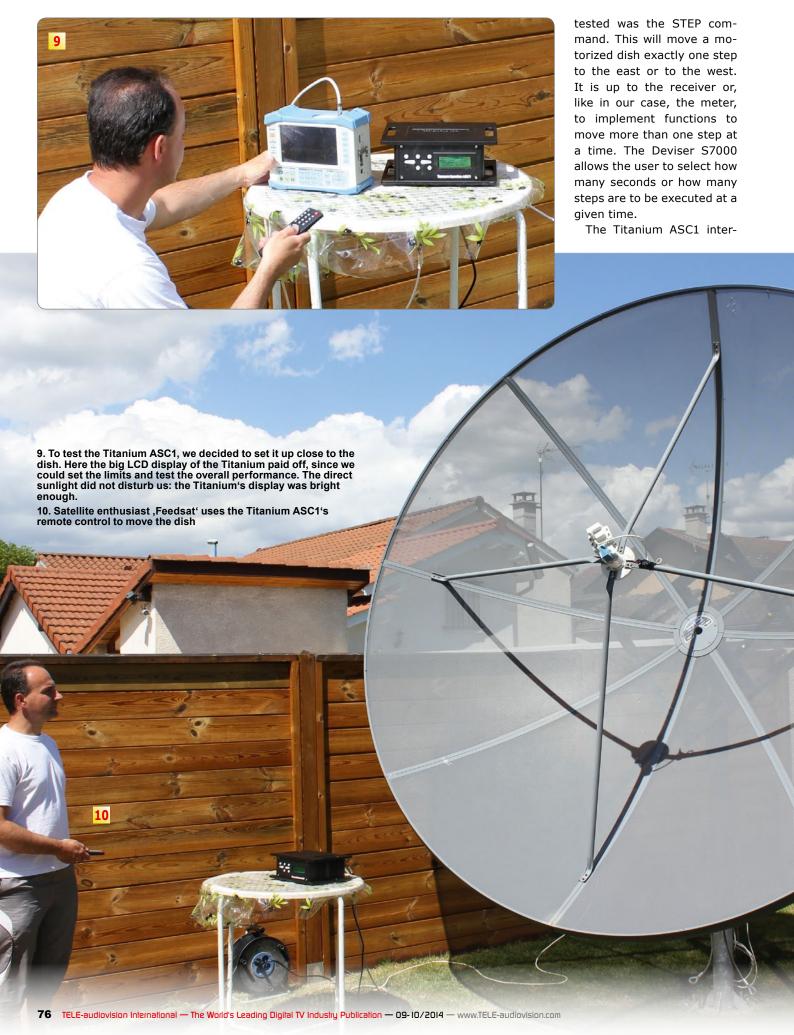
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preted the STEP command exactly as expected, transposing the steps on the polar mount. Interestingly, it did so with a precision of +/-1step, which is as good as you could imagine.

Next we tried the LIMIT command. This is normally used in DiSEqC 1.2 motors to set the software limits in order to prevent the dish from hitting any obstacle like a wall. Polar mounts normally come with hardware limit settings based on an actual switch, but this has to be set up on the dish. Defining a software limit provides an extra layer of security, a temporary limit or simply reduces the installation time.

Traditional positioners do not provide the LIMIT function defined by the DiSEqC 1.2 protocol, so we were curious to see how the Titanium ASC1 would react if we tried to set limits through our Deviser S7000. And sure enough, as soon as the limit was set on the Deviser S7000, the Titanium ASC1 would not move the polar mount any further than the limit.

When we tried the ERASE LIMIT command on the Deviser, we hit a little snag: the Titanium ASC1 refused to move beyond the previously defined limit. What was going on? Very simple: we should have looked at the LCD screen on the Titanium ASC1. Each time we tried the ERASE LIMIT function, the Titanium ASC1 was looking for a confirmation to really delete the limit. This is an excellent feature that will prevent any accidentally deleted limits and the potential costly consequences.

The RESET command did not produce any effect on the Titanium ASC1, which is actually exactly what we expected and wanted. This command only makes sense on an integrated DiSEqC 1.2







where it replaced Feedsat's existing age-old Echostar AD2500IP receiver. The Titanium ASC1 was setup as an stand-alone positioner without taking advantage of the DiSEqC 1.2 capabilities and Feedsat could start satellite surfing with the Titanium ASC1 just like he did before with his Echostar.

The Titanium ASC1 can store up to 99 satellite configurations, storing for each configuration the position and the horizontal and vertical skew rotation. You can give each satellite configuration a name of up to 14 characters, which should be more than enough.

However, for a hardcore satellite enthusiast, 99 satellite configurations may not be quite enough when you consider that in well served locations such as in central Europe you can receive an amazing number of satellites

- at Feedsat's location where we performed our tests, 74 satellite positions from 76.0E to 63.0W could be accessed at the time of our test. With a multi-feed configuration using two LNBs (i.e. one Ku-Band LNB in focus and one C-Band on the side), you now have 148 positions. So we contacted Brian Gohl, the owner of Titanium and developer of the positioner, and he immediately responded by promising to increase the number of satellite positions to 200 in the next firmware update.

One of the biggest advantages of the Titanium ASC1 is its the versatility. You can drive any oversized dish and you can use it as a standalone or transparent DiSEqC 1.2 positioner - anything is possible.

This is the definitive positioner; you buy it only once and it will last a lifetime. You

can use it for dishes both small and large and it works with any of your receivers. Start with a small dish and

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## Interview with **Brian Gohl**

Q (Feedsat): Why did you decide to develop the Titanium ASC1 positioner considering that only satellite enthusiasts would be interested in such a device?

A (Brian Gohl): I have been a satellite enthusiast for many years and this has always influenced the equipment that I design and distribute. What would make my personal satellite system better? What is available on the market? How can I build something better?

The ASC1 was developed for several reasons. I use and test many different DVB-S/S2 receivers and as a satellite DXer and enthusiast, I wanted the best performance provided by a servo adjustable skew. I disliked using a separate analog or 4DTV IRD or a manual controller to position the dish and set the polarity and skew offset every time that I changed to another satellite or transponder. Forget about automatic multi-satellite scanning. I had to be present to change the polarity just at the right time or perform each satellite and polarity scan manually! Multiple timers had to be coordinated to record. The analog receiver timer would move the dish and select the polarity, then the DVB-S/S2 STB timer would record the show. I can't begin to tell you how many recordings were missed because of timer coordination issues. Most importantly, my wife didn't like using the satellite system because after she changed the channel on the DVB-S/S2 settop box, she would have to read from a piece of paper taped beside the TV to know what satellite to select on the old legacy analog IRD and what transponder to provide the correct polarity. This had to be repeated almost anytime the channel was changed! Needless to say, everyone in the house was scared of using the big satellite dish because they might mess something up. They just wanted to change channels and watch TV.

The ASC1 allows any DiSEqC 1.2 receiver to automatically control the satellite dish and LNB polarity. Now anyone in the house simply changes channels and watches TV. Now I can optimize the dish position and skew offset for each satellite and polarity, perform unattended satellite and multi-satellite blind scans and best of all, my DVR recordings happen automatically.

Q: Why did you choose an RS232 interface instead of a popular USB interface considering that most of the new generation of computers don't have a serial port? Naturally you could use a USB to RS232 adapter, but still I wonder what the reason

**A:** I selected the RS232 type serial protocol for the ASC1 as it is much more robust and is a proven communication method for recovery, firmware and user database updates/ transfers. You will note that the majority of satellite receivers still include RS232 ports for recovery and updating. Many of us have learned through experience that USB updating can be defeated, rendering a product useless. Since the ASC1 is a new product and interface, I wanted to be sure that we could update and recover in any situation. I have now arranged with the factory to include a USB to RS232 converter for users who do not have or wish to add this port on their computer.

Q: Are you thinking about an ASC2 with dual axis motor control?

A: We have prototyped a dual axis model and are determining if this would be best marketed as a sidecar (possible upgrade) or to introduce it as a separate model. The current design is made up of components that could be easily reconfigured or swapped as necessary. The dual axis market is an extremely small segment, so we are first evaluating the



Brian Gohl. Owner of 'Titanium Satellite' and Developer of the Titanium ASC1 Positioner

sales of the ASC1 into the consumer marketplace, then we may venture into additional controller products and markets.

Q: The ASC1 can store 99 positions, which might be little tight for extreme users. Are there any plans to increase the number of positions?

**A:** In the near future, the ASC1 will support 200 positions. This is the main reason that we reduced the Satellite Name field to 14 characters. to make sure that we have adequate memory for the additional satellite positions. 200-position support has been successful in beta firmware testing, but we will add a few more features before launching this major upgrade.

Q: What are the future plans?

**A:** We will also be adding DiSEqC 1.1 control via user set menu selection. DiSEqC 1.1 option will allow commercial units (without DiSEqC 1.2 support) to work with the ASC1. We are working with several coders to develop external control via PC/ Linux/Raspberry.

Interview by "Feedsat"



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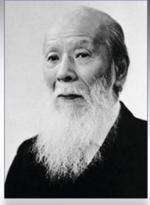
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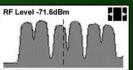


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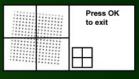
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# JONSA Antennas



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- ready to manufacture special-purpose dishes, e.g. for multi-satellite reception with multi-LNB holder







Major providers of pay TV via satellite usually give their subscribers the necessary reception equipment free of charge, or - to put it in a more realistic way - the price is included in the monthly subscription fee. In most cases, those components are not manufactured by the content providers themselves, but rather are sourced from third-party manufacturers which act as OEMs or ODMs.

If you're in the OEM business and are looking for a steady flow of orders and revenue from content providers, one of the key requirements is consistently high quality. JONSA is an excellent example for that. The Taiwanese company was founded in 1988 and has been producing satellite antennas for leading satellite pay TV providers around the world. What made JONSA such a major player? There is only one way to find out and so we embarked on a journey to Nantou in Taiwan. Nantou is a rather small town close to Taichung in western Taiwan, yet it is here that JONSA has set up its administrative offices and huge production halls.

The business was founded by David Lin in 1988 and up to this very day he is owner and chairman of JONSA. Originally, JONSA was in the business of erecting large halls or - more precisely - of producing metal walls for setting up halls. So come to think of it, it was a pretty small step from straight walls to parabolic shaped antennas.

The first model introduced by JONSA was a 120cm dish which at the time was lathed from a single sheet of metal. Initially, production volumes were tiny: "JONSA's monthly output was roughly

> ■David Lin is founder, owner and chairman of JONSA.

Quality antennas for the world's largest content providers



ten antennas," Mr. Anthony fondly remembers the company's pioneering days. He is the person in charge of the company's sales team and responsible for communication with key account customers. While the first JONSA dishes were made for C band reception, export of Ku band antennas also began as early as 1989. "Our first export year saw shipment of approximately 24,000 antennas," Mr. Anthony recalls with pride.

