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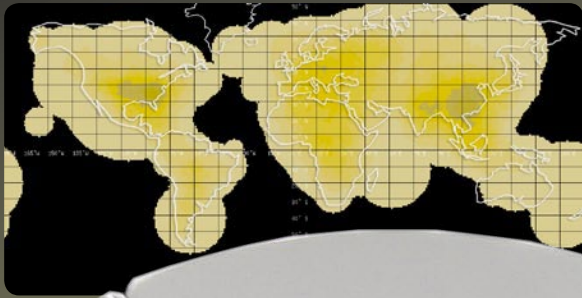
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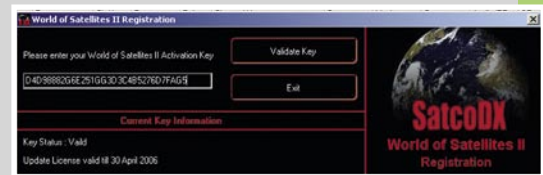
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TELE SATELLITE INTERNATIONAL

Main Address:
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PO Box 1234
85766 Munich-Ufg
GERMANY/EUROPA UNION

Editor-in-Chief:
Alexander Wiese
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Published by:
TELE-satellite Medien GmbH, Germany

Design/Production
TELE-satellite Hungary Kft
Nemeti Barna Attila

International Advertising
Alexander Wiese
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CITY Advertising
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Subscriptions Services
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TELE-satellite English Edition

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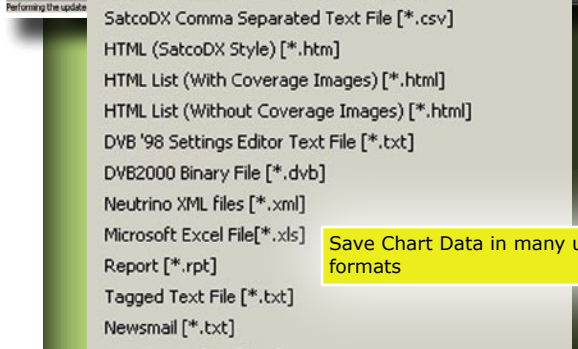
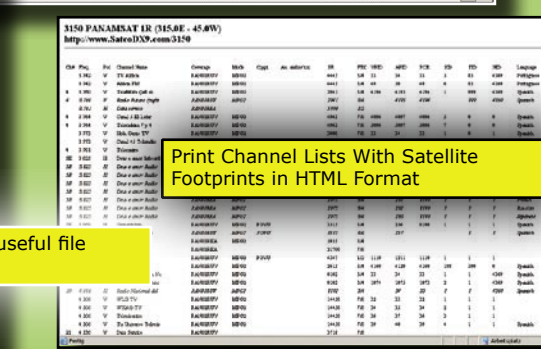
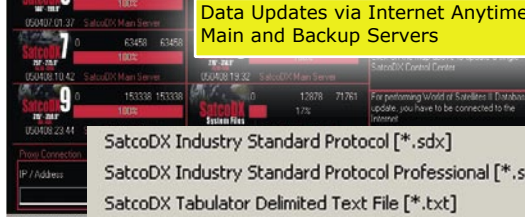
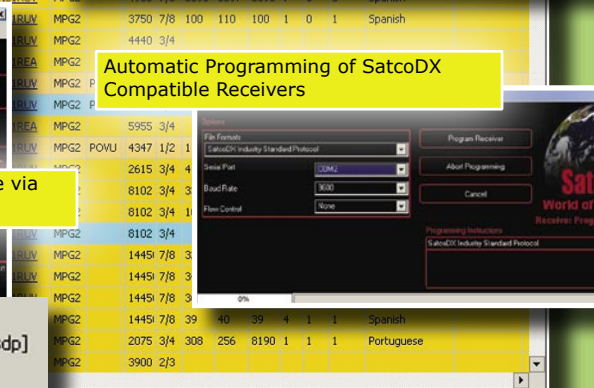
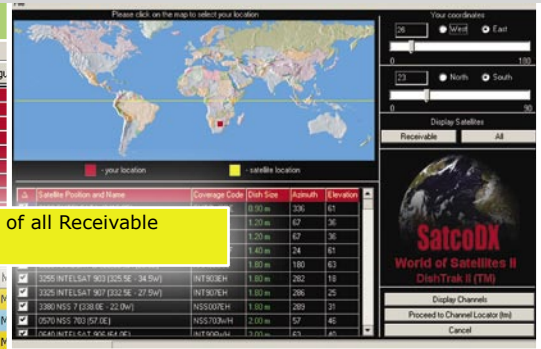
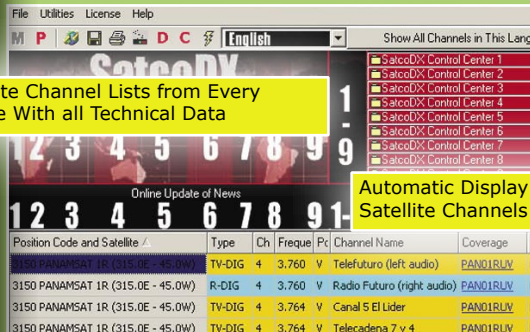
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Generaldistribution für Deutschland:



Multimedia Elektronik GmbH · Gewerbegebiet Hanacker · D-66636 Tholey
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Dear Readers



For me the greatest invention in the history of TV would have to be the remote control: without it there would be no channel surfing! I zip through all the channels and stop only when I happen to come across something that interests me. For me it would be enough if the remote control only had two buttons: an "Up" button and a "Channel 1" button so that I can easily start from the beginning. Why am I talking about this? I've been thinking about how well channel surfing will work when TV channels are transmitted via different methods, such as via high speed Internet ADSL-2. This method should even be able to handle HDTV. This is great. Now how am I supposed to integrate all these new channels into my channel surfing experience? Have you ever tried to channel surf between Internet radio stations? It takes quite a bit of time for the software to lock into the new channel. Channel surfing really doesn't come into play here at all.

If channel surfing will take just as long with Internet HDTV as it now does with Internet radio, then we can confidently sit back and say that this will not amount to anything. Not only that, but as long as these wonderful new technologies only offer just a few channels, I will automatically stick with satellite reception where I can easily surf between thousands of channels.

The DiSEqC protocol is a fantastic technology that actually gives you the ability to surf between thousands of channels. If you have a multifocus

antenna installed and connected it to a receiver with two tuners, a feature you will find with most high-end units, you have the ability to surf between eight different satellites. Align this dish with the right combination of satellites in Europe and you should have no trouble accessing as many as 2000 TV channels. A channel surfing paradise!

I look at all the current hype with terms such as Triple Play (TV, telephone and Internet on one cable) with some amusement. These technologies are theoretically doable but don't take into account what the user will actually experience. In my opinion, the future for TV and radio reception is and will stay with satellite technology!

Sincerely,
Alexander Wiese

P.S.: My favorite radio this month: Radio Nova, a station from Bulgaria transmitting what is called Lounge music, most of the day, except for weekends, when they air a great show from US with DJ Roger Sanchez. To be found on THOR 1° west, 12.169 H 28000

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Thank You, ARION!

I'm not influenced by their time schedule any more.

7 pm: My favorite soccer team's derby match
8 pm: At last home
but I'm not impatient thanks to ARION PVR's playback function.



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ARION AF9400 PV2R

Multiroom PVR with Twin Tuner

In last edition TELE-satellite International we published a test report on ARION's latest model, the AF 9400 PV2R. Shortly after going to press, an improved version of this box appeared and arrived at our test labs for examination. This box not only has a built-in

the parcel. First of all, the receiver itself of course, which is a full sized silver coloured box (37 x 27 x 6 cm) and three remote controls, two identical looking and a smaller unit with basic functions including the commands of the PVR. The list goes on with a complete set of connecting cables (Scart, RCA-AV, a loop-through for the second tuner, USB) and a fancy looking little device with a small whip antenna reminding us of „Sputnik“. Arion's Sputnik is not meant to fly around but acts as a RF receiver for the second full sized remote control that operates on radio frequency signals, since it is designed to be used in a different room, out of sight of the receiver.

The ARION AF9400 PV2R has a very pleasant front panel, aesthetically separated into two parts by a horizontal silver coloured band. The upper half hides the vacuum fluorescent display (VFD) that comes alive when the receiver is powered on and displays, depending on the activated mode, the actual time in standby, the channel's name in full text while watching, or the menu item while in programming mode.

The entire lower half of the front

panel is a flap that, when opened, reveals the double CI slot, a set of seven buttons on the right for channel up/down and menu operations, and a lonely larger sized

standby/on button. The separating band in the middle of the front panel contains two quite clever LEDs at each end. In standby, both are red. When you power on the receiver, they change to green during normal operation. Each time a command is send from the remote control, they give feedback by lighting up in orange.

The back panel of the ARION 9400 PV2R is packed with various connectors present on most modern receivers. On top of this, you will see another set of three A/V RCA's to be linked to a second TV set in a separate room either by a relatively long cable or perhaps, by using an A/V transmitter. A small earphone jack serves to connect the „Sputnik“. There is even a mains power switch.

HDD and two tuners but a separate and independent output for a second TV set! Quite an amazing feature: thanks to the two tuners, two monitors can be fed independently with two different signals.

Several surprises are waiting for you as you open

The two large remote controls look identical except for a small marking at the bottom: 1 or 2. Number 1 is the remote to be used in the room where the receiver is

from one single LNB (with a loop to the second tuner), or a motorized dish (DiSEqC 1.2 or USALS), up to the configuration offering the most simultaneous recording/watching options using two separate LNB's. This of course requires two cables running into your TV room. Once you have decided which antenna option you will use for this receiver, you can move on



located, while number 2 is a radio frequency remote to be placed in your second TV room. Its signals are picked up by „Sputnik“ and command the receiver just in the same way as number 1 - or almost the same way since the user has the ability to restrict certain functions of number 2 in the related menu page.

These remote controls have a very trendy design; long body, shiny black face, and chrome coloured buttons. We regret that these buttons, most of them having a second (shift) function, are tiny and it is difficult to distinguish immediately all of their numerous special functions.

The ARION AF 9400 PV2R can be used with a wide variety of antenna set ups, and could vary

to the initial setup menu. For our tests, we opted for the two-LNB alternative.

Everyday Use

Channel scan time is extremely fast and the list soon fills up with plenty of channels. The list of transponders and satellites is still not completely up to date, but it is easily possible to add new satellites.

The two tuners and HDD combination make the ARION AF 9400 PV2R special, since in the antenna setup we chose for our tests, we were able to record up to 4 channels on 2 different transponders. What is unique, is the ability to watch any of the available channels on two different TV





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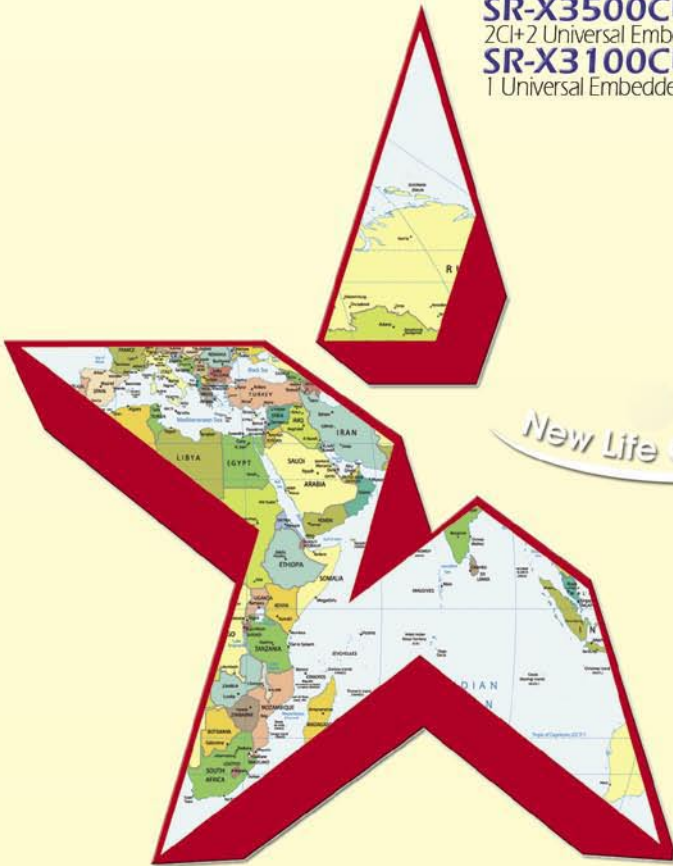


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sets in two different rooms! On top of this, each of the viewers can change channels, program a recording or watch a pre-recorded broadcast.

Did we mention that this also works for scrambled channels? Yes, one CAM can deliver two different channels to our two rooms, provided they transmit on same transponder, and that the CAM supports this function. It just needs to select CAM #1 or #2 accordingly.

Actually, the AF-9400PV2R gives us the option that both our viewing rooms act independently (this option is called master-master), or that the second room has limited rights (this option is called master-slave)

The latter feature could be very useful if this second TV were in the kid's room. The main user (=master) can then block certain channels from being accessed by the second TV set (=slave).

You can even have a look at what the other user is presently watching. A small pictogram of a TV set with the number 1 or 2 informs about which screen's broadcast you are actually watching. The user can easily switch back and forth on his monitor from room 1 to room 2. Let us assume that you are in parent's room (R1); when your children come into this room you could switch over to the cartoon or any of their favourite programmes and watch them together instead of your initial transmission like football etc.

The EPG is very well organized. A PIP (picture-in-picture) function

is available as well and thus you can follow another programme and call it up to the main screen should it become interesting. Furthermore, this receiver is able to decode the more advanced Medi-highway EPG system used by certain Pay-TV providers.

The manufacturer informed us that from now on all models will be fitted with Samsung hard disks. Our test receiver was equipped with a 160 GB HD. It offers plenty of space for recording and is very quiet. The HD can be switched off completely if the user disables the „time-shift“ function of the PVR.

The receiver gives you the option to edit recorded content, that is, certain segments, such as commercials, can be deleted. Thanks to the USB interface, you can upload your favourite MP3 songs and have them ready to be played back through the audio system connected to the receiver. A list of all songs will appear on the TV screen where you can again pick out the ones you like best and perhaps let them play in a loop.

The user manual is of an outstanding quality. It explains in detail, along with numerous photos and screenshots all the features of this receiver on 78 (!) pages just for the English version.

The overall workmanship of the unit leaves a good impression of solidity. A calendar and a calculator plus three games round up the whole picture of this box.

Expert conclusion

Two CI slots, all possible connections, a generous hard disk, two tuners and the two separate TV outputs make this receiver an excellent entertainment option for the whole family and can still provide some excitement to a more experienced user.



Yanis Patalidis
TELE-satellite
Test Center
France

Navigating through the EPG and the programming of a recording might take some getting used to. The remote controls are elegant in appearance but are difficult to handle because of the small buttons.

TECHNIC DATA

Manufacturer	ARION Technology Inc, ARION Bldg, 1042-1 Hogye-Dong, Dongan-Gu, Anyang-City, GyeongGi-Do, Korea 431-080
Tel	+82-31-361-3000
Fax	+82-31-361-3099
Email	info@arion.co.kr
Internet	www.arion.co.kr
Model	ARION AF 9400 PV2R
Function	Digital FTA + CI 2 PCMCIA twin tuner satellite receiver and PVR
Channel Memory	8000
Symbol Rate	2-45 Ms/sec
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
USALS	available
0/12 Volt Output	available
Digital Audio Output	S/PDIF (optical)
Scart Connectors	2
Video/Audio Output	2 x RCA (1 main + 1 secondary TV)
Colour System	PAL D/K, B/G, I
S-VHS Output	available
Modulator	available (for room 1 or 2)
SCPC Compatible	available
EPG	available + mediahighway
Teletext	OSD and VBI
Power Supply	90 -240 VAC 50/60 Hz
Power Consumption	50 W max.



EPG |



TV2 Control |



Channel Lock Edit |



Calculator |



Recording |



Edit Channel |

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>> **Codename:**
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- > Spitzen-Tuner
- > 2 Conax Kartenleser
- > Schneller Kanalsuchlauf
- >> Händleranfragen erwünscht



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VANTAGE

www.vantage-digital.com

Humax PR-HD1000

HDTV – *but only for Central Europe and China*

In our previous issue of TELE-satellite we presented a HDTV receiver for Japan. This time we're introducing a Humax HDTV receiver using the new DVB S2 system and thus being the first box

with this advanced system we were able to test. Without giving away too much at the beginning: the box can be used in Central Europe and China even today.

Even when switched off the receiver deserves special praise for its elegant design. The casing

save the 20 W standby power consumption, which is rather on the high side.

antenna with several LNBS will not be able to fully use all their signals with this box for the time



is silver and black flap protects the perfectly readable VF display and five buttons for operating the box without the remote control. In addition, there are two CI slots as well as one card reader for the smartcard of a pay TV provider. It should be noted that a smartcard is required for the Humax box to receive signals, which is about as unusual as the fact that smartcards have to be inserted 'downside up' with the contact area facing upwards, whereas virtually all other receivers require it the other way round.

On the perfectly equipped rear panel you'll find an HDMI interface, three RCA sockets for YUV as well as three additional RCA sockets for stereo audio and video, two scart euroconnectors, an optical audio output, a USB and an RS232 interface and last but not least the IF input with a corresponding looped through output. The penny pinchers amongst our readers will certainly also appreciate the main power switch which helps

The remote control that is included in the package has a good feel when held in hand, features a convenient key layout and has German lettering, because we tested the model for that is sold in the German speaking market. We also loved the fact that Humax throws in an HDMI cable, which is a very wise move given that this is definitely not a standard utensil in most homes.

Everyday use

Once the desired language is chosen from German, English or Turkish the setup menu leads you to the channel search. There is a list of 25 pre-programmed current European satellites, to which five additional birds can be added manually. DiSEqC 1.0 is available for switching between different receivable satellites and users of a motor-controlled antenna will find DiSEqC 1.2 and 1.3 (USALS) very handy. Unfortunately DiSEqC 1.1 for addressing up to 16 LNBS is missing, so that owners of a multifeed

being.

