

Bob Cooper's

JANUARY 17 2002

SatFACTS

MONTHLY



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

IN THIS ISSUE

**eMTech's
eM200B
Review**

**Teletext &
Subtitle
Survey**

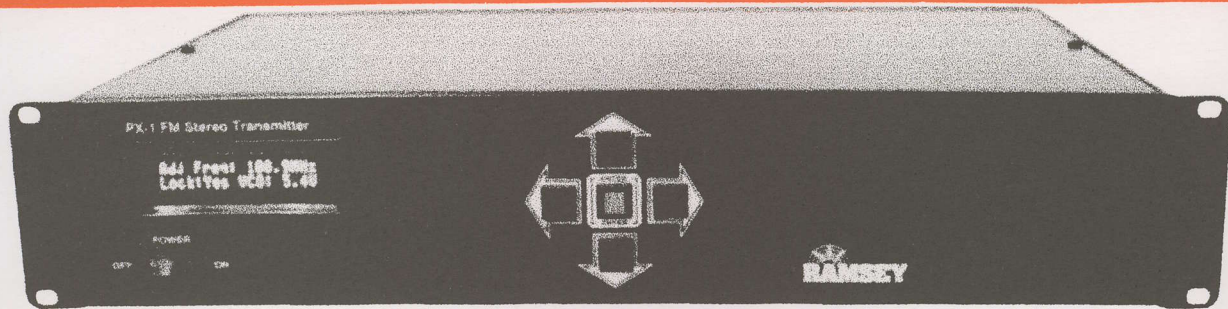
**ABC
Asia-Pacific
Launch**

- ✓ Latest Programmer News
- ✓ Latest Hardware News
- ✓ SDStv application notes
- ✓ Observer Reports

Vol. 8 ♦ No. 89
Price Per Copy:
NZ\$10/A\$11/US\$8



Everything You Need To Get Your Community FM Station On The Air!



- ✓ 35 Watt Continuous Duty RF Output
- ✓ Frequency Agile - 87.5 to 108.0 MHz
- ✓ Temperature and VSWR protected
- ✓ 120/240/12 VDC power with auto battery back-up
- ✓ Certifiable for licensed operation anywhere in the world

The PX1 was designed to fill the needs of the low power or community broadcaster. And we've loaded it with standard features to simplify setup, and save you the expense of adding additional components.

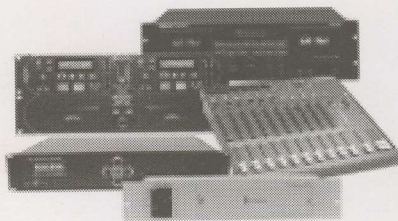
- Set-up and use is fast and simple with just 5 buttons to access all parameters - power, frequency, modulation, and more.
- Built-in stereo generator - no need for a separate encoder. Of course you can also broadcast in Mono.
- Built in Automatic Gain Control (AGC) gently "rides the peaks" and smoothes out level variations for consistent on the air sound.
- Built in "clipper" over-modulation protection keeps you clean and legal.

The 2-line vacuum fluorescent display gives you "at-a glance" verification of all parameters. The micro-controller continuously monitors frequency, temperature, deviation, etc. and makes subtle adjustments on the fly-like a "virtual" station engineer.

Connecting program sources is simple with two balanced inputs (XLR). For subcarrier broadcasters, we provide input for your SCA encoder and a pilot output. The antenna connection is type "N".

Only \$1795.00 USD

Let Us Equip Your Entire Station!



- ✓ Professional Audio Mixers
- ✓ Professional CD & Tape Decks
- ✓ Studio Microphones
- ✓ Studio Monitors
- ✓ High Power FM Antennas

We Have Everything You Need For Your Station!

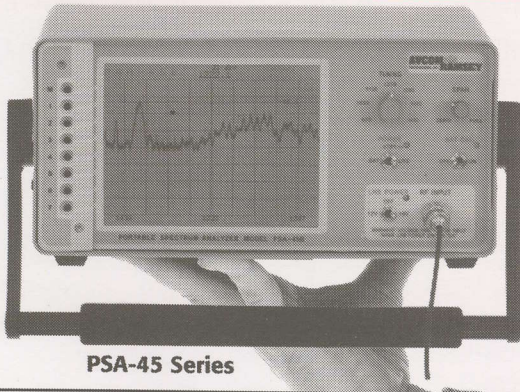
MX1202	Professional 12 channel stereo audio mixer, balanced and unbalanced inputs	\$459.00
MX1402	Professional 14 channel stereo audio mixer, balanced and unbalanced inputs	\$629.00
RM1202	Rack mount kit for MX1202 mixer	\$12.00
RM1402	Rack mount kit for MX1402 mixer	\$12.00
PRCD10	Commercial single bay CD Player, designed specifically for professional studio use, rack mountable	\$209.00
PRCD20	Commercial dual bay CD Player, designed specifically for professional studio use, rack mountable	\$375.00
DCD202	Professional Dual Cassette Deck, dual speed, computerized search makes edits a snap, rack mountable	\$625.00
BM01	Shure hand held Cardioid Dynamic Microphone	\$107.00
BM05	Shure Premium Cardioid Dynamic Microphone, desk/stand mounted, broadcast quality	\$595.00
PMS31	Self powered studio monitor speaker set, 15W subwoofer, two 5W speakers, studio quality	\$349.00
FMA200	Colinear Vertical Omnidirectional FM Antenna, 3.4 dB gain, 200W power rating	\$115.00
FMA300	Log Periodic FM Directional Antenna, 7 dB gain, 300W power rating	\$379.95

Your ONE-STOP Source for Community FM Broadcast Equipment!

AVCOM
Technologies, Inc. **RAMSEY**

AVCOM RAMSEY TECHNOLOGIES, INC.
793 Canning Parkway • Victor, NY 14564
Phone: 1-716-924-4560 • www.highpowerfm.com • sales@avcomramsey.com

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



PSA-45 Series

L-Band Spectrum Analyzer

- LCD Display with On-Screen Menu
- 950-1450 MHz
- +12/18V LNB power
- Portable, battery and line operated
- 3.6 kg (8 Lbs)
- Affordable!