These days, however, JONSA plays in an entirely different league: "We produce about 15 million dishes per year." Which satellite bands are covered today? "80% of our output are Ku band antennas, 10% are designed for C band reception, 5% for the S and L bands and another 5% take care of the Ka band." This latter segment is on an enormous upswing, however, since JONSA is one of only a select few manufacturers worldwide capable of manufacturing antennas for this rather tricky frequency band. And if you're in such a position of strength the prospects for an additional increase in Ka band sales are looking excellent.

Most of JONSA's satellite antennas are purchased by large pay TV providers or – in the case of Ka band dishes – providers of Internet via satellite. Since this is currently only offered in North

America and Europe on a larger scale, those companies are rare and far in between. So chances are the Ka band antennas they use are manufactured by JONSA. "We have concluded non-disclosure agreements with all providers, so we're not in a position to give you their names," Mr. Anthony explains the high level of confidentiality maintained by JONSA.

JONSA has a markedly global strategy, and the numbers Mr. Anthony provides lend impressive proof to that approach: "70% of our production output is shipped to the Americas, with North America the final destination for half of those antennas, and Central and South America for the other half. 10% go the Middle East and 5% reach Europe." We notice that Africa is not on that list at all. True, but it is a market for which JONSA envisages enormous potential for development and expansion, which is in the process of being launched. "Our local agent does excellent fieldwork, particular in sub-Saharan Africa, which we have earmarked for strong business growth." The South American market is also set to embark on continuous expansion, not least due to the Olympic Games in Brazil that will take place in 2016. "Demand for Ka band antennas also experiences promising growth," Mr. Anthony reveals, "and between 2006 and 2013 we have shipped a total of six million Ka band dishes with 66cm and 75cm to North America alone."

Those figures are truly impressive, and they also hint at the fact that JON-SA's Nantou production premises are not able to handle all that demand on their own. "Here in Nantou we focus on Ka band and Ku band antennas. We set up an additional production facility in the Chinese city of Nanjing as far back as 1993, where we manufacture all panel antennas and C band dishes." As a matter of fact, the Chinese workforce already outnumbers that in Taiwan. "500 staff work for JONSA in China, while the corresponding number in Taiwan stands at 400." At the Nantou headquarters of JONSA there is also the administrative building for some 35 employees, the sales and marketing team with 17 members of staff and first and foremost - the R&D department with a workforce of 25.

"When it comes to antenna production, we never stop improving. What's more, the demands placed on manufacturers are always rising as well. The Ka band, in particular, requires a great deal of attention to detail and excellent precision all through the production chain," Mr. Anthony explains and adds: "While the accuracy tolerance in Ku

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### IMC Group Acquires Digital Test Equipment **Experts Horizon Global Holdings**

HORIZON is a well-known brand to TELE-audiovision readers. Since 2005 we have presented all their new signal meters in extensive test reports. Each time their products were on top of the technology. An equally prominent and quality obsessed company is the IMC Group, based in Letchworth (Herfordshire) in the North of London.

The IMC Group Limited was formed in 2007 by the amalgamation of Lamerholm Electronics Limited, Hanwell Instruments Limited and Jekyll Electronic Technology Limited. More recently, The IMC Group has acquired Silvertree Engineering Limited. The group has over

100 years of experience in environmental monitoring and offers a comprehensive range of instrumentation and communication systems. The group's production range runs from small batches to thousands of units.

Apart from the newly acquired HORI-ZON brand The IMC Group trades under these 4 brand names:

HANWELL: Environmental monitoring and control solutions. HANWELL offers over 100 data loggers, radio and GPRS transmitters to cover parameters as energy, temperature, humidity, wind speed/direction, Lux & UV, dust, insect pest control, CO2, pressure and many

more. Users are given the tools to accurately measure and monitor areas with potential risk of damage either in rooms or objects within building, in transit or even in remote locations.

Herfordshire

ICESPY: Wireless temperature monitoring solutions. The ICESPY system is used mainly in the food, pharmaceutical and healthcare sectors to wirelessly monitor temperatures within fridges, cold rooms, storage facilities, vehicles, warehouses, laboratory equipment such as freezers and incubators. The ICESPY wireless monitoring system consists of transmitters that log, store and send readings to its base and data







■Ian Robinson is Group Managing Director of The IMC Group and now also leading signal meter manufacturer HORIZON



can be downloaded to either a single PC, IT network or to the Internet.

**SHOCKLOG:** Shock sensor and recorder assisting with damage prevention. Shock, vibration and unacceptable environmental conditions can cause damage. By monitoring shock critical goods in place or in transit, SHOCK-LOG enables users to not only reduce potential hazards and risks associated with critical damage but also the costly repairs and replacements after irreparable damage has ocurred.

SHOCKWATCH: Provides preventative solutions for damaged cargo. The SHOCKWATCH range is deployed by thousands of the world's largest companies to detect shipment damage, whether that is impact, temperature and/or tilt. SHOCKWATCH are self adhesive devices that stick directly onto the package and are activated for the length of the journey.

Adding to these brands is now HORI-ZON, which designs, manufacture and distribute high quality satellite, cable and terrestrial signal strength meters. HORIZON now has repair and service centers in the UK, Germany, USA and India.

The acquisition of HORIZON fits perfectly into the specialisation in electronic instrumentaion of The IMC Group and strong brand identity. HORIZON is currently based only 30 minutes from IMC's UK HQ and will be quickly integrated into The IMC Group at its Letchworth facility to ensure the smoothest adoption takes place, and full assistance will be given to all employees to ensure the whole experience is as positive as possible.

IMC Group Managing Director Ian Robinson said: "IMC has doubled in size due to our focus on new technology as proactive designers and creators of innovative instrumentation products and this latest acquisition fits ideally into our future expansion plans and brings to the Group an opportunity to diversify with a new range of products in different markets, with the benefit of a strong brand name."

He added: "The IMC Group was formed and subsequently grown from a series of mergers and acquisitions and we shall be continuing that growth both organically and by further acquisitions," TELE-audiovision is preparing a more detailed Company Report on IMC for a later magazine issue.



## CHINA'S BEST FORUM

On Digital Video Broadcast WiredNetwork DVB-S
DVB-C TV-operators
VoIP-IPTV TV-advertising
Intelligent Television

OnlineVideo

TV Part TVP

Advertising

IntelligentTelevision

Roy TVP

Part TVP

Pay-TV BroadcastSecurity
DABHDchannelsLaunchCoverage
DTMB Television CMMB-network
DVB-T MonitoringSTB-Design
Internet
radioMDTV TV-Software
IPTV CPU Digital





#### Matrix is a mini PC that:

- \*based on powerful Freescale i.MX6,
- \*with open source and switchable operating systems,
- \*has great software support such as XBMC, VDR and Tvheadend.

#### Matrix

is not just any other mini PC, it has TBS tuner support!



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Quad Core





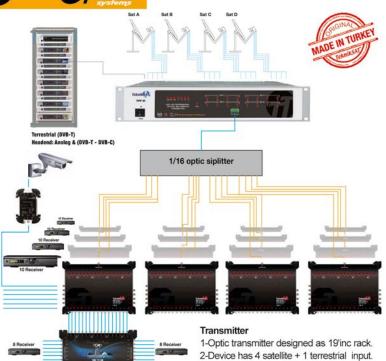






### The perfect mini PC you choose!

## iber Optical



# **LEKUIKSAL**

#### "First in the world"

FIBER OPTIC ONE CORE 4 SAT + 1 TERESTRIAL MULTSWITCH



TFM 41/10 C 1 Optic input (4 SAT +1 TERR.)

Available cascade models of this series.



4 SAT (16 IF + 1 RF) One core **TPF 41** 

1-Optic Multswitch has 1 optic input ,10 subs cribers output and 17 cascade signal output. 2-Max. Optic input is 2mW.

The device takes the signals from the input 5

and converting to optic signal and make for

4-Optic signal out power is 2 mW. Optic out signal can be transmitter max .32.

transmit with optic cable. 3-The Device fan cooling.

Multswitch

# CONTENTACE OF THE PROPERTY OF

- CONTENTS TOKYO2015 to provideplatform for content
- industry professionals to explore new possibilities in Japan
- dates: July 1-3, 2015 at Tokyo Big Sight
- a visitor: "Strong base to tap into the Japanese market"

Crowded exhibition halls at the CONTENTS TOKYO





It is a one of a kind show where one can negotiate business with a wide range of professionals from the content industry under one roof. From individual creators (700 creators are expected to be joining this year), licensors, production companies to technology/ service providers for content distribution and creation - experts from each stages of content creation will be able to inspire one another, share ideas and find solutions to create and materialize new content.

Previous show participants were able to make successful business during and after the show period. Some comments from visitors to the previous' year CON-TENTS TOKYO:

"We visited the show to look for superior production companies, and we were able to have meetings with five exhibitors. We are planning to make orders worth between USD 7,000 and USD 30,000 for production of programs and title CGs." JAPAN BROADCASTING CORPORATION (NHK)

"We showcased our content delivery solutions this year and had 200 business meetings with various content holders including TV stations, movie companies and publishers. We are expecting to gain orders amount to USD 500,000." Funward Ltd.

"This show helped us to expand our sale, because we could meet with many visitors from various industries in one exhibition. This year we had business discussions with many companies such as event companies, audio companies and video production companies. Now we are following up 5 deals and expecting to gain orders amount to USD 200,000." Fuji Xerox Co., Ltd.

"We were looking for a new operating system for broadcasting. Thus we visited CONTENT SOLUTIONS EXPO and discussed with some exhibitors. Now we are evaluating some products. If it is adopted, the order will be USD 100,000." J SPORTS CORP.

"We could find 6 strong leads who deal stationery, lifestyle accessories, and game software, etc. Also, we met potential agents who help us to develop business in the Japanese market." TEO JASMIN from 'Toe the bulldog' France

"About 400 people visited our booth and we found many potential new licensees. We also had meetings with already negotiating licensees to close the deal at the show, having face to face meetings with top-level persons of the company." THE LICENSING COMPANY exhibitor from the UK

Launched in 2013, CONTENTS TO-KYO has initially been focused on Japanese exhibits but the organiser, Reed Exhibitions Japan aims establish the show into the largest business platform in Asia and extend out further to the world.

