

since 1981

Read by
350000
PROFESSIONALS
Worldwide

B 9318 E

**Satellite
OTT
Smart TV
IP/WebTV
Streaming**

audiovision

INTERNATIONAL 09-10 2013

Test Report
SPAUN
Multiswitch
Multiplies the Capacity
of Cable Systems



Test Report
AUDOLICI
Valeriy Kuchkovskiy
Uses Old-Fashioned
Tube Technology
in His Outstanding
Amplifiers



Test Report
HORIZON
Paul Pickering
Gives Cable
Operators The
Perfect Tool
for Professional
Installations

also:
**MKTECH: A Perfect
Receiver for South
America**
**CHANGHONG: Goes
Out of Its Way to
Help Victims**
**SPEEDCAST: The
One-Stop Site for
Uplinks in South
America**
**TIVI+: A Remote
That Acts Like a TV**



TELE
audiovision
AWARD 09-10/2013

Test Report
DEVISER S7000

Analyzes Any TV Signal in the World

www.TELE-audiovision.com

Over a decade of experience in digital set top boxes

we have models for worldwide market



HD DVB-S2 with CI MPEG-4/H.264

HDS-275SCI

- USB PVR and Timeshift Ready
- HD MPEG-4 DVB-S2 with CI slot
- Media playback: MP3, JPEG, AVI (Divx), MKV
- Up to 5000 channels
- HD output: 576i/720P/1080P
- 15 Days EPG (need program support)
- EUP

- DVB-T/T2
- DVB-C
- ISDB-T
- DVB-S2+DVB-T
- HD DVB-T IP
- DVB-S/S2
- HD DVB-T+CONAX
- ISDB-T+DVB-T
- IP VOD BOX
- Mobile Device



DVB-S FTA SDS-552ANP

- SD MPEG2 DVB-S FTA version
- USB PVR and time shift ready
- Media playback: OGG/JPEG/BMP/MPGE PS/MPEG4
- UP to 5000 channels
- Advanced Automatic and blind scan
- NIT Network Search compliant



DVB-T2 HDT-129N

- Full HD DVB-T2 compliant
- Media playback: MP3, WMA, FLAC, JPG, JPEG, MPG, MPEG, VOB, AVI, TS, TRP, M2T, M2TS, MP4, MKV, MOV, DIVX*
- UP to 5000 channels



OTT Android TV Box IV3118

- Online Live TV and VOD easily
- Local media through USB or micro SD card, even HDD.
- Applications like Youtube/Facebook/Skype/Netflix
- Applications for contents and services from customized servers
- Applications (diverse like games) from Play Store or other Android markets
- Quick accesses to websites by powerful browser
- Multi-language OSD, support 1080p full HD video decoding
- Compatible with MJPEG, MPEG-1, MPEG-2, MEPEG-4 SP, MEPEG-4 ASP, MEPEG-4 AVC (H.264), DIVX, H.264, WMV9, VC-1, RMVB, WebM, MP3, WMA, OGG, AAC, APE.
- CPU: ARM Dual Core Cortex A9 1.5GHz
- 1GB DDRIII SDRAM
- 4GB NAND FLASH
- Android 4.2 OS
- 802.11 b/g/n (Built-in WiFi module)
- RJ45 ethernet jack (Internet connection compatible PPPOE ADSL)
- HDMI/AV/Coaxial output
- External dual USB2.0 ports
- Micro SD card slot
- 2.4GHz wireless airmouse/keyboard (optional)



DVB-C HD MPEG-4/H.264 With CA STB

PCH208-B1

- CA Interface: NDS, Verimatrix, Nova Super TV, etc.
- Video Decode:
 - SD Formats: MPEG-2 MP@ML;
 - MPEG-4 Part 10 MP@ Level 3.0
 - HD Formats: MPEG-2 MP@ML and MP@HL;
 - MPEG-4 Part 10 MP@ Level 3.0/4.0 and HP@Level 3.0/4.0*
- Audio Decode: Two channel MPEG-1 layers I/II/III (ISO/IEC 11172-3); Two channel MPEG-2 (ISO/IEC 13818-3); Dolby Digital AC-3; MPEG-4 AAC
- 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
- Audio setting: Multiple audio language selection
- OTA Over the air software download
- Tuner Type DVB-C Range (32-1002MHz)
- SDRAM Memory 256MBytes DDR3
- Flash Memory 4MByte SPI Flash + 128MByte NAND
- NVRAM(EEPROM) Emulated on NNOR Flash
- Video out composite: CVBS X 1 HDMI 1.4a
- Audio output: Stereo Audio R/L X 1, S/PDIF
- Front panel LED: Red/Green
- External adapter: DC 12V 1A



Panodic Electric (ShenZhen) Limited

High Tech Office: 12/F, Greentech Building, Keji.C. Road 3rd Hi-Tech Industrial Park, Nanshan District, Shenzhen, P.R.China
Factory: C/D Block, Zhengchangda Ind. Park, Jian'an Road, Tangwei, Fu Yong, Baoan Dist., Shenzhen, China
 Tel: +86-755-2977 3901/2977 3996 Fax: +86-755-8659 0225 Email: market@micoelectric.com

Panodic Electric (Hong Kong) Limited

Headquarter: Unit 1703A, 17/F, Nanyang Plaza, 57 Hung To Road, Kwun Tong, Kowloon, Hong Kong
 Tel: +852 2951 4538 Fax: +852 2951 4738 Email: market@micoelectric.com
www.panodic.com



**TELE-audiovision
International**

**The World's Largest
Digital TV Trade Magazine**

since 1981

Alexander Wiese
Publisher

alex@tavmag.com
HQ in Munich, Germany

Dear Readers,

It has never been easier to measure digital signals. For the past three years we've seen how the availability of signal analyzers has gotten larger and larger. At first it was just modified digital TV receivers that were placed in a housing that made it look like a signal analyzer.

But it's not like that today anymore! The newest signal analyzers are real analyzers that show real results. Even operating these analyzers has become easier and easier and, even more surprising, their measurement precision has steadily improved while at the same time the price for these signal analyzers has gotten lower and lower. Is there any excuse not to measure digital signals anymore? The answer is simply: no.

At the same time though the requirements are increasing for everyone who gets involved with digital TV installations. Since there are no longer any excuses to install something correctly and to provide the installation with a formal test protocol, every installer and system designer must pay much closer attention than ever before to correct values. Whatever you plan and install has to be done much more carefully now.

This is a nice consequence from the increasing number of signal analyzers that now more and more digital TV professionals are able to afford. The quality of their work will increase as a result. This is also necessary, the complexity of today's technology requires it. It's a parallel technological development: many of today's digital TV technologies are being utilized in the best possible way in today's signal analyzers.

In every issue of TELE-audiovision we present to you an updated overview of all the currently available signal analyzers. Take a look inside this issue starting on page 128. Even if you already have a signal analyzer, there are a lot of new things to discover and more often than not these new analyzers are quite affordable.

Alexander Wiese

Editor-in-Chief TELE-audiovision International



TELE
audiovision

Address

TELE-audiovision International, PO Box 1234, 85766 Munich-Ufg, GERMANY/EUROPE

Editor-in-Chief

Alexander Wiese, alex@tavmag.com

Published by

TELE-audiovision Magazine GmbH, Aschheimer Weg 19, 85774 Unterfoehring, GERMANY/EUROPE

Design

Németi Barna Attila

Advertising

www.TELE-audiovision.com/ads/ or email to alex@tavmag.com

Hard Copy Subscription

www.TELE-audiovision.com/subscription/

Hard Copy Subscription by Courier Service

Send Order to subscription@tavmag.com

Copyright © 2013 by TELE-audiovision **ISSN** 2195-5433

TELE-satellite was established in 1981 and today is the oldest, largest and most-read digital tv trade magazine in the world. TELE-satellite is seen by more than 350,000 digital tv professionals around the world and is available both in printed form and online.

www.TELE-audiovision.com

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



Discover Your Smart Life



Tiviar



Available on the App Store

ANDROID APP ON Google play

Smart & handy TV controller

α^+

Full HD Triple-tuner Hybrid Smart STB

Web Application (Online TV, Web Browsing, Weather forecast, and more)
Simultaneously Recording of 3 Services and Watch 2 others(PIP)

- Twin DVB-S2 and One DVB-T/C/T2 Compliant
- Recording & Playback with internal SATA, external eSATA and USB 2.0 Devices
- Event Recording by EPG
- 4X USB 2.0 Host ports (MP3 Player & JPEG Viewer)
- 10/100/1000 Base Tx Ethernet port
- Support Internal 2.5 inch HDD (Optional)
- Blind scan
- Multi-LNB Controlled by DiSEqC Control Version 1.0, 1.1, 1.2 and USALS
- Multi-Satellite Search
- User friendly stylish icon menu
- Dual HD PIP(Picture in Picture)

HbbTV

SYNC

Player+

CI+

Linux
EMBEDDED

UNICABLE

WLAN
Google included

INTERNET
TV+

WEBRADIO

Tiviar air

FULL HD PIP

4X USB

EX-UPGRADE

sales@tiviar.com / www.tiviar.com

BREAKING NEWS!

Stay Tuned for Live Reports In This TELE-audiovision Iss

Feature
Self-made IPTV
Ermesinde, Portugal, Europe

Test Report
HORIZON
Harlow, UK, Europe

Test Report
SPAUN
Singen, Germany, Europe

Test Report
AUDOLICI
Porto, Portugal, Europe

Company Report
ÖREIND
Reykjavik, Iceland

Test Report
DRAGONSAT
London, UK, Europe

Company Report
SPEEDCAST
Barueri, Brazil, South America

09-10/2013

The World's Largest Digital TV Trade Magazine
since 1991
TELE
audiovision
INTERNATIONAL
Satellite
Smart TV
IP/WebTV
Streaming

**All Reports in TELE-audiovision
are Original and Exclusive!**

from Around the World!

Issue We Report Directly From

Feature

UHDTV

Zielona Gora, Poland, Europe

Company Report

CHANGHONG

Mianyang, Sichuan, China

Software Report

Air Tivi+

Vienna, Austria, Europe

Test Report

DEVISER

Tianjin, China

Test Report

MKTECH

Zhuhai, Guangdong, China

Read TELE-audiovision Magazine 09-10/2013
on Laptop, Tablet or Smartphone for FREE here:

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

TELE-audiovision Magazine is Also Available in All Major Languages

Click Language Link on Main Website

www.TELE-audiovision.com

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



DEVISER S7000
Multi Norm
Professional
Digital TV Signal
Analyzer 18



MKTECH IS1-19HD
Satellite and Terrestrial
PVR Receiver 48



**HORIZON
HD-CM+**
DVB-C Signal
Meter 62



DRAGONSAT DS-5500HD
HDTV Satellite Receiver..... 72



**SPAUN SUS 5581/33 NF
LEGACY & SUS 5581 F**
Cascadable SCR
Multiswitches 88



AIR TIVI+
Tiviar
App..... 98

AUDOLICI A1/25
Hi-Fi audio amplifier 104



**Global Readership of
TELE-audiovision Magazine**..... 12

AWARD Winning:
Digital Receivers of 21st Century 118

AWARD Winning:
Signal Analyzers of 21st Century 128

AWARD Winning:
IPTV/WebTV Receivers
of 21st Century 136

AWARD Winning:
The Best Headend Equipment
of 21st Century 142

Feature:
Self-made IPTV - Part 3..... 148

Feature:
Ultra High Definition Television 162

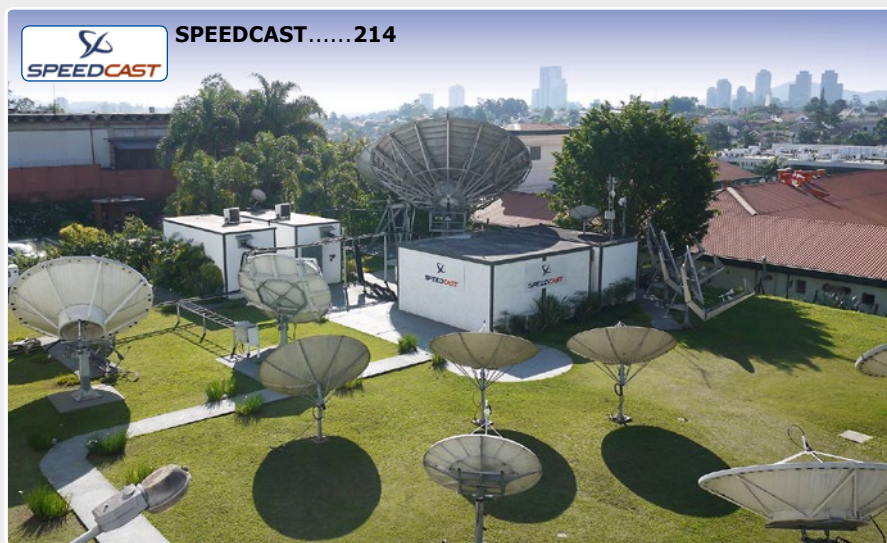
UHDTV 162



ÖREIND 188



CHANGHONG ... 196



SPEEDCAST 214

Digital Technology:
New Developments 166

Vitor's Workshop Overview:
How to get the most
out of technology 172

Company Report:
Digital TV Wholesaler
ÖREIND, Iceland 188

Company Report:
Satellite Receiver Manufacturer
CHANGHONG, China 196

Global Company Directory:
The Decision Makers in
Worldwide Digital TV Industry 202

Company Report:
Satellite Uplink
SPEEDCAST, Brazil 214

Uplink Overview:
Best Satellite Uplink
Earth Stations 230

TELE-audiovision History:
TELE-audiovision in 1983..... 240

TELE-audiovision History:
TELE-audiovision in 1993..... 242

TELE-audiovision History:
TELE-audiovision in 2003..... 244

News:
Ultra High Definition HDTV 248

**WebTV Providers
Around the World**..... 250

DTT of the World 252

Satellites of the World 254

CHANGHONG

Professional in STB

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



openTV



NDS Core



m@p

SICHUAN CHANGHONG NETWORK TECHNOLOGIES CO.,LTD

ADD:35,East Mianxing Road,High-tech Park,Mianyang,Sichuan,China

Tel:0086-816-2410305 Fax:0086-816-2417040 Zipcode:621000

Http://www.changhong-network.com

E-mail:stbinfo@changhong.com

ALUOSAT	China	127	INTERBEE2013.....	Japan	179
AMIKOSTB.....	Hungary.....	91	ITU2013	Switzerland	153, 183
ASIATVRO	China	209	JIUZHOU	China	260
AUDOLICI	Portugal.....	79	JONSA	Taiwan	33
AZBOX.....	Portugal.....	259	KWS	Germany	83
AZURESHINE.....	Taiwan	57	LIANXING	China	27
B-MAGA.....	Japan	193	MFC	USA.....	217
BSD	Brazil	207	MICO	China	2
BT.....	UK.....	235	MKTECH	China	69
CES2014.....	USA.....	151	NABSHOW2014	USA.....	159
CHANGHONG.....	China	9	PANODIC.....	China	2
CHINABROADCASTING	China	211	PERFECTVISION	USA.....	67
CONVERGENCEINDIA2014	India	177	ROGETECH	China	31
COSMOSAT	Argentina.....	115	SATBEAMS.....	Belgium	211
DEVISER	China	75, 219	SATELLITEGUYS	USA.....	207
DEKTEC	Netherlands	103	SAT-LINK	China	51
DEXIN	China	71	SATSON.....	Belgium	97
DIGITALTELEMEDIA	China	260	SCATINDIA2013.....	India	161
DISHPOINTER.....	UK.....	205	SES.....	Luxembourg	113
DISHTUNING.....	India	213	SICHUANJIUZHOU.....	China	260
DVBCN.....	China	209	SKYWORTH	China	11
ECEBE2013.....	Hungary.....	165	SOWELL.....	China	25
EMP.....	Czech	229	SPAUN	Germany .. 205, 217, 223,229	
ETRI.....	Korea	201	SPAUN ELECTRONIC	Germany	39
FORCETECH.....	China	55	TEKNIKSAT	Turkey.....	219
FTATV.....	Argentina.....	213	TENOW.....	China	223
GLOBALINVACOM.....	UK.....	45	TIVIAR.....	South Korea	5
HISILICON	China	4	TOPSIGNAL	China	21
HORIZON	UK.....	59, 147	TSINGHWA.....	China	107
HTCE	Hongkong	259	TURBOSAT.....	UK.....	93
IBC2013	UK.....	155	VIETNAM2013	Vietnam	157
ICECRYPT.....	UK.....	93	VSAT2013.....	UK.....	141

TELE- audiovision Magazine Sells!

Leading Digital TV Equipment Manufacturers continuously choose **TELE-audiovision Magazine** to market their products most successfully on a global scale

TELE-audiovision Magazine is the #1 Global Digital TV Trade Publication for 33 years - and we continue to expand!

TELE-audiovision Magazine is seen by

- Digital TV Manufacturers
- Distributors
- Dealers
- Wholesalers
- Installers
- End Consumers
- Program Providers

Read Worldwide in
More Than **180 Countries**

Are you interested in finding out more about what TELE-audiovision can do for you? Then contact us:

www.TELE-audiovision.com/ads

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)	Motion sensing games
OTT (Over the top)	Powerful Media
Android Market	OTA(over the air)
Web Browser	2.4G wireless interface
Twitter, Facebook,YouTube...	Support 3D and 3D convert 2D function



HS1J

- Video decode: MPEG2 SD, MPEG2 HD, H.264/AVC SD, H.264/AVC HD,MP4
- Interface: Single Cplus, 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 player;
- Language:English, French, German, Italian, Spanish, Portuguese, Russian, Turkish, Arabic, Polish etc



HS1C

- Pluggable tuner,support S2+S2/S2+T2/S2+C tuner
- 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



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,Media player



HTJ4

- 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



> 350 000



Professional Readers Worldwide

本杂志全球有35万多读者

America

Europe

North America
>28000 Readers

USA
Canada
Mexico

South America
>42000 Readers

Brasil
Argentina
Chile
Venezuela
Colombia
Peru

West Europe
>107000 Readers

Germany
Italy
UK
France
NL
Portugal
Belgium
Spain
CH
Austria
Sweden
Norway
Ireland
Denmark

MENA
>46000 Readers

Iran
Algeria
Morocco
Egypt
KSA
Tunisia

East Europe
>60000 Readers

Turkey
Romania
Russia
Hungary
Poland
Bulgaria
Czech
Greece

The Only

Global Digital TV Trade Magazine

Published in
20 Languages



Arabic
العربية



Bahasa
Indonesia



Bulgarian
български



Czech
český



German
deutsch



English



Spanish
español



Farsi
فارسی



French
française



Hebrew
עברית



Croatian
hrvatski



Italian
italiano



Hungarian
magyar



Chinese
中

Worldwide

Asia



Asia >38000 Readers

China
Indonesia
India
Pakistan
Malaysia



Top 25 Countries > 3200 Readers

COUNTRY	Readers #
Brazil	31,706
Germany	27,403
USA	22,574
Italy	14,261
China	12,808
UK	12,585
Iran	12,359
France	11,663
Indonesia	10,190
Turkey	10,000
Netherlands	9,530
Algeria	9,471
Romania	8,243
Portugal	6,666
Russia	6,155
Belgium	5,956
Morocco	5,753
Spain	5,589
Hungary	5,477
Poland	5,411
India	4,821
Egypt	4,751
Bulgaria	4,563
Czech	4,200
Greece	4,194
Canada	4,036
Ukraine	3,757
Saudi Arabia	3,661
Slovakia	3,260

Readers' Breakdown

Manufacturers	4%
Distributors	9%
Wholesaler	18%
Dealers	27%
Installers	12%
Satellite Provider	2%
Cable Provider	8%
IPTV Provider	5%
Program Provider	6%
Governmental	2%
Institutional	2%
Private Enthusiasts	5%

Top 25 to 105 Countries > 130 - 3200 Readers

COUNTRY	Readers #
Argentina	3,120
Switzerland	3,100
Chile	2,943
Tunisia	2,904
Pakistan	2,774
Austria	2,766
Croatia	2,713
Iraq	2,355
Malaysia	2,347
Sweden	2,344
Australia	2,107
Israel	2,069
Venezuela	2,052
Norway	2,043
Serbia	1,945
UAE	1,580
Ireland	1,561
Colombia	1,531
South Africa	1,510
Mexico	1,476
Denmark	1,390
Thailand	1,298
Finland	1,137
Philippines	1,058
Libya	977
Sri Lanka	975
Slovenia	934
Jordan	900
Peru	864
Yemen	842
Nigeria	831
Lithuania	829
Lebanon	814
South Korea	759
Bosnia and Herzegovina	749
Syria	740
Macedonia	726
Ecuador	698
Sudan	685
Japan	644
Uruguay	622
Kenya	587
Bolivia	571
Kuwait	565
Puerto Rico	562
Panama	558
Albania	548
Cyprus	536
Qatar	511
Taiwan	494
Paraguay	476
Latvia	467
Hong Kong	463
Luxembourg	454
Moldova	446
Oman	412
Senegal	410
New Zealand	403
Belarus	356
Georgia	351
Mauritius	324
Vietnam	313
Côte d'Ivoire	298
Estonia	298
Kazakhstan	292
Bahrain	287
Ghana	284
Singapore	272
Dominican Republic	240
Iceland	212
Uganda	210
Palestine	199
Aruba	193
Ethiopia	191
Bangladesh	190
Malta	181
Cameroon	175
Costa Rica	158
Barbados	155
Azerbaijan	145
Montenegro	142
Afghanistan	141
Zimbabwe	141
Myanmar	134

Top 106 to 180 Countries < 130 Readers

COUNTRY	Readers #
Suriname	133
Mali	131
Trinidad and Tobago	129
Tanzania	128
Uzbekistan	128
Netherlands Antilles	117
Maldives	112
Brunei	109
Malawi	106
Armenia	101
Mauritania	98
Botswana	94
New Caledonia	90
Madagascar	88
Niger	88
Namibia	84
Zambia	77
Angola	69
Rwanda	69
Guatemala	68
Martinique	66
Haiti	65
French Polynesia	65
Guyana	63
Kyrgyzstan	61
Mozambique	61
Burkina Faso	60
Congo	56
Réunion	55
Benin	54
Djibouti	53
Honduras	53
Cape Verde	49
Gambia	49
Jamaica	49
Macau	49
French Guiana	47
Guadeloupe	46
Togo	43
Cambodia	42
Seychelles	42
Cuba	40
Tajikistan	40
Nepal	39
Gabon	36
Comoros	36
Turkmenistan	35
Nicaragua	34
Greenland	33
El Salvador	33
Monaco	30
Dominica	27
Bermuda	25
Palau	25
Mongolia	23
Fiji	19
Bahamas	17
Laos	17
Burundi	16
Timor-Leste	15
Somalia	14
Congo Republic	13
Belize	12
Guinea	12
Saint Vincent and Grenadines	11
Anguilla	10
Guernsey	10
Papua New Guinea	10
British Virgin Islands	10
Isle of Man	9
Jersey	9
Andorra	8
Turks and Caicos Islands	8
Central African Republic	7
Curaçao	7
Eritrea	7
Swaziland	7

Source:
Google Analytics
as of 05-06/2013

TELE
audiovision

有关数字电视行业的世界上发行量最大的杂志
杂志创刊于1981年,现为数字电视产品领域内全球发行量最大的杂志

Global DIGITAL TV Magazine



DEU

USA

ITA

ENG

ESP

BRA

IND

FRA

CHI

ARA

RUS

ALG



测试报告关于创新的数字电视产品
概述世界上最好的数字电视公司



公司报导关于顶尖的数字电视设备制造商,
分销商,代理商,批发商以及安装者

www.TELE-audiovision.com

Let's Meet

and discuss how TELE-audiovision Magazine
can help increase your global business

Meet TELE-audiovision Founder
and Publisher Alexander Wiese
in person at these
next great industry
meetings:

IBC 2013 Amsterdam

ECEBE 2013 Budapest

InterBEE 2013 Tokyo

To arrange a meeting
send Email to:
alex@tavmag.com



33 Years of
Publishing
TELE-audiovision
Magazine

INNOVATION

PRODUCTS LEADING INTO




INNOVATION
TELE
audiovision
AWARD 08-09/2009

GLOBAL INVACOM OPTICAL LNB
The first worldwide optical satellite
reception and transmission system

www.TELE-audiovision.com/09/09/globalinvacom



INNOVATION
TELE
audiovision
AWARD 10-11/2011

TENOW TBS6984
Made for TV addicts who can never
watch and record enough channels.

www.TELE-audiovision.com/11/11/tenow




INNOVATION
TELE
audiovision
AWARD 02-03/2012

AZBox ME
Today's absolute
best Linux Receiver

www.TELE-audiovision.com/12/03/azbox-me

AWARD

THE FUTURE

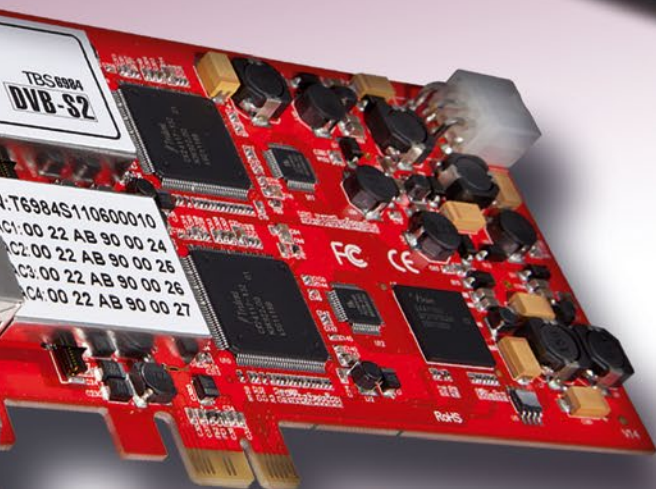
INNOVATION
TELE
audiovision
AWARD MAGAZINE




INNOVATION
TELE
audiovision
AWARD 07-08/2013

TBS Streaming Box MOI
Offers a double-shot of innovation for the future of TV with its channel streaming and separation of hardware and software

www.TELE-audiovision.com/13/07/tenow



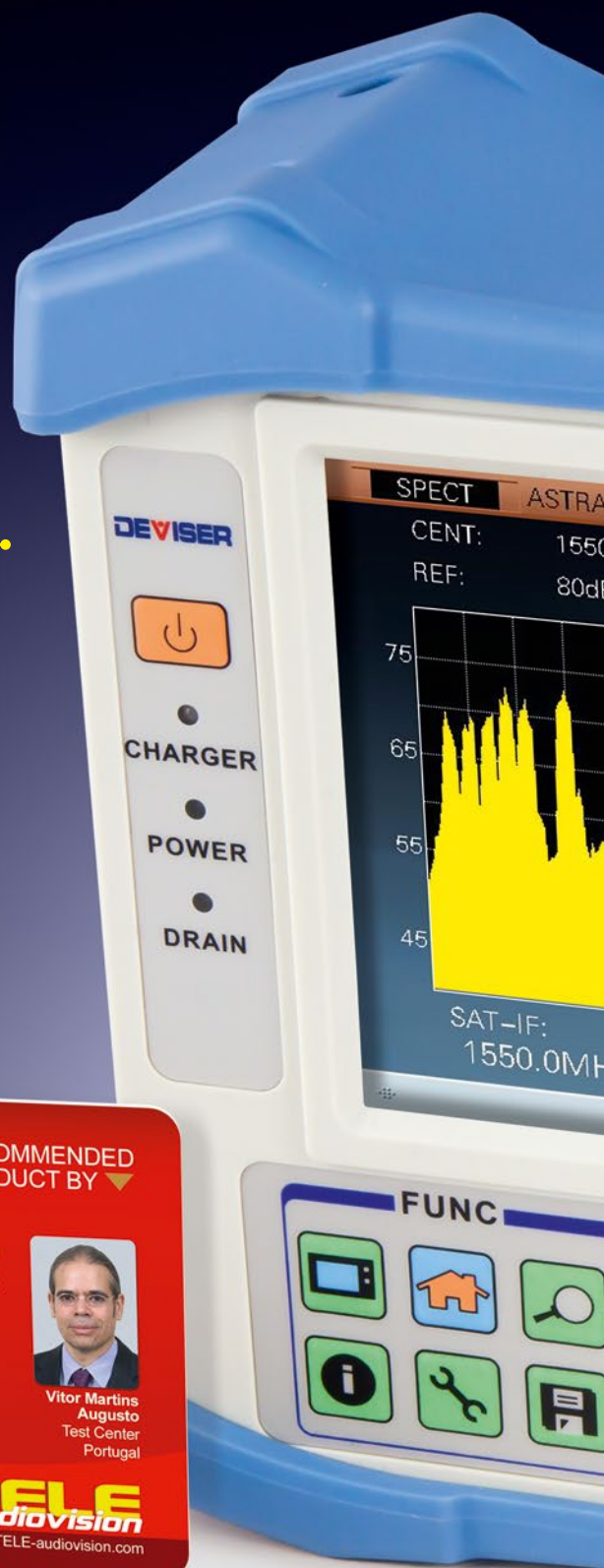

INNOVATION
TELE
audiovision
AWARD 11-12/2012

JIUZHOU DTP2100
Cutting-edge receiver thanks to Android operating system

www.TELE-audiovision.com/12/11/jiuzhou

Deviser TV Analyser S7000

- *Very large, high resolution display*
- *Suitable for MPEG2 and MPEG4*
- *Real-time spectrum for quickly identifying active transponders*
- *Can be remotely controlled via PC or mobile phone*
- *Very ergonomical and practical operation*



Part 1: Analyzer Functions



Professional Combination Analyzer for all Digital TV Standards



VIP Card

Tested & Recommended Product by
TELE-audiovision International
The World's Largest Digital TV Trade Magazine





09-10/2013

Deviser S7000
Best professional instrument
for measurement and analysis
of all globally used TV systems

www.TELE-audiovision.com/13/09/deviser

My expectations were big when Deviser sent their new flagship S7000 to us here at TELE-audiovision to be tested.

It's a signal analyzer that can work with essentially all the different TV standards: satellite DVB-S/S2 signals, cable DVB-C signals as well as all the terrestrial standards DVB-T/T2/H, ATSC, DTMB signals and, believe it or

not, even older analog signals.

As is normal, I first use the device to be tested for a while without having to worry about the test report so that I can simply gain some experience with the unit. But I also like to open up the boxes as soon as they arrive and play around with the devices without first reading the user manual. It's simply



Professional satellite dish & LNB manufacturer



Marine Antenna



Mobile Antenna



KU 60



KU 60



KU 75



KU 75



KU 90



TQU11



TTU11



TSU11



T8U11



TQU13



TSU13



TQB11



TSB11

Ningbo Senfu Machinery & Electric Manufacturing Co. Ltd.

ADD: Lin Gang Industry Development Zone

Ninghai, Ningbo, China

Tel: +86 574 82815260,61,62

Fax: +86 574 82815263

Email: info@topsignalsat.com

www.topsignalsat.com



ously only available on a PC with specialized software.

But that's not all. Do you remember the TELE-audiovision issues from 12-01/2012 and 02-03/2012? In those issues I described my idea of implementing a waterfall diagram to continuously display the spectrum for satellite signal analyzers. This makes it possible to display the spectrum over a specified time period so that, for example, intermittent errors could be identified. It also makes it much easier to align antennas, especially motorized dishes. Suffice it to say that it's thrilling to find this

fun to do this but it also gives you a feel of how easy it will be to work with the unit.

But this time it was different: I was speechless when I first saw the S7000. This unbelievable analyzer can not only handle your typical measurements like those you'd find in higher-end professional units, it also integrates a complete transport stream analyzer that provides information on the entire contents of a received transponder. All of the parameters can be displayed - this type of detail was previ-



function in the S7000.

It also comes as no surprise that measurements like Echo, Barscan, skew, constellation diagrams, real-time spectrum analysis, etc., are available in this super analyzer. Using the S7000 is child's play and the user manual was only needed occasionally to make sure that none of its functions were overlooked.

Another surprise in these tests came from the included CD. The software on this CD not only allowed the comfortable administration of the channel and transponder lists, logger files and screenshots, but we discovered



that the entire signal analyzer could be completely remotely controlled. This makes it possible to remotely diagnose problems. You simply place the analyzer at the customer site and access it via the internet. Or you could climb on the roof with your mobile phone while the analyzer stays in the living room. The Deviser S7000 is overwhelming. Thus far we have never had the opportunity to test such a complete and feature-rich signal analyzer.

Since a full encompassing test report of this unbelievable signal analyzer would be much longer than normal, this report is divided into two parts. The first part presents a detailed introduction to the Deviser S7000's wide range of functions. In the next issue of TELE-satellite we will report on our actual test results where we thoroughly tested the S7000 to our satisfaction.

Deviser was founded in 1990 and is located in Tianjin in northeastern China, not

too far from Beijing. Deviser develops signal analyzers for TV and radio and is China's leader in this segment. Deviser is on the way to becoming an international force as well. Deviser is the first Chinese signal analyzer manufacturer to receive ISO9001 certification. Deviser first appeared in TELE-audiovision in the 06-07/2011 issue and then again recently in the 07-08/2013 issue after they moved into their brand new production and office facility.

The Deviser TV Analyzer S7000 reached our test center packed in a cardboard box in which the actual product package was packed. Inside we found the sufficiently protected S7000 in a soft carrying case made out of durable nylon. A removable box contained the following accessories:

- Charger (12V/5A)
- 12V car charger
- Carrying case replacement strap
- Two "F" adapters (male-male)
- GPS antenna with USB interface
- Mini CD with user manual in PDF format and control software
- Guarantee card

The analyzer's TFT screen is surprisingly large with a diagonal measurement of 7 inches. Its size is similar to that of Android tablets. The analyzer is relatively lightweight and thanks to its rubber jacket it can be securely held in your hands. At 3.4 Kg (7.5 Lbs), longer workdays are possible with the S7000.

The carrying case is very handy. Unlike other analyzers, you won't have the urge to remove the case since, despite providing protection for the analyzer, it still allows access to all of the unit's buttons. Also practical is the ability to open the case upwards into three segments. By folding the three

segments into a triangle, it makes it easy to place the analyzer in an inclined position on a table thus simplifying its use, especially if you're used to using analyzers that could only be laid flat on the table or placed standing fully upright. In either case the analyzer would be hard to use and the screen could not easily be viewed. So, a serious plus to Deviser for coming up with the idea to place the analyzer in an inclined position.

The front side of the S7000 pays tribute to Deviser's many years of experience with professional signal analyzers. And it's the ergonomics that stand out here in the foreground; sure enough, you'll find your way around very quickly. The already mentioned 7" TFT screen has a resolution of 800x480 pixels and is large enough to clearly display all information. The days of switching between different low-resolution screens just to view all of the important parameters are over. To the left of the centrally located screen is a button to turn the unit on and off. Below this button are three LEDs that show the status of the rechargeable battery: battery is charging, analyzer is switched on/off and battery is discharged. To the right of the screen are six function buttons. The function of these buttons is shown in the corresponding spot on the screen next to these buttons and varies depending on what menu screen is currently active.

Under the screen are an additional three groups of buttons: the group to the left consists of six function buttons that can be accessed at any time (TV, HOME, EXPLORER, CH INFO, SETUP and SAVE), the central group consists of an alphanumeric keypad for frequency and text entry using 12 but-





tons and lastly the right-side group of buttons includes arrow buttons plus an OK button for confirmation and ESC and TAB buttons. The relatively large number of buttons actually simplifies

operation in that most of the buttons only have a single function. There's no unnecessary switching to go through like there would be with multi-function buttons. Aside from that, we definitely

approve the ability to enter frequencies directly.

On the top side of the S7000 is the HF input in the form of an "F" connector. Two male-male "F" adapters are included in the package. Of course, other types of connectors can be used such as the type needed for a typical CATV antenna jack. Unfortunately, the required connector adapters are not included as accessories with the S7000 although any practicing technician would already have these adapters.

On the left side of the an-

alyzer is the outlet for the cooling fan and the carrying case has a mesh cutout in the same location so that the analyzer can also be operated and even recharged in its carrying case without giving it a second thought. These details are evidence of Deviser's attention to detail.

Additional connections can be found on the right side of the analyzer: a USB port for the GPS antenna and USB storage device, an RJ-45 port as well as a connection for the power supply. Further up is the HDMI jack so that



Android IPTV AML8726

Full High Definition Android IPTV +DVB-S2 OTT STB



Processor

- ARM Cortex-A9 CPU uni-core, 1GHz frequency
- ARM Mali-400 GPU processor, for 3D Graphics processing
- One MediaCPU and Two MediaDSPs for AV decoding
- Full 1080P HD video decoding
- 3D Video Support
- Power Control Processor

Memory&Flash

- 1GB(32bit) DDR3 Memory
- 4MB SPI Nor Flash
- 4GB Nand Flash internal

Network

- WiFi IEEE 802.11 b/g/n
- 10/100Mbps Fast Ethernet
- 3G USB Dongle

DVB Frontend(Optional)

- DVB-S2 Supported
- Customized for other STB application

Other

- HDMI 1.4a
- 2 Host USB Ports
- OS Android4.0 or Later
- Multi languages supported
- Support USB Keyboard&Mouse, Wireless Keyboard&Mouse&RCU

Applications

- Video Movie Player(*.mkv, *.wmv, *.mpg, *.mpeg, *.dat, *.avi, *.mov, *.iso, *.mp4, *.rm etc.)

- Music Player(MP3, AAC, WMA, RM, LFAC, Ogg etc.)
- Picture viewer (JPG, JPEG, BMP, GIF, PNG etc.)
- Web Browser (HTML5 supported)
- Online VOD application
- Customized application market
- Customized applications
- Online video search
- 3D Game



HD1512 DVB-S2

- IPTV
- USB Adapter
- 3G Support
- WIFI Support
- Movie Online
- Smartphone Remote
- RSS News
- Dailymotion
- DVB-S2 Tuner
- HDMI1.3, FULL-HD 1080P supported
- PVR (Personal Video Record)
- HD Media Player

- Picture Player
- Music Player
- File Manager
- Firmware Upgrade via USB
- EBOOK
- ISO
- Youtube, Weather, Google map, N32 game
- Built-in LAN
- With CA
- Recording & Playback with External Storage Devices(USB2.0 / HDD)
- 2 USB



You can meet us at the above shows in 2013.

Sowell • Digital Your Life



the display can also be routed to an external monitor; this could be useful, for example, in a training environment. The carrying case has the necessary Velcro flaps to cover the inputs.

The rechargeable battery can be swapped out by the user and can be accessed

from the rear panel. There's also another highlight of this professional analyzer: an ASI input and output. It's very unusual yet excellent for measuring real professional systems. There's even a Common Interface (CI) available and with the proper CAM even encrypted

channels can be analyzed. The built-in speaker is also mounted on the rear side.

The housing on the front is made out of light plastic although it certainly doesn't have a cheap feel to it; on the contrary, the analyzer is extremely solid and firm. The housing doesn't warp

at all when it is squeezed; the sides and bottom of the analyzer are metallic. A light blue rubber cover protects it from accidental bumps and also if it should fall to the floor. Throughout our tests we really didn't have to worry about the S7000; we could focus on our work





Guangxi Lianxing Satellite Co.,Ltd

The company for manufacturing and researching satellite antenna dishes

The staff of Lianxing
is striving to fulfill our goal
to satisfy our customer.

**Contact us
with confidence!**



P180L6-1



S035W-3



S060L-2



S045L-1



S045W-1



S060W-1



Accessories

Excellent products of C band
antennas at 1.4m, 1.45m, 1.5m, 1.8m,
offset satellite receiver antennas of band KU
at 0.45m, 0.6m 0.75m 0.9m,1.2m.

www.gxlianxing.com

Guangxi Lianxing Satellite Co.,Ltd.

Tel: +86-773-6259228 | Fax: +86-773-6259234 | Email: root@gxlianxing.com | Web: <http://www.gxlianxing.com>
Address: Guixing Village, Xing'an Town, Guilin City, Guangxi Province, China Postal Code: 541308

without having to constantly keep an eye on the analyzer.

After turning the S7000 on, it needs only 18 seconds before it's ready to be used. The Main menu appears from which you can switch between SAT and CATV/terrestrial mode with the help of the menu buttons on the side. The IPTV option can be added for an additional charge whereby even IPTV in a network could then also be measured and analyzed. This option was not available in our test analyzer.

The S7000 comes shipped with transponder lists from numerous satellites as well as the frequency tables for cable and terrestrial TV.

Additionally, the analyzer permits the administration of various channel lists that are created from an automatic channel scan. They can also be manually edited and managed.

At this point it's important to point out that the S7000 can analyze a signal unusually fast and can automatically set the corresponding reception parameters. In SAT mode you can very quickly get used to driving to the desired transponder and directly take measurements in a real-time spectrum. The signal is correctly locked on to within 1-3 seconds, even with non-standard symbol-rates. There's no other analyzer known that can accomplish this as fast. Of course DXers will be excited about this since feeds can then be found so much faster.

It's not a coincidence that the S7000 is labeled TV Analyzer". It actually contains a complete transponder stream analyzer. It can not only display MPEG2 and MPEG4 video with audio (analog video and audio too), it also shows a variety of parameters and PIDs. Added to this are powerful functions

to fully analyze and measure transport streams.

Up until now, these kinds of functions have never been found in analyzers in this price class. Absolutely ideal is the ability to store the transponder stream on a USB storage device so that it can be analyzed more closely or documented later on in the office.

We can't help but reveal our opinion at this point: as a passionate DXer, feedhunting is a piece of cake with this analyzer! It has never been so simple using a real-time spectrum to select the typical transponder peaks of feeds (they're much narrower than normal transponders and are also typically lower in power) and then push the TV button. In just seconds the S7000 automatically processes the reception parameters and simultaneously makes it possible to completely analyze the received transponders.

So much for the Deviser S7000's introduction. It's become clear that this is no ordinary combination meter for satellite, cable and terrestrial TV; it's a complete TV analyzer that can perform every conceivable measurement and signal analysis and yet is still small and lightweight, has a high-resolution display and can operate for up to five hours on its own.

In part two of this report in the next issue of TELE-audiovision, we will present the results of our tests. The S7000 had to compete against our TELE-audiovision upper-class reference units to prove its measurement accuracy. We will also show how this analyzer can be controlled via a network from a PC and what tricks came to mind. Just to whet your appetite a little: the analyzer passed our tests with flying colors!

EXPERT

OPINION

Deviser S7000
RECOMMENDED PRODUCT BY

TELE-audiovision

THE WORLD'S LARGEST DIGITAL TV TRADE MAGAZINE

VIP

CARD

TELE-audiovision

www.TELE-audiovision.com

+ Professional Analyzer for analogue, DVB-S/S2, DVB-C, DVB-T/ T2/H, ATSC and DTMB Signals

Complete Transport Stream Analyser

MPEG2 & MPEG4 Decoder

Waterfall Diagram for Spectrum display

Advanced measurements like: Echo, MER vs. Carrier, Constellation Diagram, etc.

Can record Transport Stream for offline analysis

Features ASI Input/Output

- none

MORE ABOUT THIS COMPANY

www.TELE-satellite.com/TELE-satellite-1107/eng/deviser.pdf

COMPANY REPORT
Signal Analyzer Manufacturer DEVISER, China
DEVISER

New on the Scene: DEVISER

- Starting off with two satellite signal analyzers
- Over 20 years experience as a signal analyzer manufacturer
- Fabrication soon to be in a new building
- Their own R&D Team with highly qualified engineers
- Operates with all of the corresponding quality standards

www.TELE-audiovision.com/13/07/deviser

COMPANY REPORT
Signal Analyzer Manufacturer DEVISER, China
DEVISER

DEVISER Success Triggers Expansion

- 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 ETSI and overvoltage protection

TELE-audiovision's first report on signal analyzer manufacturer Deviser appeared in the 06-07/2011 issue. After moving into a completely new production and administration facility, a follow-up report appeared in the 07-08/2013 issue.

TECHNICAL

DATA

MANUFACTURER	Deviser Electronics Instrument Co., Ltd.
Fax	+86-22-27645002
E-mail	overseasbiz@deviser.com.cn
Web page	www.devisertek.com
Model	S7000
Function	Professional TV Signal Analyzer
Display	7" TFT LCD, 800×480 pixels
AC/DC Adapter	AC 100-240V/50-60Hz - DC 12 V / 5 A
Battery	Li-ion, 7.4 V/13Ah
Charge Time	around 5 Hours
Working Time	>5 Hours
Remote Feeding	5/13/15/18/21 V, Max. 5 W
22 kHz Control	Yes
DiSEqC	DiSEqC 1.0, 1.1, 1.2 and SaTCR
Dimension (W×H×L)	245mm × 194mm × 105 mm
Weight	2.8 kg
Working Temperature	-100C ~ +500C
Storage Temperature	-200C ~ +700C

SPECTRUM ANALYSER

Frequency Range	5 - 1050 MHz(TV); 950-2150 MHz (Satellite)
Frequency Span	0 - 1045 MHz (TV); FULL/600/300/200/100/50/20/10 MHz(Satellite)
Frequency Step	10 kHz (TV), 1 MHz (Satellite)
Resolution Bandwidth (-3 dB)	30 kHz, 100 KHz, 300 kHz, 1 MHz, 3 MHz(TV); 1 MHz, 3 MHz(Satellite)
Level Measurement Range	10-120 dBμV (TV); 30-120 dBμV (Satellite)
Accuracy of Measurements	±1.5 dB
Measurement Detector	Peak, sample, AVG
Reference Level	30-120 dBμV
Markers	2

ANALOGUE TV MEASUREMENT

Standards	B/G, I, D/K, L/L, M/N
Colour Standards	PAL, SECAM, NTSC
Hum Measurement	> 50 dB
C/N	> 50 dB
Level Measurement Range	30 - 120 dBμV
Accuracy Of Measurements	±1.5 dB
Level Resolution	0.1 dB

DIGITAL CATV MEASUREMENT

Modulation Type	16/32/64/128/256QAM, ITU-T, J.83, ANNEX A/B/C
Symbol Rate	4.0-7.0 MS/s
Power Level Range	30-110dBμV
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB(C/N>20dB)
MER Measurement	40 dB
MER Accuracy	±2.0 dB
BER Measurement	1E-3~ 1E-9
Constellation	Yes

ATSC MEASUREMENT

Modulation Type	8 VSB
Power Level Range	25-110 dBμV
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB (C/N>20dB)
MER Measurement	> 35 dB
MER Accuracy	±2.0 dB
BER	Yes
Constellation	Yes

DTMB MEASUREMENT

Carriers	C=1 - 3780
Power Level Range	-83- +2 dBm
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB (C/N>20dB)
MER Measurement	> 28 dB
MER Accuracy	±2.0 dB
BER	Yes
Constellation	Yes
Echo Pattern	Yes

DVB-T/H MEASUREMENT

Modulation Type	QPSK, 16 QAM, 64 QAM
Power Level Range	25 - 110 dBμV
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB (C/N>20 dB)
MER Measurement	> 30 dB
MER Accuracy	±2.0 dB
CBER/VBER	Yes
Constellation	Yes
MER Versus Carriers	Yes
Echo Pattern	Yes

DVB-T2 MEASUREMENT

Modulation Type	QPSK, 16 QAM, 64 QAM, 256 QAM
Power Level Range	25 - 110 dBμV
Level Resolution	0.1 dB
Power Level Accuracy	±2 dB (C/N>20dB)
MER Measurement	> 30 dB
MER Accuracy	±2.0 dB
CBER/LBER	Yes
Constellation	Yes
Echo Pattern	Yes

DVB-S/S2 MEASUREMENT

Modulation Type	QPSK, 8PSK
Symbol Rate	2 - 45 MS/s (DVB-S) 1 - 45MS/s (QPSK DVB-S2) 1 - 45MS/s (8PSK DVB-S2)
Power Level Range	40-110 dBμV
Level Resolution	0.1 dB
Power Level Accuracy	±1.5 dB (C/N>20dB)
MER Measurement	> 25 dB
MER Accuracy	±2.0 dB
CBER/LBER (VBER for DVB-S)	Yes
Constellation	Yes

VIDEO/AUDIO DECODER

Video	MPEG2/4, H.264
Video Resolution	1080i, 720p, 576i
Audio	MPEG1/2, AAC
CAM Module	EN50221 (DVB-CI) PCMCIA interface
TS-ASI Input and Output	Yes
TS Record	Yes

TS ANALYSER

Interface	EN 50083-9 (DVB SPI, ASI)
DVB-ASI Interface	75Ω BNC
DVB-ASI Clock	270 MHz
DVB-ASI Max Data Rate	0 to 72 Mbps
DVB-ASI Output Signal Level	1.0 Vp-p nominal
DVB-ASI Return Response	>15 dB
DVB-ASI Input Level	800 mV +/- 10 %
Real-time Decoder	Display the real television pictures (through CA system), including program numbers, program names, provider information, video & audio PIDs.
TR101290 Monitor	TR101 290 three levels real time monitor
Base Information	Count the PIDs percent according to the type of the streams: Video, Audio, PSI/SI, Null Packages
PID List	Display all the PIDs in current stream
Program Information	Detailed info's about a program (if it isn't be encrypted). Video resolution and audio compress rate.
PCR Monitor	Calculate PCR interval and PCR accuracy
PSI/SI List	Display the PSI/SI info's by tree view. Including PAT, PMT, CAT and, when available, NIT, SDT, RST, TDT, EIT.
Program Info	EPG
PID Capture	Capture a specified PID by its type: Video, Audio, PSI (PAT, PMT, NIT, TDT, RST, SDT, EIT) and display the data in HEX format.
TS Record and Replay	8 GB disk for Transport Stream record

INTERFACE

RF Input	75Ω F-Type
HDMI Output	1x
USB	1x USB 2.0
LAN	1x 10/100 MBit/s
CAM	1x PCMCIA
TS-ASI Input/Output	2x 75 Ω BNC
DC Supply Input	12 V / 5A
GPS Input	USB



Satellite Modes

1. The S7000's Main menu is nicely organized. The function buttons to the right select the desired mode: cable, terrestrial or SAT (IPTV optional). The File Manager can also be accessed here. The arrow buttons are used to switch between measurement, constellation diagram, spectrum analyzer, Sat Finder and DiSeqC.

2. A push of the SETUP button brings up the correct LNB configuration page.

3, 4, 5, 6. In just 2-3 seconds a signal lock is achieved and all the reception parameters are displayed. As expected, for digital signals the measurement screen displays the level, MER and BER whereby BER is divided into CBER and LBER. BER (Bit Error Rate) shows the bit error ratio, that is, the number of faulty bits compared to the number of received bits in the same time interval.

Since the received bits go through an error correction process, professional analyzers display the BER before and after error correction. Depending on the modulation method, different error correction algorithms are used. Our modulation table compiles all of the important details together.

Modulation Table

Modulation	Algorithmus of Error Correction	Recommended Threshold BEFORE Error Correction	Recommended Threshold AFTER Error Correction
DVB-S	VITERBI	CBER = <1E-6	VBER = <1E-8
DVB-S2	LDPC+BCH	CBER = <1E-7	PER = <1E-8
DVB-C	Reed-Solomon	PRE-BER = <1E-6	POST-BER = <1E-8
DVB-C2	LDPC+BCH	CBER = <1E-7	LBER = <1E-8
DVB-T/H	VITERBI	CBER = <1E-6	VBER = <1E-8
DVB-T2	LDPC+BCH	CBER = <1E-7	LBER = <1E-8

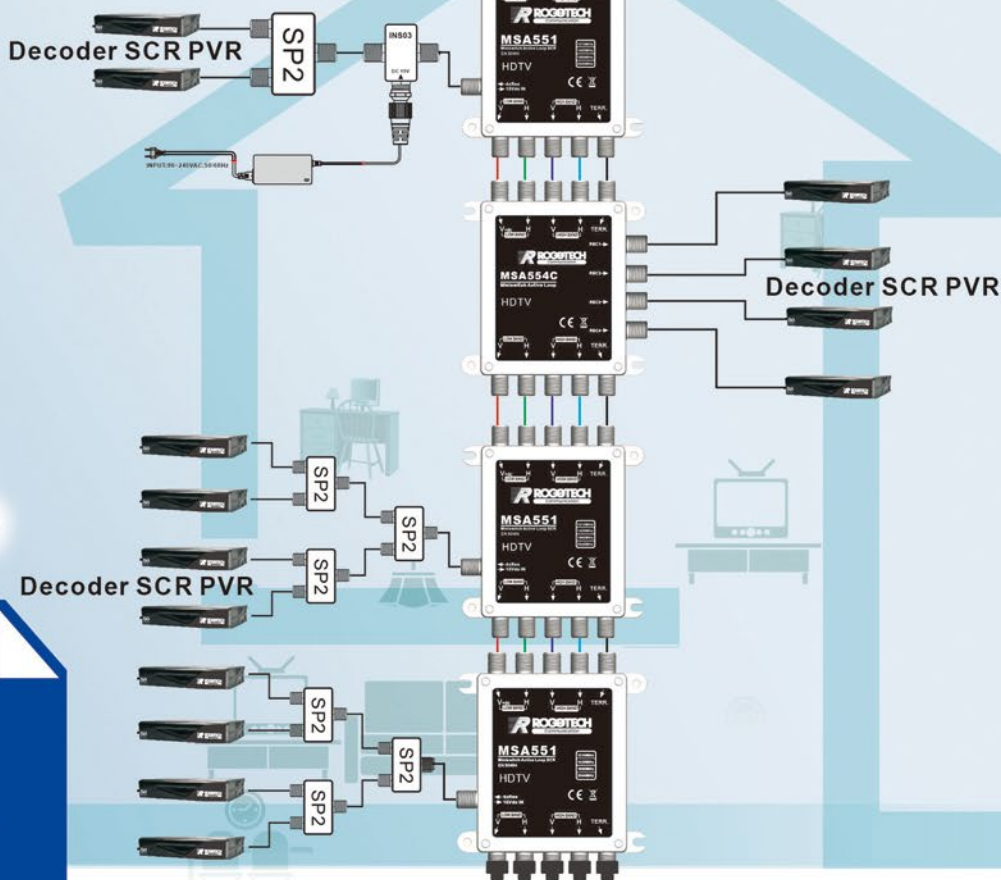
For DVB-S signals, the S7000 shows the BER measurements in QPSK modulation in CBER (Channel Bit Error Rate – before error correction) and VBER (Viterbi Bit Error Rate – after Viterbi error correction). With DVB-S2 signals using 8PSK modulation, BER is shown as CBER and LBER since in this case LDPC+BCH error correction is used.

It is extremely helpful to have the BER measurements displayed in this way in that for one thing you want to receive a signal that is as error-free as possible and secondly, any errors would be totally corrected by error correction.

The first function button is labeled VIEW. This highlights that these analyzers were designed by technicians for technicians since with this button you can switch between measurements whereby the currently selected measurement is prominently displayed in the upper part of the screen numerically and as a bar graph. This makes it easy to read from a distance even when outside working on the antenna.

We also appreciated some of the smaller details like, for example, the ability of the S7000 to show the transponder frequency simultaneously in satellite IF form and actual downlink frequency. You no longer have to convert the frequency (for example, the conversion in the Ku-band with a universal LNB is like this: up to 11700 the IF = transponder frequency – 9875 and from 11700 and up the IF = transponder frequency – 10600). We should mention that the transponder bandwidth is also displayed.

UNICABLE MULTISWITCH



KEY FEATURES:

- Low power consumption
- It can operate in ALC/AGC or fix gain mode.
- Providing single cable capability suited for DVR and multiple STB applications.
- Input frequency range 950 – 2150 MHz
- Output frequency range 950 – 2150 MHz
- Low Phase Noise for 8PSK modulation
- High isolation ensures superior cross channel rejection
- Fully integrated LO, PLL, and loop components



ROGETECH Communication Technology Co., Ltd.

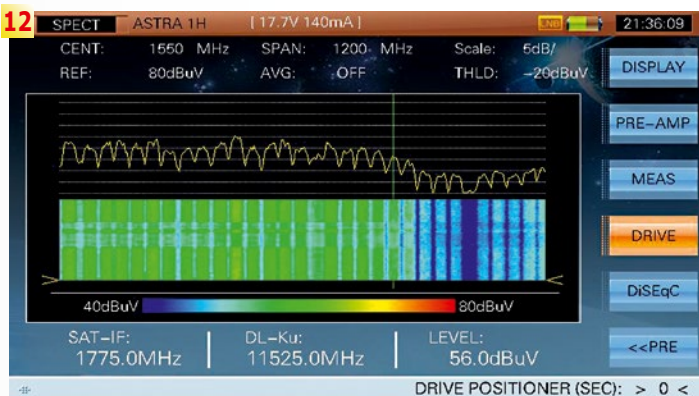
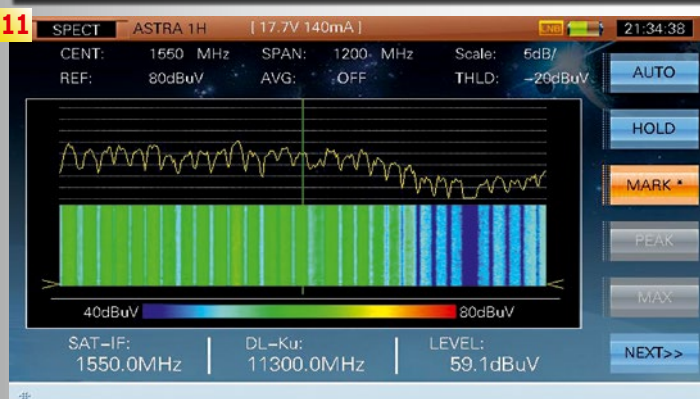
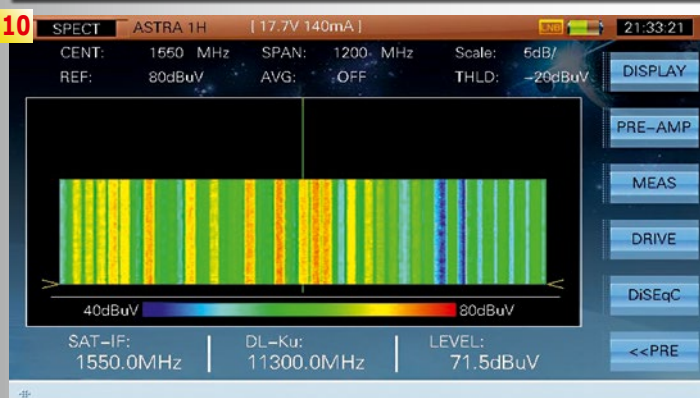
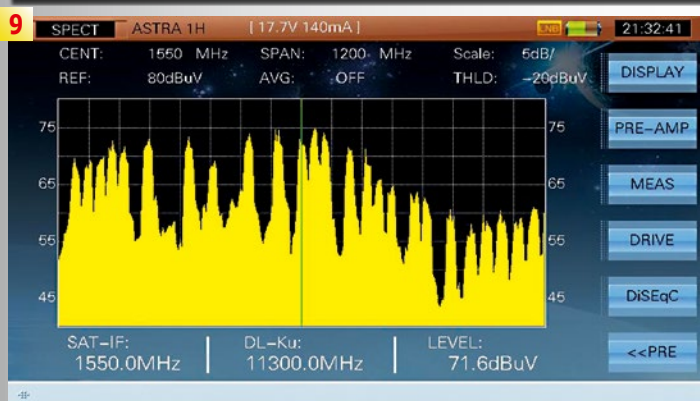
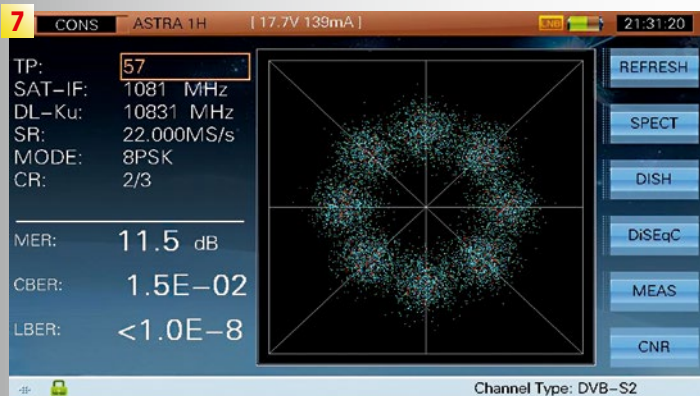
111# GE Road, New Industrial Zone, JIAXING, CHINA

Zip: 314300

Tel: 0086-573-86193966

Fax: 0086-573-86161828

E-Mail: sales@rogetech.com



7. Without any detours you end up in the constellation diagram. Here Deviser utilizes the high-resolution display and provides an excellent method to diagnose problems caused by faulty components.

8. Next is the Spectrum Analyzer mode. First of all we liked that the spectrum can be displayed with a 1200 MHz span in real time. Real time simply means that the spectrum display is renewed multiple times per second. In this way you can instantly recognize how, for example, an antenna needs to be adjusted to receive the best possible signal. And just the high-resolution of the spectrum itself is a plus point – closely spaced narrow-bandwidth transponders are clearly resolved.

9. The representation of the spectrum can be switched using the DISPLAY function button located in the second row of function buttons. Instead of displaying the spectrum as a single line, it can also be shown with the area below the line filled in.

10. Push the DISPLAY button a second time and the spectrum is then shown as a waterfall diagram. You can easily follow transponders over a period of time and since it's possible to send out DiSeqC 1.2 commands while in this mode, aligning motorized antennas becomes easy as pie. If you want to learn more about how to use waterfall diagrams you may read my articles in TELE-audiovision issues 12-01/2012 and 02-03/2012.

11. That Deviser actually put some thought into this and didn't simply implement the waterfall diagram carelessly can be seen

when the DISPLAY button is pressed again. Just as can be seen in the demonstration software, the spectrum is now displayed in parallel to the waterfall diagram. In this way you can clearly recognize the transponders in the spectrum and measure the levels using the obligatory markers (available in all display modes) while the waterfall simultaneously documents the evolution of the signal. The otherwise standard peak-hold function (that, of course, is also available) will now only seldom be used thanks to the waterfall diagram.

12. If the function button labeled DRIVE is pressed, the up/down buttons can then be used to switch between the DiSeqC 1.2 modes MOVE and STEP whereby the left/right buttons move the motor correspondingly. The spectrum is still displayed in real-time and thanks to the waterfall diagram it's easy to obtain the best possible alignment. Aside from that, you can also see how many and which satellites can be received between the east and west limits of the antenna. You simply drive the antenna from east to west (or vice versa) and using the waterfall diagram you can clearly recognize each satellite and with a little experience you'll also be able to identify them.

13. The S7000 supports a variety of DiSeqC and single cable SCR standards with a single DiSeqC menu. These can be selected in the Main menu or at any other time using the function buttons.

Your Partner of OEM/ODM Communication Solution.

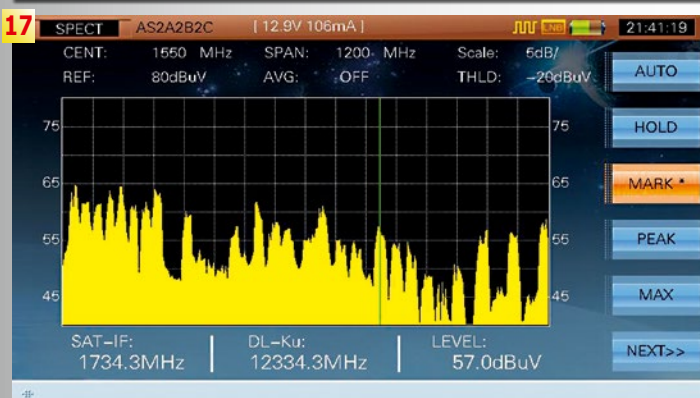


No. 206 Cheng-Kung 3 Rd., Nan Kang Industrial Park Nantou, Taiwan

Tel : 886-49-2260666 Fax : 886-49-2260675

E-mail : saccount@jonsa.com.tw





14. Switching from SaTCR (SCR - Single Cable Routing) and DiSEqC. In SCR mode the individual frequency windows of the antenna jacks can flexibly be edited so that the S7000 can be harmonized with practically every SCR switch.

15. In DiSEqC mode DiSEqC 1.0 and 1.1 multiselects can be controlled (for up to 4 or 16 LNB inputs) as well as a DiSEqC 1.2 positioner. Simple tone-burst switches can also be controlled.

16. The Sat Finder function shows the active satellite's selected transponder signal level. If needed, an audio tone can also be turned on so the antenna can be aligned without having to look at the analyzer. The arrow buttons can be used to switch satellites without having to leave the current display screen.

The specialty of this feature is the automatic calculation of azimuth, elevation and LNB skew. This data is obtainable thanks to the GPS antenna; the current position is of course also shown. If for some reason the current geographical position can't be obtained from the GPS, this information can also be entered manually. At first this might not seem all that critical; the antennas are always mounted outdoors. But what if the installer wants to pre-align the antenna in his workshop so that he can install it more quickly at the customer? Then it could be very practical to enter the customer's position in ahead of time.

17, 18, 19. The S7000 can automatically recognize reception parameters like symbolrate, FEC and modulation. Many instruments fail at this seemingly simple task and therefore need current and specially setup channel lists. Not true with the Deviser S7000: it recognizes these parameters on its own and in a very short time. Sure enough, markers can be used to select a desired transponder (or the frequency can be directly entered) and in measurement mode the S7000 determines a variety of reception parameters in 1-3 seconds and also simultaneously shows these values.

20, 21, 22, 23, 24. Naturally, the S7000 can also play audio and video and includes the corresponding decoders for analog and digital signals in MPEG2 and MPEG4. This mode can be accessed at any time with the TV button. If the signal has not yet been locked on to, because perhaps in spectrum mode the marker was just placed on top of a transponder, the analyzer determines the corresponding reception parameters on its own, just like in measurement mode.

In just a few seconds the live picture of an unencrypted channel is displayed and you can quickly switch between channels via the transponder service list. The S7000 shines with channel switching times of 1-3 seconds depending on the type of signal and modulation.

25. In this mode the Deviser S7000 even has a complete transponder stream analyzer available. This function is geared more towards technicians that are responsible for head-end stations, transmission or reception systems. All analyzer functions are available for each received transponder stream regardless if they originate from the internal DVB-S/S2, DVB-C, DVB-T/H tuners, from the ASI input or, for example, from an external transponder stream file. The first picture shows the transponder stream's primary data. The bandwidth is shown as well as NIT information and the stream's basic statistical data.

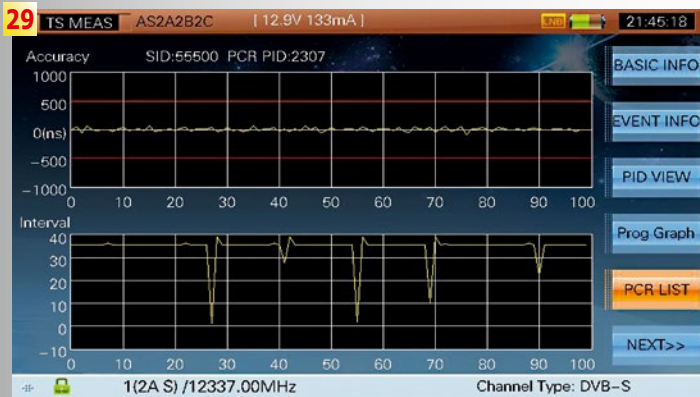
26. In the second picture, EVENT INFO, additional information on the quality of the transport stream is shown.

27. The third screen, PID VIEW, shows the assignment of the different PIDs. This data is also important for installers because it can provide important error conclusions with the setup of smaller head-end stations and IPTV servers, for example, if the wrong PIDs were accidentally configured.