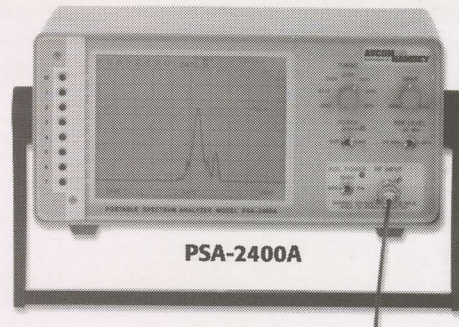
PSA-45A \$2,060.00

PSA-45B \$2,475.00

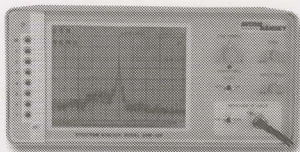
2.4 GHz Spectrum Analyzer

- LCD Display with On-Screen Menu
- 2400-2500 MHz
- Survey wireless LAN's with ease!
- Great for all ISM Band 2.4GHz sources
- Survey antennas available
- Portable, battery and line operated

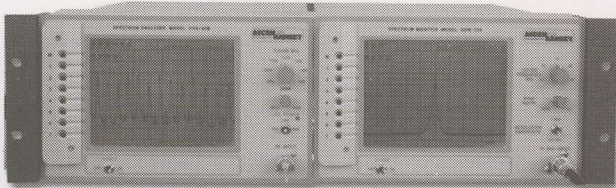
PSA-2400A \$2,775.00



PSA-2400A



SDM-42B



SDM-70AR with PSA-45BR

Spectrum Display Monitors

- 10.7 MHz, 70 MHz, Custom Freqs.
- LCD Display with On-Screen Menu
- Single or dual rack mountable
- Combo great for uplink's and trucks to monitor both L-Band and IF together
- Affordable!

SDM-42B \$1,595.00

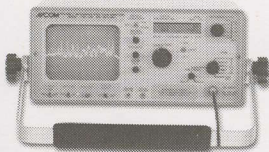
SDM-42BR \$1,860.00

SDM-70A \$1,595.00

SDM-70AR \$1,860.00

Check out our other Portable Satellite Test Equipment!

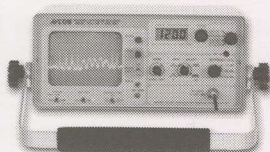
PSA-39A



- 950-2050 MHz in one sweep
- Offset frequency display directly displays L, C, or Ku frequencies

PSA-39A \$2,845.00

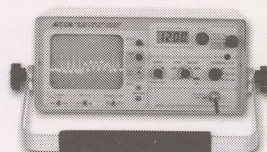
PSA-37D



- 5 bands cover 1-1750 MHz plus 3.7-4.2 GHz
- Frequency display

PSA-37D \$2,475.00

PSA-33A



- 1-1100 MHz, 950-2100 MHz
- 3 MHz and 300 KHz Res. BW
- Frequency display

PSA-33A \$2,775.00

PTR-25D/LCD



- Receiver & video monitor in one
- 950-2050 MHz input
- Digital frequency lock
- B&W or Color displays available

PTR-25D B&W \$1,395.00
PTR-25LCD Color \$1,625.00

AVCOM
Technologies, Inc. **RAMSEY**

Visit us at www.avcomramsey.com

500 Southlake Blvd. • Richmond, VA 23236/793 Canning Parkway • Victor, NY 14564
Phone: 1-804-794-2500 • www.avcomramsey.com • sales@avcomramsey.com

THE 2002 SATELLITE EXPLOSION IN THE PACIFIC/ASIA!

14 NEW satellites coming in 2002!

Stay tuned with SatFACTS!

- ENTER my 12 MONTH subscription to SatFACTS starting with February 15th issue (rates below)
 ENTER my 36 MONTH subscription to SatFACTS starting with February 15th issue (rates below)

NAME _____
Company (if applicable) _____
Mailing address _____
Town/city _____ Country _____

Amount to send: 1 year - NZ\$70 (inside New Zealand) / A\$96 (inside Australia) / US\$75 (outside of NZ and Australia) or 3 years - NZ\$160 / A\$220 / US\$170 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

IF YOU ARE IN AUSTRALIA - See AV-COMM Pty Ltd Advert p. 30!

USE THIS FORM ONLY WHEN CHARGING ON VISA/MASTERCARD

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

- ONE Year of SatFACTS MONTHLY (NZ\$70, A\$96, US\$75)
 THREE Years of SatFACTS MONTHLY (NZ\$160, A\$220, US\$170)
 TB9402: MATV Systems (\$20) / TB 9404: Home Satellite Dish Systems (\$20) /
 TB 9405: Satellite to Room Systems (\$20)
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 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

ALL COPIES OF SatFACTS Monthly are sent FAST POST - Airmail world-wide!

SUPPLEMENTAL MATERIALS from SatFACTS MONTHLY: Order Form

- TECH BULLETIN 9402: MATV Systems.** One antenna (system) on the roof, amplifiers and cable to distribute off-air VHF and UHF channels, perhaps FM, perhaps a video channel or two to the rooms of a home, motel, or commercial building. How do you do it? And maintain clean reception on each channel, at the same signal level as all other channels, to each of the wall plate outlets? It is all here - from antenna system design to distribution system and outlet mechanics + electronics. TB9402 - \$20 each.
- TECH BULLETIN 9404: Home Satellite Dish Systems.** New to satellite? Uncomfortable making all of the pieces fit, telling a "good piece" from a "not so good piece"? The difference between analogue sparklies and digital pixelations? When to use (and not to use) a line amplifier! Confused by polarisation systems, or why a vertical signal on your western horizon is actually a vertical signal? TB9404 - \$20 each.
- TECH BULLETIN 9405: Satellite to Room Systems.** Mixing off-air terrestrial signals with off-satellite FTA (or CA) signals to distribute all together on one piece of coaxial cable such that standard TV sets can receive all of the channels without a set-top decoder or box. Whether it be a large home, a motel/hotel or commercial building - the "blending" of terrestrial and satellite requires some special skills and new approaches. This is your "how to do it" guide that will prepare you for bidding on "the big jobs". TB9405 - \$20 each.

SatFACTS MONTHLY

ISSN 1174-0779

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

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

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

Editor/Publisher

Robert B. Cooper (ZL4AAA)

Office Manager

Gay V. Cooper (ZL1GG)

Reaching SatFACTS

Tel: 64-9-406-0651

Fax: 64-9-406-1083

Mail: PO Box 330

Mangonui, Far North

New Zealand

Email - Skyking@clear.net.nz

<http://www.apsattv.com>

Subscription Rates

Within NZ: \$70 p/ly

Australia: AV-COMM Pty Ltd, PO Box

225, Brookvale, N.S.W. 2100

61-2-9939-4377

Elsewhere: US\$75 p/ly

All copies sent via airmail fast post world-wide

ERRATA

SatFACTS Copyright 2002 by Robert B. Cooper; any form of copying is a violation of our international copyrights. Advertising rate sheet available upon request.

COOP'S COMMENT

Should we be laughing in elation or crying from disappointment with Australia's newest service, "ABC Asia Pacific"? The new service began testing December 26th and officially launched at 8PM Sydney time on 31 December. It is on PanAmSat PAS-8, 4180 Hz, Sr 27.500, FEC 3/4 with two TV channels and a pair of radio services. The second TV channel time-lags the first by 2 hours which partially compensates for the PAS-8 coverage across 6 time zones. The services are FTA and there are some surprises with the programming being telecast. For example, Looking at the web posted schedule for Sunday January 20, Australian produced "Blue Heelers" appears along with "Seachange". There is news (ABC National), travel ("Getaway"), and sport ("National Soccer League", "Surfing"). Presently the day is broken into 6 x 4 hours each with repeats. The second video channel begins the same 6 x 4 hour cycle at 10PM Sydney time each day. There is a five-year A\$90 million budget for this, and the ABC hopes to augment that government funding with advertising sales.

