

Bob Cooper's

MAY 15 1999

SatFACTS

MONTHLY



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

IN THIS ISSUE

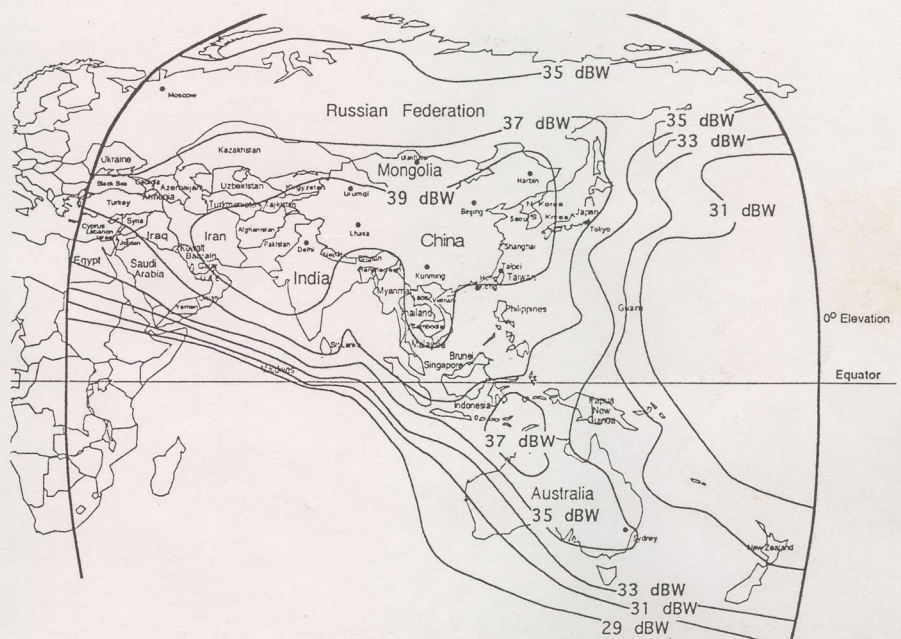
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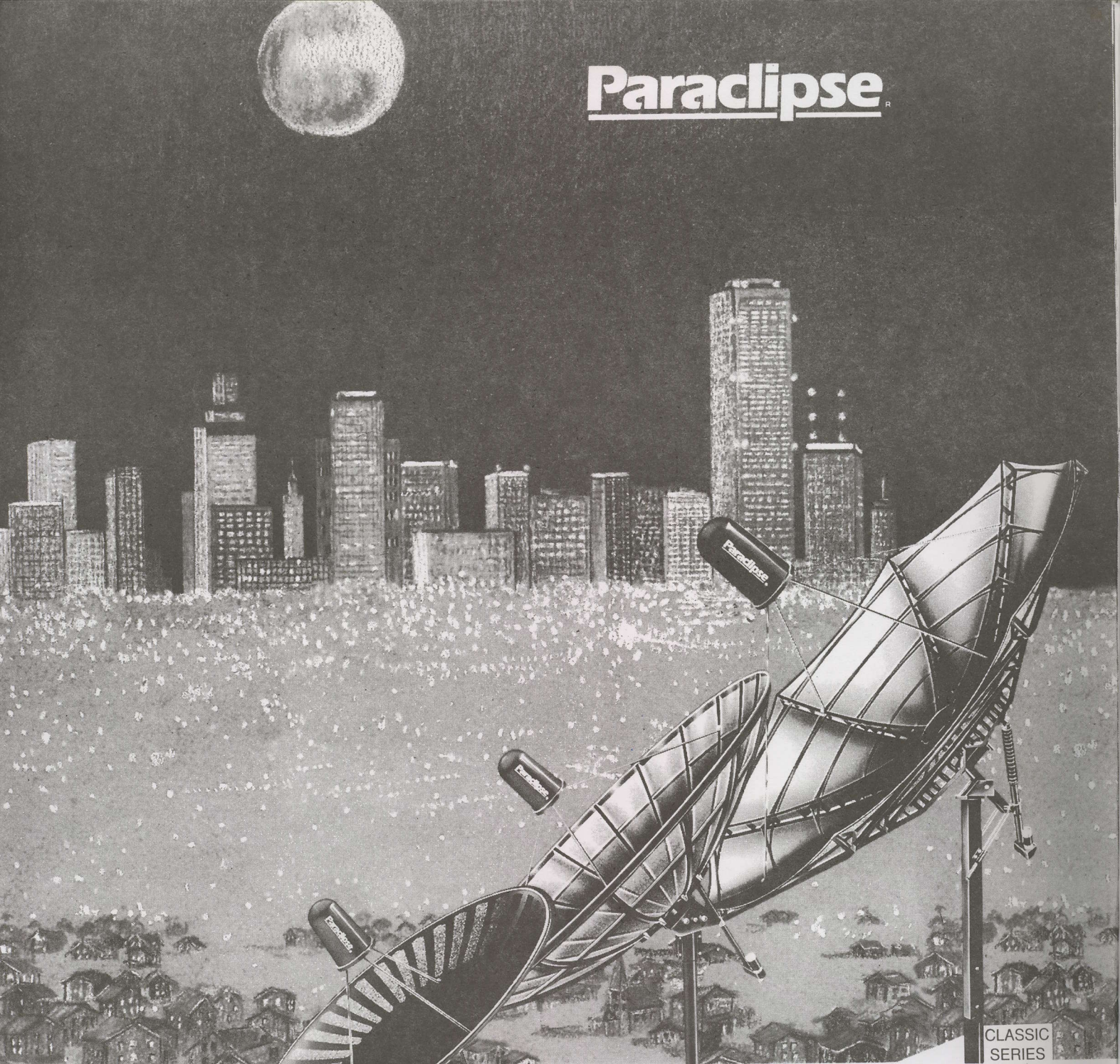
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This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages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

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

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COOP'S COMMENT

Australia appears to be on a collision course with technology. Capital city broadcasters have a date set by Parliament (2001) to be fully operational with DTT (digital terrestrial television). Regional area broadcasters must be transmitting in digital by 2004. Most telecasters have been assigned new digital TV channel space (typically one terrestrial channel removed from their existing analogue channel). Thus when digital is implemented, there will be



May 15, 1999

TV could be over for many says MP

By DENIS GREGORY provide digital TV for the country.

THE major TV networks should subsidise the cost of setting up digital TV transmitters in regional

The Government had announced the new system would be funded by asset sales but Mr Andren said he wondered if the ABC had

twice the number of TV broadcast transmitters functioning.

Capital city telecasters typically have one broadcast centre, one TV transmitter. Regional TV operators serve aggregated markets, frequently must maintain 3 or 4 studio complexes, six or so full transmitters and upwards of 50 low power TV translators. This means the major market capital operators have *one* set of equipment to duplicate in digital; the regional telecasters because of their aggregated, smaller markets believe it will cost them typically A\$300 million to duplicate everything they now have - *in digital*.

Member of Parliament Peter Andren (Federal Member for Calare) uniquely comes from a television broadcasting background. He appears to understand the tremendous financial risks faced by the regional

telecasters. He also appears to understand that if the TV spectrum is essentially "full" of TV transmitters, you cannot simply double the number of new transmitters (with digital) and not expect some significant viewer problems in outlying (regional) areas because of new digital to digital, digital to analogue and analogue to digital interference.

MP Andren has been recently quoted in NSW newspapers as being concerned that in the process of forcing all Australian terrestrial TV to digital, thousands of homes (in his Clare region alone) will ultimately be denied access to terrestrial TV at all. Andren understands the "cliff effect" of digital - perfect reception or none at all, and knows many of his constituents who now have snowy, ghost riddled terrestrial reception will as a result of the digital conversion ultimately have *no* TV at all.

It occurs to me that this might be the perfect time to introduce the regional broadcasters to satellite digital distribution. Rather than spend money for 6 new digital terrestrial transmitters and 50 new digital translators, why not put some of that estimated \$300 million for digital conversion into a satellite uplink and a long term contract with Aurora? The objective with digital is to reach their existing viewers with high quality digital images. Satellite is the correct technical answer and the Optus C series satellites first coming on line in 2001-2002 will be the ideal delivery tool. Peter Andren MP can be reached at PO Box 181, Bathurst, NSW 2795 (1800-806-617).

In Volume 5 ♦ Number 57

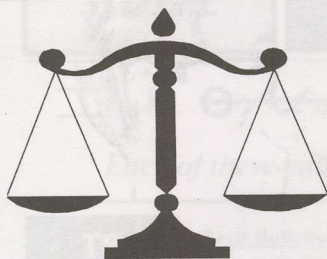
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-ON THE COVER-

As3 went whacko, As3S flew straight and true. Now, 15 months late, the ingredients are in place to change forever the face of Asia-Pacific TV. (p. 6)

**Full Colour?**

"Because SatFACTS is so authoritative and popular, it must continue to grow and get to the 'full colour' stage as rapidly as possible. No one would knock the extra cost of full colour since the high quality of the content is worth every penny paid."

Murray J. Joyce, Goldfields Television Services

We agree there are illustrations (such as off screen photos) which could be enhanced with full colour. The downside of that - other than the costs - is the turn around time. We go from finished "paste-up" magazine into the mails typically in 72 hours. Colour would add a week-plus to the turn around time. Being "timely" is we think part of what makes SatFACTS work so well and so popular. On the other hand ...

Getting it right!

"This must be some sort of record. You have once again managed to tee off myself, my organisation, and I suspect many of my broadcaster colleagues, by the erroneous nature of information in your publication. Last month I sent you a statement, which to avoid any doubt, I included in quotation marks, concerning Imparja's policy on out of area reception. You chose to omit the heading and then to add words which completely change the meaning of the information I provided. You then chose to repeat the false information you had created from my statement, in at least four other locations in the magazine. Would you please publish prominently an apology and the correct information, as below, in your next issue?"

For the record, I have never stated or implied anything about any other commercial TV service. I did NOT include the words "(+ Central Seven)" at the end of the second paragraph of my statement. Indeed, I went out of my way to ensure that the statement referred to (and only to) out of area services provided by Imparja television. Also for the record, Imparja does not "switch on" Seven Central, nor does my statement represent any policy or position of Seven Central. The first paragraph of my statement is purely factual and was agreed by them."

Tim Mason, Chief Engineer, Imparja Television Pty Ltd
Central Seven. It was an honest and logical mistake. In a release dated March 3, 1999, Imparja's web site instructed - "We are receiving many phone calls from people in Queensland who want to get connected to Imparja. We are asking these callers to ring Seven Central direct as registering with Seven Central will automatically provide Imparja as well. Seven Central will pass on the phoned in details to Imparja and Imparja will switch them on within a few days. This is so viewers don't have to make two phone calls and give their details twice." Sf did add "(+ Central Seven)" to Tim's advisory and obviously as relates to out of area reception, this was a mistake!

**PROGRAMMER
PROGRAMMING
PROMOTION****UPDATE****MAY 15, 1999**

Satellite Music Australia? SMA provides both the Austar/Foxtel audio channels as well as the Aurora music services on a free to air basis. If as a dealer you have commercial clients (stores, professional offices, schools or whatever) you probably could sell them a DTH system just on the strength of direct satellite delivery of (background) music or specialised audio programming (such as Radio News Extra, now distributed to 70+ news agents). There are some powerful incentives to encourage retailers to adopt a "sound" background (music/information) policy. A Sydney University study reported a group of supermarkets tested various background music formats to determine whether one style enhanced store sales more than others. They found a 38.2% increase in sales in stores that had a particular music format, a strong incentive to shop owners to better understand what motivates consumers to linger longer and buy more. Andrew Becker (National Sales Director for SMA) is someone you as an installing dealer ought to know; 1-300-366-099. Outside of Australia? Yes, that is possible as well if you are within reach of the Aurora or Foxtel/Austar footprints (in which case, ++61-2-9212-3332).

Korean Arirang TV service scheduled to begin testing As3S sometime in June, full service August 12, will be made up of Korean TV programmes from multitude of cable and broadcast sources, attempt to export Korean culture to Asia and Pacific. Service will be digital, and free to air (!) MPEG-2 DVB compliant. Contact is Scott Lee, Arirang TV, 13th Floor, Arirang Tower 1467-80, Socho-dong, Seocho-gu, Seoul, Korea 137-070; tel ++822-3475-5346, fax ++822-3475-5306.

Discovery says no to PAS-8. Although original list of "movers" from PAS-2 to PAS-8 did include Discovery, programmer has "made a decision not to move to PAS-8 for the time being." Reasons? "Numerous, including cost, demand/need and the footprint." Mid April PAS-8 shutdown for several hours reportedly not a bird problem; "battery maintenance was being conducted on an UPS system at one of the telemetry stations and a fault in the UPS caused a power outage which resulted in uplinks from that site being off-line for a short period."

CMT was to test CA system May 12 3AM-6AM Sydney time (PAS-2, California bouquet, programme channel 1). Next test 3AM - 3PM Sydney time June 9th. If you are an authorised viewer with appropriate SA IRD, and you do not get CA reception - something is wrong with either your IRD or the addressing stream. To get on the authorised list - Tracy McKinley at ++61-2-9460-8055. If you believe you are a CMT affiliate-subscriber and should be authorised but are not - Guy Cheney at ++1-707-251-1119 (Email gcheney@panamsat.com). Individual wanna-be CMT subscribers are reporting *very slow* CMT response to their queries concerning becoming authorised. Don't leave this one even one more day to get resolved or you are likely to be without service.

SPN (I180, FTA SCPC) will cover XI South Pacific Games (Guam) live from May 29 to June 12, 12 hours per day. Details from spn@cenpac.net.nr or fax ++67-4-444-3231.

French TV5 adding sports - carried final of French football league (Metz v. Lens) May 8th (UTC), plans more sports shortly. Ain't competition grand!

Sky (NZ) is acquiring 30% interest in IHUG, NZ Internet firm that has been developing Internet + TV delivery system using Telemann gear. Control of Sky NZ rests in corporate hands of INL which is controlled by News Corp (Murdoch) which also controls UK's BSkyB. Where - on May 5, they announced offer of "free satellite dish systems (the full monty including IRD) for 22 million UK homes." Plus free Internet service and 40% reduction in all telephone call charges. Is a similar deal in the offering for Oz & NZ - free satellite dishes to every home in the country?

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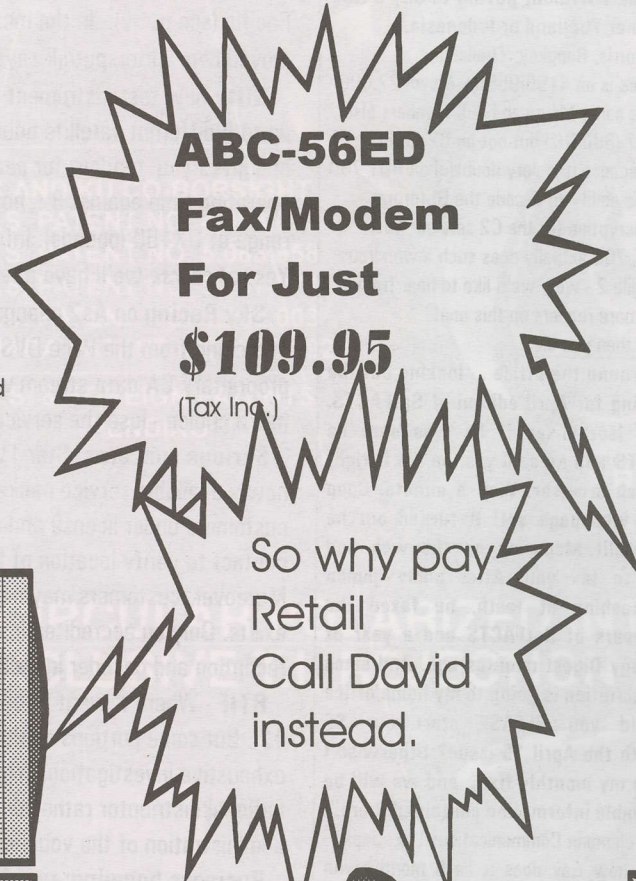
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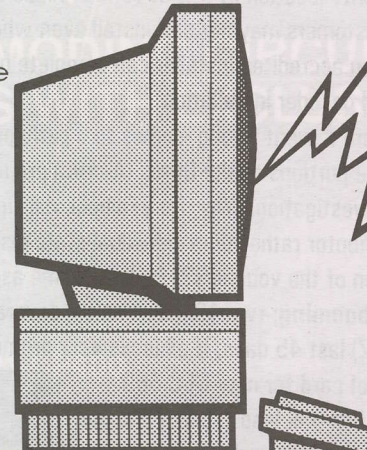
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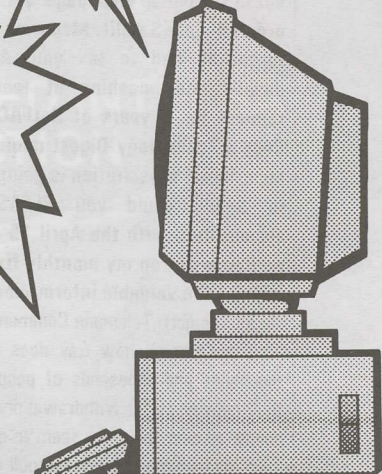
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April Fools Joke?

"Two months ago the 10 Taiwanese channels on Agila (including the porno channel) became soft encrypted. Agents were appointed throughout SE Asia to sell high priced Powercom receivers with software to decrypt the channels. However, it soon became apparent that anyone who could unravel the PID codes could view for free. The problem initially was that the PIDs were hidden in the data stream and were changed frequently. At least a half dozen Korean and Taiwanese receiver manufacturers tried to break the system. Hyundai (HDT) have now produced a software for their Thailand and Indonesian agents that follows the hidden PIDs each time they are changed. The result? HDT receivers are selling like hot cakes and other brands have become difficult to peddle. Perhaps some clever software engineer reading SatFACTS can break the system and provide the software on Internet so that all SatFACTS readers inside of the Agila footprint can enjoy these Taiwanese channels without having to buy a HDT 700 IRD from either Thailand or Indonesia."

D. Morris, Bangkok, Thailand

The Agila service is on 4155/955Hz, Msym 27.000 and FEC 3/4. The same Msym and FEC numbers also apply on ApStar 1 (3800Hz) but not on C2 (3760Hz). We mention this because it is very doubtful an HDT 700 has any magic ability to decode the GI format (Digicipher) encryption for the C2 service. Now, whether the HDT 700 actually does such a wondrous decryption on Agila 2 - well, we'd like to hear from a few more readers on this one!

Life is tough - and then you die

"Wandering around the office ... looking out the window ... waiting for April edition of SatFACTS. Finally I asked Isozaki-san if he was sure he ordered SatFACTS and he said yes, he did it right away on the web browser. Wait a minute. Coop doesn't have a web page yet! It turned out he ordered Tele-Satelit Magazine on the web and forgot he had to fax you! After many gomen nasai's and gnashing of teeth, he faxed the request for 3 years of SatFACTS and a year of Coop's Technology Digest minutes ago. And since my original subscription is going to my home/office in Seoul, could you PLEASE start our SF subscription with the April 15 issue? Otherwise I will miss out on my monthly fix ... and we will be missing the valuable information contained there."

Mike Wengert, Telemann Communications Ltd., Japan

I don't know how Gay does it each month, with thousands and thousands of people who have to get their copy or suffer withdrawal problems, but somehow people all over the globe seem to get their SFs on time. Two things happen when we pull into the back loading dock at the Kaitia post office - the work force in the rear glares at us because they have to process thousands of envelopes in a few hours time. And the front staff rushes to help us get through the paperwork while the manager rubs his hands together knowing his day's receipts just went through the roof. (Coop)

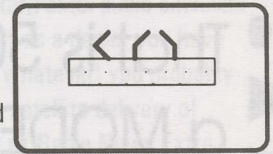
Letters to SatFACTS may be edited for space available and clarity but the content or intent is never altered. Letters written "In Confidence - not for publication" are so treated.

