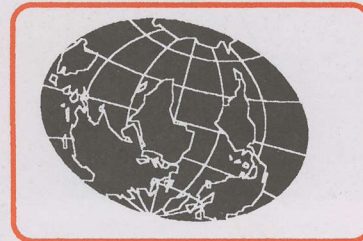


Bob Cooper's

JULY 15 2003

SatFACTS



MONTHLY

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

IN THIS ISSUE

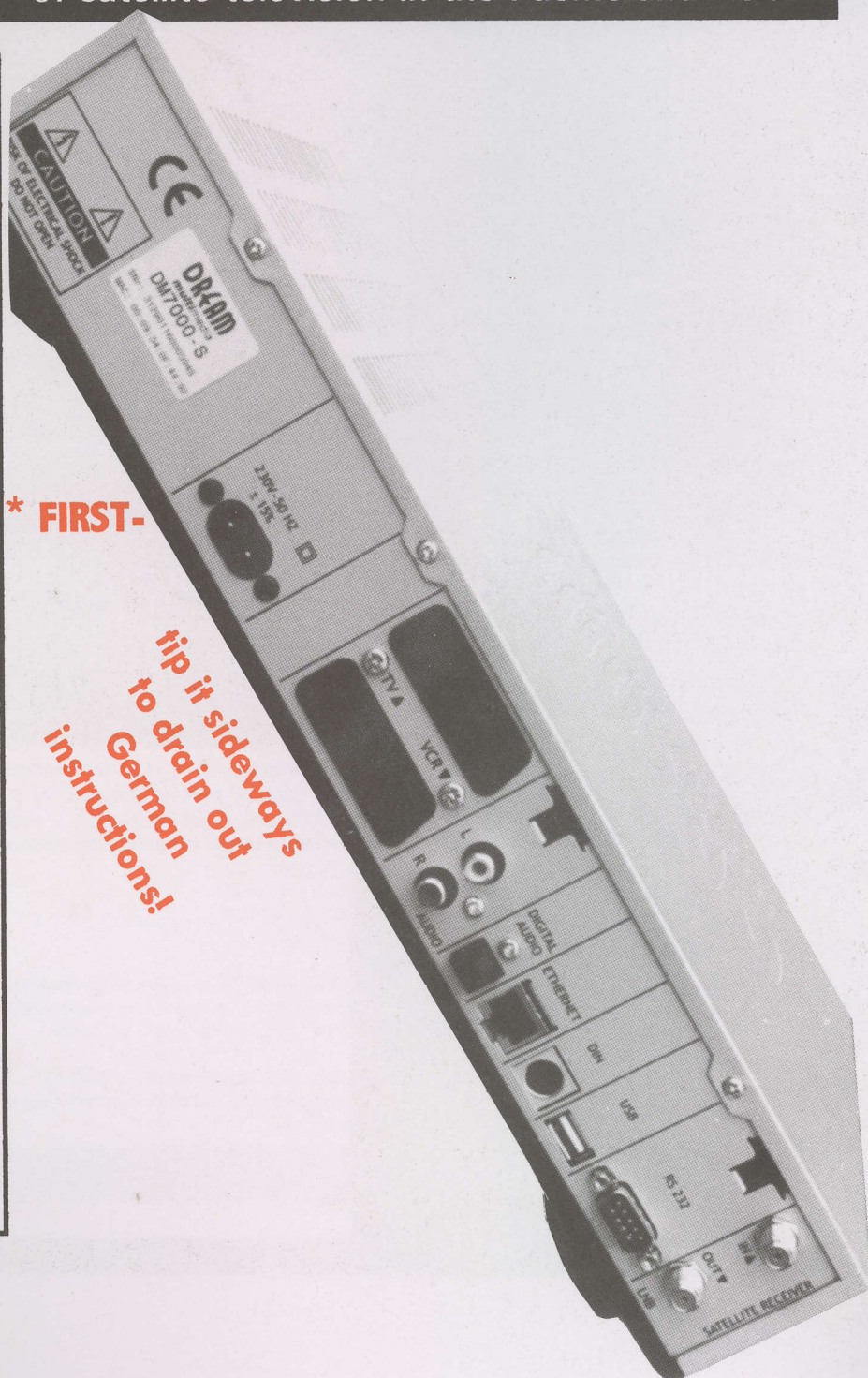
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2		10.33.250.58	PANAMSAT NAPA IP GATEWAY	NAPA, CALIFORNIA		83	x	(private use)
3		216.139.171.178	PACIFIC IP GATEWAY	NAPA, CALIFORNIA		86	x	(private use)
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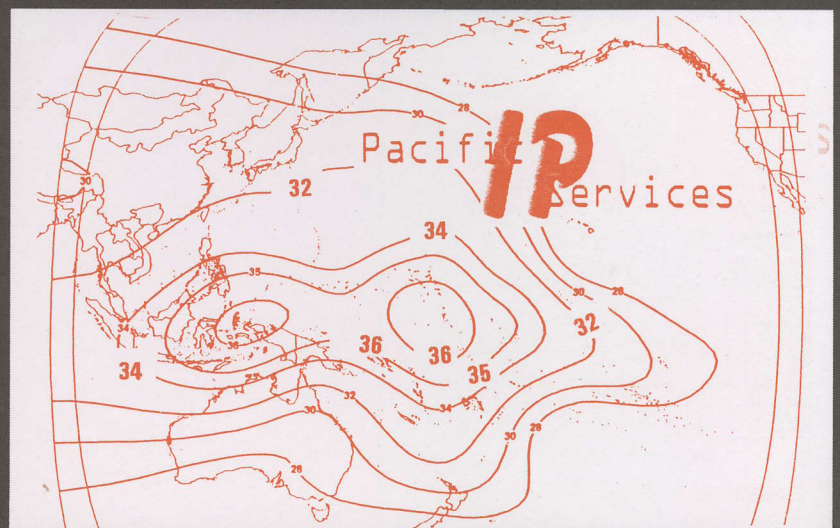
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is published 12 times each year (on or about the 15th of each month) by Far North Cablevision, Ltd. This publication is dedicated to the premise that as we are entering the 21st century, ancient 20th century notions concerning borders and boundaries 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

Free-to-air resurgence? There is "new life" in the free to air marketplace, all but doomed when TARBS became "the distributor of choice" and Pac-Man-driven began to gobble up virtually all of the desirable ethnic service providers by promising them fame and fortune if they eliminated their FTA transmissions.

Leon Senior at Strong Technologies (Melbourne) points out the "growing number of MPEG-2 telecasters who seem to be rediscovering that encryption greatly limits their reach." Selwyn Cathcart, NZ's pioneer satellite hardware distributor (Telsat Communications) has abandoned his own plan to sell out or close-down the firm because, "FTA interest has revived."

The "trend," if there really is one, began earlier this year when that nudity-in-disguise French service "The Fashion Channel" got into a legal wrangle with some Indians who claim (still) they have an exclusive right to the FTV service in that country. The French reacted by turning off the Viaccess Version-2 encryption and beefing up their data stream. More recently the Indian Government, in a perhaps unrelated decision, has adopted a new set of rules for the development of cable and satellite distribution on the sub-continent. July 1 was a Government date when all cable subscribers in the country were to have access to a minimum of 30 channels for Rs72 maximum per month. That's A\$2.29 at the current exchange. How the Indian programming providers satisfy the dictum is pretty much left up to the Murdochs of the Indian programmer world. Star TV, an example, is cherry-picking a programme from Star Sports, another from Star-Plus and so on one-programme-at-a-time to create (FTA) "Star Classic" for cable viewers. What this cleverly does for Star is allow them to hype their pay-TV channels in an enlarged "barker channel promotion service" which they believe satisfies the Government ruling.

Other Indian programming firms are following suit; they have been told they must create a percentage of FTA services or face Government sanctions. Some believe what Government is really attempting is to force all cable programmers to become more driven by advertising revenue than subscription revenue. Government reasoning? If more channels are "paid for" by advertising, the cost to consumers for cable packages would be reduced; ideally to the magic Rs72 per month which in India seems to be a "monetary benchmark" created by Government as a "fair price nation-wide for cable TV delivery." The cable ops have their own target amount: Rs423 per month (A\$13.43); a big amount in a country such as India.

If a channel is to be cable-distributed FTA, this eliminates the need for encryption on satellite. And that of course benefits viewers within the footprint of the Indian service providers without regard to where they might actually be located.

India is not a special case. As we reported in SF#105, the BBC is now moving its previously BskyB Digibox encrypted channels to a free to air satellite. Closer to "home," Globecast operating on B3/C1 has continued to increase its FTA content which now includes Turkish, Thai, Chinese, Abu Dhabi, American religious and Dutch TV (+ radio). Selwyn Cathcart remarks to me that BVN's availability has provided a nice, positive, jump in New Zealand hardware sales activity. Several New Zealand installers tell me they are averaging 1, 2 or 3 new BVN installs per week whereas prior to BVN the FTA satellite installs had dropped off to a couple per month over 2002-2003.

Programmers who are wed to rebroadcasters such as Australia's TARBS have placed all of their growth projections into the hands of a private company which quite out of their control may or may not grow. Whether you are a start-up Russian telecaster or a state-run Italian telecaster, "numbers count." TARBS is, generously, "not meeting their own projections" for growth and sooner or later European and Asian programmers who bought into the TARBS hype will come to the decision that handing TARBS exclusive control over their future in the Pacific market was a business mistake. The FTA guys will be there to pick up the pieces.

In Volume 9 ♦ Number 107

DXing: The Coship Super-Search machine -p. 6
Rolf Deubel: "Dreambox" has landed! -p. 10;
C1: The Transition begins -p. 19

Departments

Programmer/Programming -p.2; Hardware/Equipment Update -p. 4; Technical Topix (WRONG S-band hardware; dipole antennas) -p. 20; SatFACTS Digital Watch -p. 23; Supplemental Data -p. 26; With The Observers -p. 27; At Sign-Off (The "making" of the Coship) -p. 31

-On the cover-

We (SatFACTS) actually did NOT think it would ever work outside of Europe. We were wrong, as the persistent Rolf Deubel kept plugging away until he had the soft (and firm) ware problems solved. This was worth waiting for! (p. 12)



July 15, 2003



Leaving this business

"This is to request cancellation of my SatFACTS subscription. I have been a reader for several years but now I am leaving this industry. I was employed by Austar in 95 as a fully qualified radio/TV Tech and with them until we were all made redundant in 2001. After that I worked as a Tech for ATS until this past February. After more than 7 years in the pay-TV industry, returning to work as an aircraft technician where my career began 30 years ago. SatFACTS has been an excellent source of info, both technically and in keeping me up to date on industry status. Your recent disclosure of the ATS MDU pay rates was exactly correct. You should also be told there is a new twist in the pay-TV game. The ATS installers have to operate out of their own homes as the regional ATS offices have been closed (like Austar did in 2001). This has shifted the burden of office equipment, storage space etc. onto the installers (a single pallet of 1.2m dishes takes up a fair bit of room in your average back yard shed!). This might be old news to those who do not subcontract at a fixed price to ATS, but they probably have some pricing flexibility to play with. It is difficult for ATS (Austar) to get good workers in the first place. Neither ATS nor Austar has shown they have any vision of where this is all headed. How do they expect to keep a team of trained installers if they kick them in the gut with the burden of no pay rises for 2 years and continually adding on installer-borne costs which cannot be passed on to the consumer? 5 out of 9 Installers/Techs have left the (name of) office since Christmas 2002. You would have to wonder how many others are leaving or are intending to leave the industry across Australia? Articles have been routinely appearing in the local paper(s) complaining about the lack of 'after-sale' service. Replacement installers can be trained if the company has a training infrastructure; ATS does not. New installers are taught 'on the job'. In (name of city) several of these newly appointed, replacement installers have left within a week once they worked out the dollars and 'sense'. This has to mean a reduced level of expertise, with an accompanying decrease in effectiveness (customer satisfaction) of the entire pay-TV 'sharp end'. For its own survival I hope the pay-TV industry can take a good, hard look at itself but I fear that history teaches us this will not happen. I wish SatFACTS continued success and my thank you for a top value product!"

PJO, Australia

'Another way' - to leave the industry

"I am flustered beyond belief by the after-sales-service (or lack of service) from CalAmp which supposedly has taken over the Orbitron (antenna) line. A commercial client with a 16 footer needs panels urgently (he runs an ISP). CalAmp has ignored my order, my Emails, my 'Urgent' messages. Is this Orbitron's 'Swan Song'?"

Steffen Holzt, Antenne'Cal Communications, Noumea

C-band dishes and parts have all but dried up world-wide; there is a marketing opportunity here for someone reading this!

Chip Help?

"Can anyone help me locate an upgrade chip for Hyundai HSS-100C (early models)?"

Bob Darragh, PNG at fax ++675-982-1212

PROGRAMMER PROGRAMMING PROMOTION

UPDATE

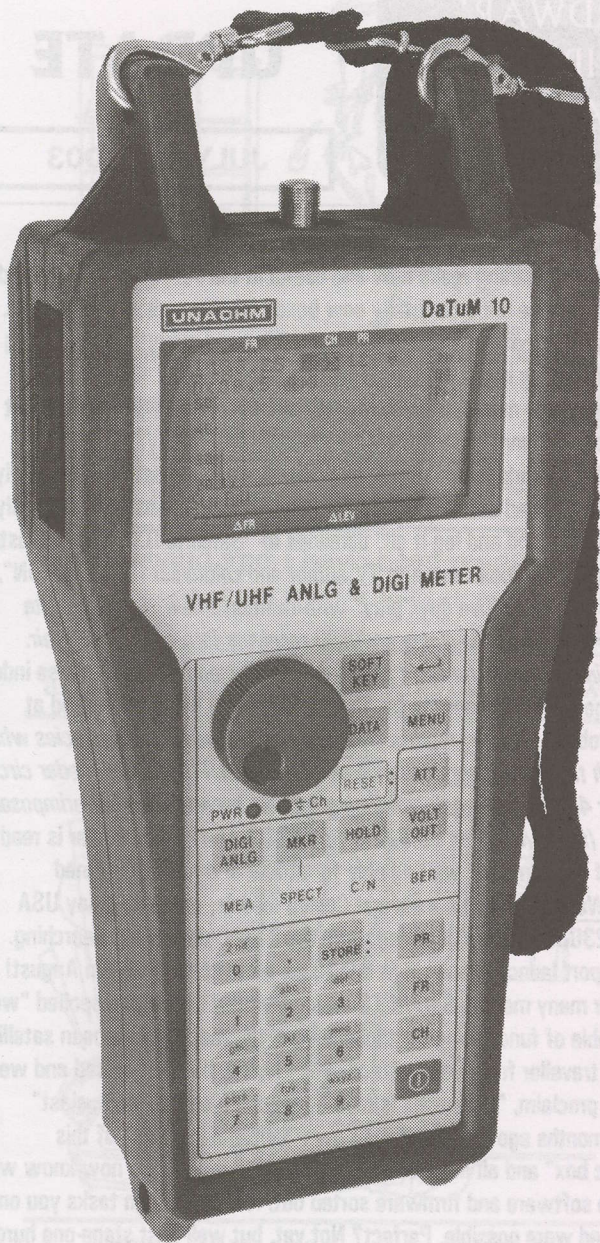
JULY 15, 2003

Australian DVB-T. It "really is up over a year ago, about double the sales largely because a significant number of electrical, hi-fi and other consumer shops are now stocking the set top boxes." So reports one importer in answer to our query (SF#106, June, p. 4). Another suggests, "You can divide by 2 or 3 the 'numbers' they are throwing around at the (Australian) DBA Group but yes - sales are beginning to amount to something worth tracking." A third notes, "UEC will never be able to compete with the Koreans on pricing as long as they are manufactured and support from South Africa, and Zinwell boxes have software problems." Of note: ABC is running their digital in sub-6 Mb/s region, 7 and 9 are right at 6 while 10 is running at 8.5 Mb/s. Why? Ten is feeding their analogue transmitters with digital off-air to save bucks, need additional 'quality' for rebroadcasting purposes. A\$299 seems to be retail pricing point - newly available Strong model has 7 built-in games, closed captions to Australian standards, teletext. Comparison: Strong's entry-level DVB-S is A\$199 retail suggesting that as both "S" and "T" are essentially technically comparable, there is at least another \$100 to come out of retail pricing of terrestrial boxes in next year.

"Holy cow - Foxtel on my XXX? Thought you had to have a Humax!" Suddenly boxes, CAMs, even "cards" that never previously functioned on Foxtel/Austar have begun working. What's the story? The answer is complex. Australian pay-TV has used a unique version of Irdeto called Fast-I while the balance of the world has adopted another version called Euro-I. That meant many CAMs (SF#102) and embedded IRDs would not decode Foxtel/Austar even when presented with a programmer-fresh piece of plastic. The infamous Magic Module MultiCAM, for example, worked every place but in Australia. Now through the magic of "simulcrypt," which allows two ore more parallel but unrelated CA systems to travel through the same data stream, we have Fast-I, Euro-I and tests for NDS as well. Even Aurora is 'testing' Euro-I encryption stream. Why do this? Because the next generation of Irdeto cards, to be adopted for Austar, use Irdeto 3 and cards known as ACS V4.1 - and they are not compatible with Fast-I; only Euro-I. Piracy? Likely only until ACS V4.1 cards are distributed to Austar viewers (see below). NDS? Foxtel switching to it 2004, will replace ALL existing Foxtel STB boxes as a result. Foxtel 'hype' will move into higher gear after C1 comes on line including expected announcement that 7 and 10 networks will join already planned 9-direct feeds on cable (and satellite - in some areas). Largest single 'new' element in Foxtel expanded offering - NVOD movies - 4 to 5 'channels' per movie with 30-minute-staggered start times. Boy, is this going to be fun!