28. The fourth screen, PROG GRAPH, displays details on the selected channel within the transponder stream. These parameters provide important information on the resolution and, above all, the CODECs in use. If a customer complains, for example, that a specific channel can't be played back by a receiver, then the reason could be that the channel is encoded with professional equipment using 4:2:2 Chroma, instead of the standard receiver based 4:2:0 Chroma.







30 TS MEAS AS2A2B2C [12.9V 133mA] 21:45:49

No.	FREQ	CA	ServiceName	Provider	ServiceType	Type/SR(MS/s)	POL
43	10773		BBC 1 West	BSkyB	DIG TV	QPSK/22.000	H
44	10773		BBC 1 East	BSkyB	DIG TV	QPSK/22.000	H
45	10773		BBC 1 CI	BSkyB	DIG TV	QPSK/22.000	H
46	10773		6390	BSkyB	DIG TV	QPSK/22.000	H
47	10773		6391	BSkyB	DIG TV	QPSK/22.000	H
48	10788		BBC 1 W Mids	BSkyB	DIG TV	QPSK/22.000	V
49	10788		BBC 1 Yrks&Li	BSkyB	DIG TV	QPSK/22.000	V
50	10788		BBC 1 E Mids	BSkyB	DIG TV	QPSK/22.000	V
51	10788		BBC 1 East (E)	BSkyB	DIG TV	QPSK/22.000	V
52	10788		BBC PARL'M	BSkyB	DIG TV	QPSK/22.000	V
53	10788		BBC 1 Wales	BSkyB	DIG TV	QPSK/22.000	V
54	10788		BBC 2 Wales	BSkyB	DIG TV	QPSK/22.000	V
55	10788		ETV5	BSkyB	DIG TV	QPSK/22.000	V
56	10788		BBC R3	BSkyB	DIG radio	QPSK/22.000	V
57	10788		BBC R4 FM	BSkyB	DIG radio	QPSK/22.000	V

1(2A S)/12337.00MHz Channel Type: DVB-S



31 TS MEAS AS2A2B2C [12.9V 133mA] 21:46:12

Tables

- PAT
 - Tables ID: 0
 - Tables PID: 0
 - Table version: 6
 - Repetition rate: 14.39 Hz
 - Tables interval: 0.07s
 - Number of sections: 1
 - Section length: 33
 - Transport Stream ID: 2402
 - Program: 55500 PMT PID: 263 (Aastha)
 - Program: 55505 PMT PID: 269 (NDTV 24x7)
 - Program: 55510 PMT PID: 258 (wedding tv)
 - Program: 55515 PMT PID: 257 (9XM)
 - Program: 55520 PMT PID: 272 (Music India)
 - Program: 55525 PMT PID: 256 (AAJ TAK)

1(2A S)/12337.00MHz Channel Type: DVB-S

36 TS MEAS AS2A2B2C [12.9V 133mA] 21:49:23

Data Type

VIDEO ☒ AUDIO ☐ PCR ☐ DATA ☐

PID PID=2309

Capture Num 5

START STOP CLEAR

the 1 data is captured
the 2 data is captured
the 3 data is captured
the 4 data is captured
the 5 data is captured

1(2A S)/12337.00MHz Channel Type: DVB-S

32 TS MEAS AS2A2B2C [12.9V 133mA] 21:46:36

Tables

- PAT
 - Program: 55500 (Aastha)
 - Table ID: 2
 - Table PID: 263
 - Table version: 5
 - Repetition rate: 14.43 Hz
 - Table interval: 0.07s
 - Number of sections: 1
 - Section length: 46
 - PCR PID: 2307
 - PID: 2307 Stream type: 2 (MPEG2 Video)
 - PID: 2308 Stream type: 4 (MPEG2 Audio)
 - Program: 55505 (NDTV 24x7)
 - Program: 55510 (wedding tv)
 - Program: 55515 (9XM)
 - Program: 55520 (Music India)
 - Program: 55525 (AAJ TAK)

1(2A S)/12337.00MHz Channel Type: DVB-S

37 TS MEAS AS2A2B2C [12.9V 133mA] 21:49:37

Parameter	Value	Parameter	Value
PAT	500.0ms	SI	25.0ms
PMT	500.0ms	Unreferenced	500.0ms
PID Delay	1000.0ms	SDT_act Min	25.0ms
PCR	40.0ms	SDT_act Max	2000.0ms
PCR Discontinuity	100.0ms	SDT_other	10000.0ms
PCR AC +/-	0.5ms	EIT_act Min	25.0ms
PTS Max	700.0ms	EIT_act Max	2000.0ms
NIT_act Min	25.0ms	EIT_other	10000.0ms
NIT_act Max	10000.0ms	EIT P/F	1000.0ms
NIT_other	10000.0ms	TDT Min	25.0ms
		TDT Max	30000.0ms

1(2A S)/12337.00MHz Channel Type: DVB-S

33 TS MEAS AS2A2B2C [12.9V 133mA] 21:47:10

Tables

- PAT
 - Tables ID: 1
 - Conditional Access Descriptor
 - Descriptor tag: 9
 - CA system ID: 2400
 - CA PID: 192
 - No private data bytes
 - Conditional Access Descriptor1
 - Descriptor tag: 9
 - CA system ID: 2401
 - CA PID: 192
 - No private data bytes
 - Conditional Access Descriptor2
 - Descriptor tag: 9
 - CA system ID: 2403
 - CA PID: 192
 - No private data bytes

1(2A S)/12337.00MHz Channel Type: DVB-S

38 TS MEAS AS2A2B2C [12.9V 133mA] 21:50:46

CH: 1(2A S)

SAT-IF: 1737 MHz

TP FREQ: 12337MHz

SR: 27.500MS/s

SID	CA	ServiceName	Provider	ServiceType	VideoType	Resolution
55500		Aastha	BSkyB	DIG TV	MPEG2 Video	720*576i
55505		NDTV 24x7	BSkyB	DIG TV	MPEG2 Video	---
55510		wedding tv	BSkyB	DIG TV	MPEG2 Video	720*576
55515		9XM	BSkyB	DIG TV	MPEG2 Video	720*576
55520		Music India	BSkyB	DIG TV	MPEG2 Video	720*576
55525		AAJ TAK	BSkyB	DIG TV	MPEG2 Video	720*576

1(2A S)/12337.00MHz Channel Type: DVB-S

29. The fifth screen contains a PCR measurement. PCR stands for Program Clock Reference and serves to determine the transit time delay between the received signal and the receiver clock (27 MHz). A PCR is periodically added to the transport stream. The Deviser S7000 reads this PCR and shows how precisely synchronized the internal 27 MHz clock is with the PCR signal. The difference should normally be no more than ± 500 ns. Since the PCR bytes themselves are generated with a 27 MHz clock and embedded in the transport stream, the resolution is limited to 37ns. The accuracy shown in the upper graphic highlights the timing error within the multiplexer, but not any run-time delays that were generated within the network. As you can see, a perfectly synchronized transport stream is being received indicating that no errors existed in the clocks of various multiplexers and modulators at the headend. If the delays are longer than 500ns, then the receiver could have problems.

In the lower graphic the timing offset between the PCR bytes is shown. Run-time delays that were generated within the network can be derived. And here too everything is in the green. Even though small delays are visible, they don't yet have any influence on the reception quality. It is therefore an extremely important measurement when it comes to maintaining head stations and broadcasting systems.

30. The PROG LIST shows the provider's channels. This information, as long as it's correctly entered into the NIT by the provider, makes possible a faster channel scan for receivers since known transponders do not have to be scanned separately. Unfortunately, many broadcasters don't stick with the standards and all too often don't include the correct NIT information in the stream. Thus a transponder would show the wrong satellite name or even no name at all. And then there's the case where the name of the satellite, bouquet, etc., is spelled wrong or non-uniform upper/lower case lettering is used. Here the responsible technician should definitely have an S7000 placed in his hands!

31, 32, 33, 34. The seventh menu screen PSI/SI lets you navigate within the complete TS table. All data can easily be analyzed, PAT, PMT, CAT, NIT, SDT, TDT and MIP. The arrow buttons let you navigate within the individual branches of the table giving you information on the smallest detail. It's an indispensable aid when working with multiplexers and you want to make sure that all the parameters are correctly configured.

35, 36. The transport stream analyzer's eighth menu screen is a highlight of the S7000: here individual transport stream packets can be stored and dis-

played. After recording, these data packets can be displayed byte-by-byte.

37. In the last menu screen the transport stream's reception parameters can be read and edited. This permits the simulation of different situations; the S7000 can be configured like similar receivers. There is no other known signal analyzer that can do this.

38, 39. If you insert a USB storage device into the S7000, the transport stream can be recorded if it is in transport stream analysis mode. The streams are recorded in *.ts format, a format compatible with many PC processing programs such as TS Reader, VLC or TransEdit. Of course, recorded transport streams can be played back on the S7000. In this case all of the listed analysis tools are available. In other words, you can record a transport stream on a receiver or computer and then analyze it with the S7000.

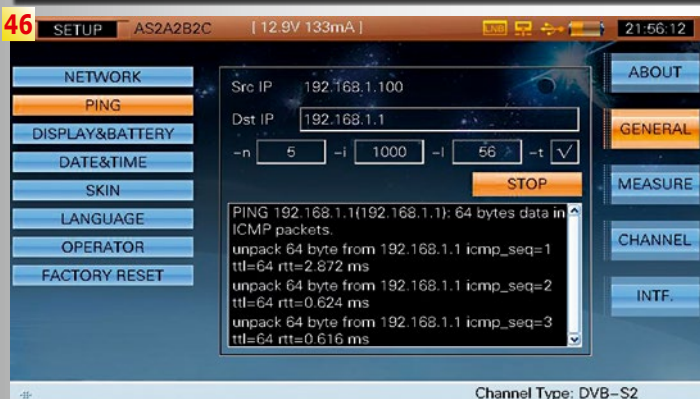
40. The currently displayed image on the screen can be saved in JPG format to the analyzer's internal memory by pressing the Store button. If you happen to be in one of the various measurements modes, the analyzer will ask you if you want to save the current screen or the displayed data. If the latter is chosen, the data can be recalled offline on a PC and if desired can be displayed and edited, for example, with the marker. Using the analyzer's File Manager (accessible from the Main menu), the data stored in the analyzer can be displayed, deleted, edited or saved to a USB storage device.

41. The active transponder can be edited and stored in a special channel configuration screen. In this way the channel list can also be managed and updated directly on the S7000. This process is actually quite comfortable so that you don't necessarily need to refer to the Settings Editor on the included CD.

42. Back in the Configuration menu the TS INTERFACE makes it possible to activate or deactivate the ASI input. This interface lets you stream transponders to other devices or take the ASI streams from other devices and scrutinize them with the S7000's transport stream analyzer.

43. The Configuration menu is divided into five sections: ABOUT, GENERAL, MEASURE, CHANNEL and INTF. In the first section a variety of analyzer information is displayed, for example, the version number and the different modules.





44. In the second GENERAL section the network interface can be configured.

45, 46. Outstanding: the Ping command can be used to test the network connection. This alone is very useful when, for example, a so-called Triple Play CATV connection is being installed and, in addition to telephone and digital cable TV, the Internet connection needs to be tested.

47. Display and power consumption can also be configured, such as, how much inactivity time should elapse before the S7000 turns itself off.

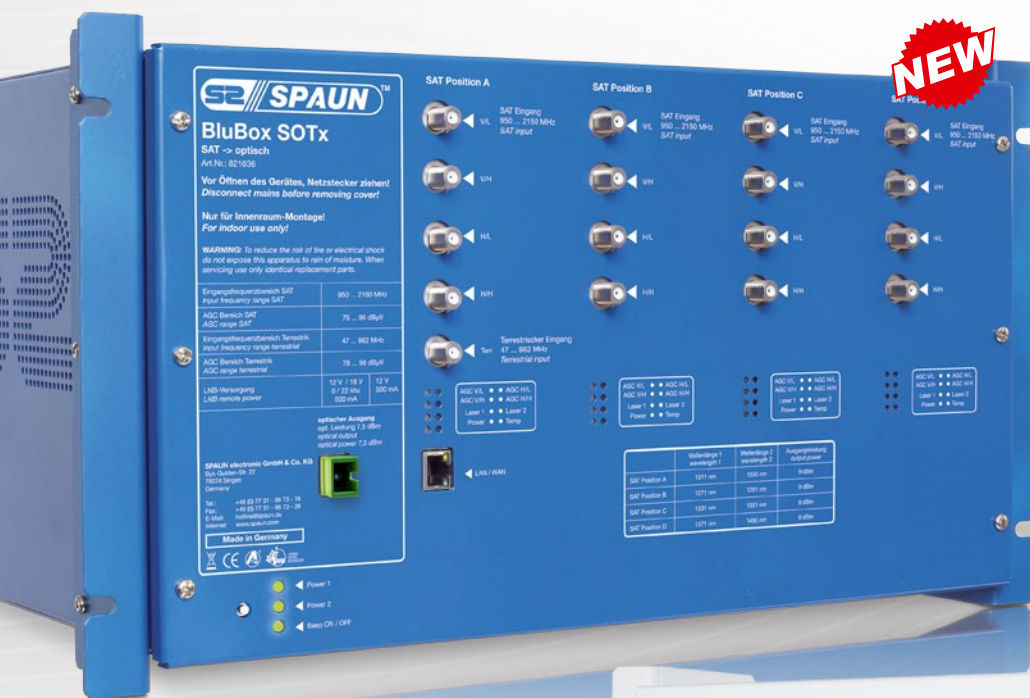
48. The date and time can be set.

49. A variety of skins can be selected.

50. Of course, a variety of menu languages are also available.

51. The submenu OPERATOR is very interesting: different technicians can log in here and even the company name can be left behind. This allows the analyzer to be operated by different users whereby it would be easy to determine who is responsible for a particular measurement.

52. Retrieving the analyzer's default settings.



BluBox SOTx

- **Up to 16 SAT IF levels and terrestrial 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



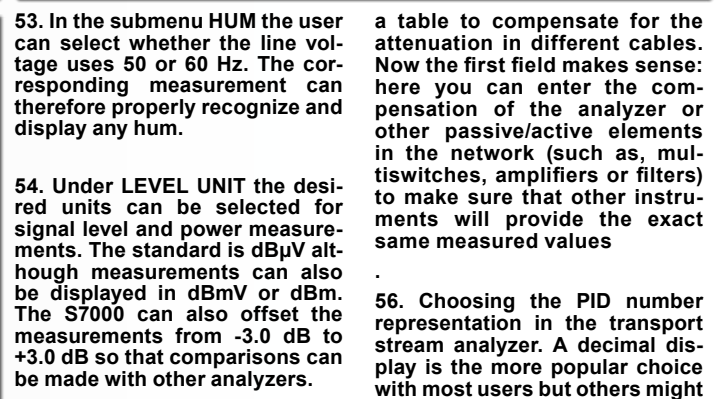
WhiteBox

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



SPAROS 711 Touch Series

- 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!



53. In the submenu HUM the user can select whether the line voltage uses 50 or 60 Hz. The corresponding measurement can therefore properly recognize and display any hum.

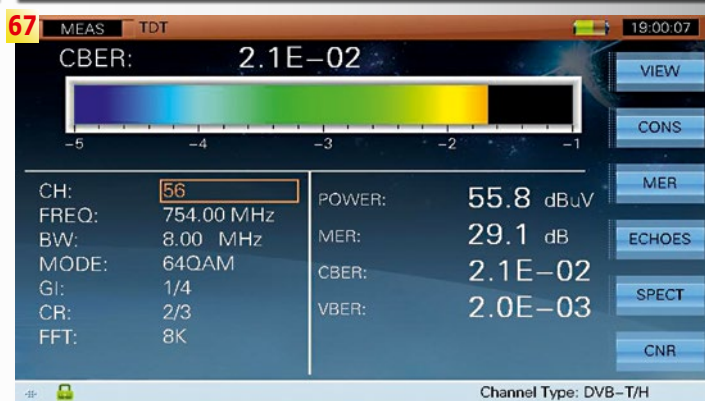
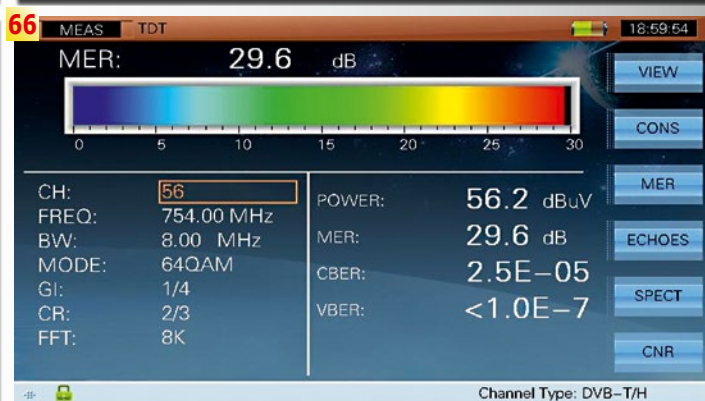
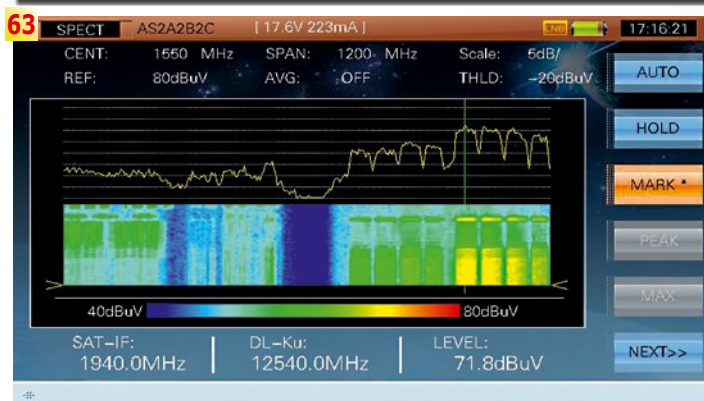
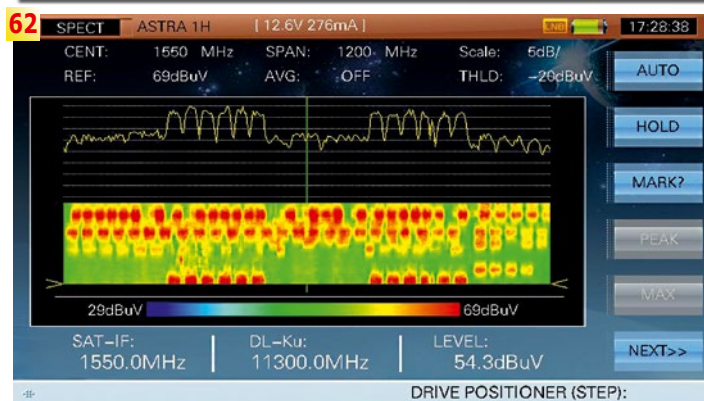
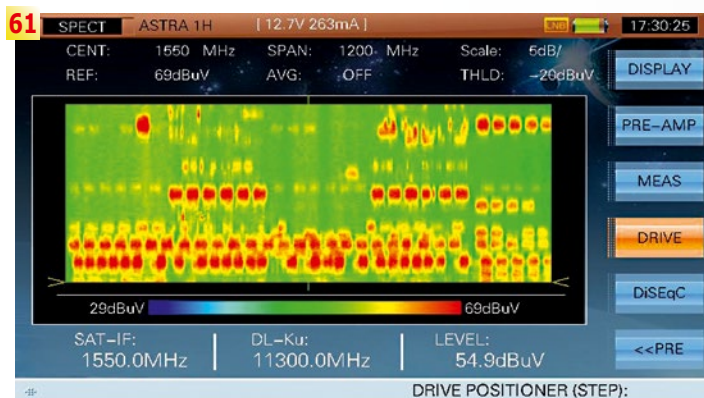
54. Under LEVEL UNIT the desired units can be selected for signal level and power measurements. The standard is dBuV although measurements can also be displayed in dBmV or dBm. The S7000 can also offset the measurements from -3.0 dB to +3.0 dB so that comparisons can be made with other analyzers.

55. TP COMPENSATION allows you to add two additional compensation values. The first field lets you add a general dB value that is then added to the measured signal. In the second field an additional dB value can be entered that is also added to the signal; the intention here is to compensate for the probe. Only positive values can be entered in both fields (0 dB to 40.0 dB). This is always useful when, for example, different cables or adapters with varying attenuations are used between the S7000 and the antenna jack. In this way it's possible with

a table to compensate for the attenuation in different cables. Now the first field makes sense: here you can enter the compensation of the analyzer or other passive/active elements in the network (such as, multiswitches, amplifiers or filters) to make sure that other instruments will provide the exact same measured values

56. Choosing the PID number representation in the transport stream analyzer. A decimal display is the more popular choice with most users but others might be more used to hexadecimal format in that it has the advantage that all bytes, regardless of their value, have precisely two characters.

57. Since the S7000 supports both ATSC and DVB, the desired mode can be selected in the appropriate menu. This only affects the transponder stream analyzer which displays the received stream. Sure enough, there's very little you can do wrong here; the S7000 processes the reception parameters automatically, even if these were predefined incorrectly.



58. In the last submenu the correct analog signal standard can be selected. All standards are supported: PAL-BG, PAL-I, PAL-M, PAL-N, PAL-DK, NTSC-M, NTSC-N, NTSC-433, SECAM-BG, SECAM-DK and SECAM-L, and, of course, 50 or 60 Hz. There's no doubt, no matter where you are in the world, this analyzer can be used to measure TV signals.

59. Another highlight: channel lists can be created not only with the editor that can be found on the CD, but also directly here on the analyzer.

60. Last but not least, there's also a dedicated menu for configuring the GPS antenna. If it's active, the current position will be displayed. If there's no GPS antenna or if you want to enter in another position, such as the customer's location, this can be done manually.

In the firmware of the analyzer that we tested, the GPS antenna is used to only show the current position and to calculate the azimuth, elevation and skew. An upgrade to the firmware that would allow the continuous recording of measurement parameters together with the geographical position would be nice. Such a recording of the recep-

tion parameters along with the geographical position could be used, for example, in conjunction with Google Maps to create regional footprints of Single Frequency Networks.

Waterfall

61. The Deviser S7000 is the first combined TV analyzer that features the waterfall diagram to show the spectrum. In this picture you can see the result of rotating our motorized dish. Notice the different satellites and their transponders. Can you guess the satellites? With a bit of experience you will be able to recognize the satellites.

62. Deviser not only implemented the waterfall diagram – they seriously thought about it and realized a combined spectrum and waterfall display mode. This is really useful, since the spectrum is in high resolution, while the waterfall will keep track of the spectrum over a period of time.

63. Here we were optimizing our dish for the reception of exotic satellites... notice how the reception level varies on the waterfall

diagram. After using this display mode, you'll never go back to anything else.

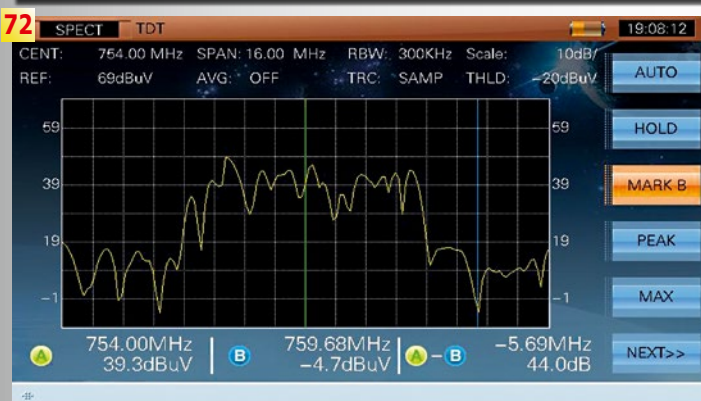
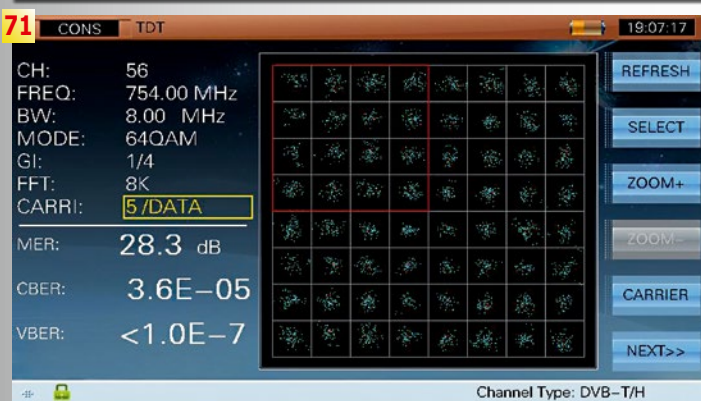
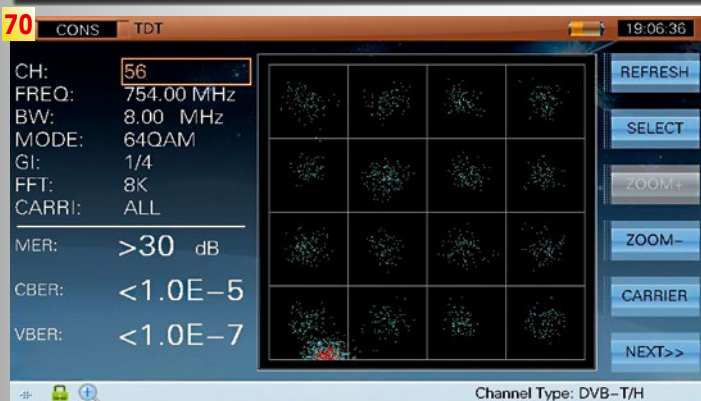
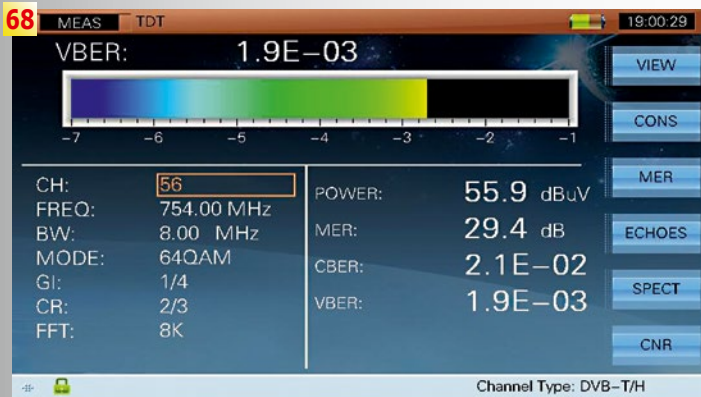
CATV and Terrestrial TV Modus

64. If you switch to Cable and terrestrial TV mode from the Main menu, two new symbols will appear in place of the Sat Finder and DiSeqC symbols for the measurement of angular position

and Barscan.

65, 66, 67, 68. Based on the active channel list, the analyzer automatically selects CATV or terrestrial reception.

Once again the S7000 automatically recognizes the reception parameters and in record time. Just like in Sat mode, in the upper part of the screen the power, MER, CBBER or VBER can be enlarged and displayed with bar graphs.



69, 70, 71. In DVB-T/H mode, the constellation diagram is enormously useful in identifying errors. The Deviser S7000 comes with all the expected functions like Zoom, to magnify quadrants. Also interesting is the ability to focus the constellation diagram onto single carriers in the transponder. This lets you analyze, for example, the influence of a narrow bandwidth interference signal on a single carrier. Fantastic!

72, 73. And just like in Sat mode, the spectrum in DVB-T/H mode can also be displayed in various forms, including a waterfall diagram. The 50 MHz to 1000 MHz spectrum is clearly refreshed at a much slower rate than in Sat mode and this is obviously due to other signal modulations and smaller spectrum frequency bandwidths being used. However, Deviser gives the user the ability to edit the spectrum frequency bandwidth in increments. Depending on the setting, the spectrum is displayed in more detail or presented much faster.

74. You don't want to analyze the spectrum across the entire frequency span here anyway - it would be good enough if you find out ahead of time on what frequencies signals can be found. It's critical here to enter small enough ranges that would allow a precise measurement of the signal-to-noise ratio. There are two markers available in this mode for that purpose and the S7000 automatically determines this ratio in MHz and dB.

75. An ECHO measurement should be included in every modern DVB-T/H signal analyzer. This type of measurement is critical for Single Frequency Networks (SFN). The idea here is that various transmitters in a region all broadcast on the same frequency. This has numerous advantages; for one thing the rest of the frequency band remains clear for other uses and secondly, receivers can be transported within a region (such as in cars) without having to reset the reception frequency.

Unfortunately, SFN transmissions also come with a huge disadvantage: if the receiver finds itself between two transmitters, the signal will be received from both transmitters. Since the distance of the receiver to both of the transmitters is likely to be different, the result is a shift in the arrival times of both signals known as ECHO.

The DVB-T/H standard provides for a so-called Guard interval that automatically compensates for this time shift if it is small enough, that is, lies within the Guard interval. If the ECHO is too large, it will inevitably lead to reception problems even though a simple signal analyzer will show a high signal level!

The S7000 has mastered these ECHO measurements and automatically displays these measured ECHOs graphically and in a table. For each ECHO the corresponding level as well as the delay in microseconds/kilometers is shown. This will allow the installer to determine which transmitter is causing the interfering ECHO and properly align the antenna especially if he has documentation showing the regional distribution of these transmitters.

A trick would be to use the sloping roof of a house to block the unwanted signal from a distant transmitter.

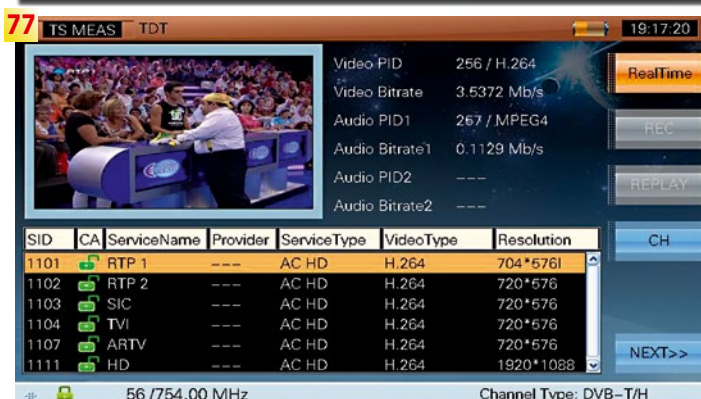
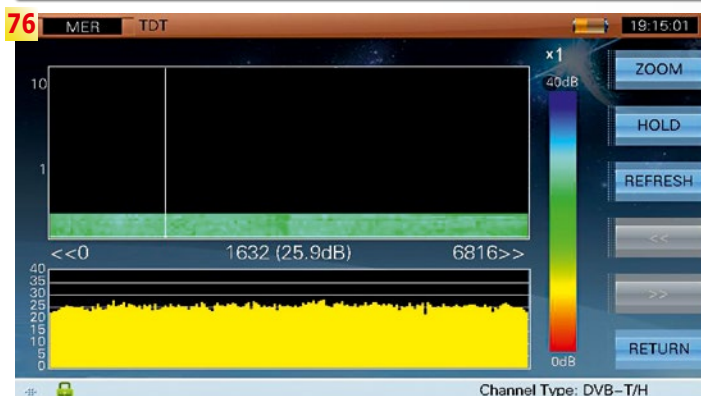
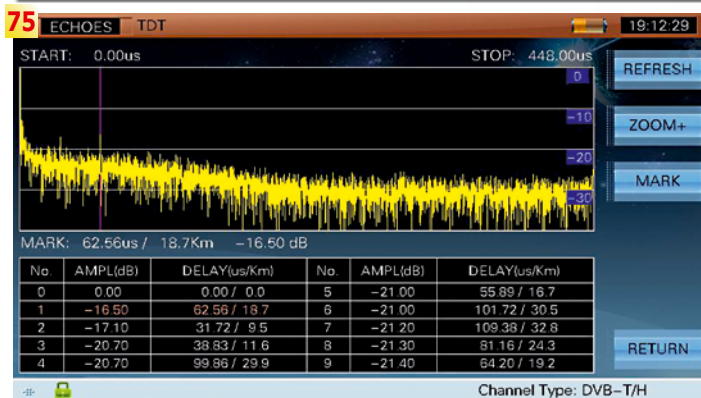
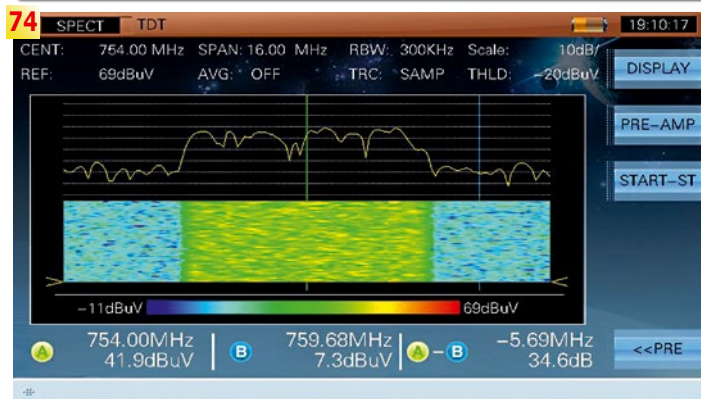
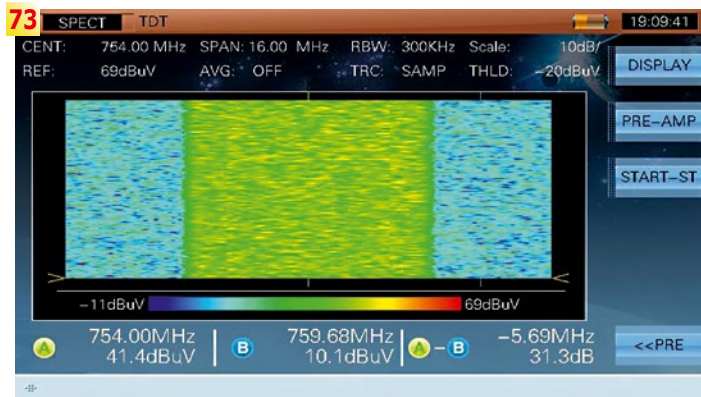
76. Another relatively new measurement that is found in very few professional analyzers is the MER vs. carrier measurement. Here the Modulation Error Rate (MER) is not shown as an average value of all carriers within a transponder, instead it is shown for each individual carrier.

These values are presented in a graphic that resembles the spectrum and consequently, also in a waterfall diagram. The marker allows the navigation within the many carriers that make up the transponder and the analyzer will show the respective matching MER value in dB.

This measurement serves to identify the smallest interference such as that from audio/video broadcasters in the VHF/UHF range. But even LTE and other services could interfere with a DVB-T/H transponder. With a basic MER measurement this interference might not be detected since the average value is hardly affected. Nevertheless, it could be enough to totally interfere with a few carriers such that a considerable portion of the transponder stream can no longer be correctly received.

The simultaneous display as a waterfall diagram is truly one-of-a-kind; it allows you to catch and document even intermittent and momentary interference.

77. Just like in Sat mode, the TS Analyzer can be accessed at any time. In just seconds a signal lock is achieved and the reception parameters are read. Thanks to the implementation of many standard and also non-standard CODECs, channels such as the Portuguese TDT (Televisão Digital Terrestre - digital terrestrial television) can be displayed even though, despite DVB-T modulation, the video and audio are compressed in MPEG H-264 and MPEG4 AAC, respectively, as can be seen in the PROG GRAPH screen.



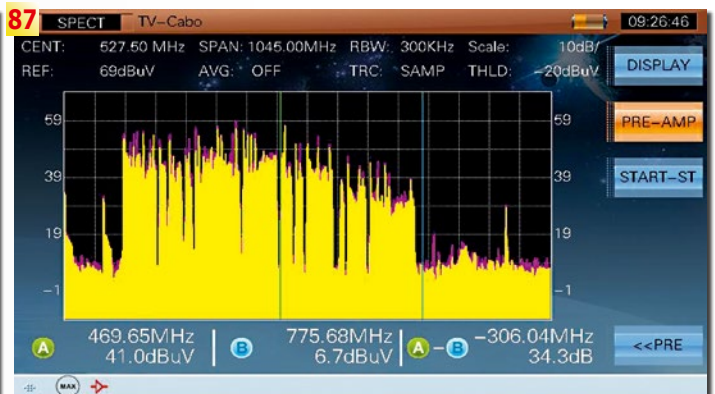
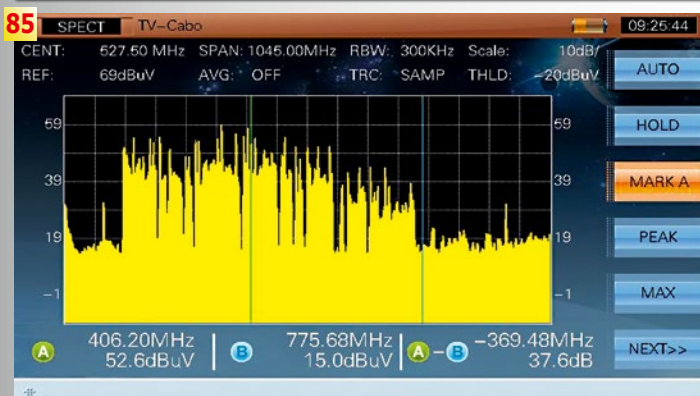
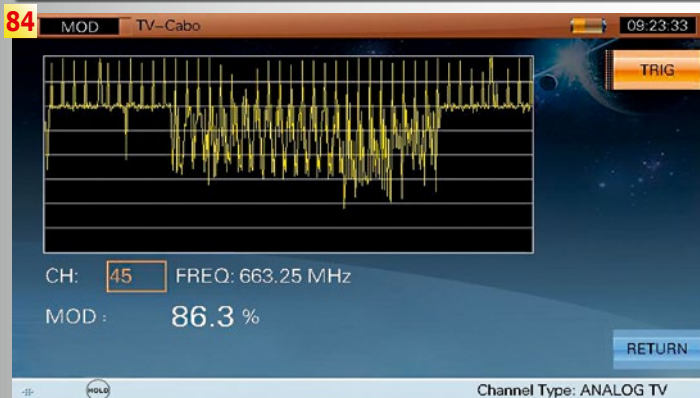
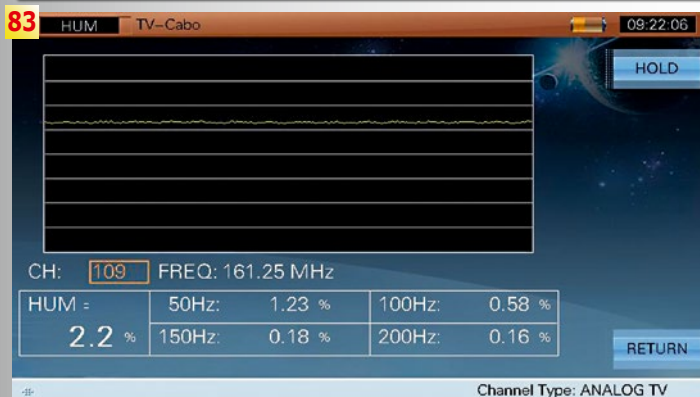
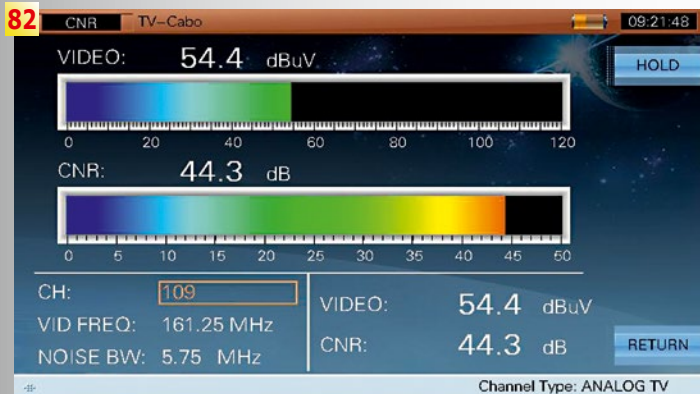
78, 79, 80. The Deviser S7000 doesn't differentiate between CATV and terrestrial TV. The advantage here is that the channel list doesn't need to be divided and you don't have to go through complicated menus to change modes. The S7000 recognizes the modulation, regardless if it's analog, DVB-C or DVB-T/H.

With analog channels the audio/video levels are displayed and the offset is auto-

matically calculated.

81. Naturally, analog channels can be presented with picture and sound while the analyzer simultaneously shows added information such as the video standard. Just like with the presentation of digital transponders, the TV picture can be shown in full-screen mode by simply pushing the OK button.





82. With analog signals there are of course additional measurements possible, for example, the signal-to-ratio. What's unusual is all of the information that can be displayed at the same time thanks to the high-resolution screen. Even from a distance you'd be able to read on a bar graph the numerical values, for example, for the signal level and the signal-to-noise ratio while at the same time, for example, the channel number and frequency are displayed.

83. The S7000 can also perform hum measurements. This makes it possible to measure the influence of hum that originates from the power grid and are present on analog channels. Naturally you can choose in the configuration menu whether the power grid operates on 50Hz or 60Hz.

84. And another surprise: in order to actually find every possible error, the analog video lines can be presented in an oscillator mode. In this way, for example, problems in the blanking intervals that are critical for picture synchronization can be recognized.

85. The spectrum mode when used in CATV and terrestrial modes has the capabilities to position two markers whereby the level offset is automatically displayed.

86. A peak-hold function is, of course, also available. This would be useful, for example, when an amplifier needs to be adjusted.

87. A preamplifier is integrated into the Deviser S7000 and, when necessary, can be activated.

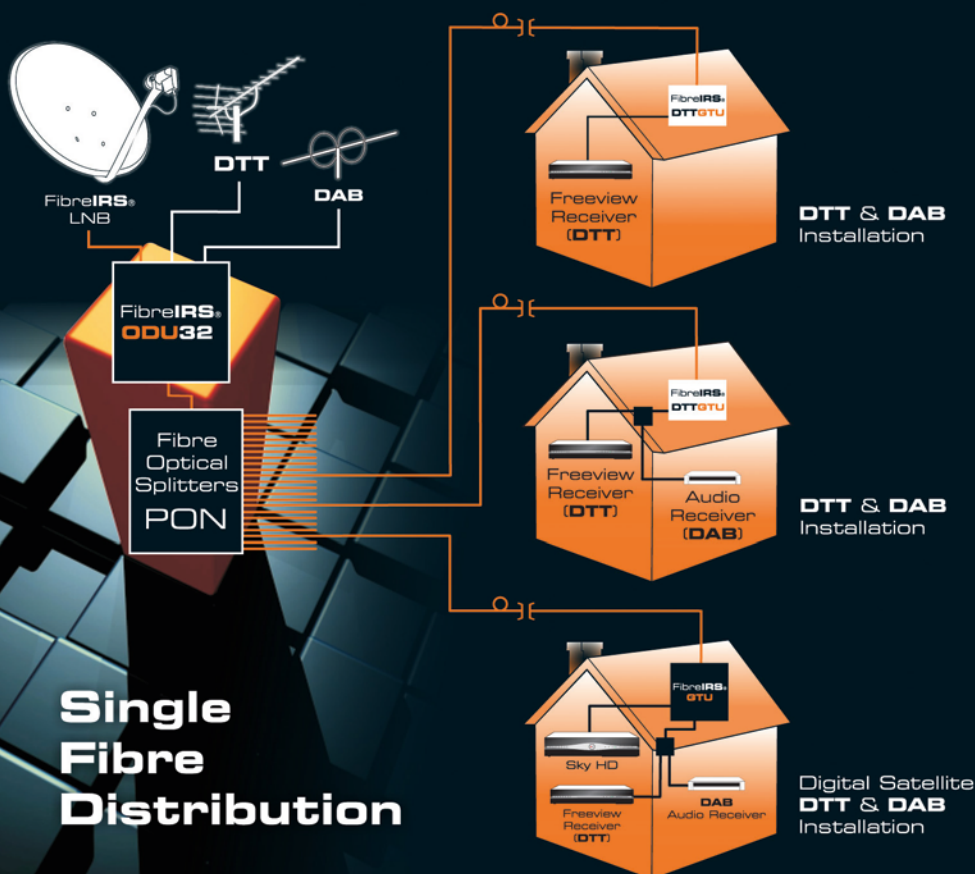
88. Digital CATV channels can also be measured and once again the S7000 processes the necessary reception parameters in record time. It was surprising that throughout the entire testing process it was not necessary to use the Settings editor to setup the channel lists ahead of time.

89. With digital signals the power and signal-to-noise ratio is displayed in the measurement screen. Thanks to the large screen all of the critical measurements and parameters such as MER, Pre and Post BER and frequency can all be viewed at the same time.



The New Generation Fibre Integrated Reception System

The only cost effective solution for distributing
**Satellite IF, DTT and DAB over a
Single Fibre Optic Network.**

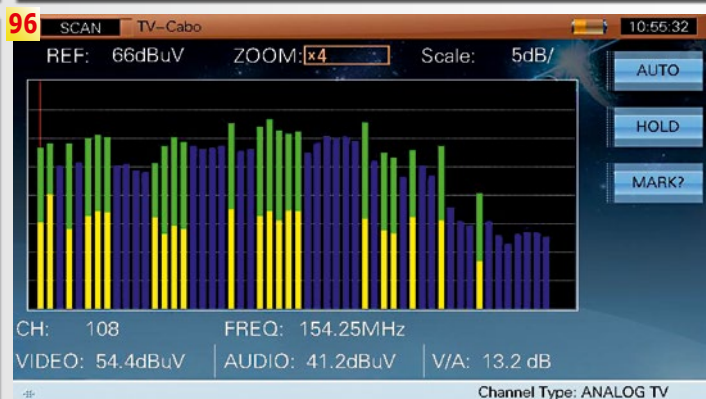
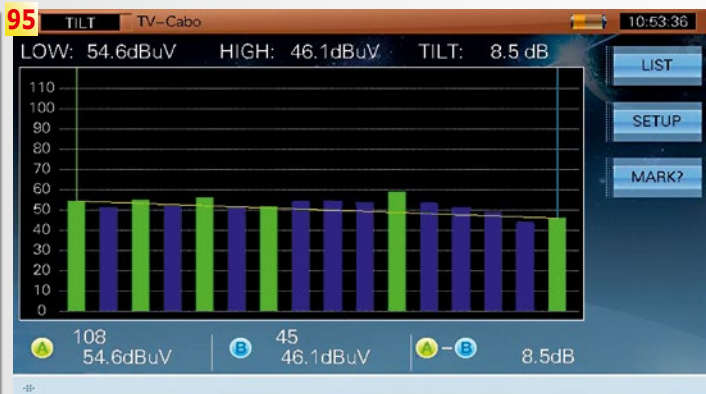
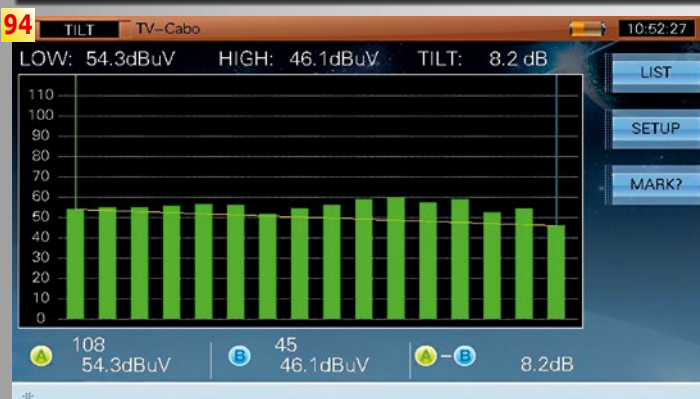
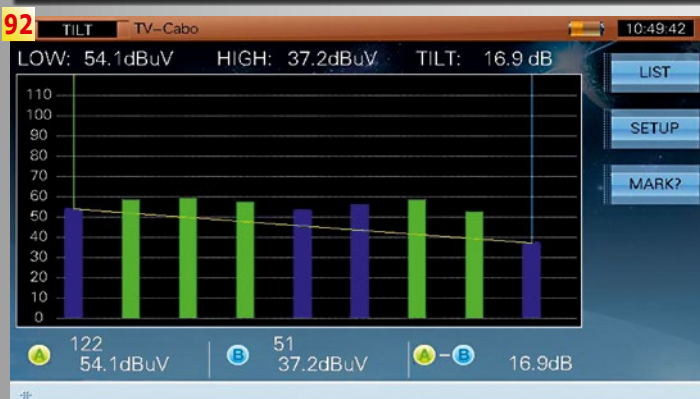
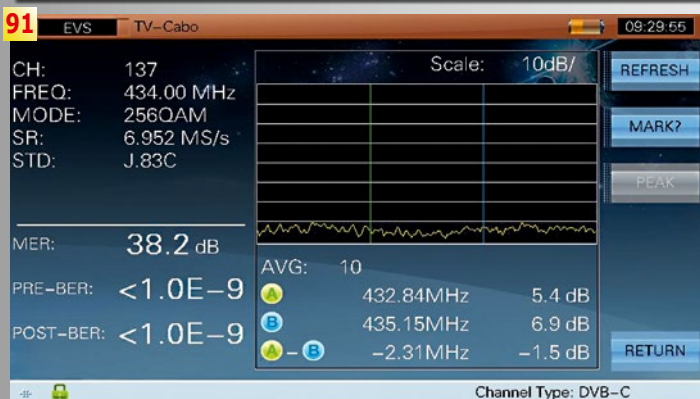


- Compatible with all digital satellite STBs
- Compatible with all DTT/Freeview™ STBs
- Compatible with all DAB Tuners
- Can be easily expanded to **256** points
- Simple installation* via 'Plug & Play' technology
- Ideal for short or long cable runs.

*Compared with existing Fibre Systems

**Single
Fibre
Distribution**





90. Just like with the handheld signal analyzer DS2400T introduced in the 1209 issue of TELE-audiovision, a long duration bit error rate (BER) measurement is also available. The time interval can be selected and from that point on a graphic shows the progression of BER and MER. This helps to identify intermittent problems.

91. An additional measurement for DVB-C signals is available, namely the EVM or Error Vector Magnitude. This measurement resembles the MER measurement but here a different reference is used: while the RMS value of a QAM signal is used for determining the MER, for the EVM measurement the peak value of the QAM signal is used as a reference. The EVM measurement presents the ratio of the error vector amplitude versus an ideal vector amplitude and helps with the identification of interference in signals under the QAM mask.

92. The so-called Tilt measurement shows the bars for each channel in increasing frequency from the left to the right so that the line connecting the first bar

to the last bar shows the tilt. Ideally, the line should be as horizontal as possible. A large tilt in the line suggests attenuation in the upper frequency range (or lower frequency range) and can, for example, be compensated for with the proper amplifier.

93. For the Barscan measurement up to 16 channels can be selected – you can choose only analog, only digital or a combination of analog and digital channels.

94. Here only analog channels were used for the Barscan measurement.

95. Digital channels were now measured (in blue) at the same port. It's obvious that the signal is falling off for the four digital channels on the right side. The attenuation is too high.

96. The so-called Barscan measurement is nearly self-explanatory and is where the level and power of the selected channels are displayed as a bar graph. With analog channels the video level is shown in green and the



associated audio level is shown in yellow. Digital channels are shown in blue. Here too the channels are arranged in increasing frequency and once again it's obvious that there's a problem on this antenna jack. The digital channels to the right clearly have a lower level than the others.

97, 98. The Deviser S7000 supports all the standard CATV modulators and can display the constellation diagram without any problems regardless if it's 64QAM or 256QAM.

99, 100. The S7000 can perform a channel scan for terrestrial TV and CATV. The user can choose if only analog channels, digital channels or both should be searched for. The threshold values can be predefined in the configuration menu.

101. For satellite mode the desired satellite simply needs to be selected from the list and it's even possible to enter new satellites into the analyzer. The preprogrammed satellite list contains nearly every satellite from around the world along with their current transponders.

■ TELE-audiovision's Technical Editor Vitor Martins Augusto using the Deviser S7000



MKTech IS1-19HD



ISDB-TB & DVB-S2 Receiver

- *Very user-friendly software*
- *Extremely sensitive tuners with fast channel scanning*
- *High-speed channel switching times*
- *Clever: Removable hard drive frame*
- *Volume can be set individually for each channel*



The Best of Both Worlds

The IS1-19HD from MK-Tech is a hybrid receiver. It can receive both DVB-S2 satellite signals as well as terrestrial channels. MK-Tech configured the IS1-19HD with an ISDB-T receiver section because of the fast growing market in South America.

On the front panel of the subtle housing you'll find a very easy to read VFD display and right along side the manufacturer incorporated a total of seven buttons to control the receiver in case the remote control goes missing or its batteries die. Behind a flap there's a card reader that permits the reception of encrypted channels. The rear connector panel is nicely equipped; there are DVB-S2 and ISDB-T inputs that

each have looped-through outputs, an HDMI output, six RCA jacks for stereo audio, CVBS and YUV outputs, a network interface, a coaxial S/PDIF output and a USB 2.0 port. Especially clever and new to us in this form is the removable frame for an internal 2.5" SATA hard drive. It can be inserted and removed without any tools; simply push one button and it pops right out. And let's not forget the WiFi dongle that the manufacturer also included in the package. It can be used to set up a wireless network connection with the IS1-19HD.

The included remote control sits very nicely in your hand and its slip-free surface underneath guarantees it won't slip easily out of your

hand. The nicely arranged and clearly labeled buttons greatly simplify the use of this receiver. All-in-all we had nothing but praise for the workmanship of the MK-Tech IS1-19HD and the easy-to-access removable hard drive frame is an especially nice feature.

The IS1-19HD does not come with an installation assistant; the user has to take care of all the necessary settings manually and deal with all the various menu entries on his own. But it turns out that it's easier than it sounds; the entire menu structure is nicely organized and all the

menu entries are essentially self-explanatory. Thanks to the support of all the DiSEqC protocols (1.0, 1.1, 1.2 and 1.3), the IS1-19HD can be used with any antenna configuration. The preprogrammed as well as freely selectable LOF values make it easy to use this box anywhere in the world. MKTech preprogrammed the receiver with a total of 59 satellite entries but, unfortunately, these entries are not all that up-to-date. Channel scanning, on the other hand, is definitely outstanding: Blind scanning and normal channel scanning functioned very



SATLINK

Digital Satellite Meter

WS-6936

DVB-T&S COMBO METER WITH SPECTRUM



DVB-S Spectrum:

In satellite signal C band and KU band range ,
show the energy distribution of the received signal,
show Cursor location and signal strength downlink frequency,
Signal was locked.

Show spectrum bandwidth: 1200MHz; 540 MHz; 108 MHz

DVB-T Spectrum:

In the 104MHz-862MHz frequency range or stored state table,
Shows the energy distribution of the received signal (Frequency,
bandwidth, signal strength) Signal was locked, can be displayed
Ber, S / N and other indicators.

So don't wait, Call us for a sample!

For the first time in an Economical digital meter, you are now able to view the actual channel on the screen of the meter. Now you can quickly and accurately align the satellite and you can instantly check the stable of the channel right on the screen of the meter. Transponders, Frequency, Symbol Rate, Polarity, and other settings can be modified by the user.



WS-6909
DVB-T&S COMBO METER



WS-6918P
DVB-S2 Satellite Finder Meter



WS-6932
HD Satellite Finder Meter

SATLINK**SATLINK TECHNOLOGY CO., LIMITED**

Add: Jiangnan High-Tech, Licheng District, Quanzhou, Fujian, China

Tel: +86-595-28106302 Fax: +86-595-28106253

E-mail: dp02@baotong.cc

Website: <http://www.sat-link.com.cn> www.hktdc.com/em/fjbaotong

nicely in our tests. 1500 TV and 520 radio channels were discovered in just about four minutes. We liked in Blind-scan mode that the receiver first identified all the active frequencies (for which it needed a little more than a minute) and then compared them with those in the pre-programmed list. After that it performed a channel scan. In this way the transponder list is consistently kept up to date with every Blindscan.

In ISDB-T mode the user can perform automatic and manual channel scans. In automatic mode, all of the available frequencies will be processed; in manual mode the frequencies can be selected and processed individually. Both the ISDB-T tuner and the DVB-S2 tuner have excellent input signal sensitivity and can easily handle weaker signals. A total of eight Favorites lists are available for the quick and easy recall of all of your favorite channels and if you don't want to take any chances, you can store the channel lists on an external storage device so that in an emergency you won't have to redo all of that channel list setup work again.

The automatic signal matching feature worked perfectly in our tests. While our 42" LCD TV could handle resolutions up to 1080p, the receiver correctly recognized the maximum resolution of our capture card to be 1080i and automatically adjusted the resolution to the proper setting.

We shouldn't forget to mention the „Volume per Channel" feature that can be activated or deactivated in the System Settings. With it activated, the receiver automatically recognizes the volume setting for each individual channel so that especially loud channels can be set to a lower volume and,

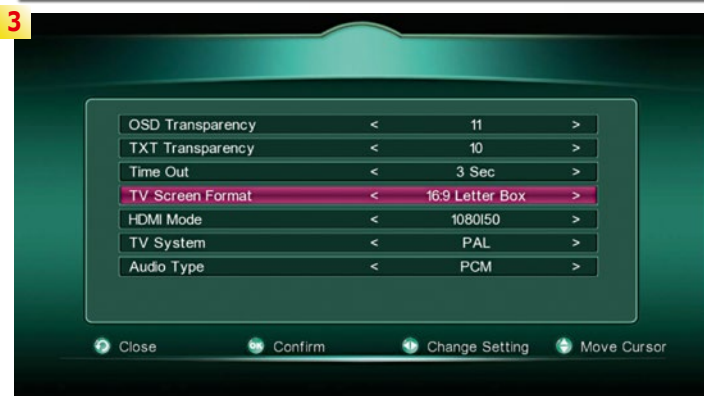
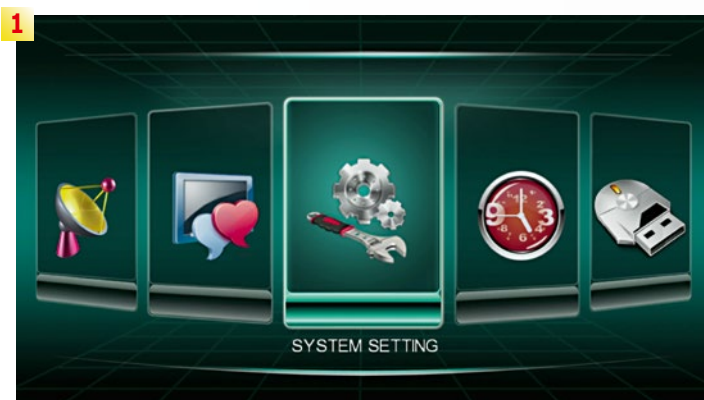
vice versa, a significantly quieter channel can be set to a higher volume. In our tests this feature proved itself to be very practical especially when surfing between channels from different regions of the world that are often broadcast with varying volume levels.

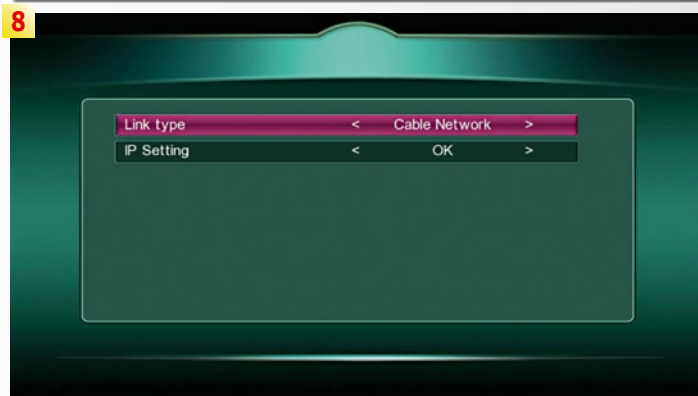
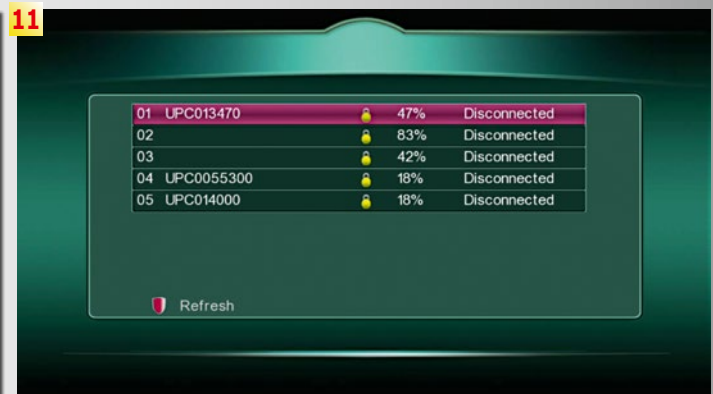
The Info bar that appears with every channel change shows the name of the current program and the upcoming program assuming of course that the provider supplies this information. Since the IS1-19HD is a PVR receiver, MKTech naturally thought to include the ability to set up timer recordings directly from the EPG with the push of just one button. This worked exceptionally well in our tests even when setting up repeated daily or weekly recordings.

Thanks to the clearly arranged channel list, surfing between channels is actually quite a bit of fun. And this is only enhanced by the speedy channel switching speed of less than one second.

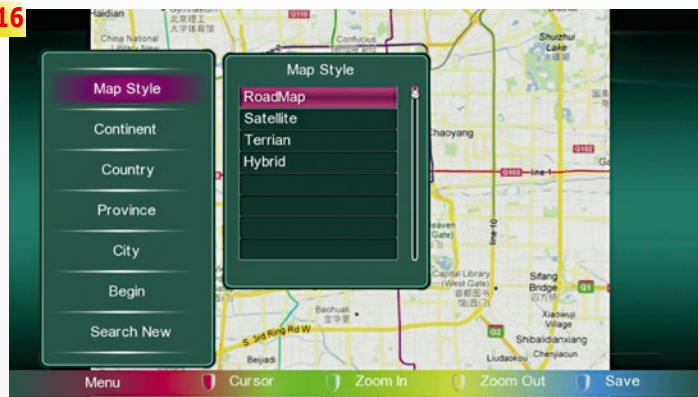
We appreciated the number of direct-select buttons on the remote control, such as, searching for a specific

1. The IS1-19HD's main menu
2. The Language menu also contains the volume setting for each channel "Volume per Channel"
3. Matching the video output signal
4. Child protection settings
5. USB and network settings
6. PVR settings
7. With the help of the USB Tools, files and directories can be created and edited
8. Hard wired network connection
9. Of course the DHCP protocol is supported
10. Thanks to the included WiFi dongle, the receiver can also communicate wirelessly with a router
11. Available WiFi networks
12. Manual IP entry
13. Additional features of the IS1-19HD
14. Stock prices
15. RSS Reader





16



16. All the functions of Google Maps that the user is familiar with on a PC are also available in the receiver

17. Access to the online photo services Yupoo, Picasa and Flickr

18. Sorting the displayed YouTube clips

19. Searching for specific YouTube clips

20. For weather forecasts there are numerous cities already preprogrammed, more cities can easily be added

21. Weather forecast for Florence

22. Dozens of games can be downloaded

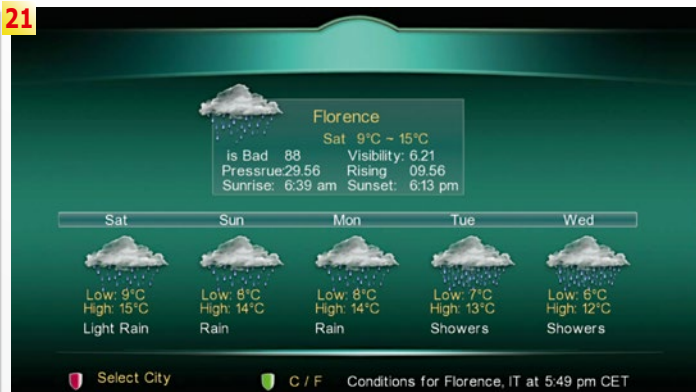
23. Installation menu

24. The preprogrammed satellite list

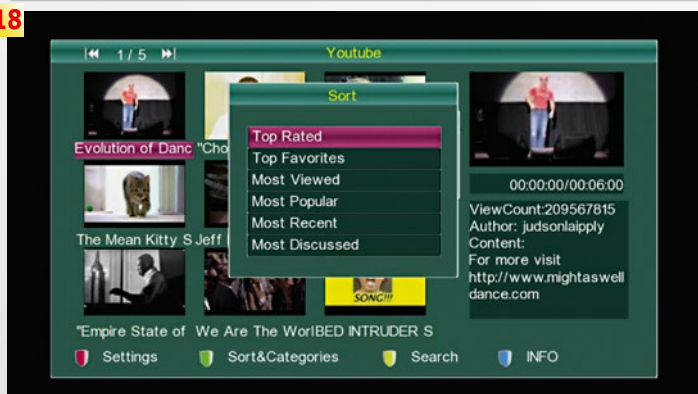
17



21



18



22



19



23



20



24



IPTV Software + IPTV Hardware

Win-Win Model

Once Investment Forever Interest



ForceTech Cloud Live/VoD Streaming Media System, head-end IPTV/OTT
Solution for Streaming Distribution. Professional Video Streaming Transmission Scheme.

- Support Multiple Streaming Format
- Compatible with PC, Set-top box, Mobile Phone, Tablet PC Terminal
- Support the Live, VoD and Record Varieties of Business
- User Billing, Content Distribute, Operational Monitor Multidimensional Management
- Cloud Streaming Media Technology, Bandwidth Savings
- Smooth Playback, Unbuffered

Website: <http://www.forcetek.net/en/>

E-mail: info@forcetek.net

Tel: +86-10-82825631





channel, changing the output resolution, switching the picture display mode as well as displaying the currently stored timer entries.

Our overall positive impression was further amplified by the error-free functioning of the OSD teletext decoder and the on-the-whole very carefully implemented software. Thanks to the powerful main processor, the 128 MB flash memory and the 256 MB SDRAM, all of the remote control commands were promptly executed without any delay.

This can also be seen with its PVR functions. There were no problems recording two HD programs at the same time while a third program could be watched live or played back from the hard drive. And thanks to the practical USB Manager, users can easily create folders as well as delete, copy or rename files. It's also possible to format new storage devices.

The MKTech IS1-19HD also comes with a jukebox function so that audio files can be played back. There's also a photo viewer as well as a video player. These are

features that have generally become standard on nearly every PVR receiver. The file formats that are supported include: AVI, ASF, MPEG, MKV, RM, TS, M2TS, FLV, SWF, DAT, VOB and RMVB for videos, MP3, FLAC, WMA and AAC for audio as well as JPEG, BMP, PNG and GIF for pictures.

Last but not least, the USB port serves to upload the latest receiver software. The manufacturer regularly makes software updates available for download via their web site.

The IS1-19HD comes not only with a hard-wired RJ45 Ethernet interface, with the help of the included WiFi Dongle it can also communicate wirelessly with your router. In our tests this connection worked perfectly; as soon as the Dongle was connected to the USB interface, it immediately recognized all of the locally available WiFi

25. Transponder overview

26. The user can easily edit transponder entries or add new ones

27. If needed, the LOF can be entered manually

28. A network scan to find related transponders is also available

29. Picture viewer



Intelsat / GVF Type Approved

Ka-Band Antenna System

VSAT Antenna System

DTH Antenna System



<http://www.azureshine.com.tw>



AZURE SHINE INTERNATIONAL INC.