Before we can start enjoying HDTV channels the automatic channel search is activated and – if you use the German model – starts with scanning the signals of German pay TV provider 'Premiere', followed by all other transponders and satellites depending on the configuration. No gold medal can be hoped for with regard to the scanning speed: five minutes and 10 seconds were needed to scan all channels of a 65 transponder satellite. We strongly urge Humax to improve that performance as dozens of other receivers give an example of how fast a channel search should be these days. At the end of the setup procedure the receiver checks whether new software is available, which can be downloaded right via satellite.

Tune into one of the new HDTV channels and you'll soon forget all about the rather slow channel search. The Humax receiver delivered pin sharp pictures on our test monitor, a Pioneer

PDPS05XDE. Especially for the German channels Sat1 HD and Pro7 HD, which are simulcast in SDTV and HDTV, the superiority of HDTV transmission becomes literally crystal clear. The only thing we were not quite happy with was the 4:3 format of the two HDTV channels mentioned, leading to annoying and potentially harmful black bands to the left and right of the TV picture on our Plasma screen. We can hardly blame the receiver for this, though, as this is a decision of the channel operators at Sat1 and Pro7.

Of course the best video quality by far is achieved with using the HDMI output, but even with YUV the picture quality is remarkable. Please note, however, that the integrated copy protection of most HDTV channels will result that networks like 'Premiere HD Film', for instance will not be displayed using YUV.

The channel list is organised in a way that all 'Premiere' channels are listed starting with channel 100, followed by all other received channels. Channel 1 through 99 can be filled by the user to his or her heart's content, in addition to the favourite lists that are of course also available.

The user interface of the Humax PR-HD1000 is simply exemplary – they could not have done it any better in terms of ease of use and clarity. The channel list is very cleverly arranged as well, with four areas and two columns, so that channels of a specific satellite, of the favourite list or pay TV channels (sorted according to CAS) can be displayed at a touch of one of the colour-coded buttons on the remote control.

Switching between channels takes almost three seconds, making the Humax a rather slow fellow – the manufacturer has promised to improve that performance, however. After switching to a new channel an info bar is inserted with details about the current programme. Unfortunately there are no details regarding the programme that is coming up next.

The EPG of the PR-HD1000 is another outstanding feature of this Humax receiver. All event details of most channels are



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quickly loaded and displayed either as a chart for several channels or for each individual channel. At first the receiver shows an overview of all days for which information is available, and when clicking on an available date the programme preview is displayed. Thanks to this clever design the EPG is extraordinarily clear and concise, making sure even beginners will quickly learn how to use it.

The blue function key on the remote reveals another fantastic highlight of this new Humax receiver – a full-text search covering all available EPG data. By simply indicating a given genre or keyword all corresponding programmes are listed in next to no time.

The only downside we noticed was the slow reading of EPG data for some channels (while working perfectly swiftly for others) – this is where we expect some amendments from the manufacturer. The overall flawless impression of this receiver is rounded off with a built-in teletext decoder.

In DVB S2 mode we attempted to do some tests with the HDTV channels of British Sky Digital, but the receiver refused to read the appropriate transponders. We had more luck with HDTV channels of TPS on Atlantic Bird at 5° West (11.470 V) and of Sky Italia on Hotbird at 13° East (11.900 H). Apparently these channels adhere to the strict DVB S2 specifications.

Finally, we wanted to find out if and how the Humax PR-HD1000 DVB-S2 processes signals in China and for this purpose we sent the box to the TELE-satellite Test Center in ShenZhen with express courier. TELE-satellite expert Luo Jun then connected the receiver which was previously tested in Europe to his reception system and soon was able to give the 'go ahead'. The CCTV HDTV channel on Asia-Sat 4 at 122.2° East (4.060 V 27500 on the C-band) came in perfectly using a Novel Tong-Fang CAM.

However, the Humax PR-HD1000 cannot receive the SITV-HD channel transmitted via

Chinastar at 87.5° East (3.851 V 13300). This HDTV channels uses the DVB-8PSK modulation

which is not compatible with the current software configuration of the Humax PR-HD1000.

TECHNIC DATA		Manufacturer	Humax Co., Ltd.
Homepage	www.humaxdigital.com	Model	PR-HD1000
Function	Satellite receiver for DVB-S and DVB-S2	Channel memory	5000
Satellites	30	Symbol rate	1-45 Ms/sec (from approx. 3 Ms/s in our test)
SCPC compatible	yes	USALS	yes
DiSEqC	1.0 / 1.2 / 1.3	Video formats	1080i, 720p, 576p
Scart connections	2	HDMI output	yes
Audio/video outputs	3 x RCA	YUV output	3x RCA
S-Video	yes	UHF modulator	no
0/12 Volt output	no	Digital audio output	yes
EPG	no	C/Ku band compatible	yes
SatcoDX compatible	no	Power supply	90-250 VAC, 50/60 Hz
Power consumption	max. 45W, standby 20W		



Other satellites

Even though this receiver was definitely not designed for use in extreme reception situations or for DX purposes we still wanted to find out about the tuner sensitivity and the reception capabilities for SCPC signals with very low symbol rates. For this purpose we tried to receive the Arabsat 2D at 26° East and the horizontal beam of the Nilesat at 7° West, both of which come in very weak at our location. The good news first: we were truly surprised about the sensitivity of the tuner. However, the symbol rate range from 1 to 45 Ms/s in DVB mode as indicated in the technical data sheet did not quite live up to its promise, as a truly stable reception was only possible with signals higher than approximately 3 Ms/s. Lower symbol rates could be locked, but the signals disappeared again and again.

Expert conclusion



Operating the Humax PR-HD1000 is simply fun, its menus are easy-to-navigate and clearly laid out and the EPG deserves special praise as well. The crystal clear pictures using the HDMI interface are simply breathtaking and whoever has enjoyed HDTV channels once will have a hard time going back to the countless SDTV channels.



Thomas Haring
TELE-satellite
Test Center
Austria

There are some minor glitches and flaws (search speed, loading time for EPG data, channel switching time), but these are issues that could be solved by the manufacturer with a software update.



EPG |



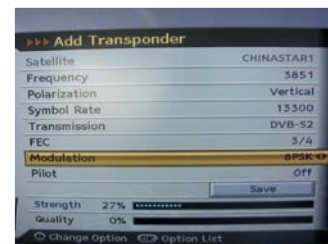
SCPC reception |



Reception of CCTV in ShenZhen, China |



SITV-HD not recognised in DVB mode |



SITV-HD not recognised in DVB-S2 and 8PSK modes either |

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Pansat 6000HXC

Small case, big performer



PVR

The 6000HXC comes with a removable hard drive that lets you record programming. The receiver that we tested came with a 60GB hard drive although optional hard drives as large as 120GB can be installed. Roughly 40 hours of programming can be stored on the included hard drive. Removing the hard drive is a piece of cake: simply fold down the front panel flap and pull on the provided handle to remove it from the receiver. Just make sure the receiver is completely powered down with the main power switch turned off before taking out the hard drive.

The USB port on the front of the hard drive can be used to easily transfer files between the receiver and a PC.

Recently **TELE-satellite magazine** published a test report on the Pansat 5000HC. It was a twin-tuner receiver with built-in hard drive plus quite an assortment of features that would have made you

the envy of all your neighbors. But did Pansat sit back and relax? No, not at all. In fact, they went right back to work to see how they could improve. The result is the new 6000HXC.

Take the receiver out of the box to see that it is considerably smaller than the 5000HC. Not only that, the 6000HXC is also significantly lighter in weight. The big question, of course, is: will any of this impact its performance? Let's take a closer look to find out. At 11.5"W x 8.0"D x 2.0"H, its length and width are a good two inches smaller than the 5000HC. And at just over 4.2 LBS, it is more than 2.5 LBS lighter than the 5000HC. The 6000HXC is clearly a much more compact unit. It also uses less power (max. 40 watts) than the 5000HC.

plugged in and the main power switch is not turned off, you won't have to go through this again. Only two seconds was needed to get a picture on the screen from standby mode.

The receiver comes preprogrammed with 83 C and Ku-band satellites, most of which are for North and South America.

Once all the settings have been taken care of, a channel scan would come next. The most straight-forward scan would be a satellite scan. This would be fine if you knew the stored transponder data to be completely up-to-date and that this data would never change. But we all know that this is not true. New transponders appear all the time, symbolrates change from time to time; you know the drill.

Remarkably, the rear panel of the 6000HXC is no different than the 5000HC with the exception of the USB interface. And, yes, despite its smaller size, Pansat still managed to fit a VHF modulator with input and output "F" connectors. Last, but not least, is the main power switch that Pansat did not forget to include.

With that in mind, it would probably be a much better idea to perform a "Smart Search" first. The absolute beauty of "Smart Search" is simply that it has the capability of finding signals that no one would otherwise know about and without knowing in advance any of the signals parameters.

The remote control is also smaller in size but still has all the necessary buttons for effortless receiver and PVR control. Not only that, it is actually a universal remote control in that you can program it to control some of your other electronic equipment such as the TV and VCR.

The "Smart Search" feature itself comes with some settings that let you refine the scan. For example, you can limit the scan to symbolrates above or below 5.6 Ms/sec. "Smart Search" scans in 8 MHz steps. This is not adjustable. Unfortunately, you also cannot specify a frequency range to scan. So, if you're using a universal Ku-band LNBF on a US Ku-band satellite such as Intelsat Americas 5, the 6000HXC will scan the entire lower Ku-band first (10.7 to 11.7 GHz), find nothing, and then scan the upper band (11.7 to 12.75 GHz) where all the active transponders for this satellite happen to be. If this is the situation you're faced with, we suggest you start the "Smart Search" and then use the time during the scan for something else such as mowing the lawn. And you will have plenty of time to do this: a "Smart Search" of Hispasat (our dish was fitted with a universal LNBF) needed about 45 minutes to be completed.

ing, and then scan the upper band (11.7 to 12.75 GHz) where all the active transponders for this satellite happen to be. If this is the situation you're faced with, we suggest you start the "Smart Search" and then use the time during the scan for something else such as mowing the lawn. And you will have plenty of time to do this: a "Smart Search" of Hispasat (our dish was fitted with a universal LNBF) needed about 45 minutes to be completed.



TECHNIC DATA

Manufacturer	Panarex Electronics, Sun Valley, California, USA
Fax	+1-818-768-5191
E-mail	pansatusa@cs.com
Model	6000HXC
Function	Digital Satellite Receiver with Twin Tuners, PVR, Twin CI Slots, Smart Search
Channel Memory	10000
Symbolrate	1-45 Ms/sec.
SCPC Compatible	yes
C/Ku-band Compatible	yes
USALS	yes
Hard Disk Drive	yes
DiSEqC	1.0, 1.2, 1.3
Video/Audio Outputs	3 x RCA
S-VHS Output	yes
Digital Audio Output	yes, S/PDIF
Power Supply	90-250 VAC, 50/60 Hz
Power Consumption	40 Watts max.



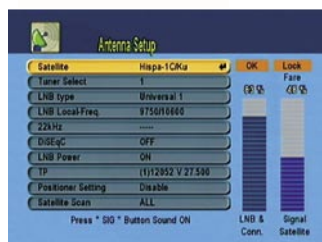
Everyday Use

Turning on the receiver for the first time might require a little patience. The 6000HXC goes through a rather lengthy start-up procedure that needed over 50 seconds to get from turn-on to the first menu screen. Fortunately, as long as the receiver remains

Expert conclusion

+ An all-in-one receiver, which makes fun to use both for family watching, as for the feed hunter. Well written user manual.

- Initial startup takes very long, the scan menu could offer more options.



Antenna Setup |



Main Menu |

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Vantage VT-X121SCI

2x CI with 2x embedded Conax

The brand name **Vantage** stands for high-quality products at an affordable price. ADS Trading based in Karlsruhe (Germany) distributes the Vantage range and when unpacking the new VT-X121SCI we

Stylish and – thanks to the small dimension – completely unobtrusive, this receiver will blend in nicely into any existing living room, the only eye-catcher being the on/off switch with its blue illumination. On the front panel there are two additional buttons and a cross-shaped arrangement of keys for operating the box without the remote control. A four-

ian, Spanish, Turkish, Hungarian, Arabic, Persian, Greek, Albanian, Czech and Polish are available – one could hardly ask for more.

The VT-X 121SCI delivers the video signal as CVBS, RGB or YUV in PAL and NTSC and a dedicated menu can be used to define daylight saving time – thumbs up for this nice feature which literally saves time because you don't

noted that the workmanship of the receiver as well as the remote control lives up to the high promises.

ponder satellite was finished quite swiftly in little more than four minutes. Thanks to the activated network scan really all available channels were actually found. Professional users can even enter PID values manually to perform a specific search.

Pressing the EPG button on the remote control offers an over-

this encryption system is being used by more and more pay TV providers in other regions as well. We tested the system with a smartcard for Technisat radio and an MTV smartcard and did not encounter any problems whatsoever.

Thanks to the two additional CI slots for all other encryption systems like Irdeto, Cryptoworks, Nagravision, Seca Mediaguard, Viaccess etc. this receiver is extremely versatile and can be used for the reception of almost all pay TV channels, provided you have an activated smartcard.

The tuner used by Vantage has left a very positive impression during our test. It features a very low threshold so that even very weak signals like the ones on ARABSAT 26° East or NILESAT 7° West could be received without any glitch. Our SCPC test revealed that the VT-X 121SCI is able to reliably process signals with 1 Ms/s. or higher and our test transponder with 1.327 Ms/s. did not pose any problems for this box.

Software updates can be downloaded from the website of the manufacturer at www.vantage-digital.com. Their newest release offers a much faster channel search, list of the 13 recently seen channels as a add-on to Recall button, a faster EPG, and an expanded search function.

Their website also features the free settings editor 'Vantage Uploader' which allows easy channel editing on the PC.



digit segment display completes the front panel layout. On the right hand side of the front panel two card readers with embedded Conax as well as two CI slots are hidden behind a flap.

The remote control sits very well in hand and all buttons are arranged ergonomically and clearly labelled. The user manual comes in English and German and features all necessary information for setting up and operating the VT-X 121 SCI.

Everyday use

The Vantage shows its global breed with the range of available languages for the on-screen menu: English, German, French, Ital-

have to look this up in the user manual.

We were also really impressed with the pre-stored satellite memory which includes no less than 105 current European and Asian satellite positions. If required, new satellites can easily be added manually. In some cases the transponder parameters were not completely up to date, otherwise this Vantage receiver would have received top marks from us.

The box can be used with a C band or a Ku band antenna and even less common LOF values – for example for S band signals – are processed faultlessly. Our first signal scan on an 80-trans-

view of upcoming programs on the selected channel. The EPG layout is very easy to use and we believe Vantage did a very good job with the overall EPG menu. The channel switching time of the VT-X 121SCI is approximately one second on average until both video and audio of the chosen channel are provided. The generally perfect impression of the VT-X 121 SCI is complemented by an integrated and very fast Teletext decoder.

You probably ask yourself why there are two card readers on the front panel. The answer is quite simple: while up until very recently channels with Conax encryption have only been available in Scandinavia, these days



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Expert conclusion

+

The Vantage VT-X121S CI is a perfect receiver for demanding users who expect good quality at a competitive price. The user interface is very easy to use and logically designed; the range of features leaves nothing to be desired.



Thomas Haring
TELE-satellite
Test Center
Austria

-

The only real downside is the missing DiSEqC 1.1 protocol and the somewhat limited 4000 channel memory.



TECHNIC DATA

Manufacturer	Vantage Digital Amalienbadstr. 36 76227 Karlsruhe
Telephone	+49-721-96-14-17-0
Fax	+49-721-96-14-17-9
E-mail	info@vantage-digital.com
Model	VT-X121S CI
Function	Digital satellite receiver with 2 CI slots and 2 x embedded Conax
Channel memory	4000
Satellites	113
Symbol rates	1-45 Ms/sec.
SCPC compatible	• (from ca. 1.327 Ms/s in our test)
USALS	•
DiSEqC	1.0 / 1.2 / 1.3
Scart connectors	2
A/V outputs	3 x RCA
UHF modulator	•
0/12 Volt output	-
Digital audio output	•
EPG	•
C/Ku band compatible	•
Power supply	90-250 VAC, 50/60 Hz



Antenna Settings |



Sort menu |



Info bar |



Recall |

Beetel SD98

A beginner's box which is fit for the tropics

The Indian company Bharti Teletech started production of telecommunications equipment in 1985 thanks to technical cooperation with Siemens. Back then, it was all about telephones, but these days the company has begun to manufacture satellite receivers

as well in order to meet the increasing demand in India. We tried to find out what this receiver is all about and whether it is technically fit for the global market. That's why we tested the Beetel SD98 in our TELE-satellite Test Center in India.



At first sight the receiver looks like a DVD player, until you notice the LCD display and six buttons on the front panel. As we are talking about an FTA receiver, there is no card slot or CI slot.

What we liked most about the box was its remote control. It sits very well in your hand and features a smart design for operating the receiver in an easy and efficient way. All buttons on the remote are clearly labelled.

Everyday use

Beetel targets the Indian market and that's the reason why English and Hindi are the only available languages for the on-screen display. The user interface is easy to navigate and very straightforward, one reason for this being the fact that there

are only four submenus: channel manager, installation, preferences and games.

The receiver features both USALS and DiSeqC 1.2 and so we decided to connect a STAB motor to the box. The Beetel has 45 satellite positions pre-stored. For our test we first selected the correct LO frequency and then chose the NSS6 satellite at 95° East – the offset antenna started to move immediately and in less than one minute the receiver had scanned all transponders, including transponders with a high symbol rate of 40700. There's hardly a way any other receiver could achieve this faster and more easily.

The Beetel can also be used for the reception of C band signals. Of course we wanted to test this feature as well and connected a C

band antenna for the new INSAT 4A at 83° East to the SD98. As expected, all SCPC channels with symbol rates higher than 2 Ms/sec. could be received.

With the increasing popularity of large-screen TVs the picture-in-picture mode is fast becoming a standard feature of most satellite receivers. The Beetel is able to display 4, 6 or 9 pictures and also offers a zooming function.