"Japan is already well known for its creativity, high quality products/services but what we see in the media and in everyday life is only the tip of the iceberg. There are infinite numbers of creators, producers, licensors, distributors itching to share their new ideas and products. One of the reasons for the launch of the show in 2013 is to provide somewhere for such professionals to share and create business. As the freedom and transparency of digital content creation is expanding, we believe CONTENTS TOKYO will satisfy the industry's needs." says Keisuke Amano, Show Director of CONTENTS TOKYO, Reed Exhibitions Japan Ltd. He added "As well as providing a stage for such professionals from Japan to showcase their exhibits, we strongly encourage professionals from overseas to utilise the show too. The market conditions for entertainment/media, consumer/end user spending, merchandising licensed products is mature and strong in Japan. Thus by organising CONTENTS TOKYO, we aim to provide overseas players a strong base to tap into the Japanese market. This show is truly an interactive, entertaining, one of a kind show setting the trends for future contents business and I hope industry players would be able to enjoy it as well as having a very fruitful experience."

okyo www.TELE-audiovision.com — 09-10/2014 — TELE-audiovision International — 全球发行量最大的数字电视杂志 129

If you are interested in exhibiting contact Show Management Email: contes-eng@reedexpo.co.jp Tel: +81-3-3349-8519

Registration for free invitation tickets are available online at

www.contents-tokyo.jp/en/inv/ and the online show directory can be viewed at

www.contents-tokyo.jp/en/ eguide/

For further information, visit the official show website www.contents-tokyo.jp/en/



# The best source of information for TVRO fans in China





## www.ASIATVRO.com





### AE120 Mini Optical Power Meter

- · Pocket size
- · Cost-effective
- Power efficient: Up to 50 hours working time with 2 Ni-MH 5AA batteries
- Optical-detector: 3000µm Ge
- Wavelengths: 780nm~1700nm
- Input Range: -43dBm ~ +27dBm
- · Basic Accuracy: ±1% and ±0.05dB
- Full Range Accuracy: ±5% and ±0.21dB
- · Optical Connector: FC/SC



DEVISER

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No 8, Haitai Chuangxin 3 Road, Hi-Tech Industrial Development Area, Tianjin 300384, China Tel: +86-22-27682088, 27645003, ext 803 ■ Fax: +86-22-27645002 Http://www.devisertek.com ■ E-mail: overseasbiz@deviser.com.cn

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MPEG4-display and measuring

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Spectrum analysis

· Robust, impact-resistant housing

Splash-resistant keypad

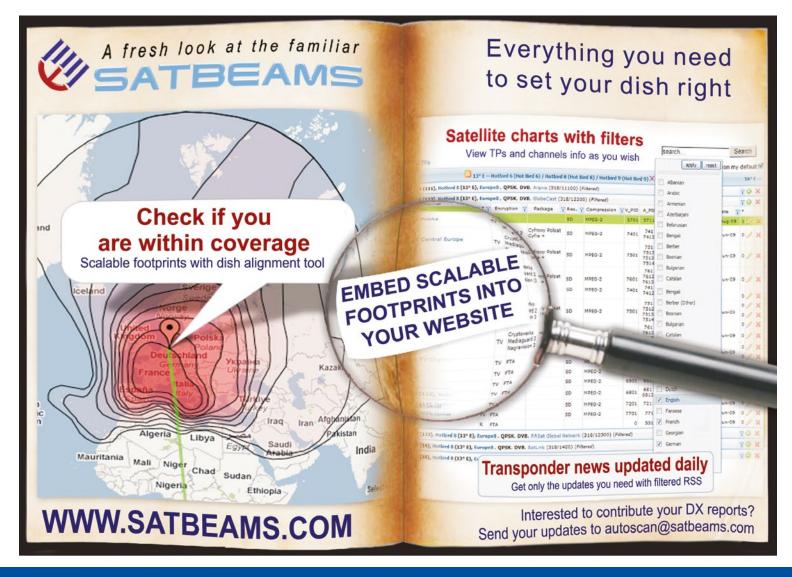
also available as Combo Analyzer SPAROS SAT HD DVB-C SPAROS SAT HD DVB-T





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### **Highlights**

#### **BluBox**

#### Professional Headend 8/16/24/32 x DVB-S/S2 into QAM

The proven BluBox headend system offers a high quality modulation from DVB-S/S2 into DVB-C (QAM).



#### Features:

- 19" Base Unit with redundant switchedmode power supply.
- · 4 slots for BluCard 8 or BluCard 4 CI cards.
- Modular extendable to up to 32 QAM transponders.
- LNB remote power with 14/18V + 22 kHz, DiSEqC 1.0 or SCR EN 50494.
- · Configuration and monitoring via LAN/IP.
- Complete processing of the transport streams possible.
- Each of up to 32 output channels can be placed individually in the spectrum.
- Two independent input ports per BluCard 8/4 CI.
- BluCard 4 CI with 4 CI slots for the extension with Pay-TV programs.

SPAUN electronic GmbH & Co. KG

Byk - Gulden - Str. 22 · 78224 Singen · Germany

Phone: +49 (0)7731-86 73-0 · Fax: +49 (0)7731-86 73-17 Email: info@spaun.de · www.spaun.com

# Decision Makers In Worldwide Digital TV Industry according to TELE-audiovision's Company Reports

Horizon, UK - Signal Meter Manufacture

☑ Manu audiovisio Distr Recommended ☑ Whol Shop ✓ Serv



The IMC Group was formed in 2007

- IMC specialises in electronic and mechanical instrumentation
- IMC's products are used all over the world

www.TELE-audiovision.com/TELE-audiovision-1409/eng/horizon.pdf





- HORIZON fits perfect into the range of different measurement products of IMC
- HORIZON products frequently win international Product Awards

#### Jonsa, Taiwan -Satellite Dish Manu

✓ Manu Distr Recommended Whol Shop Serv





CEO David Lin





monopoly



Chen

Marketing

www.TELE-audiovision.com/TELE-audiovision-1409/eng/jonsa.pdf



回線緩緩回

- exports satellite dishes worldwide for 25 years
- guarantees consistently high quality- even with extremely large volume production
- one of only few manufacturers of Ka band antennas

· produces all dish moulds in-house

· ready to manufacture special-purpose dishes, e.g. for multi-satellite reception with multi-LNB holder

www.TELE-audiovision.com/TELE-audiovision-1407/eng/propulsa.pdf

#### Propulsa, Argentina -

☑ Manu Distr Whol Shop





Juan Carlos Vegas



Mitra Tarnonsky

Expecting an expansion in activities due to the unblocking of the cable

www.TELE-audiovision.com/TELE-audiovision-1407/eng/telecontrol.pdf

#### Active in the satellite business since 1982

- Also exports out of the country

#### Telecontrol, Germany











Petra Bauersachs

- another channel and then back again

#### Patented system lets a TV viewer personalize the EPG

- Favorite and often-watched TV channels are automatically recom-
- When commercials appear, the system can automatically change to

guarantees very long service life of its dishes

- Currently only suitable for German-language TV channels
- Planned expansion into the international market

#### Hwadar, China - Fiberglass Dishe

☑ Manu Distr Whol Shop Serv



Wang Dang







Monica Wang

Sales Chief Engineer Zhong Zhiming





- one step at a time can lead to lasting success
- extraordinary quality thanks to the use of SMC fiberglass offset, PDA and segment dishes in all sizes can be produced

#### TELE System, Brazil - Logistics and

☑ Manu ☑ Distr Whol Shop Serv





GM Marco Szili



Engineering Jonathan Gregory



R&D Marcos

Santos





- largest supplier of complete reception systems for Brazilian pay TV
- technical know-how allows swift reaction to changing market require-
- perfectly equipped for packaging and shipping products in large
- · focus on Brazil as the largest market in South America



**DVBViewer, Germany - PC Card Softw** 

☑ Manu Distr

Whol

✓ Shop ✓ Serv





Marketing Bernd Hackbart



Christian Hackbart



www.TELE-audiovision.com/TELE-audiovision-1401/eng/dvbviewer.pdf





- Light version available at no cost since 2002
- Regular software updates

BSD, Brazil - Digital TV Internet Forun

Manu Judiovi Distr Recommended ☑ Whol ✓ Shop



Marcos Benni

Can receive all digital TV standards

· Preconfigured for UHDTV

www.TELE-audiovision.com/TELE-audiovision-1311/eng/bsd.pdf





- Largest Digital TV Internet forum in Brazil • Starting a new form of digital TV online shopping with a video shop
  - Also active in IPTV and IP Radio

Reaches 400,000 readers every month Elnet, Iceland - Distributo

Manu

☑ Distr

☑ Whol

√ Shop ✓ Serv

GM

Asmundur Einarsson



Magnus Eyjolfsson

www.TELE-audiovision.com/TELE-audiovision-1311/eng/elnet.pdf





- can supply everything from DVB transmitters to DVB receivers
- always adapts its large range of products to meet current market demands

Through continuous technological improvements FibreIRS can now

serve more than 4000 connections from a single LNB; for professional

- · believes in terrestrial and satellite DVB reception
- expects fibre-optic products to gain popularity in near future

GlobalInvacom, UK - Fibre Optic Production

Five million FibreIRS connections are expected by 2015

☑ Manu Distr Recommended Whol Shop Serv Invented the new satellite IF transmission technology via fibre optics



**Business** Development Gary Stafford

Founder

Sveinsson

Baldur



Technical Support Matt Presdee



www. TELE-audiovision. com/ TELE-audiovision-1311/eng/global invacom. pdf and the property of the propert

• 14 Multiple R&D Engineers are consistently working to improve the system

Northern Europe, North Africa and Southeast Asia are the largest FibreIRS markets

Oreind, Iceland - Distributo

applications it's several 10,000's

Manu

☑ Distr

√ Whol

☑ Ser\

Serv

☑ Manu

☑ Distr Whol

Shop

successful in the home electronics segment

all antenna installation material always in stock

www.TELE-audiovision.com/TELE-audiovision-1309/eng/oreind.pdf





- focus on IPTV for sustained business development
- sizable repair shop for home electronics equipment

Signal Anal

Deviser, China

☑ Manu ✓ Distr Recommended Whol Shop









Liu Lian

Marketing

I an

Haidong

Founder

Sigurour

Gunnarsson





Sales Jason

Wu





- new company headquarters streamlines production and administration at a single site
- expansion of a dedicated repair and logistics centre in and for Europe

• strong growth in export markets

state-of-the-art test benches for EMS and overvoltage protection

#### Dexin, China - Digital T

Specializes in professional tv head-end equipment

☑ Manu Distr Whol Shop Serv



Forcetech, China - IPT



GM Sun

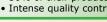
Sales

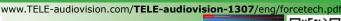
Ren

· 50% of their production is exported

• Intense quality controls

#### www.TELE-audiovision.com/TELE-audiovision-1307/eng/dexin.pdf









- Nan offering technically mature and fully-fledged IPTV solutions
- large Chinese movie provider as showcase customer and shareholder
- small-scale IPTV systems can be realised on a tight budget
- excellent video quality thanks to P2P technology

Tianditong, China - Antennas

☑ Manu Distr Whol Shop Serv





Bang Xian Peng

GM



Production Manager Bang Xing Peng







- uses state-of-the-art production machinery
- fully automatic quality control during the production process
- volume production of dish sizes from 45 to 180 cm