HARDWARE EQUIPMENT PARTS

UPDATE

MAY 15, 1999

Puzzling on screen icon reported by Paul Burton of Waipu Cable TV. Sky (NZ) IRD on power up displayed what you see here, on screen. Shortly, the meaning became apparent as smoke poured from the unit followed by flames. "*Your IRD is on fire!*"



LMI AP1 is the official new name (designator) for Gorizont at 130E. Lockheed (the USA corporation of some space fame) has become a business partner of the Russians in operating a number of satellites previously run solely by the Russians. 130E is inclined nearly 3 degrees at this time, figures in some "strange" plans to launch a new 8 programme channel French language service to the Pacific (see p. 32). In the meantime, the ex-As-G 122E Russian NTV service has moved here. Intersputnik says they have no plans for new birds in the Pacific region.

Nifty new test instrument called DigiSat unveiled in UK comes pre-programmed for up to 5 different satellite bouquets/ (such as Optus B3) transponders, checks BER and gives you readout for peaking antenna, setting cross-pole null. Unit has one hour operating time against 8+ hours recharge, hand held, carrying case and charger in range of UK150 (pounds). Information - Bill Eaton at KCEPremierGB@email.msn.com. Yes, *of course* we'll have a review.

Sky Racing on As2 changed their transmission format April 30 / May 1 by switching from the Pace DVS211 IRDs to UEC 642s. The 211s used a NDS proprietary CA data stream while the UECs now in use are Irdeto. Existing 211 users had a choice - lose the service or cough up US\$1,000 to replace the IRD.

Serious concerns. Star TV Asia is determined to clamp down on misuse of their newly available service packages in Pacific (p. 6, 10). "Decoders are sold only to customers under license and require the customer to agree to phone, mail or personal contact to verify location of IRD at various times during their subscription period." Moreover, customers may not self-install even where an existing suitable dish system exists. Only an accredited installer can complete hook-up and thereafter verify reception and decoder installation.

RTIF - Where it went wrong comes to a perhaps logical conclusion this month (p. 12). But some portions of the Optus (Aurora) project remain illogical, even after exhaustive investigation. Why, for example, did Optus elect to appoint a single national distributor rather than individual state distributors? Was it ease of administration of the vouchers? Perhaps some aspects are best left unexplored.

Business booming; two 13m dish sales, several 10m reported at Pacific Antennas (NZ) last 45 days. It all looks very promising for balance of 1999!

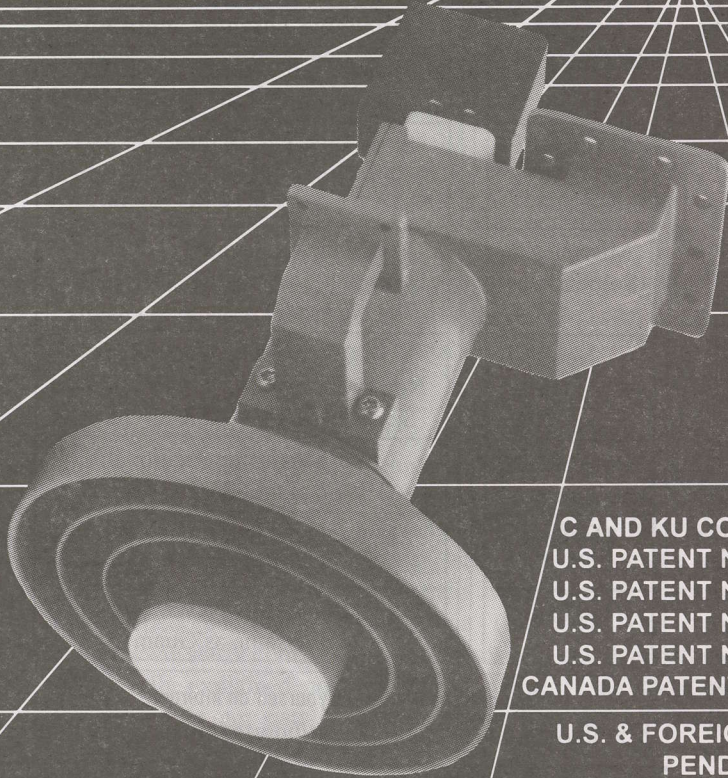
New Foxtel card for new UEC 660 family IRDs. IRD will load C-band, and play Aurora - users are advised not to try Foxtel card in DGT-400 old style unit. STU search reveals "1 operator found, 41 accessible services, 4 transport streams" (transponders).



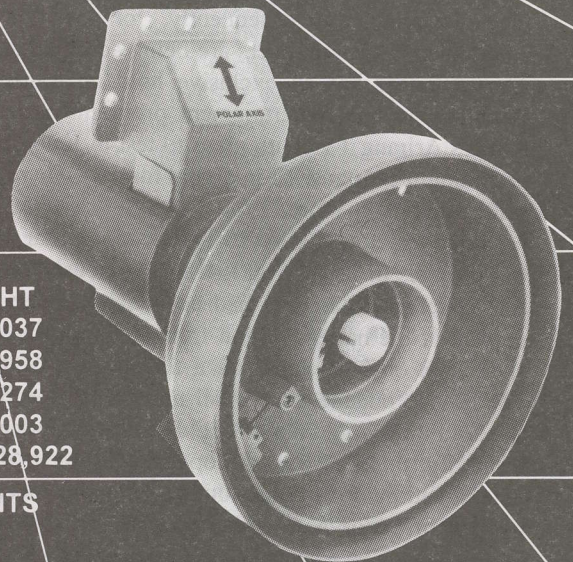
Single chip IRD is here. Nokia 9800S scheduled for first shipment May 17. Catalogue showing many very difficult to locate satellite install parts (example: rack mount kit for Nokia IRDs, or, sloped-gain line amplifiers) available from Jacobson's (see p. 31 to contact them). Even if you don't care for Nokia, the catalogue is a real eye opener! **Palcom** showing SDR-1000R (FTA) and SDR-1500R (CI) and SDR-500P positioner at London show May 17-19 (stand 679).

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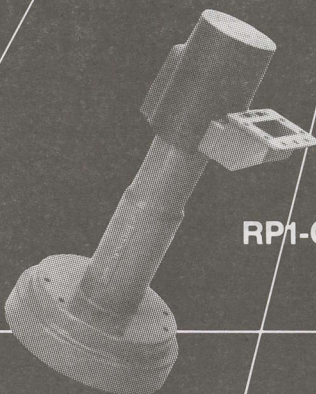


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STAR Asia and AsiaSat 3 Enter Brave New World

Star TV Asia has been the primary entertainment television occupant of AsiaSat 1 at 105.5E since this satellite went into operation. Other users (China, Pakistan) are primarily "national" television services, important to small groups of people but not in the "general entertainment" category. STAR has held this "exclusive" franchise because those were the contract terms of becoming a heavy user of the As1 satellite.

With As3S now on line as a full replacement for As1, all of the rules change. Consequently, for the first time, other entertainment programmers are being accepted at 105.5E. Star TV no longer has an exclusive hold on transponder space. Initially, the only entertainment programmer to announce is Korea's Arirang TV (with plans to test in June, launch 24 hour programming August 12 in digital format). There will be more; some think many more.

Moreover, now that As3S is functional, Star TV Asia has a few changes of its own underway. Previously, with the limited As1 coverage, Star Asia had no interest in servicing viewers outside of the narrow region from India on the west to China and Japan on the east. In fact, anyone who wanted As1 Star TV service outside of a small number of specified countries was told they would not or could not be authorised for service. Primarily, this has been a copyright problem - Star had not bought and paid for redistribution rights for more than a small number of major Asia countries, was not about to buy rights

Country	Available services, contact
Australia	Viva Cinema, Star News India (Solution 42 at tel [61]2-9820-5962)
Guam	Star News, Ch. [V] Int., Ch. [V] South, Granada UK TV, Sky News (CTA at tel [63]2-637-0266)
Micronesia (Soloon Isles)	Viva Cinema, Granada UK, Star News, Ch. [V] Int., Ch. [V] South. Sky News (CTA-same as Guam)
New Caledonia	Viva Cinema, Granada UK, Star News, Ch. [V] Int., Ch. [V] South. Sky News (CTA-same as Guam)
Papua New Guinea	Star Movies International (Hitron at tel 675-325-2311)
Thailand	13 total channels (Asteq at tel 62-2-513-8741)
Vanuatu	Ch. [V] South, Sky News, Fox News (CTA-same as Guam)

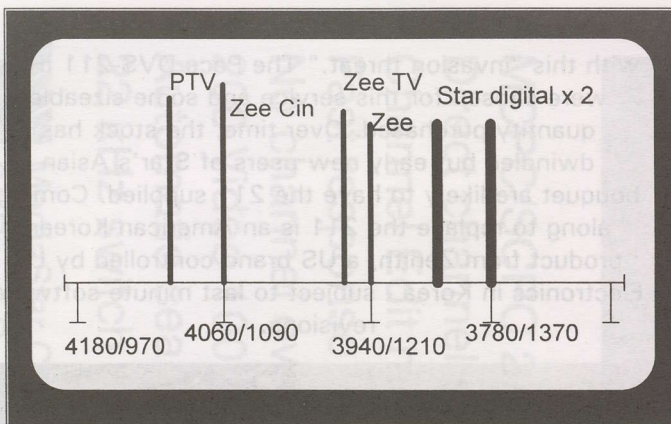
You can check this out yourself on Internet:

http://www.startv.com/full_set/howtoget/subscribe.html

The Early Reports of As3S Coverage

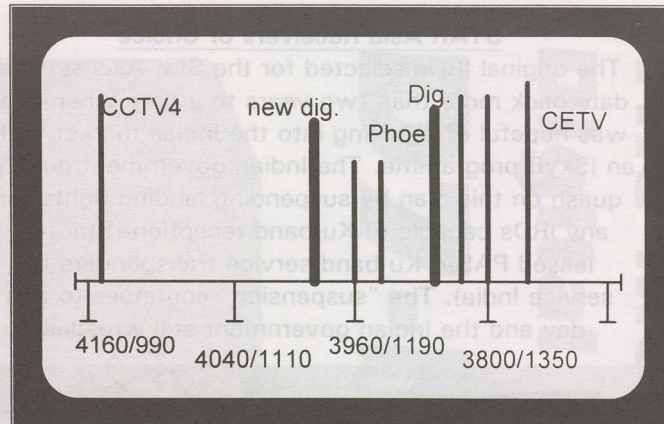
Richard Brooks (Marshall Islands) was first to report As3S operating - during preliminary brief testing of 5 transponders May 6th. At 2145UTC May 7th an avalanche of reports began. "Signals started low and it looked like we would require 3.7m dishes; several hours later they stabilised and all are now P5 on 3m" (**Holz**, New Caledonia). "CETV first seen, P5 with Star Sports; CCTV4 P4, rest P3 initially. 12 hours later, Phoenix TV and Star World announcement only two not P5 here on 3m" (**Mathews**, Auckland, NZ). "All analogue P5 except CCTV4 and PTV2 (P4) on 3m in WA" (**Zapara**, Perth region). "There is something odd about the polarity separation. On all other satellites, I don't see opposite poles at all but I can't null these." (**Jenkins**, WA - YES, we found same thing here at SF with dual pole feed and twin LNBS. The opposites simply refuse to go totally away!) "All 9 analogue, 2 digital P5 here" (**Bannister**, NSW). "Think we caught them at sign-on 2145UTC - best horizontal is 15 dB C/NR on 3.7m" (**Barnett, Nutsford**, South Island, NZ). "Just booming in here, strongest bird I have ever seen, 5x9 (P5) all the way on 3m" (**McRoberts**, Nelson, NZ). "Although my neighbour recently installed 1.8m wooden fence which obscures bottom 1/3rd of my 3.6m dish, Zee India TV, Zee TV, Zee Cinema all P5 here although PTV is only P3 to P4" (**Morar**, NZ). "Signals here about same on 2.1m solid as best of As2; PTV will require 3m dish" (**Andrew R.**, Melbourne, Vic.) "Christmas has come early! Strongest Vt and Hz about same but Hz on average is better here. Will Zee TV and Zee India TV remain FTA? If yes, I have at least a dozen quick dish sales" (**Johnson**, Pukekohe, NZ). "On 1.8m dish with no threshold extension, all signals P4-P5" (**IF**, NSW). "Star World announcement card and Zee Cinema P4, PTV P3.5, balance P5 including digitals on 3860, 3780Vt and 3880Hz" (**P. Cook**, Qld with 3.7m). "Using 3880, Msym 26.845 and FEC 7/8 on UEC 642 - IRD said I was loading 8 (!) transponders using both polarities. One time it loaded 36, then 48, finally several shots of 41 programme services although a few look as if they loaded twice. (Star Digital) EPG seems to be partially compatible with Austar as it gives names of programming but of course it is CA and no actual reception" (**NSW**) "Very strong, P4 + /P5 with Zee strongest. Less fading of signals than As2 probably because look angle is slightly better" (**Jepson**, NZ). "Must be strong - a house to my west blocks As2, As3 is dead through top story and roof of house - PTV2 at P3 is best of those leaking through neighbour's place" (**Kosmalski**, NZ). "The (Star) NTSC video is really poor quality - is all NTSC this bad?" (**Rybecki**, Vic.). "Stuck offset feed on As2 dish, no scalar rings on feed and find adequate signal on As3 including ability to load 3880 NDS digital with 24 channels indicated (cannot watch, of course) so system is working" (**Burton**, Waipu, NZ). "Digital quality on 333 registers 80% while best on As2 is 20%" (**Davias**, NSW)

Summary: Here at SF we measure a 7.9dB delta (range) between weakest and strongest analogue services on vertical; 9.4dB on horizontals. Star Hong Kong uplinked services having problems (-6dB or more) 2130 UTC May 8th, 0300 May 9th; early days yet.



As3S Vertical Side

3780/1370 Star TV digital (28.100, 3/4) - 24 programme services (probably when combined with 3860), NDS CA; **3860/1290** (New) Star TV digital package (may be 26.845, 7/8 although this did not load for us May 9th, nor would 28.100, 3/4); **3940/1210** Zee India TV; **3980/1170** Zee TV; **4060/1090** Zee Cinema (Starcrypt subscription); **4100/1050** PTV2 (Pakistani TV 1400-2200 UTC) + PTV World (0000-0500 UTC).



As3S Horizontal Side

3760/1390 CETV (China Entertainment Television); **3800/1350** Star Sports (NTSC); **3840/1310** Channel [V] North Asia (NTSC); **3880/1270** Star TV digital (26.850, 7/8) - 24 programme services NDS CA; **3920/1230** Phoenix (Chinese) Channel (NTSC); **4000/1150** (New) Star digital package 7+ channels (26.845, 7/8); **4120/1030** CCTV4 (NTSC). Note: Star World North (3960/1190) shut down on As1 analogue 0300UTC May 7 (still on As3S digital inside of Star's bouquet).

for isolated markets such as PNG, the Solomon Islands, Guam and New Caledonia even if people could receive them there. This has now changed as the table (p. 6) indicates. For the first time, Star Asia is allowing subscriptions from an expanded list of countries for at least a token number of programming channels. The channels listed here by country are spelled out on the Star Asia (Internet) Web site (<http://www.startv.com>). What this means as a practical matter is not fully explained nor understood. What we do know is these services are part of the expansive Star Asia bouquet which has been shared between As2 (100.5E) and As1 previously. We also know that Star plans to "control" distribution of the hardware and smart cards to the authorised service agents being established in each geographic region (country). And that these agents will be responsible for providing the Star-special IRDs (Pace DVS211 models initially, a Zenith model IRD in the near future in place of the Pace). We reported on one such arrangement with the firm Solution 42 Pty Ltd in Australia last month for subscriptions to

the Viva Cinema (Filipino) film channel as well as the Star News India service channel (see p. 10 here).

The channel packages initially available (see table, p. 6) are copyright driven. Star either totally owns the full copyrights (such as Star News India which it produces internally itself) or has full control over the copyrights because of the broad distribution agreements negotiated. What you will quickly see "missing" are the broad general entertainment and sport services that ideally would be available as well. Star Sports (Asia) produces a small percentage of the total programming carried, buys rights country by country for each event (such as NBA basketball, World Cup Cricket). Seldom is Star Sports Asia willing to pay as much for a broadly appealing event (such as World Cup Cricket) as a local terrestrial service provider in a country such as Fiji. Unless they can buy rights for a specific country, they cannot and will not authorise use of that broadcast in a country. It only takes a few programmes per month which have rights withheld for a country to be dropped from the list of permissible subscription areas. World popular

Star TV Asia - The Bouquet that will grow

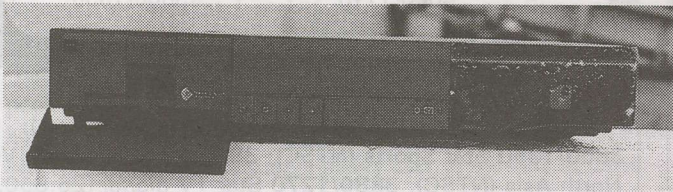
If you load up the four transponder Star TV Asia bouquet now appearing on As3S, you will find something more than 40 programme channels listed. As explained here, this is virtually a "shopping list" of every programme service available through Fox/Star in the Pacific and Asia. In reality, no location will have access to all 40+ channels. But most areas will have access to at least some of the channels through master distributors who may or may not be located in your country. Star's master channel list is in a state of development and Star never confirms or "leaks" advance information about new channels planned or in negotiation until after the deal is signed. Having said that, here are some of the top contenders *we believe* to be a part of the expansive bouquet(s) if not immediately, over the next six months.

Adult Channel (unnamed at this time), Australian TV International, **Cantonese Drama** (unnamed), Cantonese Light Entertainment (unnamed), **Cantonese News** (unnamed), Channel [V] Asia, **Channel [V] International**, **CNBC**, **ESPN India**,

Fox Movies, **Fox News**, (the) **Golf Channel**, **History Channel**, Indian Channel (unnamed), **Manchester United Football**, **MGM Movies**, **Music 'A'**, **Music 'B'**, **National Geographic**, Phoenix Movies, **Sky News**, Star Asian News, **Star News India**, Star Movies, **Star Movies International**, Star Plus, **Star Sports**, Star World, **UK Granada**, and Viva Cinema. Star has a target price in those markets where a significant portion of the full bouquet will be available at between US\$30 and \$35 per month (translated to local currency, of course).

STAR Asia Receivers of Choice

The original IRDs selected for the Star Asia service date back more than two years to a time when Star was hopeful of breaking into the Indian market with an ISkyB programme. The Indian government put the quash on this plan by suspending landing rights for any IRDs capable of Ku-band reception (Star had leased PAS-4 Ku band service transponders to service India). The "suspension" continues to this day and the Indian government still wrestles



with this "invasion threat." The Pace DVS-211 IRDs were chosen for this service and some sizeable quantity purchased. Over time, the stock has dwindled but early new users of Star's Asian bouquet are likely to have the 211 supplied. Coming along to replace the 211 is an American-Korean product from Zenith, a US brand controlled by LG Electronics in Korea - subject to last minute software revisions.



entertainment programming such as Baywatch is sold to virtually every terrestrial market around the globe and clearing rights for it in the 50+ countries reached by Star World is simply impossible. For this reason, Star World, Star Movies and other very popular channels are not likely to ever be added to lists for countries such as Australia or New Zealand. So, in fact, although the bouquet list (page 7) may seem sizeable, in fact almost no countries will have access (now or ever) to *all* of the programme channels listed here or to be added in the remainder of this year.