Even teletext can be displayed via VBI, which is particularly welcome for the DTH service of Zee. Last but not least the Beetel also has an NTSC mode for receiving channels like NHK from Japan, Korean TV or channels from Burma.

And if you're sick and tired from watching TV you can play one of the four integrated video games.

TECHNIC DATA	
Manufacturer	Beetel India, Bharti Teletech Ltd 1-4, Rural Industrial Complex Village Humbran Ludhiana - 140 110 Punjab India
Website	www.beetel.net
Model	SD98
Function	Digital Satellite Receiver FTA
Channel Memory	5000
Satellites	65
Symbolrate	40700 tested
SCPC Compatible	yes
USALS	yes
Diseqc	1.0.1.1/1.2
Scart Connector	no
Audio/Video Outputs	3 RCA
UHF Output	yes
0/12 Volt Output	yes
Digital Audio Output	S-pid
EPG	yes
PIP	4,6 and 9
Teletext	VBI Mode
C/Ku-Band Compatible	yes
PAL/NTSC/Secam	yes
Power Supply	80v to 300V



Expert conclusion

+ Easy-to-use receiver for newbies in the field of satellite reception. The receiver can be used in the tropics.

- As of yet, there are no software updates to increase the number of pre-stored satellites, for example.



P. Srivatsa
TELE-satellite
Test Center
India



Main menu |



Installation menu |





TV EXPLORER

TERRESTRIAL TV

SATELLITE TV

CABLE TV

MPEG DECODER

DVB-C

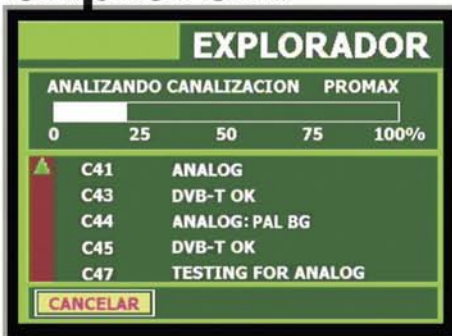
DVB-S

DVB-T



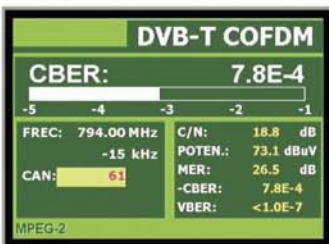
explore...

identify...

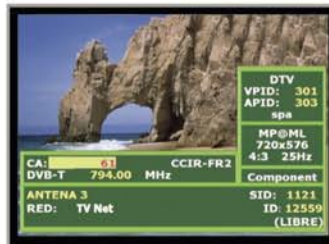


... all channels in the band!

... signals automatically!



Shows all measurements simultaneously



Shows picture, service list, PID's,...



Direct adjusting of spectrum, without menus

SatcoDX Satellite Chart

New Satellite Channels Since Last Issue of TELE-satellite International Magazine
Compiled by the Worldwide SatcoDX Monitoring Stations, exclusively for TELE-satellite International Magazine

SatcoDX Monitoring Stations:

- China:** HaoJun • **Croatia:** Mario Hren •
- Egypt:** Saleh Al-Wehaimod, Adel Abd El Wahid • **France:** Sylvain Oscul, Yanis Patalidis • **Germany:** Heinz Koppitz,
- Alexander Wiese** • **India:** P. SriVatsa •
- Indonesia:** Vincent Witjhun • **Japan:** Keito Takahashi • **South Africa:** Herman Ellis, Ingo Salomon • **Thailand:** Jon Clarke • **UK:** Andy Middleton • **USA:** Ron Roessel



Write your own SatcoDX CD-ROM "World of Satellites" by following the instructions on page 3 in this issue of TELE-satellite International Magazine.

The complete SatcoDX Global Satellite Chart "World of Satellites" with technical data of all satellite transponders worldwide is exclusively available to TELE-satellite International Magazine readers. The software can be downloaded from the Internet and activated by the Activation Code as printed on page 3 in this issue of TELE-satellite International Magazine. The Technical Data of all satellites worldwide are constantly monitored by SatcoDX Monitoring Stations around the world.

Explanation CRYPT

- BCNV** Betacrypt/Nagravision
- BCRT** Betacrypt
- BISS** BISS
- COCN** Conax/Cryptoworks/Nagravision
- COCR** Conax/Cryptoworks
- COMG** Conax/Mediaguard
- CONV** Conax/Nagravision
- CONX** Conax
- CRYW** Cryptoworks
- CWVA** Cryptoworks/Viaccess
- DMV_** DMV
- DRMC** DreamCrypt
- IRCV** Irdeto/Cryptoworks
- IRDT** Irdeto
- IRKF** Irdeto/KeyFly

- IRMG** Irdeto/Mediaguard
- IRNV** Irdeto/Nagravision
- IRVG** Irdeto/Videoguard
- MCV_** Mediaguard/Cryptoworks/Viaccess
- MCVI** Mediaguard/Cryptoworks/Viaccess/Irdeto
- MDS_** MDS
- MGCW** Mediaguard/Cryptoworks
- MGIV** Mediaguard/Irdeto/Videoguard
- MGRI** Mediaguard
- MGVC** Mediaguard/Videoguard/Cryptoworks
- MGVG** Mediaguard/Videoguard
- MGVI** Mediaguard/Viaccess/Irdeto
- NAVJ** Nagravision
- NL2** NTL 2000
- POVU** PowerVu

- PVU+** PowerVu+
- RAS_** RAS
- SKYC** Skycrypt
- TASC** Tadiran Scopus
- TVCM** TV/COM
- VC2+** VC2+
- VCIR** Viaccess/Irdeto
- VCON** Viaccess/Conax
- VGRD** Videoguard
- VIC_** Viaccess/Irdeto/Cryptoworks
- VICS** Viaccess
- VIMG** Viaccess/Mediaguard
- VINA** Viaccess/Nagravision
- VIVG** Viaccess/Videoguard
- WGNR** Wegener

Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language
[GHz]	[GHz]						PID	PID	PID	
5.0 East SIRIUS 2,3										
T	11.766	H	ENTER-FILM	27500 3		6511	6512	6511		
T	11.766	H	ENTER+	27500 3		6521	6522	6521		
T	11.766	H	ENTER	27500 3		6531	6532	6531		
R	11.881	H	Radio Pukas-2	27500 3						
T	11.881	H	1st Baltic Music	27500 3						
T	11.881	H	Ren-TV B	27500 3		5061	5062	5061		
T	11.881	H	EPG_data	27500 3						
R	11.881	H	Viasat Classic 2	27500 3						
T	11.958	H	LNT	27500 3		6361	6362	6361		
T	11.996	H	3+ Latvia	27500 3						
T	11.996	H	TV3 Latvia	27500 3						
T	11.996	H	3+ Estonia	27500 3						
T	11.996	H	Lithuanian TV1	27500 3						
T	11.996	H	Tango TV	27500 3						
T	11.996	H	TV3 Lithuania	27500 3						
T	11.996	H	LNT Latvia	27500 3						
T	11.996	H	LTV1	27500 3						
T	11.996	H	TV3 Estonia	27500 3						
T	12.111	H	ENTER-FILM	27500 5		288	289	288		
T	12.111	H	RADA	27500 5		1215	1215			
R	12.150	H	RADIO ERA	27500 3		2501	2502	2501		
T	12.226	H	Hallmark	25540 7						
T	12.226	H	Antena4	25540 7						
T	12.226	H	TV Sport	25540 7						
T	12.226	H	Senso	25540 7						
T	12.226	H	VH1	25540 7						
T	12.226	H	Antena 3	25540 7						
T	12.226	H	Max Info	25540 7						
T	12.226	H	Boomerang	25540 7						
T	12.226	H	Pro TV Internatio	25540 7						
T	12.226	H	Prima TV	25540 7						
T	12.226	H	TVR 2	25540 7						
T	12.226	H	TVR 1	25540 7						
T	12.226	H	National Geographic	25540 7						
T	12.226	H	OTV	25540 7						
T	12.226	H	Realitatea	25540 7						
T	12.226	H	Etno	25540 7						
T	12.226	H	TvRM	25540 7						
R	12.226	H	Romantic	25540 7						
R	12.226	H	ProFM	25540 7						
R	12.226	H	Minisat	25540 7						
R	12.226	H	InfoPro	25540 7						
T	12.245	V	Hallmark	27500 7						
T	12.245	V	Antena4	27500 7						
T	12.245	V	TV Sport	27500 7						
T	12.245	V	Senso	27500 7						
T	12.245	V	VH1	27500 7						
T	12.245	V	Antena 3	27500 7						
T	12.245	V	Max Info	27500 7						
T	12.245	V	Boomerang	27500 7						
T	12.245	V	Pro TV Internatio	27500 7						
T	12.245	V	Prima TV	27500 7						
T	12.245	V	TVR 2	27500 7						
T	12.245	V	TVR 1	27500 7						
T	12.245	V	National Geographic	27500 7						
T	12.245	V	OTV	27500 7						
T	12.245	V	Realitatea	27500 7						
T	12.245	V	Etno	27500 7						
T	12.245	V	TvRM	27500 7						
R	12.245	V	Romantic	27500 7						
R	12.245	V	ProFM	27500 7						
R	12.245	V	Minisat	27500 7						
R	12.245	V	InfoPro	27500 7						
T	12.303	H	Antena4	25547 7						
T	12.303	H	TV Sport	25547 7						
T	12.303	H	Senso	25547 7						

Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language
[GHz]	[GHz]						PID	PID	PID	
T	12.303	H	VH1	25547 7						
T	12.303	H	Antena 3	25547 7						
T	12.303	H	Max Info	25547 7						
T	12.303	H	Boomerang	25547 7						
T	12.303	H	Pro TV Internatio	25547 7						
T	12.303	H	Prima TV	25547 7						
T	12.303	H	TVR 2	25547 7						
T	12.303	H	TVR 1	25547 7						
T	12.303	H	National Geographic	25547 7						
T	12.303	H	OTV	25547 7						
T	12.303	H	TVR 2	25547 7						
T	12.303	H	National Geographic	25547 7						
T	12.303	H	OTV	25547 7						
T	12.303	H	TvRM	25547 7						
R	12.303	H	Romantic	25547 7						
R	12.303	H	ProFM	25547 7						
R	12.303	H	Minisat	25547 7						
R	12.303	H	InfoPro	25547 7						
T	12.465	H	ProTV Intl	10787 7						
T	12.671	H	Sirius Channel	2847 2						
T	12.671	H	5vsP	2847 2						
T	12.697	V	WBS Television	14685 3		1537	1538	1537		
T	12.697	V	METEEO TV	14685 3		1553	1554	1553		
T	12.697	V	Meteo TV	14685 3		1025	1026	1025		
T	12.697	V	WBS Television	14685 3		769	770	769		
7.0 East EUTELSAT W3A										
T	10.875	V	EURO1080 HD-1	17356 3		308	256	308		
T	10.875	V	Euro1080 HD-1	17356 3		308	256	308		
T	10.875	V	Euro 1080 HD1 W3	17356 3		256	308			
H	10.927	H	RAI HD	IRDT	27500 1	300	301	308	Italian	
T	11.678	H	FASHION TV	30000 3						
T	11.678	H	SHOWTIME#E	30000 3						
T	11.678	H	GOLD#MAX	30000 3						
T	11.678	H	MGM#MOVIES	30000 3						
T	11.678	H	TVR#SY#A TV	30000 3						
T	11.678	H	BJK TV	30000 3						
T	11.678	H	SHOW#ROOM#	30000 3						
T	11.678	H	PRO7	30000 3						
T	11.678	H	EXPO C#ANNEL	30000 3						
T	11.678	H	TOUCH#	30000 3						
T	11.678	H	INTIMACY#	30000 3						
T	11.678	H	INTIMACY#	30000 3						
T	11.678	H	JOJO	30000 3						
T	11.678	H	IKS#IN#AL 1#	30000 3						
T	11.678	H	TOUCH#	30000 3						
T	11.126	V	LBRT 10.751 Mbit D	6519 3		512	4112	8190		
T	11.178	H	AL-FORAT	2532 3		308	256	8190		
13.0 East HOTBIRD 1,2,3,4,6										
T	10.758	V	RTPI	27500 3						
T	10.834	V	TPS HD2	27500 3		230	220	French		
R	10.873	V	ALOUETTE	27500 3		3238	3238			
T	10.911	V	Spice Platinum	27500 3						
T	10.971	H	Suryoyosat	27500 3		290	290			
T	10.971	H	GALY KURDISTAN	27500 3		291	291			
T	10.971	H	T and R CHANNEL	27500 3		292	292			
R	10.971	H	ILO Romano Radio	27500 3		549	290			
T	10.992	V	Service 1	27500 2		512	651	512		
T	10.992	V	Service 2	27500 2		515	660	515		
T	10.992	V	Service 3	27500 2		514	670	514		
T	10.992	V	Service 4	27500 2		515	680	515		
T	10.992	V	Service 5	27500 2		516	690	516		
T	10.992	V	Service 6	27500 2		517	700	517		
T	11.034	V	Al Jazeera Intern	27500 3		1420	1430	1420		
T	11.159	V	TV5 FBS	27500 3						
T	11.159	V	TV5 Europe	27500 3						
T	11.159	V	Roma Uno	27500 3						
T	11.159	V	ANN	27500 3						

Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language
[GHz]	[GHz]						PID	PID	PID	
T	11.159	V	Kurdistan TV	27500 3						
T	11.159	V	Telegenova Sat2	27500 3						
T	11.159	V	RTB	27500 3						
T	11.200	V	MTI	27500 5		416	417	416		
T	11.200	V	Ecuu TV	27500 5		258	259	258		

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- Waterproof by rubber seals on steel tube & water drain holes - on the bottom.
- Reed switch sensor.
- Compact shipping package.

Technology From Germany

EZ-2120



DiSEqC 1.2 Positioner



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T 11.843 V TBNE	27500 3
T 11.843 V Videolina	27500 3
T 11.843 V RTB	27500 3
T 11.958 V Italia 1	27500 3
T 11.958 V Canale 5	27500 3
T 11.958 V Rete 4	27500 3
T 12.092 H MCTAmateur	27500 3 33
T 12.092 H MCTAmateur	27500 3 4432 4433 4432
T 12.111 V 4 SEX TV	27500 3
R 12.149 V RIN Digital	27500 3 265 265 Italian
R 12.149 V Play Radio	27500 3 266 266 Italian
R 12.149 V Radio Tunis French	27500 3
R 12.149 V New Radio	27500 3
R 12.207 H Music Box Radio	27500 3 4099 4102
R 12.226 V Sawa Levant Radio	27500 3 4820 4820
R 12.226 V Sawa Iraq Radio 3	27500 3 4822 4822
R 12.226 V Sawa Egypt Radio	27500 3 4830 4830
R 12.226 V Sawa Gulf Radio 3	27500 3 4832 4832
R 12.226 V Sawa N. Africa Ra	27500 3 4920 4920
R 12.226 V Sawa Sudan Radio	27500 3 4922 4922
R 12.226 V Farda Radio 306	27500 3 4930 4930
R 12.226 V Sawa Lebanon Radi	27500 3 4932 4932
T 12.245 H Mohabat TV	27500 3 122 122
T 12.265 V TV Colombia	27500 3 410 420 410
R 12.285 H RMF MAXXX	27500 3 777 777
R 12.285 H RMF MAXXX	27500 3 777 777
T 12.322 H 24ore.tv	27500 3 513 660 129
T 12.322 H Class News	27500 3 514 670 130
T 12.322 H Coming Soon	27500 3 515 680 131
T 12.322 H BBC World	27500 3 314 314
T 12.322 H Boing	27500 3 517 700 517
T 12.322 H Mediaset Premium 2	27500 3 313 313
T 12.322 H Mediaset Premium 3	27500 3 313 313
T 12.322 H Mediaset Premium 4	27500 3 313 313
T 12.322 H Mediaset Premium 5	27500 3 890 892
T 12.360 H ESRFET2	27500 3 512 4112 512
T 12.360 H C CANARIAS TV	27500 3 1901 1911 1901
T 12.360 H Studio Company	27500 3 4131 4132 4131
T 12.360 H Mohabat TV	27500 3 4141 4142 4141
T 12.360 H Sexy Italy TV	27500 3 4161 4162 4161
T 12.360 H HOT CHILI TV	27500 3 4151 4152 4151
T 12.360 H Sexy Italy	27500 3 4161 4162
T 12.360 H HOT CHILI TV	27500 3 4151 4152 4151
T 12.360 H Mohabat TV	27500 3 4141 4142 4141
T 12.360 H Studio Company	27500 3 4131 4132 4131
T 12.360 H ECUPLUS	27500 3 341 342 341
T 12.360 H Gigashopping	27500 3 271 272 271
T 12.360 H Canal Latino TV	27500 3 281 282 281
T 12.360 H ATLAS NEWS	27500 3 301 302 301
R 12.360 H Mohabat Radio	27500 3 5012 4141
T 12.360 H Prophetic Word	27500 3 4181 4182 4181
T 12.360 H SALAAM TV	27500 3 4201 4202 4201
T 12.476 H Komala TV	27500 3 556 557 556
T 12.540 H Carli TV Programme	27500 3 5636 5637 5636
T 12.616 H Euronews	27500 3
T 12.616 H BBC World	27500 3
T 12.692 H TISHK TV	27500 3 174 136 174
T 12.692 H Dorcel TV	27500 3 175 112 175 French
T 12.692 H AB 3	27500 3 171 124 171
T 12.692 H AB 4	27500 3 172 128 172
16.0 East	EUTELSAT W2
T 10.962 H TELEMARKET	3146 3 210 211 210
T 10.972 V TV 5	27500 2 518 664 518
T 10.972 V Studio B	27500 2 514 648 514
T 10.972 V SOS	27500 2 515 652 515
T 10.972 V Art	27500 2 517 660 517
T 10.972 V Sport Klub	27500 2 519 668 519