· ready for production of large quantities at short notice

· environmentally-friendly production according to international stand-

www.TELE-audiovision.com/TELE-audiovision-1305/eng/eldtec.pdf

#### **ELDTEC, Brasil - Dish, Antennas and Cables**

Distr Whol Shop





Cruz

- Concentration on just a few product series Also offers antennas for 2.4 and 5.8 GHz (WiFi)

#### Large market coverage within Brazil OEM production for other brand names

☑ Distr Whol Shop





**Product** Manager Wen Liang



Sales Manager Liao Wen

www.TELE-audiovision.com/TELE-audiovision-1305/eng/lianxing.pdf





using only top-quality materials

LIANXING, China - Satellit

individually checking each single component

- offering antennas for the C and Ku bands
- very successful on the Japanese market

#### Jiuzhou, China **Android Red**

☑ Manu Distr Recommended Whol Shop Serv





Product Manager Yongjun Zhang

www.TELE-audiovision.com/TELE-audiovision-1303/eng/ijuzhou.pdf





- Develops receivers with complex features
- Installation of Apps on a limited basis
- · Android system requires higher quality components that results in

higher costs

 Android is well-suited for private users but only limited for cable network operators

#### Sat-Link, China Signal Analyzers

Manu audiovisio Distr Recommended Whol Shop ☑ Serv



GM Qing





GuiHuang Huang

Sales



Han Guang Rong

R&D



- Only five years on the market
- Focusing on the signal analyzer product group
- Offers signal analyzers in four function classes and four price classes

• Brand new: combo analyzers for DVB-S2 and T2 with fast spectrum

☑ Manu Distr Whol Shop Serv



Jose Marcos Freire Martins



Jorge Alberto Ganuza

coo



Adilson da

Production

Silva





- Very good operational organization
- Concentration on professional satellite reception products
- In-house development department · IRD is their success product





Owner

#### www.TELE-audiovision.com/TELE-audiovision-1301/eng/cosmosat.pdf





- Learned everything about satellite reception on his own
- Installs head end stations for cable operators as well as community
- · Planning his own dish production
- Turned his hobby into his career

#### Horizon, UK - Signal Analyzo

☑ Distr Recommended Whol Shop



**Technical** Director Paul Hardcastle



Technical Manager Rob Sydee

www.TELE-audiovision.com/TELE-audiovision-1301/eng/horizon.pdf





- Numerous new products for new DVB sectors
- Exports to every country as an OEM and under their own name
- Focusing expansion to emerging countries such as South Africa and in

#### South America

Specializes in easy to use analyzers for installers

## The SES satellite fleet & coverage

# SES

#### your satellite company

SES, a world-leading satellite operator, providing reliable and secure satellite communications solutions to broadcast, telecom, corporate and government customers worldwide.









"We are pleased to showcase our fleet and coverage using the capabilities of the iPad, with 3D earth navigation and an augmented reality view. This tool illustrates the concept of satellites in space and coverage over the earth, as well as provides information that will enable our customers to learn more about our global fleet. With this new application, we are literally putting our satellite fleet in the hands of our customers."

(Niclas Friese Greene, Senior Vice President of Marketing and Corporate Communications, SES)



#### Satson, Belgium - HDMI

- ☑ Manu
- ☑ Distr
- ☑ Whol
- ☑ Shop
- ☑ Serv



Stefaan Cornelis

CEO



Technical Manager Didier Debey

#### www.TELE-audiovision.com/TELE-audiovision-1301/eng/satson.pdf





- Conquers the new HDMI distribution niche with their specialized products
- Conceives their own HDMI products

- Distribution of HDTV signals in private homes with HDMI Extenders
- Compatible with coaxial cable as well as with Ethernet cables

#### Antiference, UK - Antenn

- ☑ Distr
- Whol
- Shop Serv



Trevor Paintair



Arnold Boeijen

#### www.TELE-audiovision.com/TELE-satellite-1211/eng/antiference.pdf





- Manufacturing TV antennas since 1937
- Provides all the components needed for TV reception
- Expanding into HDMI distribution, as well as wireless solutions
- Expanding distribution network to the European market
- Offers their own products as OEM and private label

#### USATel, Brazil - Distributo

- ☑ Distr ☑ Whol



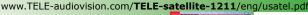
MD

Jose Manuel



**CFO** 

Allam Almughrabin







ŒĞ

- Imports all of its products from China
- Optimized assortment for digital TV needs in Brazil
- Sells and ships almost exclusively to end users
- Expanding into new business segments such as WLAN and IPTV www.TELE-audiovision.com/TELE-satellite-1209/eng/dms-international.pdf

#### DMS International, USA



☑ Whol ☑ Shop Serv

☑ Manu

Distr Whol

Shop



CEO

Tim Heinrichs



President

Vicky Heinrichs



• Innovative expansion of signal analyzer models for 2012

#### Always working enthusiastically on new products

- Special focus on signal analyzers for the semi-professional
- Enormous growth of the international market outside of North Amer-

Chairman GM



Chaofeng Ge



Sales



Serv **OEM** delivering exclusively to Wholesalers

Topsignal, China - Satellit

- Specializes in large production quantities
- Produces millions of satellite dishes and LNBs



- Majority of shipments go to South America
- Expanding product palette to include high-quality LNBs and VSAT

Manu audiovisi Distr Recommended Whol Shop



Owner Anna Xie

Zongbao

King





#### www.TELE-audiovision.com/TELE-satellite-1207/eng/dvbcn.com.pdf





- ☑ Serv Known by every digital TV company in China
- Provides all information regarding digital TV
- Expanding in the areas of recruitment and software development
- Focusing in future technologies such as OTT and IPTV
- Working on international expansion

#### China - Satellite Dish

☑ Manu Whol



CEO Wang Duc



Sales



- Large investment in Quality Assurance
- Expanding VSAT and Ka-Band production

- Opening a new fully automatic satellite dish production line
  - · Focusing on top-of-the-line Quality dishes

#### TSReader, USA - Analyzer Software

☑ Manu Distr Whol Shop Serv



Rod Hewitt www.TELE-audiovision.com/**TELE-satellite-1207/**eng/tsreader-rod-hewitt.pdf





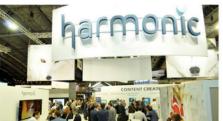
- Wrote one of the most successful stream reader programs
- Developed a technical solution to archive TV channels for 'Internet Archive
- Working on IPTV application programs
- Planning on a program for OCR recognition of BBC's EPG data

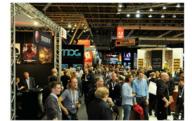
#### **RAI Amsterdam**

#### Conference 11-15 September | Exhibition 12-16 September











# IBC2014 Discover More

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Also, take advantage of a variety of extra special features included as part of your registration at no extra cost:

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IBC Content Everywhere Europe is the first in a series of exciting new events focusing on rich media production, devices, apps, digital marketing, social media, content personalisation, big data, cloud services, second screens, investment and much more

#### IBC Big Screen Experience

providing the perfect platform for manufacturer demonstrations, ground breaking screenings and insightful, free to attend conference sessions focusing on the latest developments in digital cinema

#### IBC Workflow Solutions

dedicated to file-based technologies and provides attendees with the opportunity to track the creation management journey

#### IBC Awards

celebrating the personalities and the organisations best demonstrating creativity, innovation and collaboration in our industry

#### Future Zone

a tantalising glimpse into the future of tomorrow's electronic media

#### www.ibc.org

#### Hypex, UK - Distributor

Manu

Whol Shop

Serv



www.TELE-audiovision.com/TELE-satellite-1205/eng/hypex-icecrypt-uk.pdf



- Ships large dishes to Great Britain and Europe
- Offers successful product lines from ICECRYPT and GLOBALINVACOM
- · Low prices thanks to minimal overhead costs · Consistent sales despite pricing pressure

#### Ricks Satellite, USA - Distributo

Manu 

M Whol ☑ Shop



Caylor



Owner

Rick Caylor

www.TELE-audiovision.com/TELE-satellite-1205/eng/ricks-satellite-azbox.pdf





- celebrates its 10th anniversary in 2012
- distributes AZBox's receivers in North America

- is an enthusiastic satellite feedhunter
- sees a good future for the FTA market in North America

#### StelliteGuys, USA - Intern

Manu audiovis Distr Recommended Whol Shop



Owner Scott Greczkowski

- Provides assistance with technical satellite reception questions Founded by Scott as a non-profit forum
- All advertising income is reinvested in better technology

www.TELE-audiovision.com/TELE-satellite-1205/eng/satelliteguys.us.pdf





 New is the use of the forums through Customer Service employees of digital TV companies

#### Sowell, China - IPTV Rece

☑ Manu Distr

☑ Serv





Eagle Chain



- Already operating the first IPTV project
- 3D planned for the future

- Integration of TV reception with IPTV
  - 60% of all Sowell receivers are already HD

#### Wadt, Brazil - Headends

- ☑ Manu
- ☑ Distr
- ☑ Whol Shop



Owner

Neide



Technical Director Joao Wadt

www.TELE-audiovision.com/TELE-satellite-1205/wadt-brazil.pdf

www.TELE-audiovision.com/TELE-satellite-1205/eng/sowell-iptv.pdf





- Involved in HF for more than 60 years
- New allocation of cable licenses in Brazil opens up huge opportunities for the company
- Specialized products for cable headends
- Only ships domestically

#### Jiuzhou, China

☑ Manu Distr Whol Shop Serv





Vice Marketing Jimmy Zhang





Richard

www.TELE-audiovision.com/TELE-satellite-1203/jiuzhou-ott.pd





- Market for OTT in Europe and North America
- Upgrade of older digital receivers possible with a software upgrade

#### Dedicated OTT development team Panodic, China

☑ Manu Whol Shop





Founder

You Zhen



Founder

Huang



CEO



· Cooperating with many license providers

Continuous product palette expansion

Marketing Manager





- Multiple quality control points before, during and after production
- Concentrating on digital TV products

#### Sortec, Slovakia - Distributors

Manu 

☑ Whol Shop



Ladislav Šmárik



Pavol Macko

GM



Alexander Záhončík



Sales





- One of the largest wholesalers in Slovakia
- Success through distribution of well-known, high-quality brand names

#### Turbosat, UK - Receiver

✓ Distr

☑ Whol Shop



Sales Chris Ward



Ray

Director Gargiulo

Technical

 Move to their own building in 2012 Active in new technologies such as fiber optics and IPTV

www.TELE-audiovision.com/TELE-satellite-1203/turbosat-icecrypt.pd

- 80,000 receivers a year
- produces Dolly Buster TV programming via HOTBIRD

#### ☑ Manu

- own receiver line ICECRYPT
- 50% of sales outside Great Britain Focus on receivers, CAM, SmartCards and LNBs