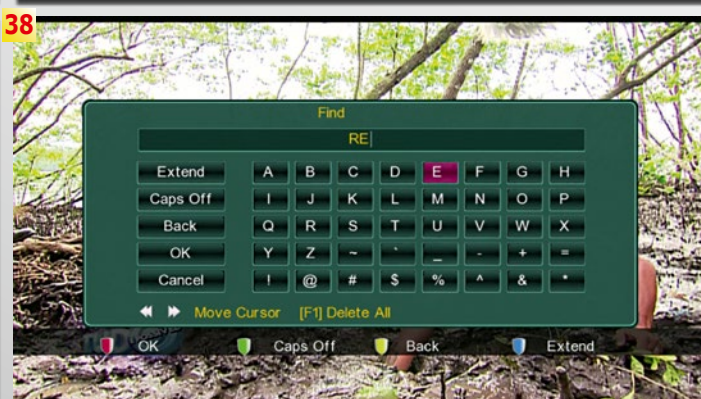
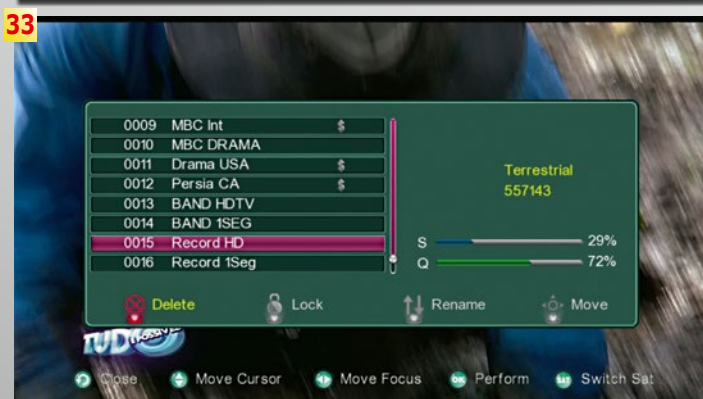
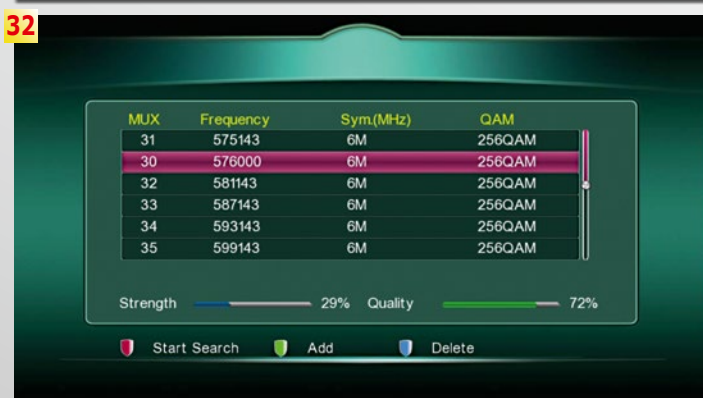
No.1000, Gwang Fu Road, Pa Teh City, Taoyuan, 33455, Taiwan R. O. C.

E-mail: azure.shine@azureshine.com.tw

TEL : 886 3-3611393 / FAX : 886 3-3615877



30. DiSEqC 1.2 settings
31. Country selection in the DiSEqC 1.3 settings
32. ISDB-TB frequency overview
33. Editing the channel list
34. Channel List Manager
35. The IS1-19HD channel list
36. Language selection
37. A total of eight Favorites lists are available
38. Specific channels can be searched for using the OSD keyboard



HORIZON

For a reliable solution!

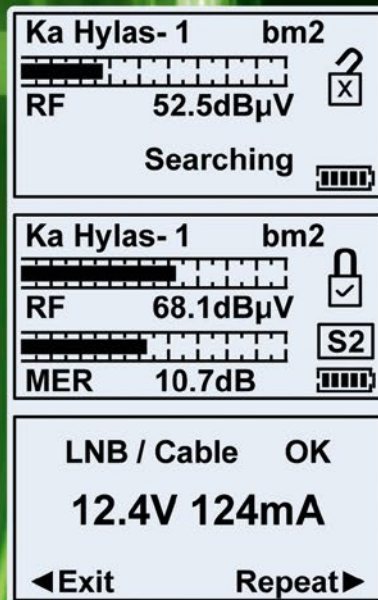
Winners of the Queen's award for international trade 2007, Horizon Global Electronics is a UK Company established in 2001 specialising in the design and manufacture of hand held test equipment for the digital satellite and TV sector. Our strength lies in being able to find innovative solutions to leading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

Introducing the new HD-S2A!



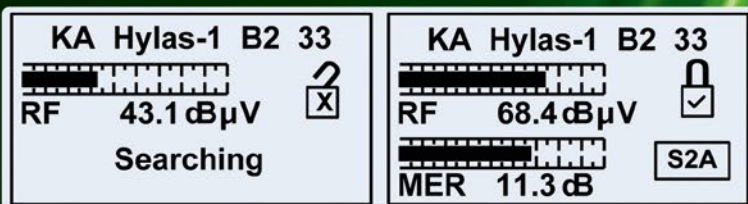
The HD-S2 satellite meter features all the functions you will need to perform DVB-S and DVB-S2 satellite installations.

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:
+44 (0)1279 417 005

Email:
sales@horizonhge.com

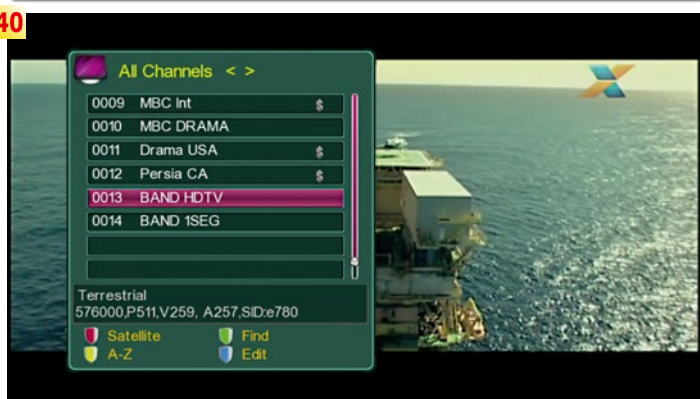
www.horizonhge.com



39



40



41



networks. Manually entering the SSID is not possible so therefore the receiver can't look for hidden WiFi networks. Once a connection has been established with the Internet, the user can then check the local weather forecast, access an RSS reader, check stock prices, view Google Maps, YouTube as well as the online photo services Yupoo, Picasa and Flickr. There's also a large assortment of entertaining video games available for download.

39. ISDB-T channel scan

40. The IS1-19HD channel list

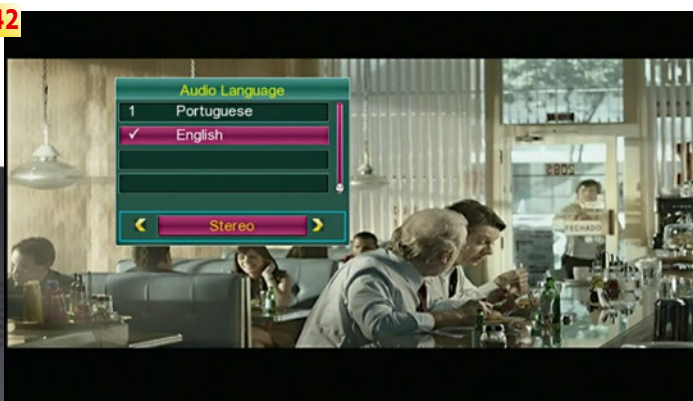
41. BAND HD from Chile via ISDB-T

42. Language selection

Overall we enjoyed using the MKTech IS1-19HD's network features - all the services were integrated by the manufacturer in an exemplary fashion; they were all fully functional. We especially liked that they could all be used very effectively via the receiver and TV. Only in that way will users actually want to utilize them.

The combination of DVB-S2 and ISDB-T tuners in this receiver makes it a very interesting choice for our TELE-audiovision readers in South America and we're certain that the IS1-19HD from MKTech will find many fans in that part of the world.

42



EXPERT OPINION

MKTech IS1-19HD
DVB-S2 & ISDB-TB Receiver

RECOMMENDED
PRODUCT BY ▼



TELE-audiovision
THE WORLD'S LARGEST DIGITAL TV TRADE MAGAZINE



Thomas Haring
Test Center
Austria

VIP

CARD

TELE
audiovision
www.TELE-audiovision.com

+ Thoughtful, clear and error-free software
Rich yet easy to use functions
The removable frame for the 2.5" SATA hard drive is very innovative and clever

- Cannot enter SSID manually in WiFi mode

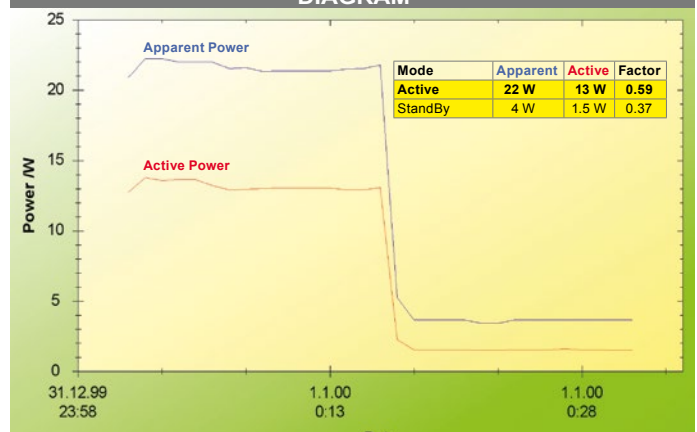


TECHNICAL DATA

Manufacturer	Gotech International Technology Co., Ltd.
Address	66 Yongda Road, Hongqi, ZhuHai 519045, Jinwan, CHINA
Contact	www.gotechcn.com/Enquiry.asp
Internet	www.gotechcn.com
Model	IS1-19HD
Function	DVB-S2 & ISDB-TB Combo Receiver
Input frequency DVB-S2	950 - 2150 MHz
Input symbol rate DVB-S2	2 - 45 Ms/s
DiSEqC	1.0, 1.1, 1.2, 1.3
Input frequency ISDB-TB	177 - 213 MHz & 473 - 803 MHz
HDMI	yes
Digital Audio out	yes (coaxial)
USB 2.0	yes
Internal 2.5" SATA HDD	yes
CI Slot	no
Card Reader	yes
Stereo Audio, CVBS, YUV	yes (6x RCA)
Scart	no
Ethernet	yes
WiFi	yes
RS232	yes
0/12V	no
EPG	yes
HDTV	yes
PVR	yes
WebTV	no
Power Supply	100 - 240V AC 50/60 Hz
Dimensions	28 x 23 x 5.5 cm
Weight	1.35 kg



ENERGY DIAGRAM



Energy: The first 15 minutes active operation; the second 15 minutes Standby

HORIZON HD-CM+

for



- *extremely user-friendly operation*
- *allows fully automatic measurement with log file*
- *very easy to read display*
- *leakage function for detecting faulty cabling*
- *frequency comparison measurements for checking the cabling*



Made for professionals – by professionals!

A reliable signal meter is one of the most important tools for professional installers of new DVB-C networks for hotels, apartment buildings and small residential estates or for distributing existing DVB-C signals. Horizon has come up with just the right device for all those demanding installers out there: The HD-CM+ for DVB-C signals, launched by a long-time manufacturer of top-notch signal meters which TELE-audiovision readers have come to know and appreciate through numerous test reports.

The blue signal meter measures 17 x 16 x 6.5 cm, weighs approximately 1 kg and sports the tried-and-tested Horizon design that has proven its worth in many previous tests. On the front users of the new HD-CM+ can find a female socket for the signal input. High up on the wish list of most installers is an option to exchange that socket, and Horizon has gladly met that demand. In case you're wondering why this is an issue at all – the signal input socket is usually the first component of a meter to fail due to all those different cables that need to be connected and disconnected again during active use.

Right next to the socket there is a perfectly readable LCD display, as well as a total of five buttons for using all functions of the meter.

Turning the meter around will give you access to the power socket on the back, as well as a USB interface and connection for the external 12V car charger on the side.

The built-in Ni-MH battery pack is located on the bottom side and is protected by a sturdy flap. We love the fact that the battery pack can be accessed without the need for additional tools and therefore can easily be exchanged, if need be. After all, nothing is more annoying than running out of power during a major installation job.

Horizon has also been generous as far as included accessories are concerned. The HD-CM+ comes with all required cables (power supply, USB), a car charger, a very handy display cover for rainy days, an external antenna for detecting faulty cables or interfering signals, and a heavy-duty carrying bag made of nylon. This way, the meter is always at hand while at the same time being protected from the elements or damage. The manual that is also part of the package is clearly structured and deals with all functions of the signal meter in a straightforward way.

Horizon recommends charging the battery pack of the HD-CM+ for eight hours before using the meter for the first time. This makes sure the battery reaches its maximum capacity and provides optimum performance. It goes without saying that we heeded that advice and connected the meter to the mains overnight. Speaking of which, the internal power pack can handle any voltage between 90V and 250V AC, which makes it a true globetrotter. During the charging process an indicator on the display shows the

current battery status at any time, which is a nice feature as it gives you some hint as to when the charging cycle will be completed. And while we're at it, let's have a closer look at the monochrome LCD display at this stage. Offering a resolution of 128 x 64 pixels it sports remarkable readability in dark surroundings thanks to its backlight feature, but also in direct sunlight thanks to its excellent contrast settings. As far as the battery pack is concerned, Horizon has opted for a 3300 mAh Ni-Mh battery which allows seven hours of continuous operation without external power supply. This in turn means that a single cycle will get most professional installers through a regular workday.

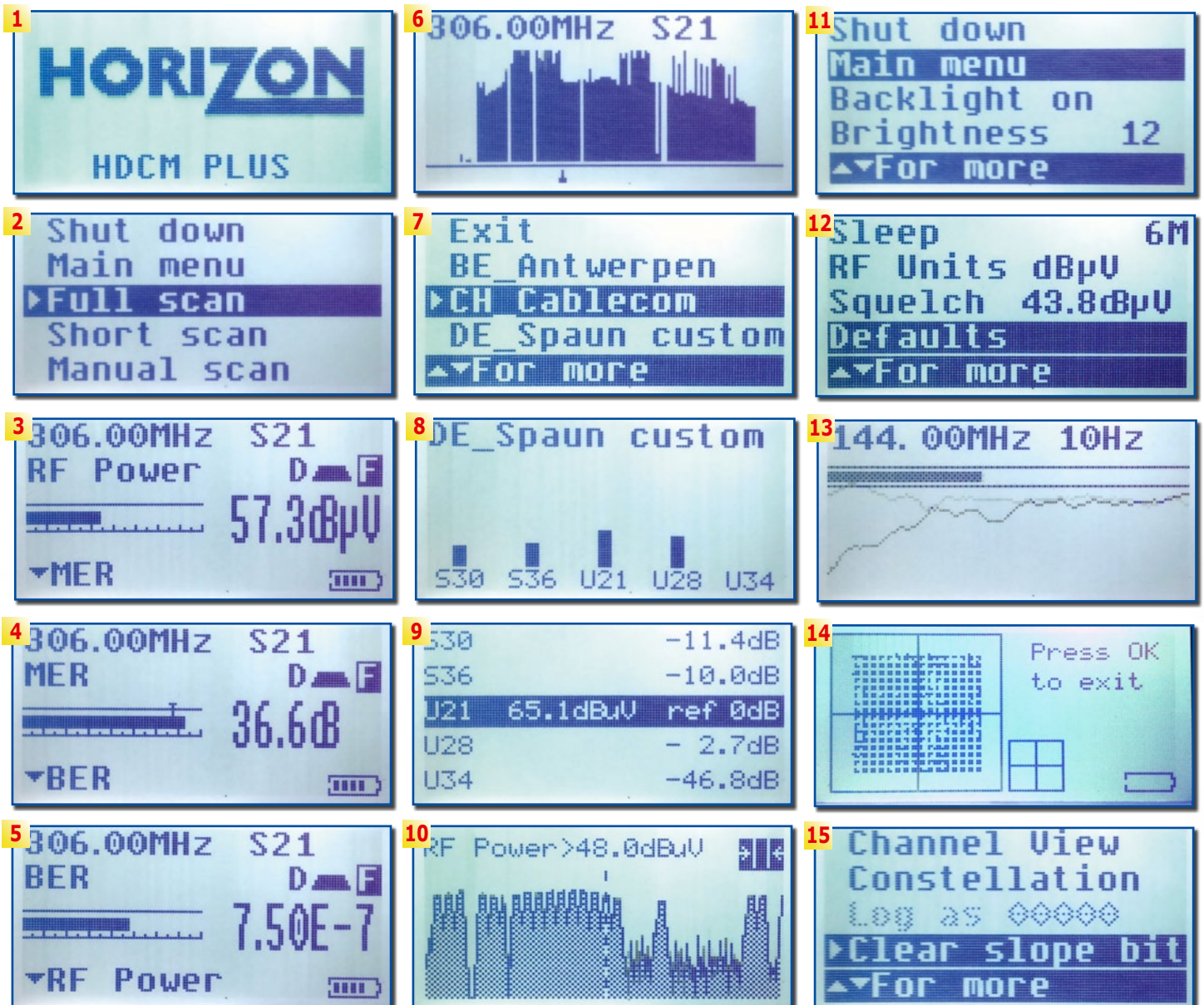
Similar to other Horizon meters the HD-CM+ is brought to life with a feisty touch of the arrow down button. Installers can then call up the settings menu right away in order to customise the meter according to their requirements. This is where you can adjust the backlight mode, display brightness and display contrast, or you can activate automatic shutdown

1. Horizon HD-CM+ Logo
2. The three scan modes of the HD-CM+
3. Signal level measurement
4. MER measurement
5. BER measurement
6. Manual scan with spectrum display
7. Selecting one of five pre-set channel allocation plans
8. Comparison measurement of five different frequencies
9. Comparison measurement of five different frequencies with signal level difference shown
10. Spectrum display
11. Settings menu
12. Settings menu
13. Leakage test
14. Constellation diagram
15. Individual channels can easily be selected for a comparison measurement

after a pre-set period of inactivity. This is a particularly useful feature, as it avoids drawing all power out of the battery pack simply because you forgot to switch off the meter. Measurement results can be given in dBµV, dBmV or dBm and an automatic noise limiter can be set between -75 dBm and -55 dBm. Lastly, default factory settings can also be restored through the settings menu.

Right after turning on the







HD-CM+ installers will be happy to find themselves smack in the scan menu which lets them select one of three available scan modes: full scan, short scan and manual scan. Before we explain all three varieties and make a selection for testing purposes, we should mention that the HD-CM+ signal meter is capable of storing up to 20 pre-defined channel allocation plans in its internal memory. Those plans are

available for dozens of DVB-C providers worldwide and allow fast access to all active frequencies of a given cable network.

In case no channel allocation plan is available for the provider at hand you can always fall back on a standard channel plan that includes all UHF and VHF frequencies. Channel allocation plans can easily be selected for download from the manufacturer's website at www.horizonhge.com.

All data will be packaged into a ZIP file that can be downloaded to a PC. All that is left to do then is to use the USB cable for connecting the meter to the PC. All drivers that are required to that end are also available from the Horizon website. File transfer worked flawlessly during our test and without any additional user input, since the zipped channel allocation plans come complete with all necessary



software. Only pre-defined plans can be downloaded without an option for creating a customised plan; however, customised plans can be requested from Horizon directly.

Our test PC runs with Windows 8, so we're happy to confirm that both drivers and software work smoothly with the latest Microsoft operating system.

As the name implies, a full scan goes through the currently selected channel plan in its entirety, from A to Z, or from Z to A by pushing the LEFT/RIGHT buttons. With a short scan it is possible to look at specifically selected frequencies of the current channel plan, and a manual scan allows users to choose a single frequency from a frequency selection with spectrum view. Both in full scan mode and short scan mode the HD-CM+ starts from the lowest frequency and works itself up to the highest frequency of the plan. Whenever an active frequency is

GLOBAL SOLUTION

Over 30 years of innovative design and engineering

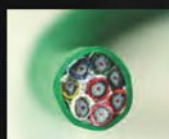
Product availability and global logistics

Technical training support

-Rigorous quality control processes

-Consistent product quality:

- ISO • IEC • RoHS Compliant
- UL CSA • ANATEL
- SCTE



PERFECTVISION[®]
MANUFACTURING, INC.

ANTENNAS

CABLE

MOUNTS

CONNECTORS

METERS

& MORE

+1-501-955-0032

Visit online @www.perfectvisionmfg.com

found, the scan stops and a measurement is initiated. In addition, the meter gives out the following parameters for each active frequency, depending on the actual signal type: RF, signal level, MER and BER for digital signals, and RF video signal level, RF audio signal level as well as SNR for analog channels. What's more, you don't only get a precise figure, but also an info bar!

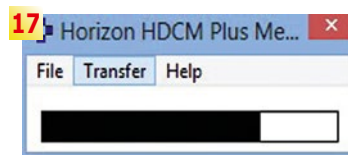
During our test the display did not only impress us with its clearly structured display layout, but also with absolutely flawless readability under all circumstances. So it's easy to see why we could hardly wait to have a close look at the signal of our local DVB-C provider. As it turns out, no pre-defined channel allocation plan is available

	Signal Level Horizon	MER Horizon	BER Horizon	Signal Level Reference	MER Reference	BER Reference
328 MHz	59.6 dBµV	32.1 dB	2.05E-4	61.2 dBµV	31.3 dB	2.3E-4
394 MHz	64.7 dBµV	34.7 dB	2.69E-4	62.1 dBµV	33.5 dB	2.3E-4
562 MHz	59.7 dBµV	36.6 dB	3.20E-7	58.4 dBµV	34.8 dB	3.1E-6

on the Horizon website for UPC Austria, our cable operator. Not to worry, though, as we simply used the standard channel plan that will do fine for situations like this. It didn't take long until the first measurement results popped up on our meter's display, and we were amazed by the ease of use and smart simplicity of the HD-CM+.

As always with signal meters that we test, we need to find out if the indicated values can be categorised as rough estimates (read: unreliable) or correct results

(read: good for professionals). To find out, we connected a second meter from another manufacturer and discovered that both devices showed almost identical results. The conclusion that can be drawn is that Horizon has made a point of equipping its latest professional meter with an excellent tuner. Have a look at table 1 to see for yourself which results



16. Pre-set channel allocation plans are available for convenient download from the manufacturer's website (www.horizonhge.com)

17. Transfer tool of stored measurement results of the HD-CM+





S1-50HD

Dual Core Android 4.0 OS OTT Box with DVB-S2 & 3D GPU

- Operation System: Android version 4.0.4
- XBMC Supported
- ARM Cortex-A9 Application processor with NEON SIMD
Multimedia extension: 5000DMIPS Dual core 1GHz
- Advanced NEON includes the ARM NEON SIMD extensions
- 3D GPU supports 3D user interfaces & games
Broad Format HD Content Decoding: online video on demand (VOD) and over-the-top (OTT) services, including native support for VP8 codec
- Supports Mouse and Keyboard
- 3G USB DONGLE supported
- Support Android Browser Apps/boot animation/Screen Shot/File browser/ Live Wallpaper
- Support Google Search, Web browser, Email, ect

DVB-S2 Twin Tuner Box with Enigma2 & XBMC OS

- E2 BMC-XBMC and Enigma2 dual-boot
- DVB-S/DVB-S2 Satellite Compliant based on Enigma2
- Twin Sensitive Tuner Supported
- Enhanced media features and functionality from XBMC
- Abundant media plug-ins for users: XBMC-movies, pictures, radio channels, plenty of library portals available
- Support Webserver, Airplay, NAS, Samba and Cifs connection
- Remote control app available for working on Smartphones and tablets
- Media content share by BubbleUpnp with Smartphone and tablet
- Real Picture in Picture Supported



Digital T2/S2/C Combo Meter

- DVB-S2, DVB-T2/T and DVB-C signal meter in one
- High performance spectrum analyzer to display the signal strength of all transponders
- Pre-/ Post-BER and MER indicator, C/N in the dB and signal level in dB/μV
- Constellation analyzer
- Screenshot Function (Capturing): screens with data can be in BMP format on a USB-stick
- Super ECO system management for power saving, auto-standby function supported
- Multi-lingual OSD menu supported
- Weight: 480 grams
- Dimensions: (W*H*D) 105*170*45 mm

we obtained for individual frequencies.

Every time the Horizon signal meter detects an active frequency a touch of the OK button will call up a constellation diagram (for digital signals), plus all measured signal parameters can be saved onto the meter's internal memory. For DVB-C, in particular, varying signal levels and somewhat inclined signal levels spread over the entire frequency band can create major problems. These issues are mostly caused by bad cabling, low-budget splitters or signal feed units that are not properly configured. In order to address those issues, up to five active frequencies can be determined for a comparison measurement, with their signal levels shown side-by-side in a clearly presented overview. This way it is child's play to make all required signals adjustments. Another benefit: If you mark one of the five selected frequencies the meter calculates and shows the signal level difference between the marked and the other four frequencies.

We also appreciated the spectrum view that is always very helpful for professional installers. The spectrum's bandwidth can be adjusted right on the meter using the control buttons, with the following pre-defined options available: 8, 16, 32, 64, 128, 256, 512 and 840 MHz. Each frequency can conveniently be selected using the left/right buttons and is shown in the upper section of the display, alternating with the current bandwidth and the measured RF signal level. If you then need to analyse the current frequency and find out all additional parameters, all you need to do is press the OK button.

The range of options and functions of the HD-CM+ is completed with a so-called leakage test that allows quick identification of unintended signal loss or sources of in-

terference. In order to perform this test, installers have to attach the antenna that is shipped with the meter to the signal input of the HD-CM+ and then select one of the pre-set test frequencies. The meter then initiates a particularly intense noise level measurement whose results are shown on the display either as a grey bar (indicating that the measurement result is below the threshold and – consequently – no faults occurred) or as pronounced signal level peaks (indicating a problem somewhere along the line). Obviously, we gave this feature a thorough test as well and can report that it works brilliantly.

Amateur users are usually happy with an easy-to-operate signal meter that gives them quick results. Professional installers, on the other hand, take money for their work and therefore frequently require written documentation for completed jobs. Once again, the HD-CM+ delivers with its internal log function that can be used to store all measured signal parameters in the meter's internal memory. Free software from the manufacturer's website then allows using those data in the CSV format in MS Excel, for example. Our test showed that all values of the comparison measurement could easily be saved and imported into an XLS chart. Last – but by no means least – we should like to mention the built-in voltmeter with a measurement range from 0 to 110 V.

In summary, the Horizon HD-CM+ turned out to be an excellent DVB-C signal meter during our test. To a large extent, this is due its excellent usability and smart user interface. Added to that is a display with wonderful readability – something that always sets an installer's heart on fire. The comparison with a reference meter demonstrated that the measurement results turned out to be absolutely accurate.



EXPERT
OPINION

Horizon HD-CM+
DVB-C Meter

VIP

CARD

TELE-audiovision

THE WORLD'S LARGEST DIGITAL TV TRADE MAGAZINE

RECOMMENDED
PRODUCT BY ▼

Thomas Haring
Test Center
Austria

TELE

audiovision

www.TELE-audiovision.com

+ Easy to use and clearly structured, a perfectly readable display, a wide range of functions and accurate measurement results – all this makes the HD-CM+ a top-notch signal meter. Thanks to its capable battery pack, several included accessories and robust build quality it is just the right companion for professional jobs.

- None

MORE ABOUT THIS COMPANY

www.TELE-audiovision.com/13/01/horizon.pdf

Horizon on the Way Up

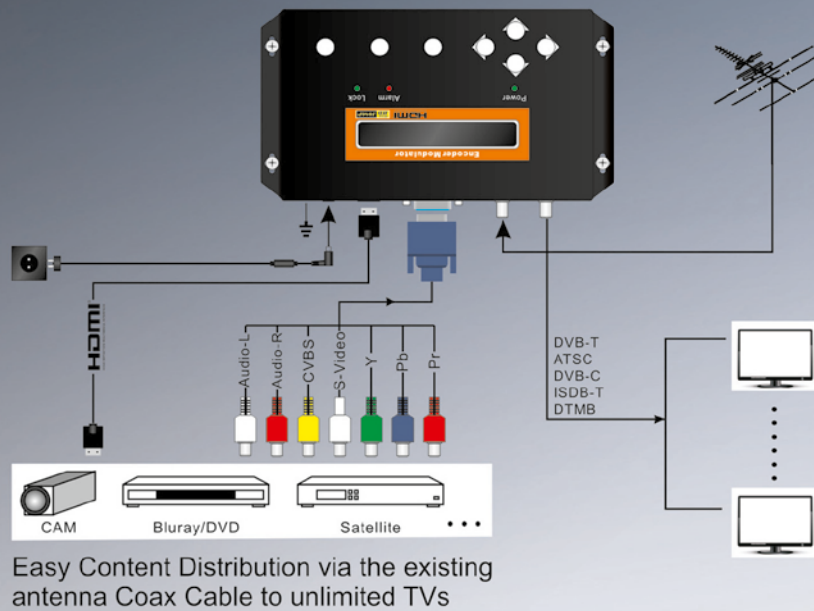
- Numerous new products for new DVB sectors
- Exports to every country as an OEM and under their own name
- Focusing expansion for emerging countries such as South Africa and in South America
- Specialists in easy to use analyzers for installers



NDS3552 HD/SD
single channel
MPEG 4 AVC/H.264



NDS3552 SD
single channel
MPEG 2



Key Features

- ✓ Removable power supply
- ✓ MPEG2 & MPEG4 AVC/H.264 encoding
- ✓ Multiple options of input port: HDMI, YPbPr, CVBS, S-video
- ✓ DVB-T/DVB-C/DTMB/ISDB-T/ATSC digital RF out
- ✓ RF Frequency range: 30-960 Mhz
- ✓ LCN and NIT support
- ✓ Advanced edition of parameters: service name, program name, PMT PID, PCR PID, A/V PID, EIT event, TSID, ONID.
- ✓ Color configuration: brightness, contrast, saturation, Hue
- ✓ Installs In Minutes - No need any new wires nor extra adapters
- ✓ Easy to set up
- ✓ Unbelievable price

NDS3542 Encoder Modulator — Professional version



- ✓ Turn MPEG2/MPEG4 HD Video signals into a real digital RF
- ✓ 4*HDMI input; 1*HDMI or 2*HDMI optional

www.dsdvb.com



Chengdu Dexin Digital Technology Co.,Ltd

No. 10 adn No. 12 Wuxing Fourth Road, Wuhou District, Chengdu 610045, Sichuan, China
Tel: +86-28-85558928, +86-28-85550524, +86-13882088846 ■ Fax: +86-28-85585255
<http://www.dsdvb.com/english> ■ E-mail: sunyu@dsdvb.com

DragonSat DS-5500HD



- *Operates via EPG in two modes*
- *High-speed channel switching times*
- *Fast reaction to all remote control commands*
- *Exceptional tuner, suitable for weak signals as well as low symbol rates*
- *Integrated player and server for multimedia content*



A Satellite Receiver with Many Excellent Features

Just because it's a high quality receiver doesn't mean it has to be big. Dragonsat wants to prove this with their new DS-5500HD. So, is it true? Well, that's what we wanted to find out so we put this new receiver to the test.

After unpacking the box, there was really nothing that stood out visually. At 22 x 14.5 x 3.5 cm the DS-5500HD is nice and small. It should therefore easily find its place in any TV cabinet or living room wall unit. On the front panel the manu-

facturer incorporated a four-digit display and right next to it a status LED as well as three buttons for receiver operation without the remote control. If you turn the Dragonsat receiver around, you'll reveal the tightly spaced connector panel. In addition to the required connections, the manufacturer also included the CI slot and the internal card reader on the back of the box. The satellite signal is fed into the Sat IF input. Right alongside the input is the looped-through output

as well as an HDMI port, a USB port, an RJ-45 network interface, an S/PDIF output, an RS232 interface and a connection for the included CVBS/Stereo audio adapter cable. Power is supplied to the DS-5500HD by an external 12V power supply. This allowed the manufacturer to eliminate the extra space in the receiver that would have otherwise been needed for an internal power supply.

The included remote control is somewhat narrow and the buttons on the lower portion are rather small. Overall though, the quality of the receiver and remote control left us with a very positive impression as did the included user manual.

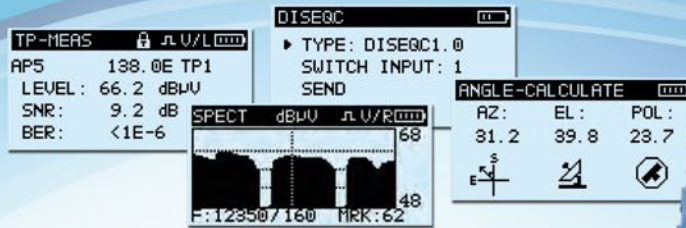
As has become standard with nearly every receiver, the owner of a DS-5500HD will also be greeted with an Installation Assistant when first turning on the box. It will guide you through the most important basic settings. This includes OSD language, time settings, net-

work settings and of course an automatic channel scan to top it off.

If one or more details are missing or if you simply want to get an overview of all the functions of your newly acquired receiver, we suggest you take a look in the Main menu. In the System settings you can personalize nearly every one of the DS-5500HD's functions. For example, the resolution of the video signal output can be set to 480i, 480p, 576i, 576p, 720p, 1080i or 1080p or you can let the receiver handle this task automatically. We really appreciate the fact that more and more receivers, including the DS-5500HD, are fully HD compatible even though the availability of 1080p HD content depending on the region is still very limited or completely non-existent. But at least you're ready for the future.

External USB storage devices connected to the receiver via the USB interface





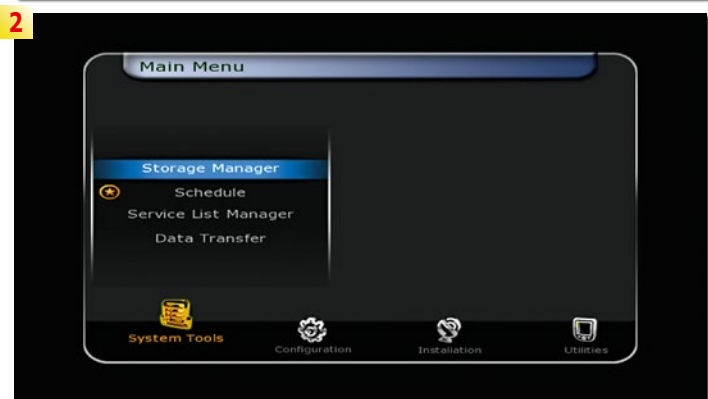
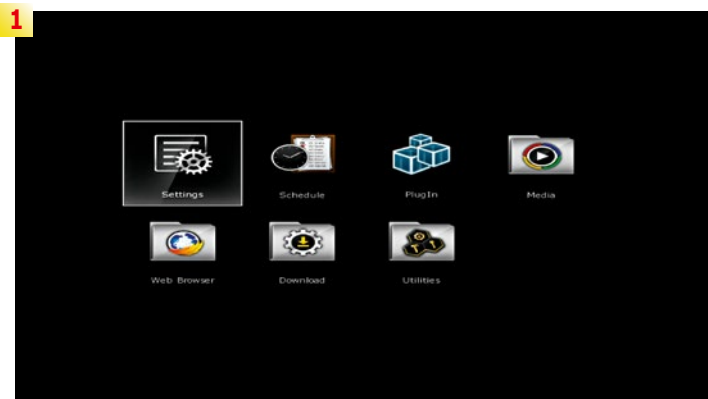
S30✓ Satellite Meter

- 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
- 128x64 matrix LCD with back-lighted
- Large lithium battery capacity, over 4 hours working time
- Software upgrade and parameter set via USB interface

S7000✓ TV Analyzer

- All standards in one: QAM(J.83A/B/C), 8VSB, DVB-T/H/T2, DVB-S/S2
- Digital/Analog TV and Satellite TV analysis
- MPEG2 Transport stream analyzer and monitoring via TS-ASI input & RF input
- Fast spectrum analysis with 5~2150 MHz frequency span
- DSP Technology to support different Video decoding: MPEG-2, MPEG-4 and H.264 for 1080i, 720p and 576i, support PAL/NTSC/SECAM color system
- 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
- W245xH194xL105, light weight
- Working time >5 hours (battery)





can be used without any problems. Formatting these devices (thankfully also in NTFS format) with this receiver is also possible. If you really want to be able to use all of the DS-5500HD's functions, such as the various OSD display modes or its PVR features like fast forward/rewind, it definitely pays to have a look in the user manual where detailed information on these and other features can be found. All-in-all, the DS-5500HD's menu structure is very logically constructed and easy to use although one of the options to save energy in Standby that the manufacturer incorporated in the display settings gave us a little bit of a headache in our test center.

To make it easy for the new owner to get right to satellite reception, DragonSat included a very comprehensive list of European and Asian satellites along with the corresponding C and Ku-band transponder data. In some cases this list is very up to date; the newly launched ASTRA 1N satellite located at 28.2° east is correctly identified. But in other instances it's not quite up to date; important transponders like 11494H or 11671H on ASTRA1 at 19.2° east are missing.

The DS-5500HD is compatible with all the DiSEqC protocols allowing it to be used with nearly every possible antenna configuration. DiSEqC 1.0 can be used with up to four satellites, 1.1 with up to 16 satellites as well as 1.2 and 1.3 for motorized antennas. They also thought to include the ability to freely define LOF parameters.

Once these settings have been taken care of and the receiver has been matched to the reception equipment, the next step would be to start filling the chan-

nel list with as many as 10,000 entries. To handle this task there is an automatic channel scan on one or more satellites, a manual transponder scan, an expanded transponder scan with manual PID entry as well as a Blindscan. If you're not interested in receiving encrypted channels, the scan can be set to find only freely receivable channels. This would save quite a bit of time and provide organization later on when going through the channel list.

The channel scan itself was fast right from the start; the DS-5500HD needed only about five minutes to find 1568 TV and 373 radio channels on HOTBIRD at 13° east. If you invest a little more time, 12 minutes to be exact, the Blindscan function will find 1604 TV and 374 radio channels on the same satellites. Naturally the Blindscan feature had to prove itself under more difficult conditions, specifically on TURKSAT at 42° east with all of its narrowband SCPC transponders. It mastered

1. The DS-5500HD's main menu

2. System settings

3. The DS-5500HD also supports the NTFS file system. Recorded data no longer needs to be split into 4GB pieces

4. Channel list editor

5. Channel list entries can be edited all the way to their PID values

6. Thanks to the Favorites lists, popular channels can be accessed very quickly at any time

7. The customized channel list can be backed up on an external USB storage device

8. Recorder settings

9. OSD settings

10. The installation assistant starts with the OSD language selection

11. Network settings

12. If you prefer, you can do without all of the DS-5500HD's many Internet features, but who would want to do that?

13. Time settings

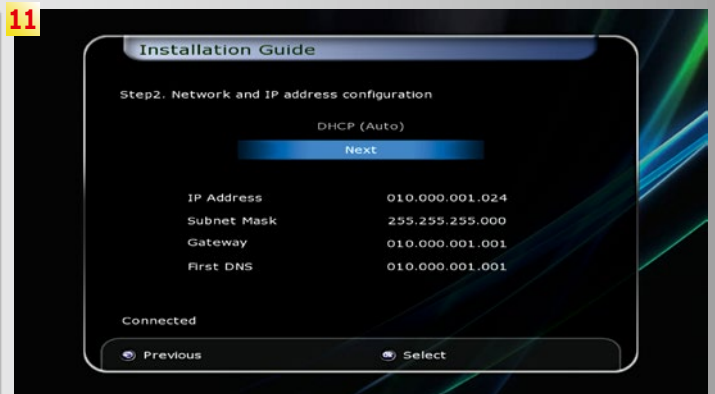
14. Daylight savings time settings have been uniquely solved

15. Language settings

6



11



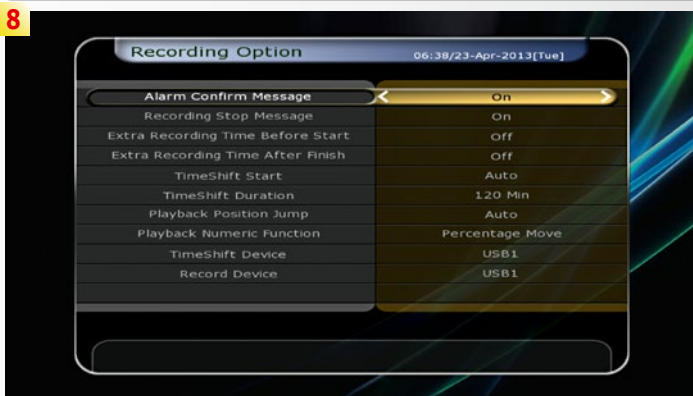
7



12



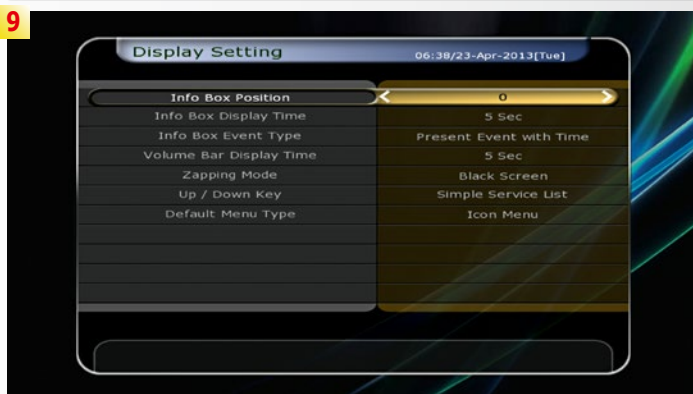
8



13



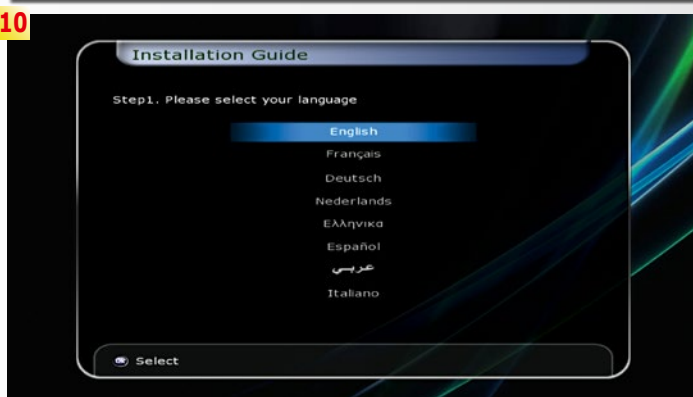
9



14



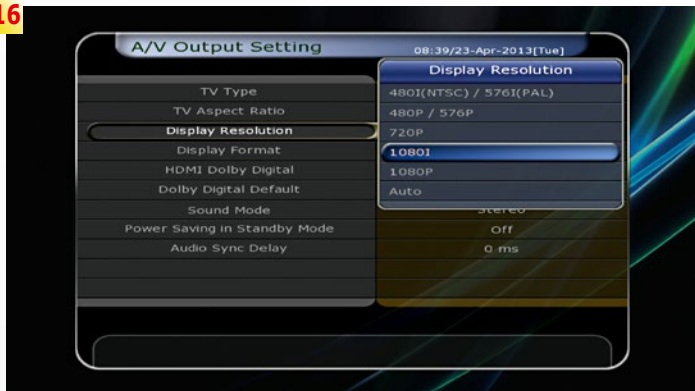
10



15



16



16. The receiver supports all of the standard video output resolutions

17. The preprogrammed satellite list is extensive and up-to-date

18. The recently launched ASTRA1N at 28.2° east is correctly listed

19. The transponder list is not always up-to-date; missing, for example, are a few important transponders on ASTRA1 at 19.2° east that have a number of HD channels

20. The DiSEqC 1.0 and DiSEqC 1.1 protocols are supported

21. The DS-5500HD effortlessly drives a motorized antenna with the help of the DiSEqC 1.2 and 1.3 protocols

22. Four different scan modes are available

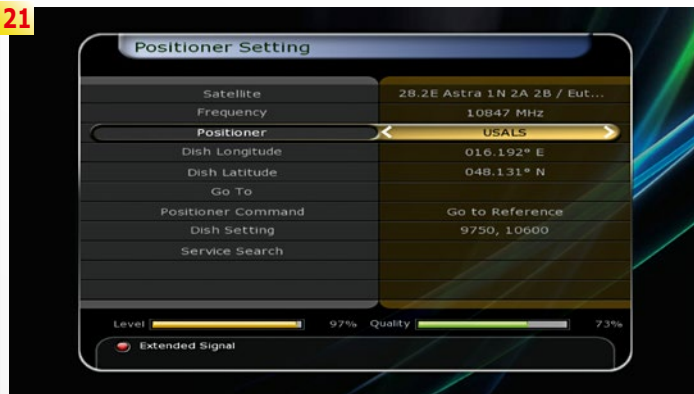
23. The scan can be limited to just TV channels or unencrypted channels

24. The LOF parameters can be individually matched

17



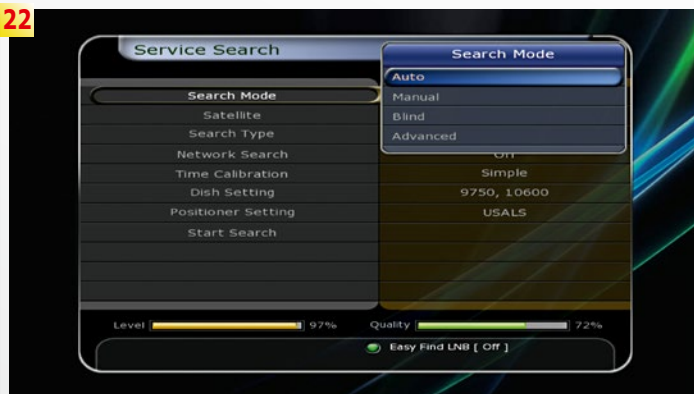
21



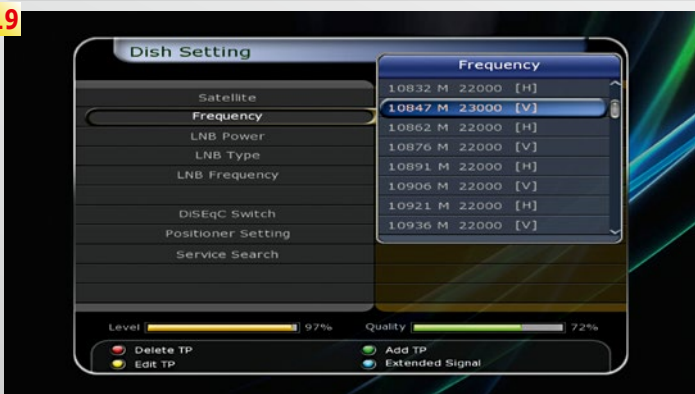
18



22



19



23



20



24





AUDOLICI
www.audolici.com

Masterpiece
without compromise



A1/25 **AUDOLICI** **Tube audio amplifier**

A perfect marriage between old and new

Advanced design based on 1970's vacuum tube technology

Takes an audio signal from a CD Player, Tape player, Tuner or Computer and reproduces it with amazing high quality and resolution

Reveals music dynamics and natural tone never before heard in any standard amplifier both at the instrument and vocal levels

Bias adjustment for each output section to customize the amplifier to your personal tastes

Each tube has been specially selected to provide the best possible sound experience

The result? Sound quality that will take your breath away!





this task without any problems. This is exactly how a Blinds can work!

With nearly 2000 different channels that alone were found on a single satellite, powerful editing and sorting capabilities of the channel list are an absolute must. And the DS-5500HD did not disappoint here; the channel list entries can be easily deleted, moved, renamed, locked with a PIN code to hide them from the curious eyes of your kids or shifted into one of the many Favorites lists. The channel list can also be sorted alphabetically, by provider, satellite, transponder or encryption system and it can all be handled with the push of one button.

When you look at the Main menu for the first time it quickly becomes clear that the DS-5500HD is strongly oriented to the reception of content via the Internet. It makes sense then that the manufacturer paid special attention when designing its networking features. The fact that the DHCP protocol is supported comes as no surprise but we also appreciated that the receiver can also be connected to the Internet wirelessly through the optionally available WiFi or 3G dongle. This makes the DS-5500HD perfect for outdoor use out on the balcony or at a camping site.

After the channel list is filled and the settings have

been adjusted to your personal tastes, the receiver automatically switches to the first available channel when exiting the Main menu. And it's at this point where the very attractively designed Info bar can be seen for the first time. In addition to the title of the current program and, if desired, the upcoming program, the Info bar also contains a number of symbols. These symbols provide information on what features are available with the current program, specifically, teletext, language choices, subtitles or HD resolution. And it's here where the dedicated function but-

25. Network settings

26. If necessary, many of the settings can be reset to their factory default values

27. Utilities menu

28. Individual PID entry in the expanded scan

29. Blinds can function

30. A successful Blinds can of HOTBIRD at 13°; thus far 37 new channels have been found

31. SCPC reception as seen here in the picture via TURKSAT at 42° east is also possible

32. Channel scan for ASTRA2 at 28.2° east

33. Setting up a timer entry

34. Additional transmission information

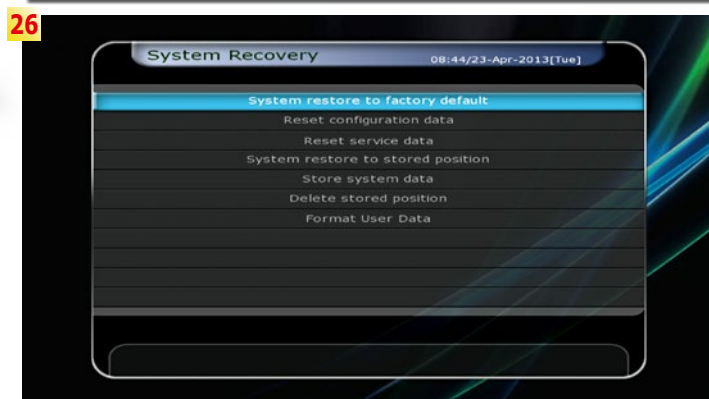
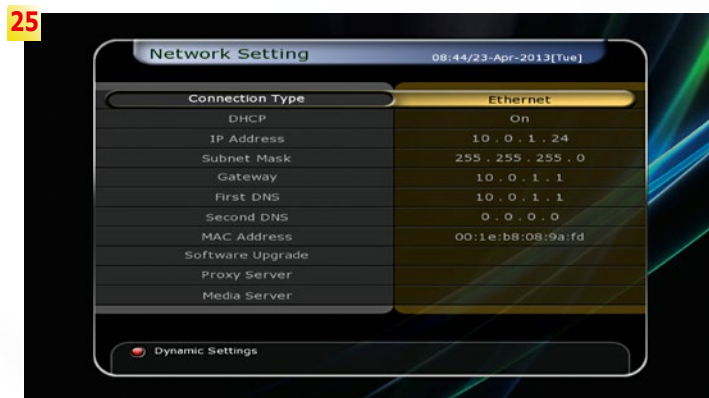
35. EPG overview for six channels

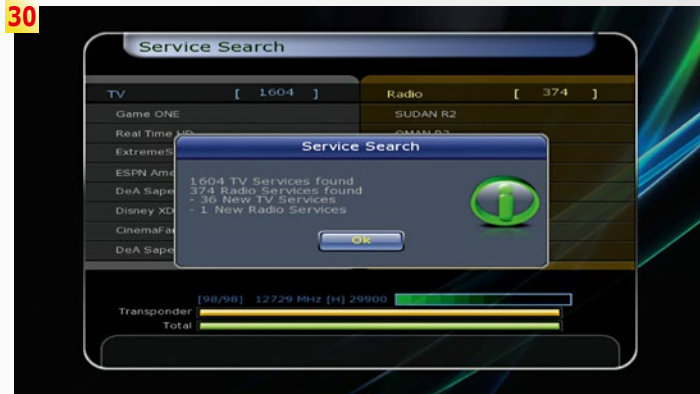
36. EPG overview of one channel

37. Subtitle selection

38. The satellite list can be directly accessed through a dedicated function button on the remote control

39. Picture-in-picture, mode 1



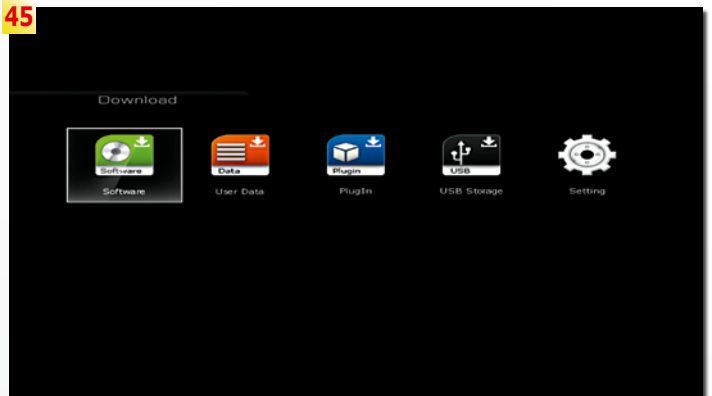


- 40. Picture-in-picture, mode 2
- 41. Picture-in-picture channel selection
- 42. Mosaic view of up to 12 channels
- 43. The channel list sorted by satellite
- 44. Channel list options
- 45. The Download menu. Here the user can update software, Apps and preprogrammed lists on the receiver via the Internet
- 46. The Plugin menu provides access to a variety of tools
- 47. Weather forecast
- 48. The Media submenu

44



45



46



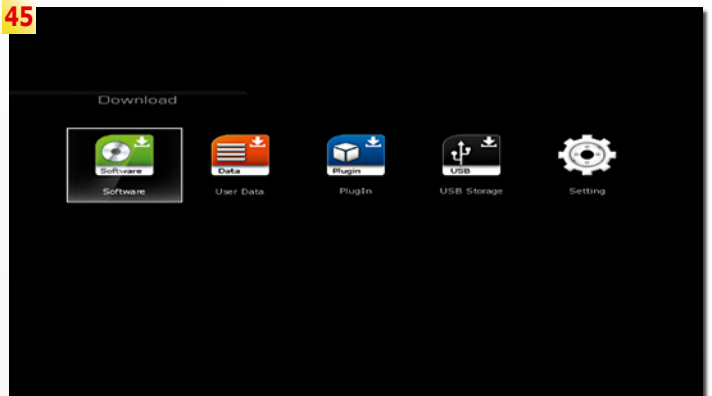
47



48



40



41



42



43



KWS ELECTRONIC

HIGH FREQUENCY TEST EQUIPMENT



VAROS TECHNOLOGIE

For satellite specialists:

Our satellite measuring receiver VAROS 109

910-2,150 MHz, Level/BER/MER for all digital Sat-transponders, DVB-S/DVB-S2, MPEG 2/ MPEG 4 HD video, SAT scan function, DVI-out, Common Interface slot, spectrum analyzer narrow-/wide-band, measurement data memory through USB, DiSEqC, UNICABLE, JESS ... Professional measurement technology »Made in Germany«.

KWS-Electronic GmbH

Tattenhausen
Sportplatzstrasse 1
83109 Großkarolinenfeld
Germany

Phone 00 49 .80 67 .90 37-0
Telefax 00 49 .80 67 .90 37-99

info@kws-electronic.de
www.kws-electronic.de



tons on the remote control show their worth: they provide access to teletext, language selection, subtitles or the Favorites lists.

The new Dragonsat receiver's channel list can be accessed, as is typical, with the OK button and presents itself as very detailed and organized. Thanks to the speedy channel switching times of less than one second, channel surfing with the DS-5500HD is actually fun. The Electronic Program Guide (EPG) will also raise an eyebrow: it is available in two different modes and provides detailed programming information for several hours for up to six channels or it can show the entire

programming schedule for a single channel for the next several days. Since the new Dragonsat also comes with PVR features, recordings can easily be programmed directly via the EPG.

We definitely like that you not only can record two channels at the same time while watching a third channel live, but the Timeshift function is also automatically available at any time (up to a maximum of one simultaneous recording). If you're afraid of missing the next episode of your favorite TV series, then the ability to set up daily, weekly, weekday or weekend timer recordings would be just perfect for you.

Overall, playing around with the DS-5500HD was a lot of fun and this was due in large part to the speedy reaction of the receiver to remote control commands. The decision by the manufacturer to incorporate an STi processor with 256MB Flash as well as 256 MB SDRAM was right on the money.

Dragonsat even paid close attention to quality when the tuner was chosen; in our tests it was able to handle weaker signals like those found on BADR at 26° east and also narrowband signals such as those found on TURKSAT at 42° east. We also want to mention the practical Picture-in-Picture (PIP) function that shines during commercial breaks. It can be used to show a second TV channel in a small window on top of the primary channel or display two channels side-by-side in the same size windows. Also available, although not all too useful, is the ability with the push of one button on the remote control to provide a mosaic

49. New entries can be added manually to the Internet TV+ list

50. Internet TV+ playback

51. Unfortunately, the Internet Radio+ list is empty and doesn't contain any preprogrammed channels

52. The YouTube App in the FreeTV+ section worked perfectly

53. The web browser with a number of bookmarks to interesting pages

54. The character entry via the OSD keyboard works just like a mobile telephone

55. The TELE-audiovision homepage with the browser's status bar at the bottom of the display

56. Bookmark function

57. The web browser window can be adjusted in size and moved to different positions

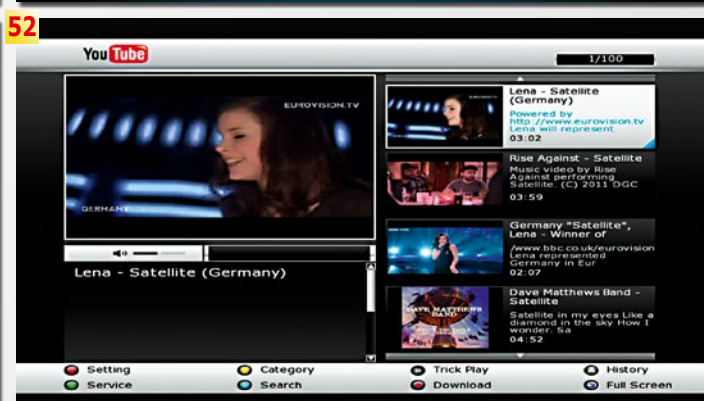
58. Two recordings (even from HD channels) can take place at the same time

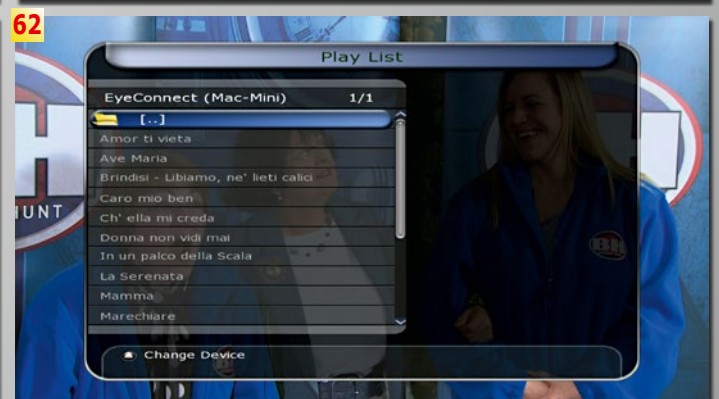
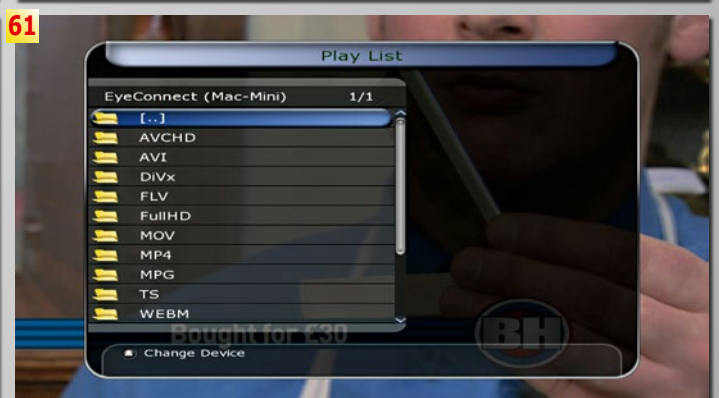
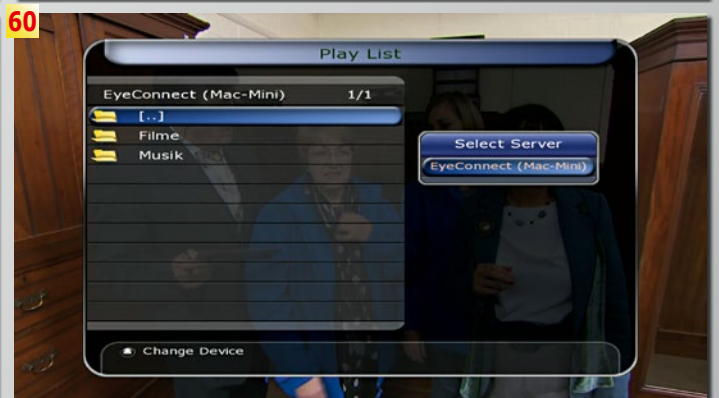
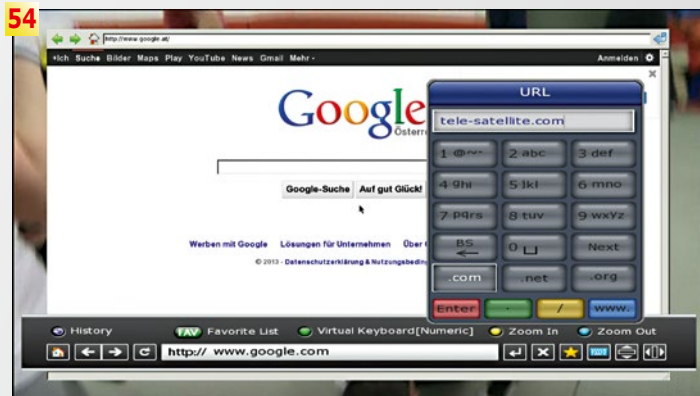
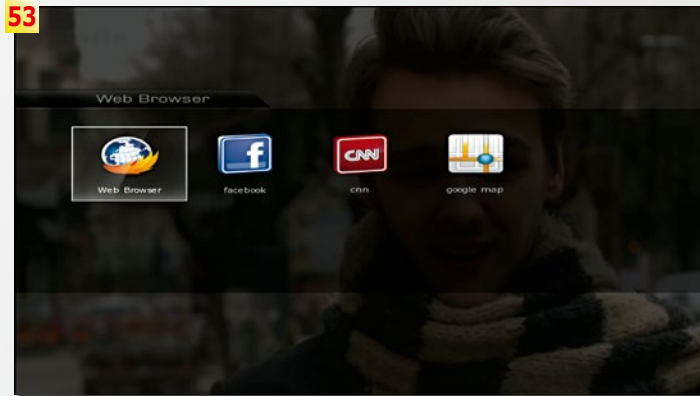
59. The receiver displays all of the previously recorded content clearly and concisely

60. The DLNA media player can access the multimedia content on other devices in the local network

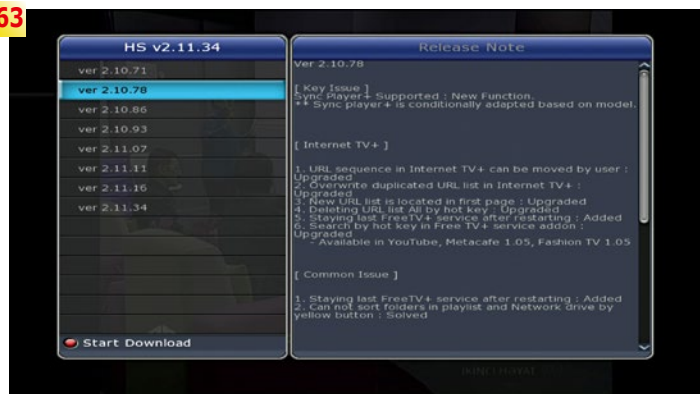
61. Here you can see a number of video files that are stored on a MAC and are displayed and played back on the DS-5500HD

62. Music playback via DLNA in the local network

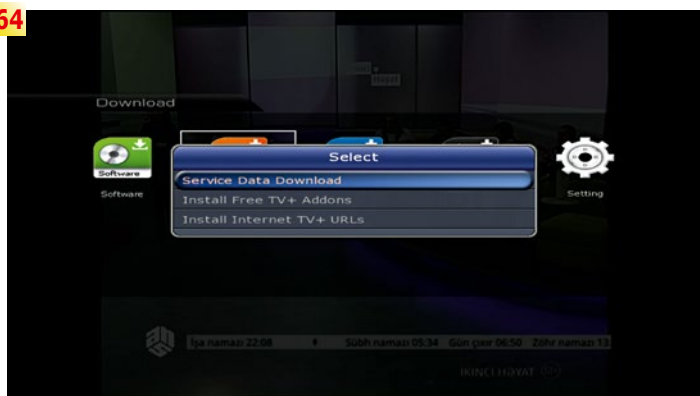




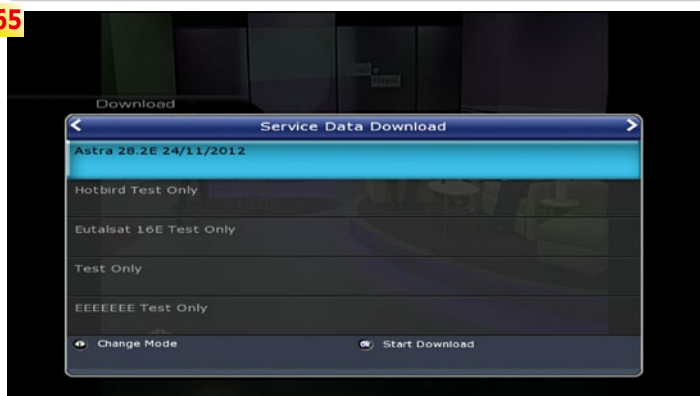
63



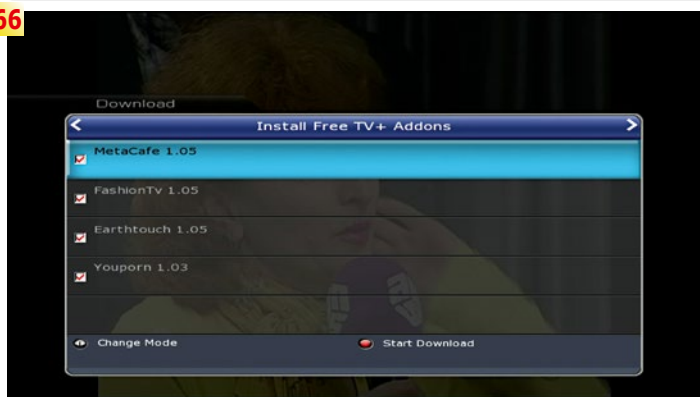
64



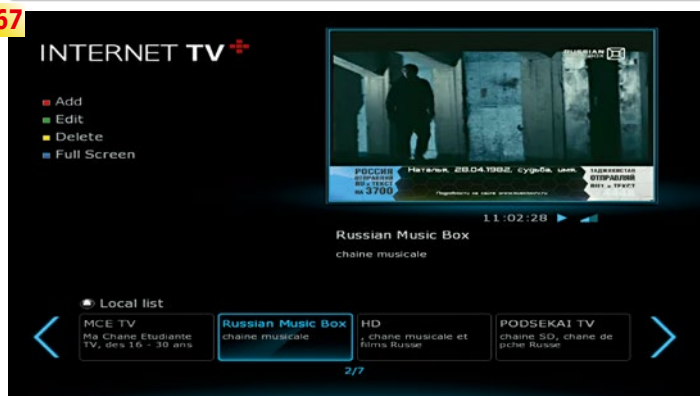
65



66



67



display of 9 or 12 channels.

If you take a look at the manufacturer's website, you'll quickly realize that they are constantly at work modifying and improving the DS-5500HD. There have already been multiple updated software versions posted there. New software can not only be downloaded from the Dragonsat website, but updates can also be performed directly on the receiver through an Internet update.