But first ABC A-P needs viewers; lots of viewers. I understand they are in "negotiations" with terrestrial broadcasters in Bangladesh, Fiji and Samoa at this time. There have also been discussions with satellite and cable rebroadcasters.

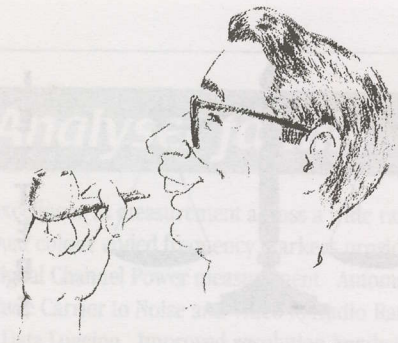
Unfortunately, New Zealand is not included in any of this. Oh, with a 3m or even 2.4m dish, the ABC A-P signal pounds in OK. But when New Zealand broadcasters contacted the service (Ian Morphett as morphett.ian@abc.net.au is technical director while Jim Styles as capitaloan@bigpond.com is the operations contact) they were told, "Sorry, we do not hold broadcast rights for New Zealand".

This statement falls someplace between "incomplete" and "deliberately misleading". In fact, by their own statement ABC will produce "25% of the total broadcast day", primarily the programmes in the news and current affairs area. If ABC produces programming, ABC owns rights to that programming. "Blue Heelers" and "Seachange" they purchase and it is understandable that as both are or have been seen in NZ, that rebroadcast rights acquired by ABC-AP might not include NZ. That they do include Samoa, Fiji and Bangladesh is one of those interesting but hard to explain diseases that self attach to copyright issues.

So in fact ABC-AP could ask itself (as they own the copyright) for permission to download to New Zealand TV stations and cable systems - if they simply looked in the mirror and said, "How about it?"

Perhaps they overlooked this obvious scenario, or perhaps they don't want viewers in New Zealand. So for now ABC-AP will be available to homes with a satellite dish (the service is not only free to air but it intends to stay that way), homes connected to SMATV and cable TV systems, and if you happen to be in the correct country, via terrestrial TV rebroadcasters. That it might one day end up being included in one or more satellite packages (such as Indovision S-band package for Indonesia) is also possible.

The "theme" or motto at ABC-AP is "For the Region, from the Region". When you go to the web site (<http://www.abcasiapacific.com>) it is difficult to miss the coloured coverage map which someone has doctored to totally miss Australia (!) and New Zealand. Such misrepresentation is not a very good indicator of things to come.



January 17, 2002



In Volume 8 ♦ Number 89

eMTeCh's IRD line - technical report -p. 6

The textex thing - basically, it does NOT work -p. 8

FM bandwidth versus threshold point -p. 12

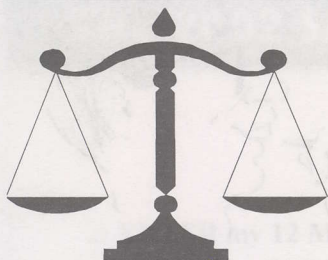
"Virtual Murdoch" reveals much about pay-TV risks -p. 15

Departments

Programmer/Programming Update -p.2; Hardware/Equipment Update -p. 4; SDStv.com Tech Notes -p. 20; SatFACTS Digital Watch -p. 22; Supplemental Digital Data -p. 26; BANDSCAN: PanAmSat PAS-2 (part two) 169E -p. 26; SPACE Pacific Report - TV Show schedule -p. 26; With The Observers -p. 28; At Sign-Off (Digital bugs bugging Sky NZ) -p. 31

-ON THE COVER-

Sir Arthur C. Clarke with his "newest toy" - a backyard V-Sat terminal that links him directly to the satellite world he helped create, at his home in Sri Lanka.



LBF on 1701

"There are apparently many people who have been unable to lock onto the newly reloaded 11.610GHz French pay TV package from, 180E. Some report it had been working for months and then it disappeared at about the time of the December channel reloading. Assuming the correct hardware is in use (E.g. 9750 LNB, 1m dish), one finds an excellent signal level using a spectrum analyser in NSW. The L-band frequency is 11.610 - 9750 = 1860 MHz. Some people report it looks great on an analyser but refuses to load; others report if they drop the dish to literal ground level, it suddenly works. The answer to this quandary is TI - terrestrial interference. If you have an analyser that tunes to 1860, disconnect the satellite LNB(f) and insert a 2-3" length of wire into the (BNC) fitting on the input to the analyser. What you are likely to see is a HUGE carrier at 1855 MHz, originating in some sort of newly activated terrestrial broadcasting system. The fix for each location will be to place the 180E dish behind something that acts as a shield to block the 1855 MHz terrestrial carrier - the house, a wall, anything that reduces the terrestrial signal sufficiently to allow the much weaker 11.610 (= 1860 MHz) signal to override the TI."

Jacob Keness, OPAC, Sydney

TI or terrestrial interference is normally something one encounters on C-band - there being a number of world regions using 3.4 - 4.2 GHz for (typically telco) point to point microwave. In this instance, the TI is getting into the system not at the 11.610 GHz frequency but rather at the IF in L-band. Quad shield cable might help - but not likely. Pacific countries including NZ and Australia have "Fixed" and "mobile" users in the 1710 - 1930 MHz (L-band) region, the frequencies having been "sold" by the respective governments for "2nd" and "3rd" generation cellular technologies. So while this may be a "first report" we can expect many more in the future. Jacob's answer is the right one - find a location for the dish where the L-band terrestrial signals are blocked or attenuated by terrain or manmade buildings and if the problem persists, tell SF about it - we'll show you how to build "screen reflectors" to protect the LNB(f) and coaxial cable from the terrestrial service signals.

Own web site

"I have created a web site of my own (www.northsideantennas.com.au) which should help our growing customer base stay current with the products and services we offer."

Nic, Northside Antennas, WA

In trouble?

"Local agent for Zee Link will neither confirm nor deny multi-reports the service is in trouble. Nor will he provide a guarantee that anyone signing a year contract and paying for same will actually receive a full year of service."

DP, Auckland

PROGRAMMER PROGRAMMING PROMOTION

UPDATE

JANUARY 17, 2002

ABC Asia Pacific has launched (31 December) on PAS-8 4180 Hz (Sr 27.500, FEC 3/4). Two video channels (+2 radio) here, #2 video runs 4 hours offset from #1. Unlike previous Australian international service, this one will carry "entertainment" such as Blue Healers (see p. 1, here).