Austar receiver change out. As of the last week in June, an Austar service rep advised SF, "We are exchanging a total of 40,000 (old style) Pace DGT400s with the newer receivers." Users of the ex-Galaxy original Pace models first receive a letter advising of the swap requesting confirmation of their shipping address. Then, the box with instructions for installation; on the bottom of the IRD, a 'sticker' which contains the addressing/serial # of the 'companion' plastic smart card. Yes, the (new) IRD becomes 'married to' the new smart card in the authorisation process. When installed, you call a (1300) service number and Austar turns off old box, on the new and you are away. Titan? Atlas? Totally UEC! Ahead, Austar will change out all existing LNBF's ("later this year") to allow "seamless" switching between Foxtel/Austar Hz and new transponders to be later-activated on Vt and each installation will include a 'service call' to reset the LNB LO. Good luck.

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It detects Digital from Analogue, automatically adjusting the signal level read to Digital Channel Power and tuning to the centre of the channel. Measurements include Signal Level, D.C.P., Carrier to Noise Ratios, Vision to Audio Ratio, and Bit Error Rate estimation. The graphic LCD can be read in darkness or daylight. Clear Menus guide the user through functions which include mast or line amplifier powering and Data Logging. DaTuM10 employs precision signal level detection circuitry (superior to AGC detection) that reliably measures signals as weak as 20dB μ V and provides Peak and Average detectors.

Internal Ni-MH battery life can be extended with optional external batteries and the instrument can recharge whilst still being used from the mains switch mode power supply included or 6V DC.

DaTuM 10, exciting instrumentation that needs neither a mortgage to buy it or a sherpa to carry it. ©2003 Laceys.tv

Antenna assembly instructions

"I was most interested to read April SF#104 describing steps to bring a parabolic dish into perfect shape. My Hero dish, cyclone rated, was manufactured in Florida (USA). When I received the parts in 1995 and began assembly, with the instructions was a check list telling me how to ensure perfect parabolic shape for maximum efficiency. I had to string 4 strings across the dish dividing it into 8 equal parts. Each string had to be just touching every other string and instructions were given for feeding the strings over and under at the crossing point as well as what adjustments to make to get it into shape. Emphasis throughout was in achieving the parabolic shape and why this is so important. All strings had to cross one another within the diameter of the feed support tube in the centre of the dish (see photo). I think we have lost our skill level and have become spoilt by stronger satellites that allow careless installation procedures. Keep up those good articles!"

Jim Ruhe, Solomon Islands



Hero dishes pioneered private (as opposed to government or commercial) satellite TV reception in Africa, South America, Middle East and Asia. Firm President Bob Behar personally installed a 20 footer for the King of Saudi Arabia one week, Fernando Marcos (the Philippines) the following week (1982). Two weeks later he was in Lebanon installing a 24 footer for a local radio station. Terrorists waited until the dish was on the pad and then blew it up with dynamite. For a Jewish "kid" recently migrated to Miami from Cuba, life didn't get much more exciting than that!

Below Threshold

"Regarding Coop's Comment arguing for 'below threshold' receiver performance (SF#106, p. 1). Russell Futter (UEC) once told a group of us attending his course, 'UEC software is deliberately written so as to produce perfect video or no video at all; UEC does not want viewers to ever see faulty (blocking or pixelating) video on the screen.' In my opinion, your suggested 'threshold defeating program' would be pointless. On a signal bobbing around the software created threshold level, most of the time the picture would look like abstract art (and I doubt the audio would be much if any better!)."

IF, Queensland

Not quite. Our point is that "DXers" who have grown up straining to eyeball resolve a P3 signal into a P5, through the impulse noise, would be delighted to have the same opportunity with digital. But "Futter's software" denies them that opportunity. Not everyone gets great pleasure from a "perfect image;" some of us want to follow the P5 picture all the way down to P1 just for the thrill of watching it ebb and flow

Looking for help

"Using Hyundai HSS-700A from Lae, PNG and trying to get receiver running. Anyone who can help please contact us."

Dale Stuart, IT Manager, PNG Mission 7th-Day Adventist Church (dale@cwo.com.au)

HARDWARE EQUIPMENT PARTS

UPDATE

JULY 15, 2003

Long dry spell. It has been a year, two actually, since we could report with obvious enthusiasm something really new and useful in the set-top-box/IRD world. Now in one issue, not one but two totally new boxes with incredible capabilities. One (the Coship) is FTA only; the second does anything and everything, including turning on your coffee jug in the morning. Read on, enjoy.

Coship. Not much of a name; difficult to "roll" off the end of your tongue. But we believe thousands will "learn" how to say it - probably incorrectly! - *shortly*.

SatFACTS English/UK reader Roy Carman has "discovered" a most unusual newly available American sourced but China built C + Ku IRD that seems to have finally solved the "fast scan - find and log it all" demands of "Satellite DXing enthusiasts." Roger Bunney, famed European satellite TV author and columnist ("TELEVISION", "WHAT Satellite TV") had a five day "play" with Carman's new toy and wrote SatFACTS, "This puts all of the Nokia and RSD receivers into an antiques fair. Overall the machine is wonderful and I can highly recommend it!" High praise indeed. But as good as the Coship appears to be, there is one (now being addressed at factory) niggly problem. Bunney reports: "I found one or two (Ku) frequencies which when loaded with the correct service (such as W1/10East/TGRT.COM feeder circuit at 11.056GHz Sr 4.375) had weak but distinguishable second video superimposed on the correct video (from APTN on 10.972Vt Sr 4167)." The USA importer is readying a Mk.2 version of the same set waiting only for arrival of a newly designed processor chip. **Warning:** There are several Coship models, many on e-bay USA (Example: CDVB2300B, US\$80 or under); *only* the 3188C does Blind Searching. Carman's first report launches on p. 6 in this issue; more coming here in August!

Dreambox. For many months SatFACTS was convinced this was a spoiled "wet dream," not capable of functioning for those beyond the reach of European satellites. But that intrepid traveller from South Africa, Rolf Deubel, has persevered and we proudly can now proclaim, "Dreambox is real." Various European "enthusiast" magazines have months ago presented their own "editorial reviews" of this seemingly "magic box" and all have been laudatory with praise. We now know why - once Rolf got the software and firmware sorted out, it flies through tasks you only previously dreamed were possible. Perfect? Not yet, but well past stage-one hurdles. His report on p. 12, this issue - and, he promises more in-depth in the future.

Linux gains recognition. Linus Thorvalds, studying at the University of Helsinki, created Linux in 1990, as "the people's operating system." Free to all, no private rights, designed to be expanded and taken in a thousand different directions by those who might follow his lead. On July 1, eight major consumer electronic firms announced agreement to make Linux a "standard" for video recorders, radios, television receivers, even cellular phones. One major attraction of Linux is the "royalty free" status of the operating system, unlike a certain American bred system controlled by one William Gates. Look for Hitachi, Panasonic, Philips, NEC, Samsung, Sharp and Toshiba to take the lead here, supported by computer giant IBM. Oh by the way - the Dreambox DM7000-S satellite receiver is *already* a Linux operating system satellite receiver.

IHUG unplugs. SF#40 front cover featured IHUG Auckland (NZ) terrestrial 12 GHz receiving system backed up by article exploring how from an elevated location (such as Auckland's Sky Tower) 12 GHz was being used to deliver higher speed Internet plus what would ultimately at peak be more than a dozen TV services. Not a money maker, and TV has now closed down; end of another not-so-great business plan.



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"Your SF#105 report on reviving once-proud larger dishes, and correcting their deformities, was exceptionally well done. I have been in satellite for a decade, have strung dishes in the past but never have I see it so clearly explained."



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The fun is in the chase

DXing: The hobby of chasing elusive stations!

The COSHIP CDVB 3188C is a digital Free To Air (FTA) receiver. It is a receiver with a remarkable difference and what a difference indeed. How is it different? It can Auto Search very quickly in minutes, not hours, days an entire satellite *without* the need to enter *any* data - whatsoever. "He's talking rubbish," I hear you cry, but I can assure you I most certainly am not. If you are a CAMs and Cards man then this receiver is not for you. *The nearly perfect DXing receiver has arrived.*

Where so many manufacturers have made so many excuses for not producing a decent DXing receiver; "Too expensive to manufacture, the technology is not there yet and won't be for some foreseeable future, be too complex to manufacture," to "There will be no call for it," etc., etc. Well at last it has been done by a Chinese Company from Shenzhen, and believe it or not, for under £100 retail. \$138 US Dollars to be precise, around £90 Sterling. I ordered mine from a US based company called Sadoun Satellite Sales of Columbus, Ohio. The 5 day postage cost me \$80 US Dollars, nearly as much as the receiver, but the receiver arrived at my house some 36 hours after leaving Ohio. At the moment they are not sold in the UK. Taking the receiver out of its excellent transit packaging it looks remarkably normal. Just the usual silver coloured box with a few buttons on the front. So what makes this receiver so very different to any other? It is its capability of being able to search a given frequency range of the Ku band or C band spectrum, both horizontally and vertically, or a set of parameters of your choosing without the prior entry of *any* transponder data whatsoever. Just that, and it will find all active transponders with their associated channels, both radio and TV. It will also send these channels to your TV set as good as a receiver costing four times as much.

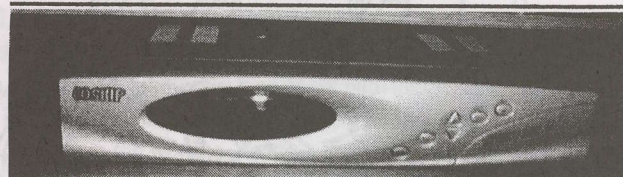
I set the receiver up at first to what I thought would be the ultimate (European) test, and that was to search the 13 East slot (Hotbirds) from 10.700GHz to 12.750GHz in both Horizontal and Vertical Planes. Before I talk about the results, a little about the receiver itself.

The first thing I noticed on the rear is the lack of SCART sockets. There are just four phono sockets, 1 video out (CVBS to TV), Audio Left and Right, and an accessory voltage socket 0/12 volt switch, but sitting beside this cluster of four is an S-VHS socket. The 0/12 volt switching facility comes in handy for switching those electronically controlled antenna switches; useful when using both C band and Ku band signal sources.

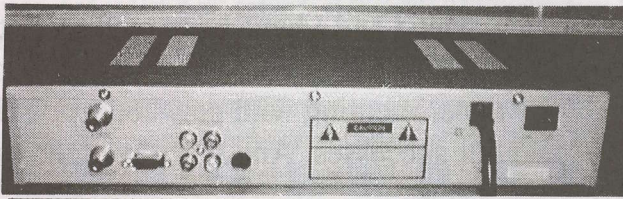
Also obvious by its complete absence is a UHF loop through, so if you rely solely on UHF for your receiver to TV link up, you will have to purchase a device to carry out this function. However the Coship CDVB 3188C does have an IF loop through, so that another receiver can be added. The mains

Authored by Roy Carman, Email
r.carman@ntlworld.com

Roy is a "satellite DXer" with proven skills and dedication in the complex and challenging European satellite world. This report is a submission in the "SatFACTS Writer's Contest."



LOOKS are not everything! Coship CDVB 3188C IRD is Chinese designed and manufactured, "mainly for the hobbyist," according to USA importer Tim Heinrichs of DMS International.



lead input is clearly marked as functioning from 100 Volts to 240 Volts at either 50/60 Hertz AC. The maximum power consumption of this receiver is rated at under 30 Watts. Power consumption is therefore minimal to that of the Echostar 3000/3600 series. One sad point with this receiver - it has only DiSEqC 1 installed, so you will need another add-on box if you wish the receiver to move your dish.

Very usefully on the rear is an on off AC main switch. This is pretty vital for nearly all digital receivers as so many of them do "Lock" every so often, and the only way to get them going again is to switch the receiver off and then back on again. Last and certainly not least there is an RS 232 port. This port can be used for upgrading the software via a computer, or you can connect a similar receiver to the point by cable and transfer data between receivers.

Turning the receiver so that the face can be viewed you will see 6 buttons. From these buttons the receiver can be *completely* controlled *without* the need of the remote control unit (RCU). Also on the right hand side there is a flip up cover under which are CAM socket openings, not used in this receiver.

After connecting the IF lead (lead from LNB) and connecting up the Audio Visual (AV) leads to your TV, amplifier or SCART switching unit, the receiver can be safely switched on.

On switching the receiver on and whilst in use, a signal lock lamp indicates the presence of "signal lock." There is also a signal strength indicator, a remote sensor lamp that flashes as the receiver receives commands from the RCU, and finally a four digit display that both indicates the status of the receiver *and* also the switched channel number.

The remote control unit is a pretty dull affair, not really ergonomically designed but highly functional with some 27 buttons for you to press.

To get things going, switch the receiver to working from standby and then depress the Menu Button. The screen lights up with "System Main Menu." The first item on the list is

DXer? What is that???

Anyone who has ever gone off with a satellite receiver in a "search mode" is a "DXer." It is a hobby for some, a passion and way of life for others. To "DX" is to search for TV (or radio) signals which are not supposed to be there - or which nobody else has previously discovered. "DXers" are honourable folks, only modestly interested in the "content" of what they receive. *The reception is the goal* - to be able to say they have logged (or to have the satisfaction of having received) something others have not. Terrestrial DXers chasing analogue radio or TV signals are interested only in properly identifying the "source" of the unusual reception - whether it be AM (BCB), FM radio, VHF or UHF TV, short-wave or ham. Satellite DXers are constantly on the lookout for not-supposed-to-be-there feeds, programme channels, test cards - anything that is "new" and "different." An analogue DXer can spin a dial or knob and check for "strange signals" but the digital satellite DXer must factor in a range of symbol rates (<2.000 to > 45.000), various FECs and "PID" numbers. A receiver that "searches" out these variations and finds them automatically is "Utopia" for a satellite DXer!



Carman's "DX Earth Station" is loaded with gear that remains hidden when cabinet doors close.

Antenna Setting. On pressing the OK Button, (which is below the four "arrow buttons," instead of being on a sensible remote, in the middle of the four arrow buttons!) you get two options. "Install Antenna," which allows you to set the system to the LNB you are using and use the receiver in the conventional sense by adding the transponder data manually. The second choice is "Blind Scan Antenna." Blind Scan Antenna is the gateway to the magic of this receiver, this allows you to set the receiver to search any set of parameters you wish to enter in either 4MHz steps, or even *below* 4MHz steps.

The next item on the System Main Menu is "Transponder Setting." Here as with other receivers you can add a TP, Delete a TP, Modify a TP, and Search an individual TP. Transponders can only be added when they are active. It is just a case of entering the frequency and polarity; suddenly the Symbol Rate pops up in the SR window.

Moving down to the next, "Channel Setting," at this position you can Edit, Add a new channel, Delete, Move or Lock your settings, and finally annotate favourite settings.

Next is "System Setting." Here you can set your chosen language as well as set the System Lock. Unfortunately the only language available on the one I tried was English. Moving on down there is Password Setting, if and when you require it.

Below that is "Factory Default," that *magic position* where you can so easily lose all your hard found gains. However I can see this being used quite often by the avid DXer.

Last but not least is the term Accessory. Oddly this does nothing as the accessory switch can be set elsewhere in the menu during set up. Really not very much different to many other receivers, but this menu is self-explanatory and is very simple to use.

I have briefly covered searching earlier on, I will now expand upon it.

The receiver will search in three ways

The first is searching the pre-programmed TPs that are set in the receiver software at the time of buying. As this receiver has come to me via the USA I could not find a satellite to test this upon. The second is a "Blind Search" which searches *every 4 MHz* without the need to enter any data whatsoever.

The third is a comprehensive search with a gap of *less than 4 MHz*. Surprisingly this does work very well and a search in this mode often produces more TPs than when in the 4 MHz (step) mode.

