

Dec. 06, 2002 - We are on Photo -

Bob Cooper's

DECEMBER 15 2002

# SatFACTS



MONTHLY

Reporting on "The World" of satellite television in the Pacific and Asia

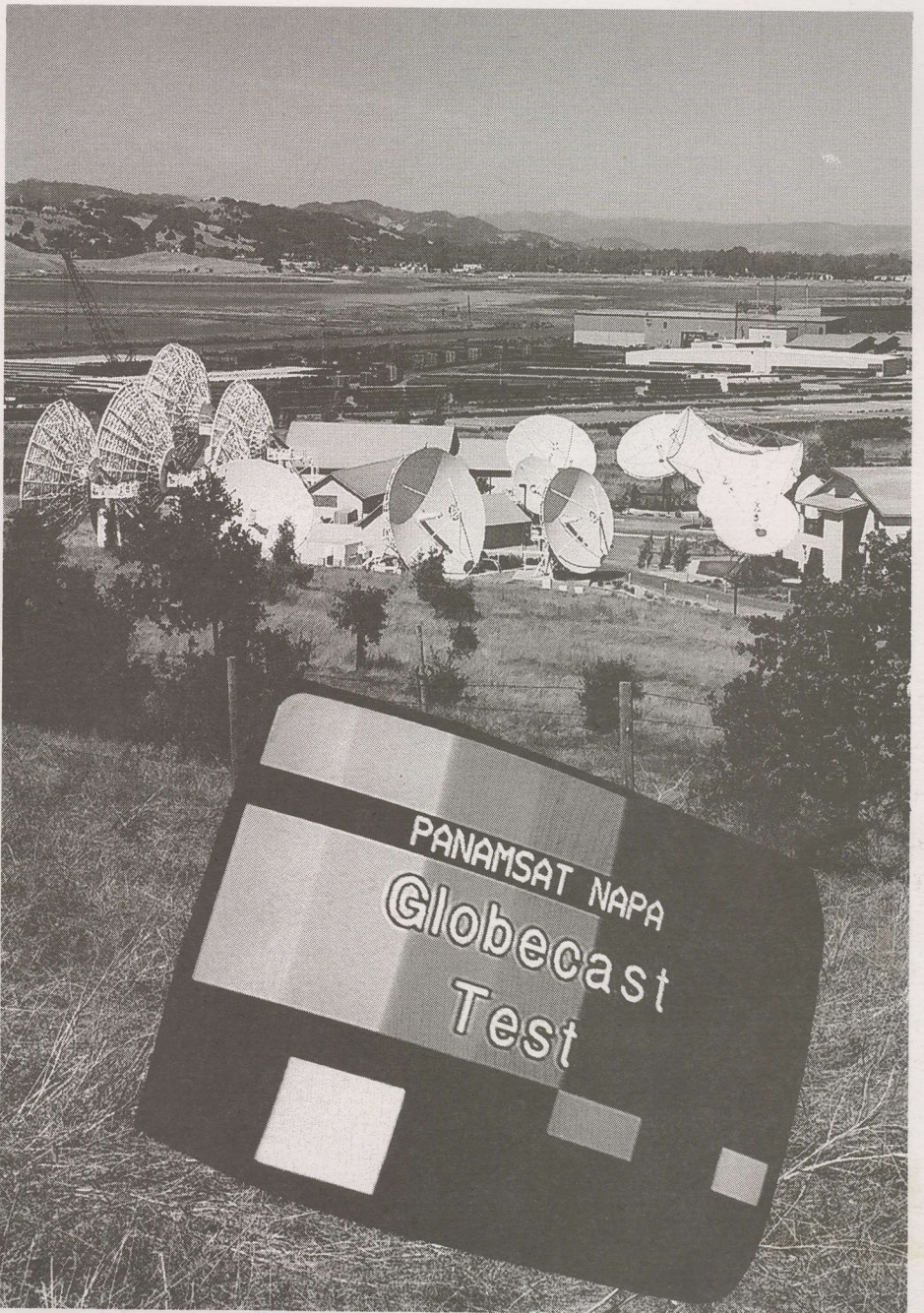
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- ✓ Latest Hardware News
- ✓ Trouble in Comet-City
- ✓ Observer Reports



Vol. 9 ♦ No. 100 (!!)

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# SatFACTS MONTHLY

ISSN 1174-0779

is published 12 times each year (on or about the 15th of each month) by Far North Cablevision, Ltd.

This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education.

These messages are available to anyone willing to install the appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of these messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

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our NINTH year!

## COOP'S COMMENT

Comet, the primary contractor for installation of pay-TV home (and commercial) dish systems in Australia, has not increased payment to contract installers for approximately 3.5 years. An installer does work assigned to Comet by Foxtel (or Austar), and after completing the call fills out significant paperwork and then waits 3 to 4 weeks for payment. A group in WA wants Comet to re-address the payment schedule (below); the rate of pay may be

higher in Eastern Australia than shown in the table below. New Zealanders reading this with some envy should also remember the Australian dollar is worth up to 15 cents more than the New Zealand dollar so when comparing rates between the two countries, Kiwis should add 15% to what they see here (i.e. A\$149.91 becomes NZ\$172.40).

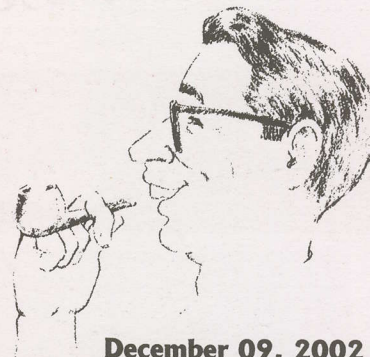
In 3+ years, every expense incurred and paid by installers has risen: Fuel to operate vehicles is up 25%; vehicle and liability insurance is up 27%; cost of living is up 11%. Comet now requires contract installers to own a PC and it is via Email that instructions and reports flow; Comet did not volunteer to pay any of the PC system costs and Internet provider charges. The cost of complying with recently adopted work place safety requirements is substantial. And contractors are required to use only Comet (actually Foxtel and Austar)

approved "disposables" which are purchased from Comet at what one expects is a profit to the supplier.

Comet, on the other hand, must negotiate rates of payment from Foxtel (and Austar) and neither firm is inclined to spend money when they have combined losses exceeding A\$200 million annually.

So there is a "subsidy" here - customers pay below-market prices for installations (the sum of the equipment and the labour exceeds the cut-rate charges), Foxtel wants to reduce their portion of the subsidy by forcing Comet to pass on some of this to installers.

If you feel incensed by this, send an Email to [contractorscause@hotmail.com](mailto:contractorscause@hotmail.com). A workplace confrontation is festering and it is likely to come to a head very soon.



December 09, 2002

JOB	Description	Now	Asking
SDW	Wall mount, 65cm	\$149.91	\$187.40
SDF	facia mount, 65cm	\$171.90	\$209.40
SDL	tile roof mount, 65cm	\$172.41	\$209.91
SDT	tin roof mount, 65cm	\$161.91	\$199.41
SDG	gutter mount, 65cm	\$172.41	\$209.91
SCO	service call-installer supplies parts	\$ 35.00	\$ 50.00
SOP	disconnect decoder, smart card pickup	\$17.50	\$ 50.00
DOP	disconnect- pickup dish and LNB	\$ 17.50	\$ 50.00
HDS	full disconnect, leave mount	\$ 17.50	\$ 50.00
RDI	relocate dish	\$ 70.00	\$100.00
SUB	additional outlet, separate visit	\$ 48.00	\$ 75.00
SUX	additional outlet, secondary	\$ 35.00	\$ 50.00
RAO	recover additional outlet	\$ 17.50	\$ 50.00
VCS	CVCR tuning - separate visit	\$ 35.00	\$ 50.00
SUT	transfer of supplemental outlet	\$ 35.00	\$ 50.00
SUP	additional outlet, same visit	\$ 40.00	\$ 60.00
TSH	3 storey ladder allowance	\$ 70.00	\$ 80.00
FCI	FTA modification	\$ 7.00	\$ 10.00
WPP	additional outlet, no STB	\$ 35.00	\$ 50.00
RCD	reconnect, dish & LNB in place	\$ 37.00	\$ 50.00
RCO	reconnect- mount only in place	\$ 87.00	\$115.00
Hourly Rate	Hourly rate	\$ 35.00	\$ 50.00
Mileage	Mileage allowance - per kilometre	\$ 0.50	\$ 1.00
No-one home	Payment for no-one home "visit"	no pay	\$ 25.00

### In Volume 9 ♦ Number 100

PanAmSat Napa - a "sitting duck" -p. 6  
the "BIG" d-Box2 report -p. 8  
AC-3/Dolby for Nokia receivers -p. 19  
Universal LNB(f)s and DiSeqC -p. 22  
UK DTH fans have it tough -p. 29

### Departments

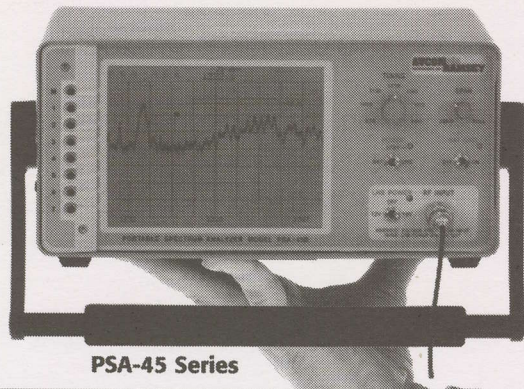
Programmer/Programming -p.2; Hardware/Equipment Update -p. 4; SatFACTS Digital Watch -p. 24; Supplemental Data -p. 26; With The Observers -p. 28; At Sign-Off (Buttons NOT to push)

### -ON THE COVER-

Mix a shoulder SAM missile with a terrorist and watch PanAmSat's Napa facility go poof. Page 6.



# What's New at AVCOM RAMSEY? The LCD Lightweights!



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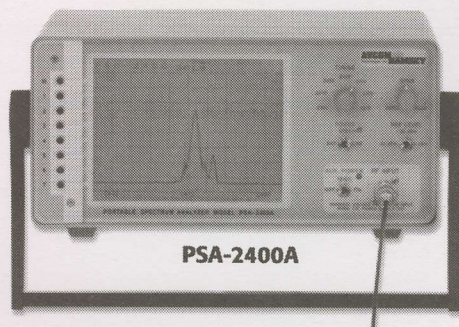
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PSA-45B \$2,475.00

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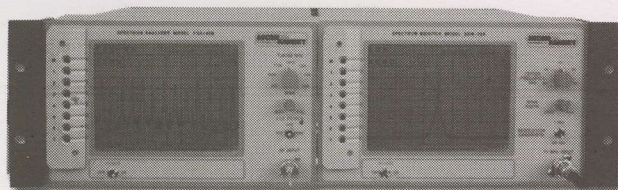
PSA-2400A \$2,775.00



PSA-2400A



SDM-42B



SDM-70AR with PSA-45BR

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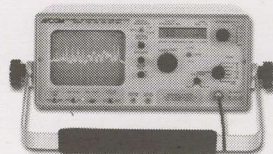
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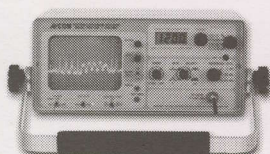
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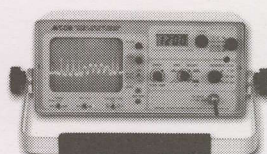
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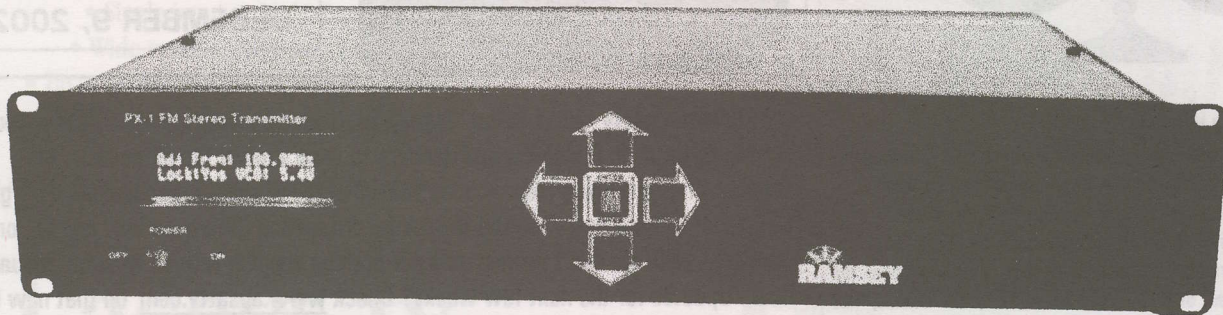
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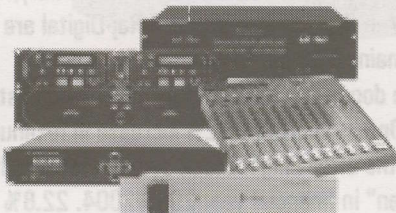
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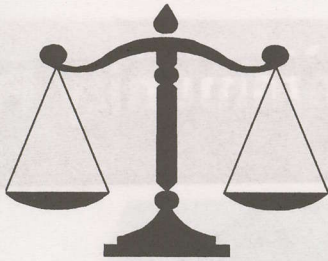
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**Optus B3 Hz "fading"**

"The series of SF reports concerning a clock-setting drop in Hz side signals (in particular 'Letters' SF#98, p. 2) is actually a well documented phenomenon long reported by those attempting reception at the 'edges' of the coverage pattern (and that would include the Northwest of WA). Reception in PNG, the 'islands,' has always been difficult even with the best equipment and engineering. And reader Brad Howard's meticulous daily measurements in WA correctly identifies the drop in signal levels - but of course not the cause. Optus in their usual close-to-the-vest manner simply refuses to comment on the reports beyond a terse, 'Those locations are beyond our planned coverage'."

GC, Sydney

"Curious, I monitored B3 Hz signals here on a typical home-style 65cm dish through the 10PM-4AM (WA time) period reported as a low signal day segment. Sure enough, some (but not all) of the Hz transponders on B3 do in fact drop down in level here in NSW. What is nominally 100% signal quality drops off to 83% during the time slot that corresponds to Brad Howard's observations. Of course where we are located, there is still plenty of signal remaining for flawless reception but calculating backwards, the signal level drop would seem to agree with Howard's measurements - up to 3 dB in the worst case. This indicates the B3 Hz transponders are indeed being 'powered down' in the 'middle of the night' and the problem is not simply one of a rotational movement of the satellite. The bad news is that these power downs are Optus controlled and they must have some power consumption issues which can only be managed by cutting back on EIRP. As they can selectively do this on any transponder or transponders they wish, it is unfortunate they are picking on the pay-TV Hz side!"

NS, NSW

**The straight poop**

"Your HDD status report in SF#99. America continues to be the land of excesses. According to NPDT research, more American homes still use an outdoor loo ('outhouse') than own a TIVO like machine (671,000 to 504,000). I wonder how many of these 'outhouses' have a TIVO installed?"

Have a TV in my bathroom, NSW

**Big Blast off?**

"The Australian general press is cranking up consumer awareness of the C1 satellite. When can we expect to see it launched?"

GH, Victoria

Officially, "within the next available launch window between December and April" but more specifically, March-April with emphasis on early April. Optus will be able to "bank" the reported A\$900 million due to it from Foxtel (for 12 transponders with an option on 2 additional) when the satellite is launched, on station, and Foxtel has begun to use it. There are a lot of crossed fingers backing its successful deployment.

**PROGRAMMER  
PROGRAMMING  
PROMOTION****UPDATE**

DECEMBER 9, 2002

This issue early - next issue "late." Each year we are forced to "adjust" our publishing dates in December and January to work around the extended summer-Christmas-New Year holiday season in the Southern Hemisphere. This gives December a "head start" on the always record setting Christmas mail and as for January - well, we can't publish until our printing supplier returns to work January 13th. Updates for the next few weeks? Check [www.apsattv.com](http://www.apsattv.com) on that new PC you receive for Christmas!

**Power of piracy.** Germany's Premiere, using Irdeto-licensed BetaCrypt-1, found itself facing estimated 1,500,000 piracy viewer locations out of universe not much larger than double that. Existing viewers with d-Box 1 version Nokia-designed STBs are now being romanced with irresistible low-mark offer: Pay Euro 222 before Christmas, get 15 months (3 months free) and - and, newly issued d-Box 2. Premiere is promoting package by reminding viewers, "*it is the right thing to do!*" meaning paying Euro222 is the "fair way" to deal with pay-TV rather than using a bootleg d-Box 1 and paying someone to supply a piracy card.

**End of Indian FTA?** Increasingly, Indian free-to-air satellite services, paid for with advertising support, have elected to switch to a CA mode and charge cable operator distributors a fee per home served. The fees are modest by most standards (Rs.40 per month for a package of Tamil channels; A\$1.47) but taken as a growing group the switch is creating new pricing barriers for Indian cable subscribers (Rs. 350 per month; A\$12.84, which on most cable systems delivers upwards of 50 channels of TV including such benchmarks as ESPN, STAR TV, Discovery, N GEO and movies). Indian pay programmers almost never will accept individual DTH homes as subscribers because of the costs associated with DTH reception equipment and subscription management overhead for addressing such viewers - which leaves Indian cable TV distribution as the only real option. Jaya TV becomes CA in February, Star Vijay switched to CA in September, KTV + Sun News + Raj and Raj-Digital are converting at this time. Only Sun TV remains FTA for Tamil viewers.

**Optus heads for profits.** Contrary to doomsday forecasts by many journalists, Singapore Telecommunications owned Optus reported a 12% increase in revenues for year ending October (2002); 12 months after SingTel took over operations. It expects to achieve "cash flow break-even" in financial year 2003/2004. 22.8% of total revenue came from the "Consumer & Multimedia" division which includes cable (and satellite) video operations.

**Big bucks.** Buried in Optus financial analysis, SingTel "expects revenue of about A\$270 from the launch of C1 satellite." How's that? Apparently when C1 is launched and properly functioning in orbit, some users (Foxtel? Australian military??) will be making upfront/progress payments towards their shared use of the new satellite's capacity.

**American home satellite pioneer dead.** H. Taylor Howard, founding partner of Chaparral Communications, died in a private plane crash near San Andreas, California November 13. Howard brought his concept of private home TV to Australia (SF#68, P. 32) in 1980 demonstrating C-band reception from Intelsat in a variety of "outback" locations. He helped launch the home dish industry by joining other early pioneers in Oklahoma City (August 1979) at the first-ever home dish satellite technology conference to teach "newbies" what C-band dish systems were all about. He subsequently was a founding member and first chairman of SPACE - the original "trade association" for home dish TV systems. He was 70 years of age.



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## Religion on SKY NZ?