T 10.972 V Film +	27500 2 520 672 520
T 11.021 H Fox Sport ME	2894 7 522 750 8190 English
T 11.021 H LBC	2894 7 521 740 8190
R 11.130 V News FM	12222 3 3213
T 12.557 H VTM D5NG 5 ENC 2	11264 1 4194 4195 4194
T 12.557 V W2 D9 enc6	2156 3
T 12.568 H RTL D5NG D219	2892 3
T 12.568 H PORTUGAL008	2892 3
T 12.568 H 536172	2892 3
T 12.602 H SIC INTERNACIONAL	15000 5
T 12.602 H RTL D5NG D219	15000 5
T 12.602 H 536172	15000 5
T 12.602 H ENEX	15000 5
T 12.602 H RTL XNG	15000 5
T 12.602 H ENEX11 LUX-LXB1	15000 5
T 12.602 H Service 1	15000 5
T 12.602 H RTL MIDI D320 A	15000 5
T 12.602 H HSKYB - LONDON-420	15000 5
T 12.602 H POL 027 Serv2	15000 5
T 12.602 H FTR/F.39/1/8MB SDI	15000 5
T 12.633 V ENEX	4881 1
T 12.633 V RTL XNG	4881 1
T 12.650 H UNIRE 1 - SPORTIV	3416 2 110
T 12.725 V BN R. Srpska	3416 2
19.2 East	ASTRA 1C,1E,1F,1G,1H,2C
T 10.818 V CARTELLERA	22000 5
T 10.832 H RTBF SAT	22000 5 4194 4195 4194
R 10.832 H RTBF International	22000 5 4197 4194
T 11.038 V EHS	22000 5
T 11.038 V TV CANARIA	22000 5
T 11.509 V Al Jazeera Intl	22000 5 712 732 712
T 11.509 V ARIRANG TV	22000 5 711 731 711
T 11.597 V TV5 Europe	22000 5 45 46 45
T 11.670 H CT24	22000 1 101 111 101
T 11.670 H Magyar ATV	22000 1 151 160 151
T 11.670 H DunaTV	22000 1 201 210 201
T 11.670 H M2	22000 1 251 260 251
T 11.685 V REAL MADRID TV	22000 5
T 11.685 V CUBAVISION	22000 5
T 11.685 V TV RECORD	22000 5
T 12.149 H Lokalsat	27500 3 1279 1280 1279
T 12.168 V NDS_VOTE	27500 5 1111 1112 1111
T 12.168 V NDS_RR	27500 5 1111 1112 1111
T 12.168 V NDS_COD	27500 5 1111 1112 1111
T 12.168 V SMD EU 1	27500 5 1111 1112 1111
T 12.168 V SMD EU 2	27500 5 1111 1112 1111
T 12.168 V SMD EU 3	27500 5 1111 1112 1111
T 12.168 V SMD EU 4	27500 5 1111 1112 1111
T 12.168 V SMD DEV 01	27500 5 1111 1112 1111
T 12.168 V SMD DEV 02	27500 5 1111 1112 1111
T 12.168 V SMD DEV 03	27500 5 1111 1112 1111
T 12.168 V SMD DEV 04	27500 5 1111 1112 1111
T 12.168 V SMD 01	27500 5 1111 1112 1111
T 12.168 V SMD 02	27500 5 1111 1112 1111
T 12.168 V SMD 03	27500 5 1111 1112 1111
T 12.168 V SMD 04	27500 5 1111 1112 1111
T 12.246 V VIC-TV 13	27500 3 239 240 239
T 12.246 V VIC-TV 14	27500 3 495 496 495
T 12.246 V VIC-TV 15	27500 3 751 752 751
R 12.266 H WDR Event	27500 3 1181 1181
T 12.460 H imusic TV	27500 3 495 496 495
T 12.552 V M6 Boutique	22000 5 104 112 104
T 12.552 V Raceworld	22000 5 65 66 8190
T 12.552 V LIMBURG TV	22000 5 768 769 768
T 12.552 V LIMBURG Radio	22000 5 770 768
T 12.604 H STB Radix 128kpbs	22000 5

21.5 East	EUTELSAT W6
T 11.489 V Telemidia 1	2170 3 33 36 33
R 11.595 H VILLAGE FM	26660 7 4100 4098
R 11.595 H SOHO RADIO	26660 7 33 65
R 11.595 H STAR RADIO ATHENS	26660 7 49 65
R 11.595 H DIKTYO TV	26660 7 66 65
R 11.595 H LAMPISI FM	26660 7 81 65
26.0 East	ARABSAT 2A,2C,2D,3A
T 3.722 H Future TV	27500 3 3013 3014 3013 Arabic
T 3.722 H Nagham	27500 3 3033 3034 3033 Arabic
T 3.722 H AI Kawthar	27500 3 3043 3044 3043 Arabic
T 3.722 H NBN	27500 3 3053 3054 3053 Arabic
T 3.722 H Ghinwa	27500 3 3073 3074 3073 Arabic
T 3.722 H New TV	27500 3 3068 3069 3068 Arabic
T 3.722 H AI Alam	27500 3 3063 3064 3063 Arabic
T 3.722 H LBCI	27500 3 3023 3024 3023 Arabic
T 3.722 H Sahar	27500 3 3103 3104 3103 Arabic
R 3.722 H Radio Orient	27500 3 3015 3015 Arabic
T 3.800 H Dream 2	27500 3 1011 1012 1011 Arabic
T 3.800 H Melody Hits	27500 3 1003 1004 1003 Arabic
T 3.800 H Mazzika	27500 3 1119 1120 1119 Arabic
T 3.800 H Saudi 1	27500 3 257 258 256 Arabic
T 3.800 H Dubai TV	27500 3 2100 2200 2100 Arabic
T 3.800 H JSC Sports 1	27500 3 512 650 128 Arabic
T 3.800 H IQRA	27500 3 520 730 136 Arabic
T 3.800 H JSC	27500 3 525 5644 141 Arabic
T 3.800 H SomaliaTV	27500 3 513 514 513
T 3.830 V Future TV Interna	5612 2 35 36 35 Arabic
T 3.830 V Future TV USA	5612 2 33 34 33 Arabic
R 4.024 V Jeddah MBC FM	4500 3 681 131 Arabic
R 4.024 V MBC FM	4500 3 651 128 Arabic
R 4.024 V Riyadh MBC FM	4500 3 671 130 Arabic
R 4.024 V Panorama	4500 3 721 135 Arabic
T 4.152 V Tunis 7	6000 3 2160 2120 2160 Arabic
T 4.152 V Hannibal	6000 3 2360 2320 2360 Arabic
R 4.152 V Tunis 7 radio	6000 3 2121 2121 Arabic
R 4.152 V Tunis 7 radio	6000 3 2122 2122 Arabic
R 4.152 V Polish Radio	6000 3 2321 2321 Arabic
T 11.150 V Rotana TV	11850 3 100 110 100 Arabic
T 11.150 V Rotana Clip	11850 3 200 210 200 Arabic
T 11.150 V Rotana Tarab	11850 3 300 310 300 Arabic
T 11.150 V Rotana Khalijiah	11850 3 400 410 400 Arabic
R 11.174 H GMA DZBB	27500 3 1287 1287
R 11.174 H Hi TV	27500 3
R 11.623 V BBC WS Radio-E	27500 3 2421 2421
R 11.623 V BBC WS Radio-A	27500 3 2422 2422
T 11.642 H ChatCom	27500 3 522 650 522
R 11.642 H Radio-6	27500 3 711 134
T 11.678 H ZEE Arabiya	27500 3 4101 4102 4101
T 11.678 H Moushirat TV	27500 3 4111 4112 4111
T 11.678 H Fashion Arabia TV	27500 3 4640 4641 4640
T 11.678 H AMUSICANA TV	27500 3 4384 4385 4384
T 11.678 H Al-Resala	27500 3 4161 4162 4161
T 11.678 H Alwasta	27500 3 4191 4192 4191
T 11.678 H SELEVISION	27500 3 4201 4202 4201
T 12.519 V Professional Gene	27500 3 522 750 138 Arabic
T 12.519 V Sehatk TV	27500 3 523 760 139 Arabic
T 12.519 V Stock TV	27500 3 524 5634 140 Arabic
T 12.519 V Alwasta	27500 3 526 5654 142 Arabic
28.2 East	ASTRA 2A,2B,2D
T 10.729 V ITV1 Anglia 5	22000 5
T 10.729 V ITV1 Anglia W	22000 5
T 10.729 V TTG41	22000 5
T 10.729 V ITV1 TT N	22000 5
T 10.729 V ITV1 TT S	22000 5
T 10.729 V G41	22000 5

SatcoDX NEW Satellite Channels 06/2006

Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language
	[GHz]						PID	PID	PID	
T	10.803	H	BBC 1 W Mids			22000 5				
T	10.803	H	BBC 1 N West			22000 5				
T	10.803	H	BBC 1 Yrks&Lin			22000 5				
T	10.803	H	BBC 1 Yrks			22000 5				
T	10.803	H	BBC 1 E Mids			22000 5				
T	10.803	H	BBC 1 East (E)			22000 5				
T	10.803	H	ETV5			22000 5				
T	10.803	H	BBC 1 London			22000 5				
T	10.803	H	BBC 2 England			22000 5				
T	10.803	H	BBC NEWS 24			22000 5				
T	10.803	H	ETV			22000 5				
T	10.803	H	BBC TES 3			22000 5				
T	10.803	H	BBC FOUR			22000 5				
T	10.803	H	BBC THREE			22000 5				
T	10.803	H	BBC 1 NI			22000 5				
R	10.803	H	BBC R Cymru			22000 5				
T	10.803	H	CBBC Channel			22000 5				
T	10.803	H	CBeebies			22000 5				
T	10.818	V	BBC R5 Live			22000 5				
T	10.818	V	ETV2			22000 5				
T	10.818	V	BBC 1 Wales			22000 5				
T	10.818	V	BBC 2W			22000 5				
T	10.818	V	BBC 1 Scotland			22000 5				
T	10.818	V	BBC 2 Scotland			22000 5				
T	10.818	V	BBC 2 NI			22000 5				
R	10.818	V	BBC R1			22000 5				
R	10.818	V	BBC R2			22000 5				
R	10.818	V	BBC R3			22000 5				
R	10.818	V	BBC R4 FM			22000 5				
R	10.818	V	BBC R4 LW			22000 5				
R	10.818	V	BBC R Scot.			22000 5				
R	10.818	V	BBC R Wales			22000 5				
R	10.818	V	BBC R Ulster			22000 5				
R	10.818	V	BBC Asian N.			22000 5				
R	10.818	V	BBC W5			22000 5				
R	10.818	V	ETV3			22000 5				
R	10.818	V	BBC 5L Sport			22000 5				
R	10.818	V	BBC London			22000 5				
R	10.818	V	1Xtra BBC			22000 5				
R	10.818	V	BBC 6 Music			22000 5				
R	10.818	V	BBC 7			22000 5				
R	10.818	V	BBC R n Gael			22000 5				
R	10.832	H	BBC R5 Live			22000 5				
T	10.832	H	ETV2			22000 5				
T	10.832	H	BBC 1 Wales			22000 5				
T	10.832	H	BBC 2W			22000 5				
T	10.832	H	BBC 1 Scotland			22000 5				
T	10.832	H	BBC 2 Scotland			22000 5				
T	10.832	H	BBC 2 NI			22000 5				
T	10.847	V	ITV1 Central S			22000 5				
T	10.847	V	ITV1 Central E			22000 5				
T	10.847	V	ITV1 Wales			22000 5				
T	10.847	V	ITV1 West			22000 5				
T	10.847	V	ITV1 W Country			22000 5				
T	10.847	V	ITV1 Border			22000 5				
T	10.847	V	G49			22000 5				
T	10.847	V	BBC 1 West			22000 5				
T	10.847	V	BBC 1 S East			22000 5				
T	10.847	V	BBC 1 South			22000 5				
T	10.847	V	BBC 1 S West			22000 5				
T	10.847	V	BBC 1 NE & C			22000 5				
T	10.847	V	BBC 1 Oxford			22000 5				
T	10.847	V	ETV6			22000 5				
T	10.876	V	T4 STRM-0			22000 5				
T	10.876	V	T4 STRM-1			22000 5				
T	10.876	V	T4 STRM-2			22000 5				
T	10.876	V	BBC PARL/MNT			22000 5				
T	10.876	V	BBC 1 East (W)			22000 5				
T	10.876	V	BBC 1 CI			22000 5				
T	10.876	V	BBC 1 West			22000 5				
T	10.876	V	BBC 1 S East			22000 5				
T	10.876	V	BBC 1 South			22000 5				
T	10.876	V	BBC 1 S West			22000 5				
T	10.876	V	BBC 1 NE & C			22000 5				
T	10.876	V	BBC 1 Oxford			22000 5				
T	10.876	V	ETV6			22000 5				
T	10.906	V	GS3			22000 5				
T	10.921	H	ITV1 BorderSco			22000 5				
T	10.921	H	ITV1 Meridian S			22000 5				
T	10.921	H	ITV1 Meridian E			22000 5				
T	10.921	H	ITV1 Mer SE			22000 5				
T	10.921	H	ITV1 Mer N			22000 5				
T	10.921	H	htg53			22000 5				
T	10.921	H	ITV1 Yrks W			22000 5				
T	10.921	H	ITV1 Yrks E			22000 5				
T	10.921	H	GS3			22000 5				
T	10.921	H	ITV Channel Is			22000 5				
T	10.921	H	Grampian TV			22000 5				
T	10.921	H	Scottish TV W			22000 5				
T	10.921	H	Scottish TV E			22000 5				
T	10.921	H	ITV			22000 5				
T	10.921	H	ITV3			22000 5				
T	10.921	H	GS4			22000 5				
T	11.739	V	ITV1 BorderSco			27500 2				
T	11.739	V	ITV1 Meridian S			27500 2				
T	11.739	V	ITV1 Meridian E			27500 2				
T	11.739	V	ITV1 Mer SE			27500 2				
T	11.739	V	ITV1 Mer N			27500 2				
T	11.739	V	htg53			27500 2				
T	11.739	V	ITV1 Yrks W			27500 2				
T	11.739	V	ITV1 Yrks E			27500 2				
T	11.739	V	GS3			27500 2				
T	11.739	V	ITV1 Anglia S			27500 2				
T	11.739	V	ITV1 Anglia W			27500 2				
T	11.739	V	TTG41			27500 2				
T	11.739	V	ITV1 TT N			27500 2				
T	11.739	V	ITV1 TT S			27500 2				
T	11.739	V	G41			27500 2				
T	11.739	V	T4 STRM-0			27500 2				
T	11.739	V	T4 STRM-1			27500 2				
T	11.739	V	BBC PARL/MNT			27500 2				
T	11.739	V	BBC 1 East (W)			27500 2				
T	11.739	V	BBC 1 CI			27500 2				
T	11.739	V	ITV1 Central S			27500 2				
T	11.739	V	ITV1 Central E			27500 2				
T	11.739	V	ITV1 Wales			27500 2				
T	11.739	V	ITV1 West			27500 2				
T	11.739	V	ITV1 W Country			27500 2				
T	11.739	V	ITV1 Border			27500 2				
T	11.739	V	G49			27500 2				
T	11.757	V	CEN RADYO 96.4			2960 3				
T	11.763	V	SU TV			2155 3				
T	11.779	V	TGRT EU			6250 5				
R	11.779	V	TGRT FM			6250 5				
T	11.779	V	FIKIRSHOW			6250 5				
T	11.779	V	MIANOLYA			6250 5				
T	11.786	H	Palestine Channel			2632 3				
T	11.792	H	STAR TV			5632 3				
T	11.874	V	KANAL B			3400 3				
T	11.892	V	T-----S-----			2960 5				
R	11.905	H	IFB&TEK3			6666 3				

Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language
	[GHz]						PID	PID	PID	
T	11.222	H	Classic FM TV			27500 2				
T	11.222	H	Pitch TV			27500 2				
T	11.222	H	53158			27500 2				
T	11.224	V	Pitch TV Plus			27500 2				
T	11.224	V	DoveVision TV			27500 2				
T	11.224	V	50830			27500 2				
T	11.224	V	UCB TV			27500 2				
T	11.224	V	Reality Extra			27500 2				
T	11.224	V	YouPlay TV			27500 2				
T	11.224	V	Golf Pro-Shop			27500 2				
T	11.224	V	You TV			27500 2				
T	11.224	V	Get Lucky TV			27500 2				
T	11.224	V	Wonderful			27500 2				
T	11.224	V	Musicians Chnl			27500 2				
T	11.224	V	Chat Box			27500 2				
T	11.224	V	LONDON TV			27500 2				
R	11.224	V	Pure Dance			27500 2				
R	11.224	V	Club Asia			27500 2				
T	11.224	V	53158			27500 2				
R	11.307	H	Premier			27500 2				
T	11.389	V	MTV National			27500 2				
T	11.389	V	Performance			27500 2				
T	11.389	V	channel U			27500 2				
T	11.389	V	Gems.tv 2			27500 2				
T	11.389	V	Bonanza			27500 2				
T	11.389	V	Golf Channel			27500 2				
T	11.389	V	You TV 2 Extra			27500 2				
T	11.389	V	PokerZone			27500 2				
T	11.389	V	Majestic TV			27500 2				
T	11.389	V	Sport Nation			27500 2				
T	11.426	V	52051			27500 2				
T	11.426	V	5245			27500 2				
T	11.428	H	QUICK START TV			2000 5				
T	11.527	V	Shop on TV			27500 2				
T	11.527	V	Thave Direct			27500 2				
T	11.527	V	AVAGO			27500 2				
T	11.527	V	AVAGO (Cable)			27500 2				
T	11									