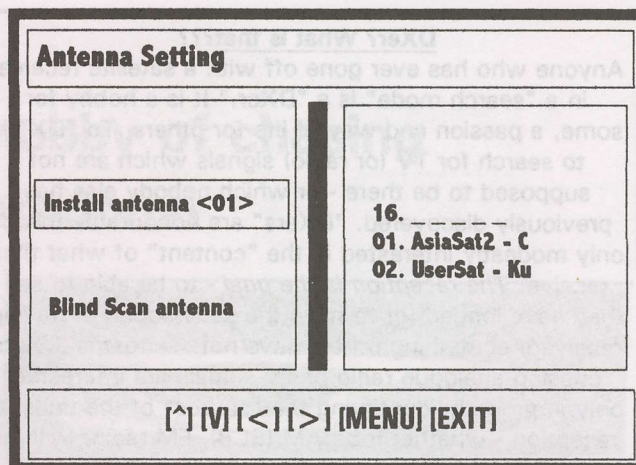
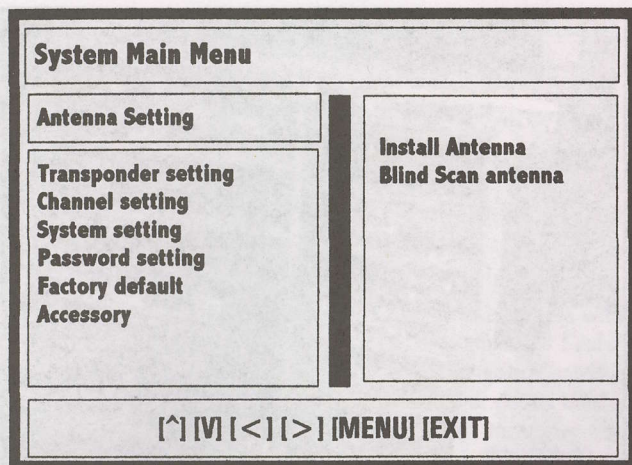
A real first exists in the second and third modes of auto searching and that is you can rush the search over the parts of the frequency spectrum on a satellite that are not used, just by simply pressing the OK button and releasing when appropriate.

I will use W 1 as an example at 10 East as it appears to be a "Feed" favourite. W1 uses 10.950GHz H & V to 11.200GHz and 11.450GHz to 11.700 GHz H & V, so by pressing the OK button you can scoot it through the 11.200GHz to 11.450GHz portions when the receiver is searching the Horizontal and Vertical Planes, thus reducing search time when looking for those active feeds. Likewise the unused gap between 11.700GHz & 12.500GHz, both H & V.

Now lets get down to finding those channels

After setting the receiver up, I moved my dish using my Echostar AD 3000 IP Viaccess to the Hotbirds at 13 East. I switched on the Coship and pressed menu, the cursor fell on "Antenna Setting," depressed OK, arrowed down to "Blind Search," and pressed OK, here I was given a choice of either User Sat C band, or User Sat-Ku. Being I wanted the receiver to search Hotbird I chose the Ku setting by moving the arrow down to it. After pressing OK the receiver gives you an option setting window. Here you set the search parameters. I set the full parameters for Hotbird; search from 10.700GHz to 12.750GHz in *both* Vertical and Horizontal polar ranges; pressed OK and the search began. OK - the receiver took 66 minutes (1 Hr and 6 Minutes) to search the *complete* set of Hotbirds but it returned 87 transponders, carrying 765 TV channels and 618 radio channels! All without wearing my fingers to the bone on an RCU.

I next searched Turksat 1C at 42 East. To us in the UK with a 1.2 metre antenna we can only see the vertical transponders. The receiver searched Turksat 1C complete in less than 10 minutes. It returned 14 TPs active with 23 TV channels and 23 radio channels. The reason for searching this bird was because here you can find some rather odd symbol rates in use. Whilst talking about Symbol Rates (Sr), the manufacturer



SET-UP is dead simple. Simply select the appropriate satellite (having previously determined C or KU for LO/ local oscillator settings at the LNB - left) and then select "Blind scan antenna" and define (if "default" is not suitable) the start frequency (10.700 GHz here; p. 10) and end frequency (12.750 GHz; p. 10). Then, "OK" and it is off to the scan races.

claims a symbol rate error of only .15 of a percent when reporting searched parameters. These results are far better than those attained by both the Nokia and the RSD/New Wave receivers. The receiver handles symbol rates between 2.000 and 45.000Mbit/s. Later when searching Telstar 12 at 15 West I discovered that the receiver will see symbol rates *below* 2.000 Mbit/s but will not download them. Also whilst searching W 2 at 16 east I discovered that the receiver will record the presence of data channels, even though they do not have a TV/radio component.

Once a Satellite has been downloaded, the received data can be analysed in two different ways. The ones of interest to the DXer are the TP lists, where the Frequency, Sr, and Polarity are shown, but sadly not the Forward Error Correction (FEC). The TP list can be accessed via the TP part of the menu. Many receivers now are setting the FEC at *auto*. I don't think this will upset the serious DXer because he gets a feel from experience of the correct Sr. Anyway, most have another receiver where the data can be transferred to discover the

correct Sr. FECs covered by the receiver are 1/2, 2/3, 3/4, 5/6, and 7/8.

To find out the parameters of a downloaded channel, simply call up the channel you wish to query and press the "Info" button on the RCU. Here displayed are the Frequency, Sr, Polarity, two Audio PIDs, Video PID, PCR (Clock) PID and if teletext is present, the Teletext PID and the channel name.

The receiver is very easy to set up from the black and white users manual. Although Chinese interpretation of English is present throughout, the User Manual is well laid out and easy to understand. This receiver is less complicated in its operation than the now ancient, in satellite terms, Nokia with DVB 2000 installed. It must be remembered that when the Nokia 9200, 9500, and 9600 came on the market, they were rendered pretty useless very quickly by the advent of multitudes of channels. If it had not been for a very clever German computer programmer and his writing of the DVB 2000 software for this series of Nokias, most would have been

CDVB 3188C Satellite Receiver Technical Specifications

System: System capabilities - Fully DVB-S compliant
Tuner: Input Connector: 2 x F - type F female
Input Level: -65~ .25dBm
Demodulation: QPSK
Symbol Rate: 2 ~ 45Ms/s
FEC decoder Rate: 1/2 2/3 3/4 5/6 7/8
Reed Solomon: (204, 188, 8)
LNB Power: 13/18V/Off, 400mA: Current overload protection.
Tone Switch: 22KHz
DiSEqC control: Version 1.0 compatible
Video Decoder: MPEG-2 Main Profile @ Main Level: ISO/IEC 13818
Impedance: 75 ohms
Aspect Ratio: 4:3, 16:9
Output Level: 1.0Vp-p
Audio Decoder: MPEG-1 layer 1, 11 ISO/IEC 11172-3
Audio impedance: 600 ohms
Power Supply: Input Voltage 100-240V ~ 50/60Hz
Nominal Power: 30W max consumption
Safety Insulation Resistance: More than 10M:, at 500Vdc
(Dealer) price (less shipping): A\$210, NZ\$240 (see right)

Coop's Comment:

SatFACTS first looked at a "find everything - automatically" all-searching satellite receiver in our February 2001 (#78) issue; the Astrx D1000C! (which *did* include SCARTs!). We looked again in SF#79 because after extended use we found lots of "quirky" habits such as finding the same signals 2, 3 or 10 (!) times thereby slowing down the search process and making a mess of the loading tables. After we published our secondary findings in #79, Astrx demanded their test unit "back" and cancelled their advertising. The Astrx was from Korea, the Coship is from China. Source for the Coship? Tim Heinrichs, as tim@dmsiusa.com (DMS International, 320B Northpoint Parkway SE, Acworth, Ga 30102 USA; Tel + +1-770-529-6800) or <http://www.dmsiusa.com>

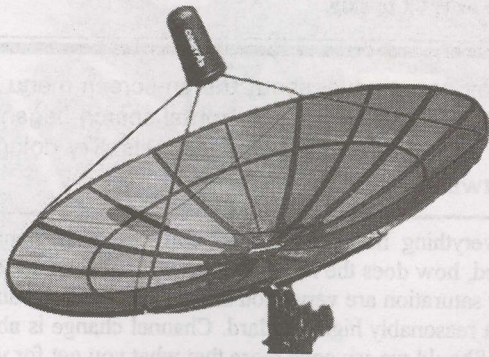


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Setting blind scan parameters	
Start Freq	10700 MHz
End Freq	12750 MHz
Polar range	Horizontal
Under 4M scan	<NO>
<input type="button" value="OK"/> <input type="button" value="EXIT"/>	
[^] [V] [<] [>] [MENU] [EXIT]	

Blind searching
Blind searching finished, total:
TP: 87
TV: 765
Radio: 618
Eb/No: %
Progress 
MENU to exit, OK to skip.

START (left) and FINISH (right). There is nothing either complex nor unusual about the on-screen menu selection. What is impressive is 66 minutes after the 10.700 - 12.750 vertical + horizontal search began, the 3188C had located 87 transponders with 765 TV channels and 618 radio service channels. Try doing that with your RCU or any other software available!

in the dustbin or on museum shelves. Sadly, the Nokias in their Auto Search form are no longer made. Their search capability without a computer is however limited to a very narrow bandwidth compared with this receiver. The RSD ODMs 300 and 302, again no longer made, but the 302 metamorphosed into the New Wave 9000. The Coship as a DXing receiver knocks these into a cocked hat.

I can hear the purists shouting the Nokias will give you this and that, but where this receiver is coming from, is that it is here today. Also spare a thought just how good it could be tomorrow.

So far I have eulogised over this receiver as a craggy old DXer might. One might ask is "What good is this to the FTA entertainment watcher?"

It is quite simple. If the FTA entertainment user goes to the satellites where the entertainment is, he can download everything that is active without referring to magazines, or websites. He will not only pick up the things that are ongoing, but also anything that has freshly arrived recently. If the user sets up a regular check system, then they will always be up to date.

Now everything has been set up correctly and channels downloaded, how does the receiver behave? The video level and colour saturation are very good indeed and I feel the audio is also of a reasonably high standard. Channel change is about 1 second. Should we say once more that what you get for your money is truly a bargain to say the very least.

I have aired the pros and now a few of the shortcomings. At present the capacity of the receiver is only 2000 channels (radio and TV combined) With today's channel loading that is not very much storage at all. Another limiting factor is that the receiver is only capable of storing 18 satellites. And there is no FEC reading, auto only. The threshold may not be as good as that of the Nokias. To summarise I would say that this receiver does virtually what every DXer has dreamed of for ages, and it does it without a computer or any other hardware. Coship has attained what others called "unattainable." As a first it is truly brilliant. A no frills thrill which deserves the inspection of any serious "feed hunter" or DX enthusiast.

All we need now is this technology incorporated with the Dream Box, add 4.2.2 and a huge capacity hard disk and we would all be in satellite UTOPIA.

Coship discussion - Pro and Con

There are several 'discussion topics' buried in Roy Carman's user-report. As the writer is located in the UK, while the majority of SF readers are in the Pacific and Asia, we wanted to confirm his European findings and at the same time allow others to question his results. British magazine TELEVISION columnist Roger Bunney, a friend of SF publisher Bob Cooper for several decades, quite independently verifies Carman's information noting, "Roy has all day long every day to search for new satellite services and he is without question one of the best at what he does - so well." Reader IF (Queensland), with whom we shared the original Carman draft, posed several questions of concern to those of us not in Europe. These included, "There is something very important that the Nokia IRDs (with DVB2000) can do that the Coship *may not be* able to do. Feeds (such as Imparja's B1) quite often do not have loading tables and sometimes they contain the wrong PIDs or may not contain all of the PIDs (so they can contain 'hidden channels'). The Nokia can find and identify hidden PIDs - but can the Coship?"

We took that question back to Carman and his response, edited, was as follows:

"I have checked this against the Nokias (Note: Carman owns Nokia products and has been a long time user of DVB2000) and as of yet have not found this to be a problem. Quite the contrary, on the Hotbirds at 13 East, there are two transponders which neither the Nokia nor RSD ODM302/New Wave 9000 will handle; the Coship does. Not to be sarcastic, but in reading the excellence of SatFACTS I form an opinion that many in the Southern Hemisphere may be suffering from NADs for which there may be no instant cure. NADs? 'Nokia Adulation Disease'!"



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This ain't no Coship!

For the Guy (or Gal) Who Wants It All - Rolf suggests this may be the answer

The Dreambox DM7000-S and DM5600-S

The Dreambox DM7000-S is finally ready to spread its wings and take off on a success bestseller tour around the world. When the makers of this true Multimedia Set Top Box first discussed the matter with me in early 2000, we were all very excited about the idea of an all-in-one satellite receiver, which can not only receive and decode satellite signals but also play MP3 / AC3 audio files, record movies on a built in hard drive, connect to the Internet to receive e-mails and many, many things more!

German entrepreneurs Tim Ziemann, Jürgen Leuring and Dirk Glunz, a close friend of late Boris Floricic aka "Tron" who was found dead, hanging off a tree in a Berlin park on 17.October 1998, paid tribute took Tron's spirit in creating their Dream Machine. Two years later Tim Ziemann presented me with the first "working sample" Dreambox DM7000-S for tests. I knew that the OS (Operating System) of this box is also based on LINUX Open Source GNU (GNU is NOT Unix), which is licensed under the GPL (General Public License) spirit of free software for everyone, because I had "played" with the infamous d-box2 already by then, so I knew what I should expect. I was wrong! The d-box2 LINUX software is based primarily on a GUI (Graphic User Interface) called "Neutrino"; *why* my Buddies went for "Enigma" the alternative GUI also available for the d-box2, I could not understand. I never liked the "Enigma" GUI; it is a grey, unsightly GUI which does not attract me at all. My enthusiasm dropped sharply after I started the Dreambox for the first time and I saw this grey mouse style OSD (On Screen Display). The only positive point I could see at that stage was the fact that Enigma supported direct LNB and transponder data configuration whereby the d-Box2 needed a pre-configured satellite.xml file to be able to find a channel at all. "Well," I said to myself, "tests are tests and you have to carry them out, not only because you promised it to your friends but also to see what the new toy can do." I knew from my European contacts that their own tests were an absolute success and that people in Germany who were given a pre-production box for Beta testing were so excited and positive, that they actually didn't want to return the test box to the development team!

So I connected the box up and started to configure it to the location where I was in the Southern Hemisphere because it obviously came with a German setup. This took me quite some time to figure out that the LNB default is set to LOF Lo / Hi of 9750 / 10600 which is standard for LNBs sold in Europe but mine was a 9750 / 10700 that was why the transponder scan didn't find all channels it was supposed to find. There was also no menu to enter LNB values so my disappointment was

Prepared from material supplied by Rolf Deubel, Capetown, South Africa (rolf@promotec.co.za). In the interest of full disclosure, SF advises, Mr Deubel has a vested commercial interest in this receiver's distribution which may or may not have influenced him when preparing this report.



DreamBox DM7000-S shipped to SatFACTS in February "looked nice" but refused to do anything at all with C-band or Southern Hemisphere (read Optus) Ku band transmissions. We knew what the problems were - but getting the factory to deal with them was quite an adventure because European sales were greater than their ability to manufacture and ship at the time.

pre-programmed. Except that the hardware was impressive, there was little which could get me back to this box as nothing, but nothing worked for my location and me. The CF (Compact Flash) slot was not operational, the card readers did not work, and when a hard drive was fitted the picture started to pixel up. In simple but honest words: A disaster, and sales were due to start the following month.

My friends assured me that they didn't have these problems with their German / European setup and continued marketing the Dreambox, but more or less only to the European market. I then decided rather not to write about the Dreambox for two reasons

1) I didn't have the chance to test it in Germany so what they told me might probably be correct, and, 2) it didn't work in the Southern Hemisphere which might have been because of a poor satellites.xml file or lack of input in the satellite configuration menus or even personal dislike of the Enigma GUI. The result was that I took the "Dreambox" and put it away in the cupboard but still following the software development and being in constant contact with my friends about the "what's new" points in the development. In return they've "rewarded" me for my input with more work to test changes on the DM7000-S. But nothing convinced me to use this box on a daily basis. The software was simply not up to standards. The Dreambox stayed in bed and dreamed a lonely dream in the cupboard until February this year when I received a revised version DM7000-S for testing at SatFACTS. The power supply had been updated and some other modifications had been made to the mainboard as well as some software improvements had been made to the flash image file.

The biggest problem I had was to set the Dreambox up. At these early stages there was very little Internet support and all there was intended only for the Germans, up in the North; nothing worked here below the equator and even LNB setup was a disaster. I was eager to get the "Big Dreambox Report" on paper right after the d-box2 publication but there was nothing (positive) to write about.