"I'll tell you why (if it can find room for two adult channels, why can't SKY NZ find room for one Christian channel? - SF#99). Only 15% of New Zealanders attend church (i.e. are a part of an organised religion), one of the lowest in the world. Furthermore, while some Sky upper echelon management are religious, their persuasion is peculiar to North America. If 85 homes out of 100 don't attend church, there is simply no market for that genre of programming here. Especially when for every home you please, nearly 9 others will complain loudly they are 'paying' for a service they do not want in their homes.."

Christian viewer stuck with Trinity, NZ

"So-called Christian television, represented in the Pacific by EWTN and Trinity, is all about raising money for their lavish life styles (Trinity) or indoctrination with the same tired 'habits' of Catholicism (EWTN). American Pat Robertson, recently a serious contender for US President, worked out early (1980) that a purely religious channel such as EWTN was going to attract very few new viewers. His CBN (Christian Broadcasting Network) refined 'family viewing' using a mixture of old reruns ('Leave it to Beaver') and life style programming built around the code of the (American) moral majority to accomplish two things: (1) growing a very popular US cable network and (2) popularising himself for the Republican Presidential nomination. When he failed with the latter, his 'tiny' CBN service netted he and his family more than US\$5 billion when they sold out to Rupert Murdoch. I loved the SPACE Pacific show titled 'SPIN' which betrayed the inside workings of the American political machine revealing Robertson's true character was revengeful and anything but Christian. In truth, we don't need this brand of hypocrisy in the Pacific!"

A Ben Hur Fan, Adelaide

"According to statistics released by the Australian home-video rental shop trade association, Australians rent more 'adult' films per home than any other country in the world, by a wide margin (nearly 2 to 1 over second place Germany). Every single day I am asked by someone how they can get REAL adult movies on satellite; the 'word' about Canal Plus's XXL service has spread like wildfire in a Blue Mountains drought ridden forest. The French are known for many things, including their passion for the Catholic church. I don't see Canal Plus offering any 'Christian TV channels' in their mux. There is a message here!"

Member of the Catholic minority, NSW

"Sky NZ goes to extraordinary lengths to not highlight their two adult channels, dependent upon 'word of mouth' to educate viewers of this almost secretive optional package. You don't find these channels in TV Guide (which lists most others - some Asians are left out) and if you go to their web site) you'll have to be very clever to 'discover' this optional package. Perhaps the answer is - an 'Adult Christian Channel' available only from your local church rectory?"

A EWTN fan (and proud of it) in NZ

"There are far more Christians in NZ than there are Chinese yet Sky offers 3 (or is it 4?) optional-for-pay Chinese channels. Would Christians be willing to pay for an optional channel that catered to their beliefs? Would Sky be willing to take a punt and trial it to see? Is the answer a 'Christian Rugby Channel' where one team dresses as priests and the other wears Bin Laden garb?"

Rugby is my religion, NZ

Shine-TV, religion, launched Nov. 26 on Sky; CA which means less money for the collection plates!

## HARDWARE EQUIPMENT PARTS

## UPDATE

DECEMBER 9, 2002

**Caveat emptor!** The USA word about those new TVs? "The new flat screen digital TV's use lead picture tubes, which generate and retain mucho heat. The industry hasn't yet figured out how to dissipate it yet. The result is that new digital TV's have a much shorter expected life than anything before. Under 18/7 use in display models at the local Best-Buy outlet, in 3-4 months the picture develops a noticeable 'inward bend' at the centre and becomes blurry. They're replacing the display models in less than 6 months of that kind of use. Of course if you're looking for it to double as a heater, maybe.... "

**Tumbling STB pricing.** The Electronic Industries Association of Korea (EIAK) reports competition between Korean based STB manufacturers is driving the profit out of the product and forcing designers to look for major shortcuts in circuitry to stay profitable. Low end STBs (we are talking satellite and DVB-T here) had an average export price of US\$155 in January 2001, now US\$60. High end STBs (those with Irdeto, for example) were down to US\$100 export in October (the price paid by an Australian distributor, for example). Another 30% fall is forecast before this time in 2003. Translating to \$A: low end units are leaving Korea at A\$106 while high end units are A\$177.

**Reads it.** Emulator software developed for d-box2 in Germany, known as "Gbox," reads Irdeto 1 or 2 data streams potentially eliminating requirement for CAM - or - smart card. We begin the report on p. 8.

**Cut off at the pass.** Humax 5410Z IRDs now arriving in Australia have a new challenge for self-help users who have previously appreciated the versatility of the receivers. Under pressure from encryption routine licensing firms (such as Irdeto) the Humax receivers have been factory modified so as to make field-mods more difficult. Notice we don't say "impossible" as the Germans responsible for the original field mods have only begun to work on the latest versions. In the meantime at least one suitable "all"CAM-able substitute IRD has been identified from a totally different manufacturer. The fun and games continues and Humax NOS (new old stock) prices have gone through the roof.

**The reason we warn you.** A Munich (Germany) man has been sentenced to 30 months in jail for dealing in embezzled d-box2 receivers which he obtained through misrepresentations to German pay-TV provider Premiere and then tried to resell through on-line auctions. *Buyer beware!*

**Dead if you do.** Warner Home Video exec widely quoted for revealing the DVD HDD ultimate copyright protection design, goes like this: "A renewable and revocable form of encryption. If a DVD is hacked, we have a way to disable that particular player from ever playing a movie again!" Could this be Humax's anti-intervention plan as well?

**Twenty-five years ago** - Video Club of America sold the first 'movies on VHS' product (US\$49.95) while retailer Video Station began renting them for \$10 per day.

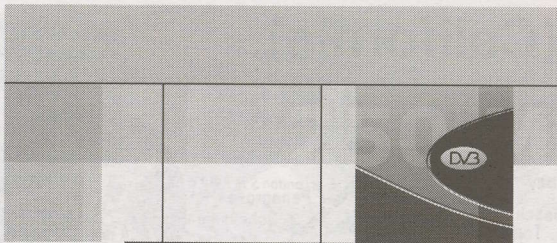
**Optus C1?** Insiders are talking of Ariane flight 158, broadly scheduled "March-April." Around the "real launch date" all other changes (Irdeto 2) will fall.

### Stream Daten

ECM Info: Irdeto - PID: 0x05F0 \*  
EMM Info: Irdeto - PID: 0x0501 \*







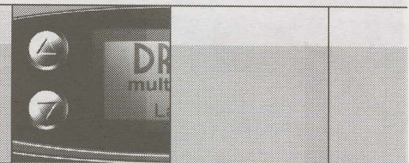
MPEG4

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The 100 Mbit Ethernet connection makes the DREAM-BOX Intranet and Internet ready. Thus the user can update the operating software and new setting lists directly, or even download new skins for individual adaptation and configuration of the user interface.

A further innovation in the area of the satellite receiver is the built-in flashcard reader, with which flashcards and minidrives can be read and written.

In addition, the low power consumption (standby mode 1.2 W) together with the minimal heat generation speaks for this receiver.

The DREAMBOX will take you to the future of the satellite receiver.

### Features:

- 250 MHz IBM PowerPC Processor (350 Mips)
- Linux open source (most parts under the terms of GPL, accordingly expandable)
- Supports Linux Standard API (Direct-FB, Linux-FB, LIRC, ...)
- DVB Common-Interface Slot
- 2 x Smartcard-Reader
- Integrated Compact Flash Interface Slot
- MPEG2 Hardware decoding (fully DVB compliant)
- Support for MPEG4 decoding
- Common available NIMs (DVB-S, DVB-T, DVB-C)
- 100 MBit full duplex Ethernet Interface
- USB Port Keyboard, Pointing Devices, WebCams and other devices
- V.24/RS232 Interface
- Big-size LCD-Display
- Up to 256 MByte of RAM
- integrated IDE UDMA66 Master/Slave Interface
- Support for internal HDD in any capacity

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- channel-change time < 1 second
- full automatic service scan
- supports directly 6 bouquet-lists (indirect unlimited)
- supports EPG (electronic program guide)
- supports videotext (insertion)
- various applications such Web-Browser or Mail-clients
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- 2 x Scart-interfaces (fully controlled by software)



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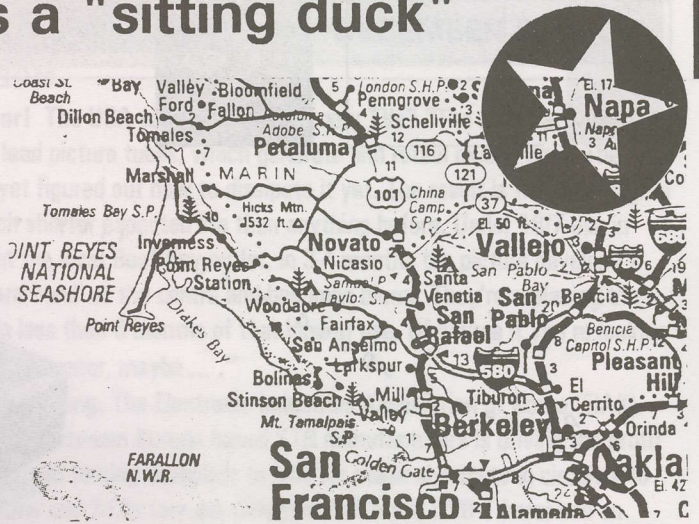


Impressively unprotected

## PanAmSat's Napa (California) Antenna Farm is a "sitting duck"

America's primary satellite connection with the Pacific and Asia sits on the southern boundary of an industrial park region just outside the community of Napa (California). Napa is north-east of San Francisco by 40 miles and the surrounding region is the "wine capital" of California.

What is most impressive about the site is the ease with which it could be (in an era when terrorist attacks have become common place) totally shut down with one or two shoulder held SAM series rocket launchers fired from approximately 100 metres away while hiding in bushes adjacent to a railway overpass on highways 12/116. The highway's eastern overpass approach provides plenty of room to pull off the roadway, park (even hide) a vehicle while allowing the occupants sufficient time to plant themselves directly above the low look angle 13m and down (size) antennas that provide direct linking from North America to PAS-2 (169E) and PAS-8 (166[.5]E). Other antennas in the "farm" (also see front cover) interconnect Napa to other PanAmSat ports throughout the world via North American domestic satellites. And if the "clear and inviting" rim-edge view of six Pacific region satellite dishes from the



PanAmSat NAPA is located in Northern California in a natural valley, surrounded to the north and west by an industrial tract (photo, below). You can drive to (and stop and study) the facility from *above* on a railway overpass on highways 12/116 (combined) 100m south-east of the antenna farm.







The highway overpass bridge is just out of this view, to the left. We are east/SE of the site proper where farm fields butt up against the crowded PanAmSat property lines. Just behind this camera, an elevated and plainly marked "view site" that looks directly down into the compound. One shoulder missile fired from here would take out the transmitter buildings and switching centre.

side was not sufficiently attractive for someone intent to cut off North America from the Pacific and Asia, the photo directly above shows another almost as attractive a view.

Approaching the site from the industrial tract entrance road, the front gates are barred and visitors are discouraged by both the signage and the security cameras. But all of this "security" is based upon the assumption that someone would want (or need) to get "inside" to do damage to the facility. Quite the contrary - ten seconds after firing shoulder missiles from the highway overpass above the site and simultaneously from the "public view point," vehicles carrying the attackers could be

back on the highway heading in a variety of directions (junctions with major highways leading north, south and east are less than 2 minutes distant even at California's "legal" 55 mile per hour speed limit).

PanAmSat's Pacific + Asia client list includes virtually every major "intelligence" agency and military group in North America along with nearly 100% of the commercial television, radio and Internet traffic delivered by satellite to destinations in the Pacific. A partial list of the services that would "be missing" if Napa went down appears here.

#### If NAPA "goes down"

Loss of services that pass through Napa would be major but more importantly, flight control of the two satellites would be disrupted. Flight instruction, monitoring of spacecraft attitudes and internal voltage and operational parameters are essential to stable flight. Left unattended for hours, days or longer, the "health" of PAS-2 and PAS-8 would be severely taxed. An analysis of affected USA linked services includes:

**PAS2:** BBC World, Discovery Channel, Al-Jazeera, LBC Australia, ART Australia, RAI International, Bloomberg TV Asia, CBS USA, Fox News Channel (and balance of Fox MUX), TVBS Newsnet USA (linked into states), NITV, TV Chile, KISB-1, National Open University, and IHUG (internet) and Pacific (internet).

Plus - occasional (USA originated or pass-through) feeds on: 3767V, 3777V, 3785H, 3787V, 3794H, 3796V, 3803H, 3805V, 3864H, 3865V, 3872H, 3888V, 3897V, (within) 3901 (mux), 3905V, 3915V, 3929V, 3939V, 3951V, 3958V, 3960H, 3968V, 3992H, 4018H, 4026H, 4035H, 4044V, 4045H, 4054H, 4063H.

**PAS8:** Viacom/MTV, CNN, CNBC, BBC World, EWTN, The Golf Channel, E! Entertainment TV, Fox, Discovery, ESPN, Disney, Scholar Business Network, and IHUG (internet). Plus - occasional (USA originated or pass-through) feeds on 3780H, 3812H (CNN incoming to USA from Hong Kong), Fox feeds on 3940H, ESPN feeds on 4020H, 4130V, 4148V, 4156V and Ku feeds on 12432H, 12488V, 12490H (into Australia), 12492V and 12500H (into Australia).

Additionally, there are non-MPEG encrypted data services on lease to various military and security agencies although these are not believed to be 'primary' circuits (all such services run two or more "parallel" circuit paths in the event that any one should fail).



It takes "guts" to use one of these

## The d-Box 2 story: Awesome capacity - at a price!

The digital satellite TV era has seen many, many DSR brands and models come and go. None has been a best-seller like the infamous NOKIA d-box and it's sisters the 9200 and 9500 series of the same family. Needless to repeat ourselves again and again and we don't want to make our love song for this STB an (inter) national anthem but the flexibility is what made it a symbol in the trade.

In 1995 the German's first digital Pay TV provider DF1 launched their services coupled to the NOKIA Mediamaster derivative "d-box." DF1 is long gone and nearly forgotten but the name "d-box" still is the magical word that triggers satellite enthusiast feelings and gives it a priority position on the Xmas wish list!

The bad news for Santa Claus is, it is not made anymore but there is good news too: Old' Santa can saddle his reindeers and off he goes on a very short trip from his domicile the North Pole across the Barents Sea to Finland where the successor has been designed: the "new" d-box.

Made - again -- for the German market only but now for Germany's new Pay TV provider "Premiere World," the d-box logo is proudly carried on the STB like the "Star" of a Mercedes Benz.

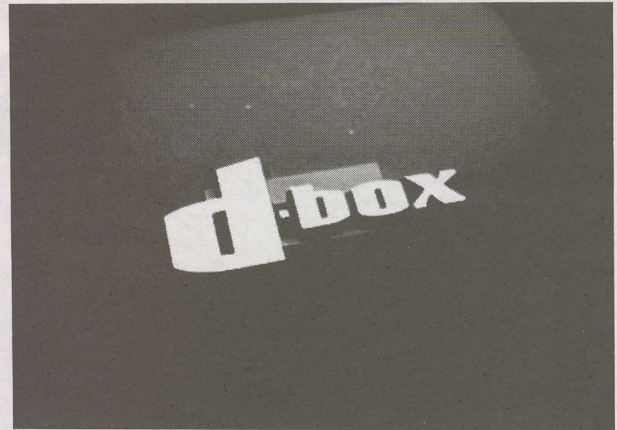
Intended to break the red line of rapidly growing Pay TV piracy in Germany, the new d-box soon became target as none of the existing "hacker tricks" seemed to be working anymore. This was when the "parasites" of the German hacking scene dumped the "d-box2" as they called it and deemed it unusable for their purposes!

A even greater run on the d-box1 began when word got out that NOKIA stopped production of it's best-seller in 2000 due to lack of orders when Premiere World considered the launch of the d-box2 a success in their anti piracy policy!

The greater part of 3.5 million (d-box1) STBs are rented boxes and needed to be replaced with the newcomer, so production lines at NOKIA started to run red glowing but they could not satisfy the vast demand in the short period of time they were allowed for production. Not even extending production to new grounds outside Finland helped this situation and Premiere World had no other choice but outsourcing to different manufacturers.

Premiere World's technical advisers from sister company BetaResearch suggested that French company Sagem, who manufacture STBs for the conspiracy and piracy struck Vivendi group with its decreasing subscription numbers and therefore Sagem's free production capacities, and, Dutch firm Philips, developer and manufacturer of - in the Southern Hemisphere -- not too well known encryption system Cryptoworks, should get the additional orders. Goal posts were set about technical details but designers had free hands to create a company specific product within the game's rules.

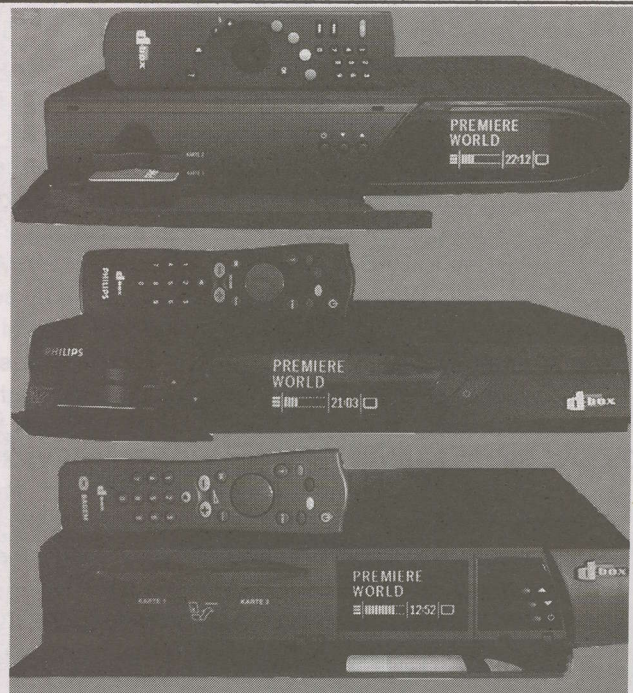
The picture (right) shows the final d-box2 designs from top to bottom: NOKIA, with it's typically conservative lines



leaning closely to the "old" d-box, the Philips - in my eyes a brilliant refreshing practical design with operating buttons outside the flap covered area - and the Sagem which in my opinion could easily be operated with the cover flap open and not lose any attraction.

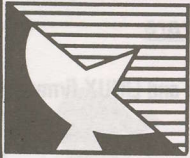
The easily visible difference to the d-box1 is the big LCD display giving a clear overview about the navigation of BetaResearch Firmware in its current version BetaDigital BD2.01.

This in house development of the Irdeto based royalty intensive BetaCrypt encryption system (DVB registered CAID 17 00 - 17 FF) does obviously not permit the usage of non Premiere World Irdeto smart cards (DVB registered CAID 0600 - 06FF). They are simply rejected as "unknown smartcard."