# COSMOSAT-DIGITAL Argentina/South America



# High Quality C-BandDishes

#### **BSD, Brazil - Internet Forum**

Distr



Whol Shop



Owner Bernardini

Owner

Tibor

Posta

Founder

Masaryk

Juraj

Tom

Haywood

Marketing

Manager

Othmar

**Fuchs** 

CEO

Zoltan

Korcsok

- Operates Brazil's largest digital TV website
- Engaged in the further education of digital TV antenna installers

#### www.TELE-audiovision.com/TELE-satellite-1201/bsd.pdf





- Planning his own IPTV channel all about digital technology
- · Living his dream with his own worldwide radio station

#### P-Sat, Hungary - Distributor

- ☑ Whol

☑ Serv

Shop



- Has its own customer magazine
- Created supermarket style store

#### www.TELE-audiovision.com/TELE-satellite-1201/p-sat.pdf





- Planning start of own branded TV services
- · Operates one of the most well-known web communities in Hungary

#### AB-COM, Slovakia

- ☑ Manu
- ✓ Distr ☑ Whol
- ☑ Shop
- ☑ Serv
- Particularly successful in Central Europe
- Products for different applications such as 3D and pay TV





Pavol

Marketing

Manager

Jeff Haas

сто

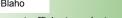
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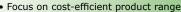
Pasztor

Michal

Grezo

Blaho





· Products optimised for individual applications

#### Applied Instruments, USA GM

- ☑ Manu
- ☑ Distr
- Whol Shop
- ☑ Serv
- The power of this company is its robust signal analyzers
- Company plans worldwide expansion with its internationally compatible analyzers

#### www.TELE-audiovision.com/TELE-satellite-1111/appliedinstruments.pdf Engineering







- Special test signal generators for receiver manufacturers
- Special attention to ergonomic operation
- Technical customer service an important highlight of the company

#### **Huber+Suhner, Switzerland**

- Distr
- Whol
- Shop
- ✓ Serv
- One of the leading fiber optic companies in the world
- New CLIK! System for easy installation
- New market segment that will make coaxial cable distribution systems

Now available: economical alternative with distribution systems start

www.TELE-audiovision.com/TELE-satellite-1111/huber+suhner.pdf

#### obsolete

ing with eight users

#### iPONT, Hungary - 3DT

- Manu Distr Whol
- Shop
- ☑ Serv
- iPONT's softwarevsolution converts 3D for use with auto-stereoscopic monitors
- 3D enjoyment without annoying glasses
- Potential for receiver manufacturers to expand their STB's to include

#### www.TELE-audiovision.com/TELE-satellite-1109/ipont.pdf

www.TELE-audiovision.com/TELE-satellite-1109/megasat.pdf





- Compatible with the variety of manufacturer auto-stereoscopic monitor solutions

#### Megasat, Germany - Receiver

- ☑ Distr
- ☑ Whol
- Shop
- 80% of distributed products come from in-house MEGASAT brand

WSInternational, USA

#### GM

Sven

- full range of satellite components

- special focus on self-aligning camping antennas distribution to the whole of Europe

#### Sapro, Czech - Receiver and Wholesal

- ☑ Manu ✓ Distr
- ☑ Whol
- Shop Serv

- Owner
  - Lubomír Proboszcz









Sales Jana Proboszczová





- Covers every price segment with its four brand names
- Starting expansion to surrounding countries

- ☑ Distr ☑ Whol

☑ Manu

Owner Robby





Sales

#### In-house design and production (assembly line)

• Produces 100,000 receivers per year





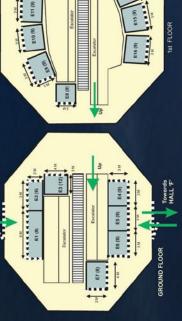
- Plan for Worldwide Expansion with Satellite Signal Analyzers
- Inexpensive Products Thanks to Efficient Production and Distribution

- Successful Young Company with Ambition Manufacturer of Satellite Components
- 142 TELE-audiovision International The World's Leading Digital TV Industry Publication 09-10/2014 www.TELE-audiovision.com



Compulsory Digitisation Declared by The Government Opens Up A Huge Market For Digital CATV Product Sales <u>Be There To Maximise Your Market Share</u>

HALL E - CRUSH HALI



Organised By:

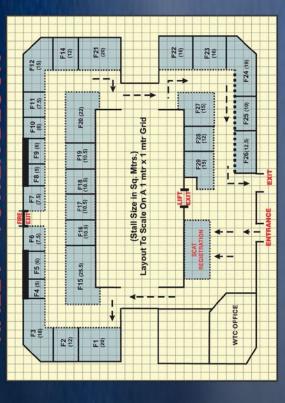
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# HALL F - TOWER BLOCK



### BYA, Algeria - Dishes and Receiver

☑ Manu

☑ Distr Whol Shop Serv



Slimane Ait Yala

GM

www.TELE-audiovision.com/TELE-satellite-1107/bya.pdf





**Boiingsat, China - LNB** 

Manu

Distr Whol Shop Serv



Haowen Chiang

Co-Owner Yunnjye

Jason

Chiang

• In the Works: LNB with Two Feed Rings



Bomare, Algeria - Receive

Large Sales Expansion in South America

Three Production Locations in Zhuhai/ China

Distr





Technical Manager Tewfik Lamrani

www.TELE-audiovision.com/TELE-satellite-1105/bomare.pdf





Prevail, China - Fibre Optics and

☑ Manu Distr

Whol Shop Serv



Sales

Necy-xu



Helen



Production Manager Ren Guorui

Very Active R&D Team





Substantially Increased Sales for 2011 Thanks to Rising Exports

Additional Factory Soon to be in Operation

Increased Number of Employees

Jiuzhou, China









Marketing Jimmy Zhang

www.TELE-audiovision.com/TELE-satellite-1103/jiuzhou.pdf





IPTV box production may reach 1 million units in 2011

Jiuzhou starts HbbTV boxes for Europe

· Big retailers about to launch into IPTV box sales

• Jiuzhou to attend all major exhibitions in 2011, 10 in all

Tenow, China - PC Cards

☑ Manu Distr Recommended Whol Shop Serv



Richard Zhang



Bob



Fric Deng



Founder James Liu





NetUP, Russia - IPTV

☑ Manu ☑ Distr

Whol Shop ☑ Serv



Co-Founder



Evgeniy Makeev



Konstantin Emelyanov





Tevii, Taiwan - PC Cards

☑ Manu

Whol Shop Serv



Founder Matthias

www.TELE-audiovision.com/TELE-satellite



Satbeams, Belgium - Soft

Recommended Whol



Founder Alexander Derjugin

www.TELE-audiovision.com/TELE-satellite-1011/satbeams.pd



**SmartWi, Denmark - Wireless** 

☑ Manu ☑ Whol Shop

Serv

✓ Serv



Founder Kurt Olesen



Technical Manager Jens Glad

www.TELE-audiovision.com/TELE-satellite-1011/smartwi.pdf





Spaun, Germany - Power

Distr Recommended Whol Shop



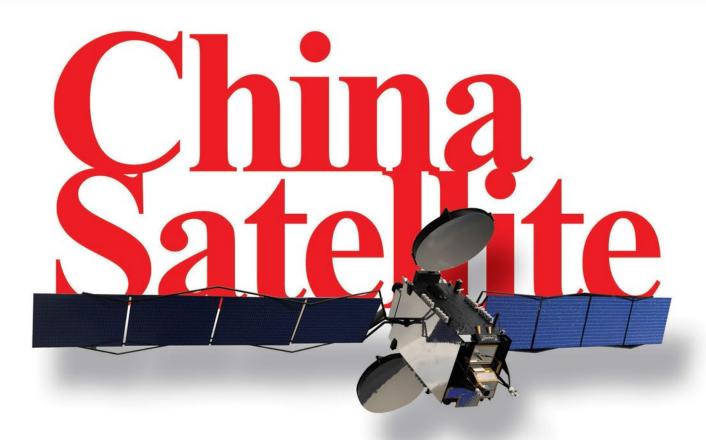


MD Kevin Spaun

www.TELE-audiovision.com/TELE-satellite-1011/spaun.pd







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-Your Portal to China Satellite Intelligence an



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Sales

Richard Cheng Li

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





回路

Kaifa, China - Receivers Manu Distr



Marketing Manager Jackie Yan

www.TELE-audiovision.com/TELE-satellite-1003/kaifa.pd





Skyworth, China - Receivers





Vice GM David Ken



**Technical** Manager Jack Zhang

www.TELE-audiovision.com/TELE-satellite-1003/skyworth.pd





Promax, Spain - Signal Analyze

☑ Manu Distr Whol Shop Serv

Serv

Whol

Shop

Serv



José Clotet

Founder



José-Maria Clotet

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





Infosat, Thailand - Dishe

☑ Manu Distr Whol Shop Serv

Serv



Founder Niran Tanopiroontham

www.TELE-audiovision.com/TELE-satellite-0907/infosat.pdf





Aluosat, China

☑ Whol ☑ Shop



Founder Luo Shigang



Sales Luo

www.TELE-audiovision.com/TELE-satellite-0905/aluosat.pd





MFC, USA - Filters

☑ Manu ☑ Distr Recommended Whol Shop Serv



Fahrenkrug

CEO



Sales Scott Parsell

Marketing Manager Sandy Nelepovitz



Nanoxx, Germany - Wholesal

✓ Distr ☑ Whol Shop Serv



Founder Marcel Hofbauer

Sales Daniel Sam

www.TELE-audiovision.com/TELE-satellite-0901/nanoxx.pd

www.TELE-audiovision.com/TELE-satellite-0903/mfc.pd





# IF "EXPECT THE UNEXPECTED" WEREN'T SO EXPECTED, WE'D SAY THAT'S EXACTLY WHAT TO EXPECT.

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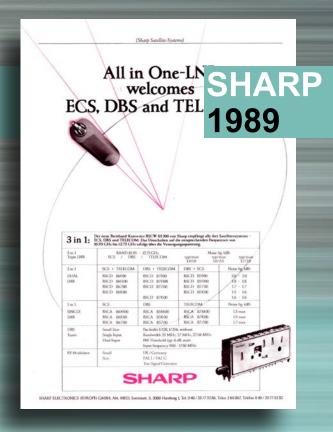
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These Companies Started Their International