Dragonsat with their new DS-5500HD is standing squarely behind the Internet as a secondary source of TV and radio reception. We here at TELE-audiovision feel that the manufacturer is

definitely on the right path; high-speed Internet access has already established itself to be a viable competitor to satellite, cable and terrestrial TV.

If you enter the submenu „Media“, you'll come across catchy feature names like Internet TV+, Internet Radio+ or FreeTV+. When these were accessed during our tests we uncovered a small disappointment: a mere seven TV channels were preprogrammed and the Internet Radio+ list was completely empty. On top of that, of the seven preprogrammed channels, only three could be accessed and displayed. If you're not satisfied with these choices, the alternative is to manually add Internet channels. Fortunately, this can be done without any problems.

The heading FreeTV+ provides access to a variety of multimedia and content providers via the Internet with the help of some practical Apps. Currently there's only one App for YouTube available; additional Apps were displayed as if they were available for download but in the end they could not be loaded on our test receiver. Nevertheless, the YouTube

63. Thanks to automatic software updates, it's very easy to keep the Dragonsat up-to-date

64. In addition to new software, FreeTV+ Apps, Internet TV+ and Internet Radio+ lists can be downloaded via the Internet. Even preconfigured channel lists (e.g. for ASTRA2 at 28.2° east) are also available for download

65. Channel list download for ASTRA2 at 28.2° east, HOTBIRD at 13° east and EUTELSAT at 16° east

66. FreeTV+ Apps can be downloaded and updated from the Internet

67. The picture quality of the preprogrammed Internet TV+ channels is very good



App worked perfectly and when all the other Apps work reliably, the user should be more than satisfied.

To top it all off, the multimedia section has a client that provides access to the Russian PayTV provider Kartina TV and, of course, there's also the ability to play back local video files in the formats WMV, TS, MP4, MP4 HD, MKV, Flash, DivX and AVI. For audio files the MP3 format is available and for pictures it's the JPG format.

In connection with this we also liked the integrated DLNA media player with which you can reach across the network and access your music collection on your PC with the DS-5500HD. The same, of course, is also true for videos. And as if this wasn't enough, Dragonsat made it possible using the DLNA media player to access all of the stored content on your receiver, whether it's videos, music or pictures, from a Windows PC. This worked exceptionally well in both directions in our tests and at the same time it was a lot of fun.

Of course, such an Internet-oriented receiver like the DS-5500HD should not

be without a browser. And Dragonsat did not fail here either, however, improvements can be made here as evidenced by the 10 second startup time that was needed. Even the display of websites despite a 100Mbit Internet connection was very slow here in our test center - nearly 20 seconds was needed to fully load our Facebook page. Yet we did like that Dragonsat included a number of pre-programmed bookmarks for some of the more popular sites like Facebook, CNN or Google Maps. Entering characters via the virtual keyboard also worked correctly. The browser itself can be individually adjusted for size and position such that, for example, a commercial break can be used to surf the Internet while still having the TV picture in view so you know when it would be time to stop surfing. The Internet features are rounded off with a weather App, an RSS reader, a calendar and a calculator.

At this point we only want to mention the submenu Plugin for completeness; it contains numerous tools that go deeper into the reception technology.

EXPERT OPINION

DragonSat DS-5500HD
HDTV Satellite Receiver

RECOMMENDED
PRODUCT BY ▼



TELE-audiovision
THE WORLD'S LARGEST DIGITAL TV TRADE MAGAZINE





Thomas Haring
Test Center
Austria

TELE
audiovision
www.TELE-audiovision.com

+ Handy and easy to use receiver highlighted by a nicely structured OSD and sophisticated software. Thanks to a wide variety of Internet features, this box is much more than an ordinary satellite receiver. Through its space-saving design and its external 12V power supply it would be perfect for mobile applications, such as, when camping.

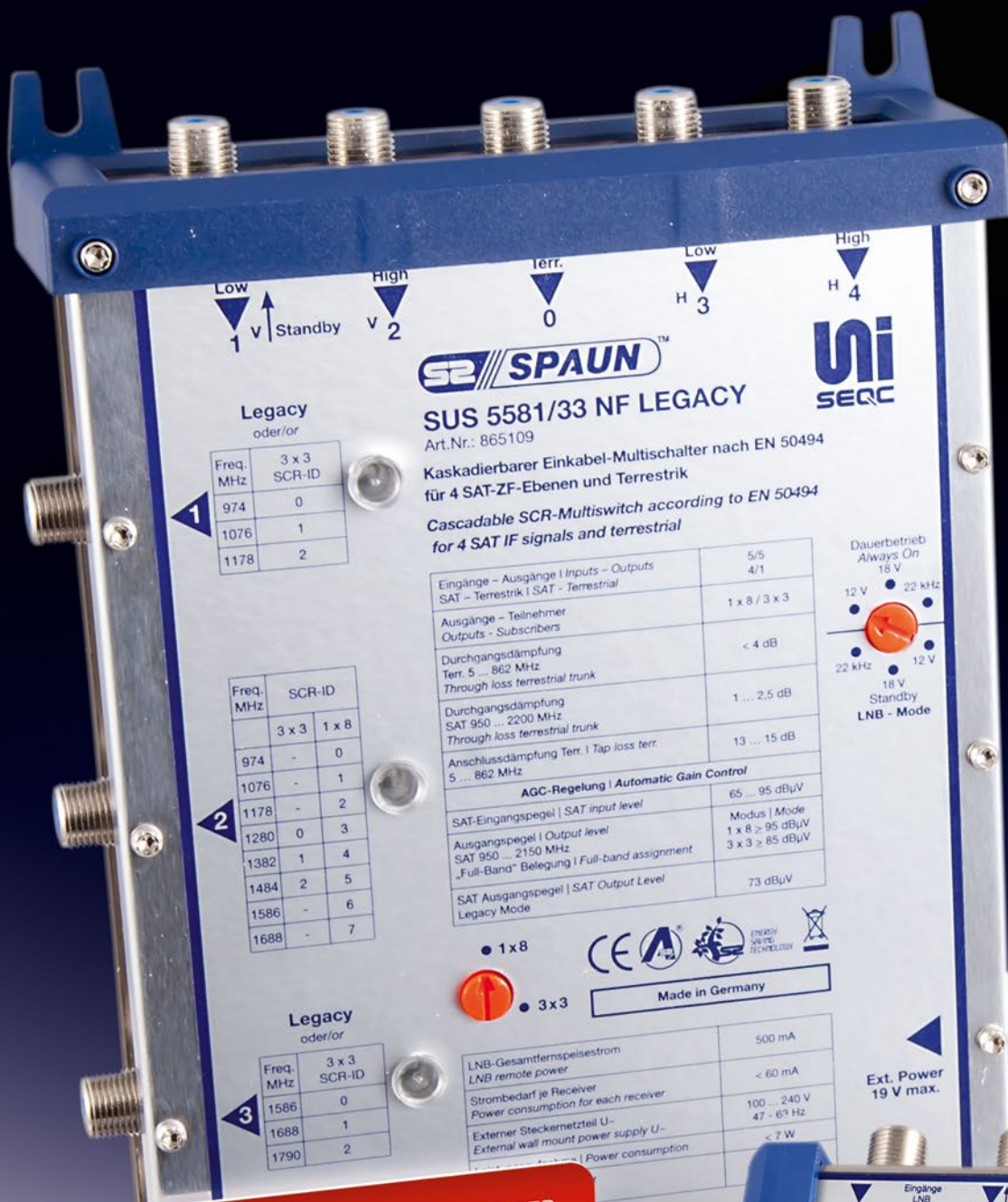
- The loading of Apps did not work during our tests and the Internet TV+ and Internet Radio+ lists are very lackluster and need some updating.

ENERGY DIAGRAM



Energy: The first 15 minutes active operation, the second 15 minutes normal standby, the third 15 minutes expanded standby with energy saving functions





Legacy
oder/or

Freq. MHz	3 x 3 SCR-ID
974	0
1076	1
1178	2

Freq. MHz	3 x 3	1 x 8
974	-	0
1076	-	1
1178	-	2
1280	0	3
1382	1	4
1484	2	5
1586	-	6
1688	-	7

Legacy
oder/or

Freq. MHz	3 x 3 SCR-ID
1586	0
1688	1
1790	2

SPAUN

SUS 5581/33 NF LEGACY

Art.Nr.: 865109

Kaskadierbarer Einkabel-Multischalter nach EN 50494
für 4 SAT-ZF-Ebenen und Terrestrik

Cascadable SCR-Multiswitch according to EN 50494
for 4 SAT IF signals and terrestrial

Eingänge - Ausgänge Inputs - Outputs SAT - Terrestrik SAT - Terrestrial	5/5 4/1
Ausgänge - Teilnehmer Outputs - Subscribers	1 x 8 / 3 x 3
Durchgangsdämpfung Terr. 5 ... 862 MHz Through loss terrestrial trunk	< 4 dB
Durchgangsdämpfung SAT 950 ... 2200 MHz Through loss terrestrial trunk	1 ... 2.5 dB
Anschlussdämpfung Terr. Tap loss terr. 5 ... 862 MHz	13 ... 15 dB

AGC-Regelung | Automatic Gain Control

SAT-Eingangsspegel SAT input level	65 ... 95 dB μ V
Ausgangsspegel Output level SAT 950 ... 2150 MHz „Full-Band“ Belegung Full-band assignment	Modus Mode 1 x 8 $\geq$ 95 dB μ V 3 x 3 $\geq$ 85 dB μ V
SAT Ausgangsspegel SAT Output Level Legacy Mode	73 dB μ V

• 1 x 8

• 3 x 3

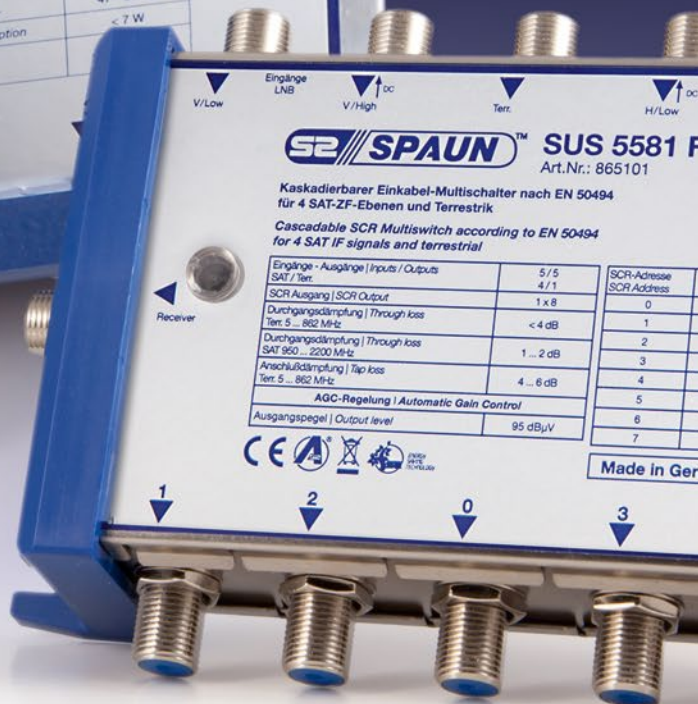


Made in Germany

Dauerbetrieb
Always On
18 V



Ext. Power
19 V max.



SPAUN

SUS 5581 F

Art.Nr.: 865101

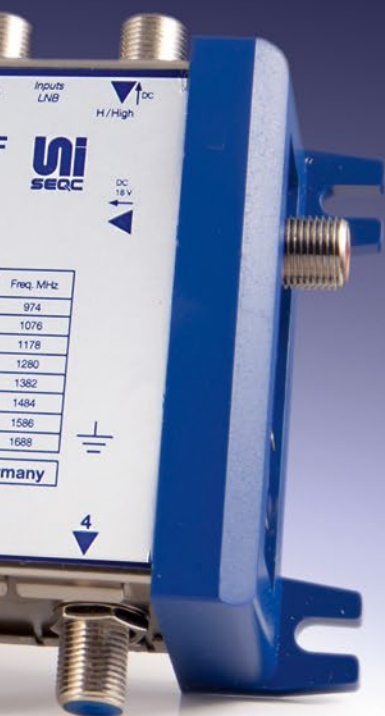
Kaskadierbarer Einkabel-Multischalter nach EN 50494
für 4 SAT-ZF-Ebenen und Terrestrik

Cascadable SCR Multiswitch according to EN 50494
for 4 SAT IF signals and terrestrial

Eingänge - Ausgänge Inputs / Outputs SAT / Terr.	5/5 4/1	SCR-Adresse SCR Address
SCR Ausgang SCR Output	1 x 8	0
Durchgangsdämpfung Through loss Terr. 5 ... 862 MHz	< 4 dB	1
Durchgangsdämpfung Through loss SAT 950 ... 2200 MHz	1 ... 2 dB	2
Anschlussdämpfung Tap loss Terr. 5 ... 862 MHz	4 ... 6 dB	3
AGC-Regelung Automatic Gain Control		4
Ausgangsspegel Output level	95 dB μ V	5
		6
		7

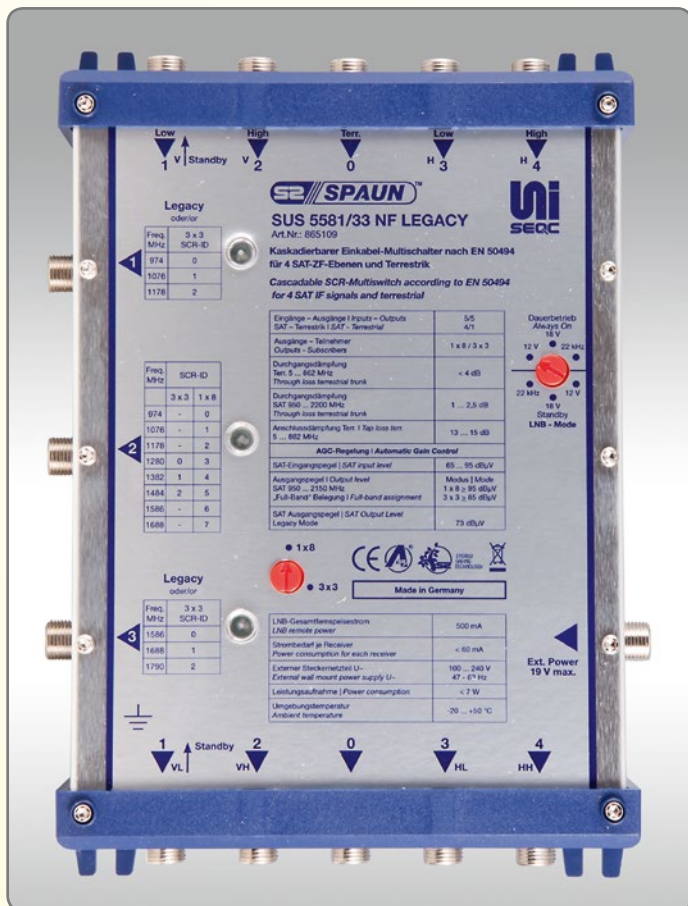
Made in Ger

Cascadable SCR Multiswitches SPAUN SUS 5581/33 NF LEGACY & SUS 5581 F Part 1



- *allows the use of existing single coax cables*
- *extremely good specifications leave the initial signal quality unaffected*
- *easy solution to distribute satellite and terrestrial signals to up to 16 SCR receivers*
- *Bonus Feature: channel switching (Zapping) faster compared to most receivers*

Most easy way to add satellite and terrestrial tv to an existing small cable network



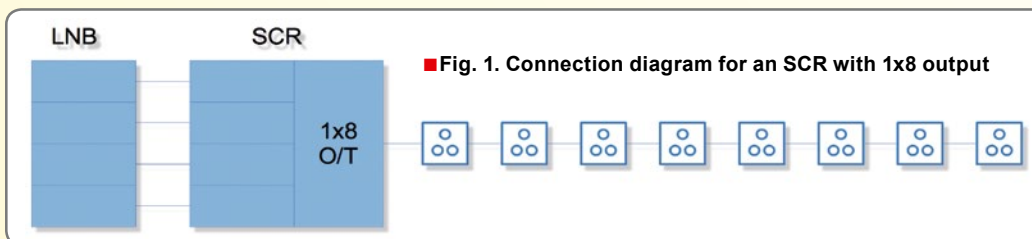
Some time ago in a test report we introduced the SPAUN SUS 5581/33 NF. We headlined it as "A very Easy-to-Install Satellite TV Signal Distribution" (see TELE-satellite 12-01/2012). At the time it was the first of its kind: a Single Cable Router (SCR) Multiswitch. In the meantime SPAUN expanded the concept and introduced not only newer models but a whole family

of products around the single cable concept. We picked two of the new models for this test report: SUS 5581/33 NF LEGACY and SUS 5581 F. While each of them can be used independently, nothing prevents connecting them together in order to build a more extensive single cable systems and checking how far the single cable concept can be brought.

Are you familiar with the SCR single cable concept? For our less experienced readers let us make a short introduction to SCR technology first. A single cable router usually takes signals from a Quad or Quattro LNB – similarly to a regular multiswitch. However, unlike a multiswitch you do not connect individual receivers to the separate outputs of an SCR. Instead,

you connect not one but a number of receivers in series – one after another - to a coax cable hooked up to a SCR output. Of course, you need to use suitable subscriber sockets, for example: SPAUN UNISocket 310, 314 and 318 in order to connect the receivers and allow the signal to pass through to the next socket. See Figure 1.

In the example shown in figure 1, the SCR outputs eight modulated carriers at strictly defined frequencies – like generating 8 different transponders. Each of the eight receivers must be configured to read just one such carrier.



Full HD
1080

2
YEARS
WARRANTY

DC 12V



RoHS
COMPLIANT

MULTIMEDIA
PLAYBACK

AVI

MKV

MPG

MP3

MP4

TS

audio and video codecs are subjects to availability*

MICRO HD

- Compact design
- Embedded card reader
- Mountable on wall, or back of TV
- High speed USB2.0 connection
- Multimedia playback
- Ethernet & USB WiFi connection support
- YouTube, Weather Forecast & RSS Reader

- External IR sensor (included in the package)
- Full HD 1080p output through HDMI
- Jack type analogue RCA output
- DiSEqC 1.0, 1.1, 1.2 and USALS Compatible
- Easy software upgrades through USB or network
- Less than 0.5W power consumption in stand-by mode
- 12V DC power - ideal for camping and traveling

BLIND



SCAN



RSS READER



weather
forecast



SPIEL Satellite Receiver & Game Console

- One card reader slot (Conax Embedded)
- Two High Speed USB 2.0 connections
- Media Playback (MKV, AVI, MPG, MP3, MP4, JPG and more...)
- Ethernet Connection & USB WiFi support (Ralink RT5370 chip)
- YouTube videos, Google Maps*
- RSS Reader & Weather Forecast functions*
- TimeShift - Stop Live TV! (USB Storage device required)
- Full HD (1080p) Output via HDMI
- Optical & Coaxial S/PDIF output for Dolby Digital Bit-Stream / PCM output
- RGB & CVBS video / audio output through SCART & RCA
- Easy software upgrades through USB or Network
- Program and Channel information transfer from receiver to receiver using the USB backup function



RSS READER



weather
forecast

RETRO
Games

MULTIMEDIA
PLAYBACK

AVI

MKV

MPG

MP3

MP4

TS

audio and video codecs are subjects to availability*

BLIND



SCAN

Full HD
1080



ecology

low power consumption
in stand-by



PLUGIN SUPPORT

SW UPGRADES
THROUGH INTERNET

GAME CONTROLLER

Now that the basics are explained, we can move on to testing the real world products. We started with the SUS 5581/33 NF LEGACY. This SCR Multi-switch is a rather complex one. It has four inputs to connect either a Quattro or Quad LNB and the fifth input is designed to connect a terrestrial antenna. Instead of one output SPAUN's version sports three outputs that can be configured in two modes:

- 3x3 Mode: each of the three outputs generates three different SCR carriers
- 1x8 Mode: output no. 2 generates eight SCR carriers while output 1 and 3 work like a classical multiswitch output to which conventional (legacy) satellite receivers can be connected

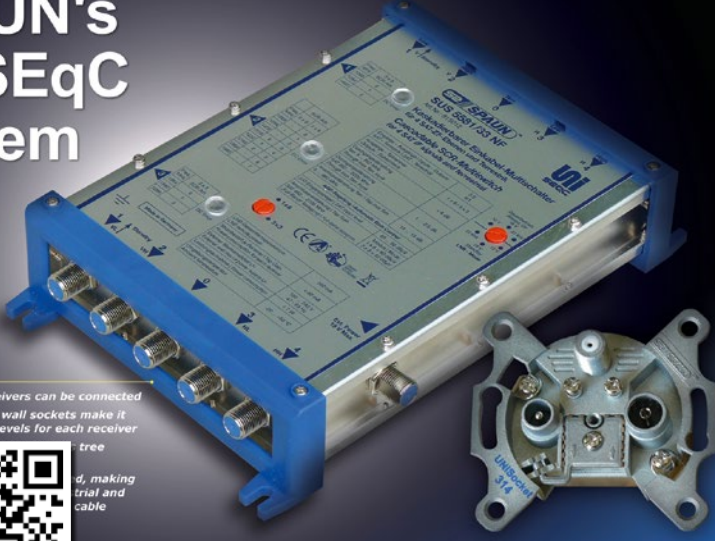
Moreover, the SUS 5581/33 NF LEGACY is equipped with 5 trunk outputs: four for the satellite signals and one for the terrestrial signal. That's perfect to connect them to the inputs of another multiswitch. And that's what we did in our test setup, but more on that later.

All SPAUN multiswitches are perfectly finished off. There is absolutely nothing we could complain about. The Technical Advice brochures that accompany every product provide all the relevant technical data and hints for proper installation. You will not get confused nor lose your time trying to figure out what you should connect with what. Everything is clear from the very beginning.

Each multiswitch is additionally equipped with a plug type universal power supply with changeable adapters for various electric power sockets. They can operate in a wide range of mains voltage: 100~240 V a.c. 50/60 Hz and

TEST REPORT | Satellite Distribution System |

SPAUN's UNiSEqC System



• up to 9 satellite receivers can be connected
• differently specified wall sockets make it easy to adjust signal levels for each receiver tree



d, making trial and cable

■ In TELE-satellite 12-01/2012 we introduced SPAUN's UNiSEqC system with the first multiswitch of the series, the SUS 5581/33 NF

www.tele-audiovision.com/TELE-satellite-1201/eng/spaun.pdf

provide 18 V d.c. output for the multiswitches.

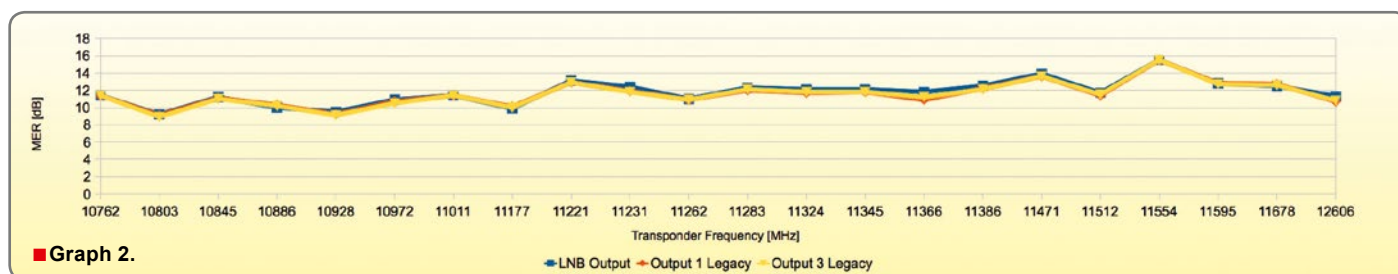
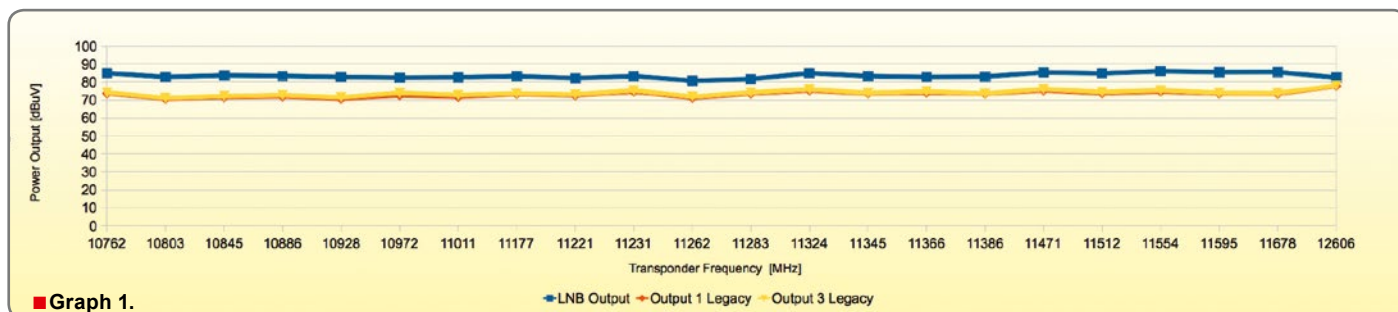
Our test setup consisted of a satellite dish pointed to EUTELSAT16A on 16° East and equipped with a Quad LNB. We connected the LNB outputs to the SUS 5581/33 NF LEGACY satellite inputs and switched its top cover switch to the "22 kHz" position as required for a Quad LNB. Should we have used a Quattro LNB we would have switched it to the "12V" position.

Before testing the single cable signals we wanted to make sure that all is OK with the legacy signals. Therefore our first test was to compare one output of our Quad LNB with the output no. 1

and output no. 3 when working in legacy mode (1x8 mode). As you can see in Graph 1 both outputs are regulated to around 73 dBμV what is exactly in line with SPAUN's specifications. Quality of the signal is practically unaffected – MER stays almost exactly the same as it is in the multiswitch input – see Graph 2.

And what about the trunk outputs? We took similar measurements comparing the original LNB output to the trunk outputs of the SUS 5581/33 NF LEGACY and got the average through loss of 1.62 dB what is in good agreement with SPAUN's promise: 1 ... 2.5 dB loss.

We also checked if signal quality is not



S3700CHD

TRIPLE TUNER COMBO POWERED BY *Spark*



- FULL HD TWIN TUNER SATELLITE RECEIVER AND SINGLE TERRESTRIAL/CABLE HYBRID TUNER
- TWIN CONAX CARD READERS, TWO USBS AND AN RF MODULATOR
- DUAL BOOT - SWITCH EASILY BETWEEN SPARK AND E2 LOADER
- ETHERNET PORT, WIFI (DONGLE SUPPLIED SEPERATELY) AND 3G MODEM SUPPORT
- TIME SHIFTING, RECORDING, PLAYBACK AND MEDIA SUPPORT WITH EXTERNAL HDD (USB 2.0)
- HOME NETWORK SUPPORT - SHARE YOUR FILES OVER A LOCAL NETWORK
- UNLIMITED NUMBER OF TV AND RADIO CHANNELS SUPPORTED
- OPERA WEB BROWSER WITH FLASHLITE
- SPARK PORTAL - INCLUDES YOUTUBE, RSS READER, GOOGLE TALK! AND SHOUTCAST FUNCTIONS*
- * INTERNET CONNECTION REQUIRED/3RD PARTY APPS SUBJECT TO CHANGE



NOW EMBEDDED IN THE S3700CHD



THE FIRST ADULT FILM APP AVAILABLE
ON SATELLITE **AND** TERRESTRIAL RECEIVERS**
ACCESS OVER 500 FILMS A MONTH
EASY PAYMENTS THROUGH SECURE WEBSITE
**WEB BASED APP - INTERNET CONNECTION REQUIRED

PAY PER VIEW - OVER 50 FILMS €1.99 EACH
MONTHLY - CHOOSE FROM OVER 500 FILMS €9.99
6 MONTHS - ACCESS OVER 900 FILMS €49.99

WWW.SEXVIEW.NET

www.icecrypt.com

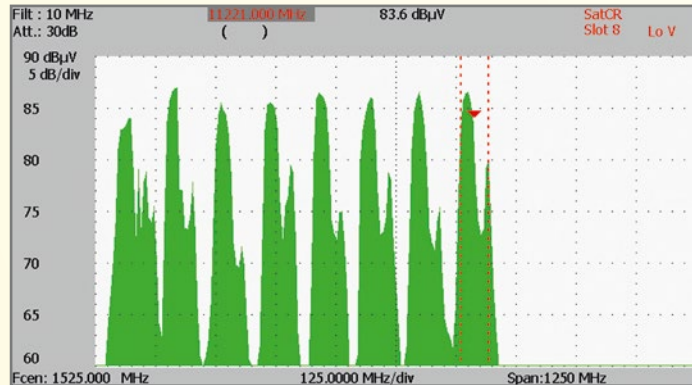
Email: info@icecrypt.com

Tel: +44 1795 429 666

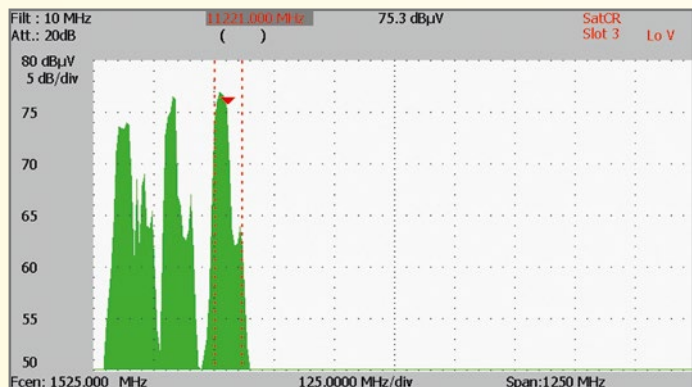
degraded after passing the multiswitch. But no. On the average, the MER went down just 0.21 dB – this is almost nothing. So the signal repeated on the trunk outputs of the multiswitch is only marginally worse than the original one available at the

output of our test Quad LNB.

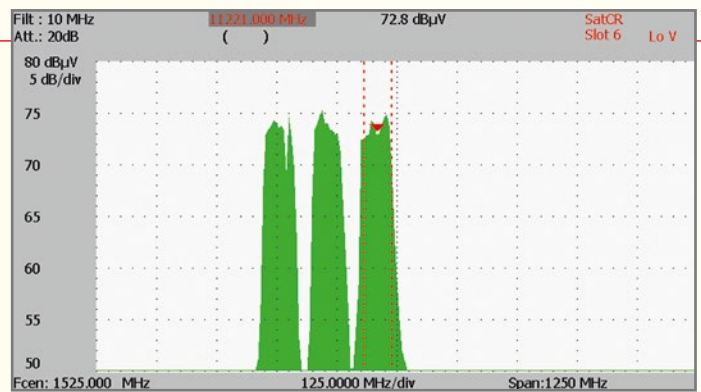
Once we were through with the conventional satellite signals it was time to check out the SCR signals. Initially we examined the 1x8 signal on Output no. 2. Figure 2 shows the spectrum. It is very clean – no spurious signals are de-



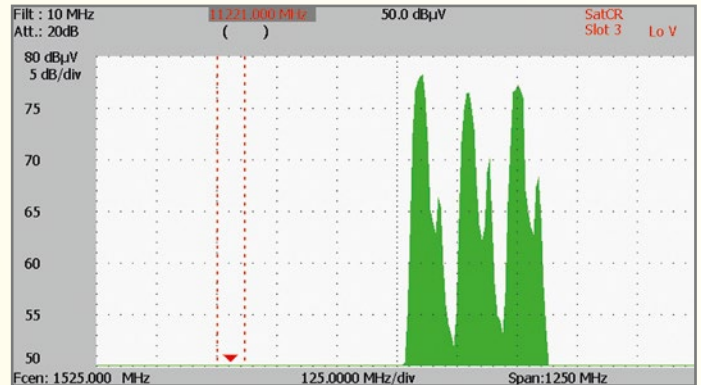
■ Fig. 2. Spectrum of Output 2 in 1x8 Mode.



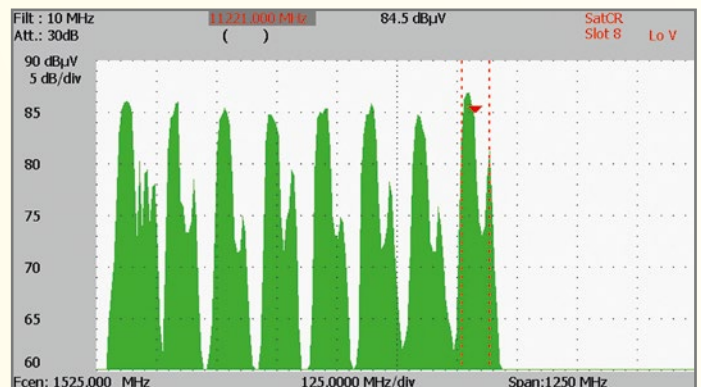
■ Fig. 3. Spectrum of Output 1 in 3x3 Mode.



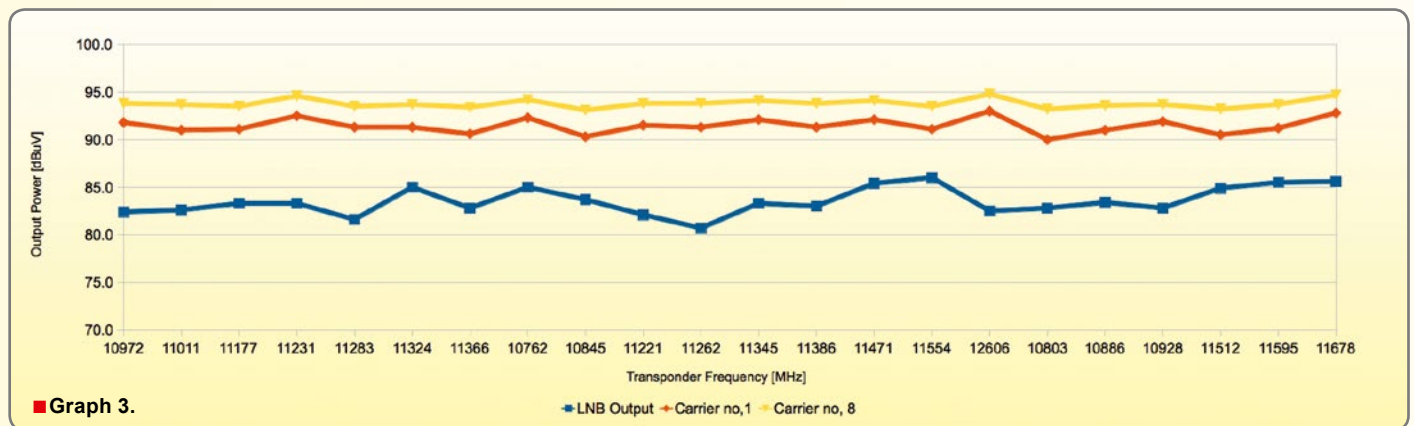
■ Fig. 4. Spectrum of Output 2 in 3x3 Mode.



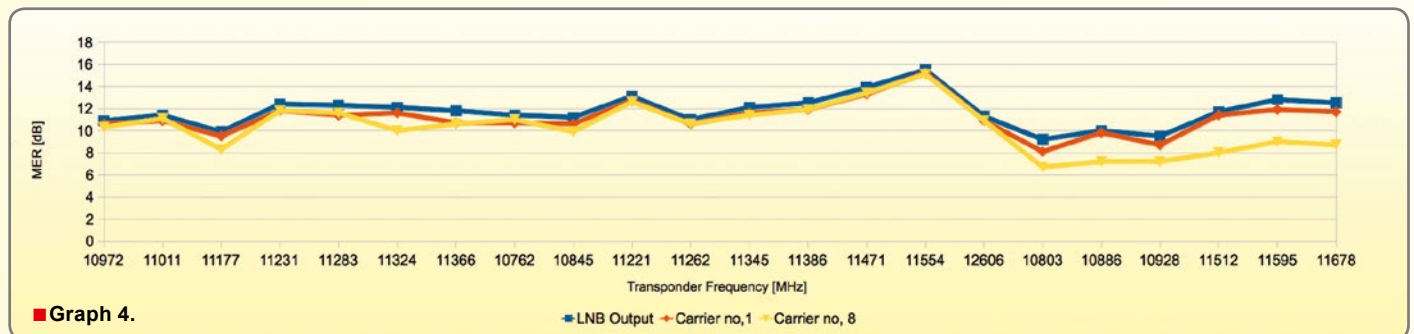
■ Fig. 5. Spectrum of Output 3 in 3x3 Mode.



■ Fig. 6. Spectrum of SUS 5581 F output.



■ Graph 3.



■ Graph 4.

tected and the signals themselves have excellent carrier-to-noise ratio. Also the MER measurements confirmed what could be deduced from the spectral view – quality of the output signal was very good (see Graph 4).

The output power was regulated to 90-95 dBμV as can be seen in Graph 3. The higher output was for the higher frequency carrier what makes sense as coax cable attenuation increases with frequency.

Then, we changed the

mode to 3x3 in which each output (1 through 3) produced three different carriers. Figures 3 through 5 show the screenshots taken from our signal analyzer and Graphs 5 and 6 show the power output and MER. Similarly to the 1x8 mode, also in this mode C/N was perfect and the MER results were down only slightly.

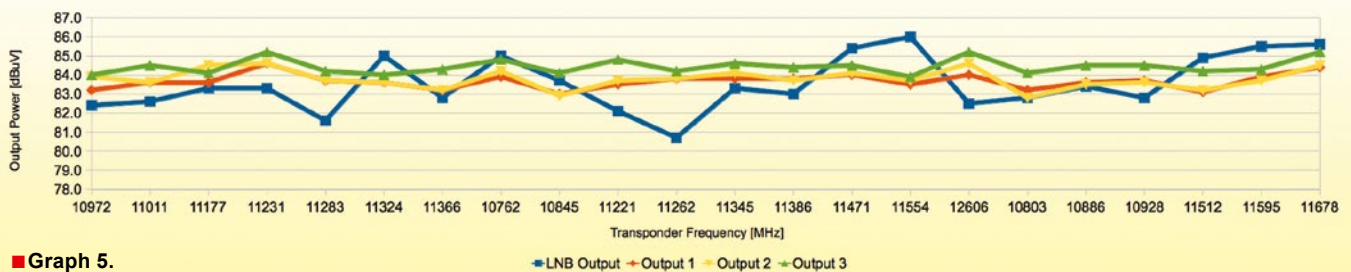
We did not notice any impact on the MER due to transponder symbol rate. SUS 5581/33 NF LEGACY processed the signal faultlessly

for both: very high and very low symbol rates (30 Ms/sec and 2.5 Ms/sec respectively).

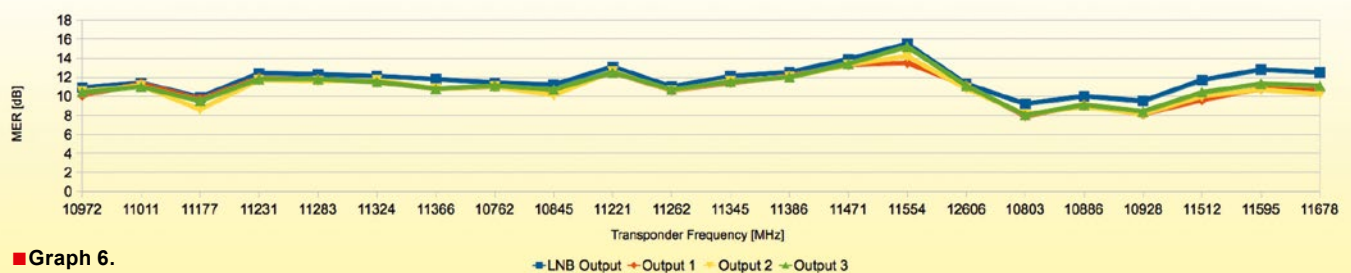
Now, the highlight came for the SUS 5581 F. While you can connect it directly to a Quattro LNB, as mentioned earlier you can also hook it up to the trunk outputs of a SUS 5581/33 NF LEGACY. In such a configuration you gain another single cable output to which you can connect up to 8 additional receivers. Figure 6 shows the spectral view of SUS 5581 F output – 8 car-

riers each carrying a transponder selected by a receiver connected to the line. The spectrum looked perfect again. The output power was exactly what SPAUN specified, that is 95 dBμV. MER was down by about 1.2 dB versus a direct LNB output. This is a very good result if we take into account that the signal had to pass not one but two multiswitches - see Graph 7, 8.

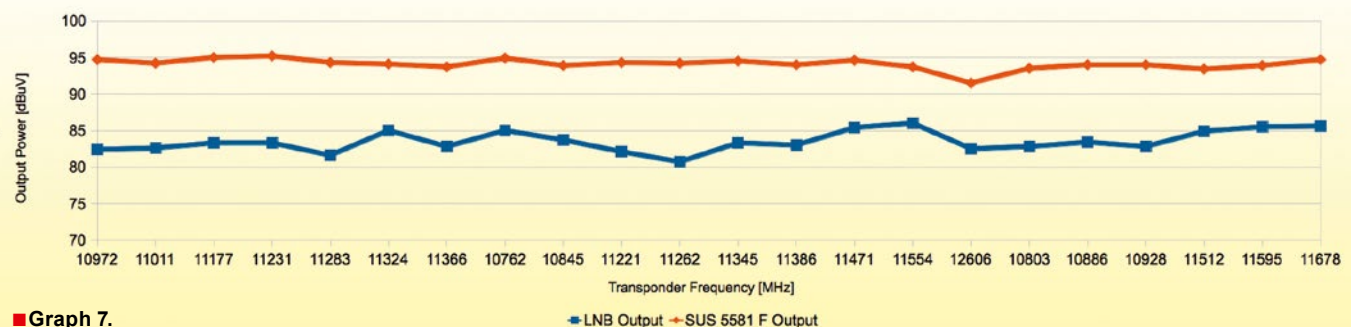
After checking the satellite signals performance we also checked terrestrial signal



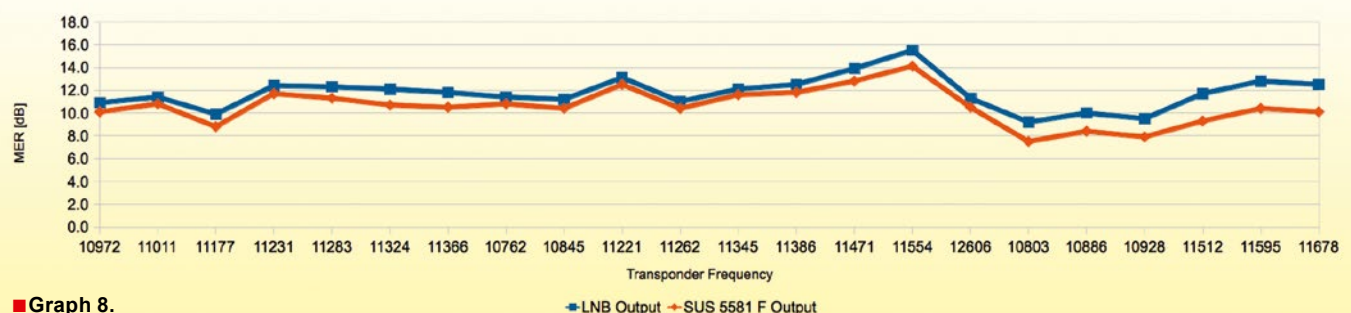
■ Graph 5.



■ Graph 6.



■ Graph 7.

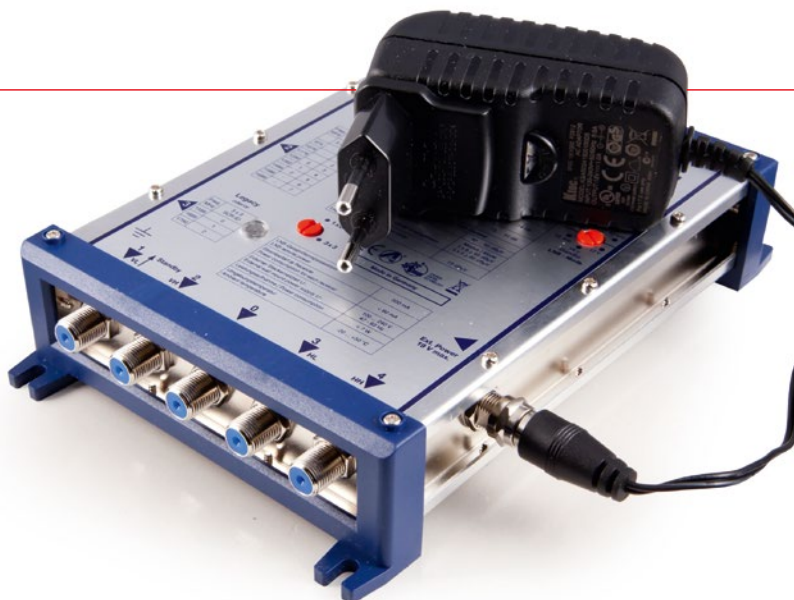


■ Graph 8.

handling. As we expected, all the signal losses introduced by both multiswitches were below specified parameters. Good job!

To sum it up: both multiswitches performed very well indeed. As our measurements revealed, SPAUN delivered what they promised. To finalize our test, we connected a regular receiver to check

if all transponders would be still available in a single cable setup. And of course they were. Channel zapping was fast and actually if your receiver is not very good in this respect, using single cable network with high quality multiswitches like those from SPAUN can boost the speed of channel zapping and increase your joy of watching digital TV.



EXPERT
OPINION

SPAUN SUS 5581/33 NF LEGACY & SUS 5581 F
SCR Multiswitch

RECOMMENDED
PRODUCT BY ▼

TELE-audiovision
THE WORLD'S LARGEST DIGITAL TV TRADE MAGAZINE

VIP
CARD

Jacek Pawlowski
Test Center
Poland

TELE audiovision
www.TELE-audiovision.com

+ Excellent workmanship
High Gain
Low Noise
Fast Channel Zapping
Flexible Building Blocks – Suitable for Various Network Setups

- None

TECHNICAL		
DATA		
Manufacturer	SPAUN electronic GmbH & Co. KG, Germany	
Web	www.spaun.com	
E-mail	contact@spaun.com	
Phone	+49-7731-8673-0	
Fax	+49-7731-8673-17	
Model	SUS 5581/33 NF LEGACY	SUS 5581 F
Inputs SAT/TERR	04/01/13	04/01/13
Through loss 5...862 MHz	< 4 dB	< 4 dB
Through loss 950...2200 MHz	1 ... 2.5 dB	1 ... 2 dB
Tap Loss 5...862 MHz	13 ... 15 dB	4 ... 6 dB
SAT Input Level	65 ... 95 dBµV	65 ... 95 dBµV
SAT Output Level (Legacy Mode)	73 dBµV	N/A
Output Level 950...2200 MHz	1x8: 95 dBµV 3x3: 82 dBµV	95 dBµV
SCR carriers [MHz]	974 1076 1178 1280 1382 1484 1586 1688 1790 (only in 3x3 setup)	974 1076 1178 1280 1382 1484 1586 1688
Power consumption	< 7 W	< 7 W

NEW

MODULATOR HD DVB-T / TNT HD-MOD-001T

- ▶ Integration of HD Encoder and DVB-T Modulator in one box.
- ▶ Various video input include: HDMI, Component Video (YPbPr) and Composite Video (CVBS)
- ▶ Multiple video format compatibility including 1080i, 720p, 576i, 576p, 480i and 480p
- ▶ Multiple audio format compatibility including MPEG-1 Layer II
- ▶ Fully comply with DVB-T standard
- ▶ Frequency range : 50~860MHz
- ▶ Programmable video/audio/PCR PID
- ▶ Programmable channel name and logical channel number insertion
- ▶ User friendly setup and control,
Remote management through Telnet





Air Tivi+

- *controls devices via your home network*
- *streams live TV to your iPad or iPhone*
- *works even with HD channels*
- *integrated PVR function*
- *currently not suitable for motorised antennas*





Add-on App for the Tiviar

Thomas Haring

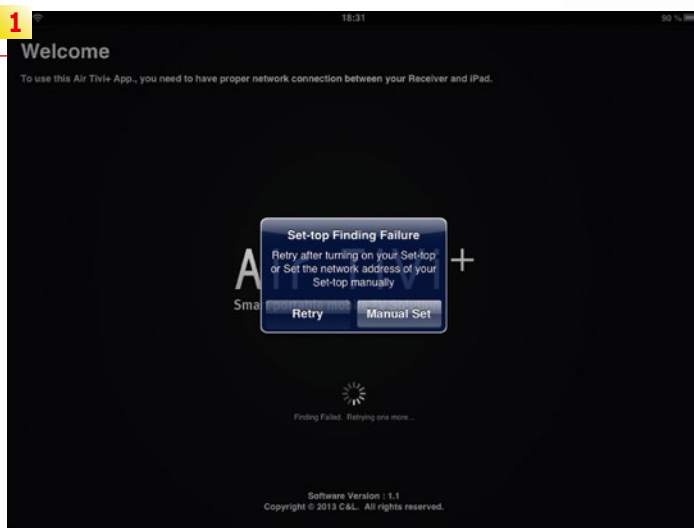
In our previous issue 07-08/2013 of TELE-audiovision we presented the new Tiviar receiver to our readers. The manufacturer has now launched a smartphone/tablet app called Air Tivi+, which can be downloaded free of charge from the Apple iTunes store and works with all iOS devices. All you have to make sure of is that both the Tiviar receiver and the iOS device use the same network and a WiFi connection is available for the smartphone or tablet.

In the bottom line of the app's home screen the following functions can be selected: Channel, Schedule, Remote and Settings.

The Remote section is of particular interest, as it allows operating the receiver via the iPhone's or iPad's touchscreen. Due to the different display sizes of phone and tablet the virtual remote control differs slightly on both devices.

The system worked without any lag at all during our test, something we did not really expect and which impressed us all the more. What's more, the virtual remote control is obviously much bigger (at least when an iPad is used) and more convenient to use than the original remote that comes with the receiver.

So how does it actually



work? Simply select a channel for playback on your device. A small window then pops up counting down from 10 to 0 until enough data is stored in the buffer memory for smooth video playback.

Another touch of a (virtual) button is all it takes for full-screen view, which also works flawlessly.

It goes without saying that we were particularly curious

TEST REPORT Triple Tuner PVR

Tiviar α+

- full integration into media network
- compatible with all digital TV norms
- capable of recording three events simultaneously
- can be used with motorised satellite dishes
- excellent blind scan mode for satellite TV

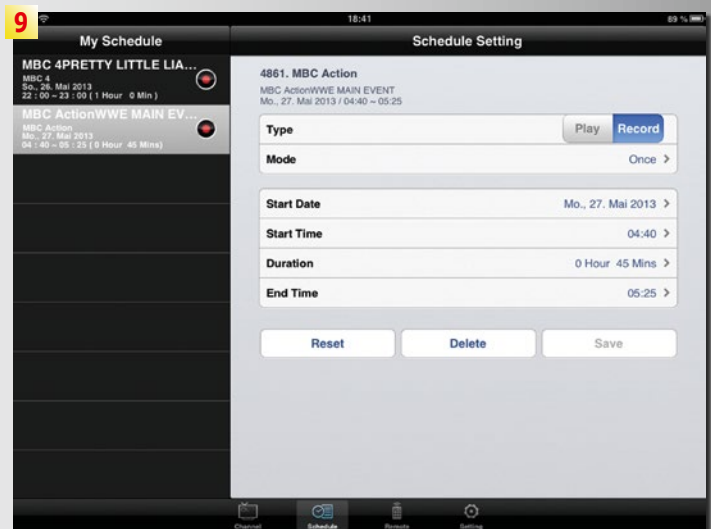
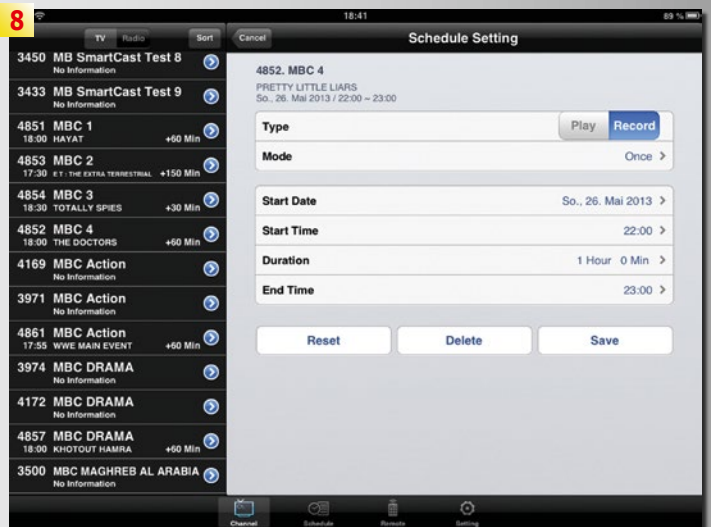
■ In the previous issue 07-08/2013 of TELE-audiovision we presented the new Tiviar Receiver
<http://www.TELE-audiovision.com/TELE-audiovision-1307/eng/tiviar.pdf>

Tiviar®

Discover your smart life!

α+

1. We had to enter the receiver's IP address manually in our test – automatic detection did not work
2. TV channel list of the Air Tivi+ app on the iPad
3. Channels sorted by groups
4. Setting options of the Air Tivi+ app
5. Virtual remote control on the iPad
6. Live playback of an HD channel
7. Complete EPG data for all channels is available with the app
8. A single touch of a button marks events for recordings
9. Editing existing timer entries
10. Full-screen playback of an HD channel



α⁺

as to how the system would cope with HD channels – and we were delighted when we were shown HD content even before the initial countdown had reached 0.

A word of caution: We found out during our thorough test that HD channels put considerable strain on the WiFi connection, which means that they work smoothly only if the network is in mint condition. Move away too far from the router and you'll soon experience signal drops. With SD content, on the other hand, we never had a problem.

Each of the three Tiviar tuners can be chosen to provide its signal to the app, with the two other tuners remaining available for recordings or live viewing with the receiver itself.

It is even possible to record two different channels with the receiver and use the third tuner for watching TV with the app. And not only is this possible in theory, it also

works flawlessly in practice.

One aspect we noticed and which to us didn't make a lot of sense is that the channel order in the app is different from the channel list on the receiver. And by the way, streaming only works if the selected channel is available right away. In other words, users of a DiSEqC motorised antenna, whose system may take some time until the required antenna position is reached, can use the app only for channels on the currently received satellite at this stage.

In summary, the general concept and design of the new Air Tivi+ app did not fail to impress us and once the remaining bugs are eliminated, it will offer a vast enhancement to the Tiviar receiver.

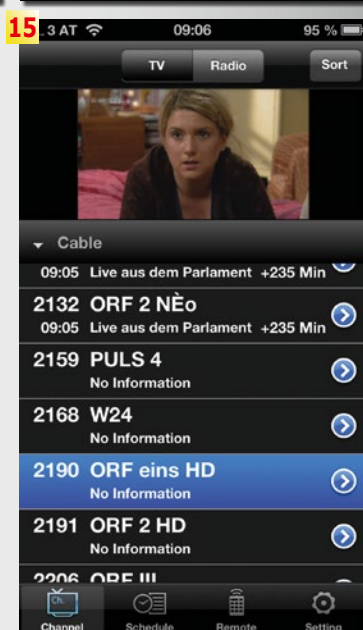
11. List of timer entries shown on the iPhone

12. Virtual remote control on the iPhone – page 1

13. Virtual remote control on the iPhone – page 2

14. Virtual remote control on the iPhone – page 3

15. Channel list with live TV on the iPhone



Tiviar®
Discover your smart life!

The USB-2 VHF/UHF Modulator that can drive any receiver



DTU-215-GOLD

**Connect to your PC...
and test drive any
cable or terrestrial
digital-TV receiver**

**Fully agile from
36 to 1002MHz**

**Channel simulator
included**

DekTec's USB modulator DTU-215-GOLD is an option-packed compact modulator that can cope with any cable or terrestrial modulation standard used throughout the world, including DVB-T2, DVB-C2 and ISDB-T. The modulator comes with streamer software that can run on a PC or laptop. The RF output of the modulator can be connected directly to the antenna input of a digital-TV receiver. As it is powered from the USB-2 bus, no external power adapter is required. This modulator is the ideal tool for demonstrations, research and development and to test drive setup boxes and decoders. For more information visit our website where you also will find our local resellers worldwide.

DeKtec
www.dektec.com

Audolici A1/25



- *reproduces sound in amazing high quality*
- *produced only with outstanding materials and components*
- *adds a new dimension to experiencing music*
- *surround-sound is one thing, real Hi-Fi sounds is something else entirely*
- *available at affordable prices for home users*



Integrated Amplifier

Hi-Fi Sound for the Home

Vitor Martins Augusto

When was the last time you heard music in really good quality? Not just „good“ stereo, but in a concert hall with good acoustics or even from a high class audiophile system? Maybe that's a long time ago, because nowadays audiophile sound quality is completely neglected. Most people nowadays are used to portable music players and of course it is great to carry around a large collection of albums in a

small mp3 player, mobile phone or iPod. But with such devices our hearing ability is pushed into the background, as the focus is about the quick consumption of music: anytime, anywhere. Home Hi-Fi systems were replaced by surround sound systems, which are basically optimized to reproduce sounds and noise coming from all directions, rather than trying to obtain the best music quality.

And so it comes that most people no longer are aware of how incredibly perfect music reproduction sounds and which dimensions, depth and plasticity can be achieved. This happened to me when I was able to test the Audolici A1/25 Integrated Amplifier. From the very first song by Joan Baez –“Diamonds and Rust”, the music flowed through me and gave me goose bumps; I closed my eyes and was formally conveyed to the 70s and before me she stood and

sang for me. When did I listen the last time to music in this way? I do not know exactly, but certainly a good 20 years ago. Back in the late 80s a proper Hi-Fi sound system was to be found in almost every household, but somehow this has changed in the 90s and especially in this new century. One encounters surround systems, media centres and home cinema, but listening to music on these AV receivers is just not the same.

And so I dove into the

■ This is Valeriy Kuchkovskyi, founder and owner of Audolici. In his hands he is holding the incredible Hi-Fi amplifier A1/25. He has all reasons to smile: this is a truly exceptional amplifier.



VIP
Card

Tested & Recommended Product by
TELE-audiovision International
The World's Largest Digital TV Trade Magazine



TELE
audiovision
AWARD
03-04/2013

Tsinghua GT-278
Rock solid receiver with
excellent responsiveness

www.TELE-audiovision.com/13/03/tsinghua

Tsinghua GT-278



地面信號接收



超低能耗



7天節目預覽



一鍵錄像



終身零費用



可同時錄製播放

DTMB The Best DTMB Receiver for High Definition

- Very fast switching
- Very fast OSD display
- With PVR function
- Medium storage connected
- Excellent multimedia functions
- HD MPEG4 / H.264
- Supported standards: DTMB
- 換台快捷
- OSD顯示和響應迅速
- 支持PVR刻錄
- 強大的多媒体功能



GT-278

高清晰度國標地面數字電視機頂盒

USB HDMI DTV



地面数字电视在深圳和香港是免费播出



world of music, spending hours listening to many amazing albums and discovering new details in the songs I already knew. All thanks to the A1/25, an audiophile class tube amplifier from Audolici.

Very few will have ever heard of Audolici, so first a small introduction to this company. The history begins with Ukrainian Valeriy Kuchkovskiy who, back in the days of the Soviet Union, worked in the Ukraine as an engineer specialized in tubes. Do you still know what a tube is, also known as vacuum valve? These were used before transistors and transistors were used before the integrated chips IC became the norm and are used all over nowadays.

Early on Valeriy started discovering the mysteries of audio circuits, especially the ones using tubes. Instead of just using well known schematics, he introduced his own ideas into the circuits. 15 years ago Valeriy moved to Portugal and in 2007 he founded his own company Audolici, in partnership with INESC Porto, the Institute for Systems and Computer Engineering of the city of Porto, located in the upper north of Portugal. During a period of five very productive years, Audolici not only developed a variety of tube amplifiers, phono pre-amplifiers and studio equipment, building up simultaneously a network of specialized companies to provide components of the highest possible quality. The best known Audolici product developed within this period is the classic AUDOLICI-50 Series, featuring the Jazz, Swing and





1



Blues models.

These are designed in the more typical appearance, in which we see the tubes and can guess the transformers at the rear. While this design is a delight to any audiophile, normal music lovers will struggle a little, because these amplifiers do not fit

in a normal rack, cannot be stacked with other audio components and therefore basically require a matching set of furniture. This will often cause some heavy discussion between the audiophile and his or her partner, even though the 50-AUDOLICI does look extremely

classy.

The initial years of Audolici existence have been very important to get a better understanding of the very demanding audiophile market, too. Feedback came from all over the world and Audolici listened. And so it happened that Audolici has developed a

new approach to tube amplifiers and implemented it for the first time with the A1/25. It is a real tube amplifier, but in a classic amplifier housing. Indeed, it makes one immediately want to screw open the chassis cover to make sure that there really are tubes inside the receiver. And yes, 6 tubes reside inside, four tubes (type 6SL7) for the first stage and two tubes for the output power stage (the famous EL-34B). These are hand-picked, which may sound unbelievable, but it makes sense. Despite the utmost care in the production of the tubes, it is impossible to produce two tubes with absolutely identical properties. Valeriy therefore checks personally all the tubes used for each



2



amplifier and only uses tube pairs which sonically match. It is no secret that Russian tubes are considered the best and it's no coincidence that Valeriy knows all the best tubes and where to get them from Russia.

But hold on: Audolici amplifiers are not of the hand-made category: yes, the components on the board are soldered manually and all components are screwed together manually as well. But much more amazing is the amount of real development that has been gone into the production of the key components. The transformers for example are produced by a Portuguese company specialized in this area. Still, Audolici worked with this company over years, re-

searching the best production methods and properties to build the finest transformers for audiophile amplifiers. It is not just about how to wrap the coil: even the right composition for the ferrite core has been investigated.

Another example is the black finishing of the case. Yes it is black, but it is neither piano shiny black, which perfectly reproduces any fingerprints, nor is it the matte kind of black, which looks a bit cheap. It is of the perfect smooth black kind, which I honestly never encountered before. Again, the reason for this unusual finishing comes from the fact that Audolici researched the most advanced materials and surface finishing techniques available and established partnerships to



both develop and produce the finishing of the casing. The result is a work of art and I have witnessed myself this commitment to excellence, because Valeriy is not unknown to me, as he lives like me in Porto and our professional paths have crossed many times in the past.



1. The Audolici amplifier A1/25 in its full glory in the audiophile test room
2. This room not only has very good acoustic properties: it features the unbelievable JBL Olympus C 50 speaker. Yes, they are big but what great sound comes out of them. The small tweeters on top of the speakers complement them perfectly and despite their size they feature an amazing weight of around 3 Kg each.
3. The Audolici A1/25 was tested with the Sony CDP-X77ES, one of the best CD players ever built by Sony.

The Audolici A1/25 is not only design wise different from other tube amplifiers. It has another unusual point: its price. While an audiophile tube amplifier like the AUDOLICI-50 Jazz has a price tag of around 7500 Euros for the end user, the Audolici A1/25 aims at approximately half that price. This represents an unbeatable bargain for an amplifier of this class, particularly because Valeriy did not manage to make this amplifier sound worse than more expensive models.

I was able to test this amplifier twice: first at my home and then in a proper auditorium for audiophile music systems, owned by a private collector and audiophile addict. This dual test enabled me on one hand to get to know the A1/25 in a familiar acoustic environment. On the other hand, it was also important for me to hear

the amplifier with speakers evenly matched in a truly optimized space, along with high class components.

The first contact with the A1/25 is marked by the weight of the amplifier. Being used to the keywords „compact“ and „light“ – common marketing keywords nowadays – it is surprising how heavy a „real“ amplifier can be. The A1/25 brings an impressive 11.5 kg to the scale.

The casing is perfect. An elegant front panel with only two knobs and a switch and a characteristic minimalist design. The left knob allows selection of the input (CD, Tuner, AUX 1 and AUX 2), while the right knob controls the volume. Both knobs are solid and heavy and have a high quality finishing. The volume knob uses an Alps 100k log potentiometer, which again is a sign that only the best components have been used

to build this equipment. The centre lever indicates the ON state by means of a green LED, which is integrated in the switch. The colour of my test equipment was graphite black, but the receiver is also available in silver.

On the rear side, the A1/25 presents itself again with a high quality finishing. All RCA sockets are gold plated and the output terminals for the speaker use a WBT type binding post, which will totally satisfy the most demanding user. Although the unit is assembled by hand, the A1/25 by no means looks like a „do it yourself“ amplifier, as opposed to many of the tube amplifiers to be encountered in the market from other brands. The manufacturing of the device is very professional as you would expect from a premium Hi-Fi component.

The arrangement of the

speaker output terminals indicates the internal architecture of the amplifier, for they are distributed symmetrically and allow the connection of only one pair of speakers, which may be of the 4-6 Ohm or 6-8 Ohm type. Having only output terminals for one pair of speakers cannot be regarded as a limitation, because the A1/25 is to be used with a matched high quality speaker pair and it would not make sense to connect more speakers, nor to spend money in the purchase of two speaker pairs. Instead, Audolici has been rather generous with the 4 inputs connector pairs. In this segment, it is not that usual to have this number of input connectors available, but it does make sense in the present days, since music lovers no longer want to swap cables to be able to alternate between different sources, like a CD

■ After setting up the amplifier we were ready to enjoy a long afternoon listening to a huge amount of CDs.



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.

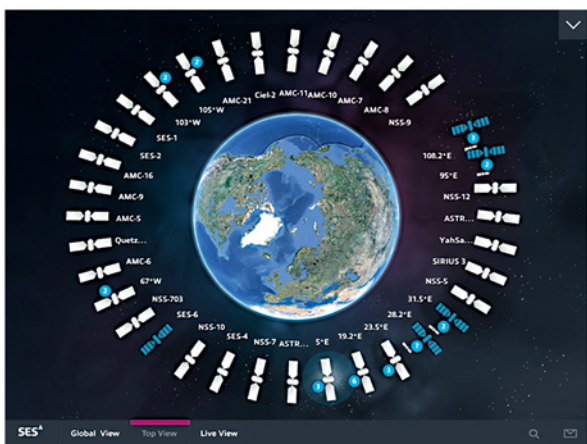


SES fleet & coverage
now in an iPad
app!



"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)



SES[▲]
Headquarters

Château de Betzdorf, L-6815 Betzdorf, Luxembourg
Tel: +352 710 725 1 ■ <http://www.ses.com>

player, a modern media player with a digital audio output connected through a DAC (Digital to Analogue Converter - more on that later on), a tuner or a turntable through a phono pre-amplifier. Overall, the appearance of the A1/25 is discreet, classy, yet elegant. Although it is in principle a black box, you can immediately see that it is a special device. Sometimes less really is more.

The cover is secured by 6 screws. Inside the case the tubes reveal themselves, since they occupy a third of the available space. The trick to the small height of the A1/25 comes from the fact that the tubes are arranged horizontally, rather than the usual vertical position. A total of 6 units are installed, 3 for the left and 3 for the right audio channel. Like the speaker jacks the interior of the A1/25 is totally symmetrical, as is common in audiophile amplifiers.

The printed circuit boards are of excellent quality and all the cables are of industrial grade with professional connectors. The device is the result of a remarkable feat of engineering, combining „Old School“ with the latest manufacturing techniques. Being located in Portugal offers unprecedented advantages, because when it comes to the production of very small series, many highly specialized companies are to be found in this region, offering sheet metal production, electrical cables, etc.