This report researched and prepared by Rolf Deubel, Capetown, South Africa



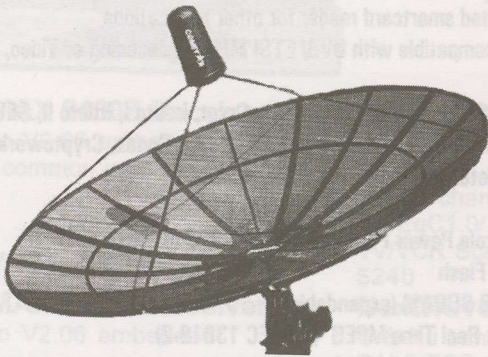


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We are now at the exact same turning point that triggered the development of DVB98 / DVB2000 firmware by Uli Herrmann, aka "Dr. Overflow," except, the d-box1 had a Motorola 68xxx series processor working on it's mainboard which allowed young Uli to make use of his Atari programming language knowledge which he obtained whilst playing adventure games on his Atari home computer.

The d-box2 uses a much more sophisticated PPC processor, usually seen working in big industrial computer systems, running UNIX software e.g. IBM industrial servers used by banks or insurance firms to "crunch" huge amounts of data.

Uli Herrmann stopped his private DVB2000 project when he eventually realised it would not generate enough money to pay for 5 cartons of cigarettes and 5-6 litres of black coffee he used to go through every single day when working on his "baby," nor would it buy food for he and his girlfriend. It is amazing that "unknown" hackers were apparently approached by companies like NDS while a genius like Uli lived on the financial edge and 'existed' while being dependant on sponsors (Mascom, Rehtec and DVB-Shop) who helped him acquiring the necessary tools and hardware to carry on with DVB2000.

Eventually Uli moved from the Black Forest in the South of Germany to Berlin to take on a job offer from the newly established "Open Source Platform" software company BerliOS after the European Commission for digital broadcasting decided that from 2003 on every STB used in Europe has to be versatile enough to run ANY encryption system used in Europe on ANY STB distributed by the Pay TV providers!

Don't you ask yourself what all of this got to do with d-box2? We more or less had all of this in the d-box1 already. OK... let us fit the puzzle pieces together and you will see the current picture clearly!

✓ Let's start with the d-box2 which cannot handle anything else but BetaCrypt

✓ We add the PPC CPU which cries out for a suitable operating system to process a large data stream

✓ We add an operating system which is virtually available "free of charge;" LINUX, an UNIX like OS developed by Norwegian student Linus Thorwalds is ideal for this playground

✓ We add a new company "BerliOS" which develops Open Source Platforms

✓ We add that Uli Herrmann made himself unavailable by virtually vanishing from the scene

✓ We add a new guy rocking up out of the blue calling himself - "AlexW"

✓ We add that BerliOS releases a LINUX version of d-box2 firmware developed by "AlexW"

✓ We add further that this "Tux On d-box" firmware can virtually do what DVB2000 could do plus a couple of handy features more; and the number of features is growing.

*Makes us think. And you?*

So now this box is more than a one application tool, and it is worth looking deeply into it.

The LINUX project does have a name, as the mascot of LINUX users world-wide is a Penguin named Tux. In the October and November issues of SatFACTS Monthly, we reported about Tux on HUMAX, which was a direct result of the earlier d-box2 development by BerliOS. We preferred reporting about the HUMAX because the d-box2 is relatively unknown south of the European Alps Mountains.

## The basic d-box 2 hardware

- 1/ Plug and Play Installation with either BetaDigital and LINUX firmware (Tux On d-box2)
- 2/ Automatic channel search
- 3/ EPG
- 4/ OSD (On Screen Display)
- 5/ Alphanumeric Display
- 6/ Automatic software update on request via Internet
- 7/ Integrated encryption systems: BetaCrypt, Irdeto I, Irdeto II, SECA I, SECA II, Viaccess I, Viaccess II, Nagravision, Conax, Cryptoworks, NDS, MDS (in beta test)
- 8/ Integrated smartcard reader for Pay TV
- 9/ Integrated smartcard reader for other applications
- 10/ fully compatible with DVB/ ETSI MPEG-2 decoding of Video, Audio, Data
- 11/ Conditional Access System BetaCrypt, Irdeto I, Irdeto II, SECA I, SECA II, Viaccess I, Viaccess II, Nagravision, Conax, Cryptoworks, NDS, MDS (in beta test)
- 12/ QPSK
- 13/ Motorola Power PC processor PPC 823 (66MHz)
- 14/ 8 MB Flash
- 15/ 32 MB SDRAM (expandable)
- 16/ Video: Real Time MPEG (ISO/IEC 13818-2)
- 17/ Decoder resolution 720 x 576
- 18/ Bit rate 1,54 to 15 Mbit/s
- 19/ Audio: Mono, dual channel sound, Stereo Joint Stereo, multi channel sound, Dolby Prologic, Dolby Digital 5.1
- 20/ SCART interfaces for TV and VCR
- 21/ Audio: analogue (2xRCA) and digital (optical)
- 22/ V.90 Modem RS232C port (115.200 Bit/s)
- 23/ Ethernet (10 Base-T)
- 24/ VCR-control (internal/external IR transmitting diode)
- 25/ 2 smartcard reader (ISO 7618)
- 26/ GUI LCD graphic display (120x64 pixel Matrix, 64mm x 34 mm)
- 27/ Navigator remote control
- 28/ Software: downloadable modular system in 7 separate modules
- 29/ Remote control Type RC5301 Code NRC 17, up to 10m transmitting distance, Batteries: 2x1,5V (Type AAA)
- 30/ Connections: LNB 1 x F-Type loop through to 1 x F-Type
- 31/ 2 x SCART (TV/Video)
- 32/ 2 x Audio L/R (RCA/ Cinch)
- 33/ 1 x Audio-Digital IEC 958 (SP/DIFF)
- 34/ 1 x VCR-control (RCA/ Cinch)
- 35/ 1 x Phone (modular RJ11 jack 6-pin)
- 36/ 1 x RS232 (9-pin D-sub)
- 37/ Ethernet (10 Base-T RJ45 jack 8-pin)
- 38/ NOKIA part number: 262 6924-94
- 39/ Colour: black
- 40/ Operating temperature +5°C to + 45°C
- 41/ Operating voltage: 230 V AC (+ 15% tolerance) / 50 Hz
- 42/ Power consumption max. 27W at 400mA LNB load
- 43/ Power consumption Stand-By 3W
- 44/ weight ca. 1,8 kg
- 45/ Dimensions (L/W/H) 380 x 240 x 65mm
- 46/ Recommended Retail Price (RRP) □ 599,00 (without LINUX)

SatFACTS has now elected to report about the d-box2 because we can see the potential of an Open Source operating system for future applications. We also decided to take a route to source the test objects that each of our readers will need to

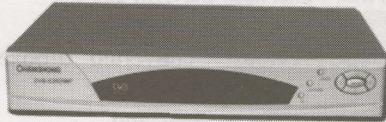




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# Major Importer In Australia





TUX is the "official mascot" and trade symbol of Linux world-wide.

follow who do not have contacts, friends or family in Germany (remember: d-box2 is a Germany-only object).

Officially you can only buy the d-box with a Premiere subscription and your present country of residence needs to be in Germany, Austria or Switzerland. Therefore one cannot walk into an electronic shop or Supermarket to buy your targeted new toy; it is simply not available over the counter. With a RRP (recommended retail price) of € 599, - the stock standard d-box is also not the box for somebody who just wants to watch TV; not to mention that the BD firmware only allows FTA (free to air) channels to be viewed (the CA BetaCrypt encrypted programs are not available in our latitudes).

A modification is needed! "Wow, Wow, Wow... hold it" we can hear "critical" readers saying: "I am not going to read any further; this piracy stuff really puts me off."

"Hold your breath" is our reply! The "Tux On d-box" project by BerliOS (code name "Neutrino") is absolutely legal, has nothing but nothing to do with piracy and is sanctioned by the European Commission!

Secondly, freedom of press allows us to report about any developments around the world, which does not necessarily mean - even if we do report about certain products and applications - that we approve illegal activities. Thirdly and lastly there are many exiting new ideas resulting from any form of development which might be of use to others and thereby inspire or kick off our own projects in your world. So let's carry on and experience our virtual trip to Germany when we purchased our d-boxes for this report.

Having had SF August 2002 in mind where we reported about embezzled d-boxes from German Pay TV provider Premiere, we were wary about an "easy purchase" from someone unknown advertising in classifieds or some unknown place. So we have chosen "ebay" (<http://www.ebay.de>), a growing Internet market place and on-line auction house. At least there we could be sure that the "seller" has registered with his banking details for debit orders of auction fees. We clicked the TV section then "Pay TV decoders" and then "digital Sat receivers."

The number of digital satellite receivers / decoders displayed is enormous. Virtually any brand is on offer, even "old" PACE DVR500 (DGT400) boxes, but beware... these (PACE) boxes

are from the Dutch market with very little memory as the Dutch Multichoice provider has only 5 channels on air.

The d-box section is divided again to suit the brands NOKIA, Sagem and Philips. Our goal was to purchase one box of each brand and also different chipsets available as well as ready converted and standard boxes.

Obviously the cable boxes are disqualified for our tests so the following criteria was vital:

- ✓ NOKIA dbox2 with 2 Intel flash and AVIA500 gtx C-Cube for video
- ✓ NOKIA dbox2 with 2 AMD flash and AVIA as above
- ✓ Sagem dbox2 with 2 Intel flash and AVIA 600 enx C-Cube
- ✓ Sagem dbox2 with 1 Intel flash and AVIA 600 enx
- ✓ Philips dbox2 with 2 Intel flash and AVIA 600 enx

We also wanted to purchase previously "converted" d-boxes as well as unmodified standard boxes for two reasons:

1. Use conversion service on offer at ebay, and,
2. Convert a box ourselves to see what is involved!

The Philips box, at the time of purchase, was the newest box on the market and only released a couple of weeks before, so it was not easy to obtain one and therefore this had to be a non-converted box we've chosen. Price ranges go from about 120, - € to 400, - € but don't be fooled.... bids rise in the last seconds of the auction by 100% - 250%! ADSL makes it possible. We made our bids by means of normal modem connection at 56Kbit/second where our concurrent (European based) bidders used ADSL at a set speed of 800Kbit/second! Considering the lack of speed and the hub delay of about 900 to 1500 milliseconds we learned quickly that we needed to use ebay's bidding agent option to be able to cope with the fast accessing Germans!

The bidding agent takes your "maximum" bid but only advances step by step as the other bids come in.

Example: The object of your choice is currently bidding at € 120, - and you intend to spend a maximum of € 250, - on it. The next bid would be € 121, - but the bidding agent takes your full bid of € 250, - and manages it as if YOU would place the bids yourself (just like auto bidding with "bid and buy").

We discarded suspicious offers from the beginning; we also discarded offers where the Germans "play with words!" Luckily we have a native German speaker in our team and these "tricks" were picked up fairly easily. We did not bid on anything that (translated) says: "might be faulty," "no warranty given," "will not take back," "behaves strangely," "don't know about it," and so on!

We considered with our bids that we are about 15,000 Km away from the place and that - should problems occur - there will be very little chance to resolve a dispute. According to German law, if you mention a suspicion ("behaves strangely") you are safe from any claims!

The first box we won the bid on was a NOKIA with 2 Intel chips and gtx chipset. After negotiating with the seller, we then agreed to a set-up of the d-box with Neutrino and TV on LCD. Total cost inclusive shipping to NZ was 480, - Euros.

At the end we had won bids on two NOKIA, two Sagem and one Philips box with various chipsets, but more about the technical side in part two.

In another auction we bid on "conversion" service for standard d-box to bring the d-box into Debug mode thus making it possible to flash it with the LINUX operation system "Neutrino."

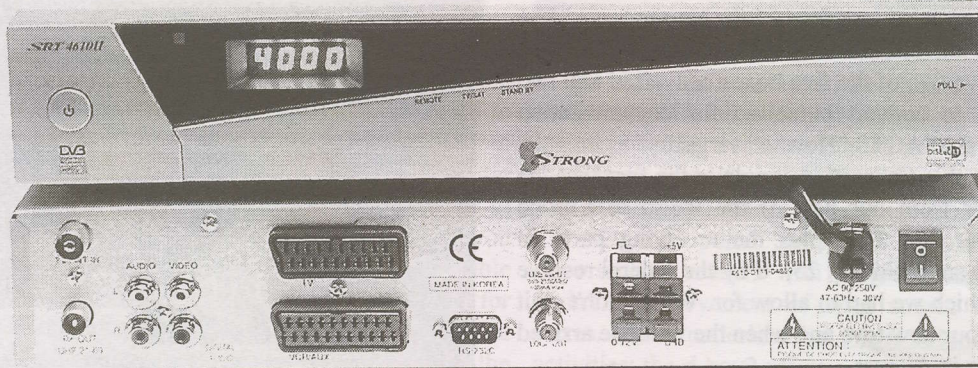
So arrangements needed to be made via e-mail; sellers were instructed to ship the d-box to the guy who offered the conversion, with shipping cost typically hovering around 8, - €



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### d-Box 2 Card Reader Limitations

The d-Box 2 has a pair of card readers factory-set to accept Germany's Premiere cards (only). Software development in Atmel FUNcards (SF#99, p. 6) allowed use of a FUNcard to access multiple encryption(s) using Linux language software - but, never with the original cards. Most people are not versed in FUNcard technology but if you are going to do development work using original smart cards this ability is essential.

Therefore a new type of adapter is required to allow use of original smart cards with the Premiere-only design d-Box 2. The answer is a "COM2Card" device which allows use of a variety of (original) smart cards. Different smart cards require differing operating voltages and each design has its own "slot frequency" as well (for example: Irdeto is 6 MHz, MediaGuard 3.57 MHz). The "COM2Card?" Complete construction details as-soon-as SatFACTS #101; January.

within Germany. Then this guy was paid for his service and he then had to ship the converted box to our test centre.

We planned to have two of the five boxes converted and two boxes we intended to convert ourselves for documentation purposes in a future SatFACTS "How to" series.

A money eater in this transaction jungle is the fact that the cash money transfer from our part of the world to Europe typically costs about 25,- US\$ plus the receiving party in Germany is charged an additional 25,- € by the federal reserve bank in Germany which we had to allow for. We couldn't wait to get our hands on our new toys and when the first one arrived it was like Christmas in August.

The very first box, a NOKIA with a full house conversion, had LINUX Neutrino with EMU (a smartcard emulator) installed in AlexW software version 1.5 for the base image and the EMU as an add on.

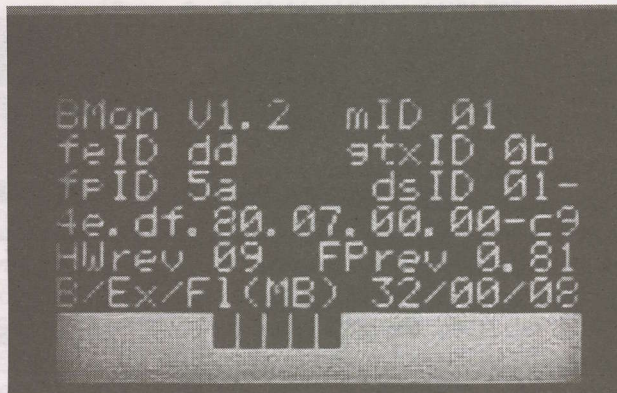
The typical NOKIA design reminded us of the d-box1 with the same classic lines, the typical anthracite colour and the smoke glass front cover.



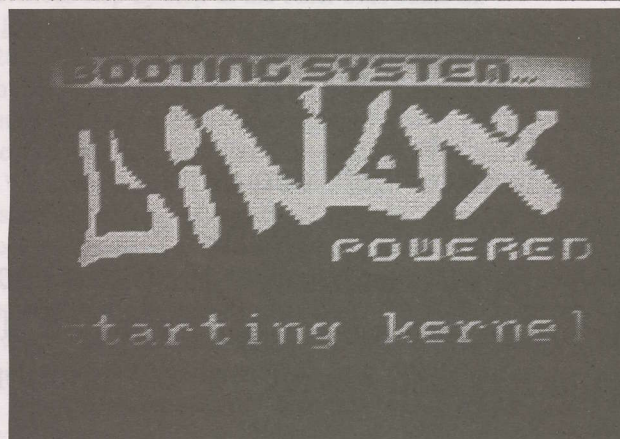
The rear view again is very close to the d-box1 with SCART only AV connection and no RF plug for the TV. The new features there are the digital / optical TOTX178 connector for Dolby Digital audio output and the RJ45 Ethernet network plug.

F-connectors for LNB in and analogue (second receiver) out are standard features like the 56Kbit V90 modem, the RS232 control plug, the analogue audio out and the VCR cinch. We felt like a little child when we connected the box up and couldn't wait to see what would happen on the LCD screen. On a converted d-box2 the very first thing you will see on the LCD is what appears to be a great chaos of numbers and data.

But it is not a secret and the d-box reveals it's "inside" and components it's made of. Bmon Version 1.2 (the latest) and Monitor ID 01 as well as AVIA C-Cube video chipset version GTX are the relevant information which will determine which



firmware image is to be used in the future when we decide to try out other software on our d-box2 or new upgrades are available. The rest of the info is of minor importance to us as it reflects bootloader information. Any ordinary Jack or Bruce down the road will never ever have to worry about this data! Once the bootloader is loaded from the flash, LINUX is started and the LCD display will change appropriately.

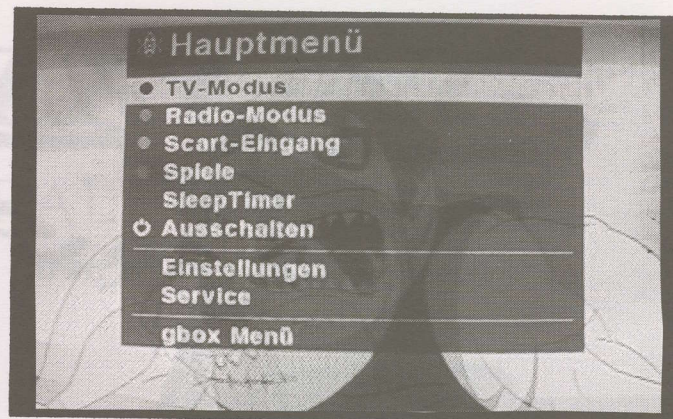


This is the first time the TV screen is initialised and one can see something happening there. The boot up logos on LCD and TV are freely interchangeable by the owner and there are some very unusual logos available on the web as well as tools for our creative readers to personalise their d-box2.