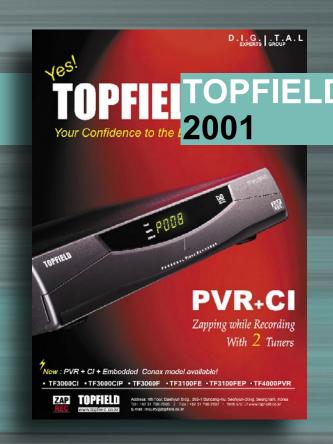






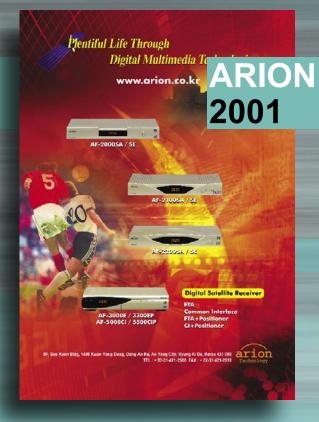
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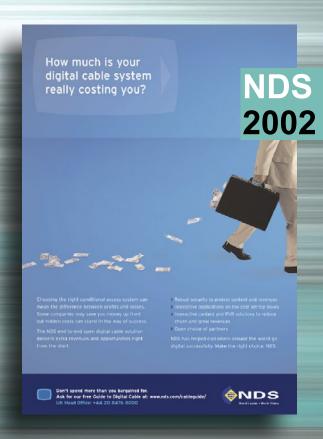






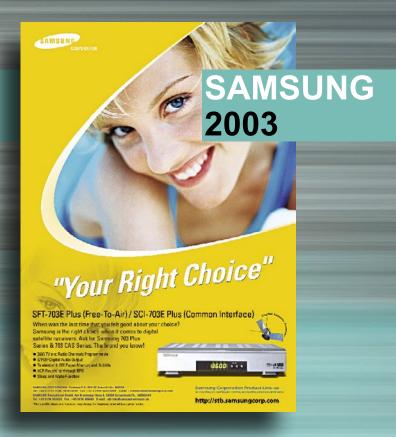
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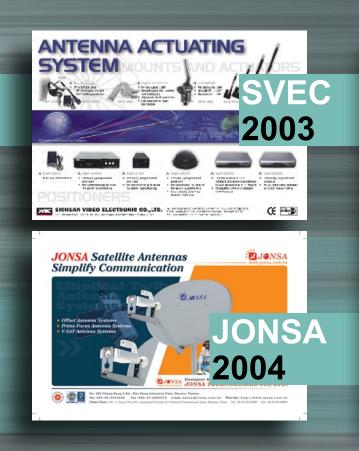


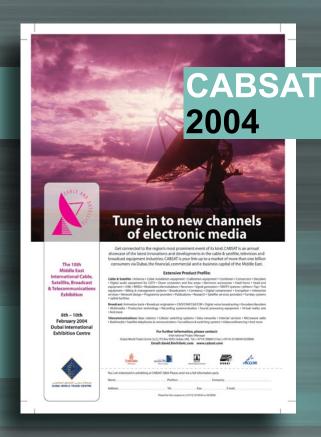


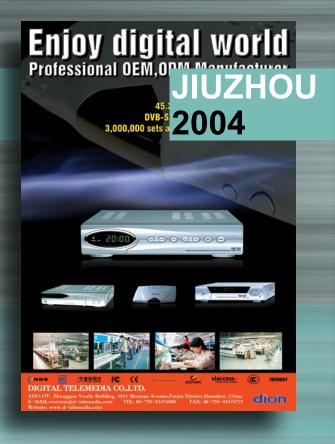


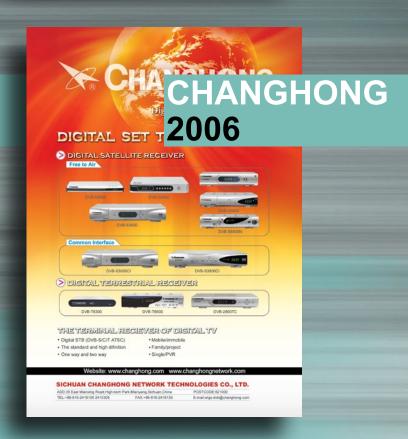
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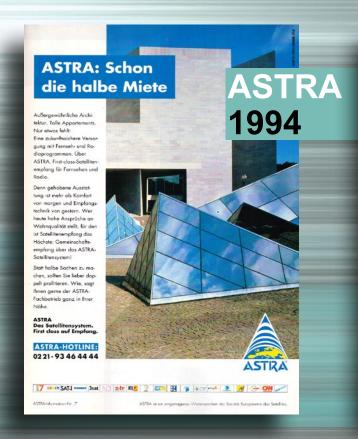


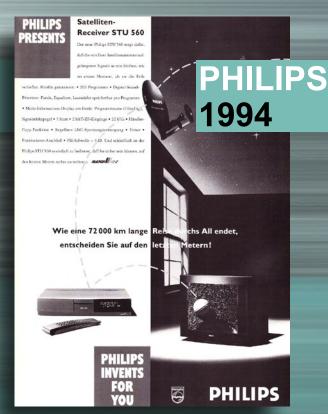




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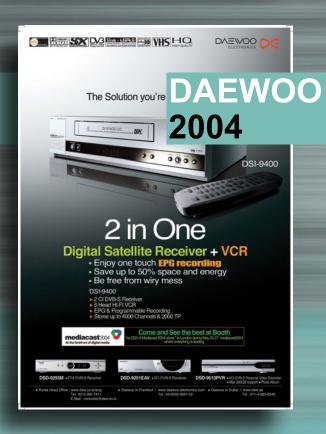


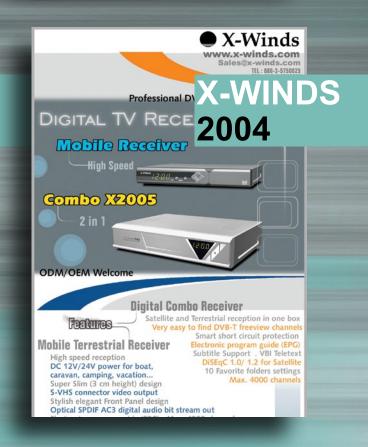
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## ISSN 0721-5444 TELE - audiovision Zeitschrift für UKW und Fernsehen Nr.24 September 1984 DM 4.80 Gipfelsender Radio C Montevideo &



#### Cable TV Box

Siemens presented a cable tv box. The box is to be inserted between the antenna socket and the tv and has its output on channel E2. The box receives all channels in the VHF and S1-S20 channels.



UKW-Sender

#### . und wie sie senden -Eine aktuelle Schweizer Lokalradioreise

Die Schweiz, rundfunkmäßig ein deutschsprachiges Klein-Amerika. TAV-Medienpolitik-Redakteur Dr. Helmut Simon, selbst Initiant des Kaufbeurer Lokalradios "Neue Welle Ostallgäu" und TAV-Redakteur Alexander Wiese tourten Anfang September zum zweiten Mal durch die schweizer Privatradioszene. In der Schweiz, da ist wenigstens was de tens was los.

#### Radio Aktuell, St. Gallen

Mitten im Zentrum gelegen, im 1.Stock uber einem Kino, modern, sachlich und freundlich eingerichtet, die Sonne hat Zugang.Seit Mai sendet Radio Aktuell, es versorgt ein Gebiet mit etwa 300.000 potentiellen Hörern. Das St. Galler Lo-kalradio ist wegen seiner exponierten geographischen Lage aber auch im nördlichen Vorarlberg, am Nordost-ufer des Bodensees und in einigen Be-reichen Oberschwabens zu hören, also schon so eine Art Dreiländerradio trotz der vergleichsweise kleinen Sen-derleistung von 300 Watt.

Der Sender wird von den ansässigen Zeitungen ("Ostschweiz") getragen, elf Festangestellte und an die 30 freie Mitarbeiter (25, sFr bekommt jeder pro Sendestunde) machen das Programm. Die Nachrichten, per Fernkopierer (Telefax) aus Basel schriftlich ge-liefert, und des gezene Nachber liefert, und das gesamte Nachtpro-gramm, kommen von Christian Heeb's Radio Basilisk. So bleiben an die 17 Stunden täg-lich, die Radio aktuell selbst be-streitet, kosten soll das um die 1 Mil-Ion Franken pro Jahr.

Radio Zürisee, Stäfa



- IELE-audiovision 24 1984

TELE-audiovision 24 1984

#### UKW-Sender

Verstreut im Gelände finden sich die Räumlichkeiten, zum Zürichsee hin die Verwaltung und Redaktion, auf der anderen Straßenseite die Studios und Nachrichtenredaktion. Die Schwierigkeiten, mit denen Zürisee-Chef Dr. Rene Bondt von Anfang an zu kämpfen hatte (schlechte Versorgung des zugeteilten Sendegebietes durch die PTT, Ressentiments der benachbarten Kantone, ländliche



Radio Zürisee, Stäfa. Geschäftsführer Dr. Re-ne Bondt im Reservestudio beim Bandschnei-

Struktur und dadurch geringeres Werbepotential), sind nicht geringer geworden. Ein zweiter UKW-Sender wurde zwar errichtet, aber mit so

wurde zwar errichtet, aber mit so geringer Leistung und auf einer Frequenz des SWF, daß er kaum eine Verbesserung brachte. Aber die Mannschaft gibt nicht auf. Einsparungen im Programm wie eine Reduzierung des Live-Angebots auf täglich nur noch zehn bis elf Stunden, Übernahme der DRS-Nachrichten und des "Nachtprograms, Verringerund des -Nachtprogramms, Verringer ung der Festangestellten (auf sieben Mitarbeiter) und eine größere Unter stützung durch freie Mitarbeiter aus der Zuhörerschaft verringerte schließlich den Etat auf etwa 900-000 schweizer Fränkli. Mehr auch



Radio Aktuell, St. Gallen. Jürg Bachmann, Ge-schäftsführer und Chefredaktor des Senders.

als zuvor konzentriert sich Radio Zürisee auf seine spezielle Hörer schaft, die eher ländlich geprägt ist. Mit einem sehr einfachen aber voll funktionstüchtigen mobilen Radio (Plattenspieler und Mischpulte in stabile Transportkoffer eingebaut) Studio präsentiert sich der Sender live auf Veranstaltungen und gewinnt so einen engeren Kon-



Radio Zürisee, Stäfa. Das mobile Sendestudio

Bericht aus London

#### Swinging Radio Skyline

Kaum war am 16.7.84 in Großbritannien ein neues Kommunikationsgesetz in Kraft getreten, dünnte sich die Londoner Piratenszene merklich aus, was nicht sehr verwundert, da nun mit der Beschlagnahme aller Geräte und Geldstrafen bis annähernd 8000,- DM gedroht wird.

Aus dem Äther verschwanden Sen-der wie London Weekend Radio, das nicht nur zum Wochenende Popmu-sik auf 92,5 MHz ausstrahlte, die Soul-Station JFM auf 102,8 Stereo sowie

verschiedene griechische und türkische Stationen über 103 MHz.