I could have introduced the hardware and everybody would have said "Nice, but how does it work?" or even, "Does it work at all?" knowing that in this part of the world the clocks tick

JOYSAT

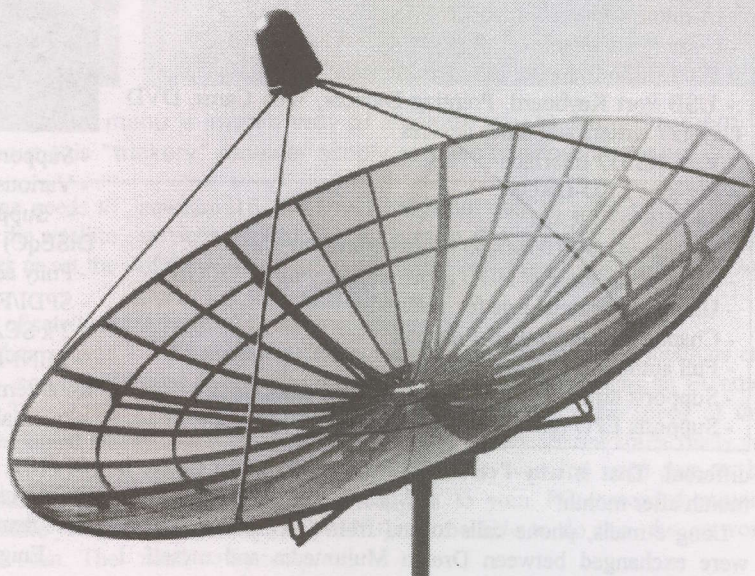
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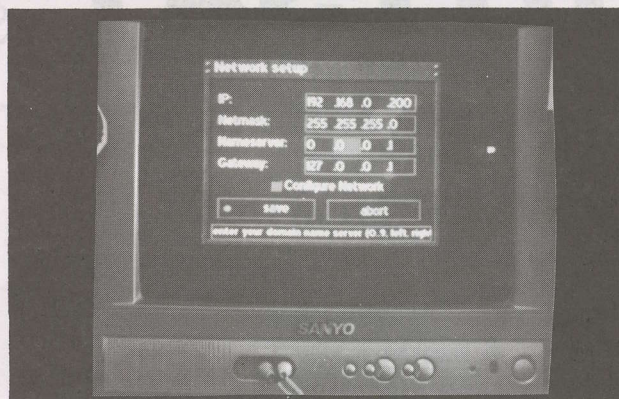
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Dreambox M7000-S Design parameters

- 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).
- 1 x DVB Common-Interface Slot
- 2 x Smartcard-Reader
- Integrated Compact Flash Interface Slot (mounted as a HDD harddrive)
- MPEG2 Hardware decoding (fully DVB compliant)
- In-future support for MPEG4 decoding
- Common available NIMs (DVB-S, DVB-T, DVB-C)
- 100 Mbit full duplex Ethernet Interface
- USB Port Keyboard, Pointing Devices, Web Cams, DVD Players / writers and other devices
- V.24/RS232 Interface
- Big-size LCD-Display
- 64 MByte of RAM
- Integrated IDE UDMA66 Master/Slave Interface
- Support for internal HDD in any capacity up to 120GB
- Unlimited channel lists for TV/Radio
- Channel-change time < 1 second
- Full automatic service scan
- Supports directly bouquet-lists (indirect unlimited)
- Supports EPG (electronic program guide)



- Supports videotext (insertion)
- Various applications such Web-Browser or Mail-clients
- Supports multiple LNB-Switching control (supports DiSEqC)
- Fully adaptable OSD in many languages (skin-support)
- SPDI/F Interface for digital bit stream out (AC-3 / DTS)
- 2 x SCART-interfaces (fully controlled by software)
- MINI-DIN connector for extern IR (send/receive) and I2C for external Rotor devices
- Internal send / receive IR (Video recorder)

different. That is why I've skipped the report and delayed it month after month!

Long e-mails, phone calls to and from Germany and SMS were exchanged between Dream Multimedia and myself. I wanted to finally get the product working in the Southern Hemisphere and then established on the market! Many features were added to the Enigma GUI (Graphic User Interface) and it became more "attractive" not having that old grey style anymore. Submenus were added too and the LNB setup was actually working!

The problem was simply that the young LINUX programmers "assumed" that all LNBs around the world were standardized and universal LNBs with LOF Lo 9.750 and LOF Hi 10.600, which they had entered as default and therefore the transponder scan always failed.

Then I received the first "working" firmware image. It was around March when a LINUX programmer by the nickname of "Traveller" published his unofficial version of the official Dream Multimedia firmware release. And this unofficial firmware brought my enthusiasm about the dream of STB boxes back to life. It is not that the official releases from Dream Multimedia are no good, it is more that the Open Source system leaves room for individual creations and the policy of the Dream guys is to concentrate on the development of their own content encryption, "DreamCrypt," and leave the other encryption systems commercial and royalty intensive part untouched. The spirit of LINUX has finally fully arrived!

When Linus Thorvalds, a student at the University of Helsinki, published his first LINUX Kernel (a kernel is the heart of an Operating System) in 1990 he might have not foreseen that this OS would be named after it's developer (name made from the closest rival Unix and Thorvalds first name Linus) and would become such a versatile Operating System that finally runs, controls and drives even Multimedia Set Top Boxes.

The SatFACTS "Big d-box2 report" about the first LINUX driven satellite receiver was still based on a hobbyist project

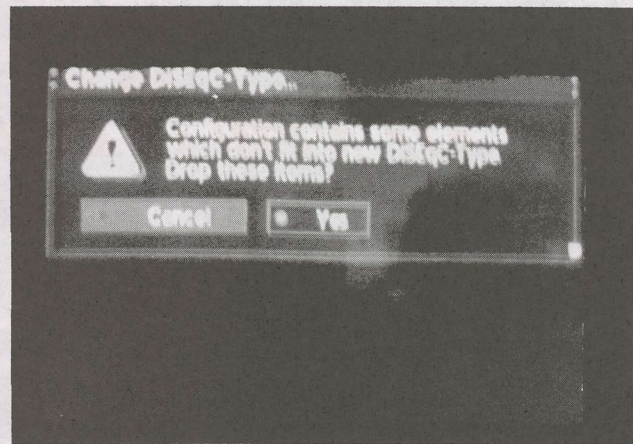
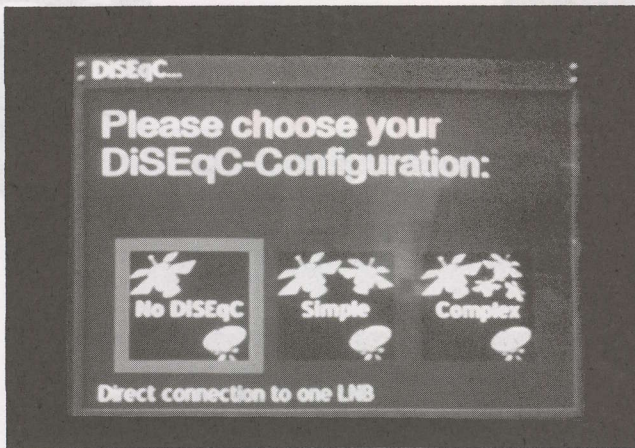
(SF#101; January). The Dreambox DM7000-S is the first *commercially* developed Multimedia Box, which is actually more than four different systems in one single unit.

Enigma V2.0, the GUI in a wonderful stylish new appearance, allows fast zapping between channels and the menu function is satisfactory, even though certain steps are needed to setup your "non European standard" LNB.

When your Dreambox arrives, it is loaded with the factory default firmware, currently Version 1.05_5.5 which is also the basis for all other unofficial releases available on the Internet. It will ask you for the time zone you will be running your Dreambox in. The remote control "walks" you through this submenu by using the left, right, up and down keys. To confirm a setting one must press "OK" just like with most other STBs.

Thereafter you need to choose your preferred language. English is the first entry so by pressing OK you will be lead to the next step, the DiSEqC setup. I personally was a bit confused and so are many other "new" owners of the Dreambox, because I do not own a DiSEqC (Digital Satellite Equipment Control), a standardised method for two-way communication between devices in satellite reception systems. Information is exchanged between devices interconnected by standard coaxial cable with a modulated 22 kHz tone (DiSEqC™ is a trademark of Eutelsat). Therefore I selected the first option "No DiSEqC"; the two other options are "Simple" (simple setup) and "Complex" (complex setup).

This is the turning point for all new Dreambox owners where the mistakes happen! Like I mentioned earlier in this report, default values are preset for *European* standards. The default setting is still LOF 9.750/10.600 and needs to be changed. But there is no way to set anything should you choose "No DiSEqC". The solution? I spoke to "tmbinc" the author of Enigma GUI and this will be fixed in one of the next releases and, there is a work around for the time being and it's initially intended to be like this (ohoh... these young LINUX programmers need a bit more experience in life, but they are



Selecting "work around" DiSEqC "complex" setup menu is interim way of allowing you to enter Southern Hemisphere (C and Ku) numbers; without this "trickery" receiver simply refuses to allow changes.

doing a brilliant job though). The solution is - one needs to select "Complex" and press OK which will lead to the satellite configuration page of the menu with all the goodies to set the LNB.

It might look a bit confusing but there are plenty of satellites to choose from. In my case I selected PAS7/10 then moved with the cursor to the LNB section where I could set frequencies according to my LNB here (Universal Twin LNB LOF 9.750 / 10.700), disabled the DiSEqC and then saved the lot.

The menu takes you straight to the transponder scan section where you need to confirm your "network" (the satellite you've chosen) and by pressing OK you then trigger the scan. The system pre-scans and locks the signal. You need to confirm this again by pressing OK and you may select if you want to erase previously stored bouquets (in case of a new Dreambox, not necessary).

Scanning the complete satellite takes about 5 minutes and all possible transponders and services are screened and saved. After the scan, the Dreambox proudly presents all found services nicely divided in TV, Radio and Data service and you are asked if you would like to scan another satellite. If you press YES you will be led back to the scanning menu and with NO you will go to the first channel found in alphabetical order.

This is the basic setup and should the first channel be a FTA (Free To Air) channel you will see this channel displayed on your TV. Should the first channel be a pay-TV channel protected by encryption, it is now time to insert your subscription smartcard into a CI module for this service and insert the two into the CI slot behind the smoke coloured front cover.

Australian PayTV providers Austar and Foxtel did use Fast-I Irdeto encryption in the past, which is a unique system used only for Australia. The rest of the world uses Euro-I and therefore it was always an issue if a satellite receiver "works" in Australia; the same applies for a CI modules.

The infamous Magic Module works great as a MultiCAM on all systems, *except* for the said Fast-I service. Even Irdeto's own new CI models (see SatFACTS report on CI modules in February 2003; SF#102) did NOT work in Australia, which was actually a joke, and people only found out the hard way!

Good news folks, that's past times. Since mid June 2003 the Australian system is running Euro-I encryption too; all issues on STB with embedded HardCAM of newer state (Softcell 2.09 and newer) or SoftCAM (GBox, mgcamd, Dr.Matrix,

newcamd16 and DruidCAM) not able to work on Australian services *are history!* My guess is this is part of the introduction of the new Irdeto3 system with new smartcards ACS V4.1 and Optus C1, soon operational.

Advanced Dreambox Setup

To access the Dreambox with a PC, the same methods are used as with the d-box2. The rear panel contains an Ethernet port with 10/100Mbps data transfer rate. The speed of this port is a bit of an illusion as the drivers are not 100% ready yet but let me tell you, it's sufficient even for large data to be shuffled from the Dreambox to your PC (recorded movies from the optional HDD). To be able to do this, the network needs to be setup.

To access this menu, press the small round DREAM button next to the RIGHT arrow key on the remote. Enigma GUI will easily guide you through the menu points when using the LEFT or RIGHT arrow keys on the remote.

Move to setup menu (menu 6) and press OK. In the setup menu move the cursor down to network using the DOWN keys on the remote. Press OK again.

The network setup is important should you wish to use the Internet multimedia functions of the Dreambox. The network setup needs to be completed to enable the Dreambox to "talk" to the Internet.

If in doubt, use the following setting:

IP address: 192.168.0.2

Netmask: 255.255.255.0

Name Server: get this from your ISP (it's the DNS server of the ISP)

Gateway: usually your PC's IP address 192.168.0.1

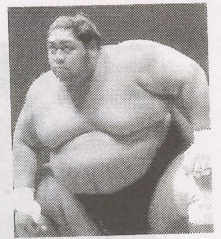
Tick configure network and move cursor to save and press OK. Wherever you see a *coloured dot* in a menu, you may also press the corresponding coloured key on your remote control to take a shortcut.

After pressing OK, you will be back in the setup menu. And to leave the menu completely, use the *red key* in the middle of your remote!

That's it for now; the Dreambox is configured. With the CI module and your subscriber smartcard, you have access to protected PayTV content and surely all available FTA channels too.

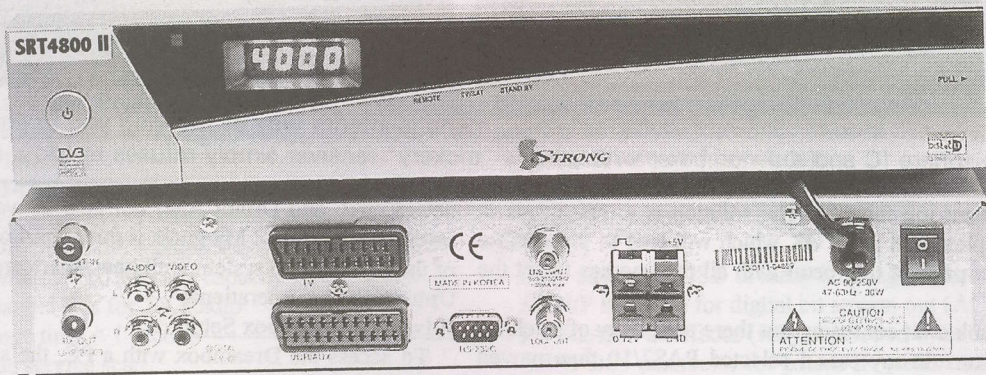
But this is not the end. The Dreambox DM7000-S would not be a Multimedia box if this would be all. There is the optional hard drive and the CF (Compact Flash) Reader. Important to know is what you intent to use BEFORE you install the HDD

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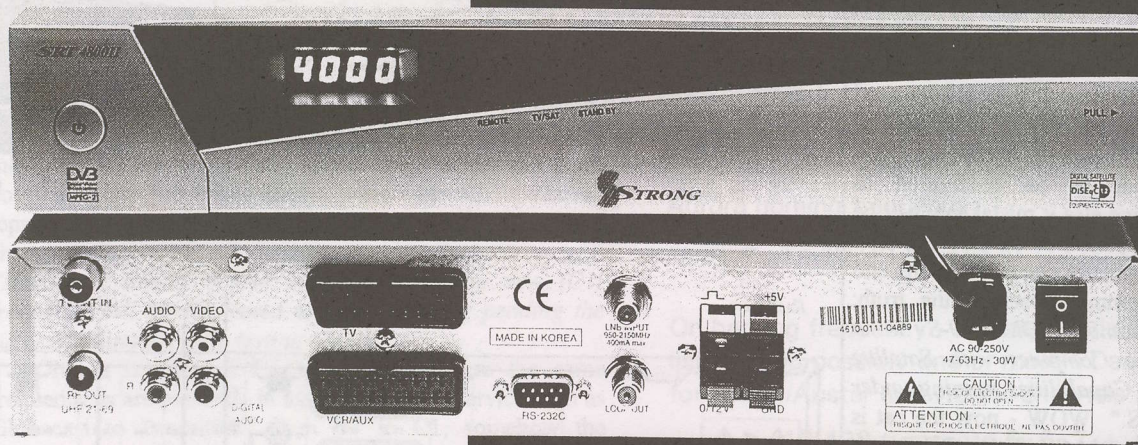
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because it needs to be configured according to your intended uses! The CF will always be detected as Master Drive (only if a CF card is inserted) and the HDD then as Slave Drive. On configuring your Dreambox, one must make the decision if both HDDs need to be active or only one! In case of both (1x CF and 1x HDD) the hard drive needs to be configured as "Slave" drive else it mistakenly will be the "Master."

That's actually computer terms and we are coming closer to the truth: "The Dreambox DM7000-S is a Multimedia Computer with Satellite Reception Capabilities running under LINUX OS." WOW - now the cat is out of the sack! So if it's a PC then it can do MP3 songs? *It can!* And it can do picture displaying as well? *That's right!* The CF is the correct interface for it. Use the CF media to put MP3 songs into your portable MP3 player and walk around, take it to work and in the bus and when you come home, stick it into your Dreambox and keep on listening to your favourite songs!