The next step is when your TV screen stays blank and a simple message in German appears that no channels were found; this means the box still has the German settings on board and a transponder scan was unavoidable to tell the box which channels can be received outside Europe in our part of the world.

It is not like it's predecessor - the infamous d-box1 - that all data can be entered by remote control. *No frequencies can be entered nor FEC, S/R or other information to make the d-box2 scan transponders for channels.* Here it was where we ran into





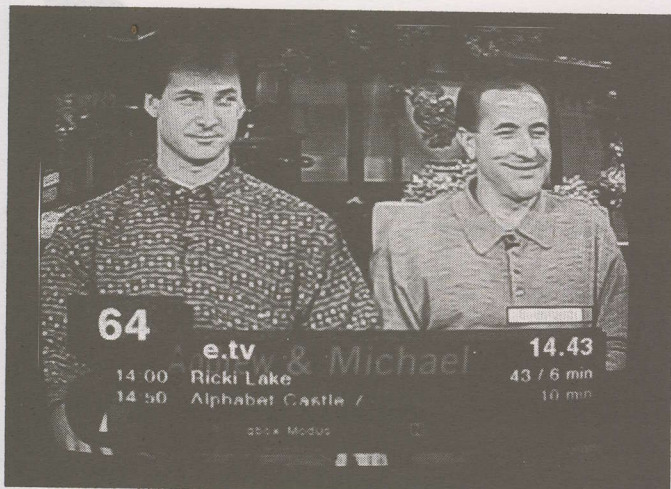
all kinds of unforeseen difficulties. Neutrino is built around editable PC set-up files and a PC needs to be connected to hand all information over, to make receiver scan.

Here, perhaps, is the provisional "end station" for computer illiterate people and it gives SatFACTS the opportunity to report about the "How to" in our regular series to get you further than buying a preset d-box2. If you are not comfortable with interfacing your computer with an IRD, you will opt for the completely "converted" Neutrino/Linux machine. If you are not afraid of computers, we'll show you how to do the conversions and modifications within this series of reports.

And this is exactly the point where we carry on presuming the box was preset for our conditions and a transponder scan is not necessary. Depending on the image in the flash the box will start with the last channel watched or a preset channel of your choice.

Obviously all initial tests for SatFACTS were done by Rolf Deubel who lives in Cape Town, South Africa and therefore the channels and bouquets you see on the pictures correspond with this location. In the "How to" segments to follow, we will refer to our Australian test partner and the equivalent Australian settings (an Australian BETA test of everything you are reading here was established during September/October as part of the research for this series).

If nothing else is selected for the LCD screen, it will show the bouquet and the channels name whereby the OSD on the TV screen will give us a lot more information about the channel in use e.g. time, EPG, encryption system, TV screen format, Dolby Digital Sound, Teletext, Signal Strength and more options to be accessed by pressing the corresponding colour marked buttons on your remote control.

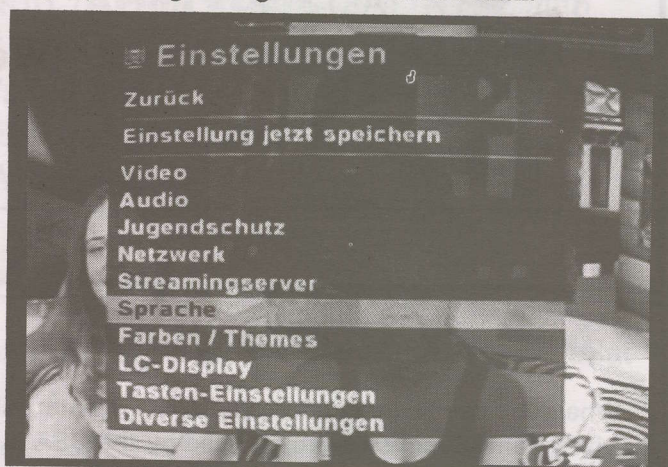


The remote control itself might look like the "old" d-box1 remote (SF#97, p. 18 and 19) but it certainly works different. There is a <d-box> button which, when pressed, gives you

access to the main menu and the <home> button goes back one menu entry. Unfortunately some images do only have German language setting available but we are very confident that once the d-box2 finds it's way to English speaking developers in our part of the world, things will change rapidly.

At this point SatFACTS would like to encourage opportunistic readers with programming skills or interest to "join" this movement of open source software for satellite boxes. We do underline that this is not meant to support illegal activities; the d-box2 offers some totally new user applications never previously available (outside of Germany) and that alone is reason to pursue a full development program. We do intend to support image / firmware development should there be enough interest in this exciting venture.

Putting the remote cursor on "Einstellungen" will give us access to the settings menu and further down the settings where "Sprache" can be selected we will be able to change language settings to English.... first hurdle taken!



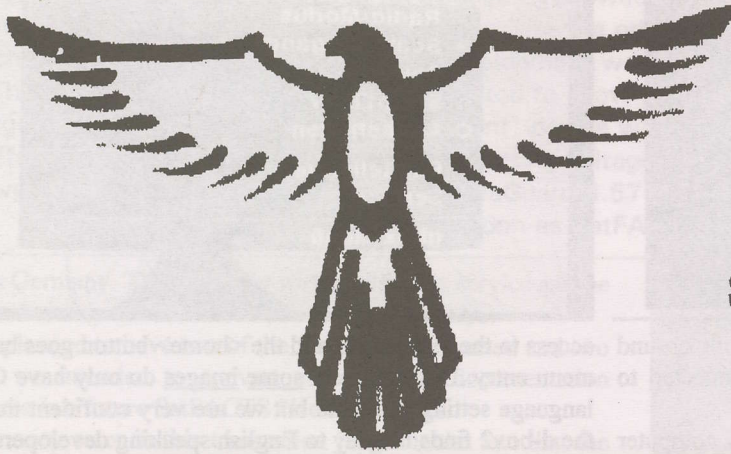
Next important step is to gain access to the box by means of use of the network capabilities so we press "Netzwerk" if still in German or obviously "Network" if language settings have been changed to English.

Once network has been set up, we have full access rights to the d-box to read, alter and write settings, logos and other important features of the box.

The d-box picture quality is by far better than any other "standard" box used by pay-TV providers world-wide. The screen resolution is near the Super VGA quality of a PC screen with 704 x 576 pixels. Bit rate of the DataStream reaches 1,875,000 bit/second at a frame rate of 25 frames per second. The unusual feature to adjust your viewable screen size according to the actual size of your TV screen is amazing! The built in Videotext / Teletext is called TuxText and leans on the

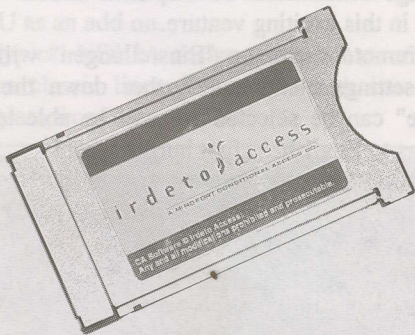
d-box2 report / continues p. 18





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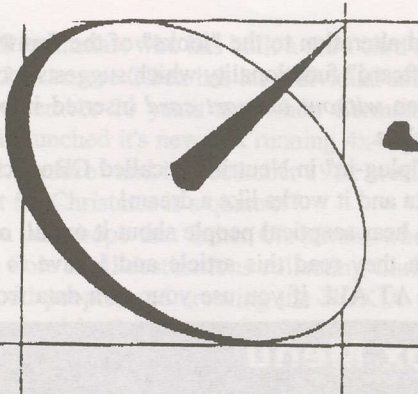
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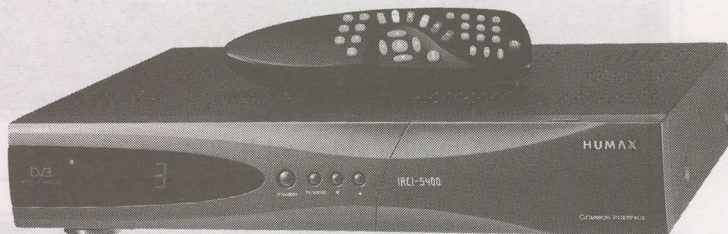
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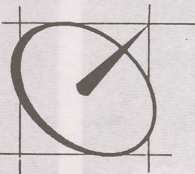
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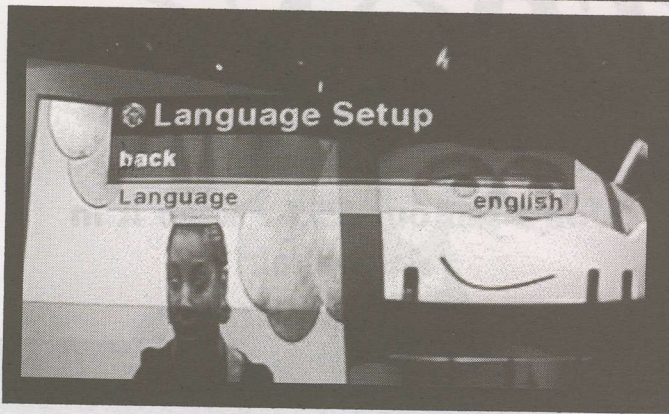
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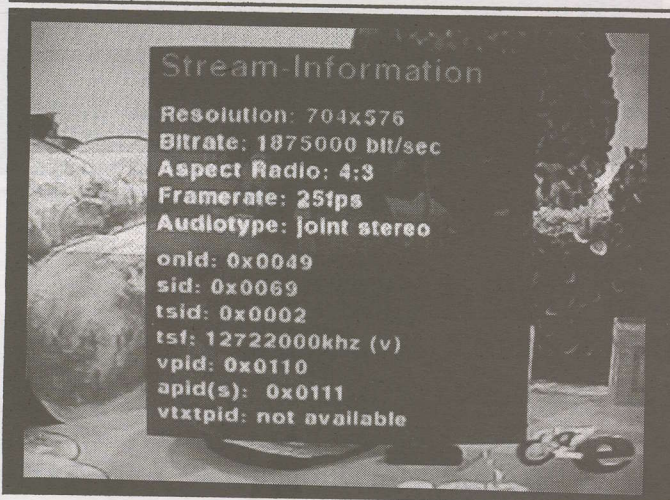
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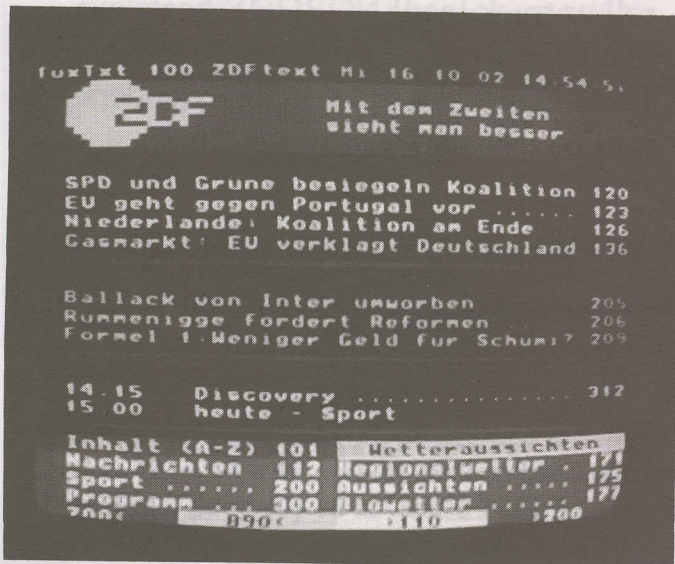
SUPER VGA quality video with 704 x 576 pixel resolution with d-box2 (below). Language setup.



standardised resolution of 320 x 200 pixels (yes - there is room for improvement here). Zapping through the TuxText pages is a pleasure at an unbelievable speed as all pages are loaded into RAM and the pages will only be reloaded if the content has changed (like a proxy server on the Internet).

All of the above would not make this STB a toy that everybody is after if there were not "undocumented" features worth looking into.

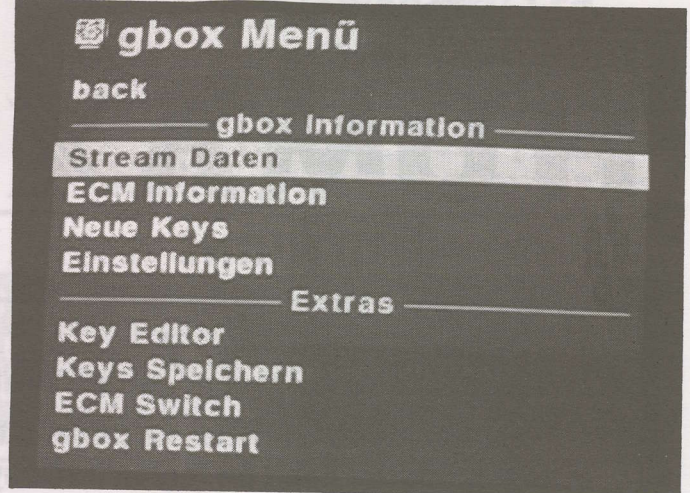
It is not the software CAM which is nowadays found in nearly all modern receivers / decoders and it is not only the Open Platform with LINUX which allows virtually any



modification and alteration to the "looks" of the firmware, but it is also the "softcard" functionality which suggests (correctly) cardless operation *without a smart card* inserted into one of the card reader slots.

The software "plug-in" in Neutrino is called GBox, currently version 0.90 Beta and it works like a dream!

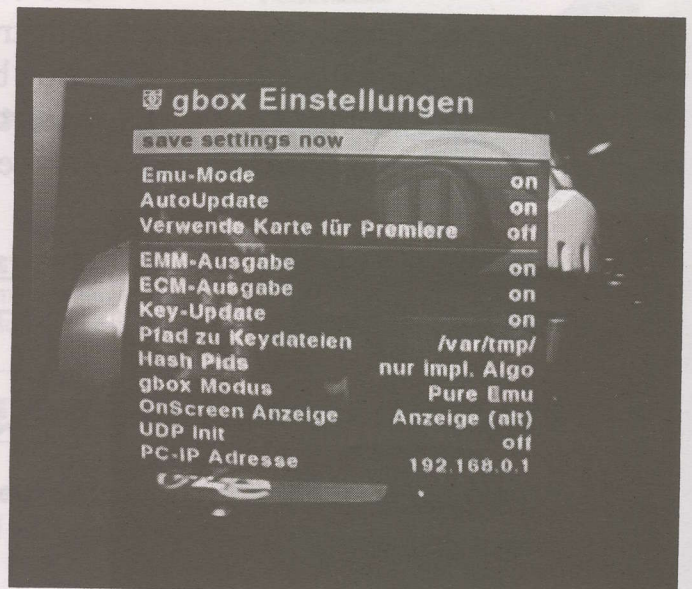
"Illegal" I can hear sceptical people shout it out all over and over again when they read this article and I have to reply a clear NO, NOT AT ALL if you use your own data from your



own subscription. Again there will be always people who think negative when they hear such things and I can only reply that if you own a hunting rifle and go hunting there is nothing wrong but if you use this rifle against another person this is when the law steps in!

Settings in the GBox menu allow pure smart card emulator, pure software CAM with smart card needed, mixed mode with EMU and smart card in use as well as a revolutionary new technique of network smart card sharing, where you could have 2 or more d-box2 connected to your network but only one smart card in either one of them: hence the system will work like a smartcard splitter on your network. Vital information about your GBox software and the encryption system in use can be viewed by selecting the equivalent submenu and we will step deeper into this matter in our "How to" series of DIY reports on satellite related issues.

All above are very, very exiting features of this - new to our part of the world - receiver and I cannot end this first report on the d-box2 without showing you a modification of a German

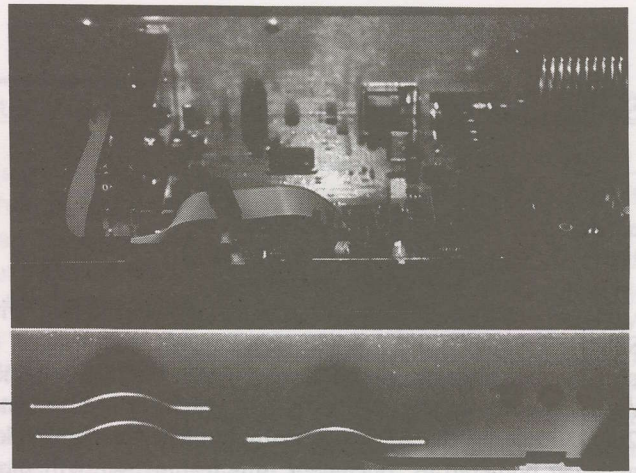




d-box2 enthusiast who has built a third card reader slot into his d-box2 to ensure GBox has it's individual smartcard reader.

I remember 20 years ago when German car manufacturer AUDI launched it's new fast running 4x4 system for road cars called "quattro" and in December 1982 created the slogan "All I want for Christmas is a quattro."

I can only hope that father Christmas, when flying from the North Pole to all destinations collecting Christmas presents for the good people, and crossing the NOKIA factory in Finland hears my wish: "All I want for Christmas is a d-box!"



### Questions from our readers

## Rolf's Q and A Column

**Q: I have two 9500 Nokia. #1 has 2 x 400 RAM and a IP11 empty socket. Do I purchase 2 800s and 1 KM416C1000BJ-5 and if I replace the 2 x 400s do I need to reprogram the boot loader and the DVB2000?**

**A:** Replace both 28F400 (currently 1MB) with 2 x 28F800 to make it 2MB. The bootloader needs to be reprogrammed because the new chips are empty. However, the TranxBDM will handle that for you (SF#96, P. 18).

**Q: I have a 9500 with 1 x 800 and no socket for IP1, just empty tracks. DO I purchase a x 800 and a KM416C1000BJ-5 and solder to the PCB or do you have a socket available for IP11?**

**A:** Just 1 x 28F800 is needed to upgrade to 2MB; the KM416C1000BJ-5 can be soldered directly to the board. Purchase of a socket is not necessary as you surely do not intend to take the KM416C in and out, in and out (it is not like the EPROM in the Multicrypt CAM which needs to be taken out and reprogrammed if a newer software version becomes available).

**Q: Does Australian pay-TV transmit Dolby audio and is it worth purchasing the AC3 extension kit?**

**A:** I cannot answer this one - perhaps a reader can do so - reference the availability of Dolby audio on Australian pay-TV. However, if they do - if only on occasion - it is definitely worth the effort. Some high action movies such as 'Pearl Harbour' are broadcast (in many regions) in DD5.1. Movies that transmit in DD5.1 are in my judgement 20 times more entertaining because the multiple audio channels and sound quality is greatly enhanced. For non DD5.1 programming, I can "hear" the difference even on so-called "normal hi-fi."