Financial strife. AsiaSat 2's NOW-TV has lost up to 400 staff members at the London production studio operated for the network by Trans World International. The As2 FTA service has been programmed largely by London in a joint partnership arrangement with owner Pacific Century Cyberworks. The future for NOW-TV's As2 service is not looking bright, for a short time reruns of previously produced material will keep the service on the air. PCCW was one of many dot.com high flyer firms that watched as the stock market crashed around their shares, effectively reducing the "value" of the business by more than 75%. At one point in mid-2001, PCCW was a "serious" buyer for Optus Australia - imagine how that would NOT have worked out!

More financial strife. Austar (United Communications) failed to meet a midnight December 31 deadline to negotiate a renewal of its A\$408 million loan backed by major North American banks. Technically, Austar is in breach of its bank loan agreements but for the moment - the month of January at least - the banks have promised not to call in the loans which would shut Austar down. A new Chief Financial Officer took over December 31 and the "good news" is that Austar managed to keep their services operating through the Christmas-New Year holiday period with a "skeleton staff." Strangely - statements to customers requesting payment for January - which should have arrived in mail boxes by 20-22 December were still missing early in January and customers attempting to query Austar about this were subjected to an endless telephone queue which led ultimately to neither a machine or a human answer. One sure way to come up cash short is to neglect to send customers bills!

Sky NZ not first. Popular legend has Sky NZ as the first operator in the world to initiate UHF-TV encrypted pay-TV broadcasts as a commercial operation. Turns out not quite true - the first was in Bogota, Colombia using 200 watt UHF TV transmitters - the last of which was recently closed down.

TVNZ is now "high res" on Sky's bouquet. Within days of the publication of SatFACTS December, Sky NZ's management decided to increase the bandwidth available to TVNZ's TV One and TV2 services in their bouquet to the maximum resolution of 720 x 576 pixels. Prior to the upgrade, they ran TVNZ's channels at the low resolution 544 x 576 pixels. Perhaps Sky wanted to eliminate low versus high res as a commercial option favouring the TVNZ bouquet on 12.456 where the transmissions have been high res from day one. Installers of TVNZ-only 12.456 service report they were finding a high degree of customer acceptance of the twin arguments favouring 12.456 - (#1) Higher resolution, and, (#2) Teletext available - with an appropriate IRD. Now the arguments are down to "teletext only available on 12.456" as a reason for favouring the non-Sky service. Plus of course the difference between \$17.29 a month for Sky's package and \$00.00 per month for the FTA 12.456 service. New Zealand supplier Satlink NZ has pretty much cornered the present NZ FTA market offering a Winersat (DigiBox 200) FTA receiver with Teletext capability, albeit only through VBI/UHF remodulated output.

TVNZ FTA Market Growth Report

As of 10 January there were 129 "new" installations for TVNZ's 12.456 FTA service reported, plus an additional (estimated) 600 in place prior to the launch of service 1 December.

The growing Unaohm Television Analyser family



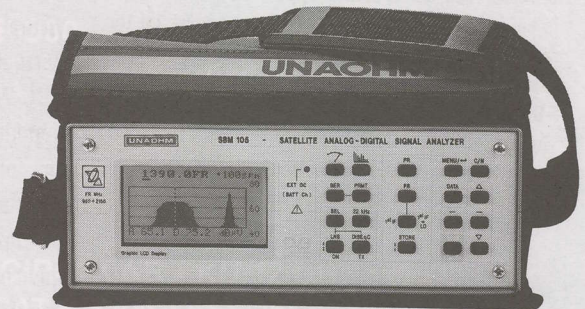
EP507 permits excellence in measurement across a wide range of television functions. Dual colour coded frequency markers provide a sound method of Digital Channel Power measurement. Automatic measure functions include Carrier to Noise and Video to Audio Ratios plus expanded Data Logging. Improved resolution bandwidth displays extra Spectrum detail. QPSK, OFDM and QAM quality measures of Bit Error Rate and Modulation Error Ratio etc., colour Constellation Diagram and printout of MPEG Network Information Tables are available. An internal reference Noise Generator that permits measurement of insertion loss or filter alignment etc. anywhere between 45 and 2000MHz is also available. A quality TFT LCD screen uses colour to clarify the meaning of most measurements, or simply to show a colour TV picture.

EP 319 level and Spectrum measurements feature high accuracy and selectable Resolution Bandwidths of 100kHz, 1.5MHz and 4MHz to provide real time spectrum displays of signals from TV stereo audio and colour sub-carriers to SCPC satellite signals. 5-40MHz is included, with Analogue and Digital data logging. Options include Digital Signal Quality measures of QPSK+QAM or OFDM. Operational running time is extended thanks to a Ni MH battery pack. Dual Spectrum Markers with Frequency and Level difference (Delta) measures, an electronically generated graticule, On Screen Display function indicator, automatic analogue Carrier to Noise and Vision to Audio ratio measures, DiSeqC 2.0 switching, Teletext etc. are included.



SBM-105 makes all the necessary measurements for Digital and Analogue Satellite signal Quality. Built around the standard Unaohm Digital Signal Quality measures, the SBM-105 includes Spectrum with Analogue and Digital signal level measurement. The graphic matrix LCD is readable in direct sunlight or low light. Versions are available for QPSK, QAM and OFDM. The SBM-105 is a low cost answer to installer measurement requirements of digital from a company with over 60 years experience manufacturing electronic instruments.

EP-313 provides a new benchmark for price, function and quality in a Television Analyser. Spectrum mode uses an easy to see frequency marker. Carrier to Noise ratio, Vision to Audio ratio and Digital Channel Power measurements display digitally and are automatic. 100 PReset tuning positions store your favourite channels, whilst factory preset channel plans enable tuning by CHannel almost anywhere, by FRequency either by direct entry or step. Teletext is standard. Factory Digital Signal Quality options for QPSK, OFDM or QAM round out the EP-313's measurement abilities.



Another quality product from

UNAOHM

Lacey's
Australia

12 Kitson St. Frankston VIC 3199
Tel:(03) 9783 2388 Fax:(03) 9783 5767
e-mail: placey@netlink.com.au
branch offices in Sydney, Ulverstone & Woolgoolga

IPDVB?

"SatFACTS December, p. 28, with reference Palapa C2M mentions an observer (TC in NZ) using 'IPDVB software' for his Nokia receiver. I have a 9500S and would like to hear from someone who knows where I can download this receiver software. I have tried to locate it on the net to no avail."

Bryan Curtis bcurtis@mansfield.net.au

The best source for Nokia software information we know is Craig Sutton at <http://www.apsattv.com>. Craig's web site and chat group includes the best of the best when it comes to Nokia enthusiasts.

Downloading CCTV4 and CCTV9

"Triangle TV (Auckland) would like to download the CCTV4 and CCTV9 services here in Auckland. What size dish will we require and what is your recommendation with respect to the two satellites?"

Hans Versluys, Director of Programming, Triangle TV Of all of the clients for PanAmSat, CCTV is the 'most dodgy' and apt to change their arrangements with PAS on short notice. Having said that, we suggest PAS-8 for Auckland simply because the look angle is better.