The 11.5 kgweight of the amplifier is not only due to the robust and perfect body but mainly caused by the three transformers especially produced for this amplifier. These were prepared according to the specifications of Audolici in a specialized Portuguese company. This expertise has a tradition in Portugal, because major companies like Grundig were located in the vicinity, resulting in a network of suppliers.

Testing the Audolici with the Best Available CDs



- Dire Straits - Brother in Arms - „Your Latest Trick“

Fantastic, the saxophone at the beginning of the song, then the voice of Mark Knopfler. The drums precisely positioned. The A1/25 reproduced this quiet song with a fabulous visibility and at great ease. I discovered in this song many new details.

- Sade - Promise - „The Sweetest Taboo“

A great album in which Sade's voice remains in the foreground and yet accompanied by a plethora of instruments and compositions. Here, too, the A1/25 provides full pleasure. If you close your eyes, you have Sade singing for you - an indescribable experience - surrounded by all the instruments and arrangements.

- Pat Metheny Group - Travels - „Goodbye“

This album has grown on me and it is by far the album I've heard the most times in my life. Therefore, this double CD is in each of my audio tests. The track called „Goodbye“ especially evokes emotions in me. It is not easy for many amplifiers to reproduce the tender sounds at the beginning with the voice of Naná Vasconcelos drawing a fragility that does not require volume, but presence. The A1/25 mastered this. With the volume knob set to about half the quiet background composition had presence, while the voice was not too loud. Interestingly, the A1/25 requires the volume knob to be turned further than other amplifiers to get the same volume output.

- Pink Floyd - Dark Side of the Moon - „Time“

This song begins with a prelude that is difficult for many amplifiers: the clocks ticking and ringing. I was thrilled by the Audolici amplifier being able to bring to life each clock individually. Only the best amplifiers in the world will be able to resolve the panoply of ticking and ringing sounds with such a brilliance. But the rest of the song captivates the listener as well with the guitar solo leading the listener through time and space. I have to confess that I never experienced „Time“ by Pink Floyd like this before. Naturally, I kept on listening and „The Great Gig In The Sky“ sounded just fabulous!

- Arne Domnerus Group - „Jazz at the Pawnshop“

Audiophiles know Jazz at the Pawnshop, as most audiophile stereos will be tested with this CD to start with. The reason is not only because this CD was incredibly well produced, but also because the recording was done in a club full of people. This CD is simply considered the best jazz live recording ever. Although the conditions were just far away from the ideal: you can also hear clinking cups, chairs being pushed and people coughing. But this is exactly the reason for the fascination about this CD. The Audolici A1/25 mastered this CD with flying colours. For me this means: close your eyes and wait so see whether the amplifier just manages to transport me into The Pawn Shop. Yes it does, I am sitting at a table and I'm in for a great Jazz experience.

NEW from **COSMOSAT-DIGITAL**
Argentina/South America



MADE IN
ARGENTINA

High Quality C-Band Dishes

COSMOSAT, Nicasio Oroño 2106 5°B, C1416BZV Buenos Aires, Argentina, South America
Email: cosmosat@cosmosat-digital.com.ar ■ Tel +55-11-5365-4822
<http://www.cosmosat-digital.com.ar>



To test the amplifier at home I connected it to my vintage speakers produced by the German manufacturer Pilot. The bulky speakers have a pure and solid sound, because they come from the Hi-Fi heyday, the early 80's. To play CDs I used my CD/DVD Player DVP-S715 from Sony – not the most expen-

sive device, but still fitted with a proper mechanism and individual CD and DVD heads. I have connected this player both through the internal DAC and an external DAC from Music Fidelity, the well-known V-DACII.

To be able to fully take advantage of an amplifier in the 21st century there is no

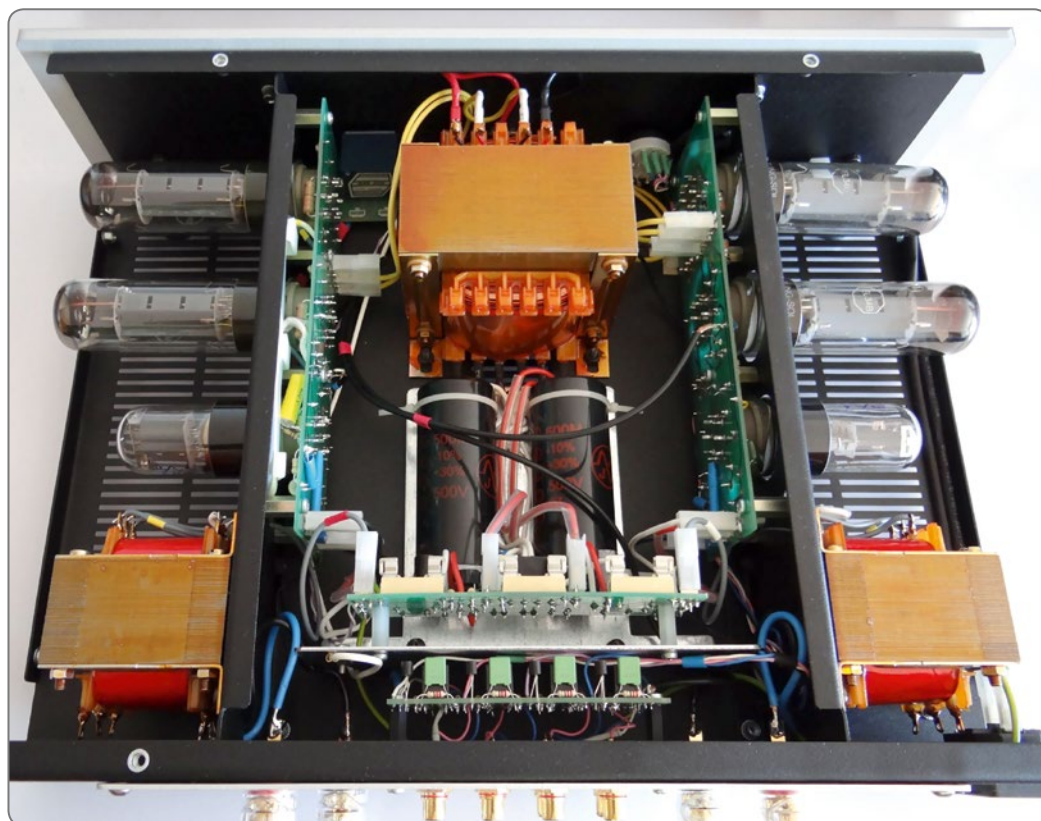
way around using a modern media player. It is so much more comfortable to be able to browse in your own music library directly via a remote control, rather than having to constantly get up to change CDs. Therefore I connected a media player running the legendary "Xbox Media Centre" (XBMC), now available on

many platforms like the old Xbox, iPod, iPad, Android and even the Raspberry Pi. I used a Media-PC to run XBMC and connected it via the V-DACII to the A1/25. Interestingly, my media player gets the music over the network from a file server: analogue audio meets modern digital electronics.

What can I say about the amplifier? It is incredible! You experience music in a whole new context. It is as if one has seen his life through a matte glass, thinking that the sight was the normal one, when suddenly this glass is removed and you see the world in a sharpness and clarity like never before. This is how it felt to me. But just as you suddenly can see the image crystal clear you start to notice all faults as well. Suddenly you realize how bad mp3 actually sounds, due to the compression artefacts. Any mp3 file with a bitrate of less than 320MBPS simply makes no fun at all to listen to. Worse, one even discovers that some CDs do not sound so great either, because they have been badly produced. All this can not be noticed using a regular music player. To test the A1/25 I have therefore resorted to well-known recordings, which have been exceptionally well produced, meaning for example that you can locate all instruments in space:

I have listened to these albums at home using CDs (with internal and external DAC) and using the media player (with the V-DACII). It was now time to repeat the listening in an audiophile environment. While the A1/25 was very tolerant with my speakers, CD player and the V-DACII, I wanted to see the hidden power of this valve amplifier when it had to feed proper audiophile speakers. I was lucky to be able to use a truly legendary classic audiophile speaker, the JBL Olympus C 50. As a CD player a Sony CDP-X77ES was used.

Here the A1/25 could really show what's in it. I was already impressed with the sound quality in my home but now the A1/25 just produced a state of euphoria. It's so amazing to listen to well-



known CDs on this system. It is as if you were there, in the middle of the action - see my listening experience in the „Testing the Audiolici with the Best Available CDs“ section.

No question, the Audiolici A1/25 reproduces a well-balanced sound with a spectacular space. You close your eyes and can position the individual instruments around you. Especially acoustic instruments benefit from the valve amplifier.

The Audiolici A1/25 is a masterpiece in its category. Audiolici has developed an amplifier that brings enthusiasm among audiophiles and yet at the same time this unit is affordable to a wider audience. The industry has neglected Hi-Fi sound in favour of the visual stimulation. Modern homes feature large TVs in HD resolution and surround sound, but with our ears we can achieve quicker and deeper relaxation and immersion in emotions. I wholeheartedly recommend to all our TELE-audiovision readers to seek a demonstration of a real audiophile system, preferably of this

amazing amplifier. Even if you have no interest or possibility to buy it you should at least try it out and I am sure you'll hear the difference it makes to listen to a real outstanding audio system.

■ Inside of the A1/25. The tidiness is the result of yearlong research and development. As expected, the amplifier is mainly symmetrically build. Here, the tubes are installed vertically, a unique concept. The two transformers have been especially designed.

TECHNICAL DATA

Model	Audiolici A1/25
Function	Hi-Fi audio amplifier
Manufacturer	Audiolici, Centro de Empresas NET, Edificio PROMONET, Rua de Salazares 842, 4149-002 Porto, Portugal
Website	www.audiolici.com
Contact	vkuchkovskyy@audiolici.com
Tel	+351-91-2005308
Channels	2
Inputs	4 (CD / TUNER / AUX 1 / AUX 2)
Power output	A1 2 x 20W A1/25 2 x 25W
Loudspeaker impedance	4-6 Ω or 6-8 Ω
Total harmonic distortion	@ 1W, 1000Hz 0,4% @ 10W, 1000Hz 0,8% @ 20W, 1000Hz 2,5%
Frequency response	28Hz – 20 KHz / ±1,5dB @ 20W
Input impedance	47 kΩ
Input sensitivity	1,57 V
Output impedance	0,4 Ω
Signal-to-noise ratio	-89dB
Damping factor	10 @ 1KHz
Channel separation	50dB @ 1KHz
Overall Negative Feedback	0dB
Power consumption	200VA
Dimensions (W x H x D)	435 x 96 x 345 mm
Weight	11.5Kg
Input terminal	Gold plated RCA
Colours	Black, white and grey

AWARD WINNING

**DIGITAL
RECEIVERS OF
21ST CENTURY**

这些是获得最高奖的产品





Manufacturer	Gotech
Website	www.gotechcn.com
Function	DVB-S2 & ISDB-T Combo Receiver
DVB-S2/LAN	• / •
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	• / •



MKTECH



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/09/mktech
Read TELE-audiovision Test Report

Manufacturer	TBS Tenow
Website	www.tbsdtv.com
Function	DVB-S2 compatible Twin Tuner Streamingbox
DiSEqC	1.0 / 1.1
DVB-S2/LAN	• / •
PVR	•
S-Video/HDMI	— / —
Scart/Digital Audio	— / —



TENOW



TELE-audiovision
International
Magazine

Business Voucher

www.TELE-audiovision.com/13/07/tenow
Read TELE-audiovision Test Report



Manufacturer	Gotech
Website	www.gotechcn.com
Function	DVB-S2 Satellite Receiver
DVB-S2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / •



MKTECH



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/07/mktech
Read TELE-audiovision Test Report



Manufacturer	Fortis
Website	www.tiviar.com
Function	DVB-S2 / DVB-T2 / DVB-C Triple PVR Receiver
DVB-S2/LAN	• / •
Channel Memory	10000
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / •



TIVIAR



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/07/tiviar
Read TELE-audiovision Test Report



Manufacturer	Changhong
Website	www.changhong.com
Function	DVB Receiver, Mediaplayer, Android Apps
DVB-S2/LAN	— / •
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	— / •



CHANGHONG



TELE-audiovision
International
Magazine

**Business
Voucher**

www.TELE-audiovision.com/13/05/changhong
Read TELE-audiovision Test Report



Manufacturer	Panodic
Website	www.panodic.com
Function	DVB-T / DVB-T2 Receiver
DVB-T2/LAN	• / —
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	• / —



PANODIC



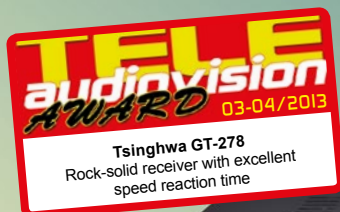
TELE-audiovision
International
Magazine

**Business
Voucher**

www.TELE-audiovision.com/13/03/panodic
Read TELE-audiovision Test Report



Manufacturer	Tsinghua
Function	DVB Receiver
LAN	—
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	— / •



TSINGHWA



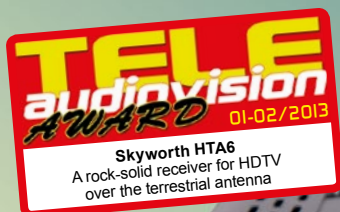
TELE-audiovision
International
Magazine

**Business
Voucher**

www.TELE-audiovision.com/13/03/tsinghua
Read TELE-audiovision Test Report



Manufacturer	Skyworth
Website	www.skyworthdigital.com
Function	DVB-T/DVB-T2 HDTV Receiver
DVB-T2/LAN	• / —
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	— / —



SKYWORTH



TELE-audiovision
International
Magazine

**Expert
Opinion**

www.TELE-audiovision.com/13/01/skyworth
Read TELE-audiovision Test Report



Manufacturer	Jiuzhou
Website	www.jiuzhou.com.cn
Function	DVB-T & Android STB
DVB-S2/LAN	— / •
PVR	•
S-Video/HDMI	— / •
Scart/Digital Audio	— / •



JIUZHOU



TELE-audiovision
International
Magazine

**Business
Voucher**

www.TELE-audiovision.com/12/11/jiuzhou
Read TELE-audiovision Test Report



Manufacturer	Panodic
Website	www.panodic.com
Function	DVB-S / DVB-S2 Receiver
DVB-S2/LAN	• / —
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
S-Video/HDMI	— / •
Scart/Digital Audio	• / —



PANODIC



TELE-audiovision
International
Magazine

**Business
Voucher**

www.TELE-audiovision.com/12/11/panodic
Read TELE-audiovision Test Report



Manufacturer	AZBox
Website	www.azbox.com
Function	HDTV DVB-S/DVB-S2 Miniature HDTV Linux Receiver with Multimedia Features
DVB-S2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / 1.3 / USALS
S-Video/HDMI	— / •
Scart/Digital Audio	— / •



AZBox mini ME
Excellent mini-receiver with Network
features - ideal for a home network



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/09/azbox-mini-me

Read TELE-audiovision Test Report



Manufacturer	Panodic
Website	www.panodic.com
Function	Small DVB-T HD PVR Receiver
DVB-S2/LAN	— / —
DiSEqC	—
S-Video/HDMI	— / •
Scart/Digital Audio	• / —



Panodic HDT-127A DVB-T
Well-equipped DVB-T
Mini-Receiver



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/07/panodic

Read TELE-audiovision Test Report



Manufacturer	Panodic
Website	www.panodic.com
Function	DVB-T Mini Receiver with HDMI and PVR
DVB-S2/LAN	— / —
DiSEqC	—
S-Video/HDMI	— / •
Scart/Digital Audio	— / —



PANODIC



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/05/panodic
Read TELE-audiovision Test Report



Manufacturer	AZBox
Website	www.azbox.com
Function	HDTV DVB-S/DVB-S2 Linux Receiver with Multimedia Features and large Flash-memory for 3 Boot Images
DVB-S2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / USALS
S-Video/HDMI	— / •
Scart/Digital Audio	— / •



AZBOX



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/03/azbox-me
Read TELE-audiovision Test Report

The Best Way to Partner with TELE-audiovision Magazine

怎样与TELE-audiovision 杂志建立优质合作关系

Reliability 可靠

Continuity 持续

Accountability 担当

Trust

信任



Magazine started in 1981 and is by now the world's largest in digital tv trade
杂志开始于1981年，现在是世界上最大的数字电视行业

The only way to survive in the oversupply world that exists today is to offer more to your customers than what other manufacturers offer. And this philosophy should not be limited to just the products that you produce, but in everything else that is involved in the making of those products. And the end result? The customers will recognize the long-term advantage of ONLY purchasing YOUR products. They will know that your company will still exist next week, next month, next year. These days products require frequent updates. In the continuously developing digital world, firmware and software need to be regularly upgraded to add new features and to improve on existing features.

在这个供过于求的世界上，供应商唯一的生存之道就是提供其他竞争对手所没有的东西。这不仅产品本身，还有一个简单产品背后实力的展现。这意味着您的客户将知道：在这个瞬息万变的电子世界里，他的供应商将日复一日，年复一年的为他提供专业的人性化服务；精准的硬软件调试；实时的新功能升级。

You can ensure your continued success is by continuously impressing upon existing and potential customers your never-ending dedication to your products.

要保证持续竞争力不仅要关注产品本身，最好的广告是让您的现有客户和潜在客户都看到您为作好您的产品付出了什么。

Advertise your products in each issue of TELE-audiovision. This is the best way to reach out to your customers. You will earn their long-term trust by consistently presenting your business and products to all the professional TELE-audiovision Magazine readers from around the world

与TELE-audiovision 携手同行，通过这本全球发行量最大，最专业的业界杂志，让全球的业内人士看看：您，为您的产品，付出了多少！



www.TELE-audiovision.com/ads

CHINA



Aluo Consulting 阿罗顾问
Export Digital TV Products from China

LUO SHIGANG
President

#15, Feringa Str, 2nd Floor, Room D14
85774 Munich-Ufg, GERMANY

Tel: +49-151-40405196
Fax: +49-89-92185023
Email: luo.shigang@Aluo-Consulting.de
Website: www.Aluo-Consulting.de

LOOKING FOR A SET TOP BOX MANUFACTURER?

Contact AluoConsulting
luo.shigang@Aluo-Consulting.de

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

Contact us with your specifications and we
do the rest

Aluo Consulting 阿罗顾问
Export Digital TV Products from China

AWARD WINNING

SIGNAL
ANALYZERS OF
21ST CENTURY

这些是获得最高奖的产品





TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/09/horizon
Read TELE-audiovision Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Digital Meter DVB-T Signals
Frequency Range	51 ~ 858 MHz
Video Output	—
Built-in Monitor	LCD display

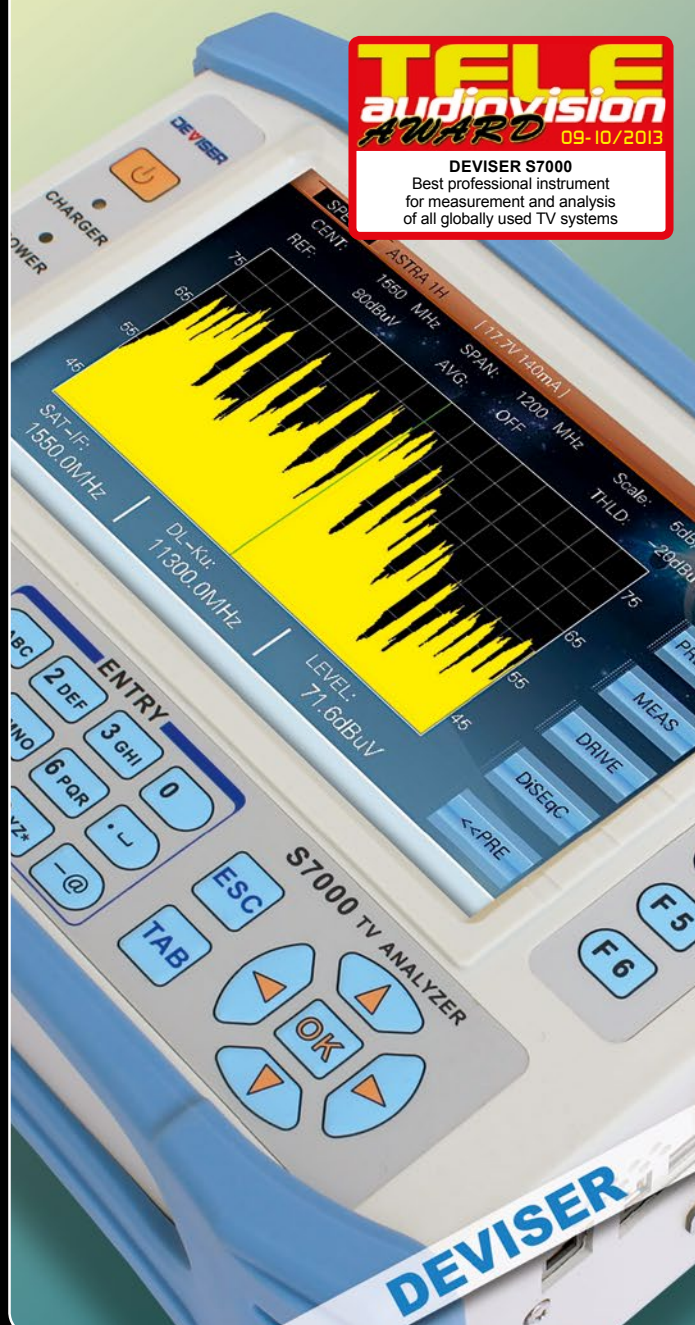


TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/09/deviser
Read TELE-audiovision Test Report

Manufacturer	Tianjin Deviser Electronics Instrument
Website	www.devisertek.com
Function	Professional TV Signal Analyzer
Frequency Range	5 - 1050 MHz (TV); 950-2150 MHz (Satellite)
Video Output	HDMI
Built-in Monitor	7" TFT LCD, 800×480 pixels





TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/05/deviser
Read TELE-audiovision Test Report

Manufacturer	Tianjin Deviser Electronics Instrument
Website	www.devisertek.com
Function	Satellite Antenna Meter
Frequency Range	950~2150 MHz
Video Output	—
Built-in Monitor	LCD display



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/03/horizon
Read TELE-audiovision Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Digital Satellite Meter for DVB-S and DVB-S2 Signals
Frequency Range	950 ~ 2150 MHz
Video Output	—
Built-in Monitor	LCD display





TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/01/kws
Read TELE-audiovision Test Report

Manufacturer	KWS-Electronic
Website	www.kws-electronic.de
Function	Handheld Signal Analyzer with Spectrum for DVB-S, DVB-S2
Frequency Range	910 ~ 2150 MHz
Video Output	yes
Built-in Monitor	5,7" Color-TFT, VGA Resolution



TELE
audiovision
AWARD 01-02/2013

KWS VAROS 109
Extremely high-quality meter
for everyday use
by satellite installers

KWSELECTRONIC



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/11/satlink
Read TELE-audiovision Test Report

Manufacturer	Fujian Baotong
Website	www.sat-link.com.cn
Function	Digital Meter & Receiver for DVB-S and DVB-T Signals
Frequency Range	47 ~ 862 MHz & 950 ~ 2150 MHz
Video Output	yes
Built-in Monitor	4.3 inch display



TELE
audiovision
AWARD 11-12/2012

Satlink WS-6936
Very easy to use signal meter
which also serves as receiver.

SATLINK



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/11/horizon

Read TELE-audiovision Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Digital Meter for Analogue, DVB-T and DVB-T2 Signals
Frequency Range	48 ~ 862 MHz
Video Output	—
Built-in Monitor	LCD display



TELE
audiovision
AWARD 11-12/2012

HORIZON HD-T2

One of the world's first DVB-T2 signal
analyzers with exceptional data

HORIZON



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/11/deviser

Read TELE-audiovision Test Report

Manufacturer	Tianjin Deviser Electronics Instrument
Website	www.devisertek.com
Function	Optical Power Meter
Frequency Range	-43 dBm ~ +25 dBm
Video Output	—
Built-in Monitor	LCD display



TELE
audiovision
AWARD 11-12/2012

DEVISER AE 120

Optical Power Meter

Extremely simple to use but
at same time very accurate

DEVISER



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/09/deviser
Read TELE-audiovision Test Report

Manufacturer	Tianjin Deviser Electronics Instrument
Website	www.devisertek.com
Function	Professional Meter for DVB-T, DVB-C and CATV (analog TV)
Frequency Range	5 ~ 1000 MHz
Video Output	—
Built-in Monitor	320 × 240 TFT display



DEVISER DS2400T

This is by far the best handheld measuring instrument for DVB-T, DVB-C and CATV I have come across. Deviser has done an excellent job!

DEVISER



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/05/spaun
Read TELE-audiovision Test Report

Manufacturer	SPAUN Electronic
Website	www.spaun.com
Function	DVB-S / DVB-S2 and DSS Signal Analyzer
Frequency Range	950-2150 MHz
Video Output	—
Built-in Monitor	4.3" TFT LCD display (16:9)



SPAROS SAT HD

Very useful meter for setting up critical satellite systems





TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/03/satcatcher

Read TELE-audiovision Test Report

Manufacturer	SatCatcher
Website	www.satcatcher.com
Function	Digital and analog cable TV meter
Frequency Range	46~862 MHz (for digital TV) and 46~870 MHz (for analog TV)
Video Output	—
Built-in Monitor	120 x 64 3.5" LCD color display



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/01/horizon

Read TELE-audiovision Test Report

Manufacturer	Horizon Global Electronics
Website	www.horizonhge.com
Function	Satellite and terrestrial antenna meter
Frequency Range	45~861 MHz (terrestrial) and 950~2150 MHz (satellite)
Video Output	—
Built-in Monitor	LCD display

TELE
audiovision
AWARD 02-03/2012

Satcatcher Digipro C Max
More than a cable meter: includes
everything a professional installer needs



TELE
audiovision
AWARD 12-01/2012

Horizon HD-STM
Perfect choice for an installer who values
a practical instrument.

TELE-audiovision Magazine

TELE
audiovision

Directly to Your Office
by ***courier service***

Service Costs per Year (6 Magazines/Year):

TELE-audiovision Magazine

6 x US\$ 17

US\$ 102

Courier Service

6 x US\$ 86

US\$ 516

Handling Charges

6 x US\$ 14

US\$ 84

Total Costs Subscription by Courier Service Anywhere in the World

US\$ 702



Send Order to: **subscription@tavmag.com**

AWARD WINNING

21
IPTV/WebTV
RECEIVERS OF
1ST CENTURY

这些是获得最高奖的产品



Manufacturer	TBS Tenow
Website	www.tbsdtv.com
Function	DVB-S2 compatible Twin Tuner Streamingbox
DiSEqC	1.0 / 1.1
DVB-S2/LAN	• / •
PVR	•
S-Video/HDMI	— / —
Scart/Digital Audio	— / —



TENOW



TELE-audiovision
International
Magazine

Business Voucher

www.TELE-audiovision.com/13/07/tenow
Read TELE-audiovision Test Report

Manufacturer	D-Link
Website	www.dlink.com
Function	Internet Streaming Box
WiFi/LAN	• / •
Internal Storage	no
HDTV	yes (up to 1080p)
CVBS/HDMI	— / •
USB/SD Card	• / •



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/07/boxee
Read TELE-audiovision Test Report



BOXEE



Manufacturer	Netgear
Website	www.netgear.com
Function	Streaming Player
WIFI/LAN	• / •
Internal Storage	no
HDTV	yes (up to 1080p)
CVBS/HDMI	— / •
USB/SD Card	— / —



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/05/netgear
Read TELE-audiovision Test Report



NETGEAR



Manufacturer	Roku
Website	www.roku.com
Function	Streaming Player
WIFI/LAN	• / —
Internal Storage	no
HDTV	yes (up to 1080p)
CVBS/HDMI	• / •
USB/SD Card	— / •



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/03/roku
Read TELE-audiovision Test Report



ROKU



Manufacturer	Lookeetv
Website	www.lookeetv.com
Function	Multimedia Player for local media and Internet
WiFi/LAN	• / •
Internal Storage	yes, 1.14 GB
HDTV	yes (up to 720p)
CVBS/HDMI	• / •
USB/SD Card	• / •



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/11/lookee
Read TELE-audiovision Test Report



LOOKEETV



Manufacturer	AZBox
Website	www.azbox.com
Function	HDTV DVBS2 Miniature HDTV Linux Receiver with Multimedia Features
DVBS2/LAN	• / •
Channel Memory	unlimited
DiSEqC	1.0 / 1.1 / 1.2 / 1.3 / USALS
S-Video/HDMI	— / •
Scart/Digital Audio	— / •



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/09/azbox-mini-me
Read TELE-audiovision Test Report



AZBOX

Manufacturer	Logitech
Website	www.logitech.com
Function	IPTV Receiver



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/03/googletv

Read TELE-audiovision Test Report



Manufacturer	Jiuzhou
Website	www.jiuzhou.com.cn
Function	IPTV Set-Top-Box
Stream Protocol	UDP
Menu Standards	HTML4, Javascript 1.5, Java Virtual Machine
WLAN	• (via USB stick)



JIUZHOU DTP8300
IPTV Receiver Equipped
with Top-Notch Technology



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/11/01/jiuzhou

Read TELE-audiovision Test Report



The 15th Annual

VSAT2013

18 – 20 September

NH Grand Hotel Krasnapolsky,
Amsterdam, The Netherlands

VSAT2013 LATIN AMERICA

2 – 3 July

Grand Hyatt Hotel
Sao Paulo, Brazil



VSAT MOBILITY2013

3 – 4 December

Hilton Paddington Hotel,
London, UK



Strategic Partner:

comsys 

VSAT2013 GLOBAL SERIES

- Attracting the entire VSAT ecosystem
- 65% of attendees at Director Level or above
- Top level speakers from across the globe
- Attendees from 38 countries
- Unparalleled networking opportunities
- World class exhibitors

Don't forget to join our
online communities



AWARD WINNING

**THE BEST
HEADEND
EQUIPMENT OF
21ST CENTURY**

这些是获得最高奖的产品





TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/03/antiference
Read TELE-audiovision Test Report

Manufacturer	Antiference
Website	www.antiference.co.uk
Model	KLA-110 Launch Amplifier & KCC-110 Channel Converter/Processor
Function	Filtering, amplifying and converting DTT channels to new frequencies
Input / Output frequency range	44 – 862 MHz / 44 – 862 MHz
Input level range	65 – 95 dBμV
Output level adjustment (KCC-110)	60 – 80 dBμV
Gain adjustment (KLA-110)	14 – 45 dB



KINGRAY

Manufacturer	Dexin Digital Technology
Website	www.dsdvb.com/english
Model	NDS3975 DVB-S2 HD IRD
Function	Professional Integrated Receiver Decoder
Tuner Input	QPSK, QPSK, DVB-S2 (DVB-T, DVB-C, DVB-S optional)
ASI Input	Maximum transmitting rate 90Mbps
ASI Input	Maximum transmitting rate 90Mbps
DVB-S2/LAN	• / •
SDI/YPbPr/CVBS/HDMI	• / • / • / •
Scart/Digital Audio	— / •



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/01/dexin
Read TELE-audiovision Test Report



Manufacturer	Sat & Sound
Website	www.satson.eu
Model	HD-MOD-001T
Function	HDTV-compatible DVB-T Modulator
Output Frequency	50 - 860 MHz
Video Input Format	Component Video, YPbPr RCA, HDMI
Video Encoding Format	MPEG-2 Video (ISO/IEC 13818-2)
HDMI/LAN	• / •
Modulator Standard	DVB-T (ETSI EN 300 744)
Bandwidth	6, 7, 8 MHz
Constellation	QPSK, QAM16, QAM64



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/13/01/satson-modulator
Read TELE-audiovision Test Report

TELE
audiovision
AWARD 01-02/2013

Satson HD-MOD-001T
Smart solution for distributing HD signals
via an existing coax cable network



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/11/dektec
Read TELE-audiovision Test Report

Manufacturer	DekTec
Website	www.dektec.com
Model	DTE-3137
Function	Networked DVB-S2 Receiver
Frequency range	950 - 2150 MHz
Transmission Standards	DVB, DVB-RSC, ATSC
Modulations	QPSK, 8-PSK, 16-APSK and 32-APSK
DVB-S2/LAN	• / •



TELE
audiovision
AWARD 11-12/2012

DekTec DTE-3137
Perfectly equipped professional satellite
receiver for use in networks and for
processing in cable networks.

DEKTEC



TELE
audiovision
AWARD 09-10/2012

SPAUN VAM 420 NG PAL
Easy way to create
analogue tv channels



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/09/spaun-vam
Read TELE-audiovision Test Report

Manufacturer	Spaun
Website	www.spaun.com
Model	VAM 420 NG PAL
Function	VSB Twin Modulator
Frequency range	110 ... 862 MHz
TV standard	B/G/D/K/I/L
Output level max	90 dBμV
Output level adjustment	0...-10 dB
Spurious level	<-60 dB
C/N ratio	≥ 50 dB
Input level	1 ± 0.1 V p-p

SPAUN

Manufacturer	Global Invacom
Website	www.gloablinvacom.com
Model	FibreIRS DTT Processor
Function	Filtering and amplifying DVB-T signal
Frequency range	470-862 MHz
Number of channels	6 (expandable to 9)
Broadcast standard	DVB-T 8 MHz
Gain	20 dB
Channel flatness	< 2.5 dB
DAB Frequency range	217-230 MHz
Insertion loss	< 2 dB



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/07/globalinvacom
Read TELE-audiovision Test Report



TELE
audiovision
AWARD 06-07-08/2012

FibreIRS DTT Processor
Delivery perfectly clean
DTT signals for any
distribution system

GLOBAL INVACOM

TELE
audiovision
AWARD 06-07-08/2012

SPAUN BluBox 16
Great leap forward in
headend technology



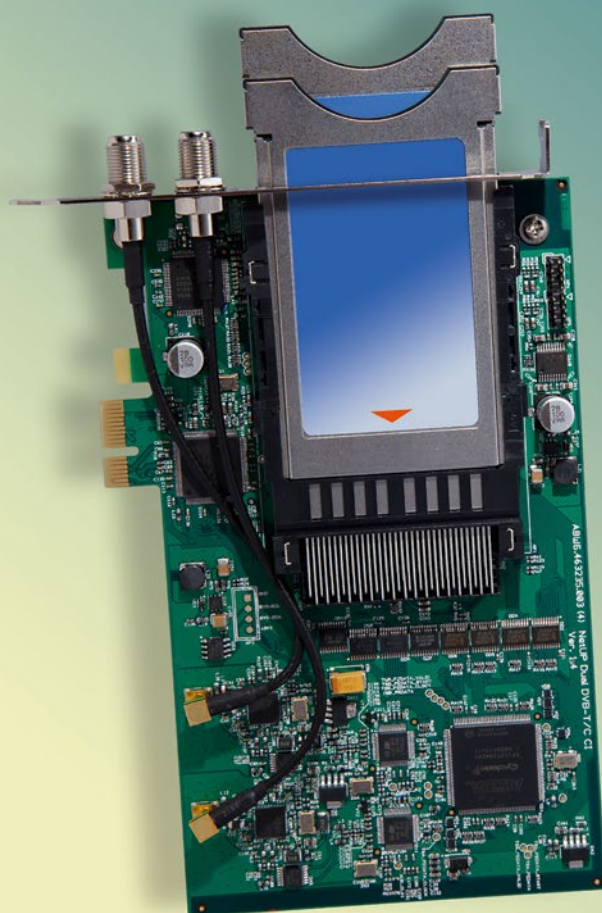
TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/07/spaun
Read TELE-audiovision Test Report

Manufacturer	Spaun
Website	www.spaun.com
Model	BluBox 16
Function	DVB-S2 to DVB-C Head End
DVB-S2/LAN	• / •
Number of inputs	4 (cascadable)
Input frequency range	950 ... 2150 MHz
Allowable input signal power	64 ... 94 dBμV
Number of outputs	2 (cascadable)
Output frequency range	47 ... 862 MHz
QAM standard	DVB-C / ITU-T J.83 Annex A (fixed)

SPAUN



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/12/01/netup
Read TELE-audiovision Test Report

Manufacturer	NetUP
Website	www.netup.tv
Model	Dual DVB-T/C-CI
Function	DVB-C and DVB-T PCI-e adapter for professional applications under Linux

TELE
audiovision
AWARD 12-01/2012

DVB-T/C-CI
Impressive professional card for IPTV
servers and multimedia centers that is
loaded with the latest technologies
for long-term use

NETUP

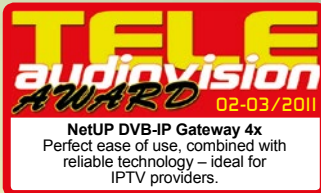
Manufacturer	NetUP
Website	www.netup.tv
Model	IPTV Combine 4x
Function	IPTV Gateway for DVB Signals, Middleware, Billing, VoD, nVoD, DHCP-, Time- & DNS-Server
Tuners	4
Max. simultaneous Transponders	4
Max. bandwidth	240 MB/s
DISEqC	1.0
Ethernet ports	6 x Gigabit Ethernet 10/100/1000 MB/s
CI Slots	4



TELE-audiovision
International
Magazine

Expert Opinion

www.TELE-audiovision.com/11/03/netup
Read TELE-audiovision Test Report



HORIZON

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 HD-CM+

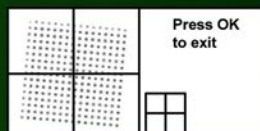
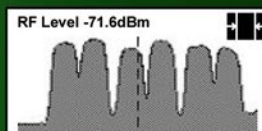


The new Horizon HD-CM+ meter is the ideal cost effective cable installation and cable diagnostic tool for today's demanding cable television installation environments.

The HD-CM+ offers many features like fast channel scan, leakage and ingress detection, spectrum display, data logging, slope test, constellation display and expanded constellation. These features are typically found on much more expensive analysers.

Fast and accurate, with a long battery life, the HD-CM+ has been designed with the installer in mind, providing maximum flexibility and ease of use. The HD-CM+ is your complete solution for downstream analysis.

The HD-CM+ comes with everything you need to get started. A carry case (with tool pocket), USB cable for channel plan downloads, AC cord for mains charging (internal charger), DC cord for in vehicle charging, protective splash cover and field replaceable F connector input.



Phone:
+44 (0)1279 417 005

Email:
sales@horizonhge.com

www.horizonhge.com

TV From a Network



Part 3

- *The basics of data transmissions in a network*
- *TCP, UDP and RTP – What do they mean?*
- *Utilizing a network*
- *Network cabling makes all other cables redundant*
- *1000MBPS recommended for reliable operation*

■ This is how our test centre looked like for this report.



Vitor Martins Augusto

You can find quite a bit of information on IPTV in the Internet but it's often not all that easy to understand since it can be very long-winded and complicated and assumes the reader has some basic knowledge. One reason for the difficulty in getting started in this field is that most of the material doesn't have TV installers in mind but rather is more geared towards network specialists and IT administrators; two worlds bump into each other here. Our goal is to save our TELE-audiovision readers some time and describe the more important points.

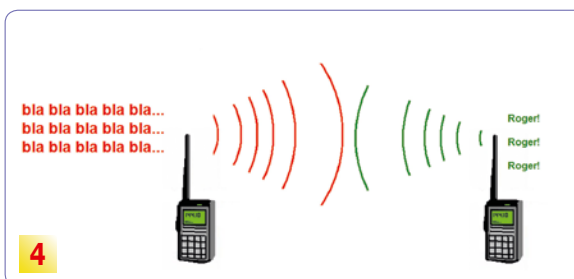
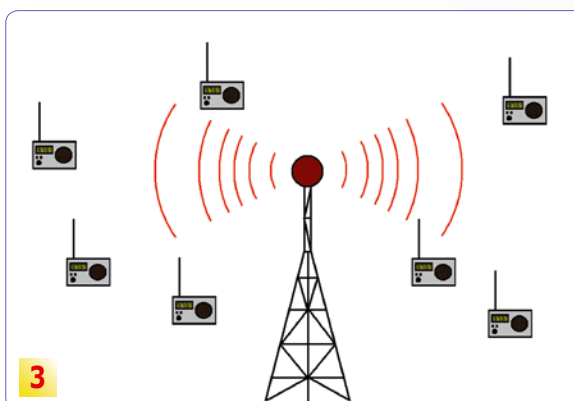
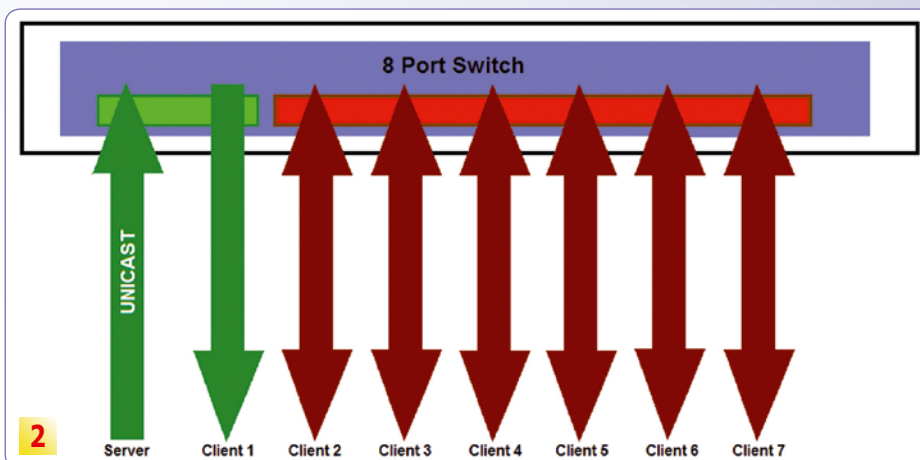
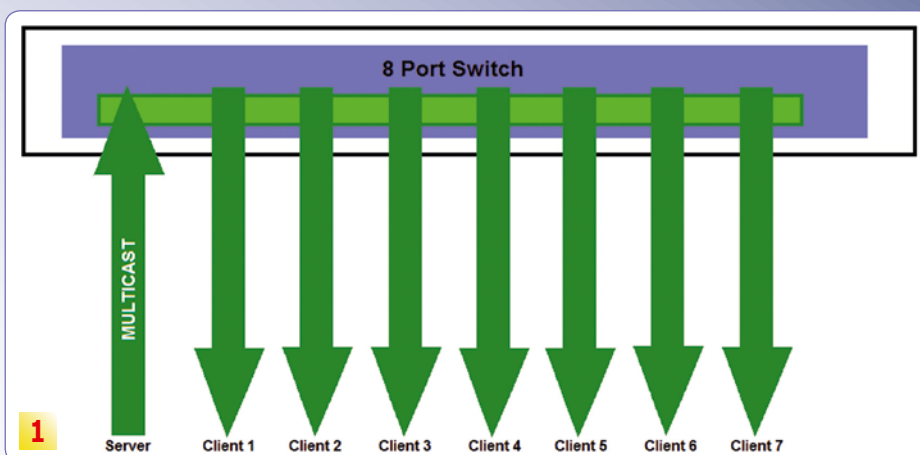
Taking the leap into the IPTV world is made complicated by these keywords: TCP, UDP, RTP, Multicasting and Unicasting. But none of these are really earth-shattering.

Almost everyone today that uses a computer or tablet to get to the Internet knows what TCP is. This network protocol regulates the communication between the various computers. Data is sent in small packets from the sender's computer to the recipient's computer.

To prevent the loss of a packet, it contains the address of the transmitter and the receiver. The packet also includes a checksum that is calculated from the data it contains. This makes it possible to determine if the packet arrives correctly and undamaged.

The best thing about TCP is that the individual packets are transmitted until a confirmation is sent back by the receiver. If this is the case, the transmitter can then forget about the correctly received data. Otherwise, the packet would be retransmitted as often as needed until a reception confirmation is sent back. The order in which the individual data packets are received is not important – they will be placed in the proper order by the receiver.

You can look at TCP as an amateur radio communication between two Hams: the first Ham transmits a lengthy message and after each sentence waits for the second Ham to signal that he received the message by saying „Roger“. If he didn't understand it the first time,



1. Schematics of a **MULTICAST** transmission. The server sends one stream to the switch. The transmission is then forwarded to all connected devices.

2. Schematics of a **UNICAST** transmission. The server sends one stream to the switch, but this time the stream is only forwarded to one specific client. Notice how the remaining ports are fully available for other communications.

3. Analogy of **UDP**: one transmitter sends information, regardless of how many listeners there are. Also, there is no feedback to the transmitter. If a listener misses a part or if he cannot correctly receive the transmission, there is nothing to do about it – the transmitter will never know!

4. Analogy of **TCP**: one transmitter sends information to one listener. The reception of every sentence has to be confirmed by the listener. If he missed the sentence or if he did not understand it clearly, the transmitter will send the sentence again.

the first Ham repeats the transmission.

This protocol is ideal for data transmissions; it guarantees that the data arrives correctly and in one piece. For live video and/or audio transmissions this protocol is not as ideally suited. There are two problems:

1) The video (or audio) has to arrive

in the correct order. What good would it do if the third frame, for example, is lost and after the seventh frame the whole thing is repeated?

2) The checksum process is redundant. If the image data of a frame doesn't arrive correctly, it would be too late the retransmit that frame.

THE FUTURE DOESN'T FIT IN A BOX.

Tuesday, January 7
through Friday, January 10, 2014
Las Vegas, Nevada • CESweb.org • #CES2014

**WE, HOWEVER,
FOUND A WAY TO PUT IT IN
1.9 MILLION NET SQUARE FEET.**

Over four days, those who shape the future gather in Las Vegas. Here, brands, markets and economies converge in what's far more than a tradeshow. And in 2014, there's more opportunity than ever to connect with those who matter. All that's missing now is you. **Register today at CESweb.org.**



THE GLOBAL STAGE FOR INNOVATION

PRODUCED BY  CEA®



Because of these reasons the UDP protocol is much better suited for live transmissions of audio and video. In this case we're dealing with a greatly simplified protocol in that the data packets are sent without a

checksum. Aside from that, the transmitter is not looking for any kind of return signal from the receiver. And in Multicast mode the transmitter really doesn't care who's on the receiving end.

Analog to UDP could be

compared to a radio broadcast: the DJ reads the news aloud and has no idea who's listening, no idea how good the reception is and no idea if the listener understood everything that was said.

Unlike TCP, with UDP you

1. DekTec DTE-3137 in action. Amazing how much performance has been fitted in such a small device – yet, it can inject a complete DVB-S/S2 transponder into the network.

2. In order to be able to work with IPTV, we had to get ourselves a gigabit switch. These are very cheap now, so there is no excuse to keep struggling with 100MBPS technology.

3. The Dexing NDS3975 in action: it is receiving three transponders (one from its internal tuner,

one from the Topreal TP-1011 through ASI and one from the DekTec DTE-3137 through IP). It then multiplexes a new transponder which is output through ASI and IP (on a different IP). Amazing!

4. This picture shows one clear advantage of using only IPTV within a studio or head-end station: notice the blue network cable – this single cable is enough to transport all required information. Actually, all other cables could be removed (except for the LNB-cable, in case you want to use the internal tuner).





**The world is
greedy for data.**



Can you
keep serving?

Social networks, video on demand, OTT apps and smartphones have created a hunger for bandwidth. Where is the extra spectrum coming from- and who's funding the network upgrade?

The 1 conversation that matters

Participate now, visit world2013.itu.int



Bangkok 19-22 November

1

2

3

should make sure there is a reliable network connection between the transmitter and receiver, otherwise the broadcast won't be reliable.

RTP on the other hand is not a fundamental protocol like TCP or UDP. On the contrary, RTP is a protocol layer based on UDP. This means that as a basis UDP is always used for RTP. RTP offers a number of functions that greatly improve live audio and video transmissions:

- Data identification
- Time stamps for audio/video synchronization
- Maintaining the order of MPEG frames
- Special handling of MPEG key frames

This just goes to show that RTP should be used whenever all the devices involved support this protocol.

With Multicasting an audio/video stream is simply transmitted without any particular receiver in mind. This transmission is routed to all users by the network and it's up to the users to decide if they want to receive it or not. Obviously this is extremely practical if more than one user wants to receive the same stream. As many users as desired can tune in without the need for additional network band-

width between the transmitter and the switch.

Since the switch has to process numerous data packets, it could very quickly become overloaded when dealing with a cheap SOHO product (Small Office, Home Office) while at the same

time additional data is exchanged between users. If, for example, User 2 doesn't want to take part in Multicasting and would rather send a large file to User 3, it could happen that the flow of this data transmission is reduced to a snail's pace or it

might not function at all.

To utilize Multicasting, with regard to the IP destination address it would be good enough to configure using any IP address from 224.0.0.0 to 239.255.255.255. This address range would be used by all of the Multicast de-

1. Wireshark capturing the network traffic. Beware that lots of data is captured during a IPTV broadcast. You should only capture data for some seconds, otherwise it will take ages to process all captured packets.

2. After capturing the network traffic for a short period, there are many analysis tools available within Wireshark. This picture shows where the traffic originated. It can be clearly seen that the devices with IP-address 192.168.1.149 and 192.168.1.210 generated a huge amount of traffic. Notice the destination IP: they are multicasting IPs

3. All captured packets can be analyzed individually and the contents can be viewed, while the header is shown in a more detailed way.

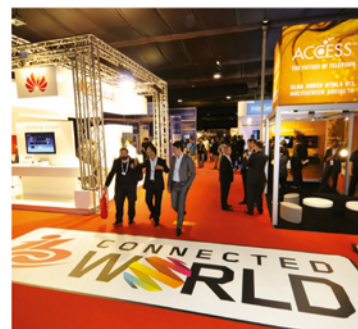
IBC2013

Discover More

IBC stands at the forefront of innovation, drawing more than 50,000 creative, technical and business professionals from over 160 countries. It couples a comprehensive exhibition covering all facets of today's industry with a highly respected peer reviewed conference that helps to shape the way the industry will develop.

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

- **IBC Connected World**
a special area of IBC which encapsulates the very latest developments in mobile TV, 3G and 4G services
- **IBC Production Insight**
centred around a professional standard studio set, attendees have a host of the latest production technology to get their hands on
- **IBC Workflow Solutions**
dedicated to file-based technologies and provides attendees with the opportunity to track the creation management journey
- **IBC Big Screen**
providing the perfect platform for manufacturer demonstrations and ground breaking screenings
- **Future Zone**
a tantalising glimpse into the future of tomorrow's electronic media
- **IBC Awards**
celebrating the personalities and the organisations best demonstrating creativity, innovation and collaboration in our industry



4. This graph shows the bandwidth during the captured transmission. Interestingly, the bandwidth is not constant, when displayed in millisecond interval.

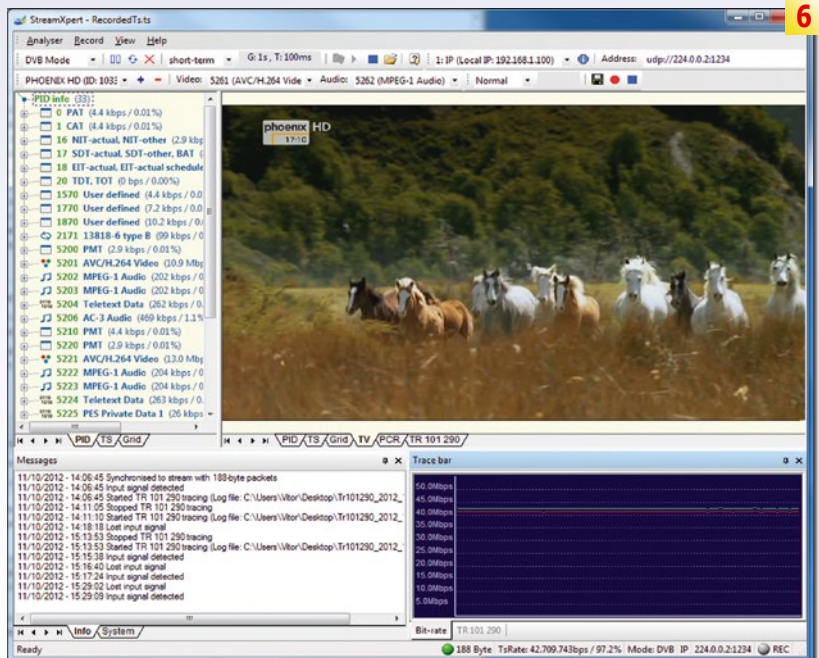
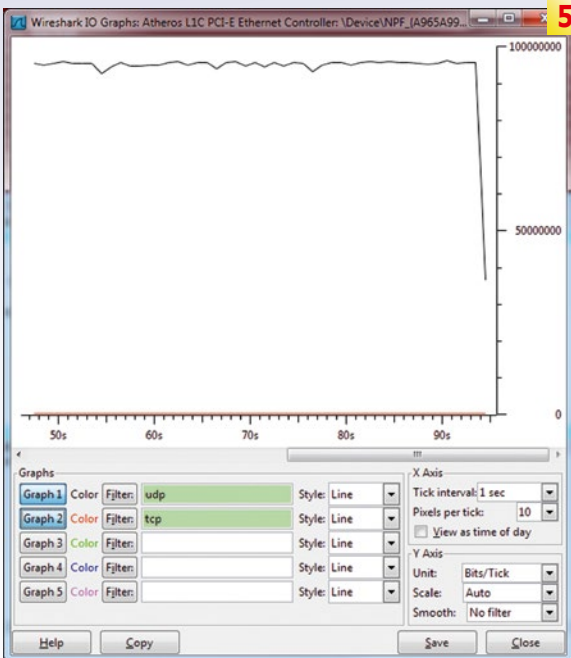
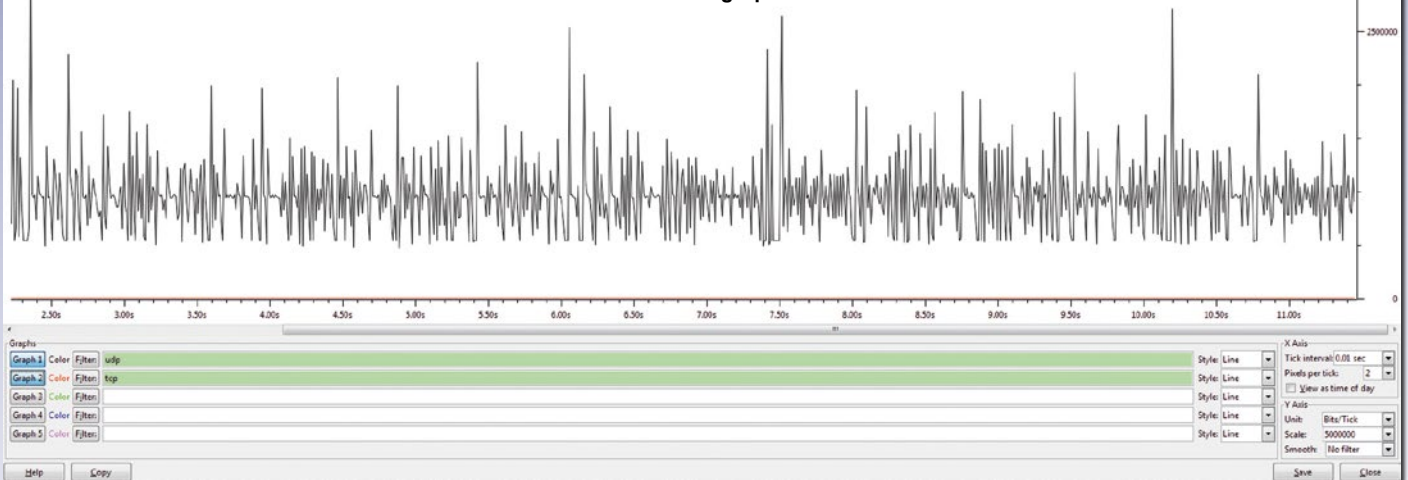
5. This graph shows the bandwidth of the same transmission, but as Bits/second. With just two transponders fed into the network, a 100MBPS switch is working at its limit. In fact, we tried to use a 100MBPS switch and it froze

after a few seconds. A regular operation was only possible using a 1000MBPS switch.

6. Using DekTec's StreamXpert software, which already has been tested in TELE-satellite 11-12/2012, together with the professional DekTec DTE-3137 receiver, one has much more feedback about the IPTV broadcast. Notice the lower left corner: a graph shows

continuously the occupied network bandwidth.

7. StreamXpert can show all possible information about the streamed transponder, including the programme clock reference (PCR), required for correct synchronization of audio and video. This allows editing the timestamps in order to compensate for any detected errors.



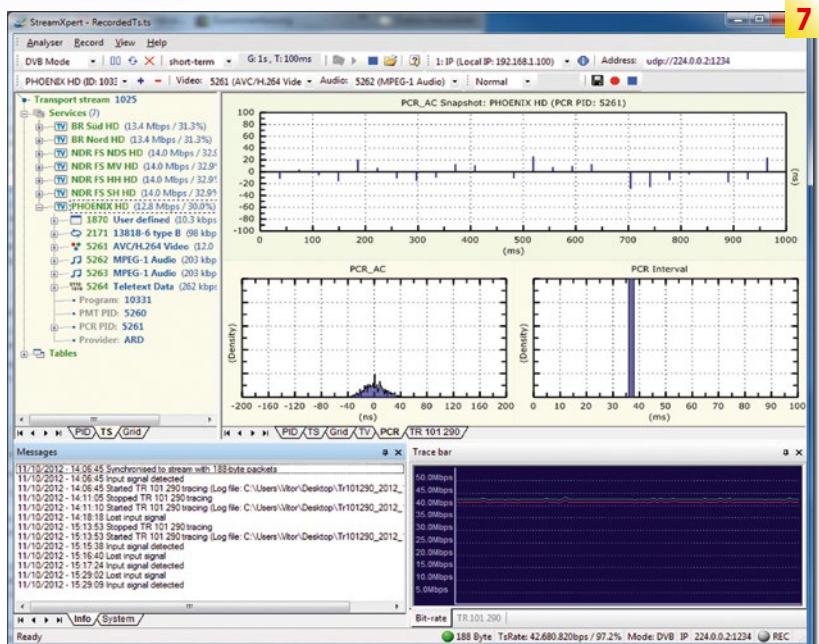
vices.

Note that Multicast is not only used for IPTV; it is used whenever the same data needs to be sent to multiple computers, such as, when multiple computers need to be installed all at the same time via a network. That's how IT professionals, for example, in universities or large company's install an operating system on hundreds of computers all at once.

With Unicasting however, the stream - unlike Multicasting - is

sent to one specific receiver. This has the advantage of not loading down the network for all the remaining users allowing data traffic to function normally. The data is routed in the inputs of the servers and the users while the remaining switch ports remain free.

The disadvantage is the fact that for every additional user the stream would have to be individually retransmitted. In no time at all the network bandwidth



Saigon Exhibition and Convention Center (SECC), HCMC, Vietnam 20 – 23 / 11 / 2013



New! Modern! Innovative!

The Most Influential ICT, Mobile and Electronics Carnival in Vietnam

- Major Exhibit Themes :**
- ▶ Consumer Electronics
 - ▶ Mobile & Wireless Devices
 - ▶ Computer Hardware & Software
 - ▶ Electronics Manufacturing
 - ▶ Fiber-Optic Communication
 - ▶ 3G / 4G
 - ▶ Mobile Content & Applications
 - ▶ Mobile / Wireless Technology



**Online
Pre-registration**



www.vietnam-telecomp.com
www.vietnam-internet-it.com
www.vietnamelectronics.com

Steering Organization: Ministry of Information and Communications Vietnam (MIC)

Organizers:



Center for Press and International
Communications Cooperation – Ministry of
Information and Communications (CPI-MIC)

ADSALE 雅式® ufi
Adsale Exhibition Services Limited

For Enquiry:

Adsale Exhibition Services Limited

Hong Kong

Tel : (852) 2516 3349 / 2811 8897

Fax: (852) 2516 5024

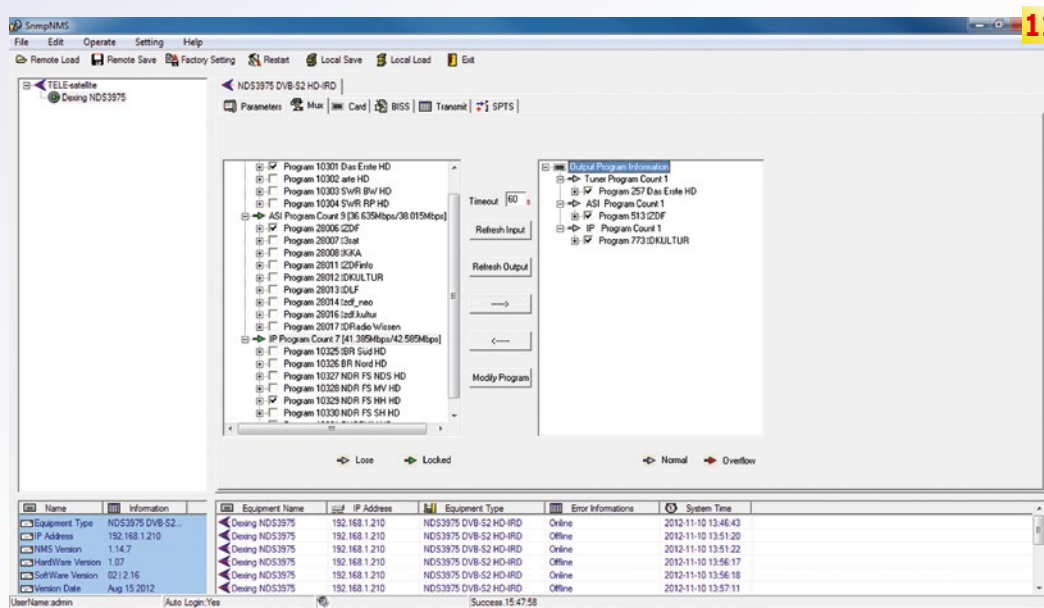
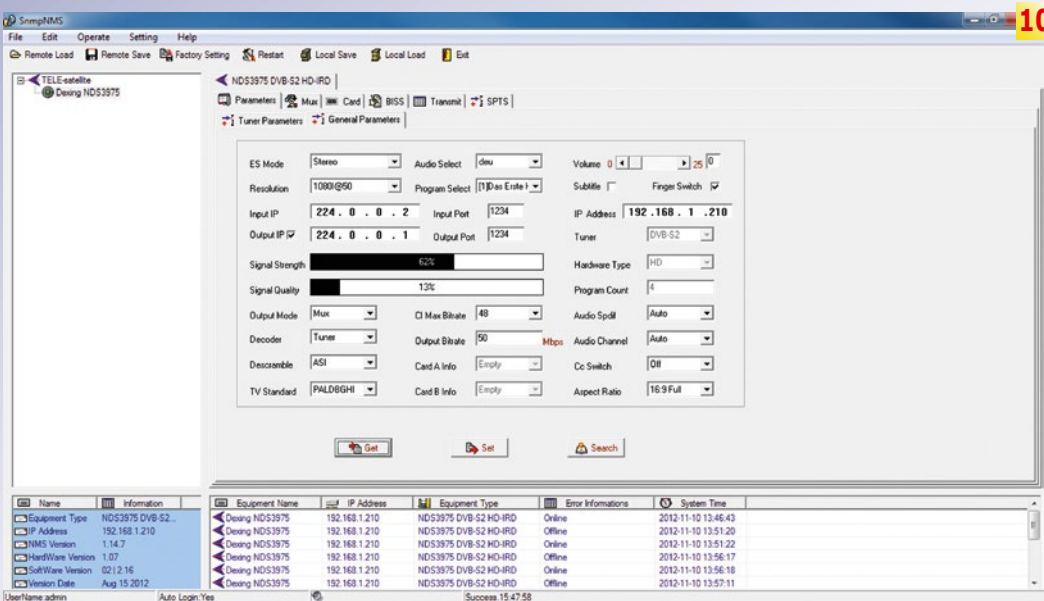
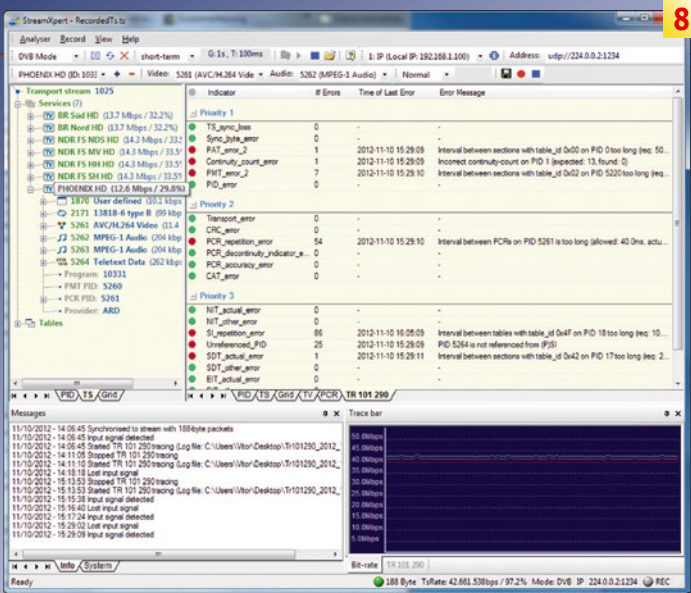
Singapore

Tel : (65) 6235 7996

E-mail: telecom@adsale.com.hk / publicity@adsale.com.hk

Website: www.adsale.com.hk

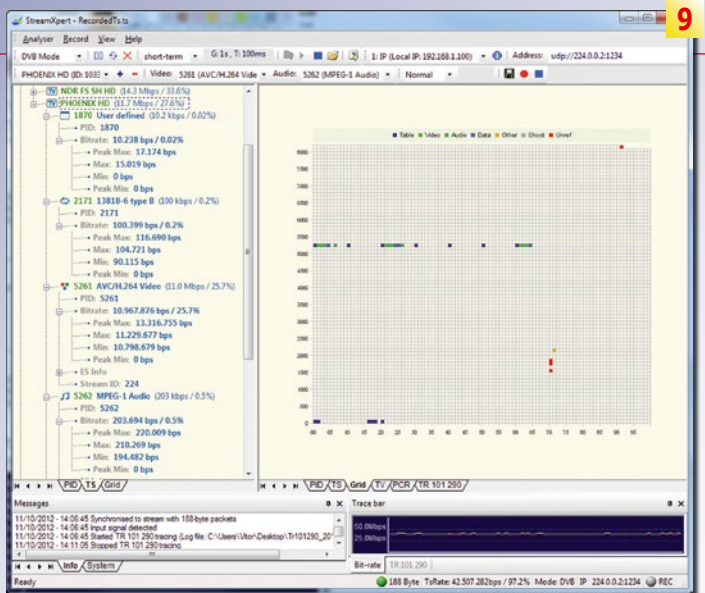
E-mail: info@sg.adsale.com.hk



would reach its capacity and it's especially the connection from the server to the switch that would need to withstand enormous amounts of data.

The question often arises if IPTV should be operated

at 100MBPS or would it be better at 1000MBPS (also referred to as 1GBPS or 1Gbit/s). It's not an easy answer; it depends ultimately on how you want to use IPTV and the network.



8. Despite having a perfect picture, StreamXpert indicates some errors in PAT and PMT. Interestingly; these were already present in the original DVB-S stream...

9. Useful information provided by StreamXpert: the grid view, where all active services within the stream are mapped according to their PID.

10. Meanwhile, we monitor our Dexing NDS3975 with the SnmpNMS management software. This application gives us remote access to the internals of this integrated professional receiver.

11. On the Mux-tab, we can specify which channels of the three different incoming transponders (through the internal tuner, ASI-in and IPTV) we want to output.

ate via a 100MBPS interface; in view of the fact that the bandwidth of common DVB-S/S2 transponders transport data on average at 50MBPS, this would be sufficient.