**Q: September SatFACTS ref FatCAM rebuild. I have not been able to source (in Australia) 27W512 PLCC32 Flash ROM. Can you suggest any sources? Do I need to order from USA or Europe?**

**A:** There is more than one manufacturer of this "chip" and the "W" version is not the only one that can be used. Just as an example: ST manufactures the 27W512-P32 or SST manufactures the 27SF512-P32 which could also be used. A website listing these memory chips is <http://www.mcusolution.com/products/xeltek/sp3dev.htm> and an e-mail contact we can also provide: [sales@mcusolution.com](mailto:sales@mcusolution.com). A simple google search on the web ( <http://www.google.com> ) would have done the job but I guess asking is easier!

**Q: As a buyer of the SatFACTS Store AC3 conversion for Nokia, I quickly noticed the "Crystal" chip which apparently processes the Dolby/5.5 stereo is also found in other receivers I own; for example, the HSS100C. Further, ABC's "widescreen/HD" feeds on Optus B1 are supposed to include 'surround sound.' and this (Hyundai) STB loads these services fine. Can we do an AC3 mod to the Hyundai as well?**

**A:** Yes and no. The Nokia DVB2000 software includes processing of the surround sound data and you need some way of doing this even if the 'Crystal chip' is in place and functioning. However, there are now AllCAM software mods available for the Hyundai STBs and perhaps we can rewrite the software to include the surround sound option; see p. 20.

We wish you all a very  
Merry Christmas and  
a successful New Year



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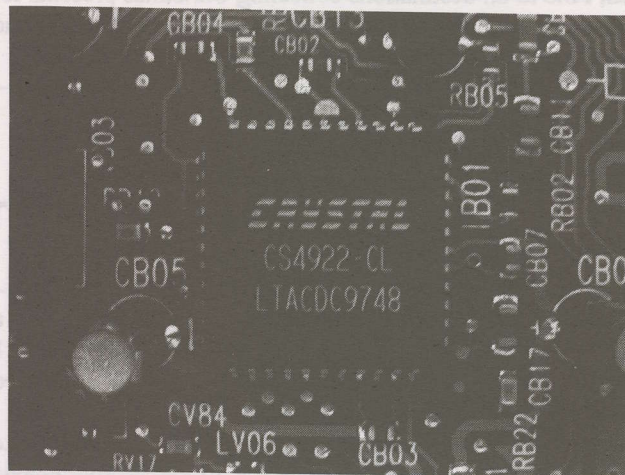


Sitting there **unused** inside your Nokia ...

## Making your d-box1 "sing" in Dolby Digital

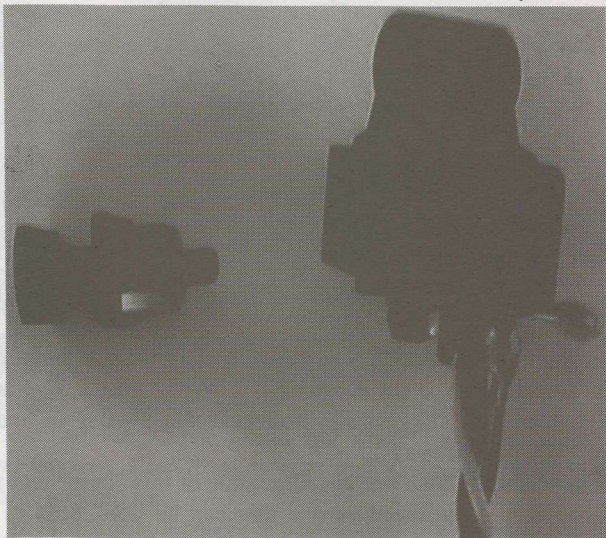
Have you ever been at the movies showing a film with "Surround Sound" and / or "Dolby Digital" and wanted to listen to this fantastic sound in the comfort of your home? Well... if you already own a NOKIA d-box or Mediamaster 9200/9500 series the AC3 is actually built in although Nokia has never bothered to "document" this feature. We will show you how to extend the features of your NOKIA by adding an optical port to your receiver which you then connect to your Dolby Digital HiFi System at home to be right there in "Pearl Harbour" or on the "Titanic" when it's shown on satellite TV. What many people do not know about the NOKIA boxes is that it has the base chip for DD5.1 already on board! Now... the trick is to teach your NOKIA to talk the language that your DD HiFi system understands.

We want to make it clear.... right from the beginning... the stupid "standard firmware" does not make provision for this



Nokia's secret. AC-3/DD5.1 has always been inside but nobody at Nokia bothered to document the capability. Have fun!

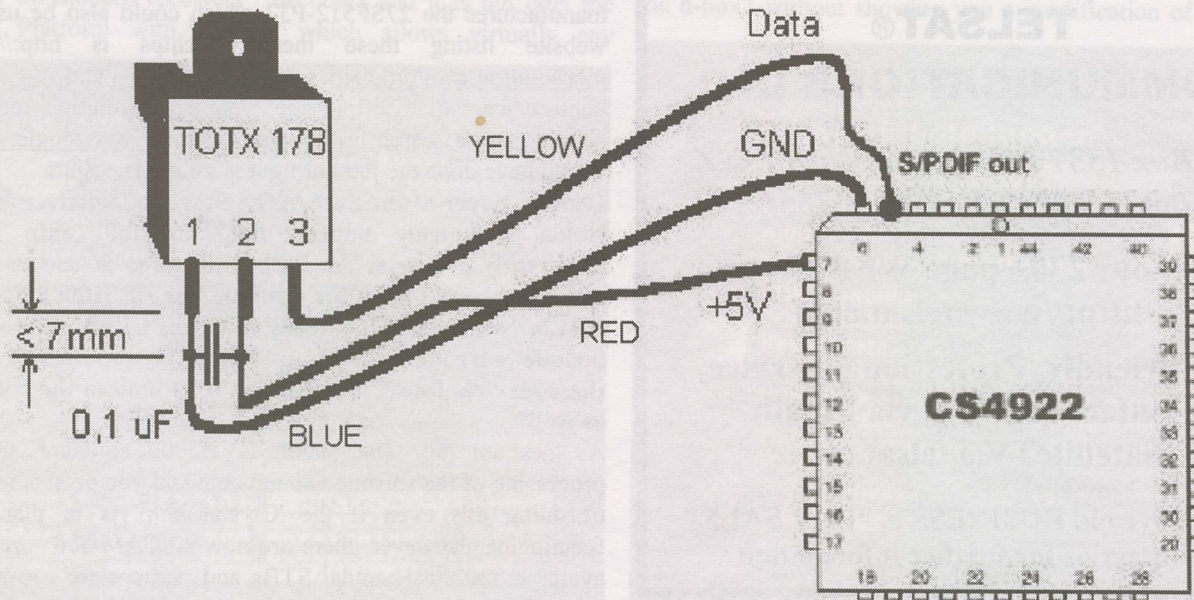
ONE version of TOTX178(3) optical coupler.



feature, not in any of the many releases world-wide has this been utilised! But, Dr. Overflow aka Uli Herrmann, the German Genius in DVB software programming, has made it possible when he "discovered" the CRYSTAL sound chip on the NOKIA's mainboard and implemented this feature in his infamous DVB2000 firmware.

What you need to access the extended sound feature (in addition to DVB2000 installed in your Nokia) is an optical sensor for the optical port; it's called a TOTX178, plus, some components to be soldered together. SatFACTS Parts Shop offers such a kit and this report is based on these components.

Report researched and prepared by Rolf Deubel







**SatFACTS Store  
AC-3 Kit**

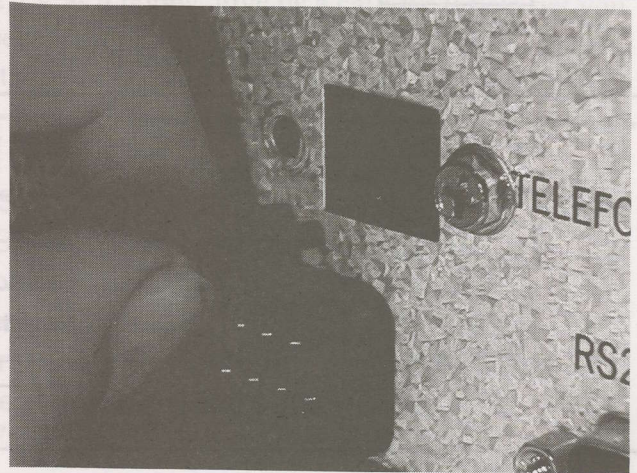
It is all in a bag; the parts you need to upgrade your Nokia d-box or Mediamaster to DD5.1 surround stereo! And it is already in your Nokia receiver - unused. See p. 23 for information.

our DD5.1 capable CRYSTAL C54922 chip on the NOKIA mainboard  
If you look closely to the CRYSTAL chip, there is a little dot in the middle of the top side which indicates PIN1 of the chip. Now count counter clock wise and locate PIN5, PIN6 and PIN7 (already around the corner). Connect YELLOW to PIN5 (Data), BLUE to PIN6 (GND) and RED to PIN7 (+5V) by using very little solder on either side of your solder points. I usually crimp the cable about 1mm at the end by 90 degrees and then lay the cable flat in the board and the crimped end "leaning" at the chips leg for easy soldering!

The TOTX178 is pre mounted and pre soldered complete with cable and the only thing you need to do is to get it into your NOKIA. In previous issues we have talked about how to open the NOKIA box and that you need a security TORX bit with a centre hole to open the screws on the cover. Nowadays these TORX kits are widely available but if you do not have such a "special" tool, a fine-bladed screwdriver that just fits into the TORX slot would do the job.



TORX tool has unique 6-spoke "wheel" with a centre-pin hole for accessing the Nokia innards.



ORIGINAL "Telephone" socket location is now connection point for surround sound optics.

Once open, remove the modem of your NOKIA (note: not all Nokias have a modem installed) as we need the opening in the back to fit the TOTX178 optical sensor for the DD5.1 output.

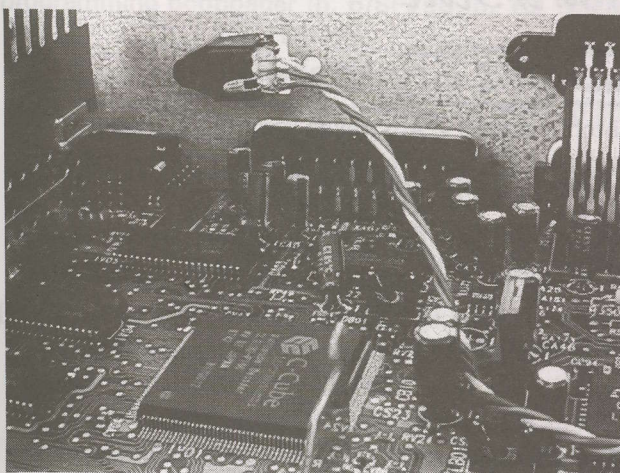
Should you decide to buy the components separately, here is what you must do:

Source (1) a TOTX178, (2) 3 different coloured wires (lets say blue, red and yellow) and (3) a 0.1uF (Tantalum preferred) capacitor.

Solder the wires in the TOTX178 legs (blue on 1 red on 2 and yellow on 3) and then solder the 0.1uF capacitor between leg 1 and 2 of the TOTX178. BLUE is GND, RED is +5V and YELLOW is our data line which now must be connected to

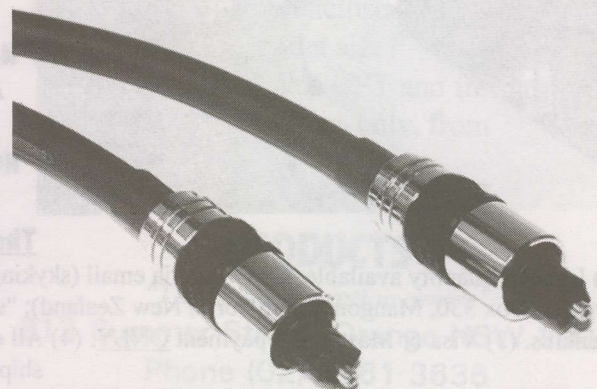
Once you've finished the soldering part, fit the TOTX178 at the hole where the modem used to be. It's a little bit bigger than needed but this does actually not matter at all. I've used a screw from a computer case which does a perfect job. Next you need to activate the AC3 / Dolby Digital features in DVB2000. Got to the sound sub menu and set AC3 to "ON."

To check if the TOTX178 is working correctly, remove the plug of the TOTX178 and check if you can see a "red light" for a short period when you activate the AC3 feature. If yes... all is set and you can connect your d-Box to your Dolby Digital HiFi system to enjoy DD5.1 sound when broadcast by your pay-TV provider. Unfortunately this is not a permanent service but most recent modern action movies are done in DD!



TOTX178 optical sender installed in hole previously used for modem connection.

TO your Dolby Digital sound system.



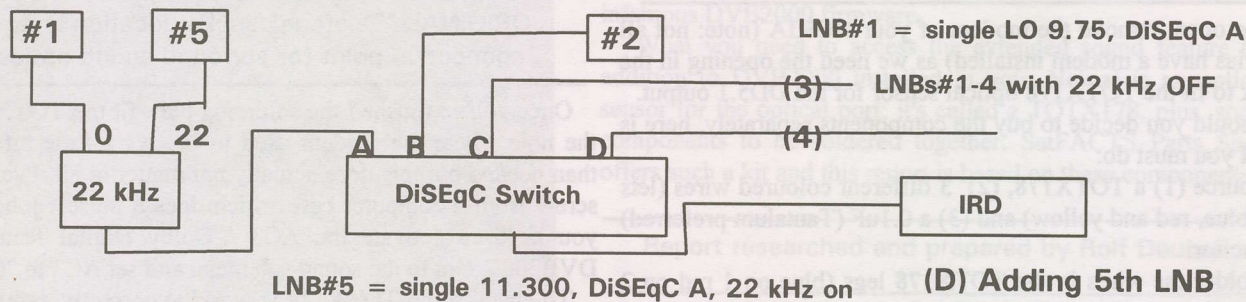
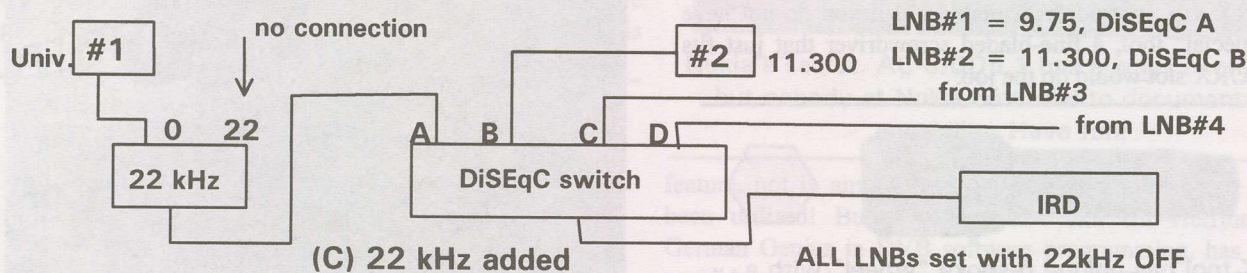
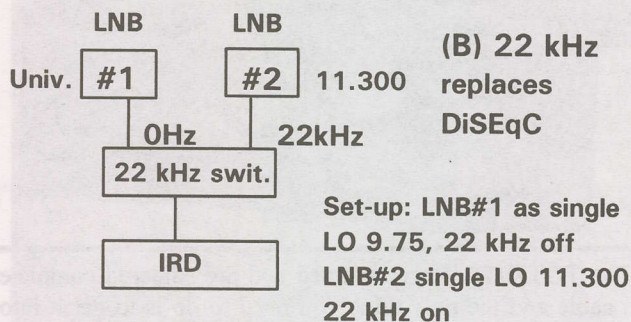
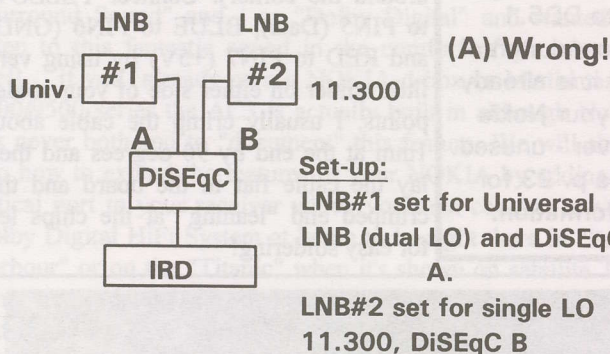


**The problem**

When a "Universal" LNB(f) is connected to DiSEqC switch, the 22kHz circuit in the LNBf loads down the pulses used for DiSEqC switching, preventing the DiSEqC from switching to another port. This is an "impedance" problem and the answer is to create a "buffer" between the IRD pulses and the 22 kHz circuit in the LNBf. (A) below shows how NOT to do it. (B),

(C), and (D) below illustrate three methods proven to work with Humax, eMTech and other common IRDs now in use in Australia's multiple-LNB(f) environment.

The impedance (loading) problem is made worse by improperly designed (old stock, not modern design) components. The "solution" in (A) is to pull the mains plug (not switch off power with IRD remote).