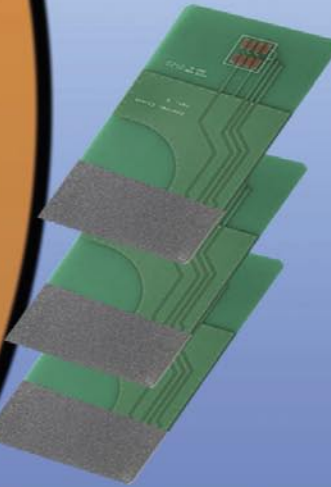
Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language	Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language	Typ	Freq	Pol	Channel Name	Crypt	SR	FEC	Video	Audio	PCR	Language			
	[GHz]						PID	PID	PID			[GHz]						PID	PID	PID			[GHz]							PID	PID	PID			
T	11.240	V	CH 461 VOA/RFE/RL		27500	1	1730	1730		English	T	3.475	V	Shakti Channel	12800	3	512	650	128		Hindi	R	12.562	H	R05		25776	2	712	134		Thai			
T	11.240	V	CH 462 RFA		27500	1	1820	1820		English	T	3.475	V	SS Music	12800	3	514	670	130		Multili	R	12.562	H	R06		25776	2	713	134		Thai			
T	11.240	V	CH 463 VOA/RFE/RL		27500	1	1830	1830		English	T	3.475	V	Tara News	12800	3	2305	2306	2305		Bangla	R	12.562	H	R07		25776	2	721	135		Thai			
T	11.240	V	CH 464 VOA		27500	1	1920	1920		English	T	3.475	V	Sur Sangeet	12800	3	513	660	129		Hindi	R	12.562	H	R08		25776	2	722	135		Thai			
T	11.240	V	CH 465 VOA		27500	1	1930	1930		English	T	3.475	V	Imayam TV	12800	3	516	690	132		Tamil	R	12.562	H	R09		25776	2	723	135		Thai			
T	11.240	V	CH 466 VOA		27500	1	2020	2020		English	T	3.515	V	Sudarshan Tv	3000	3	505	605	505		Multili	T	12.562	H	PREV		25776	2							
T	11.240	V	CH 467 VOA		27500	1	2030	2030		English	T	3.551	H	TRT International	13328	3	257	258	257		Turkish	T	12.562	H	TATV		25776	2							
T	11.305	V	Euronews		27500	1	920	931	920	English	T	3.551	H	TCT	13328	3	513	514	513		English	T	12.575	V	DHAMMA		6000	1	513	641	8190				
T	11.305	V	Trace TV		27500	1	1020	1030	1020	English	T	3.551	H	GOD Africa	13328	3	769	770	769		English														
T	11.305	V	World Fashion		27500	1	1220	1230	1220	English	T	3.551	H	FTV India	13328	3	3105	3106	3105		English														
T	11.334	V	NTD TV		9766	1	33	34	33	Chinese	R	3.551	H	TRT FM	13328	3	4353	513			Turkish														
T	11.334	V	VIDEO-1		9766	1	49	50	49	Chinese	R	3.551	H	VOT	13328	3	4609	513			Multili														
T	11.334	V	VIDEO-2		9766	1	65	66	65	Chinese	R	3.551	H	Hornafrik Somalia	13328	3	771	769			Multili														
T	11.425	V	TV-1		27500	1	308	256	308		T	3.569	H	MRTV-4	12500	3	4384	4385	4384		Burmese														
T	11.425	V	TV-2		27500	1	318	266	318		T	3.600	H	Labbaik TV	26667	3	515	680	130		Urdu														
T	11.425	V	TV-3		27500	1	328	276	328		T	3.625	V	Bharath TV	30000	5	526	5654	142		Multili														
T	11.425	V	TV-4		27500	1	338	286	338		T	3.640	H	EuroPlus	28062	3	41	42	41		English														
T	11.640	H	Mktv Sat		27500	3	7601	7602	7601		R	3.640	H	CVC Portuguese	28062	3	1004	1004																	
T	11.640	H	Ishtar TV		27500	3	57	53	57		T	3.920	V	FTV Thailand	30000	5	517	700	133		English														
T	11.640	H	Komala TV		27500	3	7811	7812	7811		T	3.920	V	TV2DAY	30000	5	518	710	134		Urdu														
T	11.640	H	Suroyo TV		27500	3	46	71	46		T	3.920	V	FORTUNE	30000	5	519	720	135		Urdu														
T	11.640	H	Trace TV		27500	3	961	962	1028		T	3.920	V	AVCTV	30000	5	520	730	136		Thai														
R	11.640	H	Radio Dijila		27500	3	7561	7561			T	3.920	V	SHIN 10	30000	5	521	740	137																
R	11.640	H	Makedonsko Radio		27500	3	7603	7604			T	3.920	V	SHIN 11	30000	5	522	750	138																
R	11.640	H	Radio Azadegan		27500	3	7571	7571			T	3.920	V	SHIN 12	30000	5	523	760	139																
											T	3.920	V	SHIN 14	30000	5	525	780	141																

72.0 East PANAMSAT 4

Wireless SmartWi.net Residential Cardsplitter

SmartWi is a wireless card splitter solution which can be used in household with more than one set top box.

SmartWi split your subscription card and make it possible to watch different programs on each set top box with only one subscriptions card.



Wireless SmartWi come standard with 1 Wireless SmartWi, 3 Wireless Smartwi client card, 1 Power adaptor for Smartwi master.

Wireless SmartWi works on most common set top box for Satellite, Cable and Terrestrial systems



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 Distribution Center
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R	3.729	V	Radio 4		10500	3	775	519		French	T	3.920	V	SHIN 15	30000	5	526	790	142			T	11.043	H	TVC		44937	3	305	405	305	Russian	
R	3.729	V	Radio 5		10500	3	784	528		French	T	4.015	H	Station 10	2950	3	501	502	501				T	11.043	H	TV-XXI		44937	3	306	406	306	Russian
R	11.532	V	ART Lebanon		4220	3	308	256	8190		T	4.054	H	BEC Ch3	4551	3	308	256	8190		Thai		T	11.043	H	Zveezda		44937	3	308	408	308	
R	12.518	V	RADIO.5		8232	3	768	784	32		T	4.152	V	Raj Music	12118	3	515	680	131		Tamil		T	11.043	H	Rambler		44937	3	309	409	309	Russian
R	12.518	V	EUROPA FM		8232	3	115	116			T	12.313	H	Channel1	30000	1	101	401	101				T	11.043	H	Kinomania		44937	3	310	410	310	Russian
R	12.557	V	Dandana Reality		2600	3	4194	5181	8190	Arabic	T	12.313	H	Channel2	30000	1	102	402	102				T	11.043	H	Multimania		44937	3	311	411	311	Russian
T	12.676	V	Exatel		1600	3	512	768	512		T	12.313	H	Channel3	30000	1	103	403	103				T	11.043	H	Detски		44937	3	312	412	312	Russian
											T	12.313	H	Channel4	30000	1	104	404	104				T	11.043	H	CaspioNet		44937	3	313	413	313	Russian
											T	12.313	H	Channel5	30000	1	105	405	105				T	11.043	H	RTVI		44937	3	314	414	314	Russian
											T	12.313	H	SI Service 6	30000	1	106	406	106				T	11.043	H	DM; Teleclub		44937	3	315	415	315	Russian
											T	12.313	H	SI Service 7	30000	1	107	407	107				T	11.043	H	TVS Europe		44937	3	316	416	316	Russian
											T	12.313	H	SI Service 8	30000	1	108	408	108				T	11.043	H	World Fashion		44937	3	317	417	317	Russian
											T	12.313	H	SI Service 9	30000	1	109	409	109				T	11.043	H	Music Box Russia		44937	3	318	418	318	Russian
											T	12.313	H	SI Service 10	30000	1	110	410	110				T	11.043	H	HSGU TV		44937	3	307	407	307	Russian
											T	12.313	H	SI Service 11	30000	1	111	411	111				T	11.043	H	Ren-TV		44937	3	331	431	331	Russian
											T	12.313	H	SI Service 12	30000	1	112	412	112				T	11.043	H	SGUvost		44937	3	319	419	319	Russian
											T	12.313	H	SI Service 13	30000	1	113	413	113				T	11.043	H	Music Box TV		44937	3	320	420	320	Russian
											T	12.313	H	SI Service 14	30000	1	114	414	114				T	11.043	H	Humor TV		44937	3	321	421	321	Russian
											T	12.313	H	SI Service 15	30000	1	115	415	115				T	11.043	H	Radio Arsenal		44937	3	318	418	318	Russian
											T	12.313	H	Dhamma	30000	1	116	416	116				T	11.582	H	Bridge TV		4000	3	308	256	8190	Russian
											T	12.313	H	Sport Line 2	30000	1	117	417	117				T	11.606	V	Kultura		44937	3	301	401	301	Russian
											T	12.438	H	RTV	25776	2	524	5634	140		Thai		T	11.606	V	CTC		44937	3	302	402	302	Russian
											T	12.479	V	PREV	25776	1							T	11.606	V	Home+2		44937	3	303	403	303	Russian
											T	12.521	H	RTV	25776	1	519	720	8190				T	11.606	V	DTV		44937	3	304	404	304	Russian
											T	12.521	H	TATV	25776	1	520	730	8190				T	11.606	V	TVC		44937	3	305	405	305	Russian
											R	12.562	H	R01		25776	2</																

SatcoDX NEW Satellite Channels 06/2006

Typ	Freq [GHz]	Pol	Channel Name	Crypt	SR	FEC	Video PID	Audio PID	PCR PID	Language
T	11.606	V	Kinomania	44937 3	310	410	310			Russian
T	11.606	V	Multimania	44937 3	311	411	311			Russian
T	11.606	V	Detski	44937 3						Russian
T	11.606	V	Fashion TV	44937 3						Russian
T	11.606	V	Bridge TV	44937 3						Russian
T	11.606	V	Trace TV	44937 3						Russian
T	11.606	V	Motors TV	44937 3						Russian
T	11.606	V	World Fashion	44937 3						Russian
T	11.606	V	Music Box Russia	44937 3						Russian
T	11.606	V	Blagovest	44937 3	319	419	319			Russian
T	11.606	V	Music Box TV	44937 3	320	420	320			Russian
T	11.606	V	Humor TV	44937 3	321	421	321			Russian
T	11.606	V	Ren TV	44937 3	331	431	331			Russian
R	11.606	V	Radio Arsenal	44937 3	441	441				Russian
83.0 East										
INSAT 2E, 3B, 4A										
T	3.438	V	Jain TV	2950 2	4130	4131	4130			Hindi
T	3.442	V	Sangeet Bangla	3000 3	512	513	512			Bangla
T	3.484	V	ETV-Uttar Pradesh	27000 3	1160	1120	1160			Hindi
T	3.484	V	ETV-Madhy Pradesh	27000 3	1260	1220	1260			Hindi
T	3.484	V	ETV-Rajasthan	27000 3	1360	1320	1360			Hindi
T	3.484	V	ETV-Bihar	27000 3	1460	1420	1460			Hindi
T	3.484	V	Blank Signal	27000 3	1560	1520	1560			
T	3.484	V	Blank Signal	27000 3	1660	1620	1660			
T	3.573	V	Headlines Today	4340 3	512	505	128			English
T	3.612	V	Akaash	9625 3	4194	4197	4194			Bangla
T	3.690	V	Ne Hi Fi	3328 3	308	256	8190			Multili
T	3.721	H	Power Vision TV	19500 3	274	275	273			Malayal
T	3.959	V	Channel7	3300 3	6100	6200	8190			
T	4.005	V	ETV-Bengali	27000 3	1260	1220	1260			Bangla
T	4.005	V	ETV-Marathi	27000 3	1360	1320	1360			Marathi
T	4.005	V	ETV-Kannada	27000 3	1460	1420	1460			Kannada
T	4.005	V	ETV-Urdu	27000 3	1560	1520	1560			Urdu
T	4.005	V	ETV-Gujarathi	27000 3	1660	1620	1660			Gujarati
T	4.005	V	ETV-Oriya	27000 3	1760	1720	1760			Oriya
T	4.092	H	KolkataTV	3234 3	28	29	28			Bangla
T	4.099	H	Bhutan Television	3500 3	4194	4195	4194			
T	4.152	H	H 24 Ghanta	6500 3	901	902	901			Bangla
T	4.152	H	Play TV	6500 3	901	902	901			Multili
87.5 East										
CHINASTAR 1										
T	3.734	H	Myawady TV	5925 3	4194	4195	4194			Burmese
T	3.780	V	HD TV	27500 3	1025	1042	1025			Chinese
T	3.780	V	China Movie	27500 3	513	514	513			Chinese
88.0 East										
ST 1										
R	3.418	H	RS Radio	8333 5	661	8190				
T	3.538	V	Program3	6666 3	545	546	545			
T	3.555	V	Momo TV	200007 3	3088	3089	3088			
T	3.555	V	Formosa TV	200007 3	3104	3105	3104			
T	3.555	V	MAC TV	200007 3	3120	3121	3120			
T	3.555	V	Good TV	200007 3	3136	3137	3136			
T	3.555	V	CHTI-UTV-01	200007 3	648	626	648			
T	3.555	V	Service 2	200007 3	645	644	645			
T	3.591	H	Daai TV	26667 3	513	514	513			Chinese
T	3.591	H	Beijing TV	26667 3	913	914	913			Chinese
T	3.591	H	MTV	26667 3	929	930	929			Chinese
90.0 East										
YAMAL 102, 201										
T	3.674	L	SPAS	17500 3	1025	1026	1025			Russian
T	11.097	V	HOMER+4	26470 3	1313	1314	1313			Russian
T	11.097	V	CTC+4	26470 3	1361	1362	1361			Russian
T	11.097	V	SHKOLNIK	26470 3	3303	3304	3302			Russian
R	11.097	V	Europa Plus	26470 3	258	257				Russian
R	11.097	V	Retro FM	26470 3	273	257				Russian
93.5 East										
INSAT 3A										
T	3.759	V	DD Chandana	6250 3	4410	4610	4410			Kannada
T	3.901	V	ESTL	6109 3	308	256	128			
T	3.901	V	Tandberg Service	6109 3	308	256	8190			
T	4.140	V	Ariana National	5150 3	4128	4129	4128			Multili
T	4.140	V	Ariana Internatio	5150 3	4384	4385	4386			Multili
R	4.140	V	Ariana FM	5150 3	8190					Multili
95.0 East										
NSS 6										
T	11.625	V	KYRGYZTELECOM	3328 3	4194	4195	4194			
T	11.676	H	News1	27500 3	2305	2306	2305			
T	11.676	H	TOC	27500 3	2308	2309	2308			
T	11.676	H	e-san Discovery	27500 3	2311	2312	2311			
T	11.676	H	Metro Life	27500 3	2305	2306	2305			
T	11.676	H	meTV	27500 3	2305	2306	2305			
T	11.676	H	Body and Mind	27500 3	2315	2316	2315			
T	11.676	H	ManagerBizz	27500 3	2305	2306	2305			
R	11.676	H	ASTV Radio 1	27500 3	769	769				
R	11.676	H	ASTV Radio 2	27500 3	770	770				
R	11.676	H	ASTV Radio 5	27500 3	773	773				
R	11.676	H	ASTV Radio 6	27500 3	2134	2314				
R	11.676	H	ASTV Radio 3	27500 3	2319	2319				
R	11.676	H	ASTV Radio 4	27500 3	772	772				
R	11.676	H	ASTV Radio 3	28000 3	2319	2319				
R	11.676	H	ASTV Radio 4	28000 3	2319	2319				
R	12.597	V	RA ELP	40700 2	531	532				
R	12.597	V	RA FLP	40700 2	901	913				
R	12.597	V	RA FLP	40700 2	901	913				
T	12.729	V	Israel Plus Inter	27500 7	1539	1540	1539			Russian
T	12.729	V	CGN TV	27500 7	2050	2051				Korean
T	12.729	V	Inter+	27500 7	2561	2562				Ukraini
100.5 East										
ASIATASAT 2										
T	3.637	H	2Way	10304 3						
T	3.637	H	PCR	10304 3						
T	3.705	H	APTAN BAGHDAD PATH	4167 3	308	256	8190			English
T	3.705	H	UP4	4167 3	200	256	258			
T	3.767	V	BYU	6525 3	4377	4401	4377			English
R	3.880	H	412 RFA 2	20400 1	7622	7622				
R	3.880	H	413 RFA 3	20400 1	7630	7630				
R	3.880	H	414 RFA 4	20400 1	7632	7632				
T	4.049	V	BTU	6666 3	512	4112	512			Chinese
T	4.148	V	MASTV	11850 3	652	653	652			Chinese
108.0 East										
TELKOM 1										
T	3.500	H	Indosiar	28000 3	80	82	80			Indones
T	3.500	H	Metro TV	28000 3	100	101	100			Indones
T	3.500	H	TPI	28000 3	180	181	180			English
T	3.500	H	ABC Asia Pacific	28000 3	511	509	511			English
T	3.500	H	Channel NewsAsia	28000 3	528	529	528			English
T	3.500	H	Fashion TV	28000 3	592	593	592			English
T	3.500	H	RCTI	28000 3	633	632	633			Indones
T	3.500	H	SCTV	28000 3	661	665	661			Indones
T	3.500	H	antv	28000 3	672	671	672			Indones
T	3.500	H	BBC World	28000 3	720	721	720			English
R	3.500	H	Sky 101.6 FM	28000 3	62	61				English
108.2 East										
AAP 1										
T	12.273	H	Ashirwad TV	19984 3	257	258	257			Hindi
T	12.689	V	Explore Channel	26667 3	523	561	139			Chinese
T	12.689	V	Explore Channel	26667 3	524	652	140			Chinese
113.1 East										
KOREASAT 2										
T	12.463	H	Scopus Net Tech	5394 3	4194	4195	4194			Korean
T	12.577	H	EEC Sat Hub1	5230 3	257	258	257			Korean
T	12.604	H	DIGITAL SNG	8242 3						Korean
T	12.660	H	MBC CM	3300 3	4194	4195	4194			Korean
T	12.681	H	ARTE TV	17375 5	516	691	132			Korean
T	12.681	H	FSTV	17375 5	518	710	134			Korean
T	12.681	H	PET TV	17375 5	513	661	129			Korean

Typ	Freq [GHz]	Pol	Channel Name	Crypt	SR	FEC	Video PID	Audio PID	PCR PID	Language
T	12.731	H	Star Movie	28200 5	256	272	256			Korean
116.0 East										
KOREASAT 3										
T	12.370	H	HJOB TV	24080 5	502	500	502			Korean
T	12.502	V	Service 2 SD	3515 3	4193	4195	17			Korean
T	12.701	V	Silver TV	7600 3	256	257	256			Korean
T	12.701	V	CCN	7600 3	512	513	512			Korean
122.0 East										
ASIATASAT 4										
T	3.940	V	Early Education C	27500 3	513	660	513			Chinese
T	3.940	V	Happy Shopping	27500 3	515	680	515			Chinese
T	4.020	V	TV Guide	27500 3	512	650	8190			Chinese
T	4.100	V	Orient Circulation	27500 3	514	670	514			Chinese
128.0 East										
JCSAT 3										
T	4.000	V	Da Ai TV	14220 5	1240	1241	1240			Chinese
T	4.000	V	Much	14220 5	1210	1211	1210			Chinese
T	4.000	V	Era News	14220 5	1220	1221	1220			Chinese
134.0 East										
APSTAR 6										
T	3.885	V	NINGXIA TV	4800 1	160	80	160			
T	3.885	V	NINGXIA RADIO1	4800 1		84	84			
T	3.885	V	NINGXIA RADIO2	4800 1		88	88			
T	3.907	H	YUNNAN TV 1	6980 1	32	33	32			Chinese
T	4.044	H	Shenzhen TV	4420 3	160	80	160			Chinese
T	12.292	V	TVBS S C	3000 3	308	256	8190			Chinese
T	12.328	V	Hebei TV	6930 1	160	80	160			Chinese
R	12.328	V	Hebei People's Ra	6930 1	84	160	Chinese			
R	12.328	V	Hebei Music Radio	6930 1	88	160	Chinese			
R	12.328	V	Hebei Economic Ra	6930 1	96	160	Chinese			
R	12.328	V	Hebei Life Radio							

Star Sat SR-X1400D

FTA DeLuxe



Who says that the days of the good old MPEG-2/DVB/FTA are gone? In a lot of countries there are enough channels still broadcasting to make the FTA-only reception attractive. An affordable FTA receiver can also be a good starting point for a beginner in an amazing world of satellites. Are you looking for your first satellite receiver ever? Or maybe you're just not really happy making the greedy PayTV providers even richer on your expense? If so, we've got an interesting box for you to check out: StarSat SR-X1400D.