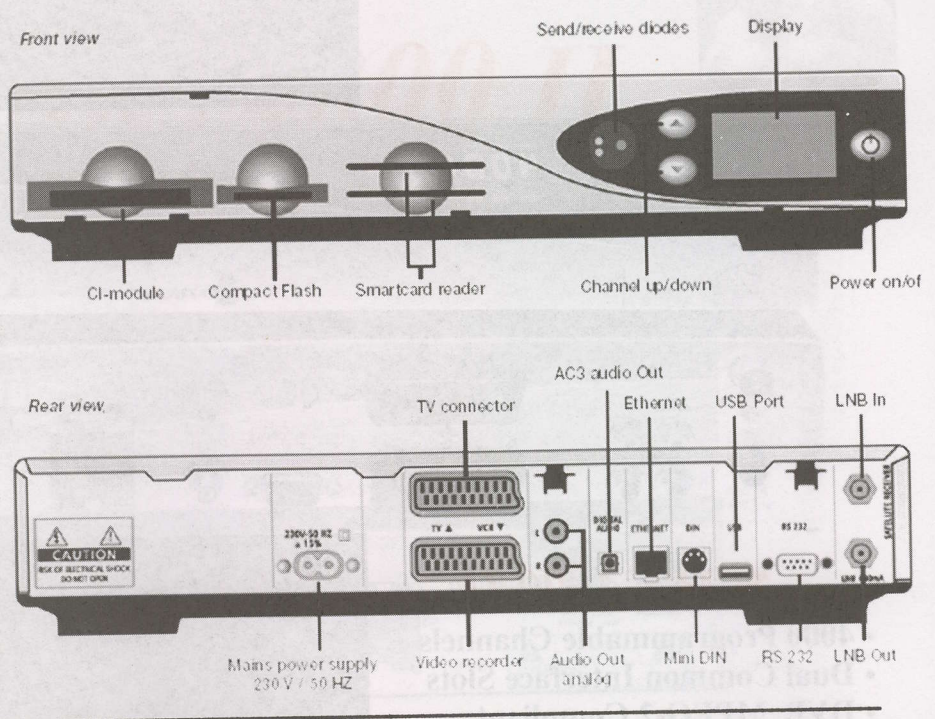
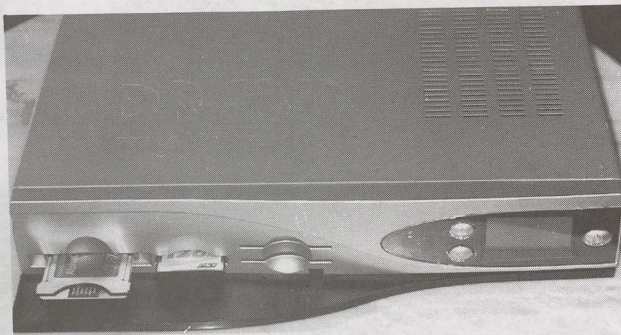
Or, for the pictures: I have a Canon D60 camera, which takes an IBM Microdrive. Yep that's one Gigabyte of pictures to be stored and I took it and stuck it into the Dreambox' CF reader and I could see all my pictures on TV, one by one zapping through them like zapping channels!

The Dreambox DM7000-S has an optional HDD frame built in and comes - *only for the Southern Hemisphere* - complete with a HDD kit to fit an optional hard drive. Maximum HDD size is 120GB and preferred brands are Maxtor and Samsung because of their "low noise" policy with the hard drives.

There is an issue however for the current drawn by the HDD: 500mA should not be exceeded at *any time* as pixelation might result when the HDD spins up on recording! The above Dream Multimedia approved HDDs are well into this figure and SatFACTS will report at a later stage on developments and improvements in this matter.

Once the HDD is installed, the remote control also takes over the part of a Video Recorder. PVR (Personal Video Recorder) is the new magic phrase and there are already several companies equipping their STB with HDDs for PVR. It works exactly like you are used to with your old VCR but now it's digital, you can "tape" (digitally record) up to 80 movies on the HDD and the quality will always be the same. No matter if

Fully loaded.



you watch the movie in 1 week or in 1 year; or, you watch it 1 time or 1000 times.

The USB port of the Dreambox is also handy! You may connect an external DVD drive or a CDRW drive and watch and record movies as you please.

A mouse is detected but there is no real application yet!

The next thing to come for the DM7000-S is a wireless keyboard to make full use of the Internet functions. Possible already are TuxMail (a mail client showing arrival of new mail messages on your TV screen) and TuxNews (a news ticker running in a small strip across your bottom or top end of your TV screen to monitor stock exchange, news reports.)

I have installed this on my Dream system. My friend Ewald from Germany who is a Lufthansa Flight Engineer comes and visits me every 2-3 weeks and he is heavily involved in the stock market. Before there was 16 -18 hours a day Bloomberg running whilst he was here and my wireless LAN was always occupied. With the Dreambox I can watch my action movies and the stock news ticker tells him if he stuffed up or not; and it's Champaign or water tonight!

In general the Dreambox is THE box for enthusiasts to go for. It has taken quite some time until I was prepared to write this article although I was convinced from the beginning that the Dreambox itself would be a success.

The hardware, the ideas and the people behind it promised to be the combination. *It did take time.* Nothing falls out of the blue sky and even if you know what you are talking about, things can go wrong but now the Dreambox is right; right for the rest of the world and now for the first time, finally right for you, the Southern Hemisphere satellite enthusiast who wants something special.

As with the d-Box2, LINUX capabilities do not end on pure satellite reception. There is plenty room for software emulation and plugins. Plugins could be games but plugins could be Software CAMs. I have introduced you to GBox, a Software CAM developed to work within LINUX environment and d-Box2. Good news... it's been extended for use in the Dreambox too. My next report will be about software CAM emulation within LINUX STB environments.

Optus C1 Activation Details

Alerts distributed by the various affected services (those presently operating from Optus B3) were first issued in mid-June, actually some hours *ahead* of the launch of C1. A note attached to the alert issued by Globecast is representative of the level of caution attached to the changeover:

"The exact timing of the switch-over to the new (C1) frequency will be confirmed to you in writing pending the successful (launch and) testing of C1."

Only a handful of C1 transponders share the same frequency as are presently in use on B3. For a service such as Globecast to "transition" from B3 to C1, somehow the receivers in use for Globecast must be "told" about the new C1 frequency.

In the case of Foxtel/Austar, one transponder (12.438Hz) is "common" to both (Tr "14" on C1 is the same frequency as Tr "11" on B3). In the case of Aurora, again we have one "common" transponder (12.407Vt); numbered as Tr "3" on C1 and also Tr "3" on B3.

Programmers connected to "addressable" (that is, CA) receivers can at an appropriate moment send instruction to all (or some portion of their universe of) receivers advising them to return to a specific frequency - "the homing" (as in going-home-to) frequency. When Foxtel/Austar "instruct" receivers to return to 12.438Hz, once there the receivers can be reloaded with the remaining "C1-new" horizontal transponders. Foxtel/Austar *hope* all of this happens automatically.

Meanwhile at Aurora, all receivers will be told to return to 12.407Vt and once there, they will receive the new Aurora transponder numbers and instructions.

If receivers are not operating (plugged into mains, operating, or on standby) at the time of the new instruction, and they remain off during the B3-go-to-C1 switch-over day(s), when they are finally again turned on, someone will have to (manually) direct the IRD to 12.438 where it can now be reloaded with the new (unique to C1) Foxtel/Austar transponder information. The total receiver universe affected will be the sum of all Foxtel, all Austar, all Aurora receivers in their addressing memory banks; *well past 1.1 million total!*

Globecast is not a part of this system. They do not supply receivers, therefore have no control over the receivers. Users of Globecast must manually change the downlink frequency (12.336 to 12.367; see below). What follows (here and in

Foxtel/Austar homing frequency:

→ 12.438 B3 Tr11 to Tr14 on C1

Aurora homing frequency:

→ 12.407Vt B3 Tr3 to Tr3 on C1

On homing frequency - receiver loads new Tr list (Hz and possibly one or more Vt as well) for Foxtel/Austar and viewer channels return.

→ 12.438 turns into 5, 6, 7 + total

table below) is believed to be the switch-over plan in effect as of July 8; the day this is prepared. There are no guarantees this plan will not be modified before the first important date; July 16.

The table below is conditioned upon C1 being "drifted" from 152E to 156E (which it will share with B3) between July 7 and 12. If this does not happen, the dates below could change. However, even with new dates, the "sequence" is likely to remain as shown here.

Short-term interference. On July 16/day 1 of change: C1 T13 is apt to have (temporary) cross-pole problems from B3/T3. Most likely to be effected: CNN, CART, CNN. On July 28/day 2 of change, C1/T13 is apt to have interference from B3/T7. Most likely to be affected: MAIN, MOV1, MOVG, MOVX, MTV, NCEO, ODSY, SBS, SKYN, SKYR, STC. On July 31, C1/T16 is apt to have interference from B3/T6. Most likely to be affected: FFC, FFX VIC, FFX SA, FFX WA, FOC, FX, HIST, MMAX, SHW2, TWC.

There are two primary reasons for short-term interference (manifesting as loss of service for hours to days). First, B3 and C1 do not have common channel widths nor transponder assignments; some transponders on B3 overlap into two on C1 and vice-versa. The turn-on of C1 transponders and the turn-off of B3 is being staged to minimise "massive failure" should any aspect of it go awry. Thus for some period of time, we will have both the desired C1 and the non-desired B3 outputs operating. Second, B3 has a small <1 degree wobble which makes uplink tracking more difficult.

(*) The July 16 change to C1/T20 is curious. T20 is a 72 MHz (double width) transponder and T20/lower should have a centre frequency of 12.682, not 12.688 as listed.

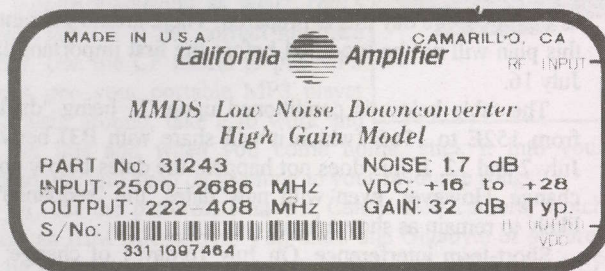
B3 Frequency/polarity	>to C1 Frequency/polarity	C1 Symbol rate	C1 FEC	Projected "changeover" date	Notes
12.336Vt/T2	12.367Vt/T2	30(.000) - same	2/3 - same	16-07-03; 5am AE	bird, freq change
12.376Hz/T10	12.398Hz/T13	29(.473) - same	3/4 - same	16-07-03; time ??	bird, freq change
12.438Hz/T11	12.438Hz/T14	29(.473) - same	3/4 - same	16-07-03; time ??	bird only change
12.688(.8)Hz/T15	12.688(.8)Hz/T20	29(.473) - same	3/4 - same	16-07-03; time ??	bird only change *
12.501Hz/T12	12.518Hz/T16	29(.473) - same	3/4 - same	31-07-03; time ??	bird, freq change
12.563Hz/T13	12.558Hz/T17	29(.473) - same	3/4 - same	31-07-03; time ??	bird, freq change
12.626Hz/T14	12.598Hz/T18	29(.473) - same	3/4 - same	03-08-03; time ??	bird, freq change

TECHNICAL TOPIX

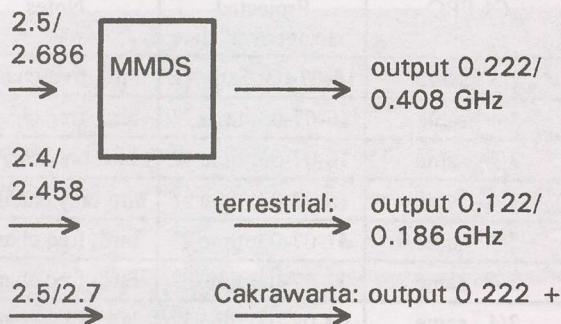
S-band front ends?

Regarding discussion of using S-band feeds and LNBS for S-band terrestrial or to expand the range of a spectrum analyser that does not go to 2.4-2.6 GHz. What about MMDS antenna systems such as the California Amplifier part no. 31243, input 2500-2686 MHz; a "low noise high gain" antenna mounted down converter with an optional bolt-on S-band linear polarised feed? They claim noise figures which seem reasonable at S-band, and gain which compares with a LNB so why would not this very inexpensive 'front end' perform as we wish for Cakrawarta or terrestrial frequency modulated TV signals using the WLAN profile?"

D. Leach NSW



The nameplate reproduction (above) should answer your question. First - will it function lower in frequency (say 2.400-2.458)? The answer is probably yes but at reduced gain. Second - what about the output frequency? The LO (local oscillator) is apparently 2.278 and notice the IF (output) frequency range: 222 - 408 MHz. That is the same as 0.222 - 0.408 GHz. Clearly that is incompatible with L-band satellite receivers (0.950-1.450/2.150 GHz). Which means? After frequency conversion, you do *not* have a suitable receiver to process and demodulate the 2500-2686 range. Worse yet - the 2.400 terrestrial band frequency would end up being at 2.400 minus 2.278 (0.122 GHz) while 2.458 would end up being at 2.458 minus 2.278 (0.186 GHz). Even if the S-band front end (2.500-2.686) could be "stretched" downward to function at 2.400 - 2.458, the 222 - 408 MHz output passband on the device would never produce circuit gain at 0.122 - 0.186 GHz. In a pinch you might use this with poor results for going ahead of a VHF region (100-500 MHz) spectrum analyser to at least "detect" the presence of nearby



S-band terrestrial signals but it would never be suitable for anything approaching meaningful measurements. These things are Internet available at around US\$50; avoid the temptation to buy one for S-band terrestrial purposes and certainly not for Cakrawarta!

DVB-T DiSEqC Switching?

"Reference SF#106 comment that perhaps terrestrial DVB-T set-top boxes could include antenna switching for those (perhaps many) locations where two (or more!) separate aerials are required to properly receive multiple COFDM signals from different transmitter sites. DiSEqC switches typically need to be powered with 14/18Vdc from an IRD. As masthead amplifiers for DVB-T also require powering there may be advantages to this. Either the STB or an in-line power inserter (capable of passing DiSEqC pulses) could be used to supply 18Vdc (which by choice should be regulated) to the DiSEqC switch. On the input ports of the DiSEqC switch, antennas that are not fitted with masthead amplifiers could have an F-type power isolator inserted inline. By allowing the DiSEqC switch to switch the power between the masthead amplifiers as it would with the LNB(f)s, a large amount of signal isolation is achieved between the powered masthead and those not powered. I suggest regulated 18 Vdc because most masthead amplifiers are powered by a 22 V AC unregulated plugpack (of course the AC is not regulated). These masthead amplifiers typically have a half-wave rectifier and a resistor voltage-divider to power their amplifier circuit. This means the gain of the masthead is dependent upon the mains supply voltage. Some (not many) higher gain (masthead) amplifiers do have a voltage regulator to achieve constant gain, but for DVB-T high-gain amplifiers are probably not a good idea. So how about running these mastheads at a lower gain using a conservative voltage which is regulated at the supply. In this way the (masthead) amplifier should be 'less noisy' and very unlikely to oscillate (many do as the supply voltage wanders around). And the DiSEqC will be happy being powered with 18V dc. Of course masthead designs would have to change (from AC to DC powered) but the original reason for AC (electrolysis) was built around the now antiquated use of 300 ohm ribbon line and the inability to properly moisture-proof connections. Millions of satellite installations use DC without electrolysis because we have subsequently learned how to weather-seal the connections and I therefore doubt a revisit of masthead powering 'rules' would prove a problem."

IF, Queensland

Commercial LNB/LNBf products?

"In many semi-pro and professional satellite catalogues, there are DRO (dielectric resonant oscillator) and PLL (phase locked loop) LNB products listed, usually at significantly higher prices than we currently experience from 'consumer/trade' distributors. Is there something unique, better, here which a 'serious enthusiast' might benefit from? And by the way, the legendary Gardiner brand LNB product is no longer manufactured and recently California Amplifier announced they were withdrawing from the consumer LNB/f market as well. Does this leave the low cost Asian suppliers as the only folks still in this game? "

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S. Global, Bangkok, Thailand

C-band LNBS were originally market-driven by the American home dish terminal revolution that began in 1979 and lasted through the early 1990s. At about the time the American market died (with the introduction of Ku-band DirecTV DTH there), an Asian market developed spurred initially by the STAR Asia bouquet. What has happened now is world C-band use of LNBS has dropped remarkably in the past 2-3 years, while Chinese sources for LNBS have reduced the pricing to 'throwaway' levels (so low as to not warrant repairing a defective unit - throw it away and replace with a new one). Now even the Asian market is dying, with migration to Ku likely over the next 2 years. The forecast for low-cost C-band LNBS is this: Price will go up, volume production will go down, quality will become more and more difficult to identify and what we have left will be the US\$300 - \$700 "semi-professional" models. Our advice is to stock up on C-band LNBS while they are still around - because it won't last long at today's sub-US\$20 pricing. However many you normally keep on hand as a spare(s), quadruple that and maintain that level as prices skyrocket between now and say 2005.

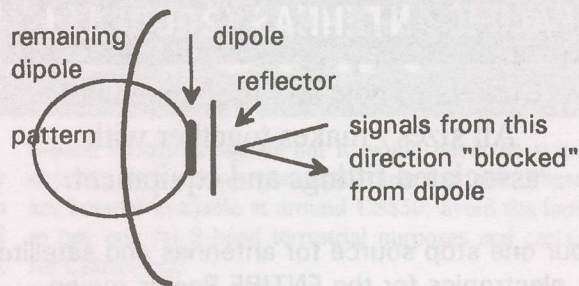
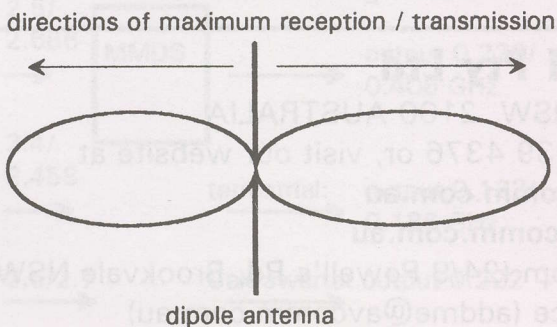
S-band feeds

"After careful checking, it appears S-band feeds are no longer manufactured by either US or European firms; those contacted all recite, 'The market is too small'. There are some 2.3 GHz 'ham radio' antenna products plus some 2.4 GHz WLAN antennas although none appear to be 'feeds' designed for dish antenna use. Can you explain what the 'dipole antenna' I see offered for both 2.3 (amateur) and 2.4 (WLAN) would do as a replacement for a non-existent 'feedhorn' for 2.5/2.6 GHz Cakrawarta reception?"