All the IPTV receivers we know of also operate on a 100MBPS network interface. Why then would you want to upgrade to a 1000MBPS infrastructure? The simplest explanation is this: if cars could only drive at 55 MPH, then in principle single-lane roads would be good enough. But if there are a large number of cars all on the road at the same time, then a multi-lane highway would be much better even though the cars would be moving no faster than 55 MPH. A 100MBPS switch is designed for this speed and would fall to its knees if all the ports would suddenly demand high data transfer rates at the same time. A 1000MBPS switch is

From creation to consumption, across multiple platforms and countless nationalities, NAB Show® is home to the solutions that transcend traditional broadcasting and embrace content delivery to new screens in new ways.

SAVE THE DATE

2014

CONFERENCES April 5–10 EXHIBITS April 7–10
Las Vegas Convention Center, Las Vegas, Nevada USA



www.nabshow.com

simply able to handle much more data internally.

If you want to provide IPTV to a community, a hotel or a home where the network would be used for other services (Internet, File sharing, VoIP, etc.), then we definitely would recommend a 1000MBPS network. In today's day and age this is considered standard and upgrading from a 100MBPS network to a 1000MBPS network should not really present any problems if the

cables already in place are CAT-5e or CAT-6 types. If this isn't the case, the existing cable should be replaced with CAT-6 cable. The switches would also have to be updated and you should make sure that the network adapter on older computers can also handle 1000MBPS.

To get an overview of the network, it would pay to install a Network Monitoring Program, also called a Network Sniffer. These programs log all packets that

are sent on a network.

In order for this to be technically possible, special software, known as WinPcap, needs to be installed. WinPcap places the computer's network card in „promiscuous“ mode in which the network card accepts all packets, not just those that are specifically meant for that computer, but all of them. Additionally, WinPcap provides an interface for applications to gain access to these data packets.

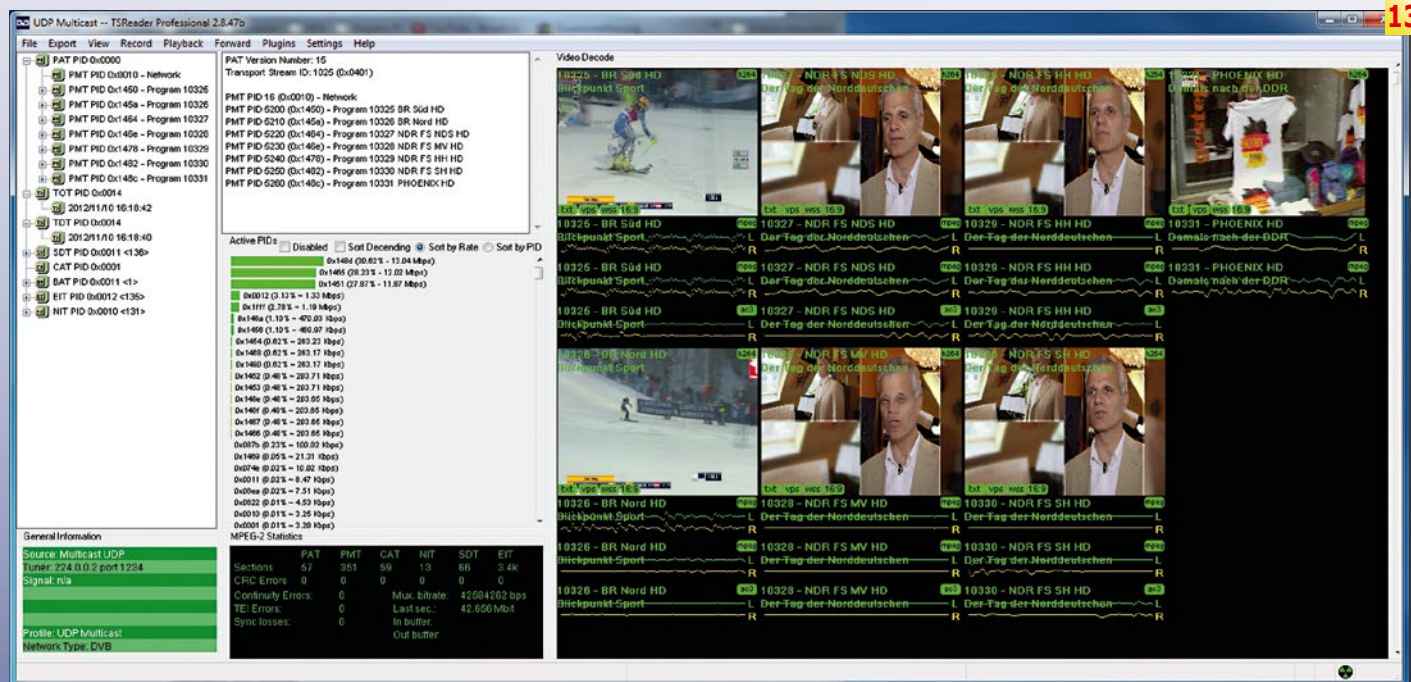
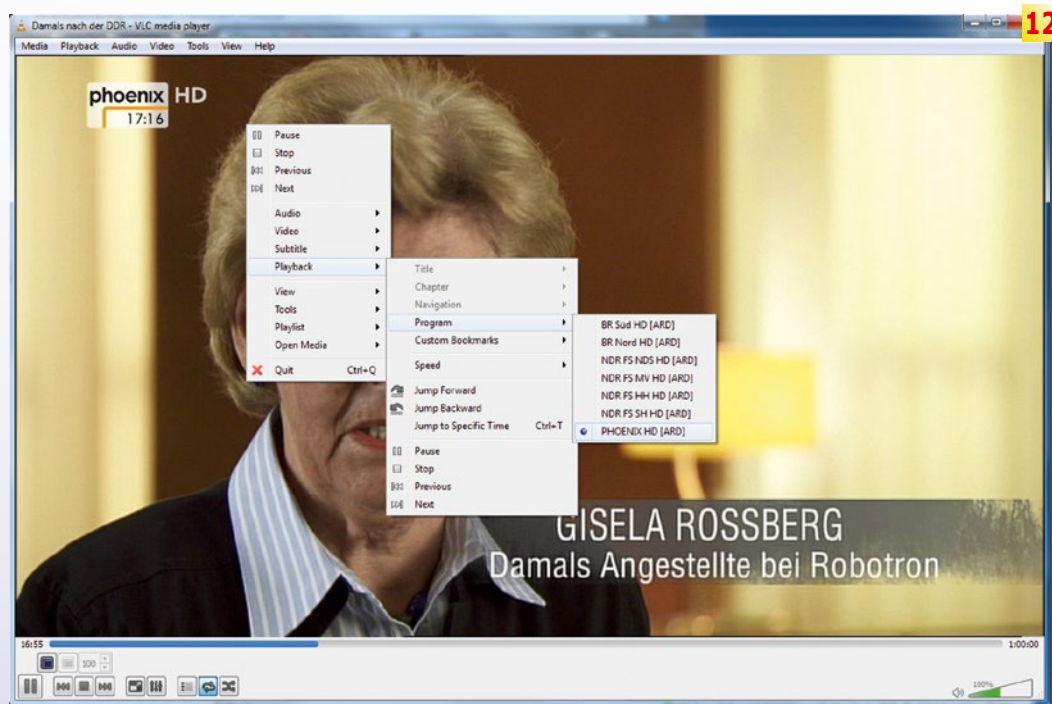
The most well-known and most popular network monitoring program is Wireshark. The basic requirement is WinPcap and with that all of the data traffic can be logged. In this way it's easy to recognize which IP addresses from which computers are requesting which data packets. It's also easy to identify if network multicasting is in use, how much bandwidth is being used, etc. And the good news? Both WinPcap and Wireshark are free.

Whether in a studio or in a headend, IPTV has established itself as an omnipresent solution for the distribution of audio and video signals. There are many advantages regardless if IPTV is used for the internal distribution in a headend or for the direct feed to an end user.

Just the fact alone that all data can be sent over a single cable makes it worth utilizing this technology.

12. To check our IPTV streams within the network, we use VLC.

13. TSReader Professional is an excellent tool when it comes to analyze transponder streams. Instead of just rendering the channel, TSReader shows all PIDs and their respective bandwidth.



India's Largest CABLE TV Exhibition

More than
**100 Stalls &
300 Brands**

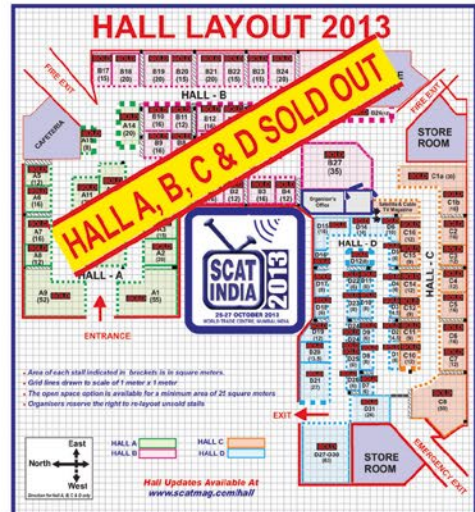
Co-Hosted by:



Organised by:

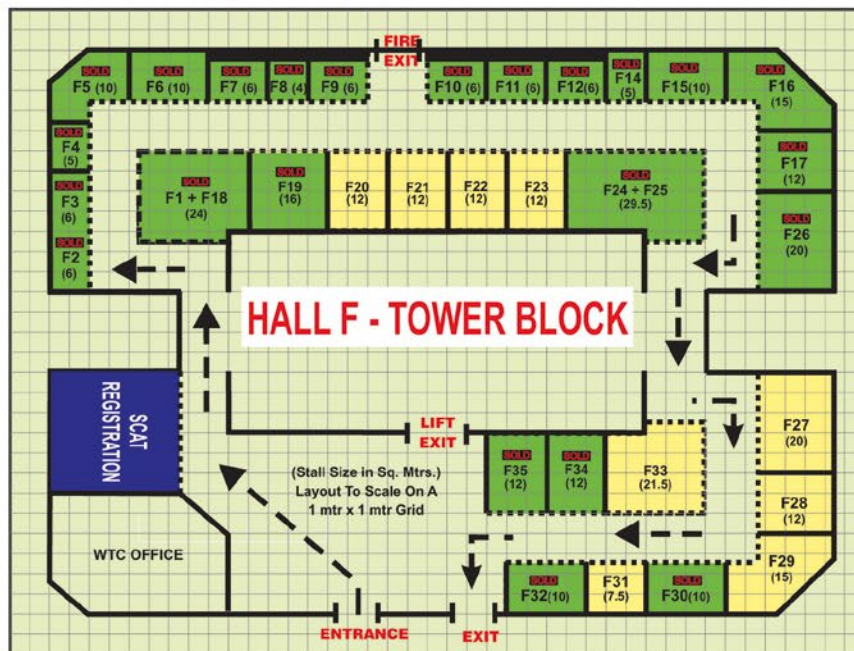
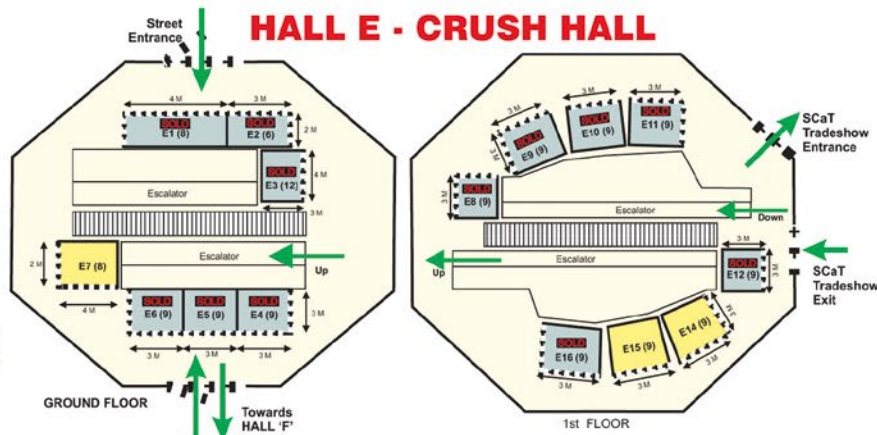


25-27 October, 2013
World Trade Centre, Mumbai, India



LAST Few Stalls Available In Halls E & F ... RUSH

**SHOW
REGISTRATION
In Hall F**



Contact: SCaT MEDIA & CONSULTANCY PVT. LTD.

27, Madhu Industrial Estate, 1st Floor, P.B. Marg, Worli, Mumbai - 400013. India
Tel.: +91-22-2494 8280 / 6660 4029 Mob.: +91-932300 6927 Fax : +91-22-2496 3465
Email: scatmag@scatmag.com Website : <http://www.scatmag.com/scatindia>

Supported by:



- *can better display colors, mainly red and green shades*
 - *suitable for 3D due to its higher frame rate*
 - *requires an enormous bandwidth*
 - *users will need brandnew equipment as UHDTV is not backward compatible*
-





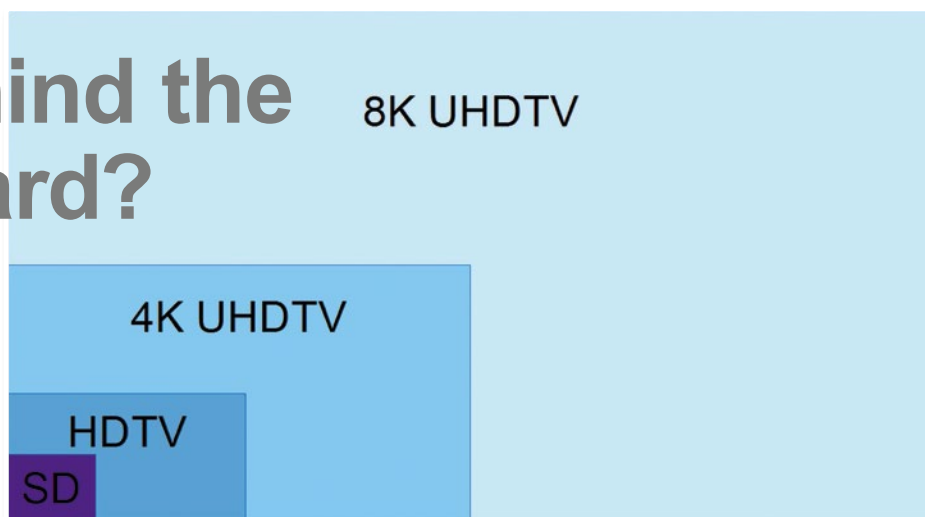
UHD TV

Ultra High Definition Television

What's behind the new standard?

Is it even a standard?

Jacek Pawlowski



■ Comparison of the TV screens for different resolution standards.

We all are familiar with High Definition Television. HDTV uses picture resolutions of either 720p, 1080i or 1080p. The first two are used for broadcasting TV via satellites while the last one is mostly used with Blu-ray discs. A HDTV video signal has either 50 or 60 picture frames per second. If a complete picture is sent in every frame, the letter "p" is added after the resolution figure (720p or 1080p). If only half the horizontal lines are sent in one frame (only odd number lines, then only even number lines and so on), the letter "i" depicts such interlaced video.

Most of the contemporary satellite TV receivers upscale any 720p or 1080i video signals to 1080p and then output the video to your living room TV. Now, if we focus on the best version of HDTV – 1080p – it has a picture resolution of 1920 × 1080. The new 4K UHD TV standard has doubled the resolution in both axes to 3840 × 2160 while the 8K UHD TV has even quadrupled it: 7680 × 4320. The best way to realize how big an improvement UHD TV introduces is to look at our simple picture showing TV screens for different standards but the same pixel size (see picture). Imagine this: 4K is like arranging 4 HD TV-sets in a 2x2 array, while for 8K UHD TV one would need 8 HD TVs arranged in a 4x4 array!

Though resolution is the most obvious improvement over classical HDTV it is by no means the only parameter that has been changed. The other two related to video are: color space and frame rate. UHD TV has a wider color space than HDTV. In particular, UHD TV picture is able to reproduce more deeply red and more deeply green colors which can not be shown by our existing HDTV equipment. In this way, UHD TV is able to reproduce more natural colors.

The standard extends the allowable frame rates up to 120 frames per second. In this way 3D video can be reproduced with up to 60 fps for each eye. 60 fps are typical for North American TV whilst 50

fps is used in most other areas including Europe. Therefore European 3D TV will use 100 fps rather than 120 fps.

Adding to these enormous improvements in video performance, UHD TV also expanded the audio quality. With the new UHD TV standard an astounding 22 audio channels plus 2 low frequency effects channels are possible. The 22 channels are divided into three groups: an upper layer of nine channels, a middle layer of ten channels and a lower layer of three channels. Such complex audio setups can be found at movie theatres and thus with UHD TV this also becomes available to the average viewer.

Of course, the first thing in order to enjoy that big resolution is a UHD TV compliant TV monitor. The best TV manufacturers already offer 4K UHD TV TV-sets with large screen (70" or more). Monitors capable of showing 8K can be seen at the professional broadcasting exhibitions but so far we know of no such monitor available at regular stores.

Now, what about the sources of ultra HD video? Presently, the choice is extremely small. One model of UHD TV video player has been announced with a few pre-stored movies in 4K format on the internal HDD. Blu-ray Disc Association have just started their work on extending Blu-Ray Disc specification to include 4K Ultra HD video. Similarly, Sony announced that their PlayStation 4 will support 4K resolution but only for photos and videos – not for the games themselves.

And what is going on in the satellite industry? In Europe EUTELSAT has started 4K UHD test transmissions coded with the MPEG-4 codec on EUTELSAT 10A. Quite recently, SES has done one step further and started a 4K channel coded with the newest HEVC (H.265) codec that helped reducing the necessary bitrate down to 20 Mbit/sec.

You do not have to be an expert to

realize that 4K UHD TV requires 4 times more bits than HDTV and 8K UHD TV requires 16 times more bits. This is really a problem because the communication networks have finite throughput rates. HEVC, known also as H.265, can help here as its efficiency is roughly 2 times better than MPEG 4. But even using the best available codec you still need about 20 Mbit/sec for 4K UHD TV and as much as 80 Mbits/sec to broadcast a single channel. And all this for 50/60 fps. If you liked to double the frame rate to 100/120 to transmit 3D UHD TV you would need twice the bandwidth.

It is funny to think that if in the future 8K is introduced to satellite broadcast, one transponder will be carrying a maximum one channel – like in the old days of analog TV.

The list of devices and standards that still have to be developed or extended is long: UHD TV cameras and other studio equipment, HDMI interface, audio equipment, and, of course, all kinds of digital TV receivers: satellite, cable, IPTV and (maybe) terrestrial. New equipment will require new chip-sets and perhaps even new hardware architecture to do the job efficiently.

UHD TV is not backward compatible with HDTV. In other words, your present HDTV receiver will not process a UHD TV channel. Naturally, in the beginning, there will be a scarcity of ultra high resolution programs and many UHD TV channels will be created by up-scaling regular HDTV. We can still remember the first years of HDTV or more recently 3D HDTV – the same will happen with UHD TV.

However, despite all the technology, communication and media problems linked with UHD TV, we strongly believe that the race has started for good and sooner or later we will all enjoy the wonderful ultra high definition pictures in our houses.



East & Central European
BROADBAND EXPO

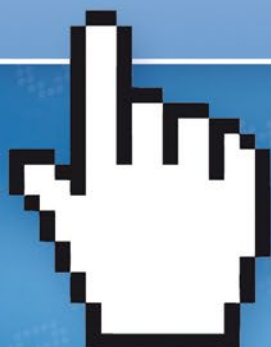


During 15 years the most successful and the biggest cable, satellite and broadband media exhibition of the region will take place again because the investment, renovation and modernization market has revived. Hereby a growing demand emerged to organize the ECEBE which is a quick, easily and expense-saving reachable Expo for everyone.

REGISTER NOW!

As an Exhibitor...

Before 1st of October
we offer you a special
price for the space fee
on **65 EUR/m² + VAT!**



As a Visitor...

FREE ENTRY FOR
VISITORS in case of a
preliminary **ONLINE**
registration!

29-30th October 2013
Budapest-Budaörs, Hungary

info@ecebe.eu | www.ecebe.eu

**Join the most significant Cable, Satellite and Broadband
Media exhibition of Hungary & the East European market!**

Take Advantage

A young woman with long, wavy red hair and blue eyes is smiling at the camera. She is wearing a red, short-sleeved top with ruffled shoulders. She is holding a black tablet computer with both hands. The tablet screen displays a white rectangular box containing text.

**Read TELE-audiovision's Technical
Feature Stories to Know All About
the Digital Developments and New
Technical Breakthroughs**

**Enjoy Reading TELE-audiovision
FREE on Your
Tablet Computer**

www.TELE-audiovision.com

Self-made IPTV

FEATURE Self-made IPTV

TV From a Network

Part 3

www.TELE-audiovision.com/TELE-audiovision-1307/eng/feature-satip3.pdf

Ultra High Definition TV

FEATURE Ultra High Definition Television

- can better display colors, mainly red and green shades
- suitable for 3D due to its higher frame rate
- requires an enormous bandwidth
- users will need brandnew equipment as UHD TV is not backward compatible



www.TELE-audiovision.com/TELE-audiovision-1309/eng/feature-uhdtv.pdf

Self-made IPTV

FEATURE Self-made IPTV

TV From a Network

Part 2

- Structure of a Transport Stream
- Multiple TV channels can be placed in a transport stream using a multiplexer
- TS Header offers a multiplex function
- Certain Linux receivers operate via a streaming function
- Only high-speed WLANs are suitable for IPTV

www.TELE-audiovision.com/TELE-audiovision-1307/eng/feature-satip2.pdf

Ultra High Definition

FEATURE Ultra High Definition

The New HEVC/H.265 Standard

- reduced bandwidth by 50%
- can be used also for very small screens
- divides the video in 64x64 pixel blocks
- requires advanced processors in the receiver

www.TELE-audiovision.com/TELE-audiovision-1307/eng/feature-hevc.pdf

Self-made IPTV

FEATURE Self-made IPTV

TV from a Network

Part 1

- Digital TV distribution via your own Internet network
- No cables needed if used with WLAN
- Laptops, Smartphones, Tablets can be used as TVs
- Very high data flow with HDTV

www.TELE-audiovision.com/TELE-audiovision-1305/eng/feature-satip1.pdf

Phase Shifts in Digital TV

FEATURE Phase Shifts in Digital TV

I/Q Vectors Swap

$$y(t) = I \cdot \sin(\omega t) + Q \cdot \sin(\omega t + 90^\circ)$$

- how to detect phase shifts automatically
- reversing inverted phase shifts
- finding the synchronization byte
- how a constellation diagram shows swapped vectors

www.TELE-audiovision.com/TELE-audiovision-1303/eng/feature-iqswap.pdf

Digital Terrestrial TV - 2nd Level

FEATURE Digital Terrestrial TV - 2nd Level

<http://www.ATSC2.0.org>

ATSC 2.0

- combines various separate format and standards into one single suite
- puts all the existing tv viewing features available nowadays into one set
- merges all variations into one
- enables superior video and audio quality
- new standard will replace current one eventually

www.TELE-audiovision.com/TELE-audiovision-1301/eng/feature-atsc2.pdf

The Secret Special Transmission Modes

FEATURE Special Transmission Modes

Making life hard for DXers – or: TV stations' little tricks to avoid viewers

Thomas Haring

Transmissions that are broadcast via satellite usually can be received by anyone within a particular satellite's footprint. In the case of DTH (Direct to Home) TV and radio reception this is a welcome scenario, because providers are trying to reach out to potential audiences. On the other hand, programs also need to be distributed within and between different providers without any viewers being able to receive them. In satellite space these transmissions are called feeds. Feeds can be used to transmit a baseball game from the US, for example, or a live report from a news event.

www.TELE-audiovision.com/TELE-satellite-1209/eng/feature-transmission.pdf

All About Fiber Optic Connectors

Wavelengths & Connector Types

Optical Fibers

- 6 different wavelength bands
- what dispersion is doing to a signal
- the advantages of Laser diodes
- finding the lowest attenuation

www.TELE-audiovision.com/TELE-satellite-1209/eng/feature-optical.pdf

Basic Knowledge: Polar Mount Antennas

Polar Mount Antennas Motorised Antennas for Satellite Reception

Adolf Oberhuber

If you consult the relevant literature you will find that no or – at most – insufficient background information is available about how this type of motorised polar mount antenna actually works. The same is true for the associated formulae and their derivation. The following distributions are meant to provide answers to all questions in association with a polar mount. This also includes, inter alia, various step-by-step calculations for the position as well as calculations for the satellite orbit based on a specific example. Altogether this report is a collection of data and calculations which, the author believes, have hitherto been scattered across an endless number of publications and sources. For the sake of completeness and reference, technical terms and their origin will be explained in a separate addendum at the end.

In general, it is a satellite antenna to be mounted on a motorised base. Such a base is usually a motorised antenna mount. The antenna mount is a mechanical structure which is designed to hold the antenna and to rotate it around its own axis. The antenna mount is usually made of metal and is painted in a dark color. The antenna is usually made of metal and is painted in a dark color. The antenna is usually made of metal and is painted in a dark color.

www.TELE-audiovision.com/TELE-satellite-1207/eng/polarmount.pdf

DVB-S2: Hide the SD inside the HD

H-8PSK Hierarchical Modulation

- backwards compatible to regular DVB-S2
- useful to pack SD and HD version of a tv program into one transponder
- very sensitive to misalignment
- may remain a niche technology

www.TELE-audiovision.com/TELE-satellite-1207/eng/feature-h8psk.pdf

How a tuner for VCM operates

VCM Signal Reception

DVB-S2

allows more than one stream for each transponder

dynamic change of FEC coding rates

different content can be assigned to different transmission modes

compatible tuner needs function to determine coding rates

VCM signals only receivable with compatible tuners

www.TELE-audiovision.com/TELE-satellite-1205/eng/dvb-S2-vcm.pdf

DVB-S2 MIS Reception with VCM/ACM

The New Flexible MIS Transmission Technology

- The receiver chooses the optimal reception mode
- Programming providers can optimize transmission costs
- Picture quality based on usable signal
- From "Broad-Cast" it becomes "Individual-Cast"

www.TELE-audiovision.com/TELE-satellite-1201/eng/tenow-TBS6925.pdf

Automatic Creation of 3D

Automatic 2D-to-3D Conversion

Software automatically creates the third dimension (depth)

Jack Pawlowski

The reports of 3D television are everywhere. It is a new technology that is supposed to revolutionize the way we watch TV. But what exactly is 3D television? It is a technology that allows you to watch 3D content on a 2D screen. This is done by creating a third dimension (depth) for the 2D content. This is done by creating a third dimension (depth) for the 2D content. This is done by creating a third dimension (depth) for the 2D content.

www.TELE-audiovision.com/TELE-satellite-1109/eng/2d3dconversion.pdf

How a Silicon Tuner Works

What's inside a silicon tuner?

Jack Pawlowski

A silicon tuner is a significant technological improvement that finds its way into nearly every new product in digital TV equipment.

It is a very small and powerful device that can be integrated into a single chip. It is a very small and powerful device that can be integrated into a single chip. It is a very small and powerful device that can be integrated into a single chip.

www.TELE-audiovision.com/TELE-satellite-1107/eng/silicontuner.pdf

Channel Capacity of a Transponder

How many SD/HD channels can we get from one transponder?

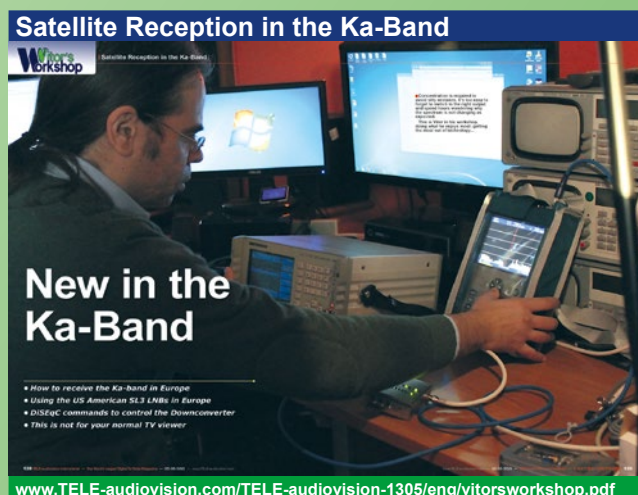
Jack Pawlowski

Everybody who ever studied satellite charts with transponder data knows that the symbol rate of a transponder is one of its most important parameters. And that's not only because you need to know it to set the data in manual channel search on your receiver. Symbol rate directly affects the amount of useful data that can be transmitted via a transponder. The higher it is, the more data can be sent. More data means more TV and radio channels.

www.TELE-audiovision.com/TELE-satellite-1107/eng/sdinhhd.pdf



How to get the most out of technology



Oscilloscope for Basic Use

Wires Workshop

Pocket Oscilloscope

DSO201



- Provides a simple and easy way to check the basic functions of a satellite system
- Produces a 228Hz signal
- Can also be used to check the video and audio signal
- Especially capable of finding complex errors

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

Two-axis Motor Control

Wires Workshop

Two Motors for Two Axes



- Independent control of azimuth and elevation
- Simplifies the installation of motorized systems
- Safe from accidental movement, for example, from a storm
- Makes possible the perfect reception of inclined satellites
- Very simple to make

www.TELE-audiovision.com/TELE-audiovision-1211/eng/vitorsworkshop.pdf

Selfmade Dish

Wires Workshop



Lego Antenna

- Even five-year-old kids can build a satellite system (if Dad helps)
- You can make your own parabolic dish out of aluminum foil
- Installation on a balcony is only good on those days when the wind is calm
- Lego Antenna lifespan? No more than an hour since by then your daughter will want to build something else with the Lego bricks
- An interesting way to spend the afternoon with your kids

www.TELE-audiovision.com/TELE-audiovision-1209/eng/vitorsworkshop.pdf

Digital Picture Frame

Wires Workshop



Digital Picture Frame for the AZBox ME

- Low-cost extension of the receiver display
- Channel logo and EPG data of the current channel can be displayed permanently
- Also available for weather forecasts with data from the Internet
- Some Linux experience recommended

www.TELE-audiovision.com/TELE-audiovision-1207/eng/vitorsworkshop.pdf

Chip Flashing

Wires Workshop

Flash or no flash - Flashing the wrong firmware can cause trouble



- Vitor finds a way to bring a satellite meter back from the dead
- Be careful when installing a new software
- Simple device programmers are helpful
- A soldering iron is sufficient for connecting the wires
- Remember to make backups before starting any work

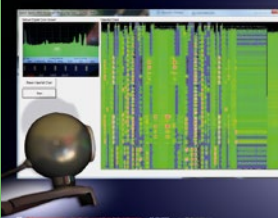


www.TELE-audiovision.com/TELE-audiovision-1205/eng/vitorsworkshop.pdf

Add-On for SPAUN Signal Analyzers

Wires Workshop

Waterfall Diagram for the SPAROS 609 Satellite Signal Analyzer



- Permits the quick and easy alignment of motorized antennas
- SPAROS 609 Signal analyzer is fully suited due to its high resolution fast-response spectrum display
- Webcam allows use with other signal analyzer models
- Expands SPAROS 609 uses for the installer

www.TELE-audiovision.com/TELE-audiovision-1203/eng/vitorsworkshop.pdf

Upgrade for 8dtek Satellite Meters

Wires Workshop

Waterfall Diagrams for 8dtek Satellite Meters



- Detection of weak signals
- Identification of all active satellites
- Allows for highly precise antenna alignment
- Long-term measurements for reliable feed detection
- Ideal upgrade for 8dtek satellite meters

www.TELE-audiovision.com/TELE-audiovision-1201/eng/vitorsworkshop.pdf

Receiver Firmware

Wires Workshop

JTAG-Interface

- Reprogram a Defective Receiver
- All Necessary Information can be Found in the Internet
- Can Also be Used On Other Boxes With Flash Chips
- Allows for Better Understanding of Receiver Functions



www.TELE-audiovision.com/TELE-audiovision-1111/eng/vitorsworkshop.pdf

TELE-audiovision Magazine

TELE
audiovision

Directly to Your Office
by ***courier service***

Service Costs per Year (6 Magazines/Year):

TELE-audiovision Magazine

6 x US\$ 17

US\$ 102

Courier Service

6 x US\$ 86

US\$ 516

Handling Charges

6 x US\$ 14

US\$ 84

Total Costs Subscription by Courier Service Anywhere in the World

US\$ 702



Send Order to: **subscription@tavmag.com**

CHINA



Aluo Consulting 阿罗顾问
Export Digital TV Products from China

LUO SHIGANG
President

#15, Feringa Str, 2nd Floor, Room D14
85774 Munich-Ufg, GERMANY

Tel: +49-151-40405196
Fax: +49-89-92185023
Email: luo.shigang@Aluo-Consulting.de
Website: www.Aluo-Consulting.de

LOOKING FOR A SET TOP BOX MANUFACTURER?

Contact AluoConsulting
luo.shigang@Aluo-Consulting.de

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

Contact us with your specifications and we
do the rest

Aluo Consulting 阿罗顾问
Export Digital TV Products from China

The 15th Annual

VSAT2013

18 – 20 September

NH Grand Hotel Krasnapolsky,
Amsterdam, The Netherlands

VSAT2013 LATIN AMERICA

2 – 3 July

Grand Hyatt Hotel
Sao Paulo, Brazil



VSAT MOBILITY2013

3 – 4 December

Hilton Paddington Hotel,
London, UK



Strategic Partner:

comsys 

VSAT2013 GLOBAL SERIES

- Attracting the entire VSAT ecosystem
- 65% of attendees at Director Level or above
- Top level speakers from across the globe
- Attendees from 38 countries
- Unparalleled networking opportunities
- World class exhibitors

Don't forget to join our
online communities



NETWORK WITH SMART MINDS

@

22nd

"Connecting India"

Convergence India 2014

International Exhibition & Conference

Pragati Maidan, New Delhi

21-23 January 2014



Technologies on Display

- Telecom
- Broadcast, Cable, Satellite
- Information Technology
- Mobility
- Entertainment
- Information Security, etc.

Supporting Associations



Supported by



Members



Partners



Organiser



Exhibitions India Group

ISO 9001:2008 & ISO 14001:2004

Supporting Journal



For Exhibition & Conference, please contact:

Mr. SJ Singh, Vice President, sjsingh@eigroup.in

217-B, Okhla Industrial Estate, Phase III, New Delhi - 110 020 | Tel: +91 11 4279 5000 | Fax: +91 11 4279 5098

www.convergenceindia.org

THE FUTURE DOESN'T FIT IN A BOX.

Tuesday, January 7
through Friday, January 10, 2014
Las Vegas, Nevada • CESweb.org • #CES2014

WE, HOWEVER,
FOUND A WAY TO PUT IT IN
1.9 MILLION NET SQUARE FEET.

Over four days, those who shape the future gather in Las Vegas. Here, brands, markets and economies converge in what's far more than a tradeshow. And in 2014, there's more opportunity than ever to connect with those who matter. All that's missing now is you. **Register today at CESweb.org.**



THE GLOBAL STAGE FOR INNOVATION

PRODUCED BY  CEA®

Inter BEE

International Broadcast Equipment Exhibition

2013.11.13 Wed. >>> 15 Fri. at Makuhari Messe, TOKYO

◆Organizer: **JEITA** Japan Electronics and Information Technology Industries Association

Now Accepting Applications

Professional Show for Audio,
Video and Communications

Global partners



2012 REVIEW

Visitors

Visited by business users from diverse fields

■Registered visitors

31,857

(Overseas visitors:750)

Over 80% of visitors is

Involved in the purchase and introduction

Exhibitors

Record high number of exhibitors took part

■No. of Exhibitors

871 companies

(Record-High)

■No. of Overseas exhibitors:

491 companies

(Record-High)

About 80% of exhibitors is

satisfied with participation in Inter BEE

The Professional Information Site for Audio, Video and Communications

InterBEE online
www.inter-bee.com

Administration/Inquiries:

Japan Electronics Show Association, Ote Center Bldg., 1-1-3, Otemachi, Chiyoda-ku, Tokyo 100-0004
TEL:+80-3-6212-5231 FAX:+80-3-6212-5225 E-mail:contact2013@inter-bee.com

IBC2013

Discover More

IBC stands at the forefront of innovation, drawing more than 50,000 creative, technical and business professionals from over 160 countries. It couples a comprehensive exhibition covering all facets of today's industry with a highly respected peer reviewed conference that helps to shape the way the industry will develop.

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

- **IBC Connected World**
a special area of IBC which encapsulates the very latest developments in mobile TV, 3G and 4G services
- **IBC Production Insight**
centred around a professional standard studio set, attendees have a host of the latest production technology to get their hands on
- **IBC Workflow Solutions**
dedicated to file-based technologies and provides attendees with the opportunity to track the creation management journey
- **IBC Big Screen**
providing the perfect platform for manufacturer demonstrations and ground breaking screenings
- **Future Zone**
a tantalising glimpse into the future of tomorrow's electronic media
- **IBC Awards**
celebrating the personalities and the organisations best demonstrating creativity, innovation and collaboration in our industry



www.ibc.org

IBC Third Floor 10 Fetter Lane London EC4A 1BR UK
t. +44 (0) 20 7832 4100 f. +44 (0) 20 7832 4130 e. info@ibc.org

Register now at
www.ibc.org/register



**The world is
greedy for data.**



Can you
keep serving?

Social networks, video on demand, OTT apps and smartphones have created a hunger for bandwidth. Where is the extra spectrum coming from- and who's funding the network upgrade?

The 1 conversation that matters

Participate now, visit world2013.itu.int



Bangkok 19-22 November

Saigon Exhibition and Convention Center (SECC), HCMC, Vietnam 20 – 23 / 11 / 2013



The Most Influential ICT, Mobile and Electronics Carnival in Vietnam

- Major Exhibit Themes :**
- ▶ Consumer Electronics
 - ▶ Mobile & Wireless Devices
 - ▶ Computer Hardware & Software
 - ▶ Electronics Manufacturing
 - ▶ Fiber-Optic Communication
 - ▶ 3G / 4G
 - ▶ Mobile Content & Applications
 - ▶ Mobile / Wireless Technology

Online
Pre-registration



www.vietnam-telecomp.com
www.vietnam-internet-it.com
www.vietnamelectronics.com

Steering Organization: Ministry of Information and Communications Vietnam (MIC)

Organizers:  Center for Press and International
Communications Cooperation – Ministry of
Information and Communications (CPI-MIC)

ADSALE  
Adsale Exhibition Services Limited

For Enquiry:
Adsale Exhibition Services Limited

Hong Kong
Tel : (852) 2516 3349 / 2811 8897
Fax: (852) 2516 5024

E-mail: telecom@adsale.com.hk / publicity@adsale.com.hk
Website: www.adsale.com.hk

Singapore
Tel : (65) 6235 7996

E-mail: info@sg.adsale.com.hk



**Who else knows
your PIN number?**



Cyber criminals; government agencies; your next door neighbour. Who has access to your personal data and what can we do to protect, regulate, and securely store sensitive information?

The 1 conversation that matters

Participate now, visit world2013.itu.int



Bangkok 19-22 November

From creation to consumption, across multiple platforms and countless nationalities, NAB Show® is home to the solutions that transcend traditional broadcasting and embrace content delivery to new screens in new ways.

SAVE THE DATE

2014

CONFERENCES April 5–10 EXHIBITS April 7–10
Las Vegas Convention Center, Las Vegas, Nevada USA

NABSHOW®
Where Content Comes to Life



www.nabshow.com

India's Largest CABLE TV Exhibition

More than
**100 Stalls &
300 Brands**

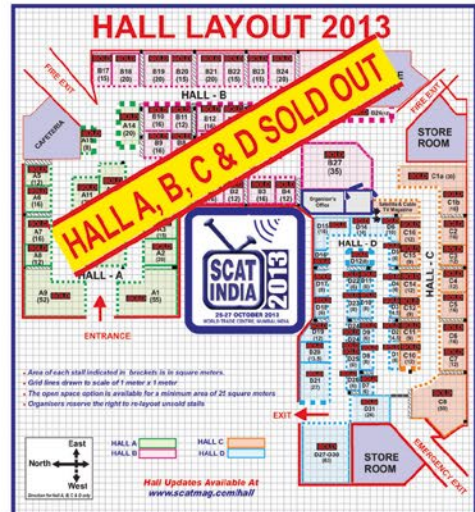
Co-Hosted by:



Organised by:

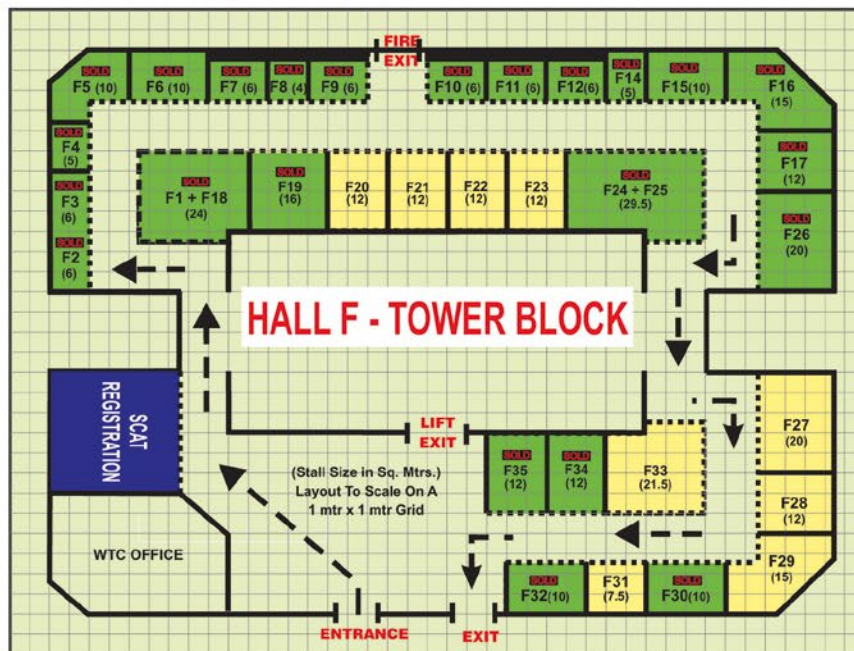
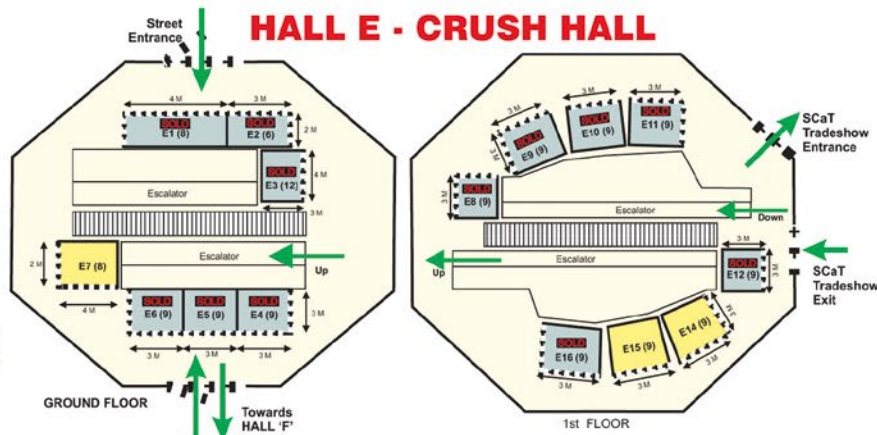


25-27 October, 2013
World Trade Centre, Mumbai, India



LAST Few Stalls Available In Halls E & F ... RUSH

**SHOW
REGISTRATION
In Hall F**



Contact: SCaT MEDIA & CONSULTANCY PVT. LTD.

27, Madhu Industrial Estate, 1st Floor, P.B. Marg, Worli, Mumbai - 400013, India

Tel.: +91-22-2494 8280 / 6660 4029 Mob.: +91-932300 6927 Fax : +91-22-2496 3465

Email: scatmag@scatmag.com Website : <http://www.scatmag.com/scatindia>

Supported by:



VIP
Card

Tested & Recommended Product by
TELE-audiovision International
The World's Largest Digital TV Trade Magazine



TELE
audiovision
AWARD
03-04/2013

Tsinghwa GT-278
Rock solid receiver with
excellent responsiveness

www.TELE-audiovision.com/13/03/tsinghwa

Tsinghwa GT-278



DTMB The Best DTMB Receiver for High Definition

- Very fast switching
- Very fast OSD display
- With PVR function
- Medium storage connected
- Excellent multimedia functions
- HD MPEG4 / H.264
- Supported standards: DTMB
- 换台快捷
- OSD显示和响应迅速
- 支持PVR刻录
- 强大的多媒体功能



GT-278

高清晰度國標地面數字電視機頂盒

USB HDMI DTV



地面数字电视在深圳和香港是免费播出



East & Central European
BROADBAND EXPO

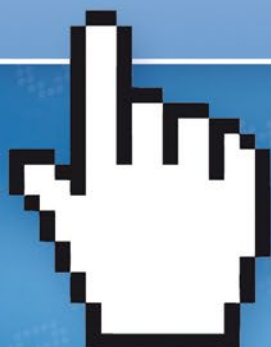


During 15 years the most successful and the biggest cable, satellite and broadband media exhibition of the region will take place again because the investment, renovation and modernization market has revived. Hereby a growing demand emerged to organize the ECEBE which is a quick, easily and expense-saving reachable Expo for everyone.

REGISTER NOW!

As an Exhibitor...

Before 1st of October
we offer you a special
price for the space fee
on **65 EUR/m² + VAT!**



As a Visitor...

FREE ENTRY FOR
VISITORS in case of a
preliminary **ONLINE**
registration!

29-30th October 2013
Budapest-Budaörs, Hungary

info@ecebe.eu | www.ecebe.eu

**Join the most significant Cable, Satellite and Broadband
Media exhibition of Hungary & the East European market!**

Öreind – celebrating 25 years

ÖREIND &



- *successful in the home electronics segment*
- *all antenna installation material always in stock*
- *focus on IPTV for sustained business development*
- *sizable repair shop for home electronics equipment*

■ Looking for Öreind? Simply head to the satellite dishes that are clearly visible in the Kopavogur commercial area. The two partners are currently in the process of refitting the hall to the left into an actual shop for all components required by installers of satellite TV, terrestrial reception systems and IPTV.



Home Electronics Featuring TVs and Antennas

It was October 2013 when small company Öreind (www.oreind.is) celebrated 25 years of business. It takes quite some stamina to surf the wave of success in the fast-paced TV and antenna business – and an intuition for doing things right. Öreind (the Icelandic word for 'particle') is basically a two-men business located in Kopavogur, a suburb of Iceland's capital city of Reykjavik. This is where two smart guys laid the foundation stone of their business, in a place so far north the sun never sets in summer, but never fully rises in winter either.

"We're both repair specialists for TV sets," says Baldur Sveinsson, one of the two partners. Both had been employed by other companies before they decided to set up their own business. "We repair any home electronics device," Baldur Sveinsson continues. "No matter whether it's a TV panel, audio equipment of any kind or the odd tape-based video recorder that pops up every once in a while." Video tapes? Well, yes! Many people in Iceland still have some old tapes lying around in their basement, and they need video recorders in order to watch them. Simple as that...

The two partners also install antennas and satellite reception systems. "We began to import satellite components from Great Britain and Germany in 1992." In those early days Öreind sold some 50 to





■ Baldur Sveinsson is one of the founders and partners of Öreind in Kopavogur, close to the Icelandic capital of Reykjavik.

100 complete systems each year. "The pinnacle of our success was in the year 2007. At that time between 300 and 400 satellite systems went over our counter," partner Sigurour Gunnarsson remembers. It was a time when Öreind could even afford two extra employees to meet high demand. "Today we sell some 150 satellite system per year."

The Öreind storage is filled to the brim with installation material, satellite dishes and terrestrial antennas. "We generate approximately 40% of our turnover with satellite components, 10% with terrestrial antennas and 20% with repair work."

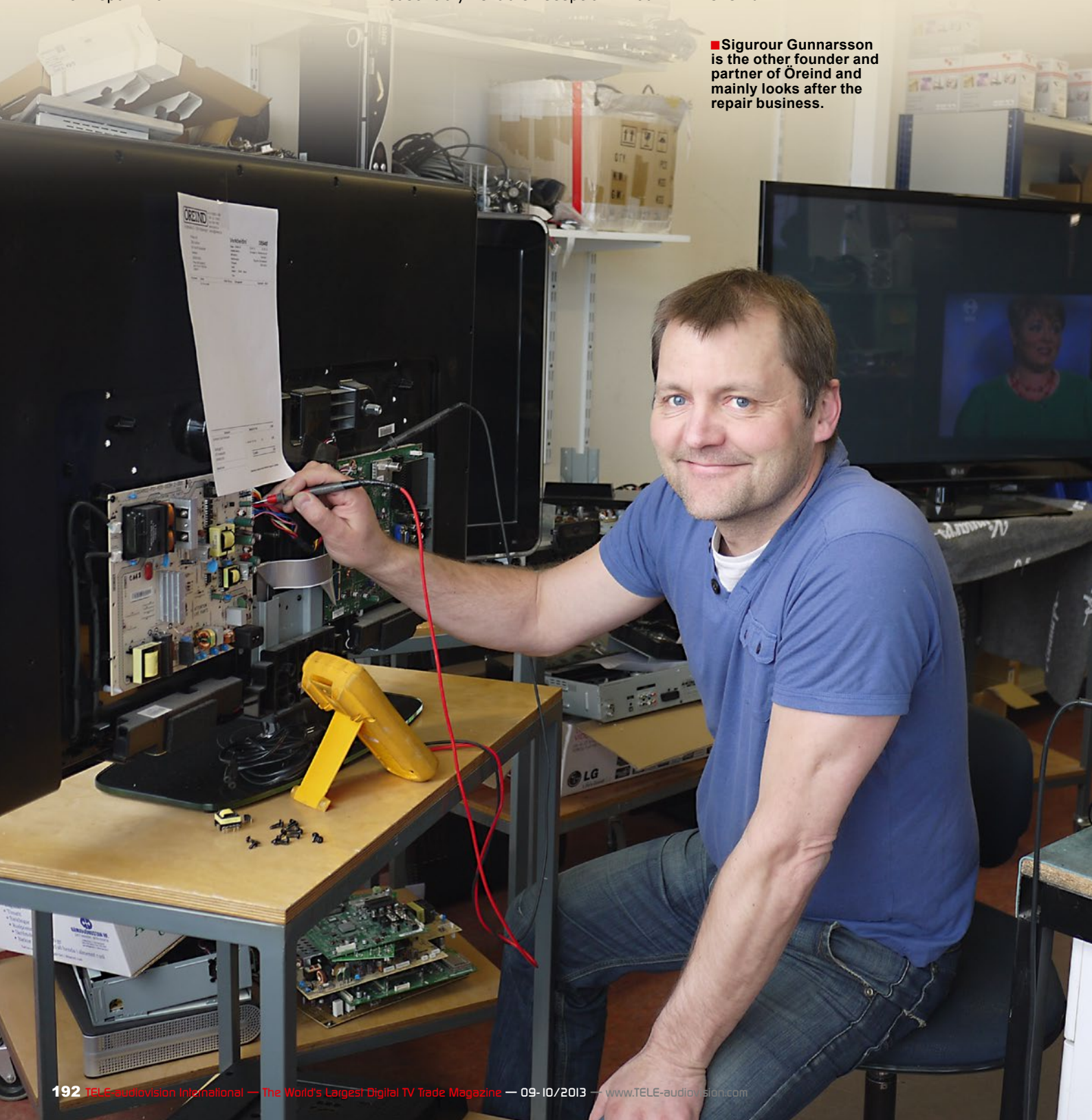
What about the remaining 30%? This is the part both partners consider particularly important for the future of their business. "We offer installation material and components for IPTV." While Baldur and Sigurour expect digital terrestrial TV business to pick up again with the introduction of DVB-T2 in Iceland, they both see the future of Öreind in IPTV.

Nonetheless, satellite reception will always remain a major pillar of Öreind. "Here in Iceland the most popular orbital position is ASTRA 28.2°E and even a relatively small 85 cm dish will provide reasonably reliable reception." You will

hardly meet an Icelander who does not speak English, so the UK channels on ASTRA 28.2°E are watched by many. "Those of us with an unobstructed view can receive signals from all positions between 42°E and 30°W," Sigurour Gunnarsson explains the local situation in Iceland.

Like so many small businesses, Öreind has experienced many ups and downs in its 25 years of existence, but there's not a single challenge the two Icelanders haven't mastered successfully. With their new focus on IPTV, many new chapters will be written for Öreind.

■ **Sigurour Gunnarsson** is the other founder and partner of Öreind and mainly looks after the repair business.



Japan's only broadcast & telecom
cross-readership magazine

B-maga

Monthly Broadband * Broadcasting * Business Magazine

Cable Television, Multi-Channel Satellite Broadcasting, IPTV, Mobile TV etc.



- Latest industry trends
- Channel operator business reports
- Technology & equipment
- Media industry news

Monthly B-Maga (Broadband Broadcast Business) / Founded June 2002 / Single issue price: 1,500 yen / In Japanese (cover and table of contents in English)

www.satemaga.co.jp



1



3



2



1. The motorised satellite dish on the roof of Öreind is a 1.5 m antenna which receives signals from all positions between 28°E and 30°W.
2. View of the storage: Everything you need for installing antennas (left shelf) as well as satellite dishes in all sizes (right shelf) are always in stock at Öreind.
3. The choice is yours. 14-element UHF antennas are Öreind's top sellers, followed by round dipole antennas for FM radio. But don't be fooled: A huge variety of other antennas is available as well for on-the-spot buying.
4. The future is here: Öreind can supply a wide range of IPTV components such as Ethernet switches.



Changhong Helping Earthquake



Victims with Satellite Television

■ Employees gather in front of the Changhong headquarters in Mianyang (Sichuan province) to make relief goods and satellite equipment ready for dispatch to those affected by the earthquake in April 2013.

长虹空调
气品质专家

震救灾指挥部

- *Changhong organises quick relief for those affected by earthquake*
- *shipment of relief supplies and complete satellite reception systems*
- *company training centre made available for school students*
- *satellite television is ideal for gathering information when ground infrastructure is destroyed*

Satellite Television

Providing Information for Earthquake Victims

Picture this: A devastating earthquake has not only taken the lives of countless people, but has also destroyed much of the existing infrastructure. All communication channels relying on cables are dead, and power outages are the rule rather than the exception. Yet, this is a time when those affected are in need for information and coordination – how should they deal with the situation, and where can they turn to for help?

Those scenes may sound like straight out of a disaster movie, but this is exactly what happened twice in recent years to residents of the Sichuan region in

China. The first terrible quake occurred on 12 May 2008, had a magnitude of 10, and caused more than 20,000 deaths near the city of Wen Chuan. A similarly catastrophic earthquake happened only very recently, on 20 April 2013 in the city of Ya An, which is also located in the province of Sichuan.

In both cases Changhong offered help and assistance immediately. The company is one of the largest manufacturers of TV panels and satellite receivers and provided complete satellite sets to those that were hit hardest. But Changhong did not stop there. According to

a company spokesperson "Changhong organised an immediate response team right on the night of the big earthquake in 2008. The group set off to the city of Bei Chuan right away, a place that was almost entirely destroyed. Food, water and tents were supplied by Changhong." Almost all schools in the area were destroyed as well, which is why Changhong converted its own training centre into a makeshift school, so that kids were able to continue their school education in the weeks and months that followed. "Changhong supplied clothing and food to school students and even



organised teachers until regular schools were able to open again," according to the company spokesperson.

When history repeated itself with a second devastating earthquake in 2013, Changhong did not hesitate for a moment to offer its help and assistance once again. In addition to humanitarian aid, the company also provided satellite equipment. "We shipped satellite receivers and satellite dishes to the affected region, as well as TV sets, batteries and sources of light. This way people in need were able to watch the news on satellite channels to find out

what's going on around them."

It is extreme situations like the two Sichuan earthquakes that lend living proof to the importance of satellite communication. Fixed-line infrastructure was destroyed or at least out of work, while those affected could still turn to their satellite reception systems to watch the news and – more importantly – find out about help and relief available to them from various organisations and initiatives. Changhong

offered valuable relief to people in need and demonstrated yet again that satellite technology, in particular, has countless benefits that are all too frequently swept under the carpet.



Mianyang, Sichuan

■ Changhong staff have decided to immediately offer help to the victims of the Sichuan earthquakes.





1



2



3



4

CHANGHONG

1. Two of the satellite systems donated by Changhong – complete with dish and TV receiver.
2. Satellite cases are prepared for transportation to the disaster zone.
3. On site at the disaster zone: A Changhong employee connects the mobile satellite reception system. Victims are glued to the television to watch the latest news that is broadcast on satellite channels.
4. One of the satellite reception systems was installed in this village. Here too, residents affected by the earthquake watch the news carried on satellite channels to find out more about the overall situation in the area and about help and relief that is on its way.



Next Generation Smart TV

(Smart TV++)



The Decision Makers

in Worldwide Digital TV Industry

according to TELE-audiovision's Company Reports

Hwadar, China - Fiberglass Dishes

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



GM

Wang
Dan



General Engineer
Zhong
Zhi Ming



Business Manager
Monica
Wang

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



- 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

- supplier of choice even for small purchasers
- guarantees very long service life of its dishes

Deviser, China - Signal Analyzer

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



President
Zhong
Changan



MD
Liu Lian
Jun



Production Manager
Li Hong
Xiao



Sales
Jason
Wu

www.TELE-audiovision.com/TELE-audiovision-1307/eng/deviser.pdf



- 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 TV Head-ends

- ☑ Manu
- Distr
- Whol
- Shop
- Serv



GM

Sun
Yu

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



- Established in 1994 in Chengdu
- Specializes in professional tv head-end equipment

- 50% of their production is exported
- Intense quality controls

Forcetek, China - IPTV Solution Provider

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



Sales
Ren
Nan



Marketing
Lan
Haidong

www.TELE-audiovision.com/TELE-audiovision-1307/eng/forcetek.pdf



- 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



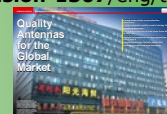
GM

Bang Xian
Peng



Production Manager
Bang Xing
Peng

www.TELE-audiovision.com/TELE-audiovision-1307/eng/tianditong.pdf



- 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 standards

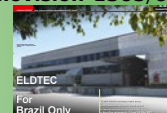
ELDTEC, Brasil - Dish, Antennas and Cables

- ☑ Manu
- Distr
- Whol
- Shop
- Serv



Sales Manager
Jefferson
Cruz

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



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

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

LIANXING, China - Satellite Dishes

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



Product Manager
Wen Liang
Yuan



Sales Manager
Liao Wen
Fei

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



- using only top-quality materials
- individually checking each single component

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

Jiuzhou, China - Android Receivers



Product Manager
Yongjun Zhang

www.TELE-audiovision.com/TELE-audiovision-1303/eng/jiuzhou.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



GM

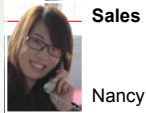
Qing Zhang Lin



Project

GuiHuang Huang

www.TELE-audiovision.com/TELE-audiovision-1303/eng/sat-link.pdf



Sales

Nancy



R&D

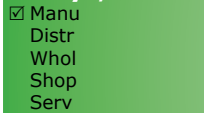
Han Guang Rong



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

- Optimizes signal analyzers for every region
- Brand new: combo analyzers for DVB-S2 and T2 with fast spectrum display

Tecsys, Brazil - Professional Equipment



CEO

Jose Marcos Freire Martins



COO

Jorge Alberto Ganuza



Production

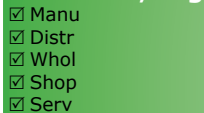
Adilson da Silva



- Very good operational organization
- Concentration on professional satellite reception products

- In-house development department
- IRD is their success product

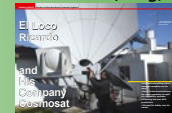
Cosmosat, Argentina - Satellite Dishes



Owner

Ricardo

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 systems

- Planning his own dish production
- Turned his hobby into his career

Horizon, UK - Signal Analyzers



CEO

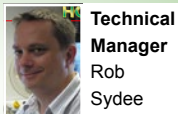
Paul Pickering



Technical Director

Paul Hardcastle

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



Technical Manager

Rob Sydee



- 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

Satson, Belgium - HDMI



CEO

Stefaan Cornelis



Technical Manager

Didier Debey

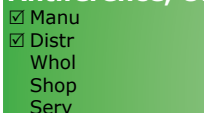
www.TELE-audiovision.com/TELE-audiovision-1301/eng/satson.pdf



- 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 - Antenna and HDMI



MD

Trevor Paintain



Sales

Arnold Boeljen

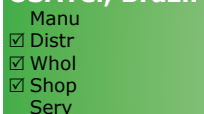
www.TELE-audiovision.com/TELE-satellite-1211/eng/antiference.pdf



- 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 - Distributor



MD

Jose Manuel Pereira



CFO

Allam Almughrabin

www.TELE-audiovision.com/TELE-satellite-1211/eng/usatel.pdf



- 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

DMS International, USA - Distributor

www.TELE-audiovision.com/TELE-satellite-1209/eng/dms-international.pdf

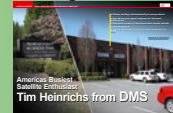
- Manu
- ☒ Distr
- ☒ Whol
- ☒ Shop
- Serv



CEO
Tim Heinrichs



President
Vicky Heinrichs



- Always working enthusiastically on new products
- Special focus on signal analyzers for the semi-professional
- Enormous growth of the international market outside of North America

- Innovative expansion of signal analyzer models for 2012

Topsignal, China - Satellite Dishes

www.TELE-audiovision.com/TELE-satellite-1209/eng/topsignal.pdf

- Manu
- ☒ Distr
- ☒ Whol
- ☒ Shop
- Serv



Chairman
Zongbao King



GM
Chaofeng Ge



Sales
James You



- OEM delivering exclusively to Wholesalers
- 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

DVBCN, China - Internet News and Job Forum

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

- Manu
- ☒ Distr
- ☒ Whol
- ☒ Shop
- Serv



Owner
Anna Xie



Chief Editor
Victor Ho



- 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

SVEC, China - Satellite Dishes

www.TELE-audiovision.com/TELE-satellite-1207/eng/svec.pdf

- ☒ Manu
- Distr
- Whol
- Shop
- Serv



CEO
Wang Duo



Sales
Becky



- 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

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

- ☒ Manu
- Distr
- Whol
- Shop
- Serv



Owner
Rod Hewitt



- 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

Hypex, UK - Distributor

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

- Manu
- ☒ Distr
- Whol
- Shop
- Serv



MD
Neal



- 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 - Distributor

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

- Manu
- ☒ Distr
- ☒ Whol
- ☒ Shop
- Serv



Owner
Rick Caylor



Owner
Rick Caylor



- 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 - Internet Forum

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

- Manu
- ☒ Distr
- ☒ Whol
- ☒ Shop
- Serv



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

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

Sowell, China - IPTV Receivers

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

- ☒ Manu
- Distr
- Whol
- Shop
- Serv



GM
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

DishPointer AR

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

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

See the Video

See DishPointer AR in action on YouTube!

DishPointer is the world's No.1 satellite dish pointing site, offering custom built tools for mobile devices or websites to businesses. For more information, visit www.dishpointer.com.



References



www.dishpointer.com
info@dishpointer.com

SPAROS SAT HD

SPAUN™
www.spaun.com Quality made in Germany

SATELLITE TV METER

SPAROS SAT HD*

- High quality and bright display (4.3 inch)
- MPEG4-display and measuring
- SCR single cable switching commands
- DiSEqC 1.x and SCR EN 50494 control
- Spectrum analysis
- Robust, impact-resistant housing
- Splash-resistant keypad

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



SPAUN electronic GmbH & Co. KG · Byk-Gulden-Str. 22 · 78224 Singen
Tel.: +49 (0) 77 31-86 73-0 · Fax: +49 (0) 77 31-86 73-17
Email: contact@spaun.com · www.spaun.com

Wadt, Brazil - Headends

- ☒ Manu
- ☒ Distr
- ☒ Whol
- Shop
- Serv



Owner
Neide
Wadt



Technical Director
Joao
Wadt

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

- ☒ Manu
- ☒ Distr
- ☒ Whol
- Shop
- Serv



Vice Marketing
Jimmy
Zhang



Vice GM
Richard

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



- Develops Digital TV receivers optimized for OTT
- Dedicated OTT development team
- Market for OTT in Europe and North America
- Upgrade of older digital receivers possible with a software upgrade

Panodic, China - Receivers

- ☒ Manu
- ☒ Distr
- ☒ Whol
- Shop
- Serv



Founder
You Zhen
Yu



Founder
Huang
Wei

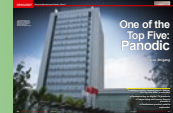


CEO
Xu Hai Bin



Marketing Manager
Alan Yu

www.TELE-audiovision.com/TELE-satellite-1203/panodic.pdf



- Multiple quality control points before, during and after production
- Concentrating on digital TV products
- Cooperating with many license providers
- Continuous product palette expansion

Sortec, Slovakia - Distributors

- Manu
- ☒ Distr
- ☒ Whol
- Shop
- Serv



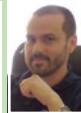
Founder
Ladislav
Šmárik



GM
Pavol
Macko



Sales
Alexander
Záhončík



Sales
Pavol
Lukáč

www.TELE-audiovision.com/TELE-satellite-1203/sortec.pdf



- One of the largest wholesalers in Slovakia
- Success through distribution of well-known, high-quality brand names
- Move to their own building in 2012
- Active in new technologies such as fiber optics and IPTV

Turbosat, UK - Receivers

- ☒ Manu
- ☒ Distr
- ☒ Whol
- Shop
- ☒ Serv



Sales
Chris
Ward



Technical Director
Ray
Gargiulo

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



- own receiver line ICECRYPT
- 50% of sales outside Great Britain
- Focus on receivers, CAM, SmartCards and LNBs
- 80,000 receivers a year
- produces Dolly Buster TV programming via HOTBIRD

BSD, Brazil - Internet Forum

- Manu
- ☒ Distr
- ☒ Whol
- Shop
- ☒ Serv



Owner
Marcus
Bernardini

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



- Operates Brazil's largest digital TV website
- Engaged in the further education of digital TV antenna installers
- Planning his own IPTV channel all about digital technology
- Living his dream with his own worldwide radio station

P-Sat, Hungary - Distributor

- Manu
- ☒ Distr
- ☒ Whol
- Shop
- Serv



Owner
Tibor
Posta

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



- Has its own customer magazine
- Created supermarket style store
- Planning start of own branded TV services
- Operates one of the most well-known web communities in Hungary

SatelliteAV, USA - Wholesaler

- Manu
- ☒ Distr
- ☒ Whol
- Shop
- Serv



President
Brian
Gohl

www.TELE-audiovision.com/TELE-satellite-1201/satelliteav.pdf



- Optimized complete product assortment plus service
- Own receiver line for semi-professional applications
- First provider of OTA-SSU FTA receivers in the USA
- Offers the smallest LNB in the world
- Develops first Android hybrid satellite and IPTV receiver for North America

AB-COM, Slovakia - Receivers

- ☒ Manu
- ☒ Distr
- ☒ Whol
- ☒ Shop
- ☒ Serv



Founder
Juraj
Masaryk



Marketing Manager
Michal
Grezo



Sales
Pavol
Blaho

www.TELE-audiovision.com/TELE-satellite-1111/abcom.pdf



- Particularly successful in Central Europe
- Products for different applications such as 3D and pay TV
- Focus on cost-efficient product range
- Products optimised for individual applications

SatelliteGuys.US

America's Satellite Information Source

Proudly Presents:

SATMAPS!

Where does the satellite signal go?
Find out at SATMAPS!

Real Satellite Beam Data for
North America direct from the FCC!