The Receiver

It might look a bit old-fashioned from the outside, but don't let the first impression fool you. The front panel has everything you need to control the receiver. A four-digit display in the right part of it shows number of channel currently selected, and when the receiver is in standby mode, it might help you replace that old analogue clock you have on the wall. Although digital audio and S-Video outputs are missing, your TV, VCR and HiFi system can be easily connected via two scarts and three RCAs on the rear panel.

Installation

There is one option, which has to be especially mentioned when describing SR-X1400D, and which you also have to select at the moment your preferences are selected. In the „User Preference“ menu the parameter „Search Speed“ can be set to Slow, Normal,

Fast and Super Fast. The fastest result on Astra 1 was 2 minutes 56 seconds, the slowest 6 minutes 27 seconds, both bringing 657 TV and 558 radio channels.

The Search screen is so nice that even DXers might enjoy it. In the upper part of the screen you will see a position of the satellite scanned for channels displayed on the World map. The center of the screen is used to display the TV and Radio channels found. The satellite name, frequency, polarization, symbol rate and FEC are displayed a line below. And during our tests on the SR-X1400D we didn't even have to use a stopwatch: there is a clock in the bottom line showing how much time it took to perform the search!

The pre-programmed transponder list is quite up-to-date, on Eutelsat W4 and Eutelsat Sesat at 36 East the receiver detected 78 TV and 35 Radio channels, which is a pretty good result.

than half-a-second, even when switching to channels located on different transponders.

If you press the „i“ button while the information bar is still on the screen, another window would appear, which would definitely make DXers happy, since it includes the channel's Video, Audio, PCR and Teletext PIDs, Frequency, Symbol Rate, Polarization and Package Name, as well as the number of available audio subcarriers, teletext and subtitle variants.

Picture in Picture

There is a really interesting option: the „Multi Pic Loop“ will automatically zap between the channels in the entire channel list, giving you an option to see if there is something interesting being shown on one of them. The screen can be split to 4, 9, 10, 12, 13 or even 16 parts.

Everyday use

It's really amazing how the zapping speed is progressing in the modern receivers! Each new model that arrives to our test labs can get the picture of the channel to the TV screen notably faster than the previous one. During our tests with SR-X1400D, it never took longer



Picture in Picture |



Satellite Setup |

TECHNIC DATA

Manufacturer	STAR SAT, PO Box 42291, Dubai, United Arab Emirates
Website	http://www.star-sat.com
E-mail	starsat@emirates.net.ae
Fax	+971-4-2287765
Model	SR-X1400D
Function	FTA Digital Satellite Receiver
Channel Memory	6500
Symbol rate	1 – 45 Ms/s
DiSEqC	1.0/1.2/1.3/USALS
0/12V Output	yes
Scart Connectors	yes
RCA V/A Output	yes
Digital Audio Output	no
Color System	PAL/NTSC
S-Video Output	no
Modulator	yes
C/Ku-band Compatible	yes
SCPC Compatible	yes
EPG	yes
Teletext	yes
USB 2.0 Connection	no
Power Supply	100-250 V, 50/60 Hz
Power Consumption	Max. 30 W



Expert conclusion

+ SR-X1400D is quite feature-loaded, bearing in mind that it's just a plain FTA receiver. It would be a good choice both for beginners and DXers. The menus are nicely designed both from graphical and logical point of view. Manual „zapping“ is very fast.

- Lack of S-Video and digital audio outputs is worth noticing. Special characters (such as Cyrillic) are not supported.



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Test Center
Hungary



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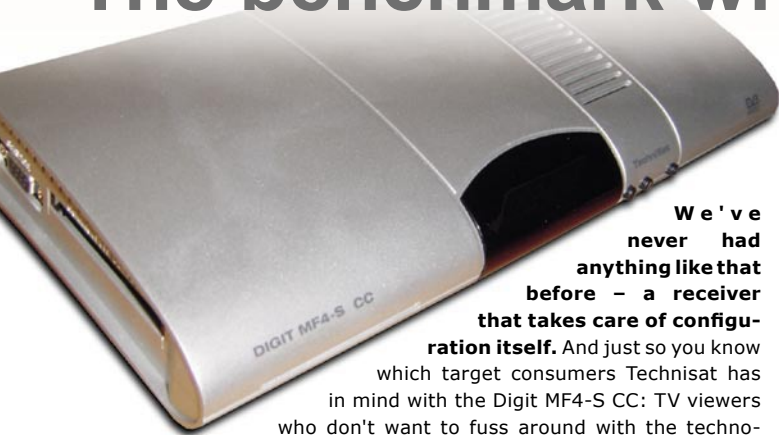
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TechniSat Digit MF4-S CC

The benchmark when it comes to comfort



We've never had anything like that before – a receiver that takes care of configuration itself. And just so you know

which target consumers TechniSat has in mind with the Digit MF4-S CC: TV viewers who don't want to fuss around with the technological aspects of satellite reception. Simply plug in the receiver and the installation wizard will guide you step by step through all required installation settings. After 15 minutes (and that included unpacking the receiver and connecting all cables!) you can sit back and enjoy satellite television. And please take note: the 15 minutes also include a full scan of Hotbird!

With its dimensions of 265 x 38 x 130 mm this box belongs to the smaller and more subtle family of satellite receivers and thus will be accepted next to any TV set even by sceptics. The large and easy to read digital display which shows the time in standby mode might even pass as a stylish clock rather than a home entertainment component. Well, at least almost.

due to many automatic features like ISIPRO (automatic channel list update via satellite), but on the other hand this can also be attributed to the general speed of this receiver. In order to make the process a little harder for the box we deliberately moved the alignment of our dish away from Astra 19.2° East which transmits all the additional services for TechniSat, like SFI (an extended EPG system).

Connections

On the left side of the box there is the RS-232 interface and a CI slot, while the front panel features a smartcard reader for the integrated Conax and Cryptoworks encryption systems which can take in a single smartcard. This is also the reason for the CC in the model description, which stands for Conax and Cryptoworks.

We then did a factory reset, unplugged the receiver from the mains for a short time and disconnected the Astra 1 position from our DiSEqC switch. Now the box really was on its own but did not bother at all: after initialisation the receiver detected Hotbird, Astra 2 and Atlantic Bird 3 in a flash and – after asking for permission through the user interface – started to perform the channel search.

Channel search in perfection

The channel search of the TechniSat MF4-S CC is very fast. On the one hand this is certainly

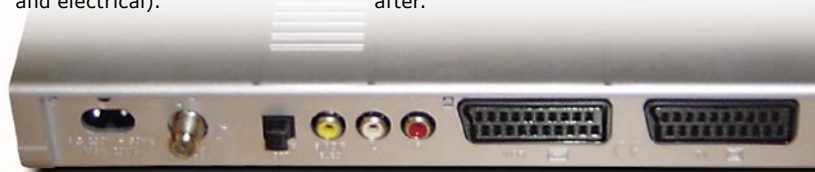
Most on-screen menu items of the TechniSat receiver feature context-sensitive assistance

which renders looking things up in the user manual unnecessary. The remote control with its ergonomic design further assists in operating this box.

The channel switching time of the TechniSat Digit MF4-S CC provided another pleasant surprise. However, we did not check the channel switching time for encrypted channels. We were very satisfied with the video quality delivered by the scart connection and we particularly noticed the excellent AC-3 audio quality of the digital audio output (optical and electrical).

Conclusion

Hardly before have we received such a target consumer focused receiver in our testing lab which manages to please both technical newbies and satellite DXers. If you always thought this is impossible, think again! This TechniSat receiver delivers all promises it makes, thanks to flawless workmanship, reliable software and not least thanks to the extremely easy installation procedure. We are convinced many potential buyers will in the end opt for this product and live happily ever after.



TECHNIC DATA



Manufacturer	TechniSat Digital GmbH, Julius-Saxler-Straße 3, TechniPark, D-54550 Daun / Germany
Internet	www.technisat.de
Contact	international@technisat.com
Model	Digit MF4-S CC
Function	Satellite receiver for DVB-S with 1 CI and 1 smartcard
Channel memory	4000
Teletext	Integrated teletext "TechniText" (1000 page memory)
DiSEqC	1.2
Scart connectors	2
Display	4-digit LED display
A/V outputs	1 x S/PDIF Opt (AC3), 1x S/PDIF Elec (AC3), 2x Cinch
UHF modulator	–
EPG	• plus "SFI" (free extended electronic program guide)
C/Ku band compatible	•
Warranty	2 years
Power supply	230 VAC, 50 Hz
Power consumption	Standby max. 3.4W

Expert conclusion



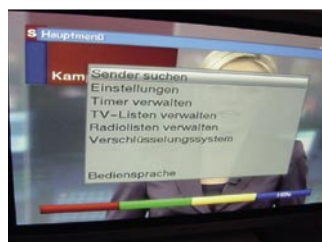
A 1-2-3 product: unpack, connect, watch. Excellent audio quality with the digital outputs.



Missing LNB loop through connection.



Reto Jeger
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Max Communications Chess 4x1 DiSEqC Switch

When we got the new Chess 4x1 DiSEqC Switch we were a bit disappointed by its design - it looked rather old fashioned. But when we tested it, we forgot about its looks!

Quick look at the specifications revealed that the Chess 4x1 DiSEqC-Switch should have only a through loss of 2.0-2.5 dB. So how would it perform in real life?

The attenuation was almost exactly as specified (2-2.5 dB at the ends of L-band). We observed however that it was slightly greater in the center of the L-band (ca. 4 dB). But what was more important, its noise performance was superb!

Perhaps some explanation is necessary here. The signal to noise ratio had actually improved after signal passed the switch (and was attenuated by a few decibels).

This happens when we have a lot of strong signals (from strong transponders) spread over the band. In such situation small attenuation at the receiver input may actually reduce the so-called cross modulation and improve signal quality. Of course, this does not work for weak signals. Anyway, the 4x1 switch performed really well.

Our only real complain about the Chess 4x1 DiSEqC-Switch are the connectors, which are placed at opposite ends of the box. This makes it hard to protect connectors against moisture, when mounted outside.



| Chess DiSEqC-Switch 4x1 wouldn't win the beauty contest, but it performs really well. Installing it outdoors might be tricky |

L-Band Frequency: 1139 MHz					
	Direct	LNB A	LNB B	LNB C	LNB D
Signal Level [dBµV]	64.5	62	62.5	62.5	63
Channel Power [dBµV]	72.5	69	69.5	69	69.5
MER [dB]	7.7	8.3	8.5	8.7	8.7
Channel BER	6.50E-03	3.50E-03	3.20E-03	2.70E-03	2.60E-03
L-Band Frequency: 1607 MHz					
	Direct	LNB A	LNB B	LNB C	LNB D
Signal Level [dBµV]	61	57.5	56.5	57	57.5
Channel Power [dBµV]	66.5	64	63	63	63
MER [dB]	8.1	8.3	8.3	8.5	8.5
Channel BER	4.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03
L-Band Frequency: 1990 MHz					
	Direct	LNB A	LNB B	LNB C	LNB D
Signal Level [dBµV]	60.5	57.5	58	58	57.5
Channel Power [dBµV]	67.5	64	64	64	63.5
MER [dB]	6.9	7.5	7.5	7.7	7.9
Channel BER	1.10E-02	8.00E-03	8.00E-03	5.50E-03	5.50E-03

| Signal level and signal to noise parameters for Chess DiSEqC-Switch 4x1. |

TECHNIC DATA



Peter Miller
TELE-satellite
Test Center
Poland

Expert conclusion

+

Chess 4x1 DiSEqC-Switch has good electrical characteristics and even improves signal to noise ratio

-

Chess DiSEqC-Switch 4x1 may be hard to install outdoors – it has connectors on the opposite sides and has no extra cover.

Manufacturer/Distributor	Max Communication GmbH Siemensstr. 53-55 25462 Rellingen Germany
E-mail	info@max-communication.de
Telephone	+49 4101 6060-0
Fax	+49 4101 6060-999
Model	Chess DiSEqC-Switch 4x1
Description	DiSEqC 2.0 switch
Frequency Range	900~2400MHz
Through Loss	950 MHz: - 2 dB ± 0,5 dB 2300 MHz: - 2,5 dB ± 0,5 dB
Isolation	> 35 dB
Operating Temperature	- 20...+ 60 °C

>> Codename:
X121S CI

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- > 7 Days EPG
- > High-Quality Tuner
- > 2 Conax Cardreader
- > Fast Channel Search
- >> Dealer Wanted



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TV BIZNES

Toroidal Dual Reflector Versus Motorized Dish – Great Competition

Peter Miller

When you decide that it is time for you to start watching channels from more than one satellite, you usually do not think about buying and installing additional satellite dishes. After all, how many people would like to convert their gardens into antenna farms? And those living in big cities have even less freedom. So, instead of adding extra dishes, you usually consider either adding a motor to your existing dish or replacing it with a multifocus antenna with several LNB's. But can a multifocus antenna match the performance of a motorized dish (which, when well aligned has the performance of a fixed dish of the same size)?



! The LNB rail of this toroidal antenna allows the mounting of up to 10 LNB for as many satellites (depending on what can be received at your location). The secondary reflector makes up for the loss in reception and allows the toroidal antenna to become equal in performance to a regular 90 cm dish |

Competitors

We decided to use a size of 90 cm, what was a reasonable trade-off between dish diameter and reception performance. Both competitors were the products of well known companies.

Competitor number 1 was a 90 cm dish equipped with a USALS (DiSEqC 1.3) compatible motor. It had a quad LNB with a noise figure 0.4 dB.

Competitor number 2 was a toroidal dual reflector antenna with a main reflector of 90 cm. We mounted 5 LNB's on its rail: universal single and dual models of different brands. They were specified as 0.2 and 0.3 dB devices.

Of course noise figures of all LNB's were defined as typical values (read: not guaranteed).

Installation

Even though it may look very complex for a newbie, adding a USALS motor to a 90 cm dish is not actually a big problem. Should your supporting pole be perfectly vertical, it is just a matter of dismounting the existing dish, mount the motor in its place and fix the dish to the motor.

The motor itself is small and light, so there are no special requirements for the supporting pole. The adjustments you make are quite similar to those you do with a fixed dish (elevation and azimuth). Once you precisely align your system to the first satellite, all others are found automatically by the system (motor + USALS compatible receiver).

heavy (23 kg). It also requires a perfectly vertical supporting pole but this time it can not be a typical pole of about 40 mm diameter that most of us use with our 90 cm dishes. It requires a pole of diameter 60 mm. It is understandable if we take into account the weight of the antenna but such supports are not that typical.

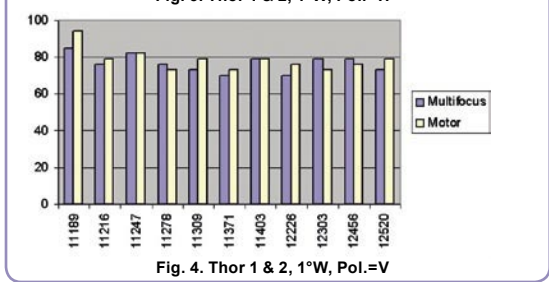
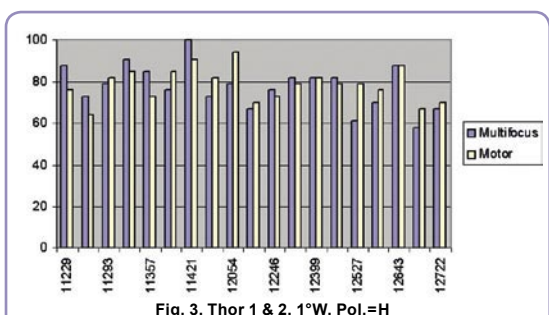
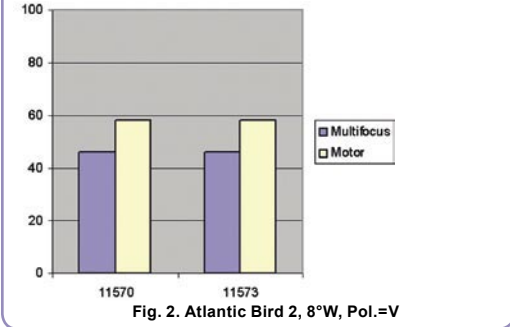
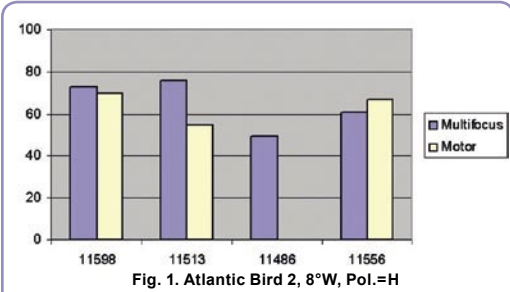
You better wait until a week-end before starting the antenna assembly. You will need more time than you think. Antenna components not necessarily perfectly match one another and a few small inaccuracies in the assembly instruction can be irritating for the less patient installers. Also the alignment is more complex.