Star Asia would like to see a total bouquet in the region of 35 - 40 programme channels by the end of this calendar year. One way they might fatten up the service listing is to merge terrestrial service channels serving individual regions with the satellite-only services in the larger markets. In India, for example, there would be pluses to offering new subscribers a package of local (meaning national) terrestrial ("DD-family") channels along with the approved list (for India) of satellite services. This concept has been pioneered in the UK where BBC channels, ITV and others normally received by a

terrestrial antenna are offered as a part of an overall subscription package. A similar package is operating for 30+ "markets" in the USA. What this does for the consumer is "compress" into a single set-top box *all* of the TV they would normally watch resulting in no further need for terrestrial reception equipment and typically an improvement in terrestrial channel reception quality through the satellite connection. Bouquets that offer an appropriate "mix" of satellite-only and terrestrial programme channels appear to be the wave of the future world-wide. As attractive as world class sport and movie programming may be, nothing drives subscription service growth as much as the convenience of having all of one's TV needs coming down a single cable to a single set-top unit.

AsiaSat 3 with its abundant C and Ku band capacity seems destined to be the focal point for new pay-TV growth over the next five years in Asia and significant portions of the Pacific. As this new satellite settles in and we develop a better feel for whatever unusual traits it may have (ultimately they all have them), SatFACTS will revisit the satellite.

The DVS211 IRD

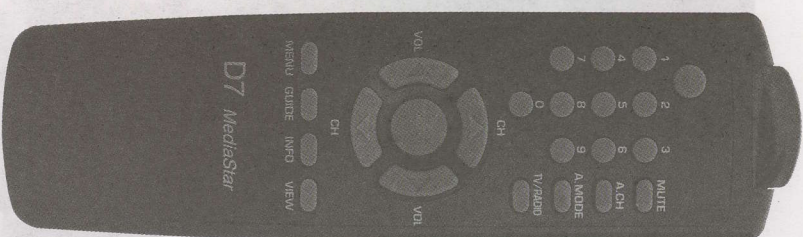
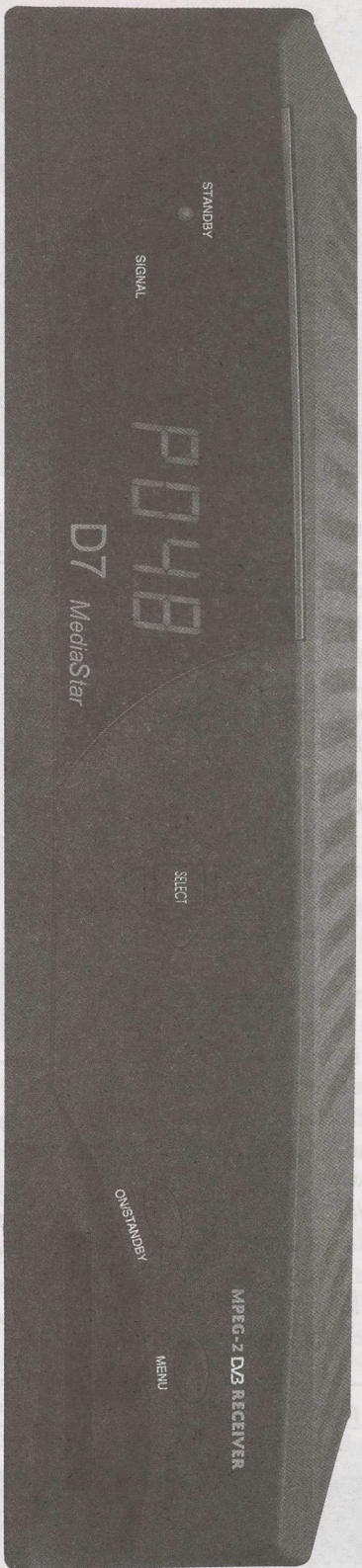
If an authorised unit with a matching smart card, there is nothing to do but unpack it from the distributor, connect to an appropriate antenna-LNB (with LO of 5150 - standard C-band stuff), and turn it on. *Initial* loading time may be up to ten minutes for a new "connect." If it does not appear to load - *what next?* First, go to the "Diagnostics" menu which will allow you to scroll through the IRD and transmission parameters.

What you are looking for here is whether the video is "locked" (it will say so). If it is not locked, then you have either a smart card or BER problem. From the basic menu, use the left-right buttons in the centre of the remote to move the cursor to the blue coloured television set in the top row. Now push the centre button in the yellow ring. This gets you to a menu that shows all of the programmes and their time schedules. If you are really "locked" this will verify this fact. Other tips - use numeric keypad to enter "900" which should take you to a "Favourite Virtual Channel." Similarly, try "250", "102" and "100." The signal level and signal quality "bar graphs" on this menu are next to useless although the BER may be worthwhile. Remember - the standard Star TV Asia FEC is 7/8 which translates to a threshold in the region of **7.7E3**.

To do a hard reset for a new transponder (to enter a new frequency, Msym and FEC): (1) Press "mosaic" button lower left of remote which gets you to general access menu; (2) Use thumb and forefinger and hold down all four (4) buttons on the front of the IRD (a flashing yellow "+" should show - keep pressing for 5-10 seconds and then release); (3) The yellow "+" sign should display without flashing (if not - repeat the process) - now push yellow "+" button on remote which should result in a (installer) menu to enter frequency, Msym, FEC and other obvious selections; (4) With the new numbers entered, the IRD should (following on screen prompts) do a search of the new parameters.

DVS211 pricing? Star TV is attempting to enforce an Asia-wide DVS211 (and one assumes the follow-on Zenith) "consumer price" in the region of US\$450 each with authorised dealer discounts applicable.

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Filipino VIVA! Star News India by Subscription

There is a walking on water act here. Master distributor Solution 42 Pty Ltd has signed an agreement which binds them to terms and conditions dictated by Star TV Asia. Star is very concerned that by opening up these two channels to DTH Australian viewing, it is not removing the top from a can of worms it cannot control.

At the heart of the challenge is the user rights which subscribers "purchase" along with their limited function (Pace DVS-211) IRD. The IRD (+ smart card) goes from Star TV Asia to Solution 42 to an installing dealer to the ultimate consumer. Money changes hands at each step. More important than the money, to Star TV, is that each person who "handles" a step in the transaction must agree in writing to specific terms. These terms, which the installing dealer must accept or he will not become a part of the programme, include:

1) A declaration that (the dealer) will "not be involved in any piracy or any attempt to pirate the service;"

2) Further, the ultimate customer must be located in Australia (not New Zealand, not PNG);

3) The understanding that while the Viewing (smart) Card passes through the distribution chain with the companion IRD, the card *always* remains the property of Star TV;

4) The further understanding that the installing dealer + the consumer are totally responsible for satisfying any local Council or government requirements for size, selection and placement of the receiving antennas (Star TV does not want to be named as a "co-defendant" in any suits brought by bureaucrats over improperly approved or installed antennas).

Solution 42 has a two-level affiliate programme to sell, install and service Star News India and VIVA! Cinema service subscriptions. *Agents* are people who source leads and turn the leads in to Solution 42. *Accredited Installing Dealers* are responsible for the actual installation, system check out and long term maintenance. Agents are simply sales people, they may have no particular technical skills and will undoubtedly create leads which cannot be serviced for a variety of technical

reasons (no place to put the dish, living in a block of flats where dish permission is routinely withheld, etc.). Agents are paid a commission (A\$100) for each lead that matriculates into a real sale.

An Accredited Installing Dealer is another form of agent. Solution 42 has already qualified the sale person's lead before the dealer hears about it. Now it is the task of the dealer to visit the site, quote the complete installation, complete the sales agreement to terms specified by Star TV Asia and Solution 42, and then make the installation. A dealer who also creates sales leads is entitled to the "Agent commission" as well.

The price for the DVS-211 and a year's subscription is established by Solution 42 and Star TV Asia. No discounting of either item is allowed. Dealers are free, however, to create their own additional pricing for the antenna, pole, LNBF, cabling - the usual installation stuff. Solution 42 is recommending a 2.3m dish at this stage. (1) They will also insist that dealers add a minimum of A\$950 to the cost of the DVS-211 and Viewing Card for the balance of the hardware - installation. Why set a minimum?

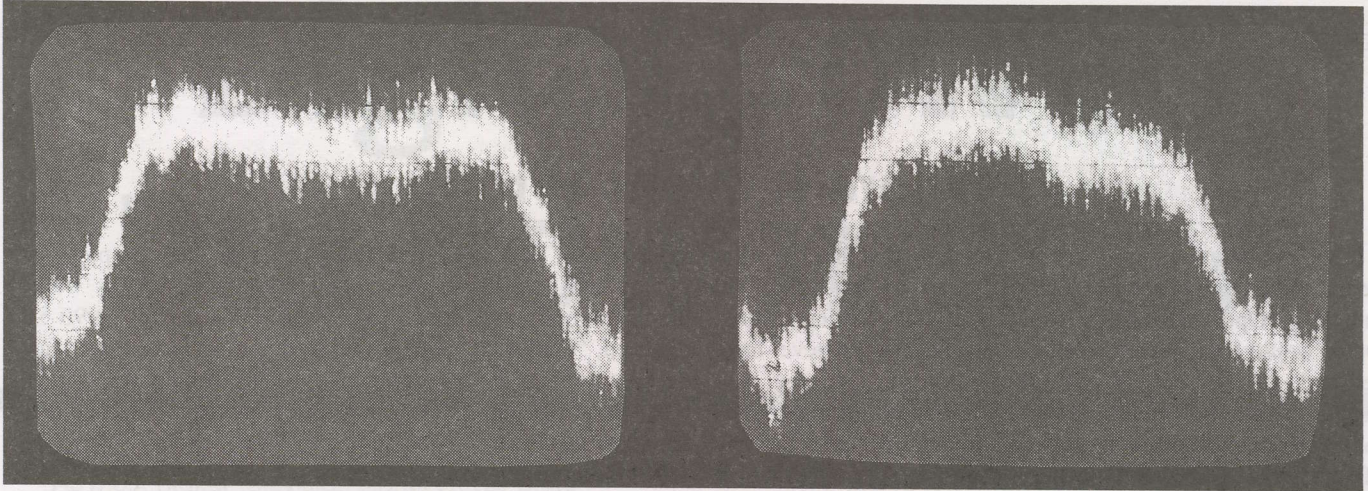
"This is to prevent installers without overheads creating an unnecessary price war."

Or to put that another way, Solution 42 wants professionals who will stay in business long enough to ensure customers have long term service and backup for their systems. A price

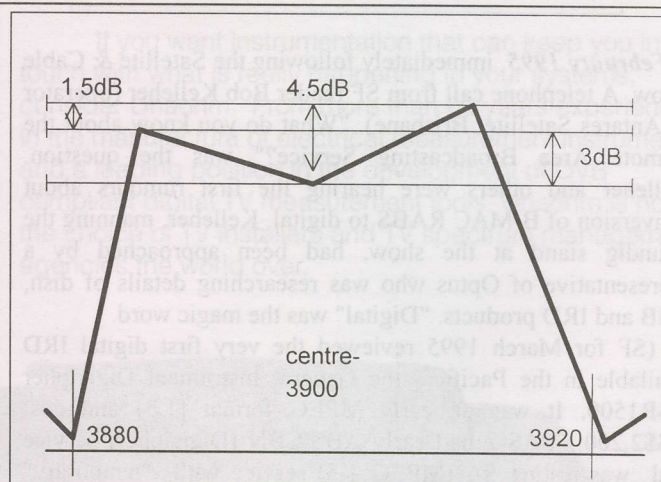
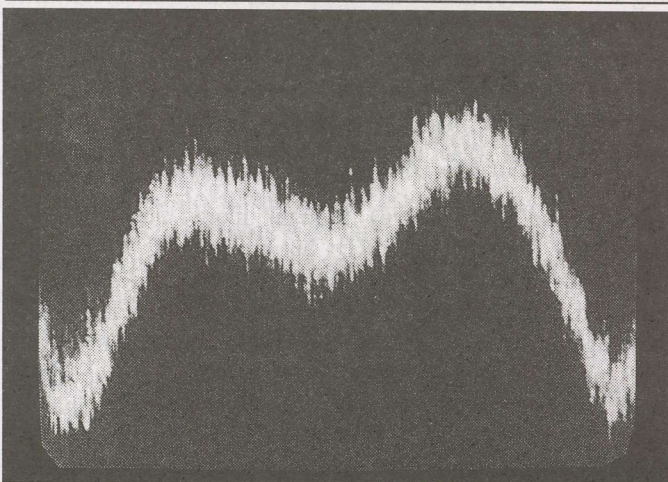
1/ OK - SatFACTS believes this may be a premature decision. VIVA! and Star News India will come off of As3S, a satellite about which we know only the forecast footprint levels and nothing about the individual transponder operating characteristics. We suggest dealers test for reception levels with a spectrum analyser or other suitable instrument to be sure the dish size selected is adequate for the real As3 conditions.

TWO basic services - VIVA! pushes action movies with the unique Filipino qualities (left) while Star News India is a professional English and Hindi news service in the style of Fox/BSkyB world-wide.





STAR Asia's interim As2 bouquet (18 channels) is spread across two transponders - 3A (3740Vt) and 7A (3900Vt). Star News India is on 3740 (display, left) while VIVA Cinema is on 3900 (right).



DISTORTED transponder envelope (3900) indicates possible lock problems. When you see a sloping MCPC wave form on an analyser, this means there is a power difference to your IRD between the tallest and lowest portion of the display. It *could* be your LNB, splitters, coax. More likely - *it is them!*

war erodes profits, forces people to cut corners with installations, and benefits nobody long term.

Adequacy of service? VIVA Cinema is a romp-em, stomp-em action movie channel featuring Filipino films that are big on guns, fast cars, beautiful women and cleavage. Star News India is immediate, complete, professional - and roughly 50% in English. Neither channel will appeal to the average

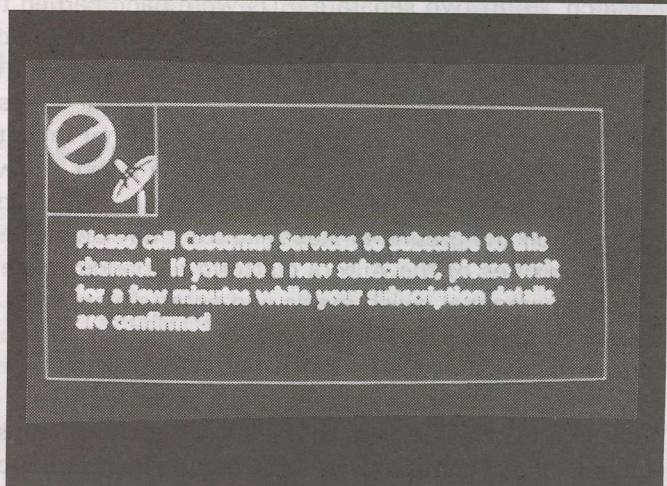
Australian "mate" but both will have dedicated fans from the ethnic communities that make up the greater Australian melting pot.

This has never been attempted previously. There will be mistakes and problems but Solution 42 (tel 02-9820-5962) seems ready. SatFACTS recommends you give this a try as a money spinner.

Unique Set-up Challenges with DVS-211

Solution 42 pre-checks the IRD and smart card before shipment to the installing dealer. There is one psychological problem which will require considerable skills on the part of the installing dealer.

The DVS-211 will scroll through a fairly long list of channels; all but the one or two authorised by the subscription process will display a message (see right) that basically says "You cannot watch this channel without subscribing." People will somehow have to understand that because they are in Australia, they cannot subscribe - period - to these channels. Some will not take the dealer's statement as gospel and will attempt to contact Star Asia direct. All will be disappointed. As an installing dealer, you need to properly explain this at the time of installation!



RTIF Where It Went Wrong

We believe there is a lawsuit pending that involves the people who brought the UEC 642 IRD to Australia, and indirectly, Optus. One party claims that without their efforts, Optus would have never considered the 642, would never have selected it for the RTIF/Aurora project. If the suit materialises, it will include some quickly recognised names in the Australian satellite world. The outcome could directly affect future IRD availability. From our files, starting in February 1995, we have researched how the UEC 642 came to be the Aurora IRD.

February 1995, immediately following the Satellite & Cable Show. A telephone call from SF reader Bob Kelleher (operator of Antares Satellite, Brisbane). "What do you know about the Remote Area Broadcasting Service?" was the question. Kelleher and others were hearing the first rumours about conversion of B-MAC RABS to digital. Kelleher, manning the Grundig stand at the show, had been approached by a representative of Optus who was researching details of dish, LNB and IRD products. "Digital" was the magic word.

(SF for March 1995 reviewed the very first digital IRD available in the Pacific - the General Instrument Digicipher DSR1500. It was an early MPEG format [1.5] and cost US\$2,200. PAS-2 had early ABS/CBN [Digicipher] service and was testing SA (MPEG 1.5) service with "temporary" uplinks in California and Hong Kong.)

February 1996. Another show, by now the details of the Optus Aurora plan were beginning to leak out. Optus asked Kelleher for a digital hardware update. By now FTA capable IRDs were beginning to appear; Optus wanted a CA version because of their plans to employ a complex set of bouquets to serve television, data and radio customers.

(SF for February 1996 reported the announcement from Deutsche Welle promising a "European Bouquet" of FTA services. DW's Johannes Firsbach told SF, "We have the

assurance of Star TV Asia that any IRDs they employ for digital service will be capable of FTA reception as well." Some promises are made to be broken. The March 1996 SF reported, "Sadly, the truth is that at this time there is no such thing as a digital FTA receiver. Nobody is manufacturing such a device at this time." The European Bouquet would debut to an empty theatre.)

But there were a couple of Irdeto CA designs available: one, manufactured by RC&C of South Africa, was being supplied in that country for a new Ku band pay-TV service. It was being sold as the Panasat 520. We put Kelleher in contact with RC&C and he ran with the ball from that point. At about the same time, some clever Australian distributors were also "sneaking" small quantities 520s into the country (complete with South Africa manuals, software and CAMs); if you wanted a digital IRD to "play with," the 520 was your machine.

May and June (1996) brought more hints of new FTA-capable (like the 520) IRDs but no product. Worse yet, RC&C had suffered a disastrous fire shutting down their production lines. Most of 1996 drags by with PanAmSat upgrading from PowerVu 1.5 to 2.0 and forcing all early IRD buyers to buy again (the 9223 from the 9222). For most people, owning a reasonably priced digital IRD that is capable of operating for more than one digital format remains a dream. It is in this much promised - little delivered - world that Optus tries to piece together a complete programme for Aurora.

January 1997. RC&C has decided not to rebuild their 520 production lines, Kelleher after nearly 12 months of intensive negotiating and \$5,000-a-month telephone bills finds himself introduced to a successor firm to RC&C for the Panasat 520 product; UEC Commercial (Pty) Ltd (of Durban). UEC had been the "design house" for the Panasat IRD and the name Panasat was a derivative of the world-name Panasonic. UEC is initially "not interested" in being a supplier to Optus - the reason? Optus believes it will require 15,000 IRDs and as

The Panasonic TU-DS10 - Not Up to Scratch?

In March 1998, two separate IRDs were hand carried to Hoopdorf (Holland) where Irdeto's laboratory would make the final decision on compatibility with the conditional access licensing (SatFACTS March, 1998; p. 32). Approval by Irdeto was mandatory before either the UEC 642 or the Panasonic could be accepted for Aurora use by Optus. The Panasonic had several marks against it at Optus. One - it was of a design era that UEC had introduced with their 635 model. That meant the 642, if it passed, was a full generation "newer" than the Panasonic - more current with the latest software capabilities, a step closer to the magic world of a single-chip IRD just over the horizon. Two - UEC had been represented by energetic and knowledgeable "agents" on the ground in Australia from day one. Panasonic's Australian staff seemed unable to cope with the complexities of the Aurora platform demands, were reluctant to pursue the Optus account beyond buying

Optus personnel lavish meals and entertaining them. This reluctance to meet head on the demands and needs of Optus would ultimately have a direct bearing on which brand "won" the RTIF approval. Three - there were, as SF reported in August (1998) some technical glitches with the Panasonic. Panasonic hoped to solve these problems with field changeable "software memory chips" but as SF reported in August (1998), our own experience with the field changeout of chips was less than good. Ultimately, Panasonic lost the Optus RTIF account because UEC tried harder, had a better product, and was willing to support Optus with field assistance. Panasonic simply never came to the party.