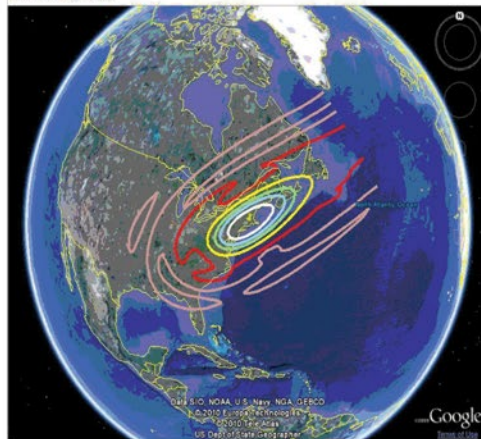
Find SATMAPS online at:
<http://satmaps.satelliteguys.us>

SatelliteGuys.US

FCC Satellite Maps - Chrome, Firefox or Safari required to view and sort Spreadsheet. IE requires adding "https://www.google.com" to IE Trusted Sites.

Echostar 7 119W S13 New Haven

Embedded KML Viewer



SatelliteGuys.US hosts America's Largest & Most Popular Satellite Discussion Forum
We are America's Satellite Information Source!

SatelliteGuys.US is made possible by the PROUD support of the following Gold Sponsors:



<http://www.SatelliteGuys.US>



The Best Satellite
and Digital TV
Forum in
Brasil



PORTAL
BSD

SATÉLITE · TV DIGITAL · IPTV · 3DTV

www.portaibsd.com.br

Applied Instruments, USA - Signal Analyzers

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

- ☒ Manu
- ☒ Distr
- ☐ Whol
- ☐ Shop
- ☒ Serv



GM

Tom
Haywood



Engineering

Jeff Haas



Sales

Scott
Haywood



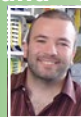
- The power of this company is its robust signal analyzers
- Company plans worldwide expansion with its internationally compatible analyzers

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

Huber+Suhner, Switzerland - Fibre Optics

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

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☒ Serv



Product Manager

Patrick
Zaina



Marketing Manager

Othmar
Fuchs



- 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

- obsolete
- Now available: economical alternative with distribution systems starting with eight users

iPONT, Hungary - 3DTV

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

- ☐ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☒ Serv



CEO

Zoltan
Korcsok



CTO

Andor
Pasztor



- iPONT's software solution converts 3D for use with auto-stereoscopic monitors
- 3D enjoyment without annoying glasses
- Potential for receiver manufacturers to expand their STB's to include

- 3D
- Compatible with the variety of manufacturer auto-stereoscopic monitor solutions

Megasat, Germany - Receiver and Wholesaler

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

- ☒ Manu
- ☒ Distr
- ☒ Whol
- ☐ Shop
- ☒ Serv



GM

Sven
Melzer



- 80% of distributed products come from in-house MEGASAT brand
- full range of satellite components

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

Sapro, Czech - Receiver and Wholesaler

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

- ☒ Manu
- ☒ Distr
- ☒ Whol
- ☐ Shop
- ☐ Serv



Owner

Lubomír
Probošcz



Sales

Petr
Zwrtek



Sales

Jana
Probošczová



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

- In-house design and production (assembly line)
- Produces 100,000 receivers per year

WSInternational, USA - Receiver and Wholesaler

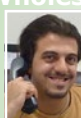
www.TELE-audiovision.com/TELE-satellite-1109/wsinternational.pdf

- ☒ Manu
- ☒ Distr
- ☒ Whol
- ☐ Shop
- ☐ Serv



Owner

Robby
Dosetareh



Sales

Joseph
Bassala



- Successful Young Company with Ambition
- Manufacturer of Satellite Components

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

BYA, Algeria - Dishes and Receiver

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

- ☒ Manu
- ☒ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



GM

Slimane
Ait Yala



Boingsat, China - LNB

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

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



GM

Haowen
Chiang



Co-Owner

Yunnjye
Qin



Sales

Jason
Chiang



- Three Production Locations in Zhuhai/ China
- Large Sales Expansion in South America

- In the Works: LNB with Two Feed Rings

Bomare, Algeria - Receiver

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

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Technical Manager

Tewfik
Lamrani



CHINA'S BEST FORUM

on
Digital
Video
Broadcast



www.dvbcn.com

Read it in English: <http://translate.google.com/translate?hl=en&sl=zh-CN&tl=en&u=http://www.dvbcn.com>

HotTVNews
WiredNetworkDVB-S
DVB-C TV-operators
VoIP-IPTV TV-advertising
IntelligentTelevision
MobileTV
OnlineVideo
TVVideoEDA
Pay-TV
BroadcastSecurity
DABHDchannelsLaunchCoverage
DTMB Television CMMB-network
DVB-TMonitoringSTB-Design
Internet
radioMDTV TV-Software
IPTV CPU Digital
CATV

The best
source
of information
for TVRO fans
in China



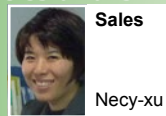
www.ASIATVRO.com

ASIATVRO Always up to date

Prevail, China - Fibre Optics and CATV

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

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



Sales
Necy-xu



Sales
Helen



Production Manager
Ren Guorui



- Substantially Increased Sales for 2011 Thanks to Rising Exports
- Additional Factory Soon to be in Operation
- Increased Number of Employees

- Four New SMT Machines in Operation
- Very Active R&D Team

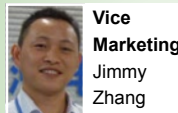
Jiuzhou, China - IPTV Boxes

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

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



Sales
Huang Wei



Vice Marketing
Jimmy Zhang



- 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

Sowell, China - Receivers

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

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



GM
Eagle Chain



Software
Sun Guanghua



Software
Peng Yi



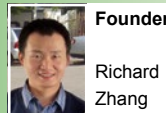
- Founded by 5 Partners
- ISDB-T and DVB-T2 Receiver in 2011

- Overseas Offices in the Plan
- User Friendliness is Company Philosophy

Tenow, China - PC Cards

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

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



Founder
Richard Zhang



Founder
Bob Liu



Founder
Eric Deng



Founder
James Liu



NetUP, Russia - IPTV

www.TELE-audiovision.com/TELE-satellite-1101/netup.pdf

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



Co-Founder
Abylay Ospan



Co-Founder
Evgeniy Makeev



Sales
Konstantin Emelyanov



Tevii, Taiwan - PC Cards and Receiver

www.TELE-audiovision.com/TELE-satellite-1101/tevi.pdf

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



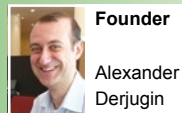
Founder
Matthias Liu



Satbeams, Belgium - Software

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

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



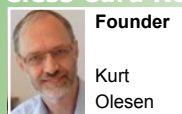
Founder
Alexander Derjugin



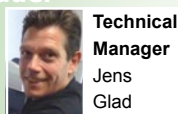
SmartWi, Denmark - Wireless Card Reader

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

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



Founder
Kurt Olesen



Technical Manager
Jens Glad



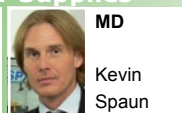
Spaun, Germany - Power Supplies

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

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



IBC Certificate Holder



MD
Kevin Spaun



Boxsam, China - Receivers

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

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



GM
Xiaofeng Huang



VP
Jeffrey Zhao



Atlanta, Dubai - Wholesaler

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

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

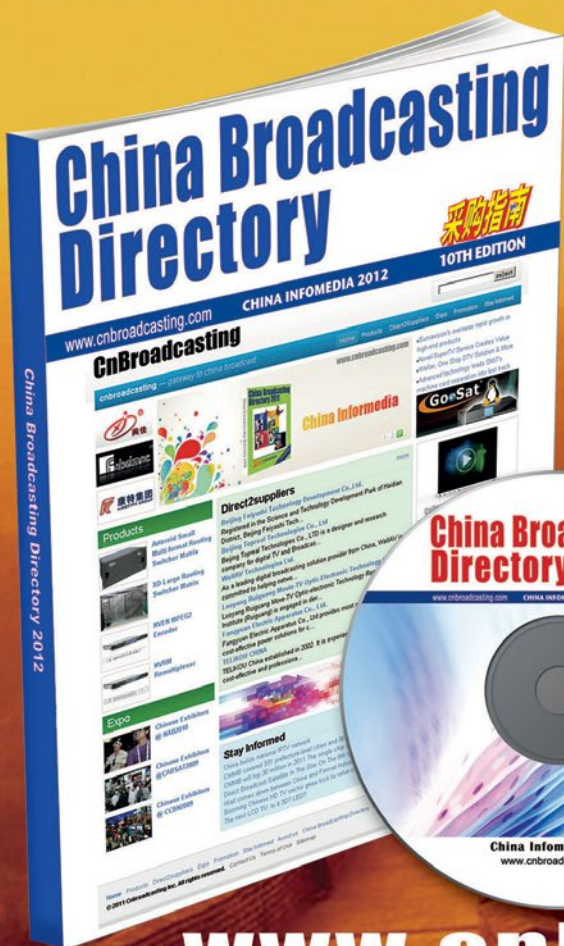


Founder
Rajmal Jain



Director
Sanjeev Jain





Hit or Miss ?
You need a guide - China
Broadcasting Directory
to hit the target !

For free Directory **ONLINE**

www.cnbroadcasting.com

A fresh look at the familiar
SATBEAMS

Everything you need
to set your dish right

**Check if you
are within coverage**

Scalable footprints with dish alignment tool

**EMBED SCALABLE
FOOTPRINTS INTO
YOUR WEBSITE**

Satellite charts with filters

View TP and channels info as you wish

13° E — Hotbird 6 (Hot Bird 6) / Hotbird 8 (Hot Bird 8) / Hotbird 9 (Hot Bird 9)

ApplyReseton my default list

13° E, Hotbird 8 (13° E), Europe8, QPSK, DVB, Arqiva (318/11100) (Filtered)

13° E, Hotbird 8 (13° E), Europe8, QPSK, DVB, GlobeCast (318/12200) (Filtered)

EncryptionPackageRes. CompressionV_PIDA_PID

Hotbird 6

Hotbird 8

Hotbird 9

SD

SD

SD

MPEG-2

MPEG-2

MPEG-2

750i

750i

750i

751i

751i

751i

752i

752i

752i

753i

753i

753i

754i

754i

754i

755i

755i

755i

756i

756i

756i

757i

757i

757i

758i

758i

758i

759i

759i

759i

760i

760i

760i

761i

761i

761i

762i

762i

762i

763i

763i

763i

764i

764i

764i

765i

765i

765i

766i

766i

766i

767i

767i

767i

768i

768i

768i

769i

769i

769i

770i

770i

770i

771i

771i

771i

772i

772i

772i

773i

773i

773i

774i

774i

774i

775i

775i

775i

776i

776i

776i

777i

777i

777i

778i

778i

778i

779i

779i

779i

780i

780i

780i

781i

781i

781i

782i

782i

782i

783i

783i

783i

784i

784i

784i

785i

785i

785i

786i

786i

786i

787i

787i

787i

788i

788i

788i

789i

789i

789i

790i

790i

790i

791i

791i

791i

792i

792i

792i

793i

793i

793i

794i

794i

794i

795i

795i

795i

796i

796i

796i

797i

797i

797i

798i

798i

798i

799i

799i

799i

800i

800i

800i

801i

801i

801i

802i

802i

802i

803i

803i

803i

804i

804i

804i

805i

805i

805i

806i

806i

806i

807i

807i

807i

808i

808i

808i

809i

809i

809i

810i

810i

810i

811i

811i

811i

812i

812i

812i

813i

813i

813i

814i

814i

814i

815i

815i

815i

816i

816i

816i

817i

817i

817i

818i

818i

818i

819i

819i

819i

820i

820i

820i

821i

821i

821i

822i

822i

822i

823i

823i

823i

824i

824i

824i

825i

825i

825i

826i

826i

826i

827i

827i

827i

828i

828i

828i

829i

829i

829i

830i

830i

830i

831i

831i

831i

832i

832i

832i

833i

833i

833i

834i

834i

834i

835i

835i

835i

836i

836i

836i

837i

837i

837i

838i

838i

838i

839i

839i

839i

840i

840i

840i

841i

841i

841i

842i

842i

842i

843i

843i

843i

844i

844i

844i

845i

845i

845i

846i

846i

846i

847i

847i

847i

848i

848i

848i

849i

849i

849i

850i

850i

850i

851i

851i

851i

852i

852i

852i

853i

853i

853i

854i

854i

854i

855i

855i

855i

856i

856i

856i

857i

857i

857i

858i

858i

858i

859i

859i

859i

860i

860i

860i

861i

861i

861i

862i

862i

862i

863i

863i

863i

864i

864i

864i

865i

865i

865i

866i

866i

866i

867i

867i

867i

868i

868i

868i

869i

869i

869i

870i

870i

870i

871i

871i

871i

872i

872i

872i

873i

873i

873i

874i

874i

874i

875i

875i

875i

876i

876i

876i

877i

877i

877i

878i

878i

878i

879i

879i

879i

880i

880i

880i

881i

881i

881i

882i

882i

882i

883i

883i

883i

884i

884i

884i

885i

885i

885i

886i

886i

886i

887i

887i

887i

888i

888i

888i

889i

889i

889i

890i

890i

890i

891i

891i

891i

892i

892i

892i

893i

893i

893i

894i

894i

894i

895i

895i

895i

896i

896i

896i

897i

897i

897i

898i

898i

898i

899i

899i

899i

900i

900i

900i

901i

901i

901i

902i

902i

902i

903i

903i

903i

904i

904i

904i

905i

905i

905i

906i

906i

906i

907i

907i

907i

908i

908i

908i

909i

909i

909i

910i

910i

910i

911i

911i

911i

912i

912i

912i

913i

913i

913i

914i

914i

914i

915i

915i

915i

916i

916i

916i

917i

917i

917i

918i

918i

918i

919i

919i

919i

920i

920i

920i

921i

921i

921i

922i

922i

922i

923i

923i

923i

924i

924i

924i

925i

925i

925i

926i

926i

926i

927i

927i

927i

928i

928i

928i

929i

929i

929i

930i

930i

930i

931i

931i

931i

932i

932i

932i

933i

933i

933i

934i

934i

934i

935i

935i

935i

936i

936i

936i

937i

937i

937i

938i

938i

938i

939i

939i

939i

940i

940i

940i

941i

941i

941i

942i

942i

942i

943i

943i

943i

944i

944i

944i

945i

945i

945i

946i

946i

946i

947i

947i

947i

948i

948i

948i

949i

949i

949i

950i

950i

950i

951i

951i

951i

952i

952i

952i

953i

953i

953i

954i

954i

954i

955i

955i

955i

956i

956i

956i

957i

957i

957i

958i

958i

958i

959i

959i

959i

960i

960i

960i

961i

961i

961i

962i

962i

962i

963i

963i

963i

964i

964i

964i

965i

965i

965i

966i

966i

966i

967i

967i

967i

968i

968i

968i

969i

969i

969i

970i

970i

970i

971i

971i

971i

972i

972i

972i

973i

973i

973i

974i

974i

974i

975i

975i

975i

976i

976i

976i

977i

977i

977i

978i

978i

978i

979i

979i

979i

980i

980i

980i

981i

981i

981i

982i

982i

982i

983i

983i

983i

984i

984i

984i

985i

985i

985i

986i

986i

986i

987i

987i

987i

988i

988i

988i

989i

989i

989i

990i

990i

990i

991i

991i

991i

992i

992i

992i

993i

993i

993i

994i

994i

994i

995i

995i

995i

996i

996i

996i

997i

997i

997i

998i

998i

998i

999i

999i

999i

1000i

1000i

1000i

1001i

1001i

1001i

1002i

1002i

1002i

1003i

1003i

1003i

1004i

1004i

1004i

1005i

1005i

1005i

1006i

1006i

1006i

1007i

1007i

1007i

1008i

1008i

1008i

1009i

1009i

1009i

1010i

1010i

1010i

1011i

1011i

1011i

1012i

1012i

1012i

1013i

1013i

1013i

1014i

1014i

1014i

1015i

1015i

1015i

1016i

1016i

1016i

1017i

1017i

1017i

1018i

1018i

1018i

1019i

1019i

1019i

1020i

1020i

1020i

1021i

1021i

1021i

1022i

1022i

1022i

1023i

1023i

1023i

1024i

1024i

1024i

1025i

1025i

1025i

1026i

1026i

1026i

1027i

1027i

1027i

1028i

1028i

1028i

1029i

1029i

1029i

1030i

1030i

1030i

1031i

1031i

1031i

1032i

1032i

1032i

1033i

1033i

1033i

1034i

1034i

1034i

1035i

1035i

1035i

1036i

1036i

1036i

1037i

1037i

1037i

1038i

1038i

1038i

1039i

1039i

1039i

1040i

1040i

1040i

1041i

1041i

1041i

1042i

1042i

1042i

1043i

1043i

1043i

1044i

1044i

1044i

1045i

1045i

1045i

1046i

1046i

1046i

1047i

1047i

1047i

1048i

1048i

1048i

1049i

1049i

1049i

1050i

1050i

1050i

1051i

1051i

1051i

1052i

1052i

1052i

1053i

1053i

1053i

1054i

1054i

1054i

1055i

1055i

1055i

1056i

1056i

1056i

1057i

1057i

1057i

1058i

1058i

1058i

1059i

1059i

1059i

1060i

1060i

1060i

1061i

1061i

1061i

1062i

1062i

1062i

1063i

1063i

1063i

1064i

1064i

1064i

1065i

1065i

1065i

1066i

1066i

1066i

1067i

1067i

1067i

1068i

1068i

1068i

1069i

1069i

1069i

1070i

1070i

1070i

1071i

1071i

1071i

1072i

1072i

1072i

1073i

1073i

1073i

1074i

1074i

1074i

1075i

1075i

1075i

1076i

1076i

1076i

1077i

1077i

1077i

1078i

1078i

1078i

1079i

1079i

1079i

1080i

1080i

1080i

1081i

1081i

1081i

1082i

1082i

1082i

1083i

1083i

1083i

1084i

1084i

1084i

1085i

1085i

1085i

1086i

1086i

1086i

1087i

1087i

1087i

1088i

1088i

1088i

1089i

1089i

1089i

1090i

1090i

1090i

1091i

1091i

1091i

1092i

1092i

1092i

1093i

1093i

1093i

1094i

1094i

1094i

1095i

1095i

1095i

1096i

1096i

1096i

1097i

1097i

1097i

1098i

1098i

1098i

1099i

1099i

1099i

1100i

1100i

1100i

1101i

1101i

1101i

1102i

1102i

1102i

1103i

1103i

1103i

1104i

1104i

1104i

1105i

1105i

1105i

1106i

1106i

1106i

1107i

1107i

1107i

1108i

1108i

1108i

1109i

1109i

1109i

1110i

1110i

1110i

1111i

1111i

1111i

1112i

1112i

1112i

1113i

1113i

1113i

1114i

1114i

1114i

1115i

1115i

1115i

1116i

1116i

1116i

1117i

1117i

1117i

1118i

1118i

1118i

1119i

1119i

1119i

1120i

1120i

1120i

1121i

1121i

1121i

1122i

1122i

1122i

1123i

1123i

1123i

1124i

1124i

1124i

1125i

1125i

1125i

1126i

1126i

11261

Yinhe, China - Receiver

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Marketing Manager
Jianbiao Zhu

www.TELE-audiovision.com/TELE-satellite-1007/yinhe.pdf



GlobalInvacom, UK - Fibre Optics

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Sales
Ivan Horrocks



Sales
David Fugeman

www.TELE-audiovision.com/TELE-satellite-1005/globalinvacom.pdf



Changhong, China - Receiver

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Sales
Richard Cheng Li

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



Kaifa, China - Receivers

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Marketing Manager
Jackie Yan

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



Skyworth, China - Receivers

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Vice GM
David Ken



Technical Manager
Jack Zhang

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



Promax, Spain - Signal Analyzers

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Founder
José Clotet



GM
José-Maria Clotet

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



Infosat, Thailand - Dishes

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



Founder
Niran Tangpiroontham

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



Aluosat, China - Wholesaler

- ☒ Manu
- ☒ Distr
- ☒ Whol
- ☒ Shop
- ☐ Serv



Founder
Luo Shigang



Sales
Luo Jun

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



MFC, USA - Filters

- ☒ Manu
- ☒ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



CEO
Carl Fahrenkrug



Sales
Scott Parsell



Marketing Manager
Sandy Nelepovitz

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



Nanoxx, Germany - Wholesaler and Receivers

- ☒ Manu
- ☒ Distr
- ☒ Whol
- ☐ Shop
- ☐ Serv



Founder
Marcel Hofbauer



Sales
Daniel Sam

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



Smart, Germany - Receivers

- ☒ Manu
- ☒ Distr
- ☒ Whol
- ☐ Shop
- ☐ Serv



MD
Peter Löble



MD
Christoph Hoefler

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



Spaun, Germany - Accessories

- ☒ Manu
- ☐ Distr
- ☐ Whol
- ☐ Shop
- ☐ Serv



IBC
Certificate Holder



Founder
Friedrich Spaun



MD
Kevin Spaun



Technical Manager
Steffen Kuck

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



Look at India!

Satellite Signal Reception Discussion Forum for Indian DTH Services, C Band and Ku Band Reception

Dish
Tuning



www.dishtuning.com



Ft@Tv
El foro de la TV libre



Ft@Tv
El foro de la TV libre

Welcome to FT @ TV Forum, the forum free Argentine TV. In this forum we discuss FTA only. We do not support any brand of receivers. If the receiver only opens five channels at 61° W, it is normal because they are the only ones that are FTA on the satellite Amazonas.



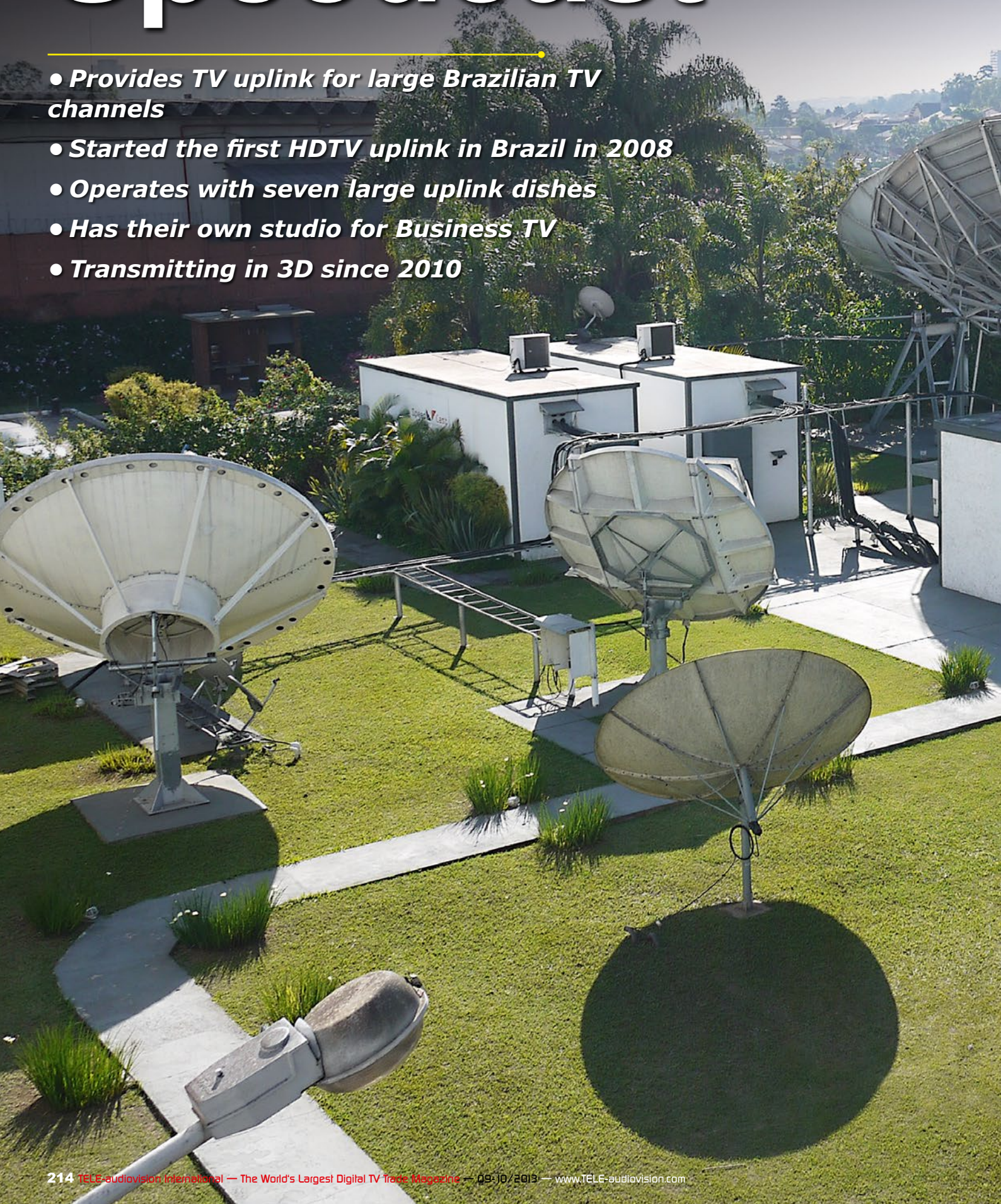
Hi guest, if you read this, it means you are not registered. Click here to Register, so you can enjoy all the features of our forum. Once registered we invite you to walk through our Presentations section to let you know in our community. A greeting from the staff of Ft @ TV ...



www.ftatv.com.ar

Speedcast

- *Provides TV uplink for large Brazilian TV channels*
- *Started the first HDTV uplink in Brazil in 2008*
- *Operates with seven large uplink dishes*
- *Has their own studio for Business TV*
- *Transmitting in 3D since 2010*





Seven Uplink Dishes and Many, Many Reception Antennas

Modern and very organized is the impression you get from the Speedcast uplink station in Barueri west of Sao Paulo. With seven large dishes (we'll talk more about them later) and numerous other smaller and larger dishes used just for reception, Speedcast is one of the largest in Brazil. The company's customers include among others the TV channels Rede TV and SBT.

Speedcast is particularly proud of being the first company to uplink an HDTV signal in Brazil – that was 2008 for Rede

TV and TV Bandeirantes.

Henrique Antonini is one of the broadcast technicians at Speedcast and tells us more about the company: "Speedcast was founded in 2003 by Alfonso Aurin and Luciano Esteves." Both of them are engineers and Alfonso Aurin was for many years Technical Manager at SBT, a TV channel that was founded in 1981 whose headquarters is located in Osasco, the next town over from Barueri. But the initial



■ Satellite TV uplink operator Speedcast can be found in this modern office complex in Barueri near Sao Paulo





VAM 420 NG DVB-T
• Modulator with COFDM (DVB-T)
output signal

VSB Twin Modulator VAM 420 NG PAL

- Easy to create analog tv signals
- Adjacent channel capable
- Simple and fast programming
- Cascading allows for multiple TV analogue channels
- TV standard: B/G/D/K/I/L
- Frequency range: 110 ... 862 MHz
- Output level: max 90 dBμV
- C/N ratio: ≥ 50 dB



SPAUN electronic GmbH & Co. KG · Byk-Gulden-Str. 22 · 78224 Singen
Tel.: +49 (0) 7731-8673-0 · Fax: +49 (0) 7731-8673-17
Email: contact@spaun.com · www.spaun.com



Microwave Filter Company, Inc.

Satcom Filters & Components

**Downlink &
Uplink Filters
in the C, X, Ku,
K and Ka bands
for commercial
& military use**



E-Mail: mfcsales@microwavefilter.com

Tel: (315) 438-4700

Fax: (315) 463-1467

6743 Kinne Street, East Syracuse, NY (USA) 13057

RoHS Compliant

An ISO 9001:2008 Registered Company

www.microwavefilter.com

1



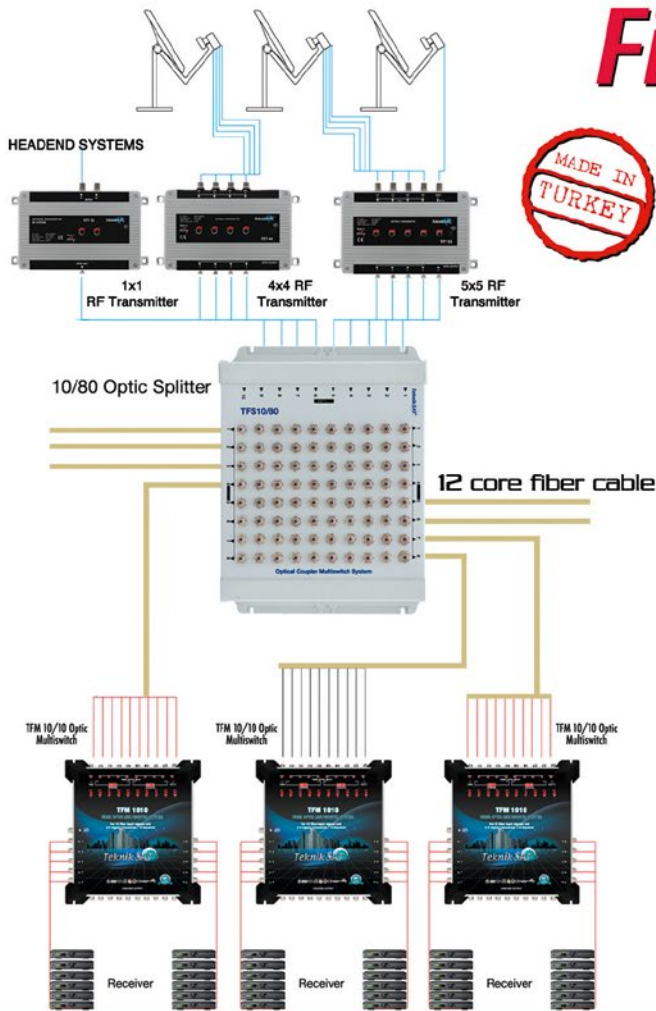
2



1. In a conference room broadcast technicians are displaying on three monitors the live pictures that are being uplinked by Speedcast: RedeTV HD (left monitor), SBT (center monitor) and the still image of Business TV (upper monitor) with a programming note regarding an upcoming broadcast from Volkswagen

2. A look in the small live studio. Business TV programs are produced here. At the moment there's a broadcast going on for Volkswagen

Fiber Optic Systems



Fiber Optic Group Transmitter 9 IF + 1 RF



- Quat & Quatro LNB
- LNB feed property 14v18v22KHz
- All types LNB to adapt Qu band C band, MDU.
- Each polarite different IF signal input
- Low probability of failure
- Each input desired polarite broadcast input.

Optic Connectors : FC/UPC
Frequency range SAT : 950-2150 Mhz
Frequency range TERR : 47-870
Optical wavelength : 1310nm
Optical output power : 2mW



Fiber Optic Multiswitch

e-mail: tekniksat@tekniksat.com
web : www.tekniksat.com

"The first in the world"

10 Optic input
10 Subscriber output
**FIBER OPTIC
MULTISWITCH**

TeknikSAT®
PROFESSIONAL SATELLITE SYSTEMS - SECURITY SYSTEM

DEVISER

www.devisertek.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 Electronics Instrument Co., Ltd

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](http://www.devisertek.com) ■ E-mail: overseasbiz@deviser.com.cn

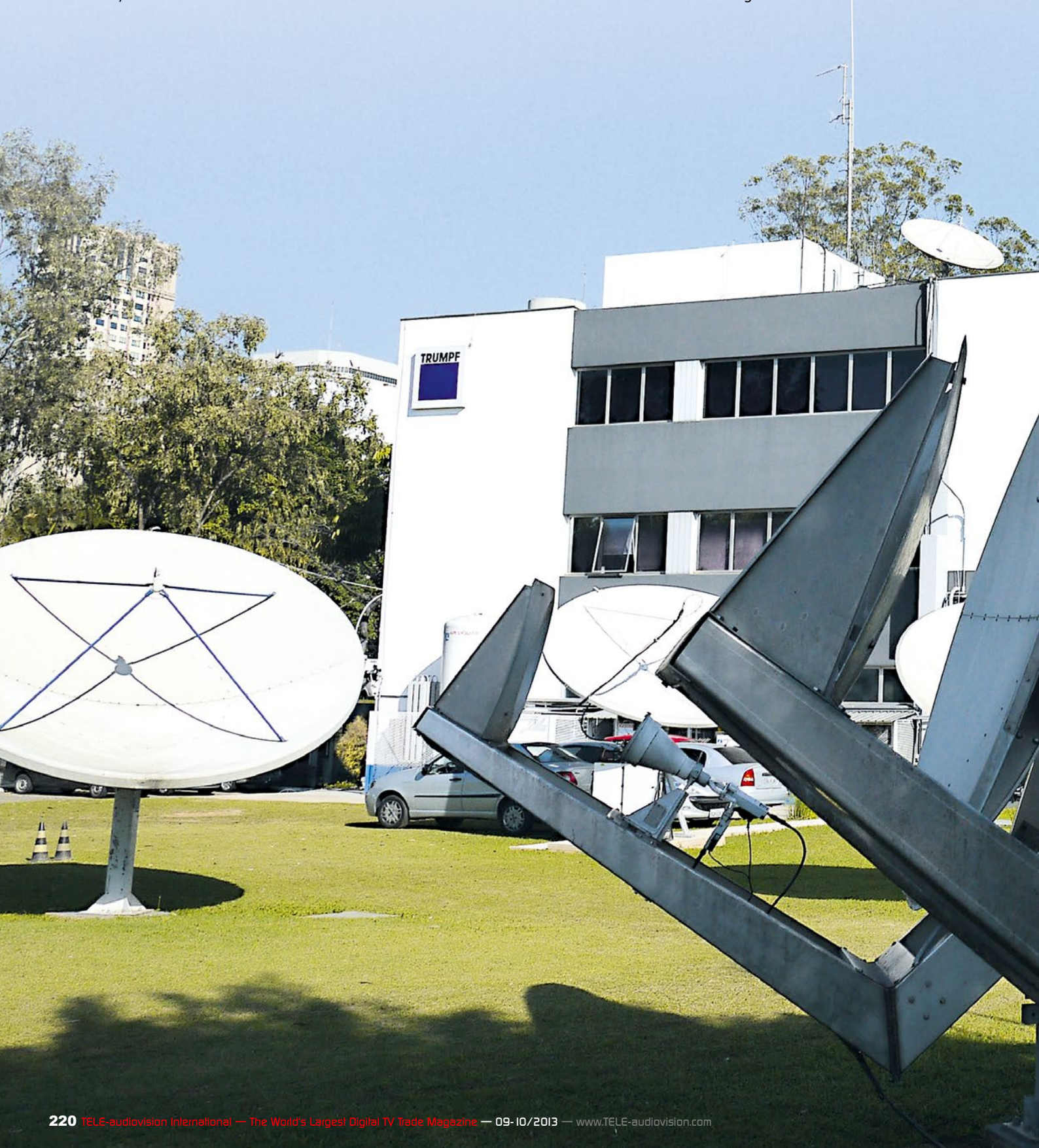
DEVISER

services provided by Speedcast in 2003 were not TV uplinks, it was VSAT services. That radically changed in 2005: Speedcast completely eliminated VSAT and switched entirely over to TV uplink. "The first uplink dish was our 9.0-meter antenna that is still in operation today." Additional dishes followed soon after that; a 7.3-meter dish was erected

and over the years four more 3.6-meter uplink antennas and one at 4.5-meters were placed into service. All of these uplink dishes are used not only for regular TV channels, but also for Business TV. Their most prominent customer is Volkswagen; they regularly keep their employees informed at specific times. "We even have our own small studio here in

which these Business TV programs are produced." Other Business TV customers include NCR, PanAmerican Bank, Johnson Batteries and the Business TV service TV Oficina Brasil.

In 2007 Speedcast went into cooperation with EUTELSAT. Since then Speedcast has been operating EUTELSAT's monitoring station for South America.



Henrique Antonio explains to us how that works: "The EUTELSAT technicians can access our system directly from their headquarters in Paris and can thus keep a real-time eye on the signals." In the same year 2007, Speedcast also expanded their technology and since then have been able to process all broadcasts in 16:9. The upgrade to 3D came

in 2010. Today there are a total of 34 employees at Speedcast, 15 of them are at their headquarters while the rest are field technicians working with customers. In just ten years Speedcast has made quite a name for itself in the TV uplink field. In Brazil the company is one of the first names you come across in this field.

■ The dishes in the foreground are reserved for EUTELSAT. Technicians at EUTELSAT's headquarters in Paris can remotely control these antennas allowing them to keep an eye on transmissions from the EUTELSAT satellites





■ A Speedcast technician is checking on the positioning of the 9.0-meter dish that is fixed on STARONE C1 at 65W. The smaller 7.3-meter dish behind it is fixed on STARONE C2 at 70W



MOI



Sat TV Streaming Box

Watch satellite TV on PC, Tablet, PC, Smartphone, iPhone, iPad, iPod and Sony Playstation 3

Stream Live TV to anywhere there is home network

Enjoy and share a large quantity of Movies, News, Live sports...

Two CI slots support premium/encrypted channels



Dual Tuner supports streaming two whole Transponder Stream simultaneously

DLNA supported



MOI box is a dual DVB-S2 TV tuner and dual CI slot Linux server for streaming satellite TV channels to the following client end devices within your wired or wireless home network: HDTV, PC, tablet computers, smartphones, iPhone, iPad, iPod and Sony Playstation 3. For more details, please visit our website.

Tenow International Ltd
Email: sales@tbsdtv.com

www.tbsdtv.com
Tel: (+86) 755 26501345 or 26501201

Worldwide distributors/dealers are welcome!

SMF 790



LTE Stop Band Filter

SMF 790

- Safely blocks interference from LTE networks
- Very easy to install
- Performance better than its specifications
- Small product but very effective
- Pass band: 5-790 MHz
- Pass Band Attenuation: 1 dB typ.
- Stop Band: 822-1000 MHz
- Stop Band Attenuation: 50 dB typ.



NEW

SPAUN electronic GmbH & Co. KG · Byk-Gulden-Str. 22 · 78224 Singen
Tel.: +49 (0) 7731-8673-0 · Fax: +49 (0) 7731-8673-17
Email: contact@spaun.com · www.spaun.com

■ A look in the video control room. Video signals that arrive here from the TV channel's studios via fiber-optic cable are monitored as is the transmitted signal





1



1. In the heart of the system: here you'll find the 19" racks of the actual transmitters

2. Large dishes, because of their extremely small aperture angle, constantly need position adjustments. This is taken care of by this controller. The set points for optimum reception have been predetermined and with the aid of a beacon receiver the position of the 9.0-meter antenna can be kept perfect

3. The signals via fiber-optic cable land here: Speedcast takes the Rede TV and SBT signals and uplinks them to the STARONE satellite

4. This rack is reserved for EUTELSAT: this is where the dishes reserved for EUTELSAT are remotely controlled. Speedcast only makes the space available; all of the work is handled remotely from the EUTELSAT headquarters in Paris. A small web camera is pointed at this rack so that technicians in Paris can actually see what's going on and advise when something needs to be changed.

ARTEX
DIGITAL SYSTEMS DIVISION



2

3







1. TV Aparecida is another channel carried by Speedcast. Its signal is received via satellite in this rack and then retransmitted

2. The broadcasted signal can be viewed in the broadcasting room at the same time. The individual reception antennas can be connected here and the spectrum analyzer is used to monitor the signal. The monitor above shows the corresponding TV picture

3. A mosaic monitor shows all of Speedcast's broadcasted channels





- 8 / 16 x DVB-S(2) (QPSK/8PSK) into DVB-C (QAM)
- For the reception of 60/120 TV programs SD/HD and 30/60 Radio programs
- Compact dimensions and high energy efficiency
- LNB control with 14/18 V + 22 kHz or DiSEqC
- Configuration via LAN/IP
- Complete processing of the transport streams possible
- All 8 / 16 output channels can be placed individually in the spectrum
- Two individual input ports

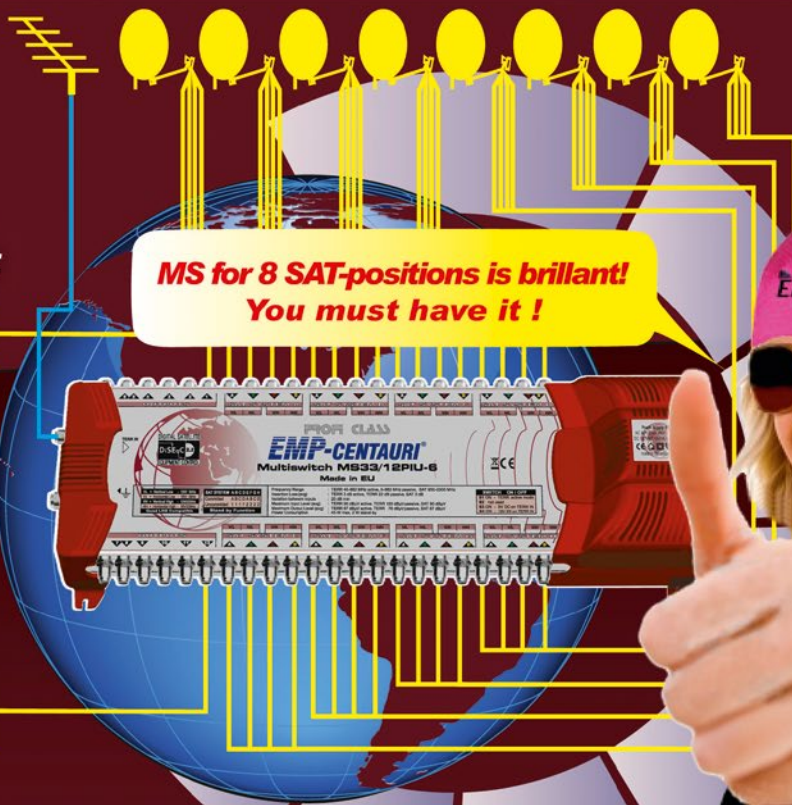


EMP-CENTAURI®

World Premiere Multiswitch for 8 Satellites - MS 33/12 PIU-6



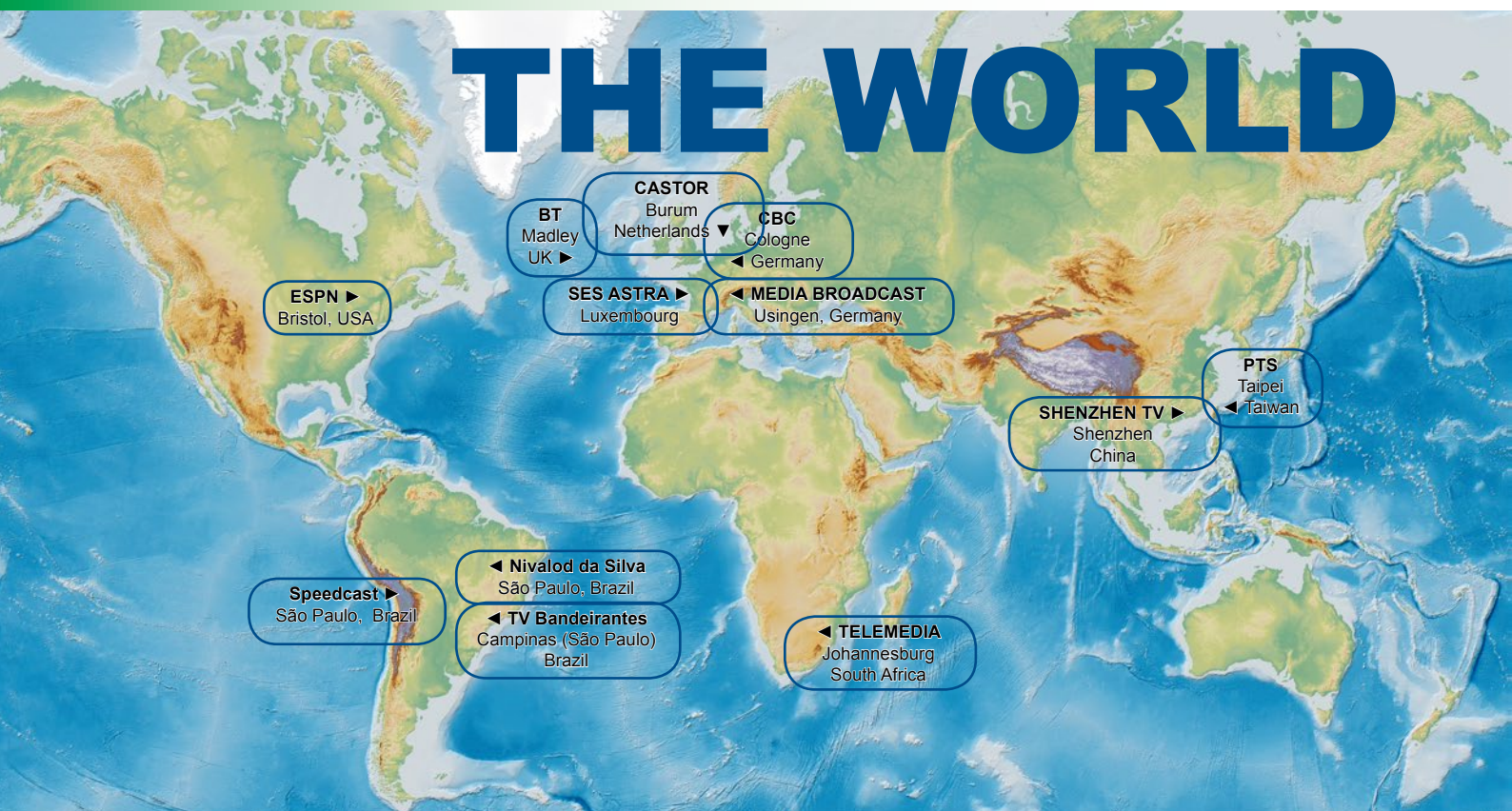
- high quality of the products
- outstanding technical value
- smooth and technically excellent support
- 48 months warranty
- no minimum order volume
- low consumption power supplies
- extremely high reliability (less then 1% of warranty returns)



**MS for 8 SAT-positions is brilliant!
You must have it !**



BEST SATELLITE UPLINK EARTH STATIONS IN THE WORLD



Speedcast Sao Paulo Brazil

Read Full Report



[www.tavmag.com
/13/09/speedcast](http://www.tavmag.com/13/09/speedcast)

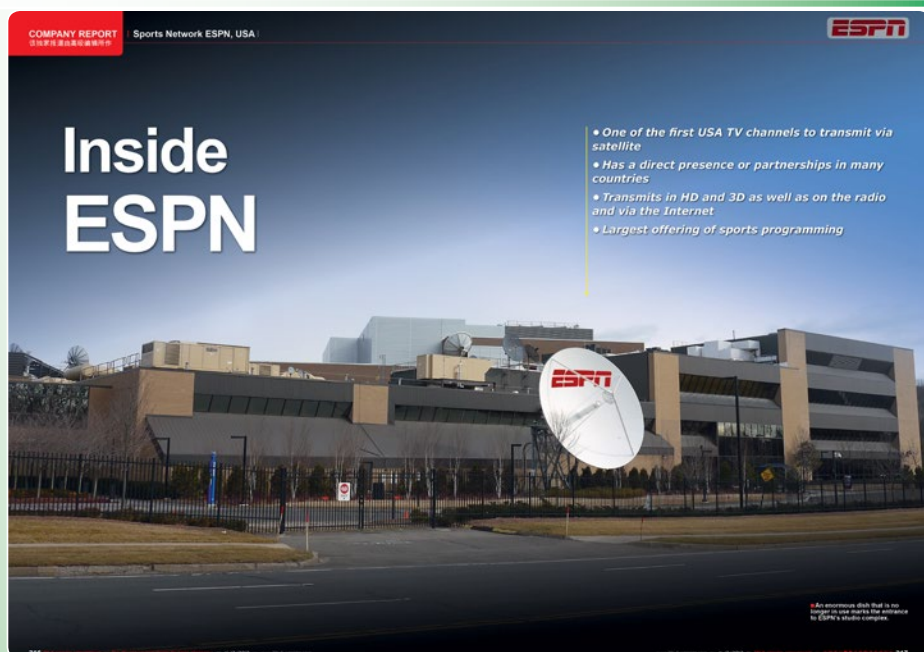


ESPN Bristol USA

Read Full Report



[www.tavmag.com
/12/11/espn](http://www.tavmag.com/12/11/espn)



Nivaldo da Silva São Paulo Brazil

Read Full Report



[www.tavmag.com
/12/09/nivaldodasilva](http://www.tavmag.com/12/09/nivaldodasilva)



TV Bandeirantes São Paulo Brazil

Read Full Report



[www.tavmag.com
/12/07/tvbandeirantes](http://www.tavmag.com/12/07/tvbandeirantes)

COMPANY REPORT TV Station TV Bandeirantes, Campinas, SP, Brazil

Satellite Dishes at TV Bandeirantes

• The most modern reception and transmission technology in Brazil
• Receives and transmits in HD
• Receives the main program via satellite
• A specialty is the combination of analog and digital channels

Logos: EDUCADORA FORT, RB, BAND NEWS FM 106.7, NATMA FM 89.3, metro.

Labels: ANALÓGICA, HD-TV, ANALÓGICA.

Shenzhen TV Shenzhen China

Read Full Report



[www.tavmag.com
/12/05/shenzhen-tv](http://www.tavmag.com/12/05/shenzhen-tv)

COMPANY REPORT Ground Station Shenzhen TV, China

Satellite Uplink directly from Shenzhen

• uses 6 uplink dishes for SNG
• will start its own programming Uplink soon
• prepared for further expansion
• all important devices installed two times for instant backup

Logo: SZMG.

Castor Burum Netherlands

Read Full Report



[www.tavmag.com
/12/03/castor](http://www.tavmag.com/12/03/castor)

COMPANY REPORT Satellite Uplink Station, Netherlands

CASTOR: More than an Uplink Station

• Internet and TV uplink for cruise ships
• Data services for specific user groups
• Uplink for many Dutch radio channels
• Downlink/encoding for IPTV providers
• Free capacity for additional uplink customers

Logo: CASTOR.

CBC Cologne Germany

Read Full Report



www.tavmag.com/12/01/cbc

COMPANY REPORT Uplink Provider

Zero Tape – Full HD

- all programming content stored as files
- huge file-based electronic archive
- global content distribution
- production and international playout of live coverage of German Bundesliga soccer matches
- fully equipped for HDTV

112 TELE-audiovision 12/01/2012 113

BT Madley UK

Read Full Report



www.tavmag.com/11/11/bt

COMPANY REPORT BT Madley International Communications Centre, UK

Partner for the Big Players

Alexander Wiese

- Operates 65 dishes in southwestern Great Britain
- Recently began offering uplink services for programming providers
- Equipped for HD and 3D program processing
- International optical links in all directions
- Highly motivated technical specialists

112 TELE-audiovision 11/11/2011 113

SES ASTRA Luxembourg

Read Full Report



www.tavmag.com/11/09/ses

COMPANY REPORT Satellite Provider

SES ASTRA Spreading its Wings

- 34 million euro invested
- SES with shareholding in world-wide Internet-via-satellite MEO system
- 44 satellites around the world
- extremely low error tolerance makes for equally low failure rate
- remote monitoring of all SES ASTRA satellites via company-run reception stations

112 TELE-audiovision 11/09/2011 113

Media Broadcast Usingen Germany

Read Full Report



www.tavmag.com
/10/09/mediabroadcast

**Telemedia
Johannesburg
South Africa**

Read Full Report



www.tavmag.com
/07/09/telemedia

PTS
Taipei
Taiwan

Read Full Report



www.tavmag.com
/07/07/pts

STATION REPORT | Earth Station Usingen, Germany

Satellite Reception with a 19 Metre Dish

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



Company Report

**Telemedia,
Johannesburg**

[illegible]

STATION REPORT | PTS Taipei, Taiwan

Satellite Channels for Taiwan - PTS's Control Center

A photograph of the Public Television Service building. The building has a modern design with large glass windows. A sign above the entrance reads "公共電視" (Public Television) in Chinese and "Public Television Service" in English. The building is surrounded by trees and greenery.

BT ready to take off

We are back providing broadcast uplinks

Satellite Program Providers can take advantage of BT's superior technical quality at our South-West England's Satellite Uplink Station:

- fiber connected to all parts of the world
- direct access to more than half of all satellites worldwide
- perfectly equipped for HDTV
- ready for 3DTV



TELE-audiovision

These Companies Started Their International

DX "COMMUNICATION ELITE"

DXANTENNA
1987

12GHz Band
Block-down Converter (LNB)
Model DSA-516

SUPERDISH
Reflex Parabolic Antenna
Model DSA-412E

OMT
(Ortho Mode Transducer)
Model DSA-210

FULL FREQUENCY TUNABLE

Feed Horn
Model DSA-207

Satellite Receiver
Model DSA-680

Satellite U/V
Mixing Adapter for TV Out Plug
(Accessory for the DSA-680)

Manufacturer: **DX ANTENNA CO. LTD. JAPAN**

DISTRIBUTED BY: **A. NEVELING** Postfach 30 07 03 Tlx: 85 84 225
4000 Düsseldorf 30 Tel: 02 11 / 42 82 18

ASTRA
1987

ASTRA
DER EUROPÄISCHE FERNSEHSATELLIT MIT 16 KANÄLEN

Der techno-logische Vorsprung

START HERBST 1988

QUALITÄT OHNE KOMPROMISSE

MASPRO
1988

Preis, Qualität und fortschrittliche Technik sind die wesentlichen Anforderungsprofile, die Sie als kritischer Konsument an Ihre Satelliten-Empfangsanlage stellen sollten.

MASPRO
SATELLITE SYSTEM

C. Itok Communications GmbH, Cantadorstraße 3, 4000 Düsseldorf 1

(Sharp Satellite-Systeme)

All in One-LNB welcomes SHARP
ECS, DBS and TEL
1989

3 in 1: Der neue Breitband-Konverter RSC-W 85 900 von Sharp empfängt alle drei Satellitensysteme - ECS, DBS und TELCOM. Das Umschalten auf die entsprechenden Frequenzen von 80-95 GHz bis 12,75 GHz erfolgt über die Fernbedienung.

3 in 1 Triple LNB	BAND 80-95 GHz / DBS	12,75 GHz / TELCOM	type/max LNB	Noise fig. (dB) typ/max 10/20
3 in 1	ECS + TELCOM	DBS + TELCOM	DBS + ECS	
DUAL LNB	RSCD 86400 RSCD 86400 RSCD 86700 RSCD 86800	RSCD 87000 RSCD 87400 RSCD 87500 RSCD 87600	RSCD 85900 RSCD 85900 RSCD 85700 RSCD 85700	2,0 - 2,0 4,6 - 1,8 1,7 - 1,7 1,5 - 1,6 1,6 - 1,6
1 in 1	ECS	DBS	TELCOM	Noise fig. (dB)
SINGLE LNB	RSCA 86400 RSCA 86400 RSCA 86700	RSCA 85400 RSCA 85500 RSCA 85700	RSCA 87400 RSCA 87500 RSCA 87700	1,3 max 1,3 max 1,7 max
DBS Tuner	Small Size Single Input Dual Input	DB-Scaler 1/28, 1/256, without Bandwidth 20 MHz, 27 MHz, 27/36 MHz; FM Threshold type 4 dB noise Input frequency 950 - 1750 MHz		
RF Module	Small Size	UK / Germany PAL / PAL-G Test Signal Generator		

SHARP

SHARP ELECTRONICS (EUROPE) GmbH, Alte M323, Sonnenstr. 3, 2000 Hamburg 1, Tel. 0 40 / 23 77 52 56, Telex 210 067, Telefax 0 40 / 23 77 52 82

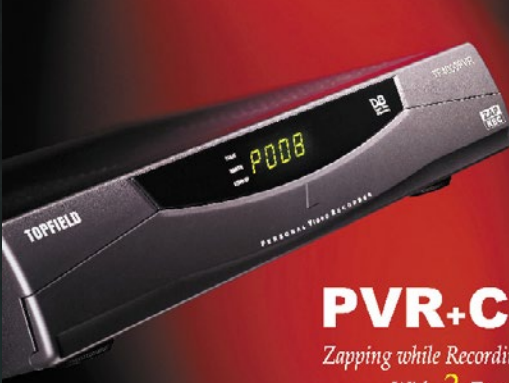
Made Them Big!

Success with TELE-audiovision Magazine

D.I.G. | T.A.L.
EXPERTS GROUP

Yes!
TOPFIELD
Your Confidence to the

2001



PVR+CI
Zapping while Recording
With 2 Tuners

Now: PVR + CI + Embedded Conax model available!

• TF3000CI • TF3000CIP • TF3000F • TF3100FE • TF3100FEP • TF4000PVR

ZAP REC **TOPFIELD**
www.topfield.co.kr

Address: 6th floor, Daejeon Bldg. 200-1 Chungang-Rd, Seongnam-City, Gyeonggi-Do, Korea
Tel: +82-31-708-2000 / Fax: +82-31-708-2007 / Web site: www.topfield.co.kr
E-mail: enquiry@topfield.co.kr

Capture the Perfect Blue Sky.
With MTI's New Blue Line **MTI**
We make the essential
2001



MTI is a world class developer and manufacturer of LNBs and other RF related technologies such as VSAT, LMDS and Digital Microwave Radio. The next generation of Blue Line LNBs sets the standard, by which all other LNBs will be judged.

MICROELECTRONICS TECHNOLOGY INC.
100-1, Seongnam Bldg. 2nd floor, Seongnam-City, Gyeonggi-Do, Korea
Tel: +82-31-708-2000 / Fax: +82-31-708-2007 / Web site: www.mti.co.kr
E-mail: enquiry@mti.co.kr

FTA
COMMON INTERFACE TECHNOLOGIES KOREA
100-1, Seongnam Bldg. 2nd floor, Seongnam-City, Gyeonggi-Do, Korea
Tel: +82-31-708-2000 / Fax: +82-31-708-2007 / Web site: www.ftp.co.kr
E-mail: enquiry@ftp.co.kr



HUMAX
2001

enjoy
the digital future
now!

We are living at the edge of a digital revolution - and HUMAX provides the gateway to this new era. With state-of-the-art digital technology converging the areas of broadcasting, communication and home entertainment. By specializing on digital consumer electronics HUMAX already offers the most complete array of digital set-top boxes available. And we are out for more - aiming to be a leader in the digital multimedia world. With intelligent products offering maximum entertainment, information and ease of use - for the prime time of the millennium people.



HUMAX
your prime time

www.humaxdigital.com

FTV Tech Co., Ltd. Seoul
100-1, Seongnam Bldg. 2nd floor, Seongnam-City, Gyeonggi-Do, Korea
Tel: +82-31-708-2000 / Fax: +82-31-708-2007 / Web site: www.humaxdigital.com
E-mail: enquiry@humaxdigital.com

Pleasant Life Through
Digital Multimedia Technology
www.arion.co.kr **ARION**
2001



Digital Satellite Receiver

FTA
Common Interface
FTA + Positioner
CI + Positioner

ARION Technology

8F, Seo-Keon Bldg., 1400 Kwan-Yang Dong, Dong An-Ku, An-Yang City, Kyung Ki Do, Korea 431-080
TEL: +82-31-421-2500 FAX: +82-31-421-2510

TELE-audiovision

These Companies Started Their International

How much is your digital cable system really costing you?

NDS 2002

DREAM 2002

Choosing the right conditional access system can mean the difference between profits and losses. Some companies may save you money up front, but hidden costs can stand in the way of success. The NDS end-to-end open digital cable solution delivers extra revenues and opportunities right from the start.

- Robust security to protect content and revenues
- Interactive applications on low cost set-top boxes
- Interactive content and PVR solutions to reduce churn and grow revenues
- Open choice of partners

NDS has helped customers around the world go digital successfully. Make the right choice. NDS.

Don't spend more than you bargained for. Ask for our free Guide to Digital Cable at: www.nds.com/cableguide/
UK Head Office: +44 20 8476 8000



Magic Module
Free programable ICNCA Module with integral card reader
29 120 Mbits
• 50 MHz 32-bit 3.3V chip-technology: minimal (very low) power consumption
• 64KB of on-chip ROM
• 16KB RAM, 256KB flash
• 68-pin ICNCA connector

Design for:
• integrated reader and writer for laptops with on-board USB Card or USB 2.0 processor (or off-board USB 2.0) - read, write and store your own content
• power of co-trails to you, i laptops

Magic Module Programmer
Also required is the programmer to program this card.

DREAM multimedia
Dream-Module: multimedia G-USB
29 120 Mbits
• 50 MHz 32-bit 3.3V chip-technology: minimal (very low) power consumption
• 64KB of on-chip ROM
• 16KB RAM, 256KB flash
• 68-pin ICNCA connector

www.dream-multimedia-tv.com

Simple & Speed

KAON 2003

SAMSUNG 2003

"It's the masterpiece better than your expectations"



Real Stream...

- DVB**
- Digital Satellite Receiver
 - Digital Terrestrial Receiver
 - Digital Combo(Satellite + Terrestrial) Receiver
 - Digital Cable Receiver
 - Digital High Definition Receiver

- ATSC**
- Digital High Definition Receiver

- MODELS**
- Free To Air Common Interface
 - CAS Embedded
 - PVR(Variable HDD Size)
 - MHP(Multimedia Home Platform)



www.kaonmedia.com
Address: #119 Inae1-Dong, Bundang-Gu, Sungnam-City, Kyungki-Do, Korea
E-mail: info@kaonmedia.com Phone: +82-31-709-6404 Fax: +82-31-709-8728



"Your Right Choice"

SFT-703E Plus (Free-To-Air) / SCI-703E Plus (Common Interface)

When was the last time that you felt good about your choice? Samsung is the right choice when it comes to digital satellite receivers. Ask for Samsung 703 Plus Series & 703 CAS Series. The brand you know!

- 300 TV & Radio Channels Programmable
- 192Kbps Digital Audio Output
- Teletext or 300 Pages Memory and 30-1000
- VCR Record up through EPG
- Sleep and Wake-Up Function



<http://stb.samsungcorp.com>

Made Them Big!

Success with TELE-audiovision Magazine

ANTENNA ACTUATING SYSTEM MOUNTS AND ACTUATORS

SVEC 2003

POSITIONERS

SICHUAN VIDEO ELECTRONIC CO., LTD.

CABSAT 2004

Tune in to new channels of electronic media

Get connected to the region's most prominent event of its kind. CABSAT is an annual showcase of the latest innovations and developments in the cable & satellite, television and broadcast equipment industries. CABSAT is your link-up to a market of more than one billion consumers via Dubai, the financial, commercial and e-business capital of the Middle East.

Extensive Product Profile:

Cable & Satellite: Antenna • Cable installation equipment • Calibration equipment • Combiners • Connectors • Decoders • Digital set-top boxes for DVB • Down converters and low angle • Electronic accessories • Feed horns • Head and equipment • LNBs • Modems • Modulators/demodulators • Receivers • Signal generators • SMATV systems • Splitters • Tap • Test equipment • Billing & management systems • Installation • Consulting • Digital compression • Integration • Interactive services • Network design • Programme providers • Publications • Research • Satellite services providers • Turnkey systems • Uplink facilities

Broadcast: Animation tools • Broadcast origination • CAD/CAM/CAT/CRM • Digital video broadcasting • Encoder/Decoder • Multimedia • Production technology • Recording systems/studios • Sound processing equipment • Virtual reality sets • And more

Telecommunications: Base stations • Cellular switching systems • Data networks • Internet services • Microwave radio • Multimedia • Satellite telephones & communication • Satellite & switching systems • Videocoverse technology • And more

For further information, please contact:
International Trade Centre
Dubai World Trade Centre, 22nd Floor, Jumeirah Road, Dubai, U.A.E. Tel: +971-4-331-8534/3329096
Email: david.smith@dwtc.com www.cabsat.com

The 10th Middle East International Cable, Satellite, Broadcast & Telecommunications Exhibition

8th - 10th February 2004
Dubai International Exhibition Centre

JONSA Satellite Antennas Simplify Communication

JONSA

Offset Antenna Systems

Prime Focus Antenna Systems

V-SAT Antenna Systems

JONSA

No. 808 Chang Jiang 3 Rd., Xian Jiang Industrial Park, Haining, Zhejiang
Tel: 86-571-8260888 Fax: 86-571-8260870 Email: xiaxia@jonsa.com Web Site: http://www.jonsa.com.cn
China Postal Code: 311121

Enjoy digital world Professional OEM, ODM Manufacturer

JIUZHOU 2004

45.3 DVB-S 3,000,000 sets a

DIGITAL TELEMEDIA CO., LTD.

ADD: 17F, Zhongguo YouSe Building, 6013 Shuman Avenue, Futian District, Shenzhen, China
E-MAIL: overseas@d-telemedia.com
Website: www.d-telemedia.com

TEL: 86-755-83474088 FAX: 86-755-83474723

CHANGHONG 2006

DIGITAL SET TOP

DIGITAL SATELLITE RECEIVER

Free to Air

DVB-S3000 DVB-S3000 DVB-S3000 DVB-S3000 DVB-S3000

Common Interface

DVB-S3000CI DVB-S3000CI

DIGITAL TERRESTRIAL RECEIVER

DVB-T8300 DVB-T8300 DVB-T8300

THE TERMINAL RECEIVER OF DIGITAL TV

- Digital STB (DVB-S/C/T ATSC)
- The standard and high definition
- One way and two way
- Mobile/immobile
- Family/project
- Single/PVR

Website: www.changhong.com www.changhongnetwork.com

SICHUAN CHANGHONG NETWORK TECHNOLOGIES CO., LTD.

ADD: 35 East Manning Road, High-tech Park, Manyang, Sichuan, China POST CODE: 621000
TEL: +86-816-2418105/2418105 FAX: +86-816-2418135 E-mail: ewe@chng.com

ISSN 0721-5444

TELE - audiovision

Zeitschrift für UKW und Fernsehen

Nr.17 Okt./November 1983 DM 5,-

FUNKAUSSTELLUNG 83 BERLIN

**TV
Fernempfang**

RTL-TV

**UKW
aus
Südtirol**

**4-GHz
Satelliten**





30 Years Ago

Receiveable Satellites in Europe in 1983

In the UHF range a Russian Satellite was located at 53E. In 4 GHz (C band) programmes could be watched from all over the world. The 12 GHz range (Ku band) has just started with satellites at 5E.

UHF-Satellit	53° O , 714 MHz
USSR	
4-GHz-Satelliten	
Spanien	34,5° W und 18,5° W
Portugal	24,5° W und 27,5° W
Saudi-Arabien	21,5° W , Bild: 3725 MHz, Ton 3900 MHz
UdSSR	15° W , 3675 MHz
Marokko	27,5° W
Nigeria	57° O
Oman	60° O
Zaire	21,5° W
Algerien	60° O
Sudan	21,5° W
Argentinien	27,5° W
Brasilien	21,5° W
USA AFRTS	79° W und 18,5° W
USA, ABC und CBS	1° W
12 GHz-Satelliten	
Großbritannien (kommerziell)	5° O, OTS-2, künftig evtl ECS
Frankreich TFI	5° O, OTS-2

SAT-TV Satelliten für Europa

Wegen der vielen Anfragen an die TAV-Satelliten-Redaktion, welche Satelliten man nun eigentlich heute schon in Europa empfangen könne, hier eine Aufstellung der "Weltraum-Parkplätze" der in Frage kommenden Satelliten.

Diese Zusammenstellung war gar nicht so einfach, die zuständigen Stellen schweigen sich über dieses Thema aus, so waren erst mal umfangreichere Recherchen notwendig, alle Satelliten ausfindig zu machen.