For the dish itself, you not only need to set azimuth and elevation but also skew. The LNB holders must be positioned in the correct place on the rail, properly skewed and tilted.

The installation procedure was described in more detail in one of the previous TELE-satellite issues. If you were ever aligning a fixed dish, you should also succeed with a USALS motor if only you do everything step by step as described in the user manual.

Life is not that easy with the toroidal antenna. First of all, it has a lot of hardware to take care of, secondly it is rather

The manufacturer advises to perform all the antenna alignment on



the temporary pole on the ground where you have easy access to every piece of hardware.

All this sounds very difficult but in practice, after finding the first satellite, we found all others without any problem.

Performance

We aligned our multifocus dish in a way we think that many Europeans would do. Namely, we decided to cover 3 most popular satellites (the ones broadcasting the highest number of FTA channels): Astra 1, Astra 2 and Hotbird. Because the antenna had 5 LNB holders, we added Thor and Atlantic Bird.

We observed signal quality shown by our satellite receiver when the input signal came from an LNB mounted on dual reflector antenna and then from a motorized dish. The following charts in figures 1 through 8 present the results for the 5 satellites for both polarizations. Axis Y shows quality reading in % and axis X transponder frequency.

Please note that for Atlantic Bird, 11486H, the signal was very weak and the motorized dish with 0.4 dB LNB was not able to lock on it (quality = 0).

When we were analyzing the results we noticed that the multifocus antenna had performed much better for Hotbird and worse for Astra 1 as compared with the motorized system. But was it really a difference in the performance of antennae or of LNB's?

We suspected the latter. So we swap the "Hotbird LNB" with the "Astra-1 LNB" mounted on the dual reflector dish. The measurements confirmed our suspicion: now Astra-1 was great and Hotbird - poor. Figures 5 and 6 show some of the Astra 1 transponders after the change.

Conclusions

Our measurements proved that a dual reflector toroidal dish performs as good as a motorized dish with respect to signal quality. Today, much more depends on LNB selection.

So what are the advantages and disadvantages of both solutions?

Motorized dish offers relatively low price, low weight, simple assembly and alignment, large arc range (20 or so in Europe).

The main drawback of the motor is a long time required to turn the dish from satellite to satellite (1.5-2° per second). You must be careful when creating your favorite channel lists - not to mix channels from very distant satellites. Otherwise channel zapping may become a nightmare. Sometimes, the noise generated by the motor may be disturbing (but relax, it is not very loud).

You can not distribute the signal from a motorized dish to a few receivers and use them independently. When antenna is pointed to a given satellites you cannot watch a channel from a different satellite in the other room.

Multifocus antenna is more expensive (remember about LNB's, DiSEqC switches or multiswitches), much heavier and more difficult to assemble and align. Its satellite arc range is



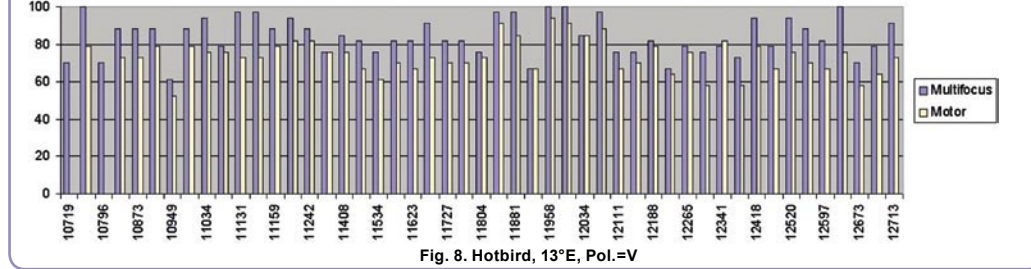
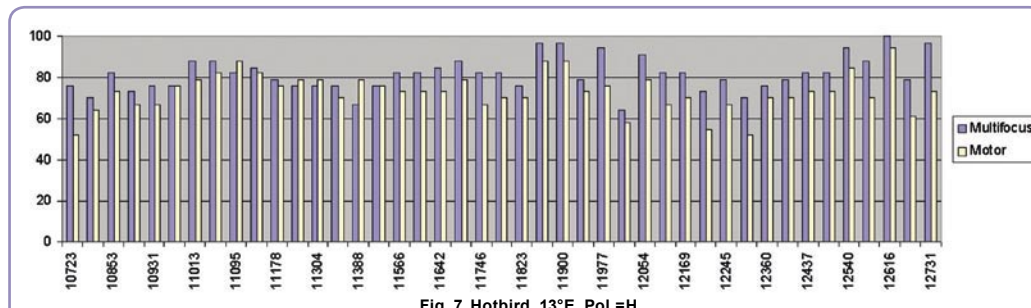
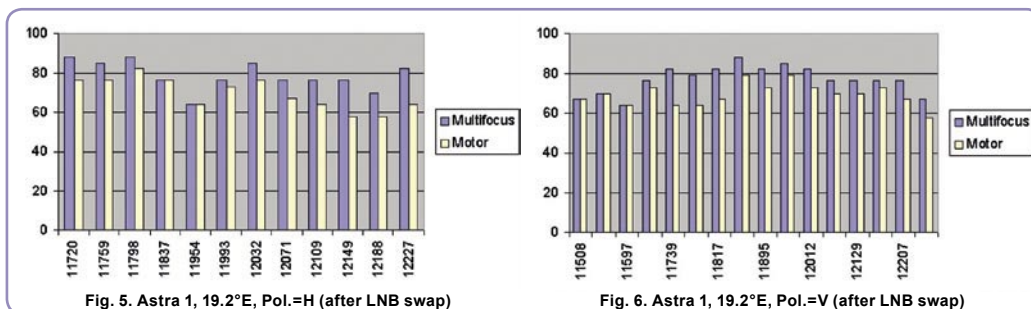
What do you prefer? A dish mounted to a motor on the top of roof, where it gets the full viewing range, or a fixed dish in some corner of your balcony to catch a smaller but sufficient range of satellites?

smaller (~40°) so in practice, the number of satellites you can receive is around 10. What is a main drawback for a motorized dish, is a main advantage of a multifocus antenna. Channel zapping is instantaneous even if they are from very distant satellites.

Moreover it is easy to distribute the signal to several receivers and use them independently. Of course, you have to use Quattro

LNB's and multiswitches for this purpose. So, if you use only one receiver and you do not like to kill time by endless channel zapping opt for the motor. But if your children in the other room always like to watch something absolutely different than you do, think about dual reflector.

And do not worry about the signal quality: the toroidal dual reflector antenna is really good.





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**DEALERS
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C-band reception with a 1.8m dish in Europe - what's possible?

Sylvain Oscul

In one of the last issues of TELE-satellite magazine we reported about C-band reception in the U.S. with a 1.2m offset dish. In this issue we wanted to give you an impression of what's possible to receive in mainland Europe with a 1.8m antenna.

First of all you have to know that C-band is not very common in Europe, nearly all programs are transmitted in Ku-band. For Ku-band reception you can use much smaller dishes, which is a huge advantage in highly populated areas of Europe. Because of the higher frequencies used in Ku-band, it's possible to reduce the satellites coverage areas, which can be an advantage for TV operators in means of licence issues. Rain seasons, well know from other areas of the world, are not common in Europe and so it's not necessary to use C-band reception, which is far more resistant to bad weather than Ku-band. Summarizing we can say, that the advantages of C-band are it's less sensitivity on rain and the possibility to cover large areas with satellite signals.

However, there are a lot channels in C-band available all over Europe and in one of the next issues of TELE-satellite magazine we'll even try to get them with a 1.2m dish, but first we want to take a look on what's possible with a 1.8m antenna.

If you want to buy a dish like this, you'll find it as parabolic and offset models. However, the offset dishes are meant for Ku-band reception only and are therefore not the ideal choice. For our test, we used a 6 segment dish, which is delivered very handy in a box and can be mounted by a trained installer within 90 minutes. The distance between the LNBF and the dish itself is very important and has to be setup very accurately. It's called the f/d ratio and can be found in the manual of your dish. If you choose a wrong distance, the dish will not work on its full resources.

After installing the dish and mounting the LNBF, we connected it to our spectrum analyzer and within a few moments we could find the first carriers on NSS806 40.5° west. Now we used the good old Nokia Mediamaster receiver with DVB2000 software. After quickly entering the correct transponder information from SatcoDX we had the first lock within a few seconds on our TV screen. With a little fine adjustment of the dish, we could receive the SCPC and MCPC transponders on this satellite without any problems and so we enjoyed TV from South America for a few moments, but this first success made us eager



Sylvain Oscul adjusting the 1.80m prime focus dish. He can double check reception with his other 2.40m and 3.10m dishes. |

to get more. Now we turned the dish to 38.5° west (AMC 12), 31.5° west (INTELSAT 801), 22° west (NSS7), 11° west (EXPRESS 3A), 8° west (TELECOM 2D) und finally 5° west (ATLANTIC BIRD 3). For the first time in our test we experienced reception problems on this satellite on weak SCPC transponders (RFO Feed, KTN and TELE-Sahel). On 1° west (INTELSAT 10-02) we could just receive DW-TV because of its very high FEC (1/2). After removing our dielectricum from the LNBF we could receive ARABSAT 26° east without any problems (the channels there are not transmitted with circular but with linear polarisation). On our way from the west to the

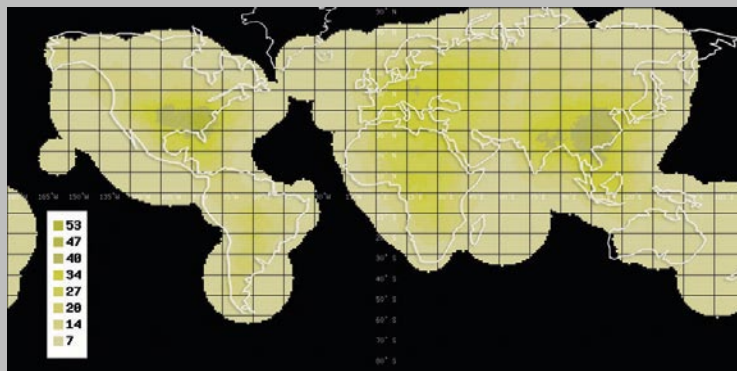
east, we furthermore tried to receive 40° east (EXPRESS AM1), 49° east (YAMAL 202), 57° east (NSS703) and 60° east (INTELSAT 904), all of them without any problems. On 64° east (INTELSAT 906) and on 68° east (PAS 7/10) we didn't have that much luck. The two SCPC channels on 64° east (3630 and 3778) could not be locked and also some SCPC carriers and feeds from 68° east where too weak to be received with our dish, except the 3837 R 7/8 feed.

In the next step we tried to replace our 17K LNBF with a 15K LNBF and noticed a small reception improvement, e.g. transponder 4.181

C-band worldwide

The map shows you the actually available reception possibilities of digital satellite FTA (Free To Air) channels in C-band. Clearly you can see the main target areas in North America, Russia, India and China. The legend shows the actual number of available FTA programs (at the time of creating this map). The highest signal strength and therefore the smallest dishes can be found in central Russia and India.

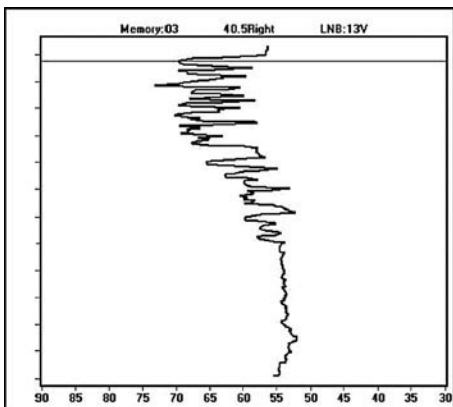
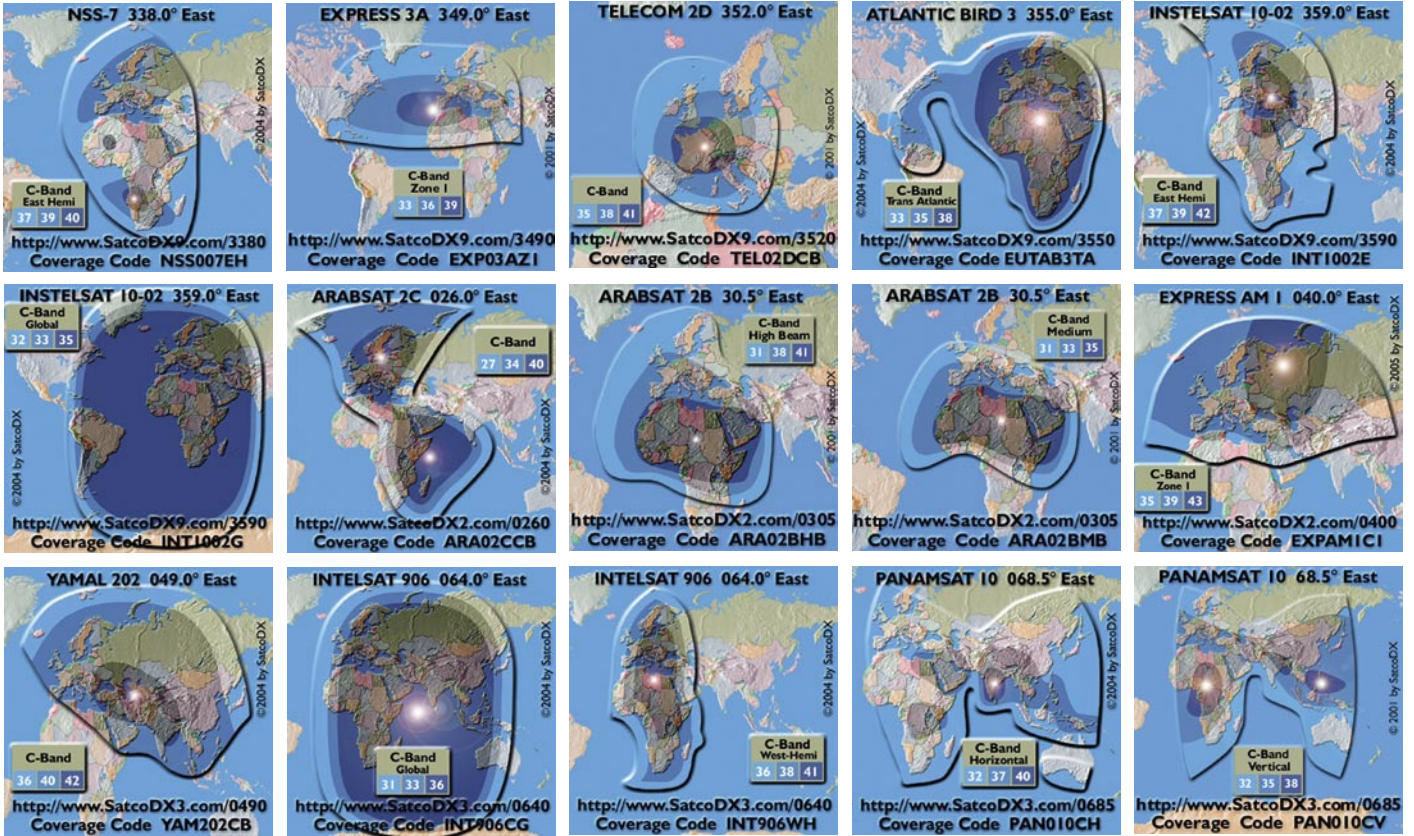
[Graphics: SatcoDX statistics service]



The map shows areas with digital FTA programs in C-band with at least 38dBW of signal strength. In main target areas there are up to 53 programs available |

C-band reception in Europe

The coverage areas of these satellites also reach Europe. A complete list of all available channels on these satellites can be found via the SatcoDX software „World of Satellites“.



GHz,R,28888,5/6 on the NSS806 40.5° west increased from 63 dBuV with the 17K LNB to 69.3 dBuV with the new 15K LNB.

Final results

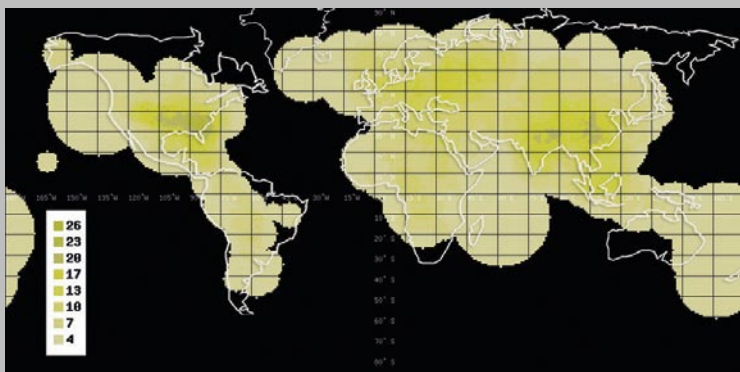
From about 27 theoretically available satellite positions on our location in Lyon/France, we could in fact receive 15. Generally we can say that C-band reception got more interesting within the last few years. First of all the transmission power of the satellites has increased and secondly the noise ratio of modern LNBs

has decreased so that we are now able to receive more channels on more different satellites than we would have been a few years ago.