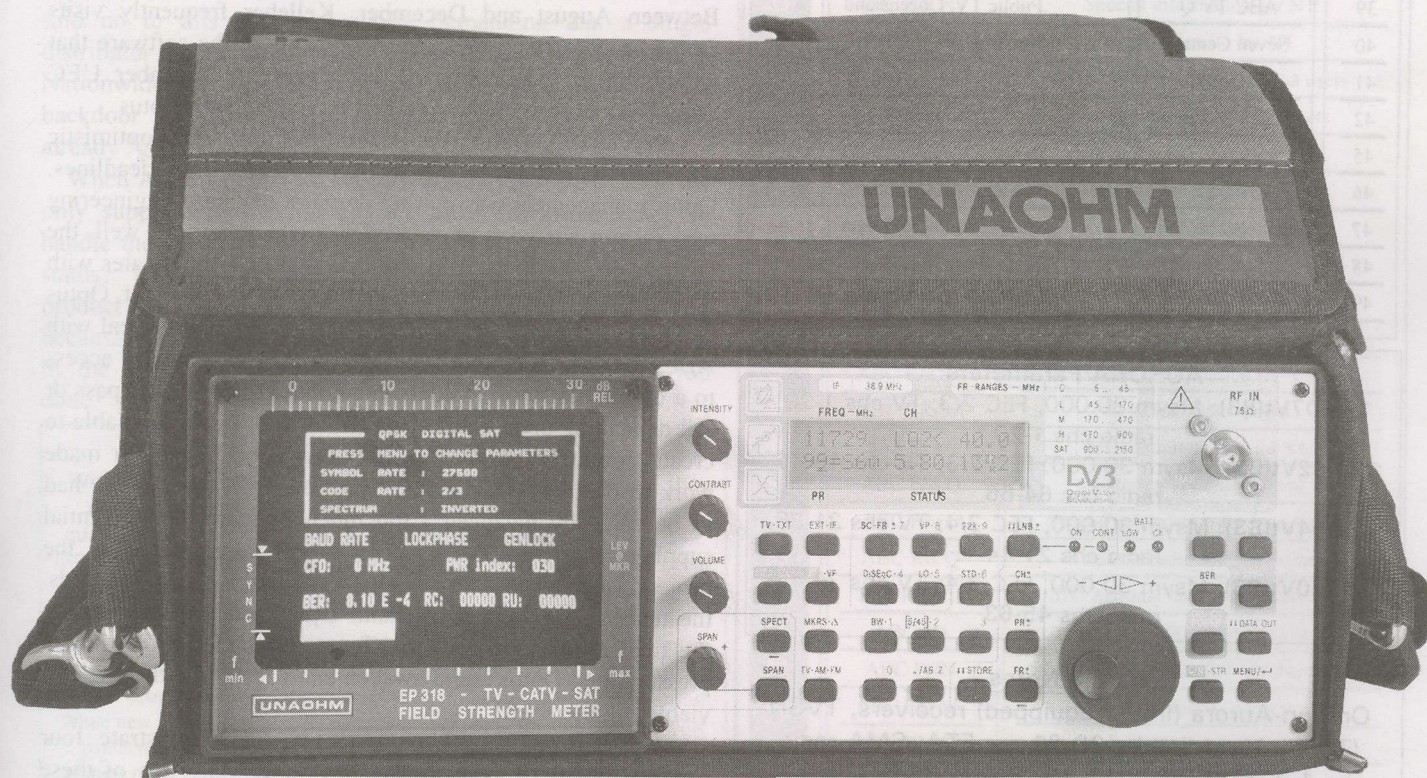
Digital power, but how much?

As most digital Television signals have wider bandwidth than the typical 1MHz measurement bandwidth of a TV measuring instrument, using an analogue instrument to measure the power of digital TV transmissions has been a science lacking in precision, until now.

Unaohm has developed an automatic Digital Channel Power measurement system. The user marks the limits of the channel to be measured and then the instrument quickly makes a large number of power measurements across the channel, from which an effective average is calculated, and displayed in a digital format.

The new EP318 from Unaohm offers a wide range of standard analogue and digital TV measurement functions with precision Bit Error Rate measurement options.

If you want instrumentation that can keep you in touch with what is really happening in your systems, consider Unaohm. From more than 60 years experience in the manufacture of electrical measurement instruments and a leading position in the development of DVB compliant digital TV measurement tools, Unaohm is now the choice of TV installers and TV spectrum management agencies the world over.



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AURORA TV/data Channels - as of May 8, 1999

1	TVSN	FTA/Television Shopping Network
2	HORizon	Horizon Learning Channel
3	(not in use)	
4	BTV1	enc/except Tues 0920-1200 UTC
5	BTV2	enc/Optus Business TV
6	BTV3	enc/occ. labelled "Optus @ttitude"
7	Sky 1	enc/normal Sky Racing service
8	Sky 2	enc/Sky + NSW TAB radio
9	Sky 3	enc/Sky + Vic TAB data
10	Sky 4	enc/Sky + WA TAB radio
11	Sky 5	enc/Sat Comms
12	Sky 6	enc/
21	ABC TV WA	Public TV, Western Australia
22	GWN TV	WA only, 7 network
23	WLK	Westlink WA education
23	WIN	WA only, 9 network
29	ABC TV NT	Public TV, Northern Territory
30	IMP TV	Imparja (see p. 14. SF#56)
31	IMP PTTV	enc/business TV (0889-501-411)
36	ABC TV SA	Public TV, South Australia
37	SBS SA	SBS South Australia
38	SBS SA	// to 37; to be SBS data
39	ABC TV Q	Public TV, Queensland
40	Seven Central	7 Network (04-4721-3377)
41	SBS Qld	SBS Queensland
42	SBS Q data	// to 41, to be SBS data
45	ABC TV SE	Public TV, SE Australia
46	SBS SE	SBS, SE Australia
47	SBS SE	// to 46, to be SBS data
48	SBS WA	SBS, Western Australia
49	SBS WA	// to 48, to be SBS data

AURORA Parameters

- 12.407Vt(B3):** Msym 30.000, FEC 2/3; TV chs 1-20, radio chs 1-20
12.532Vt(B3): Msym 30.000, FEC 2/3; TV chs 46-49, radio chs 64-66
12.694Vt(B3): Msym 30.000, FEC 3/4; TV chs 21-35, radio chs 21-44
12.720Vt(B3): Msym 30.000, FEC 3/4; TV chs 36-45, radio chs 45-63

Aurora Notes

On non-Aurora (Irdeto equipped) receivers, TVSN (TV ch 1), radio chs 20,21 are FTA. SMA radio chs 1-7, SBS radio chs 48, 55,64-66 may show CA but are rarely muted. DGT400 IRDs will not work on Aurora (when equipped with Aurora card). National 7 is now carried by Central 7 (TAL/QQQ) and GWN (WA). GWN is also available (with SBS, ABC) on PAS-2 Ku in PowerVu format. National 9, 10 are carried by Imparja; 9 by WIN (WA).

large as that number may seem, in early 1997 no manufacturer was getting excited about numbers below 50,000 of a single design. UEC knew from instructions received through Kelleher the Optus IRD would require significant new hardware and software design work. Actually, Optus wanted a box that did things no existing box was capable of performing but they were insisting on "off-the-shelf" pricing. Marry those two demands to a relatively small total quantity (such as 15,000) and you have a "I think we will pass on this opportunity" mentality at the IRD supply house.

But the first real FTA IRDs are here. SMS (Taiwan but significantly influenced by Europeans) has announced the SK888 which distributor Skandia is selling like hot-cakes to a market anxious to experience the challenge of digital. Moreover, European firm Nokia is now shipping their 9500S (version 1.63) which not only handles the free to air European bouquet but even allows one to tune-in the SA PowerVu transmissions as well.

August 1997. Aurora releases full "design to these specifications" instructions and four IRD manufacturers show an interest. UEC is one of these, another is US firm Comstream.

The Aurora requirements are cutting edge, demanding performance for low speed / high speed data processing which nobody has had to solve previously. There begins a major effort at UEC to meet this requirement and a steady stream of prototypes, each one enhanced over the previous shipment, begins to flow from UEC to Kelleher and then to Optus. Optus sets a "deadline"; the February 1998 trade show. Between August and December, Kelleher frequently visits Optus hand carrying ever newer versions of the software that would ultimately be called the 642. Finally in December, UEC sends over a representative to first-time meet with Optus.

Late in 1997, Optus was hopeful but not overly optimistic that they might meet the internally established deadlines. Optus management was putting pressure on Optus engineering who in turn passed it on to Kelleher who in turn ... well, the chain was quite long. And Optus was dead in the water with their Aurora project until they had an IRD to support it. Optus engineering was in the middle - management had to deal with ABC, SBS and the other users who had been promised access to a digital platform. Insiders knew that project would pass or fail depending upon whether an IRD manufacturer was able to create, produce and ship an IRD that nobody had yet made work to Optus specifications. Optus engineering pressure had to be carefully balanced - too much pressure, and potential suppliers (such as SMS) would cancel their interest in the project. Remember - the quantity was small by IRD standards, the technology leading edge and Optus was also demanding the final product be delivered for under US\$350. Too much pressure, and Optus could awaken one day to find they had no viable suppliers left!

February 1998. Although Optus did demonstrate four separate brand IRDs at the Sydney show, only two of these were still in the running. Optus knew this - but wanted to create the illusion there was a "wide open opportunity" here for multiple suppliers. Within a month (early March) two units would be shipped to Irdeto in Hoopdorf (Holland) for testing. One came from UEC, the other from Comstream. Comstream is a multinational firm with Korean manufacturing capabilities. They also operate a plant in the UK (Wales) which produces Panasonic brand product for the UK market. Indirectly, their Wales Panasonic plant has ties to Panasonic South Africa and

the Panasat brand. It was all quite confusing since UEC was the design house that originally created the Panasat 520 for Panasonic of South Africa (RC&C).

April 1998. Both the Panasonic TU-DS10 and the UEC 642 "pass" at Hoopdorf. This was important because unless Irdeto accepted the designs, the Irdeto conditional access technology cannot be used. And Optus had insisted on the Irdeto CA system in their August 1997 specification release. Now it was up to Optus to decide what to do with two IRDs that passed at Hoopdorf. Decision time.

SF#42 (February 1998) reported on a series of written exchanges between SatFACTS and personnel at Optus. "There will be 3 or 4 separate receivers approved by Optus for (Aurora) sale" was the official word. The fellow who made it would be gone from Optus shortly after he wrote those words.

If the Panasonic TU-DS10 and the UEC were both approved by Irdeto, what happened to the Panasonic? Two things.

First, in a reversal of policy we reported in February, only the UEC IRD was nominated for the RTIF voucher. Second, Panasonic people in Australia dropped the ball. March-April 1998 was a critical period. Both units were approved, Optus had announced a new June 1st "Aurora product availability" date and it was up to UEC and Panasonic to make that date. UEC did (although barely with fewer than 100 units actually delivered) and Panasonic did not. During this 60 day period Bob Kelleher, who had carefully orchestrated the presentation of UEC to Optus, discussed with us an earlier decision he had made. "I never intended from the start of this project to be the retailer of IRDs for Aurora and always planned for there to be individual distributors in each state." UEC and Optus said no to this plan, essentially demanding that a single distributor handle all units and paperwork for all of Australia. Nationwide got the nod because they were at Kelleher's backdoor and had as the intended Queensland distributor already "gone to school" on the 642 product..

When Aurora finally kicked off in June 1998, UEC had the only supply line functioning, the only distributor ready to handle the product. What about only UEC getting the RTIF status? UEC stuck it out with Optus demands, delivered the product and were rewarded for their "loyalty." Panasonic lost because Panasonic did none of the above. Optus got through by the thinnest of margins and UEC + Kelleher got the job done.

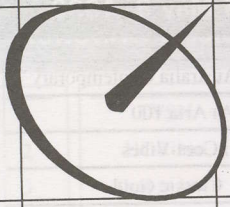
RABS/RTIF Additional Information

With the turn off (May 6th) of Queensland B-MAC services, the conversion to Aurora nears completion. Home DTH systems qualifying for the A\$750 RTIF voucher must select the UEC 642 IRD. Non RTIF newcomers to RABS/Aurora are free to select other IRDs since no voucher is involved. As a practical matter, the Panasonic TU-DS10 - once an alternative - is now significantly missing from the marketplace. To be sold for Aurora, an IRD must have Irdeto CA built-in. To have Irdeto, the manufacturer must have a license from Irdeto and such licenses are jealously guarded. While new Irdeto equipped IRDs are promised, none are presently available which makes the UEC version(s) a defacto sole source standard. Some owners of various Nokia 9500/9600/9800 series IRDs with plug-in CAMs report satisfactory Aurora service but Nokia products are not supported in the Pacific with a distributor offering backup service. Imparja (offering 9, 10 network programming) can be authorised in any section of Australia (except WA) if you can prove inadequate terrestrial reception (contact Tim Mason, Imparja at tel 08-8950-1450, fax 08-8953-0322). For normal Imparja approval. 1 300-301-683. Central 7 may also authorise if you can prove no off-air 7 network reception (07-4721-3377). ABC, SBS TV and radio (inc. BBC WS and others), tel 1 300-301-681. WIN West (9 net), turn-on tel 08-9442-3314. SMA for turn-on 1 300-366-099. Extensive additional references: SF#54 (p. 21), SF#55 (p. 18).

AURORA Radio Services - as of May 8, 1999

1	R1	Satellite Music Australia Contemporary
2	R2	(SMA) Aria 100
3	R3	(SMA) Cool Vibes
4	R4	(SMA) Classic Gold
5	R5	(SMA) Country Beat
6	R6	(SMA) High Energy
7	R7	(SMA) Rock Radio
8	SMA BUS1	enc/Woolworths
9	SMA BUS2	enc/ content varies
10	QTAB	Queensland TAB (radio)
11	NIRS	enc/Indigenous Radio/07-3252-1588
12	RPH	enc/Print Handicapped (radio)
13	BBC WS	enc but available w/ABC /02-9955-4092
14	CBAA	enc/Community Broadcasters
18	UCB	enc /Vision FM/available/1800-068-204
19	SMA ITA	enc/avail with Aurora card/Italian Radio
20	REF TONE	Reference test tone
21	RABS TONE	-18 dBm, 400 Hz, dual ref tone
22	ABC FM WA	Classical for WA
23	ABC RN WA	Special information for WA
24	ABC RR WA	Regional radio for WA
25	990 AM	enc/Sight impaired radio
32	ABC FM NT	Classical for NT
33	ABC RN NT	Special information for NT
34	ABC RR NT	Regional radio for NT
35	Caama Stereo	8KIN Alice Springs -Imparja users
36	Teabba	Darwin (radio) - Imparja users
37	SPY Umuwu	Umuwa radio - Imparja users
38	NT TAB	TAB NT - NT Imparja users
39	IMP R5	not in use
40	IMP R6	not in use
41	IMP R7	not in use
45	ABC FM SA	Classical for SA
46	ABC RN SA	Special information for SA
47	ABC RR SA	Regional radio for SA
48	SBS R SA	SBS national radio for SA
51	ABC FM Q	Classical for Queensland
52	ABC RN Q	Special information for Queensland
53	ABC RR Q	Regional radio for Queensland
55	SBS R QLD	SBS national radio for Queensland
56	ABC JJJ	enc/available (1300-301-681)ABC Youth
57	ABC PNN	enc/available (1300-301-681)News. Par
61	ABC FM SE	Classical for SE Australia
62	ABC RN SE	Special information for SE Australia
63	ABC RR SE	Regional radio for SE Australia
64	SBS R SE	SBS national radio for SE Australia
65	SBS R NT	SBS national for NT
66	SBS R WA	SBS national for WA

Radio services in reverse colour are available to Aurora subscribers, some depend upon region. Unlisted numbers (i.e. 15-17) are either encrypted and unknown or not in use at this time.



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Phoenix 333

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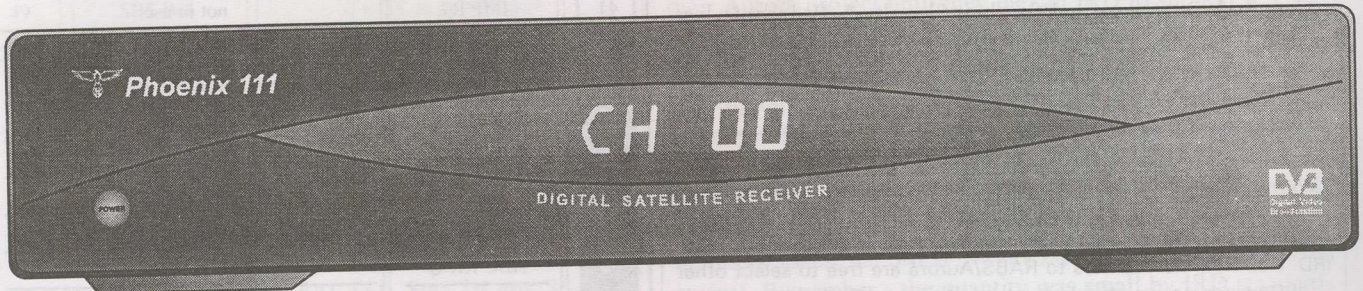
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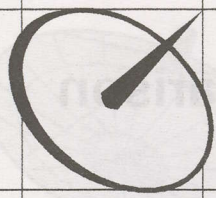
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- CALAMP C BAND MINI-MAG 17K LNB
- CALAMP C BAND MINI-MAG DIGI EXTENDED 20K LNB
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PALCOM

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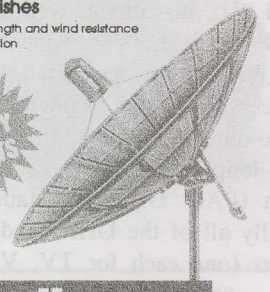
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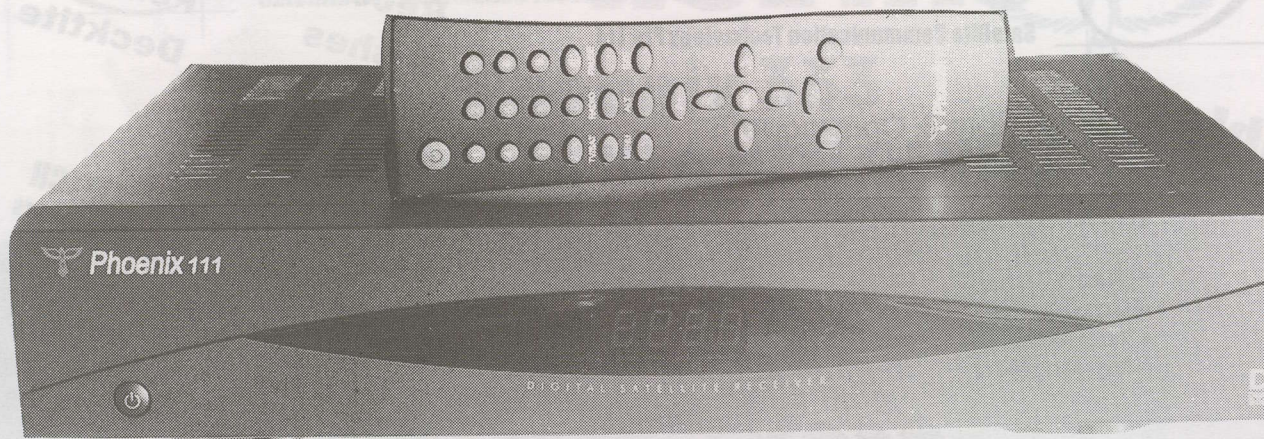
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- Network Satellite Services - NSW -Tel: 02 9687 9903
- Satech - Head Office Melbourne Victoria -Tel: 613 9553 3399

Lowest price yet?