However, the C-band coverage of PAS-8 into New Zealand is significantly less strong than say in eastern Australia because of the highly sculptured footprint from PAS-8. Bottom line? For commercial access - a 3.7m dish as a minimum.

InSat 3C?

"What happened to InSat 3C which was originally scheduled for 74E and a July (2001) launch?"

David Samuels, NSW

3C was scrubbed before launch because of a failure of the Ariane V launch vehicle. Barring last minute "holds," it is now scheduled for takeoff January 16 (this January 16th). It will have 6 expanded (within 3.4 - 3.7 GHz) region transponders, 24 regular C (3.7 - 4.2) plus S-band (those could be interesting).

Yet another "digital artefact"?

"First we had (and still have) problems with the geometry of the image concurrent with the introduction of widescreen digital while the same programmes are 'shared' with 4:3 analogue. Recently, a number of British produced programmes aired on the ABC and commercial networks have had a 'blue tint' to them. The fault appears as if the grey scale has been incorrectly set. When I first noticed the fault, I assumed the blue gun on the CRT I was watching was faulty. Human faces, for example, appear as if a blue light is being shone on them. Now I have compared the fault on several different sets and realise it is them - not me! Try 'The Bill' Saturday nights on ABC at 8:30pm Sydney time to check it out yourself.

IF, Queensland

Teletext/subtitling that does not work

"With all of the new interest in determining which broadcasters actually do provide text services, and which receivers will process same, I suggest users of Imparja try 'alternate channel #31' and note that Westlink uses a similar format between shows to display the programme guide. It ain't much - but for some it is better than nothing."

AI, NSW

HARDWARE EQUIPMENT PARTS

UPDATE

JANUARY 17, 2002

Management strife. One year ago Sydney based Comet Satellite & Cable Ltd was riding high with new business units established in the UK and New Zealand promising to make the firm the largest, most successful cable and satellite installation business in the world. On November 28th, quietly and without fanfare, firm founder Kingsley Munday resigned. Shortly after, Comet managed to sell 10,485,133 new shares of "ordinary stock" for A0.0639 each, a price it admitted was "10% below the (then) current market price" (the current market for Comet shares has been pushed downward by ex-directors unloading their own shares in the market at ever descending prices). The newly raised A\$670,000 was to become a "bridge" to cover the firm's daily operations until the present financial situation is resolved. A release from Comet Chairman B. Crowley includes the line, "*Our UK venture ended disastrously, resulting in a \$4.4 million loss.*" Comet's major weakness may be their almost total reliance on pay-TV providers Austar and Foxtel for installation work and they are hopeful of "(being able to) *develop and acquire revenue streams where we can develop our own franchise.*" The 'Mr Antenna' and 'Mr Alarm' business ventures, business names controlled by Comet, are two such possibilities. For now, the Victoria office in Melbourne remains closed, installers order system equipment through the Sydney office and pay for same which they subsequently bill back to Comet. This unfortunately adds weeks or more to the payment cycle to the benefit of Comet and disadvantage of the contract installers.

Hazardous business. Mustafa Can, owner of a Wellington (NZ) restaurant, has been found guilty in District Court and fined \$280 for "assault with a weapon and possession of an offensive weapon". Because? A "satellite TV repairman" was threatened with the knife and told, "I am going to slit your throat if you can't get my satellite dish going." The (unnamed) satellite guy had apparently been unable to make Can's home satellite dish play to his satisfaction and when he presented a bill for his time and services, was told of the consequences. Sort of like that classic movie, "*The Cook, the thief, his wife and her lover*" with satellite TV thrown in for "seasoning".

Fashion TV receivers. Although at press time the decision by French based "FTV" to encrypt using Viaccess has been postponed, should it actually happen you can locate receivers from Kristal Electronics (Email philip@kristal.com.au; telephone 61-7-4788 8902). The Simba 201 (French sold) receiver will also require a smart card which is available through FTV direct but Kristal can help here.

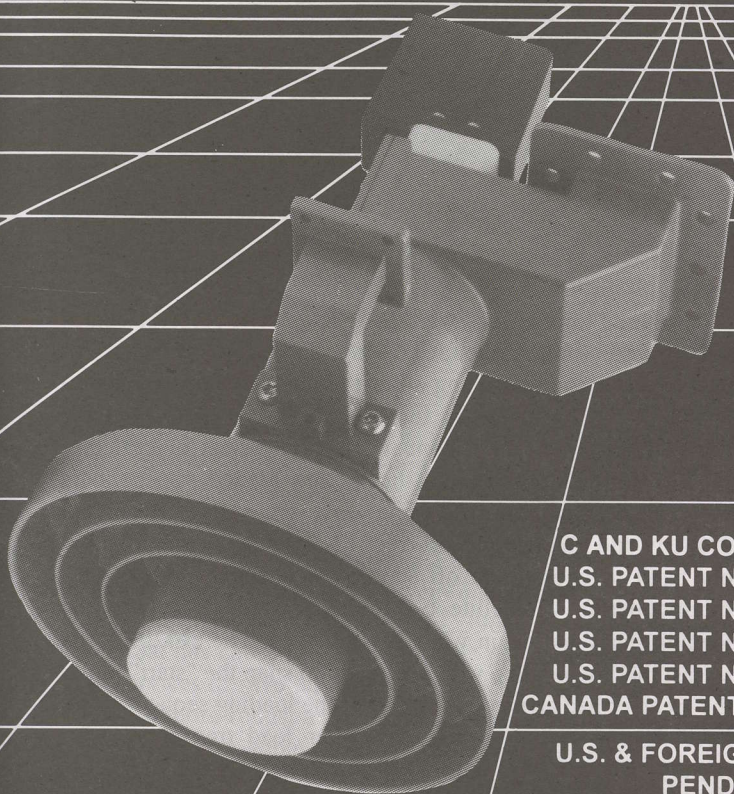
BBC hiccup. BBC World service on PAS-2's 3901 Hz (within California Bouquet, virtual channel 5 in NTSC) will be turned off 14 February. BBC-W on PAS-2 3743.5Vt (virtual channel 3) will continue but they expect to encrypt it "sometime in 2002." BBC-W is also on PAS-8 3940Hz (Sr 27.690, FEC 7/8) in NTSC with English and Japanese audio on separate audio channels (1 and 2). This service will remain FTA for the foreseeable future.

AsiaSat 4. Scheduled for launch to 122E sometime after midyear, but no release of footprints yet "for commercial reasons". Will Kwan (WKwan@asiasat.com) does advise, "AsiaSat 4 has been located specifically to provide maximum coverage over Australia." Subject of course to the actual footprints. We do know that Star TV Asia and Telstra Australia are listed as users of this new bird, and, there is but a single "shaped" C-band beam designed to reach "Asia/Australia/New Zealand". Stay tuned.