Trotz des hohen Risikos steckt nicht jeder seine Antenne in den Sand, drum fordern die hartnäckig verbliebenen Stationen ihre Hörer teilweise sonar zu jeder verbles. gar zu jeder vollen Stunde auf, an das zuständige Ministerium zu schreiben, um mit eigenen Worten die Notwendigkeit und Rechtmäßigkeit der frei-

en Sender zu beschreiben.
Am optimistischsten zeigt sich Horizon Radio auf 102,5 MHz Stereo mit einem 24-Stunden Soulprogramm, das im Gegensatz zu den vielen belgischen und französischen Sendern ohne Bandmaschine durchmoderiert wird. Allerdings kann es trotzdem wird. Allerdings kann es trotzdem dann und wann langweilig werden, wenn der Sprecher, wie z.B. Chris Steward, sich darauf beschränkt, schlaftrunken zehnminültge eintönige Soultitel anzusagen. Da reißt einen die Werbung schon eher vom Hocker, wobei besonders Konzertveranstalter, Schall-statengerhöfter und Klimanaligan. besonders Konzertveranstatter, Schall plattengeschäfte und Klimaanlagen das Rennen machen. Die Adresse für Zuschriften lautet: Horizon Radio \* Lexington Street \*

London W1.
Weit sprsamer geht es bei Alices's Restaurant, einer anderen Musiksta tion, zu. Die recht symphatisch kling-enden Sprecher spielen nur von Sams-

The Skyline Radio Reception Area



#### 212 mw/90-2 FM

#### community radio for south east London

tag 2200 bis Sonntag 0200 UTC ihre Rockmusik auf 94,4 MHz Mono, T-Shirts werden wie bei den anderen Stationen auch für weniger als fünf Pfund zugeschickt.

- TELE-audiovision 24 1984

#### - UKW-Sender -

Anschrift: Alices's Restaurant \* 1, St.Barnabas Road \* Woodford Green

Die einzige Station mit kulturellem lokalen Interesse heißt **Skyline Radio**. 18 Stunden täglich sendet sie ihren "Co-munity Service" für Südostlondon auf 90,2 MHz und Mittelwelle. Dazu gehören der lokale Stellenmarkt, die lokalen Lebensmittelpreise ebenso wie die örtlichen Sport-, Verkehrs- und Wet-ternachrichten, Jede Gruppe von Menschen soll ihre Anligen kundtun können, allerdings ist das Studio zu klein, um den Leuten auch selbst Zutritt zum Mikrophon zu schaffen. So ein umfassender, bürgernaher Service erfordert eine gesicherte Finanzierung durch Werbung, die jedoch auch nur lokalen Charakter hat und gerade die Unkos-

ten decken soll, also ohne Profitabsichten eingesetzt wird. Die Anzei-genpreise sind nach Sendezeiten ge-staffelt und die Produktion des Spots kann auch vom Sender selbst für 25 Pfund und mehr übernommen wer-den. Neben dem Service bietet Skyline Radio natürlich auch eine Men ge Unterhaltung an, die sich auf die verschiedenen "Shows" verteilt und musikalisch von Oldies, Pop und Rock bis Reggae, Soul und Jazz-Funk

reicht.
Anschrift: Skyline Radio \* 32,
High Street \* London SE25.
Außer diesen englischsprachigen
Stationen gehen zeitweise auch griechisch-, türkisch- und arabisch-spra chige on the air. Die weitere Duldung durch die Regierung ist allen ungewiß. Jochen Schemm

Skyline Radio 212 mw/90·2 FM COMMUNITY RADIO FOR SOUTH EAST LONDON

#### Kleinanzeigen

Nichtkommerzielle Kleinanzeigen sind für TAV-Abonnenten kostenlos, Eine vorbereitete Post karte ("Kurzmitteillung") ist im Mittelteil abgedruckt, Verkaufe KW-Empfänger Sony (CF-6500C, 2Std, gelaufen, NP: 478,- gegen Gebot, DX-Zeitschriften, Bücher, T-Shirts, Aufkleber etc zu verkaufen, Liste anfordern bei: Harald Denzel \*Carl-Ulrich-Straße 6 \* D-6070 Langen.

Suche gleichgesinnten der sind mit in der sind mit i

Suche gleichgesinnten, der sich wie ich mit dem Sammeln von Testbildern beschäftigt, vielleicht kann mir auch jemand Kostenlos seine Unterlagen überlassen, wenn neues Hobby, Vielleicht hat auch jemand alte Antennen fürs Zimmer, die er nicht mehr braucht, Zuschriften an: Peter Schultheis \* Weißenburger Straße 3 \* D-8836 Ellingen.

Schultheis \* Weißenburger Straße 3 \* D-8836 Ellingen.

Verkaufe 4 GHz-Bauteile, passiver Hohlleiter-Mischer 4 GHz/70MHz 100 DM, 4 GHz-Erreger

(Uberg, auf Koax) 70 DM, Bandpass (Breite 5 MHz) 50 DM, Oszillator (Röhrentechnik) 70 DM,

Abschlußwiderstände (Stecker) 0 – 5 GHz 20 DM, Dämpfungsglied 20 dB 10 DM, Umsetzer

K33 auf K12 25 DM, Bainer Bärmann \* Wachhausstraße 10 \* D-7500 Karlsvuhe 41

Verkaufe C 90 Cassette mit Monomitschnitten der spanischen Sender: R, Ibiza SER, R, Popular

de Ibiza, das deutschsprachige Touristenprogramm Pitiusas Int., R, Diario und span, Musik für

DM 10., Siegfried Heimbrock \* Dr, Isbruch Straße 25 \* D-4350 Recklinghausen.

Suche Mitschnitte deutschsprachiger FM-Privastationen weltweit (alt + neu) und öffentlich
rechtliche Sendeanstalten nur historische Aufnahmen, Biete Kostenersatz oder Tausch gegen

Mitschnitte Privatstationen Südtirol, Schweiz etc. W.Schiefele \* Postfach 48 \* D-8901 Diedorf.

Dallasgeschädigter TAV-Leser in der DDR sucht für, dallasologischer \* Studien und Recherchen Dallasgeschädigter TAV-Leser in der DDR sucht für "dallasologische" Studien und Recherchen jegliche Zeitschriftenausschnitte zum Thema "Alles über Dallas", auch aus dem nichtdeutschen Raum, Zuschriften bitte via TAV-Redaktion, Besten Dank,

Kreativer + erfahrener Rundfunkmoderator, Spezialgebiet Pop, Rock + Oldies, sücht verant-wortungsvolle Mitarbeit bei einem Sender, der auch Idealisten eine Chance gibt! Kontaktauf-nahme über TAV-Zentralanschrift.

TELE-audiovision 24 1984

#### - TV-Sender -

#### Rundfunk und Fernsehen in Amerika

#### RUGUA

TAV setzt seine Reihe fort, über die Mediensituation in Amerika zu berichten. Nach der ausführlichen Vorstellung Argentiniens (TAV-8/9 und 10) und Kolumbiens (TAV-16) sowie mehreren Fern-Blicken in die USA berichtet jetzt FERNANDO BENTANCOR direkt aus Montevideo über seine Heimat: URUGUAY

Das Fernsehen in Uruguay wird von zwei verschiedenen Einrichtungen betrieben, den privaten und den staat lichen, die privaten Stationen wollen selbstverständlich vorwiegend Gewinn erwirtschaften, die staatlichen Sender dagegen sollen/wollen informieren und bilden (educar).

Die ersten TV-Sendungen begannen in Uruguay im Jahre 1956. In den Jahren davor hatten die beiden größten Elektrogeschäfte, die "Casa Cardelino" und die "Casa Sapelli" schon damit begonnen, diese neue Erfindung be-kannt zu machen. Die beiden Geschäfkannt zu macnen. Die beiden Geschat-te stellten in ihre Schaufenster TV-Ge-räte, die das TV-Programm aus Buenos Aires, das schon seit 1951 sendete, mit einer "Multicanal" genannten Antenne empfingen. In den Nachmittagsstunden war der Empfang über die Meerenge durchaus akzeptabel. Auf diese Weise konnte man des Interesse an diesem konnte man das Interesse an diesem neuen Medium bei der Bevölkerung

Im Dezember 1956 war es dann so-weit, die ersten TV-Sendungen direkt aus Montevideo begannen. Es war die erste Station in Uruguay überhaupt, sie war von privaten Geldgebern finanziert worden und nannte sich .. Sociedad Anonima de Emisoras de Tele-vision Anexos" mit der Abkürzung SAETA. Gesendet wurde und wird noch heute auf Kanal A-10. Die Sendetechnik und die Tech-

niker bei der Inbetriebnahme stamm ten aus den USA. Untergebracht war diese erste Station in einem ehemaligen Warenlager. Das Programm war sehr viel live, mit aktuellen Informa-

tionssendungen und life Auftritten von Künstlern, die auf dem Weg nach Buenos Aires Zwischenstation in Montevideo gemacht hatten und von Canal 10 zu einem TV-Auftritt ge-beten wurden. Am Wochenende trumpfte man auf und bot einen "cinematografischen" Film, was ie desmal große Zuschauerzahlen brach-

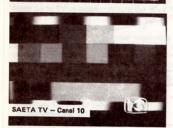


Die Hauptstraße Montevideos, die "Avenida 18 de Julio" im Zentrum der Hauptstadt, Im Hintergrund, nur noch schwach zu erkennen, auf einem älteren Gebäude die Sendeantenne des privaten Monte Carlo TV Canal 4.

- TELE-audiovision 24 1984

#### Testbild









#### Sender-Signet











von TV Communication

Kraftvoller Drehmotor für den weltweiten Sat-**Empfang** 

#### von Doebis

Neum neue Spiegel

#### von Siemens

Zukunftssichere Receiver für ASTRA und den Rest der Welt

#### von ITS

Zwei Satelliten mit einem Receiver

#### von Nordmende







#### Quattro for everybody

ABCOM from Leipzig presents a 22kHz switch box. This converts any 14/18V receiver which can receive the upper range of 11.700-12.800 GHz of any Quttro band LNB.









Vier brandneue Produkte stehen zur Auswahl: Siemens SAT-Receiver FR 105 plus neun Spiegelvarianten

## Siemens belebt den Satellitenmarkt

igentlich erwartet man es vom Hause StEMINS, stabler und qualitativ boch wertiger Aufbau gepaart mit innovati-wertiger Aufbau gepaart mit innovati-len der Berger vom der der der der Bedienkomfort. Um es vonveg, zu sagen, die Erwartungen wurden voll und ganz-erfüllt. Für den attraktiven Preis von DM 349,00, erhält der Klaufre einen Receiver mit vielen technischen Festures, wie zum it vielen technischen Features, wer zum eispiel einen erweiterten ngangsfrequenzbereich von 900 bis 2050 Hz, L.O.F-Umschaltung zwischen 9,75 nd 10 GHz, 22 kHz-Schaltfrequenz, fegener-Panda-Stereo, 198 Programm-

plätze...... Ein Blick auf den Receiver, der ein Design von schlichter Eleganz aufweist, äßt ein stabiles und dadurch schweres Gehäuse nicht vermuten, erst die Hebeprober beweist das Gegenteil.