Triple 1 by Phoenix is Sleeper in Performance/Price Comparison



Here is a surprise. More than 120 days ago, SATECH introduced a new digital IRD to the market. But - they neglected to advertise the unit (on purpose) and in effect, people learned of the IRD by word of mouth. In the first 90 days, hundreds were sold.

The surprise? That SATECH did not rush to market with large advertisements for a new IRD which they believed was a "winner." In a marketplace where only the "latest and newest and best" seem to survive, and "survival" is measured in months as new products are announced, actually testing a new IRD by sliding it into the commercial world without fanfare is quite unusual.

There is nothing about the Phoenix 111 ("triple-one") IRD that suggests it should be hidden under a bushel basket. And let us tell you up front that this may be the least expensive state-of-the-art receiver available today. Yes, price is the major attraction (you will have to talk with SATECH about what that price might be). Another surprise - while it may be a low priced IRD, it works as well as most of the medium and high priced models. Let's see what they have done to bring the price down but hold the performance levels up.

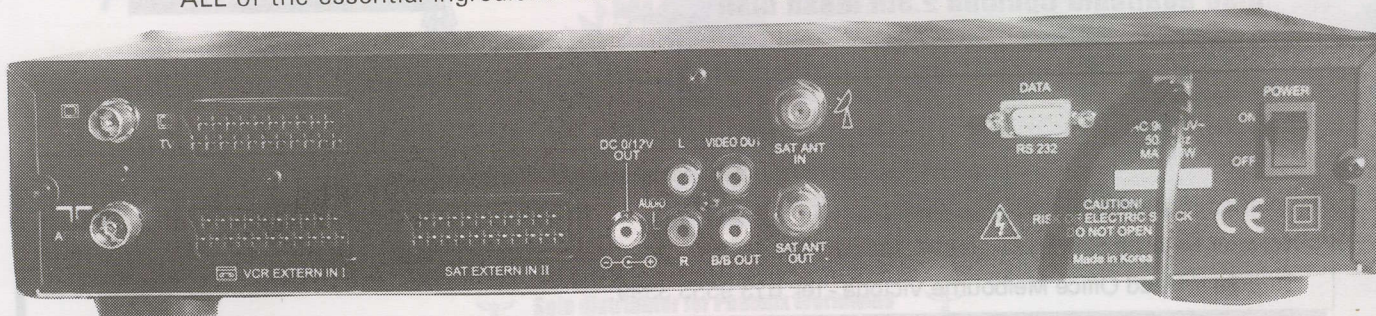
Access to needed segments plus the ability to integrate the IRD to other equipment? In addition to the usual terrestrial TV aerial loop through (47 - 862 MHz) and internal modulator output (PAL, UHF, adjustable with on screen menu over virtually all of the UHF band) - there are three (3) SCART sockets (one each for TV, VCR and an external - such as

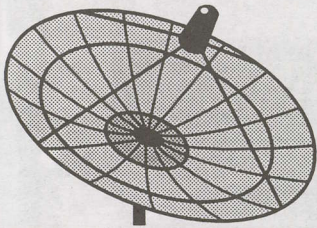
analogue - satellite receiver). And, in addition to the usual two audios (L and R), an RCA socket for video plus an RCA socket for baseband video (which could be useful to drive a decoder in the future). RF from LNB? One in, one loop-through (to a second receiver). And 0/12 volt switching. No, although it is at the low price end, nothing is missing - in fact, many high priced IRDs do not offer as much.

The triple-one is totally on screen menu driven through the remote control. The "Main Menu" is accessed by pushing the menu button on the remote. If SATECH has preloaded the satellites (and the transponders within each satellite), after installation of the IRD (LNB input, connections to display system, mains power) you will have reception at turn-on (by toggling the up/down arrows on the remote or on the front of the receiver). Specific programmers are found with either direct entry (such as "1 7" for memory position 17) or with the scroll buttons. When a programme channel is being watched, pressing the OK button produces a list of all channels in memory which allows direct selection (having found a new channel to switch to, press OK and you are there). If the broadcaster is using the Open TV format, pressing the "i" button gets you information about the current programme on air; pressing the right hand arrow produces information on the next programme scheduled.

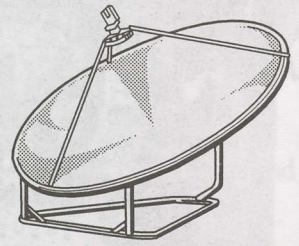
The OSD is a joy to use, simple to follow (even for a novice) and pleasant to view. There are some clever software ideas here - hiding a channel, for example. Any channel can be

ALL of the essential ingredients are here including a "mains" (AC) operating switch.

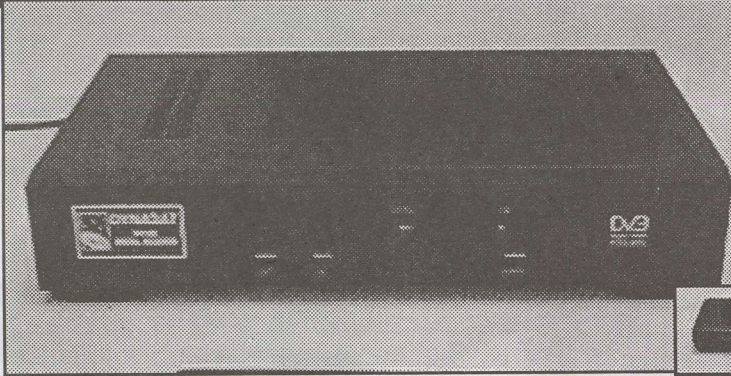




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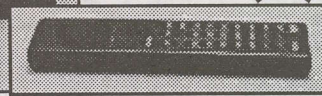
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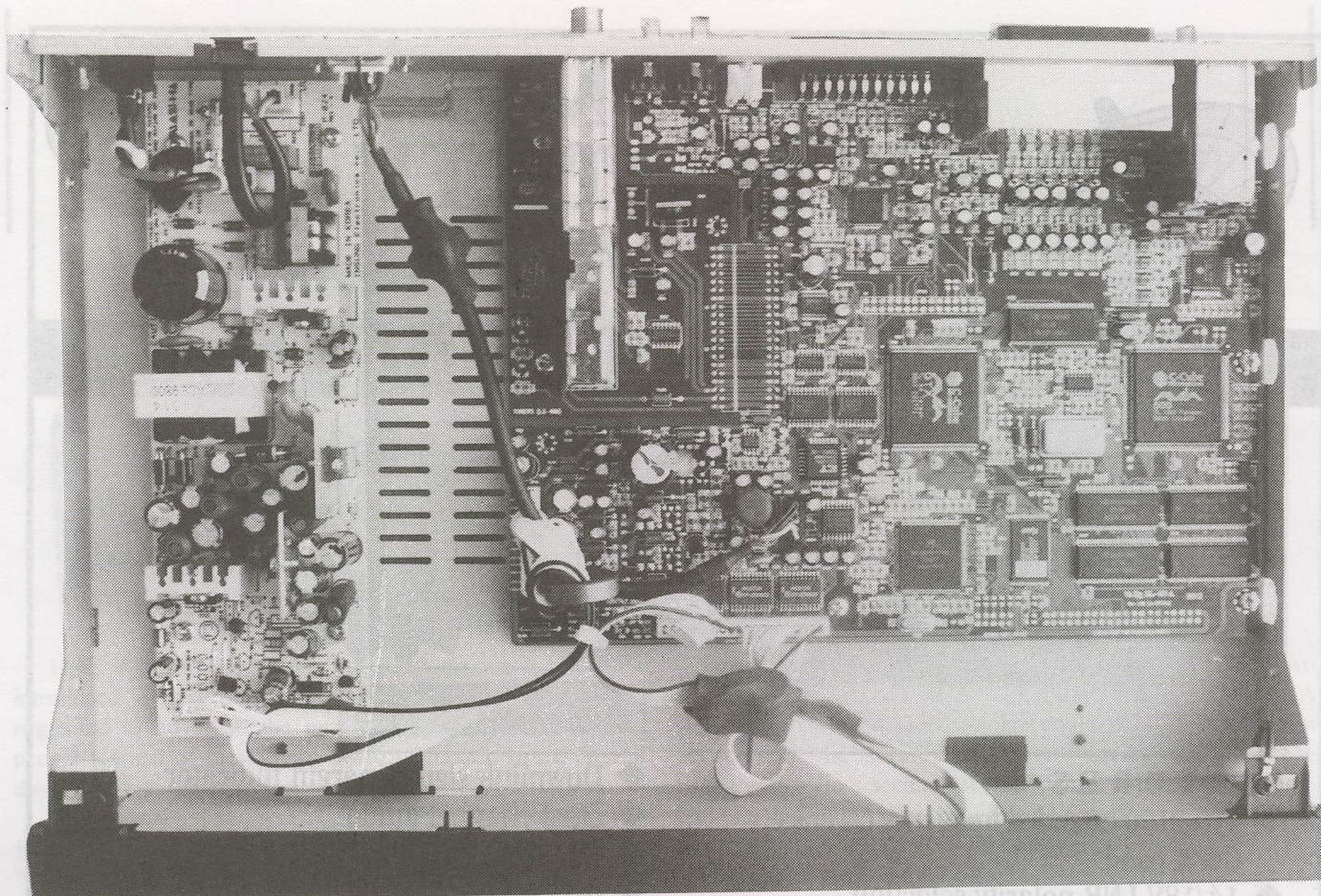
✓YES GARRY, Please send me more info...

Name: _____

Address: _____

_____ P'code: _____

Phone: _____

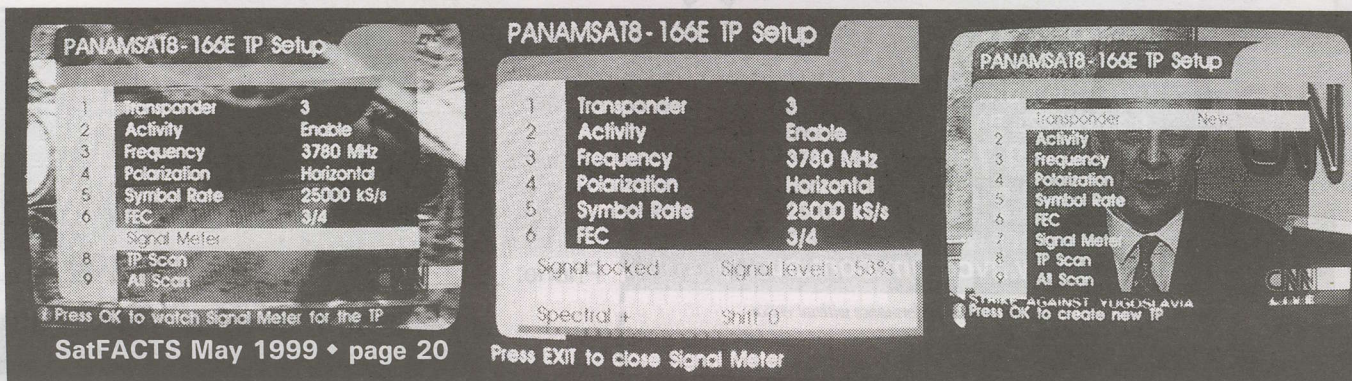


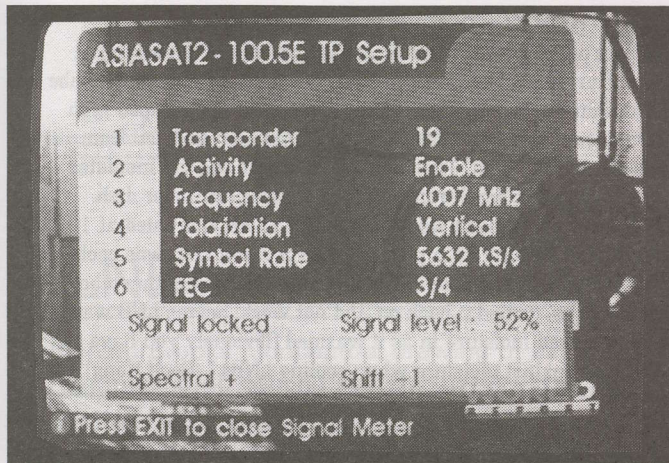
SOMETHING rather interesting is happening here. Even before we have the "single chip solution," motherboard size is shrinking dramatically. Side effect? Heat has more room to move around, does less damage.

"hidden" on the menu so it will not appear in the scroll lists and you can get to it only by direct entering its (hidden) memory channel number. That could be a soft form of parental control. Or, using the lock function, it takes a password to enter a channel so protected. If you are into PID



Korean designed and built triple-1 finally recognises consumers need to be led by the hand through satellite set-up. Upper left to lower right - select set-up, satellite, transponder (upper right). Signal meter function brings up condition of service (locked, not locked) and brown/red bar (no lock) or green bar (locked). Signal meter is instantly available at all times. New service? Just plug in the numbers.





Menu function is bright, clean, easy to read.

numbers, the software supports PID entry and memory functions.

Performance wise, the triple-one is equally at home with NTSC, PAL (25 or 30 frames), Msym 1 to 45 (i.e., either SCPC or MCPC), complete L-band coverage (950 - 2150 MHz). It needs to know (in advance of searching) the frequency and the Msym; FEC it can find on its own. PowerVu presents no problems. Teletext is built-in and controlled from the OSD menu.

As the internal IRD photos illustrate, construction is clean, the power supply in addition to having an AC mains on/off (rear panel) switch is also fuse protected (the IRD draws 40 watts while operating 5 watts in standby). We expected it would become quite warm at 40 watts power consumption - it does not although the manual's advice about not stacking equipment is good practice. The main (and only - other than power supply) circuit board on these FTA IRDs is shrinking with each new generation leading us to speculate that as single chip IRDs come on line this year, we will eventually see a massive downsizing on the IRD case. (1) The time is near when the power supply will be about the same size as the balance of the entire receiver.

Faults? We are not certain about the threshold of the unit we received for evaluation; it is good but on some SCPC signals it was difficult to load. We looked for a pattern, could not find any, and after discussing this with SATECH decided at most this was probably something unique to our specific IRD. The written manual is creatively logical for complete novices to follow. No big buzz words, no complicated procedures (a measure as well of the intelligently designed software). We did notice one glaring mistake on page 20 where we were advised under Features that this IRD will "Support Analog and digital reception with single receiver SCPC and MCPC support." We could not make it work on analog(ue) no matter how hard we tried.

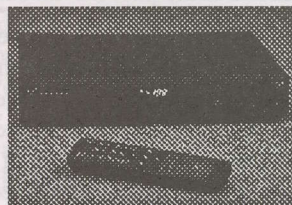
As a bonus, SATECH and SatFACTS are giving away a Model 111 IRD in July to a reader. There is an entry form on page 34 of this issue (the card bound into the back). Somebody will win - it might be you!

1/ Of course as power consumption of IRDs drops because of their single chip design, power requirements will also drop. Simultaneously, Echostar is bringing out a satellite receiver in September with a built-in hard drive recorder so users can directly save digital data streams for later recall.

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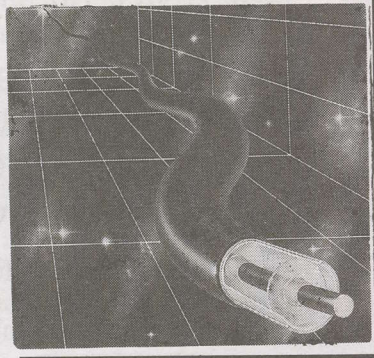
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The CABLE Connection



Whether a cooled LNB will outperform one operating either in the bright daylight sun or covered by an LNB shroud (cover) is not the question. *It will.* The challenge is to get rid of the LNB's heat so it will survive the experience. Reader **Geoff Kong** on Vanuatu wrote extensively about his experiences in PNG with such a project - we abbreviated his report above (right). More than a dozen others with cooled LNB experience or practical tips also wrote following our initial report on this page in April; we will get to their comments and suggestions as this series continues.

Peltier cooling devices seem like a likely candidate for lowering an LNB's environmental temperature (and thereby producing improved low threshold - weak signal - performance). However, Peltier devices have a set of limitations including the probability that at best they can drop the temperature of something they are attached to by 25 degrees C. If the ambient air is 25 to 30C, what is the case temperature of the LNB?

Typically higher than the ambient air because the LNB's metal case absorbs heat from the air and the direct sun rays. Moreover, the LNB is mounted on a plate, has a feed horn connected, and the entire apparatus is suspended by one to four feed support poles. All of these are metal, all absorb heat, and heat will flow by convection throughout the structure. We tend to think about heat as only an LNB created problem; it is more complex. Inside of the LNB, most of the heat we feel on the case comes from the voltage regulator(s) which are often heat-sinked to the case. An important additional internal heat source is the output driver stage and the final output stage. If these stages are heat sinked to the case, you can with a sensitive thermocouple device identify the section of the LNB case on the outside where the internal heat generating devices are themselves located (or heat sinked). (1)

As Geoff Kong notes, "purposefully cooling the voltage regulator or the output (driver) stage(s) will not improve the picture directly since neither stage directly affects noise temperature (of the LNB)." True to a point - a red hot voltage regulator will not change the noise temperature of the LNB which is established by the first two or three LNB "gain" stages. Unless - *unless* the heat from the red hot voltage regulator flows throughout the LNB and indirectly affects the

1/ Heat sinking is the act of connecting something that gets hot (by design) to a metal heat dissipating surface. Heat sink "fins" are often employed for this purpose, to get more "surface area" involved with the flow and dissipation of the heat.

Reader Comments on Cooling LNBs

"Years ago did tests (in PNG) with 4.5m solid dish looking at Aussat. Surrounded LNB in coil of copper tube, wrapped LNB/tube in aluminium jacket, put LNB cover back on and pumped high efficiency foam into cover to insulate the LNB and coil from outside environment. Then connected copper coil via insulated copper pipe to small refrigerant unit mounted under dish.

Refrigerant we pumped was good to -20C, LNB was rated at 1dB noise figure. Result? P3.5 picture was P5 when LNB was cooled.

Alas, there was a problem. We ran this several months, made some changes, turned it back on. Did not work. Seems LNB was so cool it sucked moisture in as it warmed Obviously you have to protect against moisture when cooling LNBs." (Geoff Kong)

noise figure / temperature of the LNB by over heating the sensitive first stages. Kong's observation noted directly above concerning what happens when a "super-cooled" LNB is allowed to come back to ambient temperature (i.e., when the cooling system is turned off) is more worrying.

Take an empty small plastic container with a reasonably tight fitting lid and stick it in the freezer for 30 seconds. Now take it out and place it directly into a microwave oven for 30 seconds on high. Wait a minute or so and open up the plastic container. It will show signs of "sweating" - droplets of moisture are inside. As Kong relates above, "*When we pulled the LNB apart, we found it filled with moisture.*" A wet-inside LNB cannot be expected to work to its original specifications - if at all. The message here is obvious - before you start experimenting with cooling LNBs, make certain that the LNB is airtight. *Air tight?* So that when it warms back up (no matter how hard you try, the cooling system cannot and will not run forever from the moment you turn it on) the air sucked in or already inside of the case does not condense. There are some significant challenges here as we shall see in a future report.

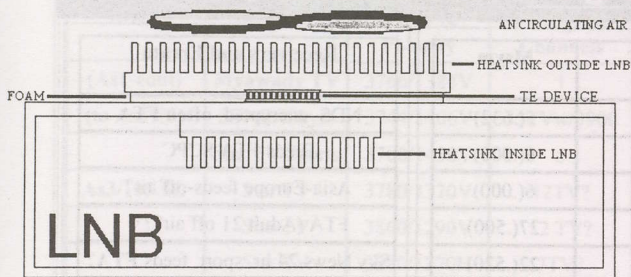
Localising Heat Transfer

As **Richard Brooks** reported here in April, the challenge is to "gather" heat from inside of the LNB box, pump it to a heat exchanger on the outside of the (LNB) box and then release the collected heat into the ambient air.