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- (1) Limited quantity available;
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- (3) Visa or Mastercard payment ONLY.
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**NOKIA 92/9500/dbox: AC3 Dolby extension kit** for digital audio output (see p. 20, here) (US\$39)

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**Humax 5400/5410(Z): 40 pin Molex socket** for programming bootloader (p. 6/SF#98, p. 10, SF#99) US\$25

#### **How to order:**

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# SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 December 2002

Bird	Service	RF/IF &Polarity	# Program Channels	FEC	Msym	
Thcm3/78.5	SkyChAust	3695/1455H	up to 3	3/4	5(.000)	
	MRTV-Myn	3676/1474H	1	2/3	6(.000)	
	TARBS ME mux	3640/1510H	12TV, 12 radio	3/4	28(.066)	
	Mahar mux	3600/1550H	11TV, 1 rad	3/4	26(.667)	
	SE asia Mux	3569/1581H	2+ TV	3/4	12(.500)	
	Nepal TV+	3554/1596V	3+ in mux	3/4	13(.333)	
	RR Sat mux	3551/1600H	8TV, 10 radio	3/4	13(.333)	
	JAIN TV	3538/1612V	1TV	3/4	3(.300)	
	PTV1 +	3521/1629V	1TV, 1 radio	3/4	3(.333)	
	TARBS	3520/1630H	12TV, 12 radio	3/4	28(.066)	
	TVK Cambodia	3448/1702H	1TV	1/2	6(.312)	
	TARBS/Th5	3480/1670H	12 TV+radio	2/3	26(.667)	
	KCTV/Korea	3424/1726H	1TV	2/3	3(.366)	
	Thai Global	3425/1725V	up to 7?	2/3	27(.500)	
InSat 2E/83	ETV mux	4005/1145V	6+ TV	3/4	27(.000)	
	Hyd Dig 2E	3910/1240V	1	3/4	5(.000)	
	Kairali TV	3699/1451V	1	3/4	3(.184)	
	Indian mux	3643/1507V	3	3/4	19(.531)	
	ETV Mux#2	3485/1665V	4+TV	3/4	27(.000)	
	Sky Bangla	3430/1720V	1TV	3/4	6(.000)	
STL/88E	MMBN	3632/1518V	12TV	3/4	26(.667)	
	Shandong TV	4070/1080H	1TV	3/4	6(.811)	
As2/100.5E	Euro Bouqt	4000/1150H	6TV, 21r	3/4	28(.125)	
	5-Star Med	3951/1199H	3TV	3/4	13(.185)	
	Reuters News	39-5/1245H	1TV	3/4	4(.000)	
	WorldNet	3880/1270H	4+/28radio	1/2	20(.400)	
	Hubei/HBT	3854/1296H	1	3/4	4(.418)	
	Hunan/SRT	3847/1303H	1	3/4	4(.418)	
	Guan./GDT	3840/1310H	1	3/4	4(.418)	
	In. Mongolia	3828/1322H	2	3/4	8(.397)	
	APT Asia	3799/1351H	1	3/4	5(.632)	
	Reuters/Sing.	3775/1375H	1	3/4	5(.631)	
	Liaonin/Svc2	3734/1416H	1	3/4	4(.418)	
	Jiangx/JXT	3727/1423H	1	3/4	4(.418)	
	Fujian/SET	3720/1430H	1	3/4	4(.418)	
	Hubei TV	3713/1437H	1	3/4	4(.418)	
	Henan/Main	3706/1444H	1	3/4	4(.418)	
	Egypt/Nilesat	3640/1510H	7+, radio	3/4	27(.850)	
	As2/100.5E	Macau MUX	4148/1002V	5TV	3/4	11(.850)
		Feeds	4086/1064V	1	3/4	5(.632)
		Dubai MUX	4020/11430V	4+, radio	3/4	27(.500)
		Jilin Sat TV	3875/1275V	1	3/4	4(.418)
		Shanghai BN	3846/1304V	1	7/8	4(.800)
		HeiLongJian	3834/1316V	1	3/4	4(.418)
		JSTV	3827/1323V	1	3/4	4(.418)
Anhui TV		3820/1330V	1	3/4	4(.418)	
ShaanxiQQ		3813/1337V	1	3/4	4(.418)	
Guan/GXTV		3806/1344V	1	3/4	4(.418)	
Fashion TV		3795/1355V	1	3/4	2(.533)	
Myawady		3766/1384V	1	7/8	5(.080)	
Saudi TV1		3660/1490V	7+/tests	3/4	27(.500)	
As3S/105.5E		Telstra I-Net	12.596V	no TV	5/6	30(.000)
		Zee bouquet	3700/1450V	10TV	3/4	27(.500)
		Macau MUX	3713/1437H	2TV	3/4	5(.868)
		Arirang TV	3755/1395V	1	7/8	4(.418)
		Now TV +	3760/1390H	up to 8TV	7/8	26(.000)
		Star TV	3780/1370V	15(+TV)	3/4	28(.100)
	Star TV	3860/1290V	21(+TV)	3/4	27(.500)	
	Star TV	3880/1270H	20(+TV)	7/8	26(.850)	
	HK Mux	3900/1250V	2+TV	7/8	27(.895)	
	Star TV	3940/1210V	7(+TV)	7/8	26(.850)	
	CNNI	3960/1190H	8(+TV)	3/4	27(.500)	
	StarTV	3980/1170V	12+TV	3/4	28(.100)	
	Star TV	4000/1150H	9(+TV)	7/8	26(.850)	
	Sun TV	4095/1055H	1	3/4	5(.554)	
	CCTV bqt	4129/1021H	4(+TV)	3/4	13(.240)	
	Zee Bqt #2	4140/1010V	8(+TV)	3/4	22(.000)	
	Cak1/107.5	Indovision (S-band)	2.536, 2.566, 2.596, 2.626	33(+TV)	7/8	20(.000)
IndoBqt		3460/1690H	up to 6	3/4	28(.000)	
I'Kom/108E	TPI	4185/965V	1	3/4	6(.700)	
C2M/113E	Anteve	4144/1006V	1	3/4	6(.510)	

Receivers and Errata
CA (#1, 3); FTA audio #2 (dm)
erratic service
CA + 2 FTA(A1TV, IRB3)(DM)
Thai + Indian services; FTA (DM)
MRTV3, MRTV (DM)
FTA + CA mux
3TV, 5radio currently in use (DM)
PIDs 4132/4133
frequency change
Feeds to TARBS Australia and PAS-8 (DM)
FTA
3FTA: TV5, VTV/4m ATN Bangla (DM)
Not 24 hour
FTA (reaches SE Australia)
Several ETV now here; wide beam
SCPC, OK E. Aust. wide beam
SCPC, OK E. Aust wide beam
New 07/02; corrections 12/02
Several new ETV here; Asia beam
New - November 2002
Nagravision, some FTA; erratic
New - October 2002
FTA TV + radio
Macau MUX
Was 3923H; sometimes FTA
FTA; Now here full time
FTA SCPC, teletext
FTA SCPC, teletext
FTA SCPC, radio APID 81
FTA: #1 Mongolian, #2 Mandarin
Sometimes FTA; also 3895Vt
FTA & CA
FTA SCPC, radio APID 256
FTA SCPC, teletext, radio APID 81
FTA SCPC, + radio APID 80
FTA SCPC, radio APID 80
FTA SCPC, + radio
Thru TARBS Aust, occ. FTA
5 chs TV, FTA, some tests
FTA SCPC feeds
FTA including sport
FTA SCPC, + radio
V1110, A1211 + 2 radio (new 10/02)
FTA SCPC
FTA SCPC, + radio
FTA SCPC + radio
FTA SCPC, radio APID 81
FTA SCPC, radio APID 257
Now Viaccess version 2 CA
FTA SCPC - difficult to load
FTA MCPC; Yemen, MBC Europe tests
Signal useful for dish testing - no TV
Mediaguard (SECA) CA; 2 FTA
New June 2002; low res MUX
FTA SCPC; audio now OK
CA + NOW, B'berg, Indus FTA
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DV211, Zenith)
FTA PAL + occ. feeds and CA
NDS CA as above
PowVu CA; new SR Apr 29
NDS CA (Pace DVS211, Zenith)
NDS CA w/ 4(Chinese) FTA
"History Channel" testing SCPC
moved from 4115
Mediaguard (SECA) CA
NDS CA using RCA/Thomson, Pace IRDs
also 3586H/17.500, 3496H/19.615
FTA SPCA; NT/NC only
change from 4055V; FTA SCPC



Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(C2M)	<b>Indo Mux</b>	4080/1070H	5+ TV	3/4	28(.125)
	<b>Indosiar</b>	4074/1076V	1	3/4	6(.500)
	<b>SCTV</b>	4048/1102V	1	3/4	6(.618)
	<b>Indone.Mux</b>	4000/1250H	6+TV	3/4	26(.085)
	<b>Satelindo</b>	3935/1215H	1TV	3/4	6(.700)
	<b>Bali TV</b>	3926/1224H	1TV	3/4	4(.208)
	<b>Indo. MUX</b>	3880/1270H	3+ TV	3/4	28(.125)
	<b>GlobalMUX</b>	3760/1390H	up to 12 TV?	3/4	26(.087)
	<b>Brunei/Sing</b>	3733/1417H	1TV	3/4	6(.000)
	<b>TBN/Trinity</b>	3727/1423H	1 TV	3/4	3(.000)
	Unknown	3605/1545H	1TV	3/4	2(.900)
	<b>RCTI</b>	3473/1677H	2	3/4	8(.000)
	<b>Myawad TV</b>	3706/1444H	1	3/4	5(.924)
Ic3/12	<b>Miracle Net</b>	3996/1154V	3 up to 6	5/6	22(.000)
	<b>Asian bqt</b>	3960/1190V	up to 8	7/8	30(.000)
Jc28/54	<b>BYU tests</b>	3.915/1245V	2	3/4	3(.425)
MeaSs2	<b>New Mux</b>	12.532H	17	3/4	41(.500)
	<b>Astro Mux</b>	11.602H	up to 17TV	3/4	41(.500)
	<b>VTV MUX</b>	11.522Vt	3 TV	3/4	9(.766)
B3/156	<b>Mediasat</b>	12.336V/T2	10TV, 4+radio	2/3	30(.000)
	<b>Aurora</b>	12.407V/T3		2/3	30(.000)
	<b>Aurora</b>	12.532V/T5	Inc Zee TV	3/4	30(.000)
	<b>Aurora</b>	12.595V/T6		2/3	30(.000)
	<b>Aurora</b>	12.657V/T7	data only?	3/4	30(.000)
	<b>Aurora</b>	12.720V/T8		3/4	30(.000)
	<b>Austar</b>	12.313H/T9	iTV + here	3/4	30(.000)
	<b>Austar/Optus</b>	12.376H/T10		3/4	29(.473)
	<b>Austar/Foxtl</b>	12.438H/T11		3/4	29(.473)
	<b>Austar/Foxtl</b>	12.501H/T12		3/4	29(.473)
	<b>Austar/Foxtl</b>	12.564H/T13		3/4	29(.473)
	<b>Austar/Foxtl</b>	12.626H/T14		3/4	29(.473)
	<b>Austar/Foxtl</b>	12.688H/T15	(some FTA ra)	3/4	29(.473)
B1/160	<b>ABC NT fd</b>	12.258V	1TV, 3 radio	3/4	5(.026)
	<b>ABC feeds</b>	12.317H	1	3/4	6(.980)
	<b>Net 7 service</b>	12.397H	1	3/4	7(.200)
	<b>Central 7</b>	12.354H	1TV + 1 radio	3/4	3(.688)
	<b>Imparja mx</b>	12.379H	2TV + 8 radio	3/4	5(.424)
	<b>Feeds to NZ</b>	12.411V	1 TV	3/4	6(.111)
	<b>Sport feeds</b>	12.420V	1	3/4	6(.110)
	<b>Mediasat#3</b>	12.424H	3+ TV	2/3	19(.800)
	<b>TVNZ DTH</b>	12.456/483V	4+TV	3/4	22(.500)
	<b>Nine Net</b>	12.512H	1 TV typ.	3/4	5(.632)
	<b>Sky NZ</b>	12.519/546V	7TV/7TV	3/4	22(.500)
	<b>Sky NZ</b>	12.581/608V	6TV/6TV	3/4	22(.500)
	<b>Sky NZ</b>	12.644/671V	9TV	3/4	22(.500)
	<b>ABC HDTV</b>	12.603H	5TV	7/8	14(.300)
	<b>Sky NZ</b>	12.707/733V	8+TV	3/4	22(.500)
P8/166	<b>ABC A-P</b>	12.301H	1TV, 2 radio	5/6	5(.858)
	<b>TARBS3</b>	12.326H	13TV + radio	3/4	28(.066)
	<b>TARBS</b>	12.526H	13TV + radio	3/4	28(.066)
	<b>TARBS2</b>	12.606H	13TV + radio	3/4	28(.066)
	<b>TARBS5</b>	12.646H	testing	3/4	28(.066)
	<b>TARBS4</b>	12.726H	13TV + radio	3/4	28(.066)
	<b>JEDI/TVB</b>	12.686H	11+ TV	3/4	28(.126)
	<b>ABC A-P</b>	4180/970H	2TV, 2 radio	3/4	27(.500)
	<b>Disney Pac</b>	4140/1010H	typ 6 TV	5/6	28(.125)
	<b>NHK Joho</b>	4060/1090H	7TV, 1 radio	3/4	26(.470)
	<b>TVB mini</b>	4050/1100V	4TV	3/4	13(.240)
	<b>ESPN USA</b>	4020/1130H	8+TV, data	3/4	26(.470)
	<b>Discovery</b>	3980/1170H	8 typ.	3/4	27(.690)
	<b>CalBqt/Pas8</b>	3940/1210H	up to 8TV	7/8	27(.690)
	<b>CNBC HK</b>	3900/1250H	up to 7TV	3/4	27(.500)
	<b>FilipinoMUX</b>	3880/1270V	up to 8TV+radio	3/4	28(.694)
	<b>TaiwanBqt</b>	3860/1290H	12TV + 30 r	5/6	28(.000)
	<b>CCTV Mux</b>	3839/1311H	up to 4	3/4	13(.240)
	<b>TVBS-N</b>	3836/1314V	1FTA, 4+ CA	3/4	22(.000)
	<b>EMTV PNG</b>	3808/1342V	1 + 2 radio	3/4	5(.632)
	<b>CNNI</b>	3780/1370H	3, up to 5 TV	3/4	25(.000)
	<b>MTV</b>	3740/1410H	8	2/3	27(.500)
P2/169E	<b>P2/169</b>	12.281V	2+ TV, radio	2/3	27(.500)
	<b>WA PowVu</b>	12.637(.5)V	4TV, 8 radio	1/2	18(.500)
	<b>TARBS (?)</b>	4087V	9TV + radio	3/4	21(.000)
	<b>TVB(S)</b>	4020/1130V	1TV	3/4	6(.620)
	<b>Fox Bouquet</b>	3992/1158V	8TV/data	7/8	26(.470)
	<b>Feeds</b>	3966/1184V	1	2/3	6(.620)
	<b>Feeds</b>	3957/1193V	1	2/3	6(.620)
	<b>Feeds</b>	3929/1221V	1	3/4	10(.850)
	<b>Feeds</b>	3912/1238V	1	2/3	6(.620)
	<b>Feeds</b>	3898/1252V	1	2/3	12(.000)
	<b>Middle East</b>	3836/1314V	4 typ	3/4	13(.331)
	<b>Feeds</b>	3803/1347V	1	3/4	6(.000)
	<b>BBC +</b>	3743/1407V	3	3/4	21(.800)

Receivers and Errata
Global TV - frequent changes in lineup
FTA; solid on 3.5m in New Caledonia
FTA SCPC; NT/NC only
unstable platform - testing?
Test card only reported
Returned to air Nov. 2002; V33, A36
TVRI, others FTA
Testing- 12 chs promised; 2-12 tests
FTA; share time, Brunei-23hrs, Sing1h
Testing; VPID 4144, APID 4145
Tests-multi-screen, may have no video
FTA SCPC, Australia, NC OK
may be test; svc has been erratic
PowVu, some FTA (ch # 1,3)
CA & FTA NTSC; Japan, Taiwan
not fulltime; very strong NZ, Aust
New Sept 2002; unknown source
Aust East beam - 3 FTA + 14 CA
WA only? Skew path, intended Asia
see listing p. 29, SF#100
Aust, NZ 90 cm
Aust only; changein FEC
Possibly Aust + NZ; FEC change
Aust only; in transition
Aust only; - smart card p. 26
Austar Interactive + demos; p. 29, SF#97
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
V832, A833
also 12.326, 12.335; ex PAS8 Ku
Full schedule less commercials
V1280, A 1281; occ. 2nd TV ch
V1024, A1025, P1024; also try 12.360
NTSC; sport feeds USA-Aust-NZ
Weekend footy feeds reported-FTA
FTA 4 channels (TVNZ x 4)
testing digital feeds; Sr may be incor.
NDS CA, subscription available NZ
NDS CA, subscription available NZ
NDS CA, subscription available NZ
also 12.626, 643, 670, 688, & 706H
NDS CA, subscriptions available NZ
Feed, Adelaide; not permanent
TPG/EurodecMDS CA, occ. FTA
TPG/Eurodec MDS CA, radio FTA
TPG/Eurodec MDS CA; TRT FTA
TPG/Eurodec MDS CA
TPG/Eurdec MDS CA; Thai TV, FTA
June 2002-Irdeto-2 CA
Dateline west; east PAS2, 3901
PowVu CA
PowVu CA & FTA; subscription avail
TVB tests, sometimes FTA
PowVu CA; ch 11 DCP-CCP bootload; new FEC
PowVu/CA (some audio FTA)
<b>PowVu CA &amp; FTA (EWTN)</b>
FTA at this time
<b>Myx FTA</b> V1960, A1920 + radio FTA
some TV FTA; radio may require PIDs
PowVu FTA, replaces PAS-2 svc
Difficult because of CCTV cross pole
was As2; PowVu CA
PowVu, CNN/CNNI now CA
#2, 8 MTV China FTA; rest CA
PowVu CA, WIN, ABC NT
PowVu CA, WA only - D9234
New Sept 2002; possibly TARBS
feeds to (USA) pay-TV
<b>Pv, CA/FTA (FTA ch3 test card)</b>
PowVu (FTA) occ feeds
PowVu (FTA) occ. feeds
PowVu (FTA) occ sport feeds
PowVu(FTA) occ. feeds
PowVu (FTA) occ. feeds
<b>RAI TV, radio FTA; balance CA</b>
PowVu (FTA) occ sport feeds
<b>BBC FTA, others CA usually</b>



Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(PA8/169E)	Feeds	4040/1010H	1	3/4	10(.850)
	7thDayAdv.	3872/1278H	1	3/4	6(.620)
	Feeds	3868/1182H	1	2/3	6(.620)
	Feeds	3939/1211H	2 (typ NTSC)	2/3	6(.620)/7(.498)
	Cal PowVu	3901/1249H	up to 8	3/4	30(.800)
	HK bouquet	3850/1300H	up to 8	2/3	24(900)
	occ feeds	3776/1374H	1 typ	3/4	5(.560)
	Korean Bqt	3762/1388H	up to 3	3/4	11(.570))
I702/176E	RFO Poly	4027/1123L	1TV	3/4	4(566)
I701/180E	TNTV	11.060&11.514	9	3/4	30(.000)
	Canal+Sat	11.610H	16TV, 1 radio	3/4	30(.000)
	TVNZ	4195/955RHC	1	3/4	5(.632)
	TVNZ/BBC	4186/964RHC	1	3/4	5(.632)
	TVNZ	4178/972RHC	1	3/4	5(.632)
	AFRTS	4175/975L	3 TV, 3 radio	2/3	3(680)
	TVNZ/Aptn	4170/980RHC	1	3/4	5(.632)
	TVNZ/feeds	4161/989RHC	1	3/4	5(.632)
	RFO-Canal+	4086/1064L	4TV, radio	5/6	12(.041))
	TVNZ/feeds	4052/1098RHC	1	3/4	5(.632)
	TVNZ feeds	4044/1106R	1	3/4	5(.632)
	NZ Prime TV	4024/1126L	1	2/3	6(.876)
	NBC to 7 Oz	3960/1190R	1	7/8	6(447)
	WorldNet	3886/1264R	1TV, 37 radio	3/4	25(.000)
	Ioarana	3772/1378L	1	3/4	4(.566)
	TVNZ	3846/1304R	1	3/4	5(.632)
	10 Australia	3769/1381R	4	7/8	20(.000)
	USA feeds	3749/1401R	4?	?	26(400)

Receivers and Errata
PowVu occ FTA feeds
Sat, Sun 0030, 0900+UTC ? need verif)
FTA (occ sport); also try 3863,Sr6.100
FTA-typ NTSC-occ sport, live Shuttle
PowVu CA + FTA (BBC gone)
was 4148Vt; some FTA
occ feeds, typ FTA; also Sr 5.600
Korean MUX, reload June 01
SE spot beam
east spot; 10TV + r each, vertical pol.
1+ FTA, Mediaguard; also 10.975 weak
DMV/NTL early vers., occ feds, typ ca
DMV/NTL early vers. occ feds, typ ca
DMV/NTL early vers., occ feds, typ ca
DTS' radio, TV audio FTA some IRDs
DMV/NTL early vers. occ feds, typ ca
DMV/NTL early vers., occ feds, typ ca
east hemi 20.5 dBw thru 2003+; new Sr
DMV/NTL early vers.,occ feeds, typ ca
SCPC, mixed CA and FTA feeds
PowVu CA; Auckland net feeds
CA, Leitch encoded
New Feb 2002; vert strong NZ, Pacific
FTA SCPC; East Hemi Beam-Tahiti
SCPC, mixed CA & FTA, feeds
PowVu CA & FTA; #3 TBN
16-QAM (not MPEG-2 compatible)

**MPEG-2 DVB Receivers:** (Data here believed accurate; we assume no responsibility for correctness!)

**Aston Simba 201.** Embedded SECA (Zee, Canal +); review SF#97. MediaStar 61-2-9618-5777.

**AV-COMM R3100.** FTA, excellent sensitivity (review SF May 1998); new version Sept. '99. Av-COMM P/L, 61-2-9939-4377.

**AV-COMM R3100(A).** FTA, good sensitivity, ease of use exc (review SF May 2002). See above contact.

**Benjamin DB6600-Cl.** FTA, Foxtel/Austar w/CAM+card. Autosat Pty Ltd 61-2-9642-0266 (review SF#72)

**eMTech eM-100B (FTA), eM-200B (FTA + Clx2), eM210B (FTA + 2xCl + positioner);** KanSat 61-7-5484 6246 (review SF#89)

**Humax F1-Cl.** Primarily sold for TRT(Australia), does (limited) PowerVu (not Optus Aurora approved).

**Humax ICR1 5400 (Z).** Embedded Irdeto + 2 CAM slots; initial units had NTSC glitch, now fixed. Widely available, SF#76.