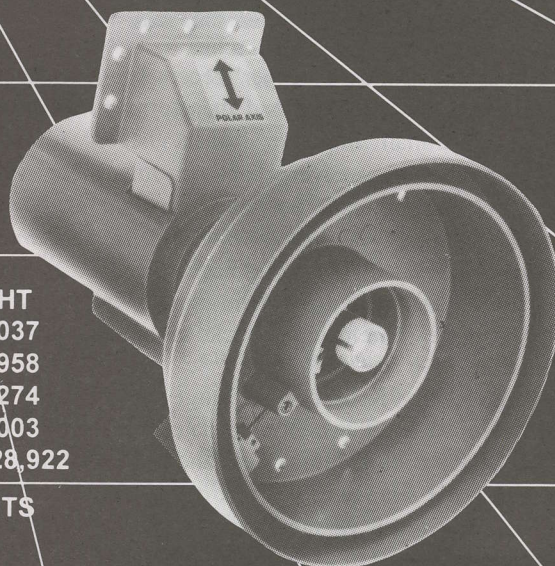
GlobeCast has taken an additional 18 MHz on C-band AsiaSat 2 and plans to launch a MCPC package there under Satlink Communications banner, primarily for Japan and Asia.

ADL[®]

BECAUSE PERFORMANCE IS ALWAYS YOUR FIRST PRIORITY



**RP3-CKU/ International
Adjustable Scalar Ring Feed
with Extended C Band**



RPI-CKU Feed

C AND KU CO-BORSIGHT
U.S. PATENT NO. 4,903,037
U.S. PATENT NO. 5,066,958
U.S. PATENT NO. 5,107,274
U.S. PATENT NO. 5,255,003
CANADA PATENT NO. 1,328,922

**U.S. & FOREIGN PATENTS
PENDING**

ADL HYBRID MODING CIRCULAR POLARIZED INTELSAT FEEDS WITH EXCLUSIVE T.I. REJECTION



RP1-CP400



CP-300



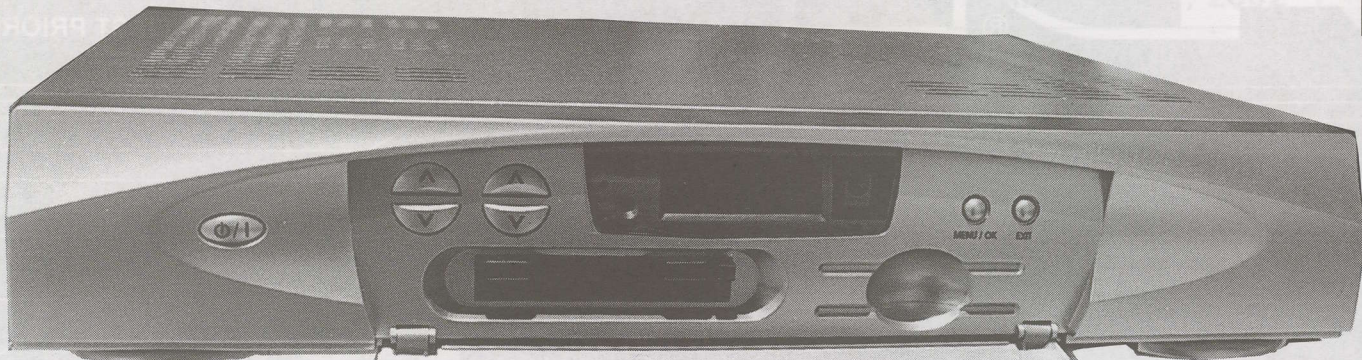
CPOR-100

- C BAND LINEAR & CIRCULAR • C/KU LINEAR & CIRCULAR • KU 12 GHz FEEDS
- INTELSAT 4 GHz CIRCULAR • ARABSAT S BAND FEEDS
- OPTIONAL: CO-BORSIGHT S BAND

2216 AGATE COURT, UNIT B, SIMI VALLEY, CALIFORNIA 93065 • (805) 526-5249 • FAX (805) 584-0634

NEW ADL Web site - www.adlfeed.com

eMTEch's Receivers: SF Review and User Reports



This is one of those "sleeper" receivers - it slides in without much attention or fanfare and then turns out to be a winner. When Australian importer Kansat began advertising the eMTEch line of receivers back in July there was modest interest (Kansat's Gary Salisbury Emailed us, "*Wow - first receiver already ordered from the advertisement and I haven't even received my own copy of SatFACTS yet!*"). There are of course readers out there who simply must own one of everything new and have the bucks in the bank to support such a mindset.

More recently, Kristal's Philip Ingegneri began to handle the same receiver and that sent up a flag; Philip is well known for being "first in" on anything new and hot - the emphasis being on "hot." We arranged for a test of the eM200 version (there are four different versions) largely as a result of Philip's positive statements to us and some early user reports.

Observer David Mitchell (NSW) was one who had plenty of nice things to say about the eM100 - which is the "basic" FTA version. Mitchell has four dishes wired into the receiver (a 1.8m mesh on a polar mount for C-band, a 90 cm offset on Optus B1, a 65cm on Optus B3 and a 60cm on PAS-8) and quickly found the receiver would switch seamlessly between dishes and services as fast as he could provide remote control instructions.

David's eM100 is the "foundation piece"; the eM200 which adds a pair of CI slots, the eM210 which adds positioner operation to the eM200 features and the eM300 which drops the positioner control, retains the twin CI slots and tacks on a 20GB hard drive for direct recording complete the line. All four versions share the same software and if you master operating any one you can handle the remaining three comfortably.

Our initial impressions were as follows: The receiver comes out of the box preloaded with an array of satellites (unfortunately not including all of the Pacific region birds you would like). If you are in too much of a hurry to read the reasonably well written manual, you can select a particular satellite from the menu and the factory loaded transponders will instantly fill up (assuming only your dish is pointed properly and you have the correct LNB settings entered). It is our habit to photograph off screen the channel loading on a transponder or a satellite two times - once as the channel loading starts and again when it is finished. The eM200 loads so fast that by the time we were ready to snap the "start" photo the receiver had arrived at the end of the loading sequence. We have never - *never* - seen a receiver load transponders so rapidly. Memory will hold 2000 channels/500 transponders in the 100 version, 4000/1000 in the CI versions.