One approach might involve opening up the box (such as taking off the lid) while still protecting the circuitry inside from the weather, then build a larger box around the LNB box proper and pump cold air into the larger box. That is effectively what Geoff Kong did in PNG. If you leave the LNB totally inside of its original container, when that container returns from a cooled state to an ambient temperature state, moisture will condense. There is no getting around that *standard* LNBs "leak" ambient air through the F connector at the rear, the waveguide flange at the front and often through the seams of the enclosure.

Richard Brooks suggests "purging" the air inside of the LNB with nitrogen; scientifically acceptable, but is that practical? There are hermetically sealed LNBs on the market; they are designed to keep moisture out; alas, the air trapped inside at the time of manufacture is *still there* and will go through a condensing cycle if the LNB is super-cooled and then returned to ambient air temperature. To the best of our knowledge, there are no LNBs on the market with a "purge valve" fitted which would allow you to do as Richard suggests (pump nitrogen in and air out). Is this getting out of hand and beyond reality?

Look again at Geoff Kong's abbreviated notes at the top of this page. While a 4.5m dish with a super cooled LNB did what he wanted done, his ultimate solution was a 7m dish. If



Richard Brooks' conceptual drawing of air-to-air thermoelectric cooling system; details in June.

you consider the difference in cost between a 4.5m and a 7m, perhaps the project is not so over the top after all.

Brooks suggests (but has not tried) a dual-layered heat sink similar to that shown above. One challenge is to find sufficient room inside of the LNB case to fit *any* heatsink at all; another is to get the heatsink where it will do maximum good and a minimum of harm.

Ian Fisher (NSW) addresses the side effects of Peltier (or any other super-LNB-cooling) with these comments.

1) "The local oscillator is designed to function in an ambient temperature; I think it possible that with super-cooling, the LNB LO could actually drift beyond a frequency range which the (AFT in the) receiver could compensate."

2) "Below negative 10 degrees C some electrolytic caps do not behave as normal and I have seen the LNB's internal power supply go very noisy when the LNB temperature is low. I would suggest cooling below negative 10 could be a problem."

3) "Because of the internal voltage regulators, when an LNB is used on a single polarity and requires only 14 volts to operate, might I suggest that running it at 18 volts only makes the regulators work harder, creating more heat to be dissipated?"

4) "Peltier devices have been extensively used in computers with MPUs to get more speed out of the micro. Experience here shows it is possible to be 'too cool' and moisture condensation can be a real trouble spot."

5) "Peltier devices (in Australia) are not cheap: one of the lower price sources is Oatley Electronics ranging from (A)\$25 for a 42 watt to \$30 for a 75 watt; try oatleyelectronics.com. They also have a temperature controller (\$15) but it is a switch mode device and might create noise that would impair the LNB threshold; we won't know until we try it!"

6) "Peltier devices are typically very efficient; when used for heating, they use less power to produce the same temperature rise as a standard electric element. The power required to cool the LNB may be considerably less than many would suspect. I hypothesize that if the cool area around the LNB is well insulated and the heatsink is in open air, a 42 watt Peltier would have to run at a low percentage of its output (30% or less) and a fan might not be required."

S. Jackson in Singapore adds, "I have seen trade references to Peltier cooled LNBs in commercial literature but cannot seem to locate the sources at this time. This suggests they either do exist or did exist at one time."

Richard Brooks who started this quest from his location in the Marshall Islands has prepared a full feature on the subject for SatFACTS in June. Come back and we'll see if super-cool is really practical.

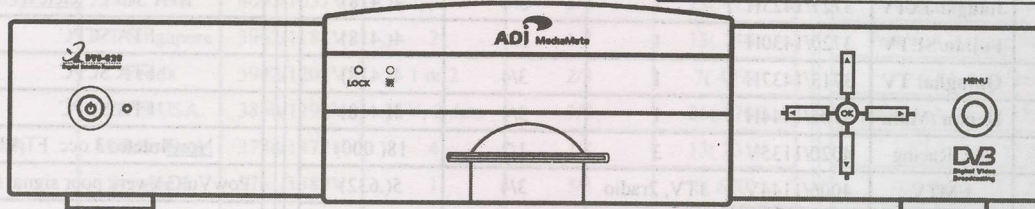
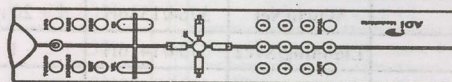
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SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 May 1999

BIRD	Service	RF/IF & Polarity	# Program Channels	FEC	Msym	
I703/57E	Sky News	4143/1007R	1	3/4	5(.632)	
	CNBC	4018/1132L	1	3/4	6(.000)	
	CNBC	3795/1355L	1	2/3	6(.000)	
I704/66E	TV5. Adult 21	4055/1095R	4	3/4	27(.500)	
	Sky News +	3805/1345R	4	3/4	22(.520)	
PAS4/68.5E	Nickelodeon +	4147/1003H	1 reported	1/2	24(.000)	
	BBC	3743/1407H	5	3/4	21(.800)	
	CCTV	3716/1434H	up to 6	3/4	19(.850)	
Ap2/76E	HMark/Kermt	3720/1430H	4	5/6	29(.270)	
	TVB-8 +	3849/1301H	4	3/4	13(.238)	
	Disney	3880/1270H	3	5/6	28(.125)	
	AXN	3920/1230H	up to 8	7/8	28(.340)	
	Vietnam	12.696V	1	3/4	3(.516)	
Thcm3/78.5E	ITC	3569/1581H	1	3/4	10(.200)	
	MRTV	3666/1484H	1	2/3	4(.442)	
	UTV	3920/1230H	6	3/4	26(.662)	
	UTV/MCOT	3880/1270H	8	3/4	27(.500)	
	Mahar./DD1	3600/1550H	up to 8	3/4	26(.662)	
	Myanmar TV	3666/1484H	1	3/4	4(.442)	
	TV Maldives	3412/1738V	1	1/2	6(.312)	
	Thai Global +	3425/1725V	up to 7	2/3	27(.500)	
	As2/100.5E	Euro Bouquet	4000/1150H	6TV, 12r	3/4	28(.125)
(off air???)	Hubei/HBTV	3854/1296H	1	3/4	4(.418)	
	Hunan/SRTC	3847/1303H	1	3/4	4(.418)	
	Guan./GDTV	3840/1310H	1	3/4	4(.418)	
	Inn Mongolia	3828/1322H	2	3/4	4(.418)	
	Saudi Arabia	3811/1339H	1	3/4	3(.905)	
	APTN A-O	3799/1351H	1	3/4	5(.631)	
	WTN Jer/Lon	3790/1360H	1	3/4	5(.631)	
	WTN/Reuters	3775/1375H	1	3/4	5(.631)	
	Reuters M-E	3770/1380H	1	3/4	5(.632)	
	WorldNet	3764/1386H	1 + 20 radio	3/4	6(.100)	
	Liaoning/Svc2	3734/1416H	1	3/4	4(.418)	
	Jiangxi/JXTV	3727/1423H	1	3/4	4(.418)	
	Fujian/SETV	3720/1430H	1	3/4	4(.418)	
	Quinghai TV	3713/1437H	1	3/4	4(.418)	
	Henan /Main	3706/1444H	1	3/4	4(.418)	
	As2/100.5E	Sky Racing	4020/1135V	3	1/2	18(.000)
		EMTV	4006/1144V	1TV, 2radio	3/4	5(.632)
KIBC		3940/1210V	1TV, 4 data	2/3	26(.655)	
STAR/ISkyB		3900/1250V	19TVw/3744	7/8	26(.845)	
Jilin Sat Ch		3875/1275V	1TV	3/4	4(.420)	
HeiLongJiang		3834/1316V	1	3/4	4(.418)	
JSTV		3827/1323V	1	3/4	4(.418)	
Shaanxi/QQQ		3813/1337V	1	3/4	4(.418)	
Guang GXTV		3806/1344V	1	3/4	4(.418)	
Fashion TV		3796/1354V	1	3/4	2(.533)	
(off air???)	Eastern TV	3785/1365V	5	3/4	18(.000)	

Receivers and Errata
NDS encrypted; often FTA
Feeds-FTA SCPC
Asia-Europe feeds-off air?
FTA (Adult 21 off air???)
Sky News 24 hr. sport. feeds FTA?
Ws testing FTA - still active???
FTA: 2 audio channels?
FTA
PowVu typ CA
PowerVu CA
PowVu CA
Tests, promos, some FTA
FTA national service
FTA
FTA: difficult to load
Irdeto CA
Irdeto CA
FTA (Indian, Skai-TV)
FTA - may be only test
FTA (seen Australia)
FTA
FTA (TV5 teletext)
FTA SCPC. teletext
FTA SCPC . teletext
FTA SCPC
FTA - #1 Chinese. #2 Mongolian
FTA SCPC - "Ch. 1"
FTA SCPC
Mostly CA SCPC. some FTA
Some FTA SCPC
Some FTA SCPC
FTA, multiple radio channels
FTA SCPC
FTA SCPC: teletext
FTA SCPC
FTA SCPC
FTA SCPC
Now Irdeto: 3 occ. FTA?
PowVu CA-very poor signal level
FTA 1 video ch: ZakNet data CA
NDS CA (Pace DVS211)
FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC
FTA SCPC
(remains) FTA-difficult to load
PowVu CA -#5 occ. FTA

BIRD	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(As1-cont)	Myawady TV	3766/1384V	1	7/8	5(.080)
(to As3???)	STAR/ISkyB	3744/1406V	35TVw/3900	7/8	26(.845)
	Star TV Sports	3700/1450V	5	3/4	27(.500)
As3/105.5E	Star TV	3780/1370V	12TV?	3/4	28(.100)
	Star TV	3860/1290V	12 TV?	7/8	26(.850)
	Star TV	3880/1270H	7TV?	7/8	26(.850)
	Star TV	4000/1150H	7TV?	7/8	26(.850)
Cak1/107.1E	Indovision S-band	2.536, (.566, .596, 2.626)	38+	5/6	20(.000)
Sinoat 1/110E	Shanghai	4106/1044V	1	2/3	4(.443)
C2M/113E	Anteve	4193/957V	1	3/4	6(.508)
	TV Indosiar	4073/1077V	1	3/4	6(.500)
	Mega TV	3780/1370V	5?	3/4	27(.500)
	C Net Taiwan	3760/1390H	11TV, 10 r	5/6	21(.091)
	RCTI	3475/1675H	1	3/4	8(.000)
LMI API	THT (TNT)	3725/1425L	1	3/4	6(.108)
API/138E	Taiwan Bqt	3800/1350H	up to 8	3/4	26(.697)
	Laos Nat. TV	3924/1226V	1	3/4	2(.522)
	CNNI	3980/1170V	2+	3/4	26(.000)
Optus B3/156	Aurora	12.595,.720V	17+, 21+ rad.	3/4	30(.000)
	Aurora	12.407,532V	17+, 21+ rad.	2/3	30(.000)
	Austar/Foxtel	12.438(.564, .626, .688)	45+TV, 12 radio	3/4	29(.473)
Optus B1/160	Sky NZ	12.391(.418)V	19+TV	3/4	22(.500)
PAS-8/166E	NHK Joho	4065/1085H	5 TV, 1 radio	3/4	26(.470)
	Cal Bqt/PAS8	3940/1210H	4 or 5 TV	7/8	27(.690)
	CNN	3780/1370H	3 up to 5	3/4	25(.000)
	Test bouquet	3740/1410H	4 or 5 TV	7/8	27(.690)
PAS-2/ 169E	GWN Perth	12.265V	6TV, 7 radio	1/2	16(.200)
	Telstra Bend.	12.300V	2	1/2	21(.997)
	ABC Interchange	12.629, (.638, .646)V	1 TV each	3/4	6(.980)
	Mediasat	12.655V	1TV	1/2 & 3/4	6(.610)
	Marahishi U.	12.664V	2TV (for now)	2/3	20(.000)
(#2)	HK PowVu	4148/1002V	up to 8	2/3	24(.430)
(#3)	NBC HK	4093/1057V	5 typical	3/4	29(.473)
	JET Singapore	3962/1188V	2	1/2	13(.740)
	Feeds	3942/1208V	1 or 2	2/3	7(.497)
	ESPN USA	3860/1290V	7TV, 2 data	7/8	26(.470)
(#4)	Middle East	3778/1372V	4	3/4	13(.331)
	Service 1	3761/1389V	1	3/4	6(.620)
(BBC temp)	BBC + TFC	3743/1407V	5	3/4	21(.800)
(#5)	CCTVPowVu	3716/1434V	5 typical	3/4	19(.850)
	TCS-Singap.	4183/967H	2	1/2	6(.620)
	NTV Japan	4174/976H	1	3/4	5(.632)
	Feeds	4138/1012H	1	3/4	6(.620)
(#7)	NHK Joho	4035/1115H	5TV, 1 radio	3/4	26(.470)
	CNNI HK	3996/1154H	1TV	3/4	9(.998)
	Feeds	3967/1183H	1+	2/3	6(.618)
	7th Day Adv.	3957/1193H	1, 14 audio	3/4	7(.000)
	PAS-2 feeds	3939/1211H	2 (NTSC)	2/3	6(.620/7.498)
(#8)	Cal PowVu	3901/1249H	up to 8	3/4	30(.800)

Receivers & Errata
FTA SCPC - difficult
NDS CA (Pace DVS211)
NDS CA (Pace DVS211)
NDS CA (Pace DVS211)
NDS CA (Pace DVS211)
NDS CA (Pace DVS211)
NDS CA (Pace DVS211)
RCA/Thomson IRD. Now more dependable operation
FTA SCPC-difficult to load
Testing. FTA SCPC
FTA SCPC. maynot be permanent
unknown encryption format
all TV now CA but subs available
FTA SCPC
typ. 0500-2000UTC. FTA Russian
FTA MCPC
FTA SCPC
CNN FTA
CA. \$50 smart card required
CA. \$50 smart card required
DGT400 CA except #29 (TVSN)
NDS CA. 12.391 primary
1CA (D9234).. 4 FTA
mixed CA + FTA (EWTN)
PowVu. temp FTA
mixed CA-FTA/duplicates 3940
PowVu CA (D9234)
PowVu typ. CA (D9223 only)
format PowVu. nominally FTA. except 0000-0400UTC wkdays
FTA. occassional service. feeds
FTA. test card #2
PowVu. mostly CA. some FTA
Philips mux format FTA
PowVu CA-June shut down
FTA occ. feeds
PowVu CA: avoid #8,9 w/9223!
FTA -hard to load
occ feeds, FTA SCPC
PowVu: CA and FTA (BBC#3)
FTA (# pgm chs varies)
PowVu FTA/snews ch coming
FTA SCPC feeds (occasional)
FTA SCPC
1 CA (D9234), 4 FTA to 31/05/99
FTA - occasional feeds
FTA - occasional feeds
1900-2030UTC. not daily
FTA (NBA . shuttle-typ NTSC)
Some CA. some FTA (NTSC)

SatFACTS Digital Watch: Supplemental Reference Data / May 1999

PAS-2/169E	Disney	3804/1346H	3	5/6	21(.093)
	Discovery Sing	3776/1374H	8	3/4	21(.093)
	Satcom 1-6	3743/1407H	5	7/8	19(.465)
1702/177E	AFRTS	4177/973L	8TV, 12r.+	3/4	26(.694)
	Thai Bouquet	12.650H	up to 3 TV	1/2	17(.800)
1701/180E	TVNZ Gennet	4195/955R	1 (CA)	3/4	5(.632)
		4186/964R	BBC/Gennet	3/4	5(.632)
		4178/972R	1 (CA)	3/4	5(.632)
		4170/980R	APT-N-Tokyo	3/4	5(.632)
	AFRTS Pac.	4175/975L	3 radio	2/3	3(.679)
(#9)	RFO-Canal+	4095/1055L	7TV, 5+ radio	3/4	27(.500)
	SPN Nauru	4081/1069R	1	3/4	4(.730)
	NZ Prime TV	4024/1126L	1	2/3	6(.876)
(still on air???)	Network 7	3966-2/1184L	1	7/8	6(.446)
	RFO direct	3858/1292L	1	3/4	4(.566)
	TVNZ TL	3854/1293R	1	3/4	5(.632)
	TVNZ	3856/1294R	1	3/4	5(.632)
	TVNZ	3846/1304R	1	3/4	5(.632)
	10 Australia	3765/1385R	6	7/8	29(.900)

PowVu (D9234) CA
PowVu (D9234) CA
recently Middle East (4 chs)
PowVu (D9234) CA
FTA, replaced Space TV
DMV/NTL CA. all channels occ. use, FTA irregular around special event coverage
PowVu, CA audio (3 chs.)
Canal + (2) CA. rest FTA
FTA SCPC: weak signal
PowVu CA; network feeds
SCPC FTA NTSC /USA
East hemi beam to Tahiti
SCPC mixed FTA. CA feeds
SCPC mixed FTA. CA feeds
SCPC mixed FTA. CA feeds
PowVu CA: #5,6 occ FTA

Bouquets: MCPC (multiple [program] channels per carrier) MPEG-2 content frequently changes. Primary FTA (free to air) MCPC bouquets are as follows: (1) **European Bouquet:** (1) **Deutsche Welle**, (2) **MCM**, (3) **RAI International**, (4) **RTVE** (Spain). (5) **TV5 Paris** + up to 17 radio (some stereo) - see p. 2; (2) **Hong Kong PowVu:** (5) **Ad Hoc NTSC feeds**, (6) **Ad Hoc PAL feeds:** (3) **NBC HK** (Hong Kong): (1) **CNBC Asial**, (2) **CNBC Australia**, (3) **National Geographic** [English], (4) **CNBC India**, (5) **National Geographic** [subtitled Taiwan], (6) **Occ feeds**, (7) **CNBC test card-feeds:** (4) **Middle East** [testing: (1) **Antenne 1**, (2) **Lebanon LBC**, (3) **ART Australia**, (4) **RAI Australia**]; (5) **CCTV PowVu:** (1) **CCTV4**, (2) **CCTV3**, (3) **CCTV 9**, (4) **test bar**, (5) **CCTV1:** (7) **NHK JoHo:** (1) **NTSC Japanese**, (2) **NTSC English**, (3) **PAL Japanese**, (4) **PAL English**, (5) **NHK Radio**, (6) **NHK Premium:** (8) **Cal PowVu:** (1) **CMT [NTSC]** (CA 01/07), (2) **Ad-hoc [NTSC]**, (3) **BBC[NTSC]**, (4) **EWTN** + Global Catholic Radio, (5) **Ad hoc feeds**, (6) **Bloomberg Financial [NTSC]**, (7) **Golf Channel [NTSC]**, (8) **Discovery**; (9) **RFO-Canal+:** (1) **Canal+ [Polynesia]**, (2) **Canal+ [New Caledonia]**, (3) **test**, (4) **test**, (7) **TOM1**, (10) **TOM2**, (13) **TOM3** + radio on 5,6,8,9,11,12,14,15.