IL, Asia

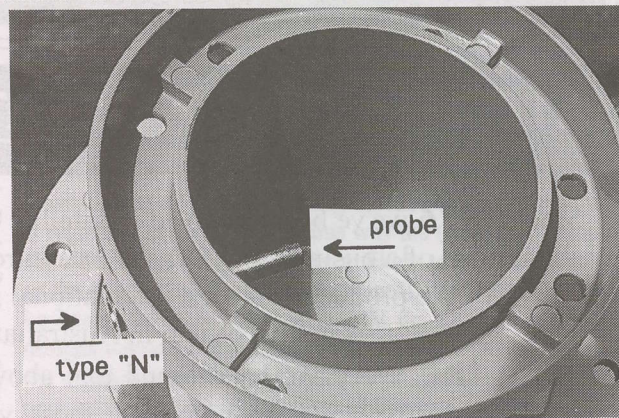
A dipole is a half-wavelength antenna designed to receive (or transmit) in two directions equally - both at right angles to the 'dipole element' physical alignment (below). Its reception/transmission 'pattern' makes it less than ideal for a feed on a parabolic or offset dish because as a reception antenna it reacts to signals from not only the dish it is placed in front of (at the 'focal point'; see CSD #104) but also from other signal sources approaching the dipole from the "opposite side" of the dipole (see below, right). If a second slightly longer element, called a 'reflector', is placed parallel to the dipole in the same plane, the undesired signal(s) from the 'wrong side' of the dipole is/are 'blocked' from reaching the dipole, giving it 'directional characteristics' favouring only the 'unprotected' side (facing towards the dish, for example; above, top right).

In a TVRO/DTH installation, the "dipole" is replaced with a small "probe antenna" which is visible as you look into the "open mouth" of the LNB. The probe antenna is the electrical

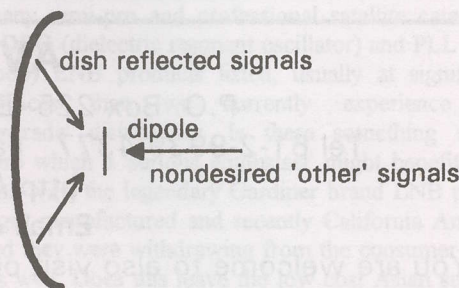


equivalent of one-half of a dipole; called a quarter-wave antenna (1/2 of 1/2 wavelength). Pick up an LNB with an 'open mouth' and peer inside. The "probe" sits nestled down towards the bottom of the cavity and thus it is "protected" by a wraparound metal shell. The inner dimensions of the cavity/wrap around shell and probe size are frequency derived; the C-band "cavity" is larger than the Ku-band cavity by a 3 to 1 ratio - reflecting the shorter wavelengths at Ku (12 GHz) when compared to C (4 GHz).

Therefore if you are using a S-band LNB that has an exposed (inside of cavity) probe, the "dipole" equivalent is already there - a part of the LNB. But most S-band LNBS do not have an open cavity with probe exposed; rather the LNB has a type "N" (male) connector which fastens the LNB to a (female) mating type "N" connector on the external, separate "feed" (illustration, SF#106, p. 19/20) Inside the separate "feed" device is a probe attached to the type "N" connector mounted to the feed (at 9 o'clock position, below).



A dipole? Yes, it could be the "starting point" for designing a S-band feed but how it is "coupled" (married to) the LNB will effect the actual design. Best antenna efficiency does not just "happen," rather it requires careful planning, well beyond the editorial space limits of this brief overview.



SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 July 2003

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym	
Them3/78.5	SkyChAust	3695/1455H	up to 3	3/4	5(,000)	
	Indivision	3685/1465H	1	3/4	6(,830)	
	MRTV-Myn	3676/1474H	1	2/3	6(,000)	
	Korean Central	3665/1485H	1	2/3	3(,367)	
	TARBS ME mux	3640/1510H	12TV, 12 radio	3/4	28(,066)	
	Ch Nepal	3626/1524V	1	3/4	15(,556)	
	Mahar mux	3600/1550H	11TV, 1 rad	3/4	26(,667)	
	SE asia Mux	3569/1581H	2+ TV	3/4	12(,500)	
	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	3/4	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)	
ST1/88E	Sky Bangla	3430/1720V	1TV	3/4	6(,000)	
	MMBN	3632/1518V	12TV	3/4	26(,667)	
NSS6/96E	UCN	12.729V	1+ TV	7/8	27(,500)	
As2/100.5E	Shandong TV	4070/1080H	1TV	3/4	6(,811)	
	Euro Bouqt	4000/1150H	6TV, 21r	3/4	28(,125)	
	Sichuan TV	3946/1204H	1TV + radio	3/4	4(,420)	
	Reuters News	3905/1245H	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)	
	APTN 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)	
	QinghaiTV	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	3/4	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(,626)	
Myawady		3766/1384V	1	7/8	5(,080)	
Saudi TV1		3660/1490V	7+/tests	3/4	27(,500)	
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)	
Ariwang TV		3755/1395V	1	7/8	4(,418)	
Now TV +		3760/1390H	up to 8TV	7/8	26(,000)	
Star TV		3780/1370V	7(+TV	3/4	28(,100)	
Star TV		3840/1310H	7(+TV	3/4	27(,500)	
Star TV	3860/1290V	5(+TV	3/4	27(,500)		
Star TV	3880/1270H	20(+TV	7/8	26(,850)		
Star TV	3920/1230H	4+ TV	7/8	26(,850)		
Star TV	3940/1210V	6(+TV	7/8	26(,850)		
CNNI	3960/1190H	8(+TV	3/4	27(,500)		
StarTV	3980/1170V	6+TV	3/4	28(,100)		
Star TV	4000/1150H	8(+TV	7/8	26(,850)		
Sahara digital	4020/1130V	8TV	3/4	27(,500)		
Pakistani TV	4090/1060V	1+TV, radio	3/4	6(,666)		
Sun TV	4095/1055H	1	3/4	5(,554)		
TVB Mux	4010/1040H	3	3/4	11(,230)		
CCTV bqt	4129/1021H	4(+TV	3/4	13(,240)		
Zee Bqt #2	4140/1010V	8(+TV	3/4	27(,500)		
Cak1/107.5	Indovision (S-band)	2.535, 2.565, 2.595, 2.625, 2655	33(+TV	7/8	20(,000)	
T'Kom/108E	IndoBqt	3460/1690H	up to 6	3/4	28(,000)	
C2M/113E	TPI	4185/965V	1	3/4	6(,700)	
	Anteve	4144/1006V	1	3/4	6(,510)	

Receivers and Errata

CA (#1, 3); FTA audio #2 (dm)
Tests June 2003; not permanent
erratic service
Global footprint, changes 02/03
CA + 2 FTA(AITV, IRB3)(DM)
New 03/03; FTA
Thai + Indian services, FTA (DM)
MRTV3, MRTV (DM)
3TV, 5radio currently in use (DM)
PIDs 4132/4133
frequency change
Feeds to TARBS Australia and PAS-8 (DM)
FTA
3FTA: TV5, VTV4m 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
Nagrasion, some FTA; erratic
Also check 11.543Vt, 27.500, 7/8 (June 2003)
New - October 2002
FTA TV + radio
New April 2003
Was 3923H; sometimes FTA
FTA; multiple audio services
FTA SCPC, teletext, 2 radio
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, + 2radio (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; FTA Jan 2003
FTA SCPC
FTA SCPC, + radio
FTA SCPC + radio
FTA SCPC, radio APID 81
FTA SCPC, radio APID 257
FTA as of May 01, 2003
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; New PIDs V3601, A3606 June 2003
CA + NOW, B'berg, Indus, MTA FTA
NDS CA (Pace DVS211, Zenith)
Star News India (Hing) FTA; V514, A648
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DV211, Zenith) In transition 06-2003
Star Sports Asia (+), FTA NTSC; V512, A640 English
NDS CA as above
PowVu CA; new SR Apr 29
NDS CA (Pace DVS211, Zenith)
NDS CA w/ 4(Chinese) FTA
New Sr; Dubai MUX
New to digital June 2003; V308, A256
"History Channel" testing SCPC
MATV Chinese movies FTA; + CA
moved from 4115
Mediaguard (SECA) CA
NDS CA using RCA/Thomson,
Pace IRDs; 2.535 has 2 FTA
also 3586H/17.500, 3496H/19.615
FTA SCPC; NT/NC only
change from 4055V; FTA SCPC

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym	
(C2M)	Indo Mux	4080/1070H	5+ TV	7/8	28(125)	
	Indostar	4074/1076V	1	3/4	6(500)	
	SCTV	4048/1102V	1	3/4	6(618)	
	Indon.Mux	4000/1250H	6+TV	3/4	26(085)	
	Satelindo	3935/1215H	1TV	3/4	6(700)	
	Bali TV	3926/1224H	1TV	3/4	4(208)	
	Indo. MUX	3880/1270H	3+ TV	7/8	28(121)	
	GlobalMUX	3760/1390H	up to 11 TV?	7/8	28(121)	
	Brunel/Sing	3733/1417H	1TV	3/4	6(000)	
	TBN/Trinity	3727/1423H	1 TV	3/4	3(000)	
	Unknown	3605/1545H	1TV	3/4	2(900)	
	RCTI	3473/1677H	2	3/4	8(000)	
	Myawad TV	3706/1444H	1	3/4	5(924)	
	As4/122E	Speedcast data	4120/1030H	0 - data only	3/4	27(500)
	Jc3/12	Miracle Net	3996/1154V	3 up to 6	5/6	22(000)
Asian bqt		3960/1190V	up to 8	7/8	30(000)	
Jc2A54	BYU tests	3.915/1245V	2	3/4	3(703)	
MeaSa2	New Mux	12.532H	17	3/4	41(500)	
	Astro Mux	11.602H	up to 17TV	3/4	41(500)	
	VTV MUX	11.522V	3 TV	3/4	9(766)	
C1/152	Bird tests	12.250-.335H	None reported	varies	varies	
B3/156	Mediasat	12.336V/T2	13TV,11radio	2/3	30(000)	
	Aurora	12.407V/T3		2/3	30(000)	
	Aurora	12.527V/T5		3/4	30(000)	
	Aurora	12.594V/T6	2+ radio (only)	2/3	30(000)	
	Unknown-Aurora?	12.657V/T7	data only?	2/3	30(000)	
	Aurora	12.720V/T8		3/4	30(000)	
	Austar	12.313H/T9	iTV + here	3/4	30(000)	
	Austar/Optus	12.376H/T10		3/4	29(473)	
	Austar/Foxtl	12.438H/T11		3/4	29(473)	
	Austar/Foxtl	12.501H/T12		3/4	29(473)	
	Austar/Foxtl	12.564H/T13		3/4	29(473)	
	Austar/Foxtl	12.626H/T14		3/4	29(473)	
	Austar/Foxtl	12.688H/T15	(some FTA ra)	3/4	29(473)	
	B1/160	ABC NT fd	12.258V	1TV, 3 radio	3/4	5(026)
		ABC feeds	12.317H	1	3/4	6(980)
	Net 7 service	12.397H	1	3/4	7(200)	
	Central 7	12.354H	1TV + 1 radio	3/4	3(688)	
	Imparja mx	12.379H	2TV + 8 radio	3/4	5(424)	
	7 digital feeds	12.397H	1TV	3/4	7(200)	
	Feeds to NZ	12.411V	1 TV	3/4	6(111)	
	Sport feeds	12.420V	1	3/4	6(110)	
	SBS Mux	12.420H	3+ TV, 2+ radio	5/6	12(600)	
	TVNZ DTH	12.456V	4+TV	3/4	22(500)	
	Nine Net	12.512H	1 TV typ.	3/4	5(632)	
	Sky NZ	12.519/546V	7TV/7TV	3/4	22(500)	
	Sky NZ	12.581/608V	6TV/6TV	3/4	22(500)	
	Sky NZ	12.644/671V	9TV	3/4	22(500)	
	ABC HDTV	12.603H	5TV	7/8	14(300)	
	Sky NZ	12.707/733V	8+TV	3/4	22(500)	
	Mix 106.3	12.574H	1 radio	3/4	1(851)	
P8/166	ABC A-P	12.284H	1TV, 2 radio	5/6	5(858)	
	TARBS3	12.326H	13TV + radio	3/4	28(066)	
	TARBS	12.526H	13TV + radio	3/4	28(066)	
	TARBS2	12.606H	13TV + radio	3/4	28(066)	
	TARBS5	12.646H	testing	3/4	28(066)	
	TARBS4	12.726H	13TV + radio	3/4	28(066)	
	JEDI/TVB	12.686H	11+ TV	3/4	28(126)	
	ABC A-P	4180/970H	2TV, 2 radio	3/4	27(500)	
	Disney Pac	4140/1010H	typ 6 TV	5/6	28(125)	
	NHK Jho	4060/1090H	7TV, 1 radio	3/4	26(470)	
	FOX MUX	4040/1110V	up to 51V	7/8	26(470)	
	NET +	4121/1029V	1 TV	3/4	4(774)	
	ESPN USA	4020/1130H	8+TV, data	3/4	26(470)	
	Discovery	3980/1170H	8 typ.	3/4	27(690)	
	CalBqt/Pas8	3940/1210H	up to 8TV	7/8	27(690)	
CNBC HK	3900/1250H	up to 7TV	3/4	27(500)		
FilipinoMUX	3880/1270V	up to 8TV+radio	5/6	28(694)		
TaiwanBqt	3860/1290H	12TV + 30 r	5/6	28(000)		
CCTV Mux	3829/1321H	up to 4	3/4	13(240)		
TVBS-N	3836/1314V	1FTA, 4+ CA	3/4	22(000)		
EMTV PNG	3808/1342V	1 + 2 radio	3/4	5(632)		
CNNI	3780/1370H	3, up to 5 TV	3/4	25(000)		
Discovery Asia	3769/1381V	Upto 5 TV	3/4	13(240)		
MTV	3740/1410H	8	2/3	27(500)		
P2/169E	P2/169	12.281V	2+ TV, radio	2/3	27(500)	
	WA PowVu	12.637(5)V	4TV, 8 radio	1/2	18(500)	
	NBN-TV	4126/1024V	1TV	3/4	3(075)	
	TARBS	4087V	9TV + radio	3/4	21(000)	
	TVB(S)	4020/1130V	1TV	3/4	6(620)	
	Feeds	3966/1184V	1	2/3	6(620)	
	Feeds	3957/1193V	1	2/3	6(620)	
	Feeds	3929/1221V	1	3/4	10(850)	
	Feeds	3912/1238V	1	2/3	6(620)	
	Feeds	3898/1252V	1	2/3	12(000)	
	Middle East	3836/1314V	4 typ	3/4	13(331)	
	Feeds	3803/1347V	1	3/4	6(000)	
	PAS mux	3743/1407V	3	3/4	21(800)	

Receivers and Errata

Global TV - erratic, new FEC 06/03
 FTA, new V2201, A2202 June 03
 FTA SCPC, NT/NC only
 unstable platform - testing?
 Test card only reported
 Returned to air Nov. 2002; V33, A36
 FTA; Sr, FEC change 01/03
 Test cards (11); new Sr, FEC -1/03
 FTA; share time, Brunei-23hrs, Sing1h
 New PIDs 02/03: V177, A180
 Tests-multi-screen, may have no video
 FTA SCPC, Australia, NC OK
 may be test, svc has been erratic
 3 data "channels" - useful for bird locating
 PowVu, some FTA (ch # 1,3)
 CA & FTA NTSC; Japan, Taiwan
 Part-time, maybe CA sometimes.
 New Sept 2002; unknown source
 Aust East beam - 3 FTA + 14 CA
 WA only? Skew path, intended Asia
 C1 testing here B4 moving to 156E
 scheduled to shift to 12.367 16 July
 Aust, NZ 90 cm
 Aust only; change in FEC
 Possibly Aust + NZ
 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; occ. drops power 10dB
 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, 12.380
 Occ digital feeds, FTA
 NTSC; sport feeds USA-Aust-NZ
 Weekend footy feeds reported-FTA
 Also 12.456 (or 452) same params; SBS HDTV +
 FTA 4 channels (TVNZ x 4); teting 5th ch May 2003
 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
 Radio SCPC, was 12.570Hz
 Feed, Adelaide; not permanent; was 12.301Hz
 TPG/EurodecMDS CA, occ. FTA
 TPG/Eurodec MDS CA, TRT FTA
 TPG/Eurodec MDS CA
 TPG/Eurodec MDS CA; Thai TV, FTA
 June 2002-Irdeto-2 CA
 Dateline west, east PAS2, 3901
 PowVu CA
 PowVu CA & FTA; subscription avail
 was PAS-2, previously 2992Vt
 NET25 + FTA; new PIDS April; reload
 PowVu CA; ch 11 DCP-CCP bootload; new FEC
 PowVu/CA (some audio FTA)
 PowVu CA & FTA (EWIN +)
 FTA at this time
 Myx FTA V1960, A1920 + radio FTA
 Mixed FTA & CA, Taiwan Hallmark, STC
 PowVu FTA, replaces PAS-2 svc
 Difficult because of CCTV cross pole
 was As2; PowVu CA
 PowVu, CNN/CNNI now CA
 PowerVu; Asian MUX
 #2, 8 MTV China FTA (V0385, A0386); rest CA
 PowVu CA, WIN, ABCNT
 PowVu CA, WA only - D9234
 3m up (NZ), 1.8m up Australia
 Occ FTA (Syria, Al-Manar) TARBS input links
 feeds to (USA) pay-TV
 PowVu (FTA) occ feeds
 PowVu (FTA) occ. feeds
 PowVu (FTA) occ sport feeds
 PowVu(FTA) occ. feeds
 PowVu (FTA) occ. feeds
 02/03: Now ALL Irdeto 2 CA
 PowVu (FTA) occ sport feeds
 test card FTA, others nominally CA