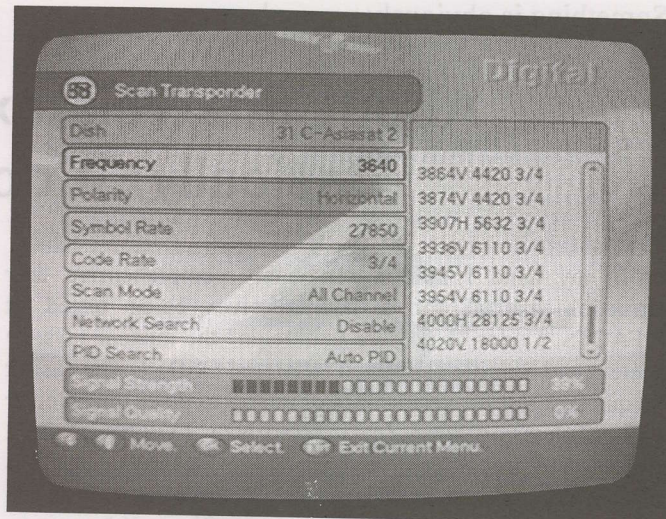
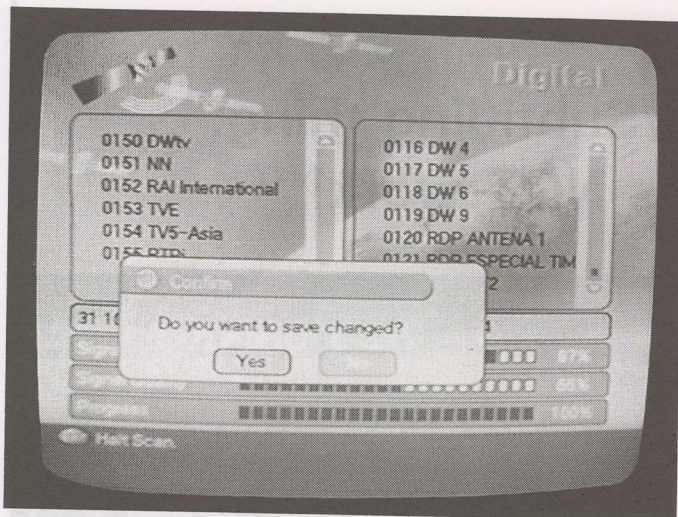
The same "speed" is apparent when switching between programming channels. In an era when some service providers have increased channel change time to typically 5 seconds (see p. 31, here), the eMTEch's display new channels selected while your finger is still on the remote control button.

Sensitivity. A winner again. We always expect to have some difficulty loading ABC NT (Optus B1, 12.258Vt) using Sky NZ size (60-72cm) dishes. The 200 did it quickly without a glitch. Tests on C-band weaker services produced the same result.

David Mitchell in NSW picks it up. "*It will load and play the CCTV bouquets on AsiaSat 3S and PAS 8 without difficulty* (many receivers including older software Nokia 9500 versions will not do this). *I have it set to output in PAL which it does without any glitches changing flawlessly between NTSC and PAL channels* (such as switching within the NHK

REAR deck of eMTEch 200B contains all of the basic connections - nothing special here.





LOADING new services, modifying prior memory stored services is a bit of a hassle in the manual mode. But it works and in fact if you have a PC and access to "the web" it is a piece of cake. Above, left, selecting a transponder (As2's European Bouquet in our photo), telling the IRD to load the full service list, and, (above, right) the receiver asks you if you wish the new load to be saved (thereby replacing the original factory loaded information).

bouquet). I have not been able to lock it up nor have I had to do a power down reset." One minor "glitch" - NTSC services fill 90% of the screen because they are 525 line, not 625.

David (and others) also found the 100 works "like a radio set" when you are tuned into the ESPN (4020Hz) or MTV (3740Hz) Scientific Atlanta PowerVu services on PAS-8 (as well as the CNN channels on As3S - 3960Hz). Which means? PanAmSat has chosen to "soft encrypt" the audio channels for these services to save on bandwidth (the fully encrypted audio requires a more robust and larger data stream) and as far back as two years ago some receivers would recover (receive) the audio but interspersed with annoying audio glitches at 5 to 25 second intervals. The eMTechs seem to have resolved that software glitch - now if someone would figure out how to decrypt the video as well! Mitchell: "Listening to ESPN's many services is just like having sports radio available."

With an Optus 2.09 CAM, it does Aurora to perfection (well, almost - teletext subtitles remain a problem; see p. 8 here) and there are positive reports regarding its use with Zee TV and Austar/Foxtel when equipped with the appropriate CAM and card. Philip Ingegneri is quick to tell you, however,

"We only warrant it to work with Aurora - not the pay TV services!" The CI will function with CAMs for Viaccess, Conax, Crypto Works, Nagravision, Irdeto and surprise - Mediaguard. So are there negatives as well - other than the questionable teletext? Mitchell has not been forced to shut his down and repower. We created a scenario where this was required. First we stacked it immediately on top of a heat generating device (a UEC receiver) and then placed the open eMTech instruction manual over the top as a heat sink. It took five hours for the 200 to reach a temperature where it had to be powered down and restarted (and we took the manual off the top as well, but left the UEC below).

The on screen graphics are manual described as "Brilliant". Perhaps. But blue backgrounds and blue text are also very difficult to read unless you are very close to the screen. A bad combination. The receiver is uniquely equipped for taking SatcoDX web listings for satellites and transponders and linking to the receiver's memory circuits to refreshen or change the in-memory programming sources. However, manual entry of new satellites involves eliminating an older one (not a problem as so many European birds are in memory).

eMTech Products and Sources

eMTech receivers are available in 4 versions.

#1) eM100 is FTA only, C or Ku, limited teletext

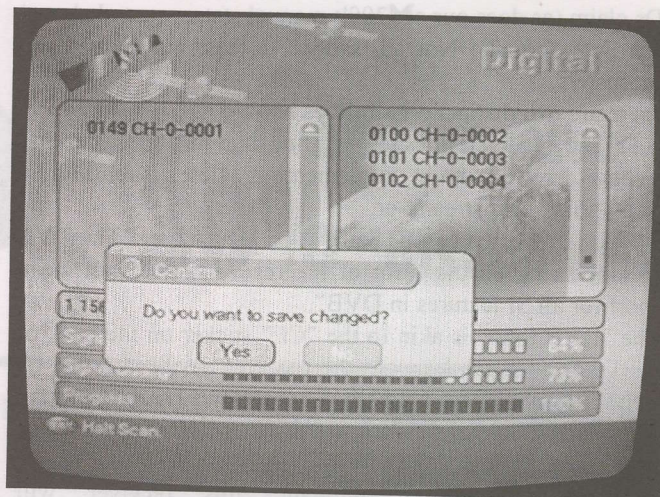
#2) eM200 is FTA + twin CI slots, C or Ku, limited teletext ability

#3) eM210 is FTA + twin CI slots and positioner (dish motor controller) software, C or Ku, limited teletext ability

#4) eM300 is FTA plus twin CI slots with 20GB hard drive recorder, C or Ku, limited teletext ability

The model we tested at SF is the eM200; reporter David Mitchell tested the eM100 for SF and his observations are included here.

Sources include: Kristal Electronics (Australia tel 61-7-4788 8902 or www.kristal.com.au) and Kansat Satellite Television (Australia tel 61-7-5484 6246).



SENSITIVITY is excellent - here, weak-in New Zealand ABC NT from Optus B1, 12.258Vt loads instantly on 90cm offset dish at SF's lab.

Something is obviously wrong here...

About this Teletext/Subtitling thing. Basically, it does NOT work!