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

ADI MediaMate. FTA. NTSC-PAL outputs. (Pacific Digital Sys. Pty Ltd, tel 61-2-8765-0270)
AV-COMM R3100. FTA. excellent sensitivity (reviewed SF May 1998). Av-Comm Pty Ltd., tel 61-2-9949-7417
Grundig DTR1100. Mfg by Panasat S. Africa, similar to Panasat 630; out of production, Irdeto capable (see AV-Comm. above)
Hyundai-TV/Com. HSS-100B/G (Pacific) and HSS-100C (China) FTA. Versions 2.25/2.26 good performers. 3.11 later offered and those with Nokia tuners good performers. Version 5.0 not so good. SATECH ([V2.26] 61-3-9553-3399), Skandia ([V3.11] 61-3-9819-2466).
Hyundai HSS700. FTA. PowerVu, search, SCPC/MCPC. (Kristal Eletronics 61-7-4788-8906) [review March99]
MediaStar D7. FTA. preloaded with known services, exc. software (review SF July 1998). MediaStar Comm. Int. (61-2-9618-5777)
Nokia "d-box" (V1.7X). European. FTA. typically German menu, capable of "Dr. Overflow" Internet updates. **Caution on this one!**
Nokia 2000S (Asia/Pacific). Released Oct. 1998, equipped with CAM/PCMCIA slot, capable of Irdeto, others (factory will NOT supply CAMs at this time); no Asia-Pacific sources known at this time (but readily available through European sources); review 11/98.
Nokia 9200/9500/9600/9800. FTA. factory software does PowVu poorly, but has significant Internet software support. Ultimate play-around hobby machine but not consumer friendly. Original V1.63 had unique ability to search entire satellite to locate and list all SCPC/MCPC services: latest (V5.X software) versions compatible with Dr. Overflow (V8.X) software from Internet. CI (common interface) versions available in Europe, do not presently allow Irdeto however. No Pacific/Asia support; help from Av-Comm (61-2-9949-7417), and software from www.BAKKERELECTRONICS.COM. 9800S single chip released mid-May 1999.
PACE DVS-211. NDS CA only (no FTA);, Indovision. Star TV Asia. (Viva, Star News to Aust - Solution 42 61-2-9820-5962)
PACE DGT400. Original Galaxy (now Foxtel Sat/Austar) IRD, Irdeto, FTA with difficulty. (Foxtel Australia 1300-360818).
PACE DVR500. Original NBC affiliate IRD; FTA or Irdeto (w/CAM). Similar to DGT400, more reliable. No sources.
PACE "World Box." (DSR-620) Created for NDS non-DVB compliant MPEG-2, including Sky NZ. Info. ++49-211-526-9833.
Panasat 520/630/635. MCPC FTA. Irdeto capable. **Out of production;** spares from UEC (fax ++27-31-593-370, Russell Futter).
Panasonic TU-DS10. FTA. Irdeto CA. (see SF Aug. 1998). Aurora, (Evcom 61-2-9316-5055).
Phoenix 111 & 222. FTA. PowVu. Exceptional graphics, ease of use. (SATECH 61-3-9553-3399) (111 review this issue)
Phoenix 333. FTA MPEG-2, analogue, positioner. Detailed review SF Nov. 1998. (SATECH 61-3-9553-3399).
PowerCom. FTA. PowVu, exc. sensitivity. (NetSat 61-2-9687-9903)
PowerVu /PowVu D9223, 9225, 9234. Non DVB compliant proprietary format capable MPEG-2 FTA with optional software. 9234 sold for GWN and NHK Joho PAS-2, EMTV As2, CA access; others for various CA services. (Scientific Atlanta 61-2-9452-3388)
Praxis DigiMaster 9600 MKII/9800AD. FTA, PowVu + analogue.; (no longer supported in Pacific), was Skyvision - see below)
Praxis 9800 ADP. FTA, PowVu, analogue, positioner. Review December 1998. (no longer supported in Pacific, see Skyvision below)
Prosat 2102S. FTA, NTSC + PAL, SCART + RCA. (Sciteq 61-8-9306-3737)
SatCruiser DSR-101. FTA, PowVu, NTSC + PAL. (Skyvision Australia 61-2-6292-5850; Telsat 64-6-356-2749)
SatCruiser DSR-201P. FTA, NTSC & PAL digital, analogue, positioner. (Skyvision Australia - see above)
SK888. (aka DigiSkan from Sun Moon Star). FTA MCPC, Irdeto CAM capable. (Skandia 61-3-9819-2466)
UEC 642. FTA. Irdeto built-in, for Aurora + Optus DTH. ("Mondec" rack mount industrial version) (Nationwide 61-7-3252-2947)
UEC 660. Aust. Sky Ch. (1 version), Foxtel Aust. (2nd version); (info from but not available at Nationwide 61-7-3252-2947)
YURI HSS-100C. FTA. rebadged Hyundai V.2.27 software custom to Australia (Nationwide 61-7-3252-2947)

SatFACTS Pacific/Asian FTA ANALOGUE Watch: 15 May 1999

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BIRD / Location	RF/IF & Polarity	Service	Errata
I703/57E	3760/1390R	Sun TV	
	3808/1342R	Udaya TV	
	3886/1264R	Surya TV	
	3980/1170R	AsiaNet	
	4052/1098R	WorldNet	VOA subcar.
	4178/972L	MTA Inter.	
I604/602/60E	4166/984	feeds	
	4188/962	feeds	
I704/66E	3765/1385R	Tests	
	4015/1135L	Mongolia	(Secam)
PAS4/68.5E	3743/1407V	RTPi	
	3840/1310V	Home Ch.	(may be off)
	3864/1286V	BBC World	
	3907/1243H	Sony TV	Hindi
	390751245V	Maharishi	
	4034/1116V	Doordan	
	4087/1063H	CNNI	
	4110/1040H	TNT/Cartoon	
	4113/1037V	Series Ch.	
	4182/968H	MTV	
PAS7/68.5E	3470/1680V	Test Signal	
Ap2R/76E	3745/1405V	Vasta Music	P5 NSW
	3760/1390H	TEN tests	
Thaic3/78E	4155/995V	DD12 Pal	Asian beam?
	3871/1279H	TVT	
	3760/1390V	Army TV	
	3690/1460V	MRTV	
	3685/1465H	Mynamar	
	3635/1515V	RAJ-TV	also 3465V
	3616/1534V	ATN	
	3576/1574V	ATN Bangla	Bengali
	3554/1596V	RAJ Plus	
	3536/1614V	Punjabi TV	Punjabi
	3514/1636V	Falak TV	
	3465/1685V	RAJ-TV	
Exp. 6/80E	3672/1478L	TK Rossija	(north only)
	3875/1275L	VTV4+	(north only)
	3925/1225L	ACT/TB3	(north only)
	4125/1025L	Russia 3	(north only)
	4025/1125L	Prometei AST	(north only)
InSat2E/83E	3929/1221V	DD2 Metro	P5 Aust.
ChiStr1/87.5	3875/1275H	occ. feeds	P4 NSW Ntsc
ST1/88E	3550/1600V	test card	
	3552/1568V	Nila TV	
CIS S6/90E	3675/1475R	RTR1	P3 NSW
	3875/1275R	Orbita 1	
	3916/1234R	RTR II	
	3935/1215R	Orbita II	

MeSat-1/91.5E	3710/1440H	VTV 1.2. 4	
	3880/1270H	RTM-1	
Insat2B/93.5E	4165/985H	India Metro	Aust on 3.7m
	4125/1025V	Ind. National	Aust on 3.7m
	4070/1080H	India DD9	
	4080/1070V	DD7 (Tamil)	
	3970/1180V	DD9 (kan.)	
	3882/1268V	India DD1	
	3840/1310V	India DD	
	3762/1388V	India DD4	
CIS-S20/96.5E	3675/1475R	ORT	(this satellite
	3825/1325R	Madagascar +	may be out
	3875/1275R	Test Card	of service)
AsSat2/100.5E	3642/1508H	ERTU Egypt	
	3660/1490V	Test Card	
	3680/1470H	Feeds/Iran	
	3860/1290V	Feeds #	
	3885/1265H	WorldNet	VOA Subcar
	3960/1190H	CCTV4	
	3980/1170V	RTPi	Radio Subcar.
CIS S21/103E	3675/1475R	RTR	
	3875/1275R	Vrk.Apt	
AsSat3S/105.5	3760/1390H	CETV	
(temp FTA)	3800/1350H	Star Sports	NTSC
(temp FTA)	3840/1310H	Channel [V]	NTSC
(temp FTA)	3920/1230H	Phoenix Chin.	NTSC
	3940/1210V	Zee India	
(Star World N.)	3960/1190H	As1 shut down	0300U May 7
	3980/1170V	Zee TV	
	4060/1090V	Zee Cinema	(starcrypt)
	4100/1050V	PTV2/World	0900-2400 PST
	4120/1030V	CCTV4	NTSC
PalB2R/108E	4000/1150H	TVRI	
PalC2/113E	4183/967V	TPI/TVRI	
	4160/990H	(France) TV5	
	4140/1010V	Brunei, feeds	
	4120/1030H	MTV Asia	
	4080/1070H	Herbalife	2100HK/NTSC
	4040/1110H	CNBC	
	4020/1130V	ANteve	(left air?)
	3970/1180V	CNNI	(was 3980)
	3900/1250V	Malaysia TV3	CA and FTA
	3880/1270H	Aust. ATN7	
	3840/1310H	TVRI	temporary?
	3765/1385H	NBC, CNBC	Feeds, Herbalif
	3742/1408V	RCTI	English subcar
AsSat-G/122E	3675/1475L	bird to move	
ChinSat 6/125	4085/1065V	feeds	is it really here?
G'zont29/130E	3675/1475	NTV (+8hrs)	off 1400 UTC
Ap1A/134E	3820/1330H	CETV SD	

53.2	55	57	66	68.8	76	78.5	80	87.5	88	91.5	93.5	100.4	103	105.5	107.1	108	110.5	1.103	120	122
S27	2DT	1703	1704	PAS4 PAS7	Ap2	Th3	Ex2	Cs1	St1	Me-1	In2B	As2	S21	As3S	Ck1	B2R	Ss1	C2	Th1/ 2	AsG As1
C	C	C	C	C	C	C	C	C,Ku	C	C,Ku	C	C,Ku	C	C,Ku	"S"	C	C,Ku	C,Ku	C	C

128	130	134	138	(139)	140	145	146	148	151	152	156	160	161?	166.5	169	174	177	180	177	148
Jc3	ANI	Apl1a	Apl1	Or3	S7	S16	Ag2	Me2	C1	A3	B3	B1	Mb1	PAS8	PAS2	1801	1702	1701	1F3	Es4
C,Ku	C	C	C	C,Ku	C	C	C,Ku	C,Ku	C	Ku	Ku	Ku	C	C,Ku	C,Ku	C	C,Ku	C	C,Ku	Ku

Ap1A/134E	3900/1250V	CETV2	
	3980/1170V	CETV1	
Ap1/138E	4160/990H	CCTV7	
S7/140E	3675/1475R	Test Card	mod. inclined
S16/145E	3675/1475R	ORT	high inclined
	3875/1275R	Feeds, tests	high inclined
Ag2/146E	3787/1363H	GMA	poor s. eqtor
Me2/148E	4080/1070H	test card	occ. use
C1/150E	4160/990H	TPI	occ. use
PAS8/166.5	3865/1285H	Napa test card	not full time
PAS2/169E	3940/1240V	CNNI	1/2 Tr format
1802/174E	4166/984R	Feeds	
	4177/973R	Feeds	
1702/177E	4166/984R	Feeds	KBS Korea
	4187/963R	Feeds	Feeds
1701/180E	3810/1340R	Feeds	
	3841/1309L	RFO	East beam
	3845/1305R	Feeds	inc. USA
	3930/1220R	USA Feeds	Typ. encrypt.
	3975/1175R	Feeds	
	4060/1090L	Feeds	
	4130/1020L	Feeds	

Major Changes - Next 30 Days

Exact status of previously FTA analogue As1 services now that As3S is operating uncertain (previously announced many would be turned off). Likely to stay - CETV (3760H); [V] North Asia (3840H), Phoenix (3920H), Zee (3940V, 3980V, 4060V), PTV World/PTV2 (4100V) and CCTV4 (4120H). Note NTSC (p. 27)

Optus B3 at 156E / Ku only

12.720/1420V	Aurora MPEG	Irdeto CA IRD	see p. 15. 18
12.688/1388H	Austar MPEG	Irdeto CA IRD	list p.28. Feb
12.626/1326H	Austar MPEG	Irdeto CA IRD	list p.28. Feb
12.594/1296V	Aurora MPEG	Irdeto RABS	see p. 15.18
12.564/1263H	Austar MPEG	Irdeto CA IRD	list p. 28. Feb
12.532/1232V	Aurora MPEG	Irdeto RABS	see p. 15. 18
12.483/1183V	Herbalife	FTA analogue	NZ beam
12.438/1138H	Austar MPEG	Irdeto CA IRD	list p.28. Feb
12.407/1107V	Aurora MPEG	Irdeto RABS	see p. 15. 18

Optus B1 at 160E / Ku only

12.730/1430H	RHEF, NZ feeds	typ FTA anal.	occ. use
12.677/1377H	QSTV	BMAC RABS	off 06/05
12.670/1379V	SE ABC	BMAC RABS	until 06/99?
12.644/1344V	SE ABC	BMAC RABS	until 06/99?
12.639/1339H	NE SBS	BMAC RABS	off 06/05
12.613/1313H	NE ABC	BMAC RABS	off 06/05
12.576/1276H	ABC Radio	digital	
12.570/1270V	OmniCast		FM/FM
12.520/1220H	Net 9 feeds	typ. BMAC	
12.518/1218V	Sky NZ	NDS MPEG	& 12.546 (CA)
12.482/1182V	Net 10 feeds	typ. E-PAL	
12.480/1180H	Net 9 feeds	typ E-PAL	
12.455/1155V	Net 10 feeds	typ. analogue	
12.391/1091V	Sky NZ	NDS MPEG	& 12.418 (CA)

Oddball Formats

PAS-4/68.8	3785/1365V	Discov. India	BMAC
PAS-4/68.8	3860/1290H	ESPN Indian	BMAC
Ap2/76E	3960/1190H	HBO Asia	GI Digiciph2
C2/113E	3930/1220H	Fil. Peo. Net	GI 1.5 MPEG
PAS2/169E	3836/1314H	ABS/CBN	GI 1.5 MPEG
PAS2/169E	3989/1161V	Fox/Prime	Sa1.5MPEG

Orion 3 Frequency Use (if the satellite can be salvaged)

C-band service will be 10 transponders (5 each vertical and horizontal) in the expanded C-band region of 3.4 to 3.6 GHz.
Ku-band service is split between two frequency bands - 11.450 - 11.700 and 12.250 - 12.750 with a total of 33 transponders.

May Alert

AsiaSat 1 will be moving to 122E, while AsG - on lease from Intersputnik - will be moved elsewhere (no confirmation; 77.5 or 96.5 possible). Insat 2E 83E testing complete-watch for permanent residents (Vt) - 3929/1221 DD2 first up May 9.

Upcoming Satellite Launches

NSS-K to 95E - 30 HP Ku. "end" of May
Chinasat 8 to 115.5E - "June-Aug." 32C. 16Ku
Telekom 1 to 108E - July 2-5. replace B2R
co-launched with
AsiaStar to 105E (1452-1492 L-band radio) - July 2-5
KoreaSat 3 to 116E - August. 16 Ku to replace Ks1
Express A1 to 80E - August. 12 C. 5 Ku

WITH THE OBSERVERS

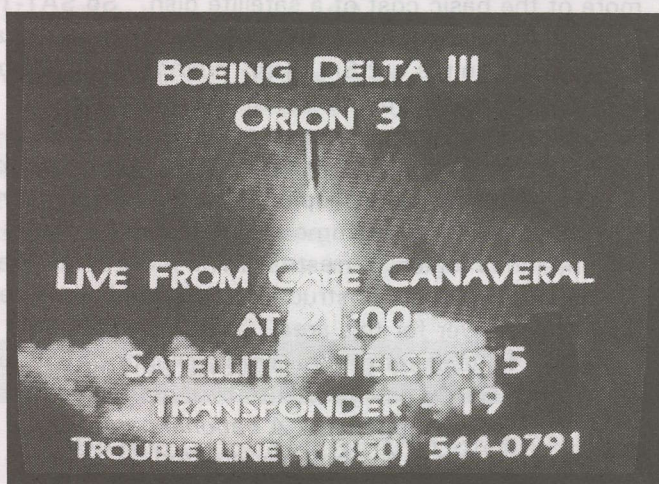
Helpful department. Paul Burton of Waipu Cable TV (NZ) reports he was having problems with holding onto the As2 WorldNet service feed; a difficult feed for many IRDs to load anyhow because of the multiple (21) extra audio channels. Because it had been perfect from initial sign-on, he suspected a satellite problem. "I called AsiaSat's technical department (using the number published in SatFACTS) and made my report. They said because of As3S they were 'a little busy' but I would be contacted about this. Sure enough, a day later, Chief Engineer Barry Turner returned my call and said 'We want our New Zealand viewers happy - here, let's see what happens now' and suddenly the BER shot way up from -2s to -4s. Boy is that good service!" (Barry Turner, Chief Engineer for AsiaSat can be reached at fax ++852-2576-4111).

Not so helpful department. SF for April reported the success of Steffen Holz (New Caledonia) when he did an installation of a 4.5m (Patriot) dish to replace a previous antenna used by RFO New Caledonia. Holz got through to the Canadian uplink that connects France (and the RFO feeds for the Pacific through I701 at 180E) and while on the telephone was rewarded with a nearly 3 dB increase in signal strength. We published the uplink number in April and several Australian readers report they contacted the people there and were told, "You people should not be watching this service, it is *illegal* to do so and we will not turn it back up." Well, for the record - watching a free to air transmission (which the RFO bouquet is in part - for five of the 7 video services there) is not illegal. Yes, RFO is now marginal (or gone) even on larger dishes in SE Australia. No, they do not plan to turn the power back up. The present operating level appears to be carefully balanced between "just enough service" for New Caledonia and Tahiti, and no service (for dishes smaller than 5m) in (SE) Australia. We may not like it - but for now, that's the policy folks.

LMI AP1/130E: No change in signal level here of NTV (3675/1475L) after switch from 122E (Leach, NSW). TNT movies (THT in Russian) now 15 hours daily FTA with adverts, dubbed Russian, 3725/1425L, Msym 6.108, FEC 3/4. One problem - with inclined bird, you track using the NTV analogue service which unfortunately shuts down up to 6 hours prior to the digital! Intersputnik advises additional digital services coming - "MusicTV USA", "The Family Channel" (Leach, NSW). Alas, this bird is inclined 2.6 and growing more daily.

AT PRESS DEADLINE

Indian TV? Suddenly available in abundance into Australia. InSat 2E (83E), testing with powerhouse signals late April, now starting regular service. "DD2 Metro 3929Vt P5" reports Zapara (WA). Add the 2E service to Zee's As3S channels plus Star News India available on subscription and Indians are suddenly very well served; from famine to feast in one week!



How many matches does it take to light-off an Orion satellite? 4 - 3 - 2 - 1. *Nothing*. Orion 3 tried, and tried and tried to get off the ground. And on May 5th they did. But not very well. Stage 2 fired, shut down as intended, and then refired again. But not as planned. Result - Orion 3 is in low earth orbit, tracking stations see "debris" flying with it. Can they "drive" satellite to proper geostationary orbit? Possible, not likely. A major loss to Pacific.

ApStar 2R/76E: "TEN" (Total Entertainment Network) test card has replaced AXN on 3760/1390Hz. VASTA Music so strong on 3740/1410Hz it is P3 on 4m dish looking at Thaicom 2 degrees above it (Leach, NSW).

AsiaSat 2/100.5E: Teletext has been added to Jiangxi TV (3727/1423Hz), Hunan TV (3847/1303Hz) and Hubei TV (3854/1296Hz). More of this is coming shortly on other Chinese SCPC services. Sky channel 2 was in clear late in April on 4020/1130Vt, normally CA (probably because of changeover from NDS to Irdeto CA system). New Chinese SCPC - Jilin TV 3872/1278Vt, Msym 4.420, FEC 3/4. Corrected numbers for Saudi TV - 3811/1339Hz. Msym 3.905, FEC 3/4. WorldNet 3764/1386Hz 1.4E-4 on 3.7m (Burton, Waipu, NZ).

AsiaSat G/122E: No official word where this will move as As1 comes to this location. Two possibilities include 77.5E and 96.5E.