Hier wurde auf verwirrende Spielereien verzichtet und der FR 105 präsentier sich in einer klanen und funktionellen Einleub gegen der der geschafte und der FR 105 präsentier sich der gegen geschafte gegen geschafte der gegen geschafte gegen der FR 100 präsentier der GR 100 präsentier de



Zwei neue Offsetantennen FR 751 und FR 705 für den optimalen ASTRA-Empfang und vielleicht auch etwas mehr...



DES ECHOSTAR SR-5700 IRD MIT SATTRACK

ERSCHWINGLICH, HOHE QUALITÄT; SATELLITEN FERNSEHEN AM BESTEN!

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Speziell für den expandierenden europäischen und skandinavischen Markt wurde der SR-5700 entwickelt. Er bietet Ihnen endloses Vergnügen an einer Vielzahl interessanter Film-, Sport-, Nachrichtenund Musik-Programme. Sie können bis zu 250 Programme speichern und jeweils 10 Favorisierte Video- und Audio-Programme von bis zu 24 Satelliten bestimmen.

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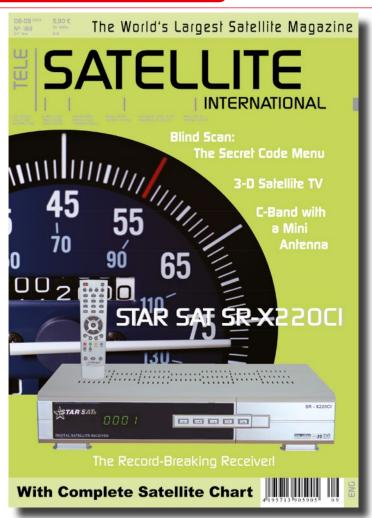
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EchoStar International Corporation European Division Schullenburglaan 5a, 7604 BJ Almelo, Die Niederlande Tel: (31) 546 815122 Fax: (31) 546 844691



Ab 1.7.94 neue Anschrift: Achtung! HIGH-TECH FÜR JEDERMANN Programm-Auszug: Receiver: RECEIVET:
Conding STR 312, 2 x 27, 2204-to-Technik
Gunding STR 312, 2 x 27, 2204-to-Technik
Annatad STR 310 (Euporti)
Annatad STR 310 (Euporti)
Annatad STR 300, 1984.
Annatad STR 300, 2 Tillinge STR 311, 1984.
Annatad STR 300, 19 LNB: LND.
Northan Riecom LNB 7wn
LS 0.708
LS 0.708
Their LNB von 10.7 + 11.6 GHz
ASTRA LNB 10.7 + 11.6 GHz
ASTRA LNB 10.7 + 11.6 GHz
ASTRA LNB 10.7 + 11.6 GHz
LNB Confinental Microwen 1 2 dB
UNB Confinental Microwen 1 2 dB
Ousdrohn AND LNB Commission LNB Confinental Microwen 1 2 dB
UNB Confinental Microwen 1 2 dB
UNB Confinental Microwen 1 2 dB
UNB Confinent LNB UNB 10.7 + 11.8 u. 11.7 + 12.8 GHz, 1.0 dB
TWING LNB Germin , 2 x H / V
Twin-LNB Germin , 2 x H / V Kabel & Zubehör: Positionierer: NTENNEN: 
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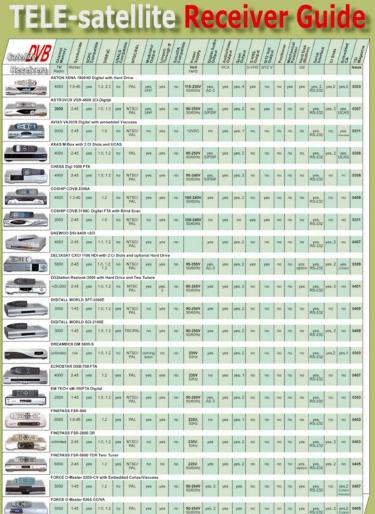


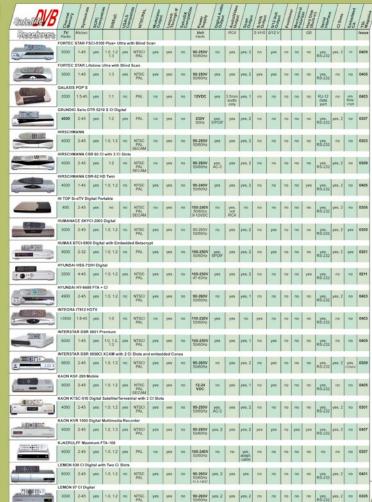




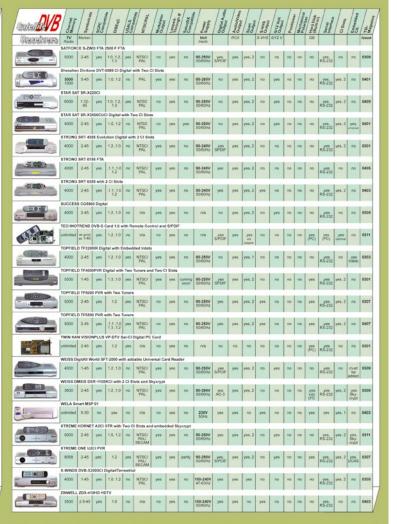








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sate if the B	Chambel	Symbolism	SCPC	DISEGE	Compa	NTSCPAL	Medulator Outpot	Through	Sattobx	Power Park	Digital Assisto	Austral Video	Sear	S-VHS Output	Outpet Outpet	Position	Machanical Polarization	Hand Disk	Serial	CI Silons	Embedded CA	Magazine
Receivers	TV Radio	Ma/sec								Volt Hertz		RCA		S-VHS	0/12 V			GB				leave
OHEC.	MEDIACI 3000	2-30	yes	10,12	no	NTSC PAL	yes	yes	no	90-250V 50/50Hz	no	yes	yes, 2	no	yes.	no	yes	no	yes. RS-232	no.	no	0303
	MEDIACE 3000	2-30	920 Dig yes	1.0, 1.2	no CI	NTSC/ PAL	yes	yes	no	229-240V 50Hz	no	yes	yes, fore Version	yes	no	no	mo	no	yes. R5-232	yes, 2	no	0311
	METAWA ≻5000	2-45	yes	1.0.12	yes	NTSC/ PAL	yes	yes	yes	90-260V 50/50Hz	yes	yes	yes. 2	no	no	no	no	no	yes RS-232	yes. 2	yes, court	0407
	4000	2-45	yes	1.0, 1.2	no	NTSC/ PAL	no	yes	yes	90-250V 50/50Hz	yes. S/PDIF	yes	yes, 2	yes	00	no	no	no	yes. RS-232	yes, 2	no	0307
•	4000	2-45	yes	10.12	no	NTSC PAL	yes	yes	no	90-264V 50/50Hz	yes	yes	yes, 2	no	no	no	mo	yes, via USB	yes. RS-232	no	no	0405
	4000	2-45	yes	1.2	no	NTSC/ PAL	yes	yes	no	90-264V 50/60Hz	ho	yes	yes, 2	no	60	no	20	yes, via USB	yes. RS-232	no	yes, Euro- over	0409
	A000	2-45	yes	10,12	no	NTSC/ PAL	yes	yes	no	90-264V 50/50Hz	yes	yes	yes, 2	no	no	no	no	00	yes. RS-232	yes, 2	yes, Euro- mpt	0403
	4000	2-31	yes	1.0, 1.2	no	NTSC/ PAL	yes. UHF	yes	no	90-245V 50/50Hz	yes, 2 S/POF	yes	yes, 2	no	yes	no	mo .	no	yes. RS-232	no	yes, cover	0307
1	3000	2-45	yes	5 with Ha 1.0, 1.2	no	PAL	no	yes	no	110-240V 50/60Hz	yes, SPOIF	yes.	yes, 2	no	no	no	no	no	yes. RS-232	yes, 1	yes, court	0401
	4000	1-45	yes	1.2	na	NTSC/ PAL	yes	yes	no	95-240V 50/60Hz	Ase.	yes	yes, 2	no	no	no	mo	no	R\$-232	yes. 2	yes, VICS	0407
	4000	1-45	yes	1.0, 1.2	no	NTSC PAL	yes	yes	no	90-240V 50/50Hz	yes	yes	yes, 2	no	no	no	no	yes	yes. R5-232	yes. 2	mo	0303
	3500	2-45	yes	1.2	no	NTSC/ PAL	yes	yes	no	90-275V 50/50Hz	Xes.	yes	yes. 2	no	no	no	no	90	ves. R5-232	no	no	0301
	4000 PANSAT	2-45	yes	1.2	yes	NTSC/ PAL	no	yes	100	110-240V 50/50Hz	yes.	yes	yes, 2	no	no	no	mo	00	PS-232	no	no	0305
	3000	1-45	yes	1.3	yes	NTSC/ PAL	yes	yes	no	90-250V 50/50Hz	yes	yes	no	yes	yes	no	yes	no	yes. RS-232	no	no	0407
	4000	2.45	yes	1.0, 1.1, 1.2 VD, CD, 8	yes	NTSC PAL SECAM	no	20	no	100-242V 50/60Hz	no	yes	yes, 2	no	no	no	no	no	yes. RS-232	no	no	0405
	5000 POWTEK	1-45	yes	10, 12	na	NTSC PAL SECAM	no	yes	no	7	yes	yes	yes, 2	yes	no	no	no	no	yes. R5-232	yes, 2	no	0305
. 0	3000 RADIX D	2-45	yes	10.12	no	NTSC PAL SECAM	yes	yes	no	90-250V 50/60Hz	no	yes	yes. 2	no	no	no	no	no	RS-232	no	no	0403
	3000	1-45	yes	1.0, 1.2 (tal FTA v	no	PAL	no	yes	yes	95-264V 50/60	Xes.	yes	yes, 2.	no	no	no	no	no	yes. RS-232	no	900	0401
	3600 SAMSUN	2-45	yes	10.12	yes.	NTSC PAL	no	yes	no	180-250V 50/60Hz	yes	yes	yes, 2	no	no	no	mo	no	PS-232	no	no	0401
	4000 SATELCO	2-45	yes	1.0, 1.2	no	NTSC. PAL	yes. UHF		no	90-245V 50-60Hz	yes	yes	yes, 2	yes	no	no	mo	no	yes. RS-232	yes. 2	yes,	0307
	unimited	0.552(8.0)	yes	1.0	no	n/a	nla	no	no	12VOC	no	no	no	no	no	no	no	(PC)	yes (PC)	no	no	0303



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#	1409	1411	1501	1503		
Editorial Deadline	27 June 2014	29 August 2014	31 October 2014	26 December 2014		
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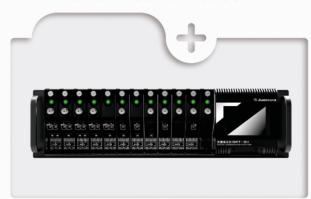




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