Viele der aufgeführten Satelliten sind von den erwähnten Ländern lediglich gemietet. Das erklärt, warum selbst amerikanische Satelliten in Europa zu empfangen sind: Die Strahlungskeulen dieser Satelliten sind so groß, daß sowohl die Nord- wie die Süd-Halbkugel der Erde erfaßt wird, um für die Vermieter (meist Intelsat) universell einsetzbar zu sein.

UHF-Satellit	53° O , 714 MHz
UdSSR	
4-GHz-Satelliten	
Spanien	34,5° W und 18,5° W
Portugal	24,5° W und 27,5° W
Saudi-Arabien	21,5° W , Bild: 3725 MHz, Ton 3900 MHz
UdSSR	15° W , 3675 MHz
Marokko	27,5° W
Nigeria	57° O
Oman	60° O
Zaire	21,5° W
Algerien	60° O
Sudan	21,5° W
Argentinien	27,5° W
Brasilien	21,5° W
USA AFRTS	79° W und 18,5° W
USA, ABC und CBS	1° W
12 GHz-Satelliten	
Großbritannien (kommerziell)	5° O, OTS-2, künftig evtl ECS
Frankreich TFI	5° O, OTS-2

Die Frequenzen werden oft gewechselt, so daß keine dauerhaften Frequenzangaben gemacht werden können. Alle Satelliten senden das Bild FM-moduliert aus, teilweise gescrembelt oder gewobelt. Die Elevation beträgt von Mitteleuropa aus etwa 28 bis 30 Grad.

Sat-TV

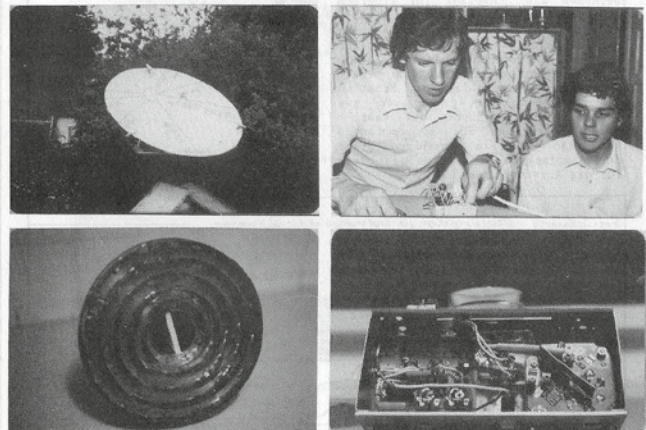
Versuche auf 4 GHz

Während seines England-Trips besuchte Rainer Bärmann zusammen mit Dave Lauder einen DXer, der sich auf den Empfang von TV-Satelliten im 4-GHz-Band spezialisiert hat. (Über einen 12-GHz-DXer berichtete TAV im letzten Heft).

Der 4GHz-DXer und Funkamateurl Mark Raffield wohnt im Süden von London. Ausgelagert in einer kleinen Hütte, etwa 20m vom Wohnhaus entfernt, baut er seine Empfangsanlagen zusammen - ob seine Familie befürchtet, sein Bausatz fliege in die Luft? Nichtsdestotrotz sind die Dämpfungsverluste durch die dadurch kürzer gewordene Koaxleitung extrem weniger geworden, der Parabolspiegel mit 2m Durchmesser ist neben der Hütte aufgebaut und hat freie Sicht nach Süden.

Die Empfangsanlage war allerdings beim Besuch wegen eines technischen Defekts auseinandermontiert. Nach stundenlangem Suchen mit Dave Lauder's selbstkonstruiertem Breitbandwobbler konnte eine kalte Lötstelle als Urheber ausgemacht werden.

Die Eingangsstufe des Empfängers kommt ohne Vorverstärker aus und die ankommenden Signale werden in einem Mischer (Varil DBM 600, Preis ca DM 160,-) ins UHF-Band gemischt. Ein preiswerter Tuner mit einer Bandbreite von 500 MHz bringt das Signal in eine ZF-Lage von etwa 70MHz. Der im letzten TAV-Heft gezeigte FM-Demodulator (S.53) macht das FM-TV-Signal zum normgerechten FM-Bild. Das nun erhaltene Signal kann an der De-Empfänger des Fernsehers eingespeist werden.



Links: Der 2m Parabolspiegel in Garten; darunter: selbstgebaute Erreger. In der Mitte ist die Polarisationsweiche (ein Teflon-Block) zu erkennen. Rechts: Dave Lauder und Mark Raffield bei der Fehlersuche am Empfänger; darunter: der 4GHz-Empfänger geöffnet und repariert.

Fotos: RB

Städteporträt

LINDAU

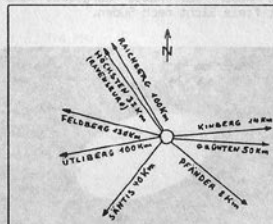
Fernsehen am Bodensee

Zehn Fernsehprogramme, davon acht in deutscher Sprache, in PAL, Norm B/G und damit mit handelsüblichen deutschen Empfängern zu sehen? Möglich ist das in der Region zwischen Bodensee, Stuttgart und Ulm. Diese Region liegt im Empfangsbereich der deutschen Sender Grünten und Ravensburg, des schweizer Sântis und des österreichischen Pfänder. Die Empfangssituation beschreibt Fernseh-technikermeister Jürgen Erbrich aus Lindau.

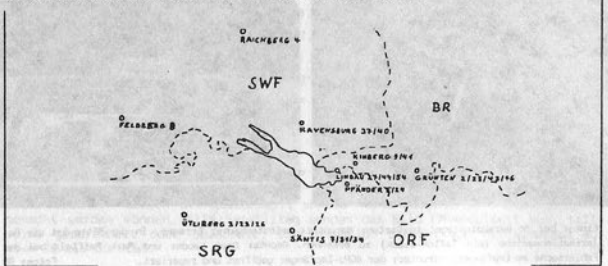
EMPFANG AUF VHF

In den fünfziger Jahren begann der Sender Feldberg im Schwarzwald mit der Fernsehversorgung des Bodenseeraums. Auf Kanal 8 konnte auch Lindau diesen Sender gut empfangen. Später begannen die Schweizer ihr Programm SRG vom Sântis auf Kanal 7 abzustrahlen - mit den unvermeidlichen Nachbar-kanalstörungen. In Bayern folgte der Sender Grünten auf Kanal 2, jedoch ohne Empfangsmöglichkeit an tiefergelegenen Bodenseeufer im Schatten des Pfändermassivs. Als auch aus Österreich vom Pfänder auf Kanal 5 das ORF-Programm FS1 zu empfangen war, gab es beim damaligen Stand der Empfangstechnik arge Probleme für die Antennenbauer.

Mit Einführung des Regionalfernsehens entwickelte der Bayerische Rundfunk den Ehrgeiz, die im westlichsten Zipfel des Freistaats lebenden Lin-

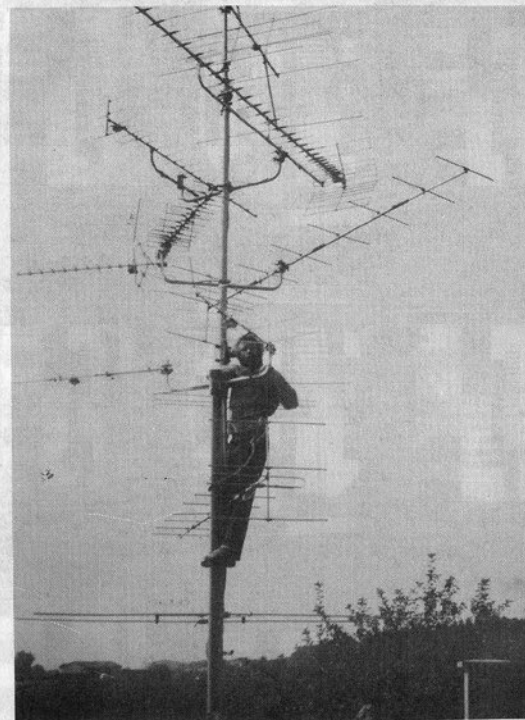


Übersichtskarte und Richtungsstern für Empfangsgebiet Lindau/Bodensee.



16

TELE-audiovision 17 1983



'Turnübungen' in luftiger Höhe. Fernseh-technikermeister und Antennenbauer Jürgen Erbrich aus Lindau inspiziert seine Empfangsanlage.

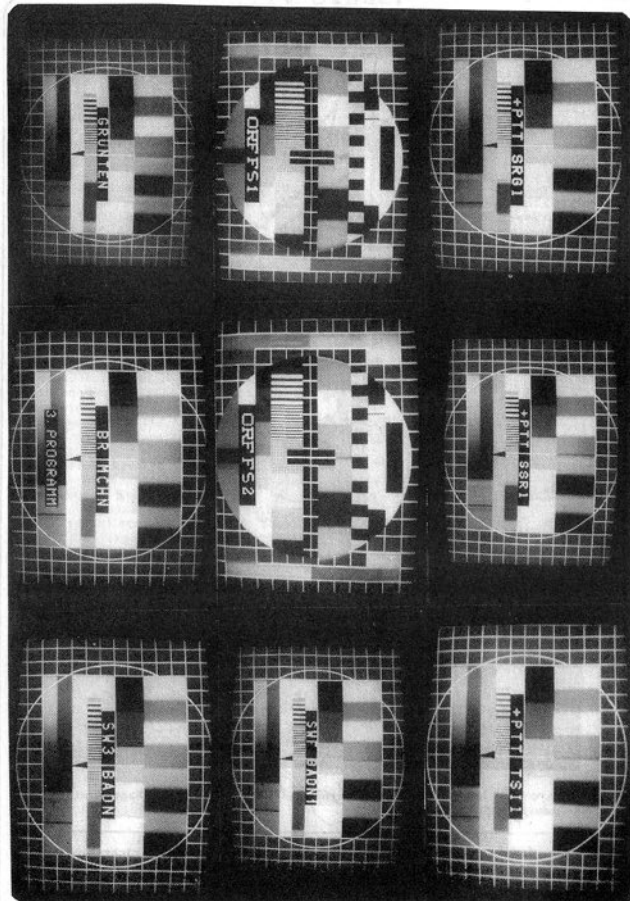
dauer an das Programm BR1 anzuschließen. Das nicht ganz uneigennützige Angebot der Österreicher hierzu, einen Umsetzer auf dem 1064m

hohen Pfänder zu errichten, wurde aus zolltechnischen Gründen abgelehnt. Auf Kanal 9 mit nur 100W versorgt seit dem ein Umsetzer in 740m Höhe

TELE-audiovision 17 1983

17

TV in Lindau



18

TELE-audiovision 17 1983

östlich von Lindau mehr schlecht als recht (Störungen von Kanal 8) das bayerische Bodenseeufer. Zur Freude der Österreicher und Schweizer bringt dieser Sender jedoch ungewollt am Südufer teilweise die einzige Empfangsmöglichkeit für das ARD-Programm.

Als die Rundfunkleute aus München merkten, daß es immer noch Abschattungsgebiete in Lindau gab, wurde notgedrungen im Stadtgebiet ein zusätzlicher Umsetzer gebaut. Nach totalen Umbau vor zwei Jahren mit Kosten von einer Million Mark (zur Einweihung war sogar ein Minister da) strahlt er jetzt mit 100 bis 150 W je Kanal alle drei Fernsehprogramme aus (siehe Kanalübersicht). Außerdem wurden die vier bayerischen Radioprogramme mit 100 bzw 1000 W installiert.

EMPFANG AUF UHF

Seit Einführung des 2. und 3. deutschen Fernsehprogrammes (ZDF, SW3, BR3), in Österreich FS2 und in der Schweiz SSR und TSI, die in der Regel zwei Kanalabstände im UHF-Bereich einhalten, geht es im UHF-Band wie auf der UKW-Skala zu. DX-(Fern-)Empfang ist nur noch in den Nacht- und Morgenstunden möglich.

Wie schon erwähnt, können BR1, ZDF und BR3 auf den Kanälen 44, 27 und 54 meist problemlos vom Lindauer Umsetzer empfangen werden, in der höher gelegenen Umgebung sind es die Kanäle 2, 28, 43 und 46 vom Grünten.

Der ORF strahlt sein FS2 auf Kanal 24 vom überall sichtbaren Pfänder mit verschwindend kleinen 80 dB aus. Der ebenfalls sichtbare 2500m hohe Sântis beherbergt die Sender für SSR (französische Schweiz) und TSI (italienische Schweiz) auf Kanal 31 und 34.

Etwas problematisch (große UHF-Antenne und evtl Vorverstärker) ist Südwest 3 aus Ravensburg auf Kanal 40 wegen des geringen Pegels zu empfangen. Muß grundsätzlich auf den Sender Grünten oder Lindau verzichtet werden, dann kann von Ravensburg auch das ZDF auf Kanal 37 bezogen werden.

	Kanal	Programm	Standort
VHF	Bereich I	2 BR 1	Grünten
	3 SRG	Ulliberg	
	4 SWF 1	Reichberg	
	Bereich III	5 O 1	Pfänder
	7 SRG	Sântis	
	8 SWF 1	Feldberg	
	9 BR 1	Lindau-Kinberg	
	11 SRG	Pfänder	
	24 O 2	Pfänder	
	27 ZDF	Lindau-Hoyenberg	
	28 ZDF	Grünten	
UHF	31 SSR	Sântis	
	34 TSI	Sântis	
	37 ZDF	Höchst	
	40 SWF 3	Höchst	
	41 BR 3	Lindau-Kinberg	
	43 SWF 1	Grünten	
	44 BR 1	Lindau-Hoyenberg	
	46 BR 3	Grünten	
	49 SSR	Pfänder	
	54 BR 3	Lindau-Hoyenberg	
	62 TSI	Pfänder	

Kanalübersicht aller in Lindau empfangbaren TV-Sender. Zusammenstellung J.-Erbrich.

Wem das Regionalprogramm des BR im ARD-Kanal nicht reicht, der kann auf Kanal 43 vom Grünten SWF1 aus Stuttgart empfangen. In Lindau muß dafür eine zuschaltbare Einzelantenne auf Kanal 8 verwendet werden.

DIE ANTENNENANLAGE

Es sollte für jede Empfangsrichtung eine separate Antenne montiert werden. Kommen bei günstiger Empfangslage zwei Sender aus gleicher Richtung

Da ist die Bildröhre voll - zur gegenüberliegenden Fotoseite: Testbilder der neun (von zehn - das ZDF fehlt) TV-Programme, die in Lindau empfangen werden können. Von oben links nach rechts unten: das deutsche, französische und italienische Programm der Schweiz, die beiden österreichischen Programme, 1. Programm von SWF und vom BR, 3. Programm vom BR und zum Schluß vom SWF/SOR.

Alle Fotos: J.-Erbrich

TELE-audiovision 17 1983

19

SATELLIT

INTERNATIONAL SATELLITE MAGAZINE

AGI Satellites in Arabia

10/93

DM 8,50
OS 78,- + 5Fr 8,50
HfI 8,50 + BFr 160,-
DKr 80,- + SEK 45,-
ZL 39.000,- + Ls 5,-

B 9318 F • ISSN 0943 9137 • 13. JAHRGANG NR. 93

• **AMSTRAD**
• **ECHOSPHERE**
• **NIKKO**
• **NORDMENDE**
• **PHILIPS**
• **RAUSCH/PETRUS**

20 Years Ago

Everything at once from SPAUN

For all viewers that have access to two satellites, SPAUN electronics offers an interesting solution. Each single viewer needs one sat relays SAR 207 F and a Sat switching generator sUG 7000 F. Switching is done by toggling the 0/5 V control voltage from the receiver's polarizer input, activating the generator, which then delivers a 7 kHz signal to the relays. No control cable is needed and the units can also serve as the building blocks of a four-viewer system.



1 JAHR WISI-ORBIT® TOP-LINE

"VIDEO, SEHEN WAS SPASS MACHT", GRUPPE 2, 11/92

"FUNKSCHAU", 13/93

"VIDEO-MAGAZIN", 4/93

"STIFTUNG WARENTEST", 7/93

TEST SIEGER

SEHR GUT

SEHR GUT

BESTNOTE

GUT

GUT

WISI

ANTENNE FÜR DIE ZUKUNFT

The Best Just Got Better

MONTEREY 20
MONTEREY 40
MULTI-SATELLITE RECEIVERS

Special Look for **MONTEREY 20**

THERE IS NO LIMIT to your choice of programming with Chaparral Communication's Model 20 and 40 satellite receivers! Now you can receive all the programmes from all available satellites — not just a few channels from a single satellite.

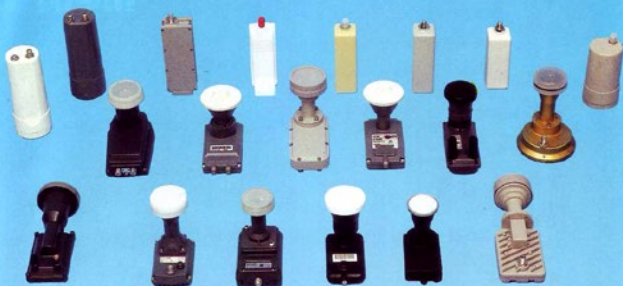
Recent enhancements provide you with the best that satellite television has to offer:

- 200 favorite channels pre-programmed for instant recall — including programmes from Asia, the Middle East and Europe
- Easy-to-read on screen displays in English, Italian, German or French
- Built-in Wegener Stereo Noise Reduction and four-stage selectable bandwidth filters deliver crystal clear pictures and sound
- Optional VTE 4.0 Video Threshold Extender improves reception of weak or near threshold signals

Don't limit your viewing pleasure! Demand the best — Monterey satellite receivers from Chaparral. Contact your local Chaparral Dealer or Chaparral at (408) 435-1530.

CHAPARRAL
2450 North First St., San Jose, CA 95131
© 1993, Chaparral Communications, Inc.

GROCOS



RADIX 1000 S
RADIX 3300 S
RADIX 3500 S
RADIX 3700 S
RADIX 5000 S
RADIX 5100 S
RADIX 7000 S
RADIX 7300 S

LNB: KI RYUNG
NORTHERN TELECOM
MTI
JRC
VECOM
SHARP
PHILIPS
MARCONI
CAMBRIDGE
CONTINENTAL

IMPORT-EXPORT-GROSSHANDEL

GROCOS
Telering 2
09058 Cottbus-Gallinchen
Tel.: 0355/536986
Fax: 0355/534071

In einigen Ländern ist ein normaler umschaltbarer LNC ausreichend für einen guten Satellitenempfang.

*0,7dB

In anderen Ländern ist unser Ku LNBF* notwendig.



California Amplifier hat mehr als 10 Jahre Erfahrung in der Herstellung von Satelliten-TV-Produkten. Während dieser Zeit haben sich die CAL-AMP Artikel weltweit eine marktführende Stellung erworben; sie sind bekannt für ihre Leistung und Zuverlässigkeit.

Die Konstruktion hat lange Zeit in Anspruch genommen, aber jetzt ist es da: **Unser rauscharmer LNBF**. Er bringt die Vorteile der 13/18 Volt Umschaltung in Gebieten, die am Rande des Satellitenspots liegen. Der LNBF ist lieferbar mit einstellbarem Feed für Prime Focus oder Offset-Antenne; er erlaubt eine präzise und einfache F/D-Anpassung.



CAL AMP Ku LNBF's gibt es für das "erweiterte Astra-Band", sowie für die normalen Eutelsat- und Telecombänder.



Performance That Exceeds Expectations

Corporate Headquarters: California Amplifier Inc. 460, Calle San Pablo - Camarillo, CA 93012 - USA - Tel.: 1 (805) 987 9000 - Fax: 1 (805) 987 9050
Europe: California Amplifier s.r.l. - 15, rue de la Belle Borne - BP 10 029 - 95 722 Roissy Airport CDG Cede - France - Tel.: (33) 1 48 64 52 53 - Fax: (33) 1 48 64 52 55

4.ASTRA Satellit

Wir sind bereit für das neue Zeitalter der Kommunikation...



... Sie auch?

Nächstes Jahr wird der vierte Satellit von ASTRA mit der Ausstrahlung beginnen. Hierdurch sind insgesamt 64 Kanäle verfügbar. Um all diese Kanäle auch empfangen zu können, ist Leistung über einen erweiterten Frequenzbereich erforderlich. Die Technologie erneuert sich ständig. Die Entwicklungen der letzten Zeit weisen darauf hin, daß die Zukunft dem digitalen Fernsehen gehört. Wir bei Continental sind bereits in das neue Kommunikationszeitalter eingestiegen. Unsere Produkte decken einen erweiterten Frequenzbereich ab und sind so ausgelegt, daß sie den Anforderungen der digitalen Fernsehübertragung der Zukunft entsprechen. Wenn auch Sie auf die Zukunft vorbereitet sein möchten, ... setzen Sie sich mit uns in Verbindung

CONTINENTAL
MICROWAVE TECHNOLOGY

Continental Microwave Technology Ltd., 171 Camford Way, Sundon Park, Luton, Bedfordshire, LU3 3AN, England. Tel: +44 582 491149 Fax: +44 582 581873



Brillant.

VORTEC - bekannt für das richtige Fingerspitzengefühl in Sachen Technologie und Design. Zum Beispiel das Satelliten-Receiver-Programm. Mit durchdachter Technik - für brillante Bild- und Tonqualität. Die Ausstattungselemente: 99 bis zu 200 Kanäle, DNR-Technologie (Dynamische Rauschunterdrückung), mit bis zu viersprachigem Bildschirmmenü, eingebautem Videocrypt-Deco-

der, eingebauter Motorsteuerung (zum Empfang verschiedener Satelliten) und Timerfunktionen. Speziell für den Empfang unterwegs gibt es einen Receiver mit 12 und 24 Volt. Assistenten verfügt jeder Receiver über 3 Euro-Steaks für TV, Video und Decoderanschluß sowie bis zu 2 Antennenanschlüsse. Alles in allem - für jeden Anspruch der richtige Receiver. Brillant, oder?



VORTEC. ONLY YOU.



VORTEC Europe, Mergenthalerallee 28-40, 65760 Eschborn, Telefon (061 95) 90 98-63/45/83, Fax (061 95) 90 98-76

10 Years Ago

TELE-satellite Receiver Guide

	Channel Memory	Symbol rate	SCPC Compatible	DISEqC	USALS Compatible	NTSC/PAL	Modulator Output	Looped Through IF	Power Supply	Digital Audio Output	Audio/Video Output	Scart Output	S-VHS Output	0/12 Volt Output	Positioner	Mechanical Polarizer	Hard Disk (Built-in)	Serial Interface	CI Slots	Embedded CA	TSI Magazine
TV Radio	Ms/sec								Volt Hertz		RCA		S-VHS	0/12 V			GB				Issue Page
ASTON XENA 1800HD Digital with Hard Drive																					
	4000	1.8-45	yes	1.2, 2.3	no	PAL	yes, UHF	yes	110-230V 50/60Hz	yes, AC-3	yes	yes, 4	yes	no	no	yes	yes	yes, 2 RS-232	yes, 2	yes, 2	0303 20
ASTROVOX VSR-4500 2CI Digital																					
	3000	2-45	yes	1.0, 1.3	yes	NTSC/PAL	yes, UHF	yes	90-250V 50/60Hz	yes, SPDIF	yes	yes, 2	no	yes	no	no	no	yes, RS-232	yes, 2	yes, UCAS	0307 20
AVIAS VA203S Digital with embedded Viaccess																					
	2000	2-45	yes	1.0	no	NTSC/PAL		yes	12VDC	no	yes	yes, 1	no	no	no	no	no	yes, RS-232	no	yes, Viaccess	0311 20
AXAS M-Box with 2 CI Slots and UCAS																					
	4000	2-45	yes	1.0, 1.2	no	PAL	yes	yes	95-250V 50/60Hz	yes, SPDIF	yes	yes, 2	no	no	no	no	no	yes, RS-232	yes, 2	yes, UCAS	0309 20
CHESS Digi 1000 FTA																					
	4000	2-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	95-240V 50/60Hz	yes, SPDIF	yes	yes, 2	no	no	no	no	no	yes, RS-232	no	no	0309 28
COSHIP CDVB 3188C Digital FTA																					
	2000	2-45	yes	1.0	no	NTSC/PAL		yes	100-240V 50/60Hz	no	yes	no	yes	yes	no	no	no	yes, RS-232	no	no	0311 24
DELTASAT CXCI 1106 HDI with 2 CI Slots and optional Hard Drive																					
	5000	2-45	yes	1.0, 1.2, 1.3	no	NTSC/PAL	yes	yes	95-250V 50/60Hz	yes, AC-3	yes	yes, 2	yes	yes	no	no	yes, option	yes, RS-232	yes, 2	yes, CONAX	0309 24
DREAMBOX DM 5600-S																					
	unlimited	n/a	yes	1.0, 1.2	no	NTSC/PAL	coming soon	no	230V 50Hz	yes	yes	yes, 2	no	no	no	no	no	yes, RS-232	yes, 2	yes, 1	0303 17
DREAMBOX DM 7000-S																					
	unlimited	n/a	yes	1.2	yes	NTSC/PAL	coming soon	no	230V 50Hz	yes	yes	yes, 2	no	no	no	no	yes, option	yes, RS-232	yes, 1	no	0301 20
EM TECH eM-150FTA Digital																					
	2000	1-45	yes	1.0, 1.2	yes	NTSC/PAL	yes	yes	90-260V 50/60Hz	yes, AC-3	yes	yes, 2	no	no	no	no	no	yes, RS-232	no	no	0303 24
KAON KSC-510H Digital with 2 CI Slots and Hard Drive																					
	4080	2-45	yes	1.0, 1.2	yes	NTSC/PAL	yes	yes	95-250V 50/60Hz	yes	yes	yes, 2	no	no	no	no	yes	yes, RS-232	yes, 2	no	0301 71
GRUNDIG Selio DTR 5210 S CI Digital																					
	4000	2-45	yes	1.2	yes	PAL	no	yes	230V 50Hz	yes, SPDIF	yes	yes, 2	no	no	no	no	no	yes, RS-232	yes, 2	no	0307 24
HIRSCHMANN																					
	4000	2-45	yes	1.0, 1.2	no	NTSC/PAL SECAM	no	yes	90-250V 50/60Hz	yes	yes	yes, 2	no	no	no	no	no	yes, RS-232	no	no	0303 84
HIRSCHMANN CSR 60 CI with 2 CI Slots																					
	4000	2-45	yes	1.2	no	NTSC/PAL SECAM	no	yes	95-250V 50/60Hz	yes, AC-3	yes	yes, 2	no	no	no	no	no	yes, RS-232	yes, 2	no	0309 16
HI TOP Si-dTV Digital Portable																					
	400	2-45	yes	no	no	NTSC/PAL SECAM	no	yes	100-240V 50/60Hz 9-12VDC	no	yes, not RCA	no	no	no	no	no	no	yes, RS-232	yes, 2	no	0305 20
HUMANACE SKYCI 2003 Digital																					
	3000	2-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	90-260V 50/60Hz	no	yes	yes, 2	no	yes	no	no	no	yes, RS-232	yes, 2	yes	0305 24
INTERSTAR DSR 8006CI XCAM with 2 CI Slots and embedded Conax																					
	6600	2-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	90-265V 50/60Hz	no	yes	yes, 2	no	yes	no	no	no	yes, RS-232	yes, 2	yes, CONAX	0309 36
KAON KSC-510H Digital with 2 CI Slots and Hard Drive																					
	4080	2-45	yes	1.0, 1.2	yes	NTSC/PAL	yes	yes	95-250V 50/60Hz	yes	yes	yes, 2	no	no	no	no	yes	yes, RS-232	yes, 2	no	0301 71
KJAERULFF Maximum FTA-100																					
	4000	2-45	yes	1.0, 1.2	yes	PAL	no	yes	100-240V 50/60Hz	no	no	yes, adapt. cable	no	no	no	no	no	no	no	no	0307 40
LEMON 07 CI Digital																					
	3000	2-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	90-260V 50/60Hz	yes, 2	yes	yes, 2	no	no	no	no	no	yes, RS-232	yes, 2	no	0305 28

10 Years Ago

Read test reports online: www.TELE-satellite.com

	Channel Memory	Symbolrate	SCPC Compatible	DiSEqC	USALS Compatible	NTSC/PAL	Modulator Output	Looped Through IF	Power Supply	Digital Audio Output	Audio/Video Output	Scart Output	S-VHS Output	0/12 Volt Output	Postfilter	Mechanical Polarizer	Hard Disk (Built-in)	Serial Interface	CI Slots	Embedded CA	TSL Magazine
TV Radio	Ms/sec								Volt Hertz		RCA		S-VHS	0/12 V			GB				Issue Page
MEDIACOM MFT 910 Plus Digital																					
	3000	2-30	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	90-250V 50/60Hz	no	yes	yes, 2	no	yes	no	yes	no	yes, RS-232	no	no	0303 28
MEDIACOM MCI-920 Digital with Two CI Slots																					
	3000	2-30	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	220-240V 50Hz	no	yes	yes, Euro Version	yes	no	no	no	no	yes, RS-232	yes, 2	no	0311 28
NAEMO MEGA S00-5540 MCI																					
	4000	2-45	yes	1.0, 1.2	no	NTSC/PAL	no	yes	90-250V 50/60Hz	yes, S/PDIF	yes	yes, 2	yes	no	no	no	no	yes, RS-232	yes, 2	no	0307 32
NEXTWAVE Plus SCR-3200C Digital																					
	4000	2-31	yes	1.0, 1.2	no	NTSC/PAL	yes, UHF	yes	90-245V 50/60Hz	yes, 2 S/PDIF	yes	yes, 2	no	yes	no	no	no	yes, RS-232	no	yes, CRPWW	0307 28
OPENTECH ODS 4000PVR Digital with Two Tuners and Hard Drive																					
	4000	1-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	90-240V 50/60Hz	yes	yes	yes, 2	no	no	no	no	yes	yes, RS-232	yes, 2	no	0303 71
PALCOM DSL-3 with USALS																					
	4000	2-45	yes	1.2	yes	NTSC/PAL	no	yes	110-240V 50/60Hz	yes	yes	yes, 2	no	no	no	no	no	yes, RS-232	no	no	0305 74
PIXX ADT 8310 Digital, DVD, CD, MP3																					
	5000	1-45	yes	1.0, 1.2	no	NTSC/PAL/SECAM	no	yes	?	yes	yes	yes, 2	yes	no	no	no	no	yes, RS-232	yes, 2	no	0305 17
SAMSUNG SCRCI-703E																					
	4000	2-45	yes	1.0, 1.2	no	NTSC/PAL	yes, UHF		90-245V 50-60Hz	yes	yes	yes, 2	yes	no	no	no	no	yes, RS-232	yes, 2	yes, CYPWW	0307 36
SATELCO DVB-S USB Box																					
	unlimited	2-45	yes	1.0	no	n/a	n/a	no	12VDC	no	no	no	no	no	no	no	yes (PC)	yes (PC)	no	no	0303 80
SATFORCE S-ZWO FTA 2500 F FTA																					
	5000	2-45	yes	1.0, 1.2, 1.3	yes	NTSC/PAL	no	yes	90-250V 50/60Hz	yes, S/PDIF	yes	yes, 2	no	no	no	no	no	yes, RS-232	no	no	0309 40
SUCCESS CG5860 Digital																					
	4000	2-45	yes	1.0, 1.2	no	n/a	yes	yes	n/a	no	yes	yes, 2	no	yes	no	no	no	yes, RS-232	no	no	0305 71
TECHNOTREND DVB-S Card 1.6 with Remote Control and S/PDIF																					
	unlimited	as good as 1-45	yes	1.0, 1.2	no	n/a	no	yes	n/a	yes, S/PDIF	yes	yes, via adapter	no	no	no	no	yes (PC)	yes (PC)	yes, optional	no	0311 16
TOPFIELD TF3200IR Digital with Embedded IrDeto																					
	4000	2-45	yes	1.0, 1.2	yes	NTSC/PAL	yes	yes	90-250V 50/60Hz	no	yes	yes, 1	no	no	no	no	no	yes, RS-232	no	yes, IrDeto	0303 74
TOPFIELD TF4000PVR Digital with Two Tuners and Two CI Slots																					
	5000	1-45	yes	1.0, 1.3	yes	NTSC/PAL	yes	yes	90-250V 50/60Hz	yes, S/PDIF	yes	yes, 2	no	no	no	no	yes	yes, RS-232	yes, 2	no	0301 74
TOPFIELD TF5000 PVR with Two Tuners																					
	5000	2-45	yes	1.2	yes	NTSC/PAL	no	yes	90-250V 50/60Hz	yes	yes	yes, 2	yes	no	no	no	yes	yes, RS-232	yes, 2	no	0307 44
VISIONPLUS VP-DTV Sat-CI Digital PC Card																					
	unlimited	2-45	yes	1.2	yes	n/a	no	yes	n/a	no	no	no	no	no	no	no	yes (PC)	yes, RS-232	no	no	0301 84
WEISS DigitAll World SFT-2000 with addable Universal Card Reader																					
	4000	1-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	90-250V 50/60Hz	yes, S/PDIF	yes	yes, 2	no	yes	no	no	no	yes, RS-232	no	must be added	0309 44
WEISS DMSIS DSR-110SKCI with 2 CI Slots and Skycrypt																					
	3600	2-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	90-264V 50/60Hz	yes AC-3	yes	yes, 2	no	no	no	no	yes, (via PC)	yes, RS-232	yes, 2	yes, Skycrypt	0309 47
XTREME HORNET A2CI STR with Two CI Slots and embedded Skycrypt																					
	9000	2-45	yes	1.0, 1.2	no	NTSC/PAL/SECAM	yes	yes	90-250V 50/60Hz	yes	yes	yes, 2	no	yes	no	no	no	yes, RS-232	yes, 2	yes, Skycrypt	0311 32
XTREME ONE U2CI PVR																					
	8058	2-45	yes	1.2	yes	NTSC/PAL/SECAM	yes	yes	90-250V 50/60Hz	yes, S/PDIF	yes	yes, 2	no	yes	no	no	yes	yes, RS-232	yes, 2	yes, UCAS	0307 16
X-WINDS DVB-X2005CI Digital/Terrestrial																					
	4000	1-45	yes	1.0, 1.2	no	NTSC/PAL	yes	yes	100-240V 47-63Hz	yes	yes	yes	no	no	no	no	no	yes, RS-232	yes, 2	no	0305 78

Travel Back in Time and Read Old Issues of

TELE-audiovision M a g a z i n e

ESTABLISHED 1981

THE WORLD'S LARGEST

DIGITAL TV MAGAZINE

IS ALSO THE WORLD'S

OLDEST MAGAZINE

IN THE INDUSTRY

1982



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8211-deu.pdf>

1986



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8603-deu.pdf>

1986



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8605-deu.pdf>

1987



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8705-deu.pdf>

1987



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8711-deu.pdf>

1988



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8801-deu.pdf>

1988



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8805-deu.pdf>

1988



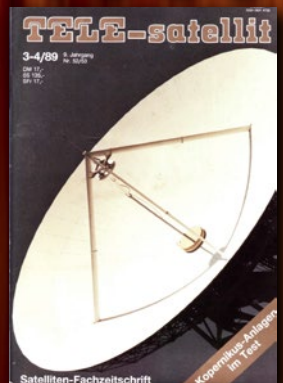
<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8809-deu.pdf>

1989



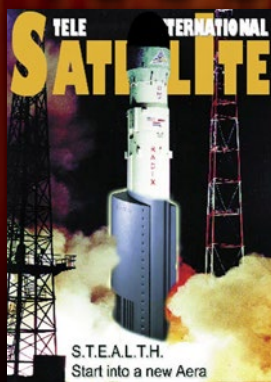
<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8905-deu.pdf>

1989



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-8911-deu.pdf>

1998



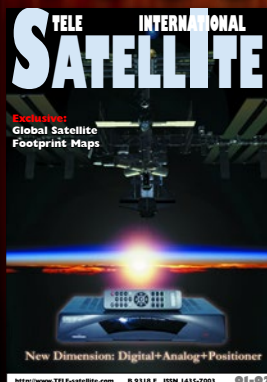
<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-9810-deu-eng.pdf>

1998



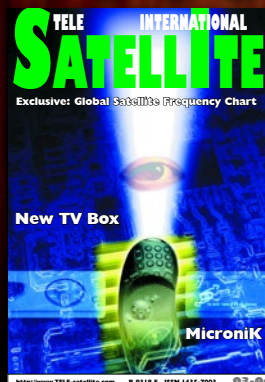
<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-9812-deu-eng.pdf>

1999



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-9902-deu-eng.pdf>

1999



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-9904-deu-eng.pdf>

1999



<http://magazine.TELE-audiovision.com/vintage/TELE-satellite-9906-deu-eng.pdf>



Edited by
Branislav Pekic

EUROPE

TRICOLOR TV TESTS ULTRA HD STANDARD

Russian satellite TV operator Tricolor TV plans to carry out broadcasts using the Ultra HD standard, reports Tass-Telecom. Offering 3840 x 2160 pixel resolution, the new standard is four times higher than the existing Full HD resolution. The broadcasts will be carried out over the 84-inch 3D TV from LG supporting Ultra HD. A transponder on the Eutelsat 36A satellite will be used to show the UHDTV content under the MPEG-4 standard at 40 Mbps.

EUTELSAT, FRANCE TELEVISION AIR 4K FROM ROLAND GARROS

Eutelsat has teamed up with France Televisions, ATEME and 4Ever during the Roland Garros tennis tournament to promote 4K UHDTV. Visitors to the event were able to see live images shot by 4K cameras. This was the first trial that included the new HEVC codec and live feeds for reception on PC, tablet and PC.

HISPASAT, LG TO PROMOTE ULTRA HD

Spanish satellite operator Hispasat and LG Espana have reached an agreement to promote the development of TV in Ultra HD. As part of the deal, both companies will exchange knowledge, share a platform for development of new products and technologies related to Ultra HD, increase their operational and commercial synergies, spread the usage of Ultra HD TV sets from LG, as well as use satellites to support the broadcasting of new content in Ultra HD. Hispasat will broadcast via satellite a promotional Ultra HD channel. At the presentation ceremony a live demonstration of the new technology was shown on a LG Ultra HD TV via the Hispasat 1E satellite.

SONY CONDUCTS 4K TRIALS AT WIMBLEDON

Sony has captured part of this year's Wimbledon Tennis Championships in the Ultra HD/4K format. Sony used the F55 cameras and NEX-FS700 cameras to film the action in 4K. The footage was shown at the Sony 4K Experience centre which was set up at the location.

SAMSUNG EXPECTS ULTRA HD TO BECOME MAINSTREAM IN 2017

UHDTV will become mainstream by 2017, according to the director of European Business Development at Samsung Electronics. Speaking at the Futuresource Entertainment Summit 2013, Vassilis Seferidis, said that the question is whether operators will wait for penetration to reach 5 per cent before introducing channels. He added that some operators such as Sky Deutschland were already experimenting with UHDTV.

NORTH AMERICA

INTELSAT AND ERICSSON TRIAL UHDTV

Intelsat and Ericsson in June conducted the first 4G UHDTV trials in North America. Intelsat's Galaxy 13 satellite delivered a 4:2:2 10-bit, 4K UHDTV signal at 60 frames per second to Turner Broadcasting's facilities in the USA. The 100 Mbps video feed was encoded and decoded in real time by Ericsson, using its AVP 2000 contribution encoders and RX8200 receivers. Newtec provided the modulation and demodulation hardware, featuring Clean Channel Technology.

COMCAST DEMONSTRATES ULTRA HD OVER 3 GBPS

Cable operator Comcast has demonstrated a 3Gbps broadband connection at NCTA's Cable Show 2013 in Washington, DC for downloading a 4K Ultra HD video file to a PC. On the occasion, Comcast said that 4K Ultra HD is still in the early stages.

SONY SELECTS GARTH DAVIS TO PROMOTE 4K UHDTV

Sony Electronics has launched a marketing campaign in support of its new 4K Ultra HD TVs, featuring Garth Davis. The commercial featuring Davis was shot on the Sony F65 and F55 professional 4K cameras. Sony is also advertising its new 4K UHDTV TV sets via social networks, email, direct mail, among other means.

ESPN PREFERS ULTRA HD OVER 3D

Disney has announced it will close down the ESPN 3D channel by the end of the year, after three years of broadcasting. The channel said that customers have not warmed to the technology, citing a "lack of demand from the majority of consumers." Disney is now looking to focus their efforts on Ultra HD or 4K TV rather than 3D broadcasts.

SOUTH AMERICA

SONY RECORDS CONFEDERATIONS CUP IN 4K

Sony Brasil has covered three matches of the Confederations Cup, which took place in Brazil in June, in 4K. The material will be used as test material for FIFA and Brazilian broadcaster TV Globo. A total of 35 cameras were used, five of them 4K. The image resolution will be 3840 x 2160, which is five times that of Full HD, and the audio was 5.1.

HISPASAT CONDUCTS 4K TRANSMISSION IN BRAZIL

Hispasat conducted a live satellite broadcast of 4K content, reproduced on an 84-inch TV set from LG, during an event in Rio de Janeiro to celebrate the start of operations of the Amazonas 3 satellite. The images were generated in Spain and were received by a PC connected to the TV with the necessary codecs for playback. Local cable and DTH operators should start selling the first domestic receivers compatible with 4K from the 2H 2014.

ASIA

NTT WEST TESTS 4K TV STREAMS VIA INTERNET

Japan's NTT West has been conducting 4K tests via the internet to set-top boxes, a first of its kind. A new video compression standard is being used to reduce the amount of data that needs to be transmitted. Japan plans to become the first country to broadcast 4K programming over satellite from 2014, in time for the football World Cup. SONY ANNOUNCES 4K MEDIA PLAYER Sony has announced a 4K Ultra HD media player and a 4K Ultra HD content service providing 4K downloads within the Sony Entertainment Network. The player, to be available July 15 for USD 699, will come preloaded with 10 Ultra HD feature films. Ultra HD compression encoding technology from eyeIO has been licensed by Sony Pictures to enable the studio to offer the first-ever 4K UltraHD content delivered to the home.

MEASAT, ERICSSON TEST UHDTV

Ericsson and Measat have demonstrated a live solution at Broadcast Asia 2013, Asia's largest show for the pro-audio, film and TV industries. The system shows how UHDTV premium coverage such as live sport can be broadcast today. The UHDTV trial uses Ericsson's AVP 2000 contribution encoders, RX8200 advanced modular receivers, as well as its Simulsync technology.

NHK, MITSUBISHI ELECTRIC DEVELOPS FIRST HEVC ENCODER

NHK and Mitsubishi Electric Corp have jointly developed the world's first HEVC encoder for 8K ultra HDTV Super Hi-Vision (SHV). The SHV standard offers 16 times the number of HD pixels and a 22.2 multichannel surround sound experience. HEVC is due to be recognized as an international standard this year. It offers about double the data compression of AVC2), and about four times that of the MPEG-2 standard currently employed for digital HDTV broadcasting.

JAPANESE COMPANIES TEAM UP TO PROMOTE ULTRA HD

Some 21 Japanese companies, including manufacturers, telecommunications operators and broadcasters, have set up a partnership to promote the development of the Ultra HDTV standard. They include broadcasters NHK and SkyPerfect, as well as manufacturers such as NEC, Sony, Toshiba, Panasonic and Fujitsu.

WORLD

ROVI AND BROADCOM TO DELIVER 4K DEVICES

Rovi and Broadcom have teamed up to enable device manufacturers and service providers to utilise the benefits of High Efficiency Video Codec (HEVC/H.265) to deliver an enhanced entertainment experience. Rovi is planning to drive 4K content creation and market availability of compatible devices. Broadcom plans to support the playback of DivX HEVC streaming and downloadable content in the UHDTV home gateway chip BCM7445.

943,000 UHD LCD PANELS TO BE SHIPPED THIS YEAR

Manufacturers expect to ship nearly 943,000 Ultra High Definition LCD panels this year, up from less than 33,000 units in 2012, according to IHS. For 2015, the figure will reach 7.1 million units and in 2017 it will arrive to 20.8 million units. Suppliers collectively plan to ship as many as 4 million UHD Ready panels this year alone. Leading panel suppliers such as Samsung, LG Display, AUO and Innolux are all introducing UHD TV panels, with TV brands like Sony, Sharp, Samsung, LG Electronics, and Vizio planning to launch their own offerings later this year.



SUPER Hi-VISION

8K!!

7,680 × 4,320 pixels
& 22.2ch Sound

4K!

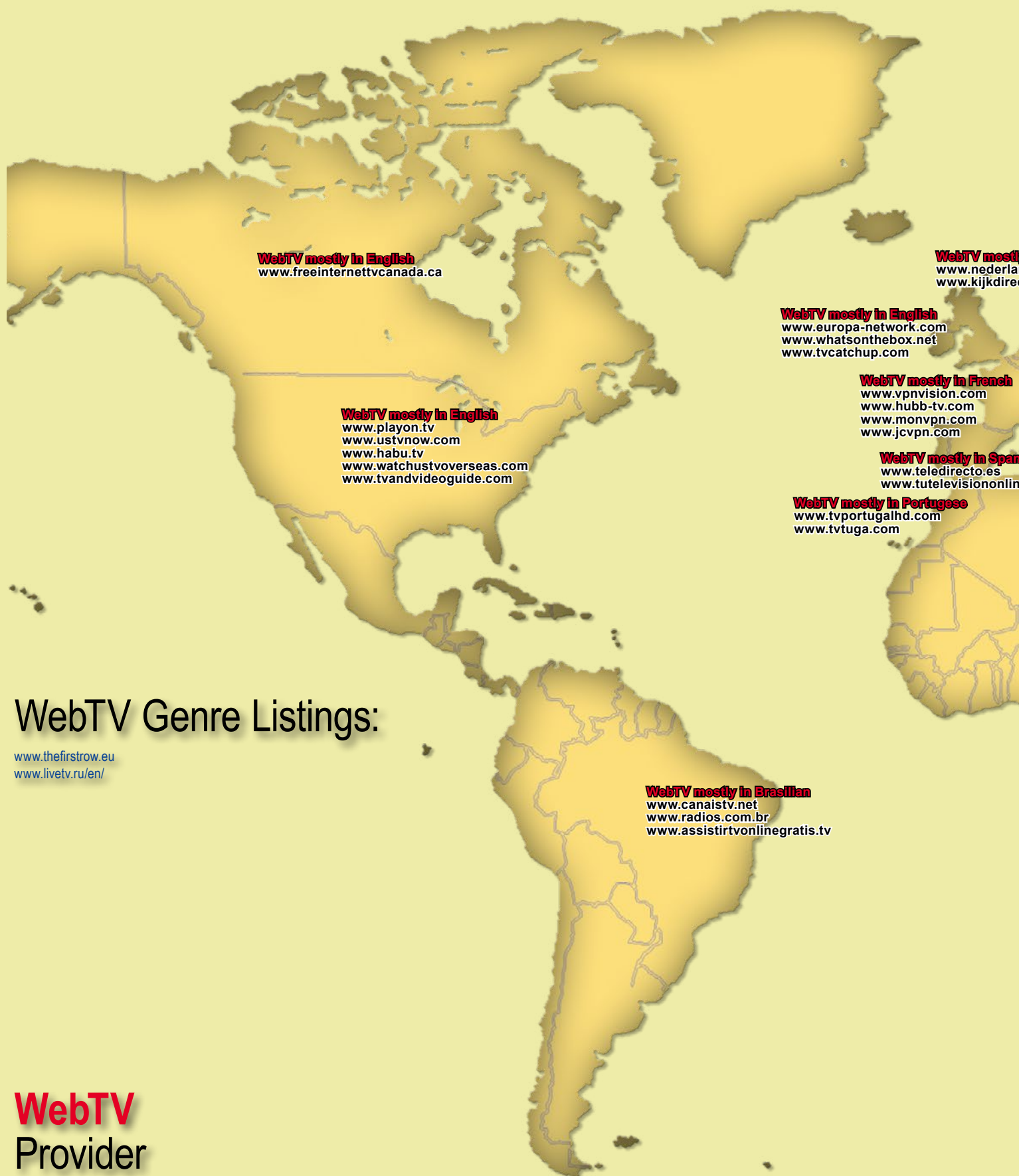
3,840 × 2,160 pixels

2K

1,920 × 1,080 pixels



JAPAN BROADCASTING CORPORATION



WebTV mostly in English
www.freeinternetvcanada.ca

WebTV mostly in English
www.playon.tv
www.ustvnow.com
www.habu.tv
www.watchustvoverseas.com
www.tvandvideoguide.com

WebTV mostly in English
www.europa-network.com
www.whatsonthebox.net
www.tvcatchup.com

WebTV mostly in French
www.vpnvision.com
www.hubb-tv.com
www.monvpn.com
www.jcvpn.com

WebTV mostly in Spanish
www.teledirecto.es
www.tutelevisiononline.com

WebTV mostly in Portuguese
www.tvportugalhd.com
www.tvtuga.com

WebTV mostly in Brazilian
www.canaistv.net
www.radios.com.br
www.assistirtvonlinegratis.tv

WebTV Genre Listings:

www.thefirstrow.eu
www.livetv.ru/en/

WebTV
Provider
around the
WORLD



WebTV Channel Listings:

www.surfmusic.de/surftv.htm
www.glotzdirekt.de
www.witv.com
www.delicast.com
www.onlinetv.com
www.free-internet-tv.cz
www.lookfortv.com
www.beeline.tv
www.findinternettv.com
www.tvweb360.tv

www.webactu-webtv.com
www.webtv.pk
www.jumptv.com
www.arabic-media.com
www.broadband-television.com
www.tv4web.net
www.squidtv.net
www.tvnewsradio.com
www.argyletv.com
www.tv-direct.fr

www.playtv.fr
www.tvuzz.com
www.referenceur-tv.com
www.vosflux.tv
www.lookfortv.com
www.teledirecto.es
www.tvgratis.tv
www.miratv.com.ar
www.fulltv.com.ar
www.tv-porinternet.com

www.tvporinternet.tv
www.timstream.com
www.viewmy.tv
www.livestation.com
www.freeetv.com
www.watchfomny.com
www.tv-tube.tv
www.tv4web.net
www.findinternettv.com

DVB-T2

V: H.264

A: MPEG-4 AAC

Angola
Austria
Belgium
Bulgaria
Colombia
Croatia
Denmark
Finland
Ghana
Indonesia
Kazakhstan
Kenya
Kyrgystan
Madagascar
Malaysia
Mongolia
Mozambique
Myanmar
Namibia
Nigeria
Romania
Russia
Serbia
Singapore
Slovakia
South Africa
Sri Lanka
Swaziland
Tanzania
Thailand
Turkey
Uganda
UK
Uzbekistan
Vietnam
Zambia
Zimbabwe

DVB-T

V: H.264

A: MPEG-4 AAC

Azerbaijan
Belarus
Burundi
Central Africa
Czech
Estonia
Guinea
Hungary
Iceland
Ireland
India
Iran
Israel
Latvia
Lithuania
Macedonia
Mauritius
New Zealand
Norway
Panama
Poland
Portugal
Rwanda
Slovenia
Spain
Uganda
Ukraine

ATSC

V: MPEG-2

A: AC-3

Canada
Dominican R.
Honduras
Mexico
South Korea
USA

DVB-T

V: MPEG-2

A: MPEG-1 Level 2

Algeria
Albania
Australia
France
French Guyana
Germany
Greece
Italy
Luxembourg
Morocco
Netherlands
Qatar
Sweden
Switzerland
Tunisia

ISDB-TB

V: H.264

A: MPEG-4 AAC

Argentina
Belize
Bolivia
Botswana
Brazil
Costa Rica
Chile
Ecuador
Guatemala
Paraguay
Peru
Philippines
Uruguay
Venezuela

ISDB

V: MPEG-2

A: MPEG-2 AAC

Japan

www.TELE-audiovision.com

www.TELE-audiovision.com

www.TELE-audiovision.com

www.TELE-audiovision.com

Copyright 2013 by
TELE-audiovision International
Global Digital TV Magazine



Digital Terrestrial Television of the World

Dominant System per Country

© 2013 by

TELE-audiovision International

The World's Largest Digital TV Trade Magazine

www.TELE-audiovision.com



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

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

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

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

EUTELSAT 5 WEST A - Europe ◀ 355.0 East (005.0 West)

C-Band: EUTELSAT 5 WEST A - Europe ◀ 355.0 East (005.0 West)

NILESAT 102, 201, EUTELSAT 7 WEST A - Middle East ◀ 353.0 East (007.0 West)

EUTELSAT 8 WEST A - Europe, America, Middle East ◀ 352.0 East (008.0 West)

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

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

EUTELSAT 12 WEST A - Europe, Africa ◀ 347.5 East (012.5 West)

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

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

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

NSS 7 - Europe, Africa ◀ 340.0 East (020.0 West)

C-Band: NSS 7 - Africa ◀ 340.0 East (020.0 West)

SES 4 - Europe, Middle East ◀ 338.0 East (022.0 West)

C-Band: SES 4 - America ◀ 338.0 East (022.0 West)

INTELSAT 905 - Europe ◀ 335.5 East (024.5 West)

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

INTELSAT 907 - Europe ◀ 332.5 East (027.5 West)

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

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

INTELSAT 25 - Africa ◀ 328.5 East (031.5 West)

C-Band: INTELSAT 25 - Europe, Africa ◀ 328.5 East (031.5 West)

INTELSAT 903 - Europe ◀ 325.5 East (034.5 West)

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

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

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

NSS 806 - Europe ◀ 319.5 East (040.5 West)

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

INTELSAT 11 - Brazil ◀ 317.0 East (043.0 West)

C-Band: INTELSAT 11 - Brazil ◀ 317.0 East (043.0 West)

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

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

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

INTELSAT 23 - America ◀ 307.0 East (053.0 West)

C-Band: INTELSAT 23 - America, Africa ◀ 307.0 East (053.0 West)

Galaxy 11 - Brazil ◀ 304.5 East (055.5 West)

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

C-Band: INTELSAT 21 - Mexico ◀ 302.0 East (058.0 West)

AMAZONAS 2 - South America ◀ 299.0 East (061.0 West)

C-Band: AMAZONAS 3 - America ◀ 299.0 East (061.0 West)

AMAZONAS 3 - Brazil ◀ 299.0 East (061.0 West)

ECHOSTAR 16 - Conus ◀ 298.5 East (061.5 West)

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

STARONE C1 - Brazil ◀ 295.0 East (065.0 West)

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

AMC 4 - North America ◀ 295.0 East (065.0 West)

STARONE C2 - Brazil ◀ 290.0 East (070.0 West)

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

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

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

NIMIQ 5 - Conus ◀ 287.3 East (072.7 West)

QUETZSAT 1 - Conus ◀ 283.0 East (077.0 West)

ECHOSTAR 1 - America, Mexico ◀ 283.0 East (077.0 West)

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

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

NIMIQ 4 - Canada ◀ 278.0 East (082.0 West)

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

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

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

SES 2 - North America ◀ 273.0 East (087.0 West)

C-Band: SES 2 - North America ◀ 273.0 East (087.0 West)

GALAXY 28 - America ◀ 271.0 East (089.0 West)

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

NIMIQ 6 - Canada ◀ 269.0 East (091.0 West)

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

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

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

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

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

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

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

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

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

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

SES 1 - North America ◀ 259.0 East (101.0 West)

C-Band: SES 1 - North America ◀ 259.0 East (101.0 West)

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

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

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

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

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

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

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

ANIK G1 - North America ◀ 252.7 East (107.3 West)

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

DIRECTV 5 - America ◀ 250.0 East (110.0 West)

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

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

SATMEX 6 - America ◀ 247.0 East (113.0 West)

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

SATMEX 8 - America ◀ 243.2 East (116.8 West)

C-Band: SATMEX 8 - America ◀ 247.0 East (113.0 West)

ANIK F3 - Conus ◀ 243.2 East (116.8 West)

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

ECHOSTAR 14 - Conus ◀ 241.0 East (119.0 West)

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

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

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

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

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

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

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

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

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

CIEL 2 - America ◀ 231.0 East (129.0 West)

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

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

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

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

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

Satellites of the World



003.1 East ▶ C-Band: RASCOM QAF 1R - Africa

003.1 East ▶ RASCOM QAF 1R - Africa

003.1 East ▶ EUTELSAT 3D - Europe

003.1 East ▶ C-Band: EUTELSAT 3A - EUROPE

004.9 East ▶ ASTRA 4A - Europe

004.9 East ▶ SES 5 - Europe, AFRICA

007.0 East ▶ EUTELSAT 7A - Europe, Africa

009.0 East ▶ EUTELSAT 9A - Europe

010.0 East ▶ EUTELSAT 10A - Europe

010.0 East ▶ C-Band: EUTELSAT 10A - Global

013.0 East ▶ EUTELSAT HOTBIRD 13B,13C,13D - Europe, Middle East

016.0 East ▶ EUTELSAT 16A - Europe, Africa

017.0 East ▶ AMOS 5 - North Africa, Middle East

017.0 East ▶ C-Band: AMOS 5 - Africa, Middle East

019.2 East ▶ ASTRA 1KR,1L,1M,2C - Europe

020.0 East ▶ C-Band: ARABSAT 5C - Africa, Middle East

021.6 East ▶ EUTELSAT 21B - Europe, Asia, West Africa

023.3 East ▶ ASTRA 3B - Europe

025.5 East ▶ EUTELSAT 25C - Europe, Asia

026.0 East ▶ BADR 4,5,6 - North Africa, Middle East

028.2 East ▶ EUTELSAT 28A, ASTRA 1N,2A,2F - Europe

030.5 East ▶ ARABSAT 5A - Middle East

030.5 East ▶ C-Band: ARABSAT 5A - Asia, Middle East

031.5 East ▶ ASTRA 1G - Europe

033.0 East ▶ EUTELSAT 33A - Europe

033.0 East ▶ INELSAT 28 - Africa

034.0 East ▶ ARABSAT 2B - Middle East

036.0 East ▶ EUTELSAT 36A,36B - Europe, South Africa, Asia, Russia

038.0 East ▶ PAKSAT 1R - Pakistan, North India

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

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

042.0 East ▶ TURKSAT 2A,3A - Europe, Russia

044.5 East ▶ NIMIQ 1 - Europe, Middle East

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

046.0 East ▶ AZERSPACE 1,AFRICASAT 1A - Asia, Africa

047.5 East ▶ INTELSAT 10 - Middle East, Europe

049.0 East ▶ C-Band: YAMAL 202 - Global

050.0 East ▶ INTELSAT 26 - Europe

050.5 East ▶ NSS 5 - Global

050.5 East ▶ C-Band: NSS 5 - Global

052.5 East ▶ YAHSAT 1A - Europe, Middle East, Africa

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

055.0 East ▶ GSAT-8, YAMAL 402 - Russia

056.0 East ▶ BONUM 1, DIREC TV 1R - East Russia

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

057.0 East ▶ C-Band: NSS 12 - Europe, Russia, Africa, India, Global

060.0 East ▶ INTELSAT 904 - Europe

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

062.0 East ▶ INTELSAT 902 - Europe, Middle East

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

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

066.0 East ▶ INTELSAT 17 - Europe, Russia

068.5 East ▶ INTELSAT 20 - Africa, Europe, Middle East

068.5 East ▶ C-Band: INTELSAT 20 - Global

070.5 East ▶ EUTELSAT 70B - Europe, Middle East, India

072.1 East ▶ INTELSAT 22 - Middle East, Africa

074.0 East ▶ INSAT 4CR - India

074.0 East ▶ C-Band: INSAT 3C - India

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

075.0 East ▶ C-Band: ABS-1 - Global

076.5 East ▶ APSTAR 7 - China

076.5 East ▶ C-Band: APSTAR 7 - Global

078.5 East ▶ THAICOM 5 - Thailand

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

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

080.0 East ▶ EXPRESS AM2 - Russia, North India

083.0 East ▶ INSAT 4A - India

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

085.0 East ▶ INTELSAT 15 - Middle East

085.0 East ▶ HORIZONS 2 - Russia

086.5 East ▶ KAZSAT 2 - Russia

087.5 East ▶ C-Band: CHINASAT 5A - China, India, Middle East

088.0 East ▶ ST 2 - India, Malaysia

088.0 East ▶ C-Band: ST 2 - India, Thailand

090.0 East ▶ YAMAL 201,300K - Russia, North India

090.0 East ▶ C-Band: YAMAL 201,300K - Russia, North India

091.5 East ▶ MEASAT 3 - Malaysia, South Asia

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

091.5 East ▶ MEASAT 3A - Malaysia, South Asia

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

092.2 East ▶ CHINASAT 9 - China

093.5 East ▶ INSAT 3A,4B - India

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

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

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

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

100.5 East ▶ C-Band: ASIASEAT 5 - Global

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

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

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

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

108.2 East ▶ C-Band: TELKOM 1 - Indonesia

108.2 East ▶ SES 7 - South Asia, Australia

110.0 East ▶ BSAT 3A,2C,3C N-SAT 110, JCSAT 110R - Japan

110.5 East ▶ C-Band: CHINASAT 10 - China, Asia Pacific

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

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

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

116.0 East ▶ ABS 7 - South Korea

116.0 East ▶ KOREASAT 6 - South Korea

118.0 East ▶ C-Band: TELKOM 2 - Global

119.5 East ▶ THAICOM 4 - Indonesia, Cambodia

122.0 East ▶ ASIASEAT 4 - East Asia, Australia

122.0 East ▶ C-Band: ASIASEAT 4 - Global

124.0 East ▶ JCSAT 4B - Japan

125.0 East ▶ C-Band: CHINASAT 6A - China

128.0 East ▶ JCSAT 3A - Japan

128.0 East ▶ C-Band: JCSAT 3A - Asia

132.0 East ▶ VINASAT 1 - Vietnam

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

132.0 East ▶ VINASAT 2 - Vietnam

132.0 East ▶ JCSAT 5A - Japan

134.0 East ▶ APSTAR 6 - China

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

138.0 East ▶ TELSTAR 18 - India, China

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

140.0 East ▶ EXPRESS AM3 - Russia, China

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

144.0 East ▶ SUPERBIRD C2 - Japan

152.0 East ▶ OPTUS D2 - Australia, New Zealand

154.0 East ▶ JCSAT 2A - Japan

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

156.0 East ▶ OPTUS C1,D3 - Australia, New Zealand

160.0 East ▶ OPTUS D1 - Australia, New Zealand

162.0 East ▶ SUPERBIRD B2 - Japan

164.0 East ▶ OPTUS B3 - Asia

166.0 East ▶ INTELSAT 19 - Australia, New Zealand, North East Asia

166.0 East ▶ C-Band: INTELSAT 19 - Australia

169.0 East ▶ C-Band: INTELSAT 8 - Pacific

172.0 East ▶ EUTELSAT 172A - South Pacific, South East Pacific

172.0 East ▶ C-Band: EUTELSAT 172A - Pacific

180.0 East ▶ INTELSAT 18 - Australia, Pacific

180.0 East ▶ C-Band: INTELSAT 18 - Pacific

Copyright 2013 by TELE-audiovision Magazine

www.TELE-audiovision.com

PARTNER WITH



CES
Las Vegas



www.cesweb.org



NAB
Las Vegas



www.nabshow.com



ITU
Geneve



www.itu.int

The World's Largest Digital TV Trade Magazine
since 1981

TELE
audiovision
INTERNATIONAL

Satellite
Smart TV
IP/WebTV
Streaming



TELE-audiovision Magazine is Proud
of **the Best** Shows and Exhibitions in the

TH THE BEST



IBC
Amsterdam



www.ibc.org



CCBN
Beijing



www.ccbn.tv



CABSAT
Dubai



www.cabsat.com



InterBEE
Tokyo



www.inter-bee.com

Media Partner

Digital TV Industry Around the World.

Issue	TELE-audiovision 09-10/2013	TELE-audiovision 11-12/2013	TELE-audiovision 01-02/2014	TELE-audiovision 03-04/2014
#	1309	1311	1401	1403
Editorial Deadline	28 June 2013	30 August 2013	1 November 2013	27 December 2013
Advertisement Deadline 广告截止日期	5 July 2013	6 September	6 November 2013	3 January 2014
Hardcopies	16 August 2013	18 October 2013	20 December 2013	14 February 2014
Online	30 August 2013	1 November 2013	3 January 2014	28 February 2014

Digital TV Exhibitions



6 - 11 September 2013

IFA 2013

The Global Innovations Show
Messe Berlin, Messedamm 22,
Berlin, Germany
Opening Hours:
6 - 11 September: 10am - 6pm
www.ifa-berlin.com



13 - 17 September 2013

IBC 2013

For professionals engaged in the creation, management and delivery of entertainment and news content
RAI Convention Centre,
Amsterdam, The Netherlands
Opening Hours:
13 September: 10:30am - 6:00pm
14 - 16 Sept.: 9:30am - 6:00pm
17 September: 10:30am - 4:00pm
www.ibc.org

18 - 20 September 2013

VSAT 2013

Grand Hotel Krasnapolsky,
Amsterdam, The Netherlands
www.vsatevent.com

13 - 16 October 2013

HKTDC Autumn

Hongkong, China

24 - 27 October 2013

CeBIT Bilisim Eurasia

Istanbul, Turkey



29 - 30 October 2013

ECEBE Broadband Expo

*East and Central European
Broadband Exhibition*

Keleti u. 1. (Budapark), Budaörs,
Budapest, Hungary
Opening Hours:
29 October: 09:00am - 5:00pm
30 October: 09:00am - 5:00pm
www.ecebe.eu



25 - 27 October 2013

SCaT India 2013

*South Asia's Largest Tradeshow
of the Indian Cable & Satellite
Television Industry*
World Trade Centre, Cuffe Parade,
Mumbai, India
Opening Hours:
25 October: 11:30am - 6:30pm
26-27 October: 10:30am - 6:30pm
www.scatmag.com/scatindia/



13 - 15 November 2013

InterBEE

*International Broadcast Equipment
Exhibition*
Tokyo, Japan
www.inter-bee.com



19 - 22 November 2013

ITU Telecom World

Conversation that Matters
IMPACT, 99 Popular Road, Banmai
Subdistrict, Pakkred District,
Nonthaburi 11120, Thailand
world2013.itu.int



20 - 23 November 2013

Vietnam Electronics 2013

*The Best Platform to Capture the
Electronics Market in Vietnam*
Saigon Exhibition and Convention
Center, 799 Nguyen Van Linh
Parkway, District 7, Ho Chi Minh
City, Vietnam
www.vietnamelectronics.com

3 - 4 December 2013

Satellite Mobility 2013

London, UK
mobility.vsatevent.com



7 - 10 January 2014

2014 International CES

*Manufacturers, developers and
suppliers of consumer technology
hardware, content, technology
delivery systems and related
products and services*
Las Vegas Convention Center, Las
Vegas, Nevada, USA
Opening Hours:
7 January: 10:00am - 6:00pm
8 - 9 Jan.: 9:00am - 6:00pm
10 January: 9:00am - 4:00pm
www.cesweb.org

21 - 23 January 2014

Convergence India 2014

New Delhi, India



28 - 30 January 2014

CSTB 2014

*Key professional media event
covering all the cutting-edge
formats and trends of TV and
telecommunication*
IEC "Crocus Expo", Pavilion 1



You know...

...where to find *me*



WATCH THE WORLD WITH JIUZHOU

- Nagra CAS, CAK7, NASC1.4
- CI+
- APS HD+
- Twin tuner PVR 5. Integrated hard disk up to 500 GB



JIUZHOU
SINCE 1958

Website: www.jiuzhou.com.cn

www.d-telemedia.com

Email: market@d-telemedia.com

Jiuzhou satisfies all your needs!



CATV Series



LNB Series



Dish Antenna Series



Fiber Optical Cable Series