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 June 15th issue: June 7 by mail (use form appearing page 34), or 5PM

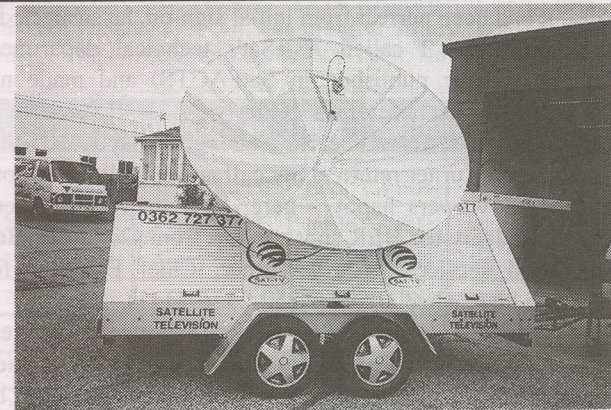
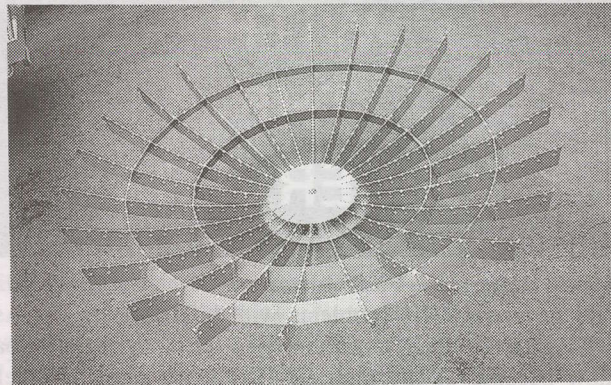
NZT June 8th if by fax to 64-9-406-1083, Email
skyking@clear.net.nz.

Rolling Your Own in Tasmania

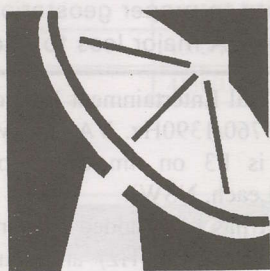
Charles Wolnizer and associates at SAT-TV Pty Ltd (Moonah, Tasmania) deny they are reinventing the wheel, even if there are physical similarities to things that are round.

"Freight to Tasmania costs an arm and a leg; unless you have the resources to deal in container loads, the freight from Sydney or Melbourne often equals half or more of the basic cost of a satellite dish." So SAT-TV set out to build their own using local resources, local skills. The result is a 2.3m dish "built like a battleship to withstand our frequently severe wind storms."

SAT-TV operates throughout the state, but concentrates on the Hobart CBD. "We have a backlog of 60+ installs to do - people here have been deprived of television programme selection and being a mountainous region, terrestrial TV is more often than not flawed by terrain obstructions. We think satellite is the ideal answer for this area." Their 2.3m antenna is available on lease or purchase with plenty of options including a newly designed H-to-H drive. And a funny thing has happened. "A national network headquartered in Sydney has ordered 41 of these systems." Is freight back to the mainland cheaper than coming to Tasmania?



AsiaSat 3S/105.5E: Beacons can be "seen" at 4,199.5/950.5 and 4,200.5/949.5. KIBF is likely channel ident for new Airirang TV service from Korea scheduled to test in digital format during June (will be DVB MPEG-2 compliant, not CA!). Early testing of 5 channels, briefly, May 6th, seen by a few quick off the mark observers.
InSat 2E/83E: Beacon at 41501000V; very powerful signals on vertical transponders when testing (Leach, NSW).



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Intelsat 703/57E: Sun TV 3760/1390R, Udaya TV 3808/1342R, Surya TV 3886/1264R, Asianet 3980/1170R all P5 on 3m dish (**Zapara**, WA).

Palapa C2/113E: Anteve (4020/1130Vt) frequently in B-MAC of late (Leach, NSW).

Intelsat 704/66E: Vijay TV 3760/1390R P5 on 3m, no sign of Adult 21 programmer at published times (Zapara, WA) Note: Can anyone confirm Adult 21 is still "testing"?

Optus B1/160E: On schedule, NE ABC, Central 7 & SBS B-MAC turned off May 6th in favour of Aurora. ABC, SBS simply left air while 7 Central carried "call this 1800..." advisory number for late comers (**Wilson**, Qld).

PAS2/169E: New parameters for Maharishi Open University on 12.664Vt; Msym 20.000, FEC 2/3 with Telstar test card on 2nd channel (the Msym will support a much larger bouquet - keep an eye on this one!). NTV Japan occasional feeds 4174/976Hz, Msym 5.632, FEC 3/4 (Holzt, New Caledonia). CNN analogue scheduled to shut down May 31 2400 UTC (3940/1240Vt). TNT in HK Bouquet scheduled shut down also 31 May - both in favour of new feeds now operating PAS-8. NHK Joho (digital) was scheduled shutdown May 1, now extended to May 31 (now operating PAS-8 as well). JET-TV 3962/1188Vt may stay on past June to serve Taiwan cable firms; has shut down distribution for Pacific and balance of Asia (including feed on Cakrawarta S-band).

PAS4/68.5E: Best signal in Western Australia is Maharishi University TV 3905/1245Vt; P4 (Zapara).

PAS8/166E: CNN will not run in New Caledonia on 3m dish, C/N of 6.5 and EWTN in California bouquet is down even further (Holzt). EWTN + bouquet on 3940/1210Hz is repeating on 3740/1410Hz (Msym 27.690, FEC 7/8 still). PAS8 shutdown for several hours mid-April caused by

malfunctioning UPS (standby power supply) for Napa computer controlling satellite, not anything on board satellite itself. CNNI has digital lock here in Bangkok on 3780/1370Hz (**D. Morris**). 46% on Phoenix 333 and 3m (**Mathews**, Auckland, NZ). 2.2E-3 on 4m (Burton, Waipu, NZ). Four Ku-band signals continue at 12.290, 12.370, 12.630 and 12.690 (**Merrett**, WA). Hutchison Telecom has completed tests using Ku-band linking to states from Australia. plans USA Direct satellite ISP service. C-band PAS Napa test card 3865/1285Hz is regular but not full time.

ST1/88E: Nila TV P3 on 3m, 3582/1568Vt (Zapara, WA). Poor reception on 3m (**Ditcham**, WA).

Errata: RFO Tele Nouvelle Caledonie is official name for (New Caledonia) service planning SCPC service before end of year. Want to know something about Intersputnik? Try Yuri Conrad in Moscow at fax ++7-095-253-99-06 or Email at dir@intersputnik.com. Looking for post launch update on status of Orion 3? Go to www.boeing.com and follow path to Atlas launch status.

MATE service for Australians!

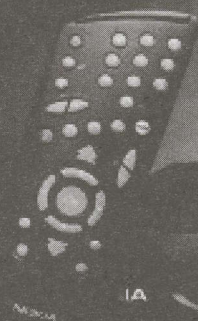
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AT

Sign-off

Here we go ... *again*

Census figures tell us there are 518,000 people in the combined French overseas "territories" of French Polynesia (195,000), New Caledonia (155,000), Vanuatu (152,000) and Wallis & Futuna (16,000). By comparison, Tasmania has around 450,000. For most residents, national television is RFO - the overseas version of French homeland television. Some French areas have one channel, a few have two. For the island of Tahiti (117,000 population out of the French Polynesia 195,000), there is also UIH Telefenua - a 13 channel MMDS service owned by the same people who own Austar in Australia. Noumea has a Canal + 1 channel service.

SatFACTS for February (p. 2) reported an announcement we had at that time from a person calling himself Hubert JP Fandoux of Skytel Digital. He said he was planning a multiple-programme channel service using Orion 3 to deliver between 6 and 8 French language channels including an adult (as in porno) service. The announcement created quite a commotion in French speaking regions; the terrestrial service provider RFO seemed especially upset.

SatFACTS for March (p. 31) reported a response we had from Orion - the satellite operator. They said, "*We have no contract signed, no contract pending with anyone named Fandoux or any firm named Skytel.*" Off the record, Orion told me there had been an inquiry from Fandoux late in 1998 but nothing had developed beyond the first "information please" stage.

We Emailed Fandoux several times, in response to his questions and statements to us, and when it became clear to him we were more than slightly sceptical of the statements he was making, he quit corresponding.

Then - in mid-April - Skytel appeared at the consumer oriented "International Fair" in Noumea which drew tens of thousands of visitors. At the Skytel twin-stands, a sizeable staff (of attractive young ladies) handed out literature describing the "Available July 1st" Skytel service; 8 channels. Skytel is promising (1) Eurosport, (2) LCI News, (3) Cine Cinema Movies, (4) M5 Musique Clips, (5) Festival (series and movies), (6) Planete (similar to Discovery), (7) an unnamed cartoon channel and (8) Fantasy Adult Movies. We are reliably advised, contrary to the Skytel literature, that those above underlined are licensed to the Pacific exclusively by Telefenua UIH Tahiti. As UIH is already in the French Pacific with pay-TV, it seems highly unlikely they would allow programming they control to be offered through a competitive platform. UIH did not respond to our query on this but as we have observed in Australia with their Austar, programming rights are taken very seriously. Then we have Canal + which advises they own "world copyrights" to *another three* of the Skytel channels - "and we have no interest in selling these channels to Skytel." Is it possible Skytel is promoting programming which it does not own



Attractive twin-stand staffed with (approximately 10) bright young ladies pushed 8 channel service for around US\$870 (equipment + installation) and US\$110 per month.

rights to, and moreover, is unlikely to obtain rights for? Is it possible Skytel is collecting money for something it cannot deliver?

The pricing being sold at the International Fair was confusing. US\$770 for the antenna (and we believe LNB. cable) plus US\$100 installation. Then US\$110 per month plus US\$20 per month for rental of the decoder. But these prices were only good if you signed a contract for 3 years! Otherwise? US\$2,000 for the antenna plus US\$300 as a "safety deposit" for the decoder which remains the property of Skytel along with the smart card.

So if not Orion, which satellite is this planned service going to be on? A very important question. We checked the Skytel answering machine and found an announcement saying it would be on "LMI AP1 at 130E, 3675 MHz, RHC." LMI AP1? Actually, that *is* the new name for the Gorizont at 130E. 3675 LHC, on the other hand, is now occupied by the eastern Russia analogue (NTV) programming in the Vladivostok time zone. We contacted Intersputnik about this and learned they had no knowledge of such a space reservation. It is worth remembering the 130E bird is inclined 2.6 degrees and growing more inclined monthly. Tracking an analogue carrier is one thing, tracking a digital format signal with the built-in "cliff effect" could be quite challenging. Can you imagine thousands of *consumers* forced to track a digital service on an inclined bird? I thought not.

There may be other birds. One would hope so since the announced coverage area includes Tahiti and by our calculation Tahiti has a 0.95 (that's less than one degree) squint at 130E in the best case, worse when the inclined bird dips in the figure 8 pattern.

So we have a fellow in New Caledonia collecting money (yes - people were signing up *and* paying money at the International Fair) for an 8 channel digital service which includes 6 programming channels owned by people who say they have not sold him the rights. And planning to use an inclined orbit Russian-American bird (the "L" in LMI stands for Lockheed) about which Intersputnik advises (May 6) "We have had some discussions with Skytel - no agreement has been reached - no prediction as to outcome of discussions."

Is this real? Will thousands of Pacific French islanders be disillusioned by Skytel? Is the money being collected going into a legally safe escrow account? Stay tuned.

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Town/city _____ Country _____

Amount to send: 1 year - NZ\$60 (inside New Zealand) / A\$90 (inside Australia) / US\$60 (outside of NZ and Australia) or 3 years - NZ\$140 / A\$210 / US\$150 if by cheque. **VISA** or **Mastercard**? See form below and return with order. Return to: **SatFACTS, PO Box 330, Mangonui, Far North, New Zealand** or if by VISA or Mastercard fax to 64-9-406-1083

ALL SatFACTS SUBSCRIPTIONS ARE SENT VIA AIRMAIL - WORLD-WIDE!

USE THIS FORM ONLY WHEN CHARGING ON VISA/MASTERCARD

Please charge my **VISA/Mastercard** as follows:

- ONE Year of SatFACTS MONTHLY (NZ\$60, A\$90, US\$60)
 THREE Years of SatFACTS MONTHLY (NZ\$140, A\$210, US\$150)
 SATELLITE TELEVISION: The Booklet (NZ\$10, A\$12, US\$10)
 One Year of COOP'S TECHNOLOGY DIGEST (NZ\$125, A\$125, US\$125)
- Indicate charge card type: VISA Mastercard

Name (as it appears on **VISA / Mastercard**) _____
VISA/Mastercard Number _____
VISA/Mastercard expiration date _____

Instructions: If ordering by mail, return this complete (3-part) card or a copy of same (to **SatFACTS, PO Box 330, Mangonui, Far North, New Zealand**); if order by FAX, send full card as a single sheet to **64-9-406-1083**

NOTE: IF YOU ARE IN AUSTRALIA - Please see AV-COMM Advertisement page 31!

SUPPLEMENTAL MATERIALS from SatFACTS MONTHLY: Order Form

- SATELLITE TELEVISION:** The Booklet. Excellent introduction to home dish ownership for the layman, including major contributions from the father of geostationary satellites - famed science fiction writer *Arthur C. Clarke*. The perfect tool to help the satellite system seller explain home satellite TV to the layman consumer. From **SPACE Pacific**. NZ\$10 / A\$12 / US\$10, airmail.
- COOP'S TECHNOLOGY DIGEST.** For the really serious enthusiast, investor, business person in satellite television and allied leading edge technologies. Ten issues each year, jam-packed with information you will not find anyplace else. "Coop" routinely culls more than 60 publications world-wide, terribly expensive newsletters, Internet and his hundreds of private contacts to keep you right at the leading edge of technology on the **REAL** changes underway in telecommunications. Conveniently issued near the **first of the month**, creating an excellent time-line-filler between the mid-month issues of SatFACTS. Now in the **6th year**, airmail world-wide. Normally NZ/A/US\$250 per year - for SatFACTS subscribers special 50% discounted price of NZ/A/US\$125.

OBSERVER REPORTING FORM - Due June 4, 1999

- NEW programming sources seen since May 1st: _____
- Changes (signal level, transponder, programming content) in pre-existing programming sources since May 1st: _____
- OTHER (including changes in your receiving system): _____

NOTE: Please use P1 - P5 code when describing signal levels and receiver IF/RF settings.

Your Name _____
Town/City _____
Make/size dish _____ LNB _____ Receiver _____

Your email address _____ if you have one!

RETURN: SatFACTS, PO Box 330, Mangonui, Far North, NZ, fax 64-9-406-1083, Email Skyking@clear.net.nz

LET US KNOW HOW YOU 'SEE' AsiaSat 3S!

Your name _____ Location _____
Antenna size _____ LNB noise temp _____ Receiver(s) _____
IF - **if** you could 'SEE' AsiaSat 1 at 105.5 E -
AsiaSat 3S is _____ Lower in level _____ Same level _____ Stronger in level than As1.

Use the 'P-code' to report your reception from each of the channels listed

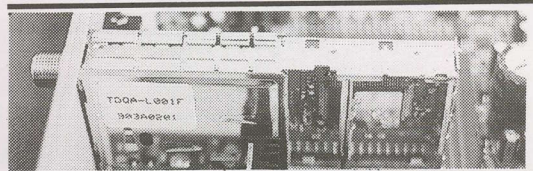
P5 - Totally free of any noise, perfect; **P4** - Tearing on edges of vertical lines, sparklies (noise) hits on bright, saturated colours; **P3** - Moderate noise in picture, viewable without difficulty; **P2** - Very objectionable noise, can watch with difficulty; **P1** - I can tell it is there!

Vertical: 3940/1210-Zee India _____; 3980/1170-Zee TV _____; 4060/1090-Zee Cinema (Starcrypt) _____;
4100/1050-PTV 2 _____.

Horizontal: 3800/1350-Star Sports _____; 3840/1310-Channel [V] _____; 3920/1230-Phoenix Chinese _____;
3960/1190-Star World _____; 4120/1030-CCTV4 _____.

Comments: _____

ON JUNE 15th a Reader of SatFACTS will
WIN this Phoenix 111 IRD!



Answer these questions (Be very careful to DETAIL - there are some TRICKS in here!): (1) The Phoenix 111 is a digital only IRD? Yes No; (2) This is a mid-price-range IRD? Yes No; (3) This IRD is manufactured in Europe? Yes No; (4) This IRD handles NTSC and PAL including PowerVu? Yes No

Provide complete information:

Your name _____ Mailing address _____
Town/City _____
Daytime telephone number _____ Home/after hours telco _____

In the event two or more entrants are tied for most correct answers to above qualifying quiz, a drawing will be held to randomly select the winner of the Phoenix 111 IRD at 5PM NZT June 15th; winner announced in July 15 SatFACTS.

Sky Vision Australia

A Proudly Australian owned and operated company



SAT CRUISER DSR-101 MPEG 2 DVB / POWER Vu RECEIVER

*Latest Model – New Features
Best value receiver in Australia !*

Trade Price **\$440** Ex Tax

- √ The ideal consumer orientated receiver with features that will please the enthusiast !
- √ Pre-programmed with all active TP's from Asiasat 2, Palapa, PAS 2 ,PAS 8 and more
- √ 10 spare user defined satellite positions for future satellite launches
- √ Simplified manual TP entry – TP Frequency is the only required parameter !
- √ Auto Symbol rate – Auto FEC – Auto PID's – Auto Polarity (LNBF)
- √ Satellite naming/editing – Channel naming/editing
- √ Alternate audio channels accessible from remote control
- √ On-board NTSC – PAL 50 Hz convertor – compatible with any PAL TV
- √ On-board Digital TELETEXT decoder – no need for Text capable TV
- √ 5 language menu - English (default) Spanish / Italian / French / German
- √ Consumer friendly graphical interface – Easy to install !
- √ UHF Ch 21-69 Software controlled RF Modulator – Low spurious emissions
- √ Low threshold dual bandwidth tuner – Dual SAW filter IF stage
- √ C Tick certified to comply with Australian Communications Authority standards
- √ Ultra reliable SMPS module – not a single reported failure to date !
- √ Full colour photographs and screen shots available from our web site
- √ 12 month replacement warranty – With an optional extended warranty plan
- √ Feel free to call one of our friendly staff for more information !

DSR-201P Analog/Digital/Positioner receiver ... Trade Price **\$640** Ex Tax

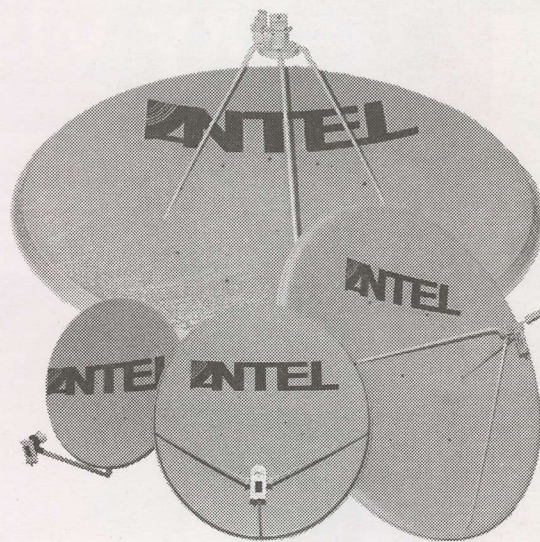
Export – Wholesale – Trade sales

Web Site: <http://www.bigfoot.com/~skyvision>
E-mail: skyvision@bigfoot.com

Tel: 02 62925850

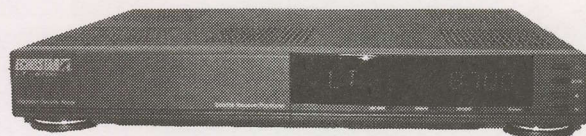
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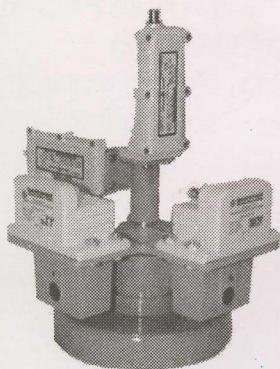


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