**Humax IRC1 5400 (Z).** Adaptable version capable of holding multi-CA systems (SF#98, 99). Widely available.

**Hyundai-TV/COM.** HSS100B/G (Pacific), HSS-100C (China) FTA. Different software versions; 2.26/2.27 good performers, 3.11 and those with Nokia tuners also good; later 5.0 not good. SATECH (V2.26)

**Hyundai HSS700.** FTA, PowerVu, SCPC/MCPC. Review SF March 1999. Kristal Electronics, 61-7-4788-8902.

**Hyundai HSS800Cl.** FTA, Irdeto (with CAM) + other CA systems, PowerVu, NTSC. Kristal Electronics, above; review SF#63.

**MediaStar D7.** FTA, preloaded w/ known services, exc. software (review SF July 1998). MediaStar Comm. 61-2-9618-5777

**MediaStar D7.5.** New (May 00) single chip FTA; review June 00 SF. MediaStar Comm. Int. 61-2-9618-5777

**MediaStar D10.** FTA and Irdeto embedded CA. VG receiver; see review SF#96, August 2002. Contacts immediately above.

**MultiChoice (UEC) 660.** Essentially same as Australian 660, not grey market contrary to reports. Sciteq tel 61-8-9306-3738

**Nokia "d-box" (V1.7X).** European, FTA, may only be German language, capable of Dr. Overflow software. See SF#95, p. 14.

**Nokia 9200/9500.** When equipped with proper software, does Aurora, pay-TV services provided software has been "patched" with "Sandra" or similar program. See SF#95, p. 14, SF#96 p. 15. SatWorld 61-3-9773-9270 (www.satworld.com.au)

**Pace DGT400.** Originally Galaxy (Now Foxtel+Austar). Irdeto, some FTA with difficulty (Foxtel Australia 1300-360818). Units being replaced with UECs.

**Pace DVR500.** Original DGT400 modified for NBC (PAS-2)/RSA use, with CAM equivalent to DGT400 but more reliable.

**Pace "Worldbox"** (DSR-620 in NZ). Non-DVB compliant NDS CA including Sky NZ, no FTA; similar "Zenith" version.

**Panasat 520/630/635.** MCPC FTA, Irdeto capable, forerunner UEC 642, 660. Out of production, spares fax ++27-31-593-370. No longer work with Austar/Foxtel.

**Panasonic TU-DS10.** FTA + Irdeto CA; one of 2 IRDs approved by Optus for Aurora, but never available in Australia.

**Phoenix 111, 222.** PowVu capable, NTSC, graphics, ease of use. (111 review SF#57). SATECH(below)- 222; terminated

**Phoenix 333.** FTA SCPC, MCPC, analogue + dish mover. Detailed SF review SF#51. SATECH 61-3-9553-3399.

**Pioneer TS4.** Mediaguard CA (no FTA), embedded Msym, FEC, only for Canal+Satellite (AntenneCal ++687-43.81.56)

**PowerVu (D9223, 9225, 9234).** Non-DVB compliant MPEG-2 unless loaded with software through ESPN Boot Loader (see below). Primarily sold for proprietary CA (NHK, GWN+ PAS-2 Ku, CMT etc). Scientific Atlanta 61-2-9452-3388.

**Prosat 2102S.** FTA SCPC/MCPC, NTSC/PAL, SCART + RCA. Sciteq 61-8-9306-3738.

**SatCruiser DSR-101.** FTA SCPC/MCPC, PowVu, NTSC/PAL. (Skyvision Australia 61-3-9888-7491, Telsat 64-6-356-3749)

**SatCruiser DSR-201P.** FTA SCPC/MCPC, PowVu, NTSC/PAL, analogue, positioner - (Skyvision - see above).

**STRONG Technologies SRT2620.** SCPC, MCPC FTA, exc sensitivity, ease use, programming. Review SF#91 (ph. below).

**Strong SRT 4600.** SCPC, MCPC, PowerVu; exc graphics, ease of use, review SF#64. Strong Technologies 61-3-8795-7990.

**Strong 4800.** SCPC, MCPC, embedded Irdeto+ CAM slots, Aurora. Strong Technologies 61-3-8795-7990.

**Strong 4890.** SCPC, MCPC, 30Gb PVR, 2 CAM slots, DiSEqC 1.0, 1.2 (review SF#84); Strong Technologies, # above.

**UEC642.** Designed for Aurora (Irdeto), approved by Optus; w/new software, C-band FTA; faulty P/S. Norsat 61-8-9451-8300.

**UEC660.** Upgraded UEC642, used by Sky Racing Aust., Foxtel-limited FTA. (Nationwide - 61-7-3252-2947); P/S problems.

**UEC700/720.** Single chip Irdeto built-in design for Foxtel; unfriendly for FTA. Power supply problems, seldom sold to consumers; propensity to fall off back of trucks.

**Winersat DigiBox 200.** C + Ku basic receiver but includes Teletext for NZ TVOne, 2 VBI. Satlink NZ, fax 64-9-814-9447

**Xanadu.** DVB compliant special-priced receiver for members of SPACE Pacific (Av-comm Pty Ltd, tel +61-2-9939-4377)

**Accessories:**

**Aurora smart cards.** New v1.6 now available, 1.2 no longer available for RABS. Price now A\$105, Sciteq 61-8-9306-3738.

**PowerVu Software Upgrade:** PAS-8, 4020/1130Hz, Sr 26.470, 3/4; pgm ch 11 and follow instructions (do not leave early!)



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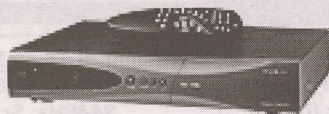
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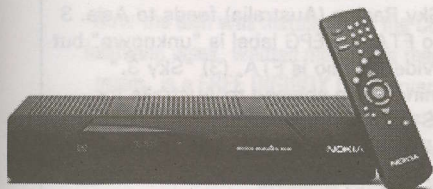
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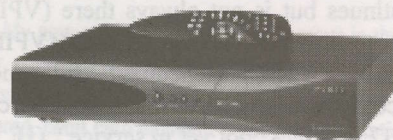
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# WITH THE OBSERVERS

## AT PRESS DEADLINE

SIDs Kuwait Space Channel 3660Vt (AsiaSat 2) 31; EuroNews 9632 (both have been difficult to load recently). Is hacker turned informer Lee Gibling alive? Recent messages from "giblee@sathack.net" suggest he may in fact be. Australian Sky plans move to B3 relocated to 152E after C1 comes on line, will also change CA system.

**ApStar 2R/134E:** "13 channel MUX 3720Hz, Sr 29.265, 5/6 is all PowerVu CA with exception of occasional FTA ch 21 (VIPD 1360, APID 1320). Also, 3920Hz, Sr 28.340, 7/8 has 16 ch PowerVu CA package." (Bill R, Aust.)

**AsiaSat 2/ 100.5E:** "Some additions, perhaps tests, on 3660Vt Saudi MUX (Sr 27.500, 3/4): Yemen TV (V2432/A2433 and MBC Europe (V2435/A2436)." (Larry, PNG) "EuroNews which was testing FTA on 3660Vt is now CA." (AJ, Victoria)

**AsiaSat 3/105.5E:** "Phoenix Chinese NTSC service 3920Hz analogue on and off; but went away once before and then returned. Possibly transponder if free of analogue will become new Star Asia/India digital home." (Clyde, PNG).

**InSat 2E/83E:** "Sky Bangla - not related to any other Sky - 3430Vt, Sr 6.000, 3/4 FTA V257/A258." (Bill R, Aust)

**Intelsat 804/176E:** "New satellite (804) has arrived at 176E and testing should be underway before you read this. Satellite replaces IXXX. This location has never been used for more than occasional feed TV services, no major changes expected here." (Harry L, USA).

**Intelsat 701/180E:** "10.975Hz FTAs include pair of test cards (V512/A650, and, V513/A660), balance is typically CA." (GS, Qld)

**Optus B1/160E:** "Big bucks. One of the participants in the America's Cup races currently underway in NZ is a multi-billionaire who also happens to own a prominent USA NBA (basketball) franchise. To 'amuse' his friends he has been importing his team's games from USA to Australia where they are turned around and fed on 12.411Vt, Sr 6.111, 3/4 (in NTSC) back to his yacht's Ku equipped receivers to display on larger-than-life Plasma screen TVs." (SJ, NZ)

**Optus B3/156E:** "Globecast 12.336Vt HRT (Croatia) continues but is not always there (VPID 1960, APID 1920); also testing here is KBS Korea (VPID 1061, APID 1024), initially NTSC; scheduled full-time (apparently FTA) December 1." (CS, NZ). "Two new channels (AtA, At9) in 12.375H MUX; not yet in service." (IF, Qld.)

**Palapa C2M/ 113E:** "TBN/Trinity Broadcast Network USA, testing 3727Hz, Sr 3.000, 3/4 (V4144, A4145)." (Clyde, PNG) "Bali-TV is back on the air - FTA (3926Hz, Sr 4.208, 3/4 V33/A36)." (Bill R, Aust). "Ar-Rahman TV is gone, Semenanjung TV replaces on 4080Hz, V515/A653." (Larry, PNG).

**PanAmSat PAS2/169E:** "Discovery Ch Asia is new on 3743Vt. within 'BBC MUX,' Sr 21.800, 3/4 PowerVu CA." (Bill R, Aust)

**Thaicom 3/ 76.5E David Mitchell Observations (NSW - 1.8m)**  
3424Hz: Sr 3.366, 2/3; Korean KCTV, not 24 hour (FTA).

3448Hz: Sr 6.312, 1/2; TVK Cambodia (FTA).

3480Hz: Sr 26.667, 2/3. TARBS bouquet (\*), 12 TV + 12 radio (underlined FTA): TV - (1) TV5, (2) VTV4, (3) ATN Bangla, (4) LIG, (5) ALPH, (6) ANT, (7) ERT, (8) MEGA, (9) BOG, (10) TVG, (11) SIC, (12) MOTV. Radio - (1) ALNR, (2) RDS, (3) RADG, (4) T116, (5) T117, (6) T118, (7) T1129, (8) T120, (9) T121, (10) T122, (11) T135, (12) T136.

3520Hz: Sr 28.066, 3/4. TARBS bouquet (\*), 12TV + 12 radio. (all CA) TV - (1) MKT1, (2) MKT2, (3) PINK, (4) RTS, (5) BKTV, (6) BKTV, (7) CRTV, (8) ORT, (9) NTV, (10) NTVP, (11) TPV, (12) PSTV. Radio - (1) T125, (2) T126, (3) T127, (4) T128, (5) T129, (6) T130, (7) T131, (8) T132, (9) T133, (10) T134, (11) T135, (12) T136.

3551Hz: Sr 13.333, 3/4. RR Satellite Communications. 8TV, 10 radio allocations of which 3TV and 5 radio currently in use. (underlined FTA): TV TRT International, (2) RR Feed, (3) 3ABN (USA religious), (4) "Vid 2" not in use, (5) "Vid 3" [NIU], (6) "Vid 5" [NIU], (7) "Vid 6" [NIU], (8) "Vid 7" [NIU]. Radio (all FTA but # 5 if it is in use) - (1) TRT-FM, (2) VOT, (3) Swiss Radio International, (4) 3ABN radio, (5) ZIN, (6) "Audio 6" [NIU], (7) "Audio 7" [NIU], (8) "Audio 8" [NIU], (9) "Audio 9" [NIU], (10) no label; not in use.

3569Hz: Sr 12.500, 3/4. SE Asia mux, 2 FTA TV. (1) MRTV 3, (2) MRTV.

3600Hz: Sr 26.667, 3/4. Thaicom mux, 11TV allocations, 1 radio, all FTA. (1) TV5 Global Network (Thailand), (2) Ch 2 (Thailand rest card), (3) Ch 3 (Thailand test card), (4) Ch 4 (Thailand test card), (5) Ch 5 (Thailand test card), (6) VTV4, (7) ATN Bangla, (8) ETC Punjabi, (9) Ch 9 (Thailand test card), (10) ETC, (11) Ch 11 (Thailand test card).

3640Hz: Sr 28.066, 3/4. TARBS Middle East mux (\*). 12 TV (2 FTA), 12 radio (all CA). TV - (1) ESC1, (2) ESC2, (3) NDM, (4) NUL, (5) NITV, (6) NNNF, (7) TLNC, (8) MTV, (9) EBE, (10) STV, (11) A1TV, (12) IRB3. Radio (1) RDSP, (2) ERTR, (3) ANTR, (4) RADD, (5) ERA5, (6) ERAS, (7) RM, (8) TG FM, (9) EBE, (10) ESEA, (11) EQK, (12) ELSH.

3695Hz: Sr 5.000, 3/4. Sky Racing (Australia) feeds to Asia. 3 TV channels, one has audio FTA. (1) EPG label is "unknown" but CA, (2) "Sky 2" CA video, audio is FTA, (3) "Sky 3."  
\* TARBS. Programming being shipped to Australia for rebroadcast using PAS-8 Ku TARBS MDS secured (CA) transponders as well as PAS10 C-band (believed to be same MDS CA). Actual services, CA or FTA status subject to change.

**PanAmSat PAS8/166[.5]E:** "FEC for ABC-AP feed 12.301Hz is now 5/6 (Sr 5.858, V522/A650)." (GS, Qld) "TVB MUX on 4050Vt now CA." (Bill R, Aust).

**Thaicom 3/78.5E:** "ETV Thailand has been on and off 3600Hz, V514, A670 - has been erratic, suspect it to be educational service feeds primarily; VTV4 also in this mux (Sr 26.667, 3/4)." (Bill R, Aust.)

**WITH THE OBSERVERS:** Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. Photos of yourself, your equipment or off-air photos taken from your TV screen are welcomed. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady. Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for January 17th issue: January 8 by mail or 5PM NZST January 9th if by fax to 64-9-406-1083 or Email skyking@clear.net.nz.



## Getting Hooked on (Rupert's) BSkyB and Other British Satellite Traps

Having just returned to SE ASIA from a visit to the UK, my SAT experiences should be quite a revelation to readers. Having chosen to fly via Dubai which lies exactly half way between Asia and Europe I was able to spend a day's stopover in this Garden of Eden for SAT enthusiasts. In one small area near Nassr Square, just 15 mins from the airport, are almost one hundred SAT SHOPS all competing to offer the widest range of equipment at rock bottom prices. Not only low prices but also a wide choice products is to be found, many items of equipment not available elsewhere. How about an eight output universal LNBF? Four different brands of this item are available! Interestingly the satellite shops are all owned by Dubai locals but are staffed exclusively by Asians and Philipinos. I considered it a great honour when I was invited into the private office of one of the actual owners dressed in beautiful flowing white LAWRENCE OF ARABIA styled robes! Loaded up with bargain basement priced sat equipment, I arrived at London airport with not a customs officer in sight ... it was a Sunday morning! Arriving at my house, I was greeted with an official letter from the local council dated four months earlier, requesting I remove my satellite dish which was "oversized, overlooked the street and had recently been installed on the front wall of the house." This statement was followed by a threat of an ENFORCEMENT NOTICE. On reading this letter I really was fuming. The dish referred to had been up since 1997, was a permitted size [90cm] and was on a side flanking wall! I feverishly started preparing my defence against the Council but soon realised this would be difficult. To prove a dish had been in place for five years and thus free from regulation, I discovered the council would demand a photograph of the property at least 5 years old showing the dish in situ! Who keeps old photos of their sat dishes? (David Leach; editor) I was also terrified that the Council satellite enforcement officer would visit before I had prepared my case. Indeed my wife was certain that an official who called one day when I was out, to enquire about my whereabouts, was from the Council's satellite dish enforcement department.

In fact I need not have worried. In the headline of the local newspaper I saw the following: "ALL WESTMINSTER CITY COUNCIL OFFICERS ON INDEFINITE STRIKE. COUNCIL SERVICE PRIVATISATION PLAN ATTACKED." It seems that the official that had called around was from the electoral registration department!

In any case, within days, through my careful study of the legal position, I found an article in a FRENCH SAT MAG referring to a recent European council communiqué setting out the right of the individual to watch SAT TV. The reasoning was based not only on EUROPEAN TRADE LAW but on HUMAN RIGHTS LAW under ARTICLE 10 of the HUMAN RIGHTS CONVENTION. The communiqué from Brussels said in no uncertain terms that it was the duty of officials at all levels of government ... from Parish Councils to central Government to recognise the individuals right to SAT TV. A few anonymous calls to SAT ENFORCEMENT OFFICERS at adjoining Councils confirmed my suspicions. Namely, that none of them had read this communiqué, and that none took Human Rights issues into account in their regulations concerning dishes.