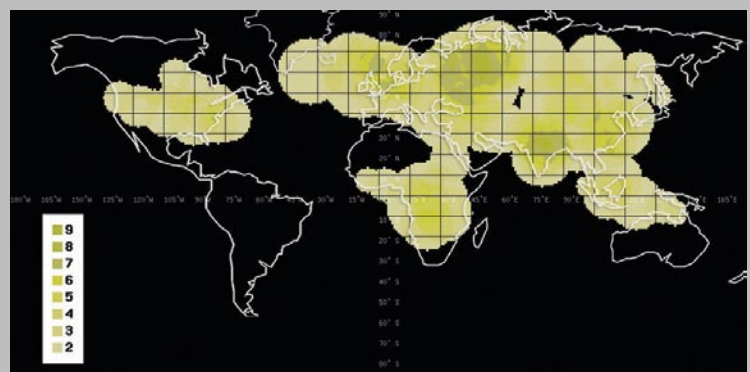
For all of you out there, wanting to receive foreign channels from countries like Japan, Brazil, Argentina, Peru, India, North- and South America or even North Korea, C-band reception would be your first choice. My favourite satellites are the NSS806 40.5° west and PAS 7/10 68.5° east, because they offer the widest range of different channels.

If you have enough room to install a dish of this size, you should really consider to start receiving c-band, it's definitely worth the money.

Signal strength using 15 K LNB at 40.5° west |



The map shows areas with digital FTA programs in C-band with at least 40dBW of signal strength. In main target areas there are up to 26 programs available |



The map shows areas with digital FTA programs in C-band with at least 42dBW of signal strength. In main target areas there are up to 9 programs available |



Saleh Al-Wehaimod
[Egypt]

answers
your questions

Not on NILESAT

What are the frequencies of Alnadi, Bahrain Sports, Qatar TV, Tunisia 7, and Algeria 3 on Nilesat?



None of these channels broadcast on Nilesat. Alnadi and Bahrain Sports only broadcast on ARABSAT 2D/3A, where the rest of the channels broadcast both on ARABSAT 2D/3A and several satellites, such as HOTBIRD.



No chance for TPS

I live in Cairo, Egypt. I can receive HOT-BIRD, but I could not get any signals to receive TPS Star. How can I get it?

TPS Star broadcast on HOTBIRD Super Beam, which can not be received clearly in Egypt. You will need a dish bigger than 2.4m in order to receive some signals from Hotbird super beam.

Multi satellite reception

Can I receive ARABSAT 2D/3A, ARABSAT 2B, and NILESAT by one fixed dish?

You can easily receive NILESAT together with one other satellite, either ARABSAT 2D/3A or ARABSAT 2B, using one fixed dish. Since ARABSAT 2D/3A are on 26° East and ARABSAT 2B is on 30.5° East, it will be hard to combine these two positions using one dish. Because of their closeness, one LNB might block the signals from the other one. So, make sure to use small LNBs which will help to avoid the interruption of signals from both satellites. Also, Monoblock LNB should work fine to pick them up both.



Thomas Haring
[Austria]

answers
your questions

PC card for HDTV

Recently I bought a PC extension card to receive HDTV programs from Twinhan. The employee in the shop where I bought it ensured me, that I can receive all the new HDTV channels with this card on my PC. I tried to tune to the new HD versions of German TV programs Sat.1 and Pro7 on ASTRA 19.2° east, but I couldn't even get a lock on the transponder, because the cards software does not offer an FEC of 9/10 and with auto-detection the card does not find any programs. Is there a way to receive these HDTV programs with my card?

The card you bought can receive HDTV programs, but just the ones encoded in „old“ MPEG-2 standard. The programs you want to receive are encoded in DVB-S2 (MPEG-4) and to receive these programs you need another card and since you need a completely new hardware (tuner) it's not possible to upgrade your card for the reception of DVB-S2.

Russian programs in Germany

My wife is from Russia and wants to receive her home channels here in Germany. I checked the Internet and noticed that the EXPRESS AM1 satellite at 40° east would be the right choice for her. I tried to receive channels from this satellite with a 1m dish and my Humax 5600 receiver, but I had no luck. Can you help?

For the C-Band as well as for the KU-Band of EXPRESS AM1 you will need a bigger dish. For KU-Band you should use at least a dish with 1.5m in diameter, for the C-Band at least 1.8m. Anyway, I would not just focus on EXPRESS AM1, there are some other



interesting orbital positions for you: First of all Eutelsat W4 at 36° east, with a dish size of 1.2-1.5m and a circular!!! LNB (in one of the next issues of TELE-satellite we will test one of these LNBs) you can receive a variety of Russian programs. Furthermore there are the INTELSAT 906 at 60° east, LMI1 75° east and AMOS 1/2 at 4° west. With a 1.2-1.5m dish you should be possible to receive all of them. For further information and details, please check the SatCoDX website www.satcodx.com or the „World of Satellites“ software.

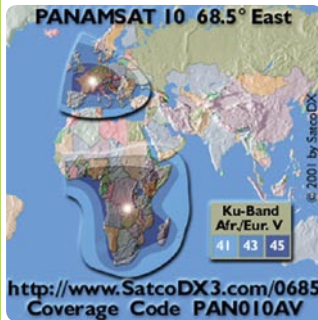


Andy Middleton
[UK]

answers
your questions

PANAMSAT 10 in Oslo

Is it possible to get PANAMSAT 10 in the Oslo area of Norway? Especially the channel Scoan TV on 12682MHz with symbol rate 26657.



Yes, it should be possible to receive this transponder there. It is however on the outskirts of the footprint, and a dish of around 1.6m or more would be needed for reliable reception.

How to find azimuth & elevation values

I just got a used orbit system with a xd-300 receiver. In my US system there was a section that you put in your zipcode and it gave you azimuth and elevation. How do I get that information for the necessary bird in the Baghdad area?

Easy ways to do it – use the SatcoDX CD's DishTrak function to specify your location, and it'll show all the receivable satellites with the required azimuth and elevation data.

English TV in Geneva

My family and I may be moving to an apartment with a good southern exposure. Is it possible to set up a simple, inexpensive arrangement to link up to a satellite for free access to English programming?



Yes – a standard receiver and dish would give you several choices. If you wanted programming in other languages as well as English, ASTRA 1 or HOTBIRD would be good choices. But for the widest range of English channels, the ASTRA 2/EUROBIRD slot at 28 degrees east is the best bet. From Geneva you may also be lucky and get the channels from ASTRA 2D. Check the SatcoDX website or CD to see the channels available.



Ron Roessel
[USA]

answers
your questions

Video But No Audio

I am having a problem with receiving some TV channels on my satellite. I can not receive the audio signal (voice), but the video signal (picture) is very good. I checked all the input parameters for the channel and they were correct. At the same time I can receive many other channels on the same transponder (frequency) with very good signal for both audio and video.

It almost sounds to me like the audio on these channels is digital audio. Unless your receiver is compatible with digital audio outputs, you won't be able to hear the audio on these kinds of channels. Having a satellite receiver with digital audio outputs is not enough. You would also need an audio receiver that can decode the digital audio signals.

Using a Receiver in the Philippines

I am presently working in the Kingdom of Saudi Arabia and I am planning to buy a receiver and a dish. I am just wondering if I could use the dish and receiver that I bought here when I return to the Philippines.

Most receivers built today can be used almost anywhere in the world. The very first thing to check for would be the receiver's power supply. It should be rated something like 90-250 VAC, 50/60 Hz. A receiver with this kind of rating can be plugged into a wall socket almost anywhere in the world without having to worry if the receiver will blow up. The next feature to check for would be the receiver's ability to work with both the PAL and NTSC color standards. If your receiver can do all this, then you should have no problems using it in the Philippines.

Only Six Satellites

I live in the southwest corner of Washington State. I have a 2.4 meter motorized dish with a C-band LNB. I can presently pick up 6 satellites with a total of about 200 channels. Most are in other languages except English. Am I to accept that there is no other stuff worth watching? I read that the bigger the dish the more satellites I can receive. Is this true? The small company I bought my dish from said it wouldn't make any difference.

With your size dish you should be able to get quite a few more satellites such as Galaxy 10R, Intelsat Americas 5, etc. All you have to do is turn your antenna more to the east to get these satellites. You could also upgrade your current C-band LNB to a combined C/Ku-band LNB. This would give you access to hundreds of additional channels on Ku-band satellites.



Sylvain Oscul
[France]

answers
your questions

INTELSAT 801 (328.5E - 31.5W) from Paris?

I live in the Paris area and I'd like to receive INTELSAT 801, which diameter of antenna is necessary for me?

INTELSAT 801 is used for feeds on the European KU band beam, on C band the channels from Mali and Senegal are transmitted. The other beams do not cover Europe. To receive INTELSAT 801 in C-band in your area you would need a dish of 1.80m diameter, whilst for the signals in KU-band a 90 cm dish is sufficient.

Ethiopian Channels in Europe?

I live in Lyon, on which satellite can I receive Ethiopian channels?



ETV via the NSS 703 at 57° East

The national channel ETV is available in France via the NSS 703 at 57° East. The EIRP of this satellite is approximately 35dB, which means a diameter of 2.50m (8") is needed. We do receive the channel without problems here at our SatcoDX station in France.

A maximum of Arabic channels in France

I am interested in Arab countries, Saudi Arabia, Sudan, etc, how do I have to proceed?

You have the choice between two orbital positions, NILESAT at 7° West or ARABSAT at 26° East. The easiest to receive with an antenna of 1m and a LNB with 0.2 dB is ARABSAT. But it offers less FTA programs than the other option, which is NILESAT. To receive it you need a dish of 1.20m diameter made by a good manufacturer.

INTELSAT 805 at 55° West?

I live in Belgium and I would like to know which size of antenna is needed to get the 1805 Satellite.

The EIRP of this satellite is a bit weak for Europe; we did not lock the programs during our tests with an 1.80m (6") dish. To receive this satellite in a comfortable way, it is necessary to use a 2.50m (8") dish.



Kambiz Keramati
[Iran]

answers
your questions

HDTV in Iran

Is it possible to receive HDTV signals in Iran?

At the moment HDTV signals are broadcast for USA, Europe and Far Eastern countries. There are many HDTV channels on ASTRA and HOTBIRD satellites, and as you can receive HOTBIRD in Iran, you will be able to receive HDTV channels. However, you will need a completely new equipment. In fact, you have to use HDTV compatible receiver (or PC card), and a HDTV compatible monitor or tv set.

Gettings some channels

I use a Super MAX receiver. When I search de HOTBIRD and INTELSAT 902 satellites, the receiver can not find some channels like DIDAR, MITV, HOMA, IRIB and INN on HOTBIRD, and IRIB TV1,2,3,4 and 5 on INTELSAT 902. How can I solve this problem?

Your desired channels on HOTBIRD don't use a strong beam, so to receive them you have to align your dish very carefully. About the IRIB channels on INTELSAT 902 (TV1 to 5 and other provincial channels) unfortunately their used transponders are not defined in your receiver (in fact, in most of receivers). So you can not find those channels after an autoscanner procedure. First of all, you need to update the transponder data of your receiver and scan again. And if your receiver still could not find them, you have to add their transponders and other technical data manually one by one. You can find all necessary data in the SatcoDX „World of Satellites“ software.

Al-Ankabut (Spider) System

I heard from one Syrian satellite dealer that there is a new system called Al-Ankabut (Spieder) which has a very small dish and can receive all of the satellite and link them together. Besides it is useful to get high speed Internet. According to that dealer, this system is Lebanon has a price of around USD 1100. But when I asked others about this system, nobody has heard about it. Does it exist?

You can be sure that such system does not exist! According to the nature of satellite communications and the spherical form of Earth, it's completely impossible to receive all of the satellites in a single point, even by using a very huge dish. And about Internet via satellite, you will need to subscribe to a service provider, which offers service on a receivable satellite for your location.

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The Ups and Downs of Satellite Reception in Iran

Kambiz Keramati



A look into one of the housing areas in Tehran: nearly every home is connected to a dish either on balcony or on roof.

More than 12 years ago, the first C-band satellite receivers appeared in Iran. On February 12, 1995, the legislators approved a new law, in which they defined the list of associations which are eligible to use satellite systems. This list includes the Iranian telecommunication company, IRIB, newspapers and other media which need to access the world news, some of the scientific associations and finally foreigner agencies and embassies in Iran. They clearly declared that for others, any type of transaction of satellite reception equipment, using such systems and even repairing them is forbidden.

Since then, the method of reaction and point of view of the officials to this subject has faced many ups and downs and even changes. Besides, Iranian government has tried to produce more attractive TV programs, purchase and show more appropriate foreign movies, sport competitions and documentaries, and even has increased the number of TV channels of IRIB from two channels to seven nationwide and twenty eight provincial channels.

However, according to the Islamic laws, IRIB cannot broadcast any program which may contain any immoral scenes or any type of nudity (even in women's sport competitions). Hence the eligible and acceptable foreigner entertaining programs for IRIB policies are really limited. Besides, many other pro-

grams (for example western music, music video or any other material which is based on western culture) too are completely absent in IRIB. Hence the lack of entertaining programs and also news resources has been obviously clear in the Iranian society. And as during the previous 6-7 years, the official reaction to this subject has been more tolerant, the numbers of Iranian citizens who decide to use these „illegal“ satellite systems has increased (and still increases) rapidly. According to unofficial reports and statistics, the number of satellite dishes in Iran is more than 5 millions!

Although most of Iranians speak Farsi (Persian), Iran is a multi ethnic country. People of North West of Iran are mostly Turks and Kurds. In the South West, Iranian Arabs live

and Baluchs are present in the Southern East regions of the country. Besides, some other ethnic minorities live in other parts of Iran (for example Turkmen in the North East).

Hence, after Farsi and English (as the main foreign language of Iran which is taught in the Iranian schools and universities), Turkish, Kurdish, Arabic, Turkmen, Urdu and even Hindi languages are welcome in different parts of Iran. Besides, there are many Iranians who understand some other European languages (mainly French, German, Spanish and Russian).

Accordingly, the most favorite satellite in Iran is Eutelsat's Hotbird (at 13.0 degrees East). The next favorite satellites are Turksat (at 42.0 E), Arabsat (26.0 E), Nilesat (7.0 W), Express AM 1 (40.0 E) and Express AM 22 (53.1 E). As IRIB broadcasts the provincial channels on Intelsat 902 (62.0 E), some people may like to receive this satellite too. And for the people who are interested in Farsi

political and entertainment channels - which are mostly broadcasted from Los Angeles, U.S.A. by the Iranian oppositions - there is Telstar 12 (345 E).

The first satellite receivers which appeared in Iran were simple C-band receivers from Korean, Chinese and Israeli brands like Kyte, Winersat and Benjamin. After beginning of the digital era, everything completely changed. Normally, Ku-band reception needs smaller dishes (in Iran, mostly 90 cm or even smaller in diameter). Naturally such small dishes were more useable and practical for Iranian citizens. The high quality of video and audio of digital MPEG-2 channels, the grown number of receivable channels, the variety of receivers and other equipments in the market (well, black market of course!), and the competitively low prices of such systems were the other reasons to urge Iranians to use satellite reception systems. Besides, according to the increasing number of users, the sensitivity of the officials to this subject too lowered and it seems that they - unofficially - decided to be more tolerant and patient against it.

But there has been no change in the approved law of 12 years ago. Satellite reception is still „officially illegal and forbidden“. This means that there are still risks for your equipments to be banned and suppressed. The higher the cost, the higher the risk. This is why most of people prefer not to spend too much for their „illegal“ satellite systems. More than 80% of receivers in Iran are simple FTA models of some low price Asian brands. Recently many „no name“ FTA receivers have appeared in Iranian market. Their mainboards are exactly the same, but use different unknown names. Most of such receivers (which can easily open the scrambled channels of different encryption systems), are assembled in „Jabal Ali“ free zone of U.A.E. There are also rumors that some of them are assembled inside the Iranian territories, reportedly in Qeshm Island! These small but powerful receivers generally cost not more than 70-80 U.S. Dollars.

The same is true for the dishes. Over 99% of dishes in Iran are very simple and cheap metallic (less than 10 U.S. Dollars) models, which are made in small industrial workshops. They are simple fix dishes without any scales or other peripherals. Simple DiSEqC switches are very popular, but motorized antennas could rarely be seen. Multiswitches too are recently becoming popular, especially in towers and skyscrapers.

According to the relatively high prices and also lack of official dealers, access cards of encrypted channels and packages are not popular in Iran. Besides, most low cost „FTA“ receivers in Iran are capable to open many channels and packages which are originally encrypted in different encryption systems, including Viaccess, Irdeto, etc. And the updated software of such receivers can be easily found and downloaded from the Internet.

Despite of all of the legal problems, it's not difficult to reach an installer, who can prepare any needed equipments, and install the complete satellite system. Generally they cost their customers around 10 U.S. Dollars for setting up each satellite dish. They are also ready to offer after-sale services! Most of them are ready to update the software version of their customers' receivers, or repair their systems if needed. The price of updating the receiver's software (to open the encrypted channels) may vary from 5 to 15 U.S. Dollars.

But because of the young and educated population of Iran, most of users don't even have to pay such low costs too. In most of Iranian families, the younger members have learned to setup their own satellite systems, to get the new versions of the software and to update their receivers, using their laptop and a RS-232 cable.

Despite of the restrictions for reception of satellite TV channels, other applications of satellite communication systems are rapidly developing in Iran. For people who would like to use a mobile phone system, more reliable than traditional GSM systems, there is „Thuraya“ satellite mobile phone. Geotechnical technicians and engineers, mountain climbers, truck drivers, etc. can use GPS systems. National banking system has developed a satellite-based integrated system (SHETAB).

Internet via Satellite is rapidly developing. Most of Iranians are connected to the Internet, using dial-up or ADSL systems. But according to presence of satellite dishes in (almost) every Iranian house, many of internet users would like to use their satellite systems to access to the high speed Internet.

And recently, Iran has launched its first satellite to the orbit and has plans to launch two other satellites very soon.



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