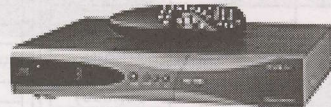
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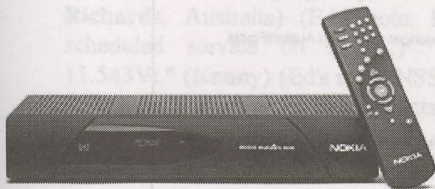
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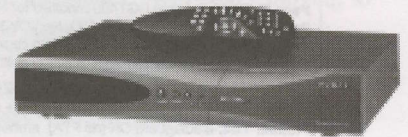
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Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym	
(PA2/169E)	Feeds	4040/1010H	1	3/4	10(.850)	
	7thDayAdv.	3872/1278H	1	3/4	6(.620)	
	Feeds	3868/1182H	1	2/3	6(.620)	
	Feeds	3939/1211H	2 (typ NTSC)	2/3	6(.620)/7(.498)	
	Cal PowVu	3901/1249H	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	3771/1379H	1	3/4	9(.041)	
	1804/176E	IPSTAR	12.619H	1	2/3	25(.220)
		Tests-NZ beam	12.646H	1	3/4	22(.418)
RFO Poly		4027/1123R	1TV	3/4	4(.566)	
1701/180E	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 DTS	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?
FTA (occ sport); also try 3863, Sr6.100
FTA-typ NTSC-occ sport, live Shuttle
PowVu CA + FTA (BBC gone)
was 4148V; some FTA
occ feeds, typ FTA; also Sr 5.600
Korean MUX, reload 02/03
Tests, late May start; also 12.646H
Testing possible data links; June 2003
SE spot beam
east spot; 10TV + r each, vertical pol.
1+ FTA, Mediaguard; + 10.975 weaker
DMV/NIL early vers., occ feeds, typ ca
DMV/NIL early vers., occ feeds, typ ca
DMV/NIL early vers., occ feeds, typ ca
DTS' radio, TV audio FTA some IRDs
DMV/NIL early vers., occ feeds, typ ca
DMV/NIL early vers., occ feeds, typ ca
east hemi 20.5 dBw thru 2003+; new Sr
DMV/NIL early vers., occ feeds, typ ca
SCPC, mixed CA and FTA feeds
PowVu CA; Auckland net feeds
CA, Leitch encoded
New Feb 2002; very strong NZ, Pacific
FTA SCPC; East Hemi Beam-Tahiti
SCPC, mixed CA & FTA, feeds
PowVu CA & TBN-JCTV FTA
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 DB9600-CI. FTA, Foxtel/Austar w/CAM+card. Autosat Pty Ltd 61-2-9642-0266 (review SF#72)

eMTech eM-100B (FTA), eM-200B (FTA + CIx2), eM210B (FTA + 2xCI + positioner); KanSat 61-7-5484 6246 (review SF#89)

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

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

Humax IRCI 5410 (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 HSS800CI. 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. SF#95, p. 14.

Nokia 9200/9600. 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). UECs replacing; Aug 29 (2003) "drop-dead" day.

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 620/630/635. 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 4800 II. SCPC, MCPC CAM slots x 2 for Aurora +, Zee, Canal +. Strong Technologies (above); review SF#103.

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!)

WITH THE OBSERVERS

AT PRESS DEADLINE

This to be "read" in conjunction with C1 activation, p. 19. Major cause for concern - uplinks feeding B3 track the satellite's built-in "platform wobble" whereas those feeding C1 must not wobble at all. Possibility is high cross-pole interference will be present on some Foxtel/Austar C1 transponders until B3 transition is complete (after Aug 3; Aurora transition dates not yet announced). With B3>C1 transitions broken into 3 dates, their receivers will have to repeat "homing exercise" 3 times. STAR Sport analogue As3 has shut down (July 7); apparently permanently.

AsiaSat 2/100.5E: "Sichuan TV new, testing, 3946Vt, Sr 4.420 nominal, 3/4." (Edward T, NT)

AsiaSat 3S/105.5E: "Arirang TV (Korea) 3755Vt, Sr. 4.418, 7/8 has new PIDS; V3601/A3606 - reload time." (Billy T, Qld.) "MTA International + test card 3760Hz, 'Now Bqt', Sr 26.000, 7/8." (D. Leach, NSW) "PTV digital 4090Vt FTA, Sr 6.666, 3/4 (V308, A256)." (DM, NSW)

AsiaSat4/122E: "4120Hz, Sr 27.500, 3/4 Speedcast is a 'beacon' identifying this new satellite if no other useful purpose: (1) 'Speedcast 5', (2) '2 Way'. (3) 'PCR'. (DM, NSW)

InSat 3A/93.5E: "Another one moved here - Gurjari TV 3899Vt, Sr 3.500, 3/4 FTA." (Edward T, NT) "DD Maharashtra 3960Vt FTA, Sr 5.000, 3/4." (L. Colbin, NT) "DD Gujarati 4120Vt FTA, Sr 5.000, 3/4." (Billy T, Qld) "DD Jammu/Kashmir FTA 3800Vt, Sr 3.950, 3/4; Channel Guide India 3890Vt, Sr 3.500, 3/4; Lashkara 3894Vt, Sr 3.500, 3/4." (Manuel) "Zee TV on 4065Vt, Sr 27.500, 3/4 has new 7 channel MUX, FTA but unlikely to stay that way. Similar 11 programme MUX on 4025Vt, Sr 27.500, 3/4." (Mohammed, Kuwait) "My 1.8m will not lock digital services but following analogues noted: 3741Vt DD Punjabi, 3785 Vt DD Jammu/Kashmir, 3941Vt DD Maharasgtra, 4105Vt DD Gujarati (best of group; P4)." (DM, NSW)

Intelsat 701/180E: "Gold/Silver cards distributed in Australia, outside of official authorisation, to end of June continue working indicating Canal + has not fully distributed new Seca 2 replacement cards." (Harvey, NSW) (Ed's note: Advisory from LBF dated 18 June says 7th of July was target date for old cards to stop working.)

Intelsat 804/176E: "Tests continue 12.646Hz, changes: Sr 22.418, 3/4, typically test cards." (Craig S., NZ)

NSS 6/96E: "UCN has begun broadcasting on 12.729Vt, Sr 27.500, 7/8 VPID 257, APID 258, SID10, uplinked through SatLink Israel; language appears to be Mandarin." (Bill Richards, Australia) (Ed's note: Is this the first 'regular' scheduled service on NSS6?) "UCN info card noted 11.543Vt." (Kenny) (Ed's note: NSS wants the satellite world to 'believe' they have far more clients than they do; various test

**All AUSTAR and FOXTEL
customer accounts must be
current to ensure continued
service and receipt of the
September programme
guide.**

HERE we go - *again*? When satellite pay-TV pioneer Galaxy "went down" (May 1998), anarchy and chaos reined for several months creating serious IRD + card control problems for survivors Austar and Foxtel. Now Austar is changing out a reported 40,000 IRDs and C1 is replacing B3 - *simultaneously*. Will there be a repeat performance? (photo from July 1998)

cards and short-term transmissions are inevitable here until they get real paying clients fulltime.) "NTD noted 11.543Vt Sr 27.500, 7/8, as well as in MUX 12.729Vt." (Paul, Qld)

Optus B3/156E: "Good to their word, ABC has closed ABC Kids and ABC Fly. 12.376Hz feed replaced with SBS World News, VPID 5129, APID 647." (Dull)

Optus C1/152/156E: (July 01) Empty carriers seen between 12.250 and 12.335 H pol. Tests ongoing, probably video here before you read this report. Next step - moving to 156E and then swapping services from B3 (see p. 19, here).

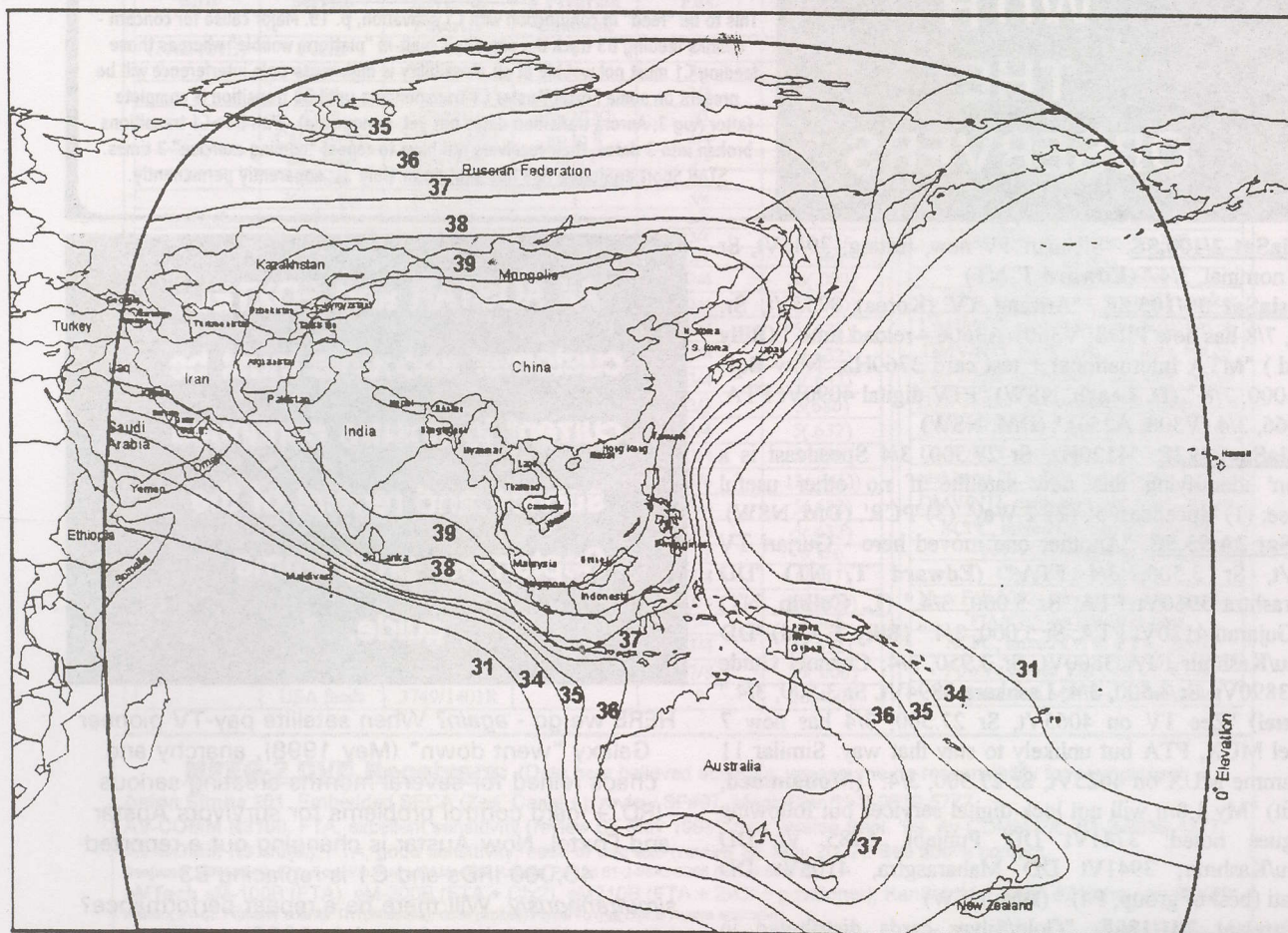
Palapa C2M/113E: "Bali TV on and off erratically 3926Hz, FTA Sr 4.208, 3/4." (Paul, Qld.) "SCTV 4048Vt has new PIDS; V2201, A2202." (SH) "Globalvision MUX 3760Hz has

IMPORTANT!

ON some date between July 15 and September 1, the actual transition (change over) from Optus B3 to Optus C1 will take place. SatFACTS plans to report in depth how the new C1 satellite compares in coverage and signal level/strength. BUT we need your support on this. Please as your skills and equipment allows advise us of how each transponder you are capable of monitoring CHANGES when C1 replaces B3 at your location. Your identity is not important and will not be reported if you ask us to withhold it. If Email capable, to skyking@clear.net.nz. If fax, ++64-9-406-1083. If telephone ++64-9-406-0651.

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 August 15th issue: August 3 by mail or 5PM NZST

August 5th if by fax to 64-9-406-1083 or Email skyking@clear.net.nz.



"QUESTION: What are the actual C-band footprint/EIRP levels from AsiaSat 4/122E and how do they relate to minimum dish size?"

Answer: The full map appears above. For threshold reception (no margin, FEC 1/2 to 3/4, 55% dish efficiency) the numbers are: 39 dBw = 1.0m; 38 dBw = 1.2m (yes - these are C-band numbers!); 37 dBw = 1.3m; 36 dBw = 1.45m; 35 dBw = 1.6m; 34 dBw = 1.8m; 33 dBw = 2m; 32 dBw = 2.2m. NOW - bring on the services!

"QUESTION: Can you explain to me what Star Sports has done with their FTA As3 service?"

Answer: Star (Sports) analogue continued FTA on 3800Hz (NTSC) until July 7 with three audio channels of which one (subcarrier 5.94) was labelled as E(nglish). In fact, it was mostly Mandarin although for a few weeks in early June it reverted to full-time English. Star Sports digital FTA is on 3920Hz (Sr 26.850, FEC 7/8). There are two parallel (NTSC) video channels ("461 Star" and "462 Star") within which the left hand audio channel is Mandarin. The right hand audio channel (this will vary with different receivers) runs English audio when it is available but when not available, the sound here is "natural sound." For example, during Wimbledon Tennis, you had the court announcer, the crowd, the smack of the ball against the racket but no English commentary. Other events have normal English commentary on this audio channel. So on these two parallel digital channels you have an option of Mandarin commentary, or English /natural sound when commentary is not otherwise available in English. There is a third, CA or perhaps not in use, data stream here as well loading as, "ESS-C." STAR's 3800 analogue service shut down July 7th (no reason given).

"QUESTION: I have a family need for a Filipino FTA service that can be received in NZ. What's the story with NBN and Pinoy Central?"