Now the threat posed by the Council seemed resolved (for the moment anyway), I finally could relax, enjoy my holiday and watch all the many hundred of channels available in Europe on Ku band. My next SAT matter was the erection of a second dish, fixed and pointed at ASTRA 2 at 28 degrees east on the roof of my house. The results of my efforts were astonishing. Ringing around SATELLITE installers whose names were taken from the Yellow Pages, four SAT companies seemed interested in doing the install and made appointments to call round to quote for the job.

Incredibly one after another, all four companies refused to carry out the work! The usual response was, "I'm not going up there mate! Too dangerous, chum! I'm not risking my life!" And all that was involved was getting up on the roof of a standard London three story townhouse! So now I was running out of time and was due to return to Asia. Four weeks had passed and still nobody would install the dish when out of the blue, a new AD appeared in "LOOT," the free local ad paper. The short ad in the SATELLITE section read:

"EXPERIENCED SAT INSTALLER LOOKING FOR WORK".

I telephoned and instead of having to book an appointment a week or so ahead, as had been necessary with the previous companies, the installer was around at my house the same day. Within a couple of hours the dish was installed! I was even offered a variety of hacked cards! How come you are wondering? The installer and his mate were from ROMANIA .... all the refusals were from BRITISH installers! In all likelihood, these EAST EUROPEANS were illegal immigrants. They told me they now had work to last them a year since they placed their ad, as BRITS don't like heights and won't work on roofs.

Now the dish was installed and the Council threat abated, I had my final SAT matter to attend to. My new student tenants, due to move in the following week, wanted me to help them fix up a year's subscription to SKY DIGITAL. Rupert's offer, plastered over every paper and mag in the realm, is a FREE DIGIBOX for everyone signing up for A YEAR'S CONTRACT. The only restriction is - only ONE free box per PERSON and per HOUSEHOLD. As the students had never had a subscription before and qualified fully, the set was ordered, debit card payment made and installation arranged for the following Wednesday, two days after I was due to leave the UK. I flew out happy that I had tackled all the many and various SAT problems successfully and was looking forward to my second stop over in DUBAI on my return journey.

Thursday morning, back at my desk in Asia an email from the tenants arrived to say that SKY DIGITAL had phoned on Monday to cancel the installation of the DIGIBOX. They said that SKY had discovered on their COMPUTER that in previous years there had been a SKY SUBSCRIPTION at the property and a DIGIBOX had been supplied! Of course there had, but the offer was clearly limited to one set per HOUSEHOLD and not one per HOUSE and these students had no connection whatsoever with previous households that had occupied the property. So now a new SAT problem to sort out! No rest for the wicked!

SIAM GLOBAL, BANGKOK, Thailand

PS: The website referred to above which every SAT enthusiast should read, especially if from a country using the common law such as New Zealand and Australia, is :

[http://europa.eu.int/comm/internal\\_market/en/media/satdish/antenna\\_en.htm](http://europa.eu.int/comm/internal_market/en/media/satdish/antenna_en.htm)

**Soapbox:** "Here is a REAL enthusiast; a self built 12m dish language programming well outside of the normal footprint by a German ex-pat in Ikot Abzar, Nigeria to receive German coverage region: <http://www.dxandy.de/afrika.htm>." (RD)



MediaSat/Globecast 12.336Vt Optus B1  
Sr 30.000, Fec 2/3

Channel	Service	VPID	APID	Notations
TV-1-CA*	VA1: SET	1,160	1,120	audio hum
TV-2-CA*	VA2: Zee TV	1,260	1,220	
TV-3-CA*	VA-3:Z Cine	1,360	1,320	
TV-4-CA*	Star PlusInd.	1,460	1,420	
TV-5	TRT Turkey	1,860	1,820	FTA
TV-6	Trinity USA	1,660	1,620	FTA
TV-7	Tzu Chi	1,760	1,720	FTA
TV-8	HRTHRT-2	1,960	1,920	
TV-9	KBS (test?)	1,061	1,024	FTA
TV-10	Adhoc	501	540	FTA/feeds
R-1	TRT-FM		1,822	FTA
R-2	VOT		1,222	FTA/Turkey
R-3	ABS Radio		1,122	FTA
R-4	Tamil Radio		1,322	FTA
R-5	SNG IFB			feedback loop
R-6	not in use			

\* - Now Irdeto 2 format CA

"Pricing on Humax receivers has passed A\$900 here." (DM, NSW) "SECA 2 cards are available for US\$75 through Eastern Europe site where (and I quote) 'copyright laws are regarded as disrespectful of the human right for free development'." (RD) Australia's proposed programming

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source merger between Foxtel and Optus (sport and movies primarily) has been approved by the ACCC clearing the way for Foxtel to expand the number of satellite and cable channels. The most immediate impact of this is likely to be a re-evaluation of the present use of the Irdeto 1 CA system, and, a wholesale revamping of programming channels immediately following the launch of new satellite (Optus) C1 which will replace B3 sometime in the March-April-May time frame.

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# AT

## Sign-off

### Wrong buttons to push

A reader writes:

"I apologise in advance if you're not the right person to ask this question to it's just that I did remember the word Sandra mentioned a few issues back - I asked on a European support site ([www.no-access.de](http://www.no-access.de)) and found the moderator 'bleeped' my question... anyway the last part is of most importance to me in getting the box working.

My sister-in-law very kindly (using my money) brought me back a 9600 from the UK to Australia.

"When I powered it up, it appeared to be running V1.82 with something called extensions by 'NOONEMANIT'. There are also menus with the name 'Sandra'. I'm the first to admit that I'm out of touch with a lot of new developments, (which may well be old by now) so I'm hoping that somebody can give me a quick heads up on what makes this different from the 'standard' DVB2k? Also, whilst I was gingerly exploring my toy I hit a key within one of the Sandra menus (I think it changed some type of device number 1-4?) and since then my 9600 will not obey the remote - what have I done and how to I fix it?"

Of course we took the question to resident Nokia-xpert Rolf Deubel. For those who do not know Rolf, his approach to life is straight down the middle.

Rolf on button pushing:

"I am against answering this question in SF because people are going to start 'pushing buttons' searching for 'secret' and hidden menus - *which simply do not exist!* Have said that, the exception to that statement.

"The Sandra versions / Wannissa versions are out of the era (mid 1999) when some guys were so mad about d-boxes they had 3 or 4 standing at home, running them simultaneously and they found that if they wanted to switch the channels on one box... they switched all boxes at the same time.

"Uli then changed the (IR) frequency in the remote (hardware) as well as software in the d-box(es) to allow 4 remotes controlling 4 different d-boxes (in other words one remote transmission for one specific box). This is also documented in the 'history' file of DVB2000 from these days.

"Unfortunately I don't have an original DVB2000 downloaded file anymore, else I would state where exactly to find this feature but I find it too rare to even worry about it!"

(Coop's note: Unless you have one of these receivers and push the wrong button!)

"Point is... once you change the remote settings in this version DVB2000 to one you don't have... you are lost and the *only solution* is to re-flash the firmware where the default setting is the frequency of the standard remote control. Once Dr. Overflow's home page is back online... readers can have a look at the history file here:

<http://www.dominance.net/overflow/>

"A small misunderstanding could also arise:

"Sandra was from 1999, Wannissa is current of today but based on a version of DVB2000 out of that time when there were no FUNcards or Goldwafers or, or, or and a Smartcard Emulator like in Sandra or now in Wannissa was the best thing since sliced bread! And to make it clear one more last time: The software smartcard emulators of those days did NOT have provision for the 'private key' (HexPlainKey) from the issuer and therefore the box would 'lose its picture' with every change of the 'public key' (HexMasterKey)."

Synopsis? Our reader went off on his own to acquire a d-box and ended up with a mid-1999 period German origin IRD which somebody had loaded with the correct DVB2000 software to that point in time. Unfortunately, the original owner also loaded a special set of software to allow a single remote control to operate (after accessing the Sandra menu) specific d-boxes. Know what you are buying before you buy!

Another reader purchased a d-box through SatFACTS and here is his problem:

"How do I get the Nokia Box to *actually* work? Inserted smart card and still receive nothing? Also the instruction manual is all in German."

His d-box is the fully loaded (AMON 4.3) version (as advertised through The SatFACTS Store in this issue as well). Possibly the buyer did not understand what AMON 4.3 is supposed to do. Rolf in his unique style supplied this answer.

Answers:

"The d-box was ONLY made for the German market and therefore there is NO English manual for the hardware at all! "Use of the menus of DVB2000 is intuitive and self explaining if one does understand what things mean. If one does NOT understand what things mean, there is only one way and this is the Internet.

"Make use of search engine (e.g. <http://www.google.com>) and search for +dVB2000 +manual as one search string. The + in front of the keywords mean that *all* of the keywords must be on one page! You know I can find ANYTHING on the web and so can others if they just give it a try!

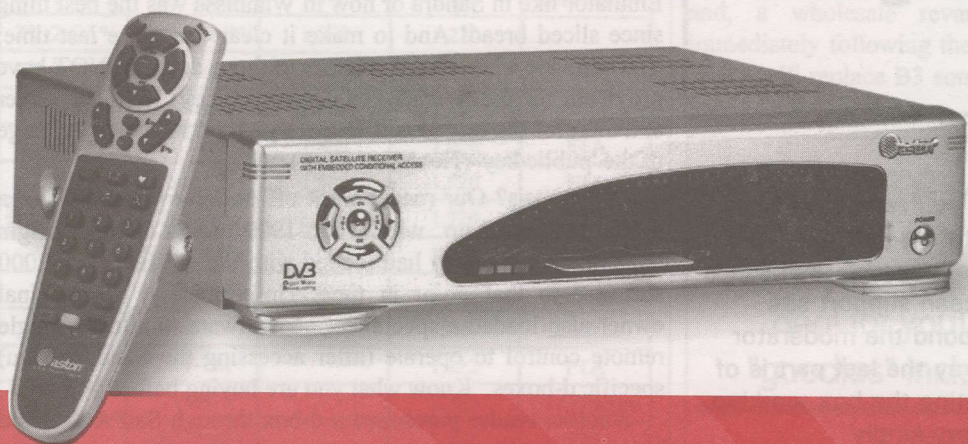
"DVB2000 with Antares patch AND (this is important) AMON CAM does ONLY work with a FUNcard as the software in the CAM expects CAID 1800 as a start up CAID. This is why his (sounds like a ...) standard card does not want to work. Any time you read or hear about x-in-1 mods this ALWAYS involves a FUNcard and not stock standard cards (applies to HUMAX too).

"If the AMON CAM is removed and a normal CAM is inserted the box will work with a stock standard IRDETO card (even a IRDETO2 card does work!!!). You can tell him that we had to assume that someone who buys some 'toy' like this knows exactly what he buys and what to do with it. Or, his recourse is to send a reader's letter and we will handle this matter in SatFACTS but I do not agree to give private 'lessons' ..... waste of time anyway!"

Synopsis two? There is no "free lunch." There are no magic boxes that receive anything and everything as they come out of the packing carton. *All* receivers require some programming, and 'interdicted Nokias' loaded with "special software" require instruction which may be 'too ambitious' for folks who are not willing to support their passion with search time on Internet and a desire to overcome the challenges. An interdicted (field modified from original software) Nokia is leading edge stuff - it is not 'plug-in and play'. *Ever*, until somebody does this field work.



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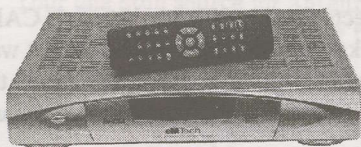
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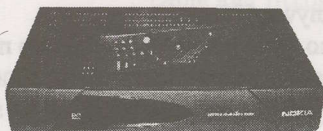
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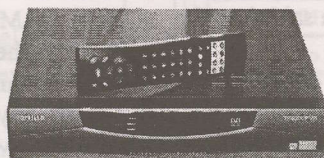
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- SALE:** NOKIA 9500 with DVB2000, preloaded B3Hz and Vt. US\$500 inc. air parcel post. SF100-106.

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FOR SALE/TRADE  WANTED  (other) \_\_\_\_\_ (check one)

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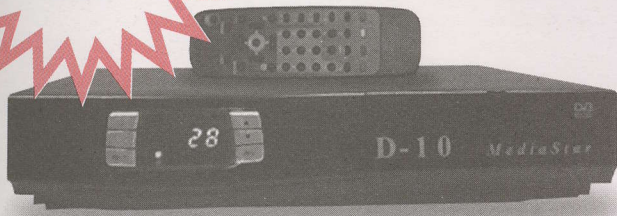
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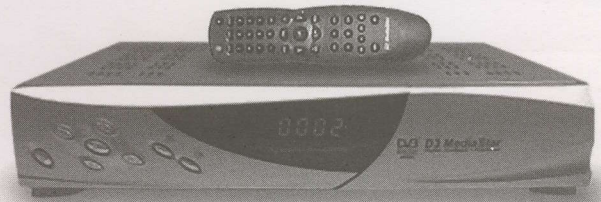


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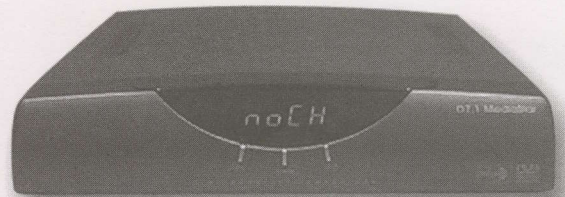
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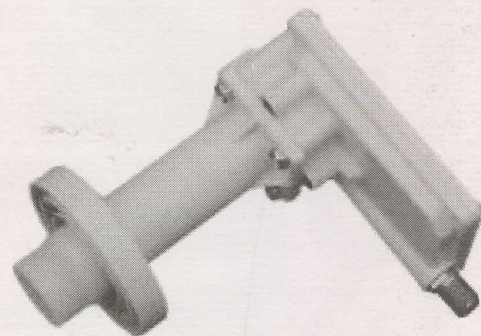
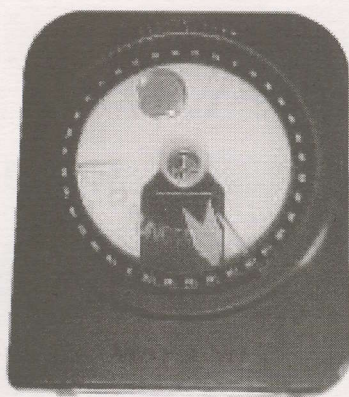


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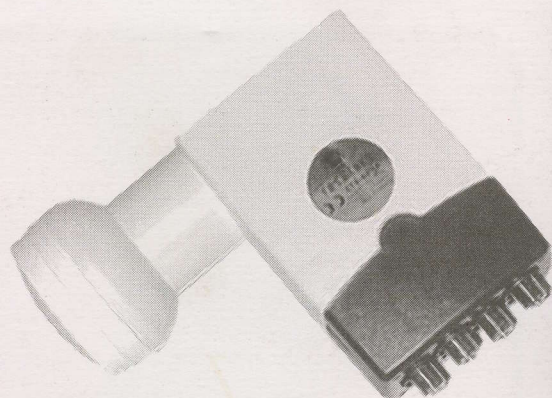
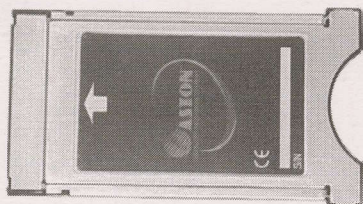
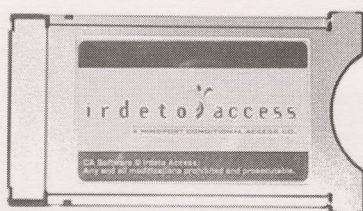
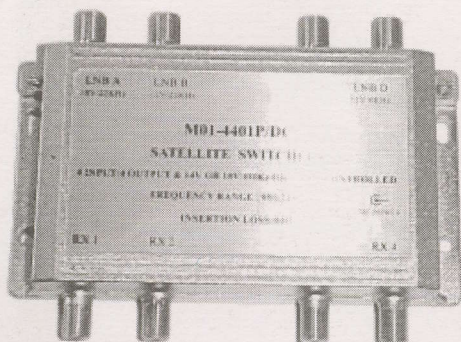
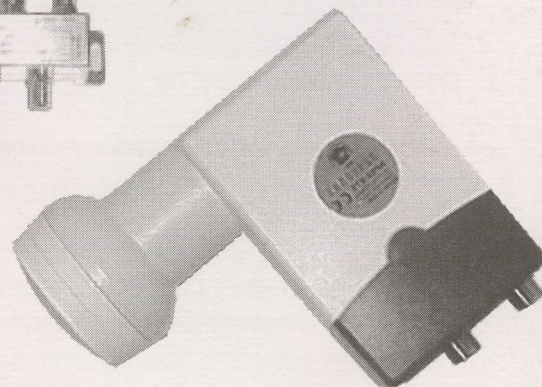
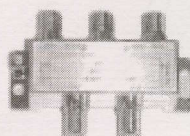
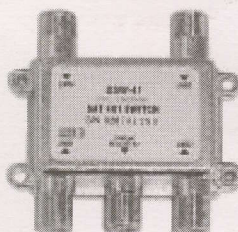
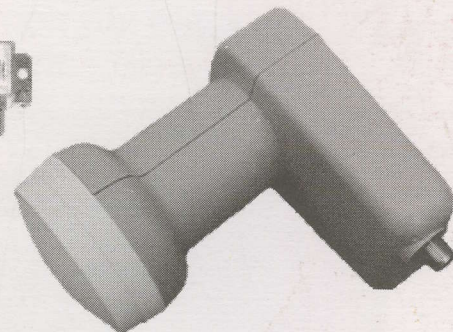
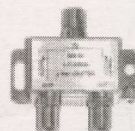
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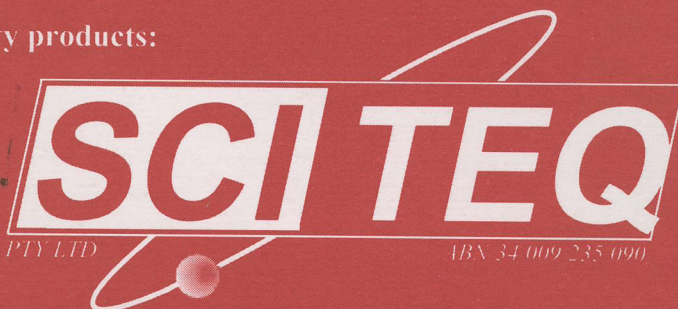




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