Answer: Confusing. NBN (PAS-2, 4126Vt, Sr 3.075, 3/4; VPID 1160, APID 1120) was misquoted as going CA in September-October as a part of another TARBS takeover. That is incorrect; but what they are really going to do is not known so this one remains a mystery. Pinoy Central, owned by ABS-CBN, 3718Vt on PAS-8 (Sr3.260, 7/8) is not available to NZ (although it has been FTA on and off) because the PAS-8 vertical beam does not "make" NZ except for very large (5m up) dishes. Filipino service to NZ, Australia and the Pacific has always been "iffy" (remember the days of KIBC???) in FTA format although TARBS continues to offer a couple of Manila channels as part of their Australia pay-TV package. Are you listening, Globecast!

changed to Sr 28.125, 7/8; Prima TV is now programming on 4080Hz, Sr 28.125, 3/4 and MTV Indonesia was here late in June (V517, A655-new)" (Edward T, NT)

PanAmSat PAS2/169E: "3888Vt, Sr 6.110, 3/4 tennis feeds; 4054Hz, Sr 5.420, 1/2 church feeds, possibly 7th-Day; 4023Hz, Sr 6.620, 2/3 additional church feeds." (W. Richards, S. Aust) "Telefe International, 4090Vt, Sr21.000, 3/4, added to TARBS (Spanish)." (Morris) "IHUG Internet moved to 12.610Hz, Sr 11.108, 3/4." (RC)

PanAmSat PAS8/166.5E: "Pinoy Central TV has been jumping between FTA and CA (3718Vt, 3.260, 7/8)." (Pedro) "ABC A-P has shut down 12.284Hz (Sr 5.858, 5/6) and this time looks for real." (DM, NSW) "Net 25, Iglesia ni Cristo TV FTA 4121Vt, Sr 4.774, 3/4." (Maurice, NSW) "Correction: SF listing for CCTV should be 3829Hz, not 3839." (Peter, NZ) "CSN news, Cantonese for Taiwan, 3860Hz, Sr 28.000, 5/6 V440, A441." (Morris)

Thaicom 2-3/78E: Indiavision test promo 3683Hz, Sr 3.333, 3/4." (W. Richards, Aust.) "Daystar TV, TCT are operating on 3671Hz, FTA Sr 13.333, 3/4." (Norman)

Soapbox: "DVB stream study with your Nokia? Try <http://jens.ri-center.com>. (Edward) "Australia is paranoid about terrorists - proof? Common garden variety airmail envelope sent to me from NSW took twenty days AIRmail (!) and had red label sticker reading: 'Delayed for compliance with Aviation Security Regulations.'" (Benjamin, NZ) "Something abit strange - all of C1's vertical transponders have the ability to be uplinked from Hawaii! Could this suggest that with Murdoch acquiring USA's DirecTV and switching to NDS there that 'flow-through' from USA/Hawaii to Australia may bring some DirecTV services into Australia in the new,




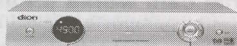


expanded, Foxtel offerings?" (AI, NSW) "An update on the NBN / Pinoy Central situation. As you know, I operate a cable TV system in PNG. I wrote NBN and Pinoy Central seeking their agreement that we could carry their services on our cable system. NBN answered in this manner: 'Putting a channel on satellite has enormous costs; your offer of US\$2,500 per year sounds too little, even for the administrative costs of putting a contract together.' In my initial FAX to NBN, I had given a concept of the range of annual license fees we are currently paying for ethnic programming, the range being US\$1,250 to US\$2,750, hence the reference to \$2,500. ABS-CBN can sell their TFC programming to our cable TV system for US\$2,750 per year. TARBS's profit margin to us would make that particular programme much more expensive if we bought TFC from TARBS. The feeling here amongst local Filipino émigrés is that NBN is far less popular than TFC, so I cannot justify paying more than US\$2,500 per year for NBN. Reference Pinoy Central, their response said: 'Pinoy Central (PCTV) was just recently launched in the U.S. and Middle East and is not

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<p>Chang Hong 3600</p>  <ul style="list-style-type: none"> - SECA Embedded - Auto scan - User Friendly - Suitable for Zee TV package and 701 - \$330 AUD 	<p>Accessories</p> <ul style="list-style-type: none"> 2.4G AV sender - \$130 AUD LNB CBand Zinwell - \$40 LNB CBand 1 Cable solution - \$70 LNB KU - \$35 LNB KU Twin output - \$85 Actuator SuperJack 18" - \$50 Actuator SuperJack 24" - \$55 Positioner EZ2000 - \$70 Positioner SAP2200 - \$85 Positioner VBox Diseq 1.2 - \$80 Cable RG6 Dual Shield - \$80/305m Cable RG6 Quad Shield - \$90/305m Actuator Cable CAT5 - \$80/305m 	<p>Solid/Mesh Dish</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">0.45 m</td> <td style="width: 50%;">2.13m</td> </tr> <tr> <td>0.6 m</td> <td>2.3m</td> </tr> <tr> <td>0.65 m</td> <td>3.07m</td> </tr> <tr> <td>0.8 m</td> <td>Light Duty</td> </tr> <tr> <td>0.9 m</td> <td>Medium Duty</td> </tr> <tr> <td>1.2 m</td> <td>Heavy duty</td> </tr> <tr> <td>1.8 m</td> <td>available</td> </tr> </table> <p>From \$25 - \$200 AUD From \$150 - \$550 AUD</p>	0.45 m	2.13m	0.6 m	2.3m	0.65 m	3.07m	0.8 m	Light Duty	0.9 m	Medium Duty	1.2 m	Heavy duty	1.8 m	available	<p>IRDETO 2.06B CAM</p>  <p>Price: \$185 We import this product</p> <p>Suitable for all channels from Optus B3</p>
0.45 m	2.13m																
0.6 m	2.3m																
0.65 m	3.07m																
0.8 m	Light Duty																
0.9 m	Medium Duty																
1.2 m	Heavy duty																
1.8 m	available																
Banking Details																	
<p>ANZ Bank Branch 012432 Account 3474 57536</p>																	

yet scheduled for airing in the Asia-Pacific.' The local Filipinos here rate PCTV above NBN but still below TFC," (Gareth Welsby, Channel 8, PNG) "Kristal is advertising Dreambox on their website for A\$900 (www.kristal.com)." (Ed's note: And here as well.) (DM, NSW) "Austar Atlas and Titan IRDs are actually UEC manufactured (in RSA)." (MD, NSW) "NBL Webcasting is offering major (NBL) games available 90 minutes after completion of event for A\$3.60, older games A\$2.50." (IF, Qld.) "Clayworth Electronics is newest in NZ to offer Winersat 'Digibox 200' proudly proclaiming it is CISPR13 approved; price NZ\$240 + GST (nzsales@clayworth.co.nz). (Barney, Auckland) "Big W/Woolworths offering Thomson 66cm widescreen at A\$698." (IF, Qld) "My 2.3m solid prime focus when pointed at As4 becomes a sizeable water catchment; those even closer to the equator are in for problems during the rainy season - best to drill (small) hole in centre where water lays, even with B3/C1 installs!" (Dave Nolan, 132E, 14S). "Australia's 7, 9, 10 networks have rolled out over the air promotional campaign to encourage viewers to switch to digital." (IF, Qld) "Globecast was unable to televise launch of C1 because, they were told, 'In case something goes wrong and the networks (7, 9, 10) get ahold of the footage. Very obscure reasoning!" (C. Sutton, NZ) "Joysat is offering mesh dishes up to 5m in size at very reasonable pricing." (D. Leach, NSW) "Murdoch's acquisition (pending) of USA DirecTV for US\$6.5B; in perspective, business software maker Oracle is trying to take over PeopleSoft, a rival for US\$6.3B. Who ever heard of PeopleSoft?" (IF, Qld)



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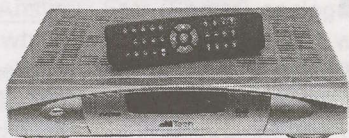
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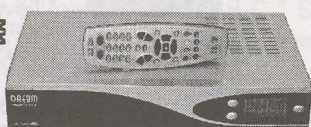
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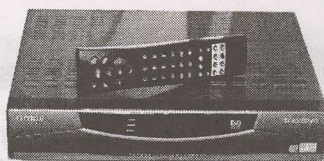


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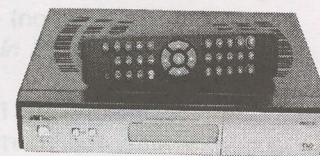
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A funny thing happened...

...on the way to our report in this issue about the newly available Chinese designed and manufactured Coship all-singing, all-dancing super-sleuth receiver. And it illustrates the "power" and "fallout" from the growing omnipresence of Internet.

SF is reasonably proud of our very wide geographic distribution of readers - 66 countries and counting. So naturally it is not unusual for someone physically far removed from New Zealand/Australia/the Pacific and Asia to "discover" something which at that point in time has not made its way to our corner of the globe. When reader Roy Carman (Dorking, Surrey, UK) ran across the Coship information on a USA web site, he was intrigued enough with the claims for "fast search" and "ease of operation" to order one. The price in UK pounds was only 86 (A\$240, NZ\$210) and as he noted, he paid nearly as much (UK55) in air delivery because he was too excited to wait for normal slow-mail delivery.

Roy ordered the Coship from a US distributor - the equivalent of a Melbourne Satellite, only this one was in the state of Ohio. Once in his hands, and his excitement now running at fever pitch, he then traced down the actual Coship source - a firm in the state of Georgia and back one more step, a manufacturer in Shenzhen, China.

Now Roy was talking with the gurus who designed and were actually building the IRD and it was at this point he contacted SF with an offer to write a review for publication. We urged him to do so, promptly, and then SF went directly to the Georgia distributor with some additional technical questions. Tim Heinrichs is in charge at DMS International. His firm does engineering design on satellite and 2.4 GHz equipment, hoping to push the limits of technology with ever newer software tricks and hardware implementation. And it turns out Tim is one of those very rare holdovers from the pay-days of the American C-band TVRO revolution, dating back to the early 80s.

Roy, meanwhile, was describing his "new find" to fellow Brit Roger Bunney who is one of the best known and most respected researcher - writers in the field of television reception and at Roger's request Roy transported the Coship down to Bunney's location for a hands-on demonstration and trial.

South of the equator, super-web-surfer Craig Sutton (www.apsattv.com) had stumbled across the same USA web site as Roy Carman and was suggesting on his site that he might have found, "a serious challenger to the Nokia loaded with DVB 2000." Sutton also identified a similar, "cheaper by US\$20," version of what may or may not be (uncertain at this time) model of the receiver; also from China.

Which brought up the matter of "commercialisation" of this new "information." The originator of the Coship, Tim Heinrichs and his crew at DMS International, told SF, "I wanted a low-cost fully searching receiver for the hobbyist enthusiast and we designed the 3188C to do just that. It is getting more and more difficult to make a profit in this

business and I know we have to have something unique to stay alive."

In fact, Tim tells SF he was clipping along at around 4,000 of the 3188Cs per month until the Iraq invasion settled down to "occupation of a conquered country" and then all hell broke loose.

"The hottest, most in demand, item in Iraq these days is a home satellite dish system. For decades Iraqis have been denied access to news, information and entertainment. Now, street vendors with push carts are all over Baghdad offering for sale complete systems for under (US)\$300."

Heinrichs. "We have a client in Jordan who saw this as a business opportunity. They came to me for pricing on 60,000 receivers which of course I had to return to the factory for assistance with. The next thing I knew, the factory had run around me and was dealing direct with Iraq."

So much for Heinrichs' "exclusive design" and control over his product in the marketplace. Asian respect for "exclusive agreements" has been a problem for satellite (and other electronic equipment) for decades. Back in the days when C-band hardware was selling upwards of 75,000 complete systems each month, US firms such as Ramsey Electronics designing satellite receivers for manufacture in Korea (the "China" of the 1980s) planned on having "not more than 90 days of product exclusivity before the very same receiver in a new case was being offered to our competition; *our receiver*, the one we designed at some trouble and expense, was coming back rebadged by the Koreans!"

When the factory-source goes into direct competition with the designer-distributor of a product, they can afford to sell the same item to new buyers for what the original buyer was paying. This of course eliminates the originator-distributor's mark-up on the products; typically saving the new "direct-buyer" around 30% on the product. And in the case of Heinrichs/Iraq/China, the factory has a massive incentive to cut the price even further - Tim was taking 4,000 each month while the Middle East buyer would take 60,000 all at one time - 15 months worth at Tim's order level.

None of this is new business practice nor surprising. What is educational about this particular incident is that one "DX Enthusiast" in the UK discovered this product hidden away on a hard-to-find Internet web page, and from that everything else followed. And - *all prior* to this issue of SatFACTS getting into print so that thousands and thousands are now aware of the product. It all happened in 3 weeks time.

End of story? Not quite.

Heinrichs' USA pricing when converted to NZ (\$240) or A(\$210) is already bare bones. But Craig Sutton (suttonc@ihug.co.nz) is "under NZ\$200" and another NZ source is quoting NZ\$220. Cheap enough. But New Zealand (and Australia) demand that electronic products brought in for resale must be "certified" as being "safe to use." This costs around NZ\$1,800 (one time) and must be done prior to offer of sale. Satlink NZ ran into this problem when it began offering Winersat IRDs for the FTA TVNZ service on Optus B1 Vt late in 2002; somebody "turned them in" for offering a receiver that had not been "safety tested" and ultimately, \$1,800 later, they had approval (CISPR13). Satlink's Peter Escher then decided if *he* had to have this approval, *everyone else must as well*. Anyone who tries to offer the Coship for sale here, without that approval, will find Escher nipping at their heels, followed closely by agents of the NZ Government who will be trying to protect the safety of the consumers.

See what you started, Roy!!!

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Hard Core (Serious) "How to do it" References

- Tech Bulletin (TB) 9402: MATV (master antenna terrestrial) systems - wiring up a home, motel, hotel, camp site from one set of antennas - \$15 all regions
- TB 9404: Home Satellite Dish Systems. "Newbie" trying to work out what all those terms means and how a home system goes together? Perfect. \$15 all regions
- TB9405: Satellite to Room Systems. Combining MATV (9402) with satellite (9404) to distribute satellite TV reception to multiple outlets - 2 to 1000+! \$15 all regions.
- TB9301: Terrestrial Antenna Systems to eliminate co-channel interference, stack for additional gain. \$15 all regions.
- TB9302: (Terrestrial) Weak Signal Reception Techniques; off-air TV reception to 300km+. Seriously detailed. \$15 all regions.
- TB9303: UHF - Big Antennas for 300km reception over ground! Seriously detailed. \$15 all regions.
- TB9304: Identifying and eliminating noise interference from fence lines, signs, electrical appliances. How to cleanup marginal TV reception. \$15 all areas.
- TB9305: Cable TV - the basics. How a cable system works, how you can build one! \$15 all regions.
- Nelson Parabolic Manual. The "bible" of building your own 13 foot dish from scratch. Serious stuff for dedicated builders. \$15 all regions (supply limited).

SOFT CORE - recent back issues of SatFACTS (while supply lasts)

- SF#93 (May 2002) - European Piracy, hundreds of piracy web sites - \$10 all regions.
- SF#96 (August 2002) - Nokia BDM, Faster Channel Zapping with Nokia - \$10 all regions
- SF#98 (October 2002) Humax mods, Nexus PC Card, Low power FM broadcasting - \$10 all regions
- SF#99 (November 2002) FunCARDS - how they work, software mods for Humax - \$10 all regions
- SF#100 (December 2002) d-box2 BIG report! AC3 Surround Sound for Nokia, PanAmSat's Terrorist Problem - \$10 all regions
- SF#101 (January 2003) d-box2 conversion to Linux, SA power supplies - \$10 all regions

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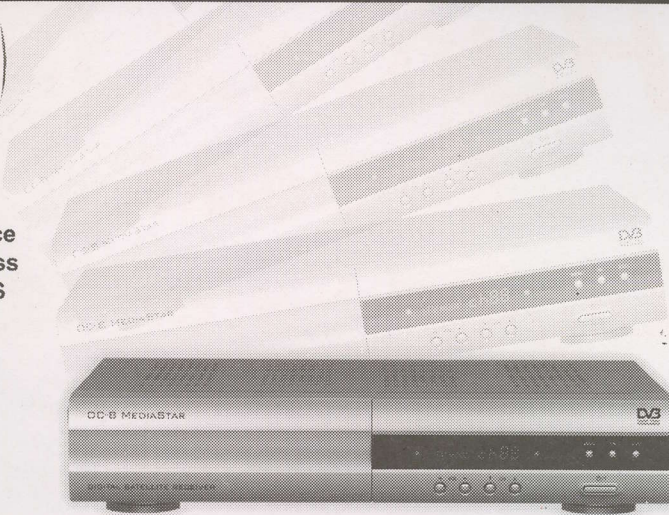
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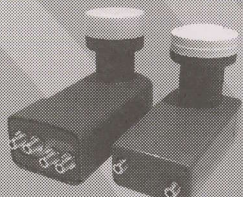
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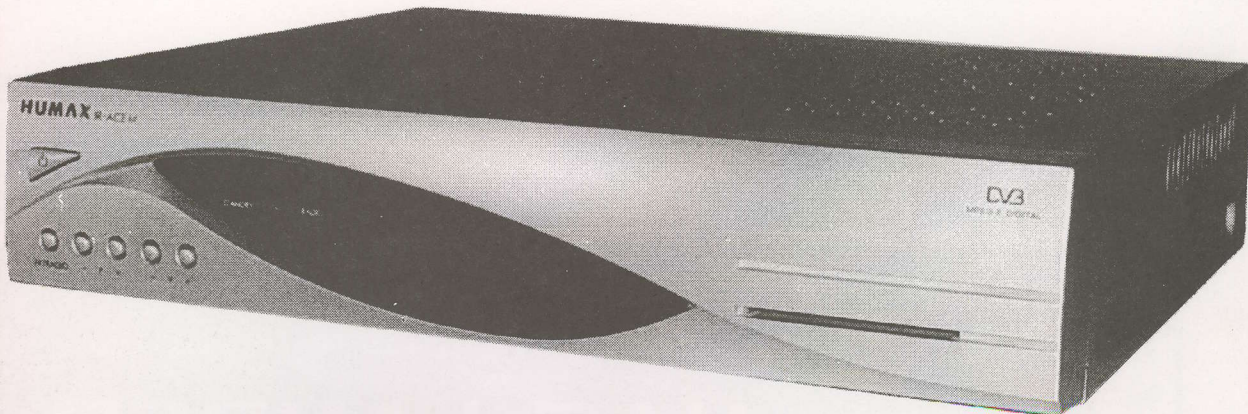
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