In my hand I hold a reasonably comprehensive user instruction manual for a new receiver being tested at SatFACTS. Under "1. Before you begin" the manual says, "• Teletext and Subtitle supported (VBI and OSD)." The easiest and quickest test for verification of this is to place the receiver on the Television New Zealand (TVNZ) TV One or TV2 services sent free to air on Optus B1, 12.456Vt. There is full-time teletext and part time subtitling here as a fortunate few have been able to recover on their own home dish systems. We will not be as fortunate (see photo, right).

OK - so perhaps the receiver's VBI (vertical blanking interval - a method of reinserting/reposting the teletext or subtitles after they have been processed) or OSD (on screen display - direct reproduction of the teletext against a black, blue or other compatible solid background colour) just does not like the TVNZ format. Try again.

TV5 Asie (Paris) within the C-band European Bouquet is reputed to have teletext. Or perhaps they only have subtitles (sometimes called "captions") - certainly without engaging the receiver's teletext/subtitles features one does see English subtitles on French films and newscasts on TV5 several times each day. Dial it up, locate the "Teletext" button on the remote control, push it - and - nothing. "No teletext service available" pops up on the screen (photo, p. 10 here).

OK - maybe TV5 does not have any teletext or subtitles after all - although they *claim* to do so. Certainly within the Aurora bouquet there will be subtitles/captions? ABC National (12.407Vt, Sr 30.000, FEC 2/3) must have subtitles - right? SBS is a multi-language service (12.532, Sr 30.000, FEC 2/3) and surely someplace within their 24 hour telecasting day they provide English subtitles for non-English programming?

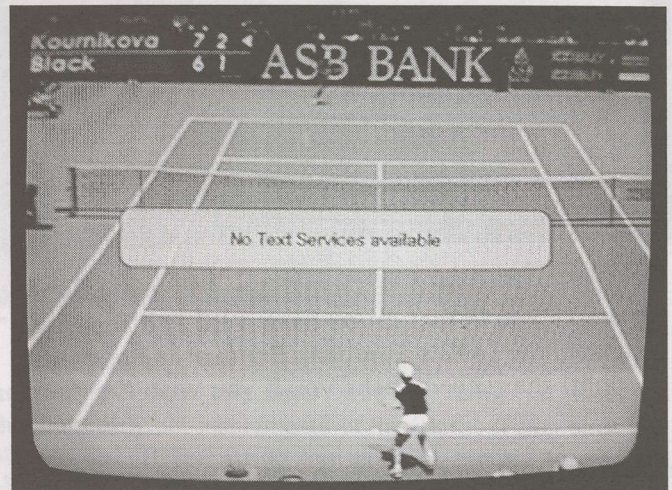
As SatFACTS first reported in December, Television New Zealand's new Optus B1 FTA service has created a focus on which receivers do - and those that do not - (do) teletext or subtitling/captions. The sad thing here is that many (most in fact) of the Korean and Taiwan designed and manufactured IRDs claim (as does our eM200's manual state - quoted above) to do both formats. Not so, sadly. At least not so with all broadcasters.

There are two distinct possibilities here:

(1) The receiver does it just fine but the telecaster has somehow screwed up in implementing teletext/subtitling in their outgoing data stream, or,

(2) As we reported (p. 31, SatFACTS December) "The DVB logo (appearing on the front of the receiver) does not mean support for all SI features in DVB".

The "DVB logo" is akin to the "CE" sticker on the back of the IRD. The CE mark means the receiver has been tested by somebody (someplace, typically Europe) and has been found to be "electrically safe" - not a consumer/user fire or shock hazard. The "DVB logo" is supposed to mean, "If the transmission is DVB compliant, this receiver will receive/recover all of the free to air data stream that is present, including teletext." However, as we also reported in the



FRUSTRATION. "No teletext service available" is what the receiver software advises. **In fact**, teletext is there but the receiver does not recognise the data stream (TVNZ, Optus B1).

December SatFACTS, "The DVB 'standard' (which the DVB logo represents) has so much room to manoeuvre that a product manufacturer can rightfully claim to be 'DVB' when in fact many of the SI tables are completely missing in the receiver's software."

Frustration. The eM100/200/300 series of receivers from eMtech (see p. 6 here) will do teletext. Not TVNZ. Not TV5 Asie. But it will do standard teletext for the Dubai package on AsiaSat 2 (3660Vt, Sr 27.500, 3/4 - both on the Sport and Business channels), and subtitling/captions on the ABC HDTV Optus B1 channels (12.670Hz, 12.686 and 12.706 - Sr14.300, FEC 7/8), the new ABC Asia-Pacific service on PAS-8 (4180 Hz, Sr 27.500, 3/4) and Central 7's feed channel on Optus B1 (12.354Hz, Sr 3.688, FEC 3/4). NSW observer David Mitchell also found it works (eM100) on ABC National within Aurora but our own experience (eM200) with this service was contrary (see photo, p. 10, bottom).

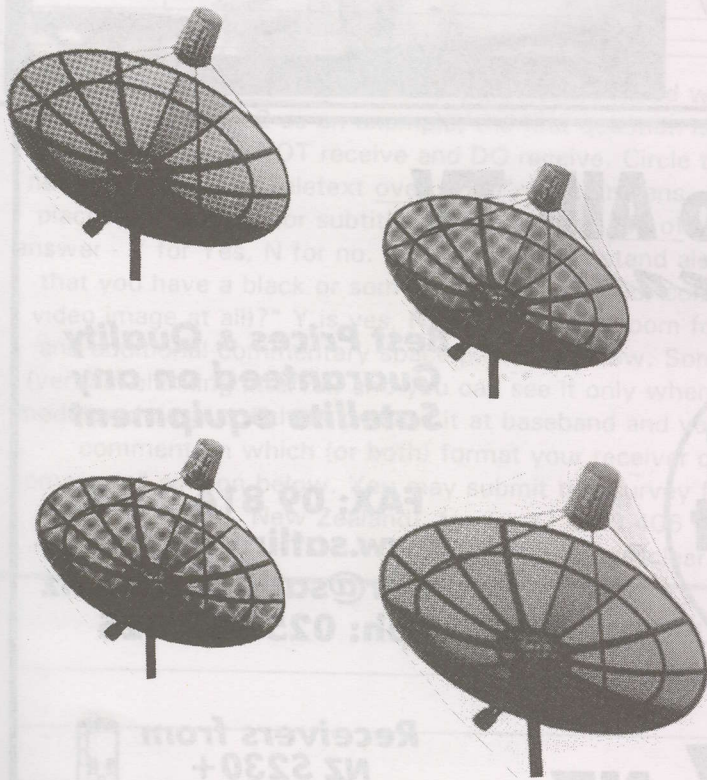
Philip Ingegneri of Kristal advises, "No (the eM series) will not do teletext nor closed captions/subtitling through Aurora. I am talking with the manufacturer for supply of some upgraded software and if they can provide it, we will post under 'SOFTWARE' on our web site."

Where does this leave us? With three variables and very little reference material as a foundation. For that reason we are including with this report a full page "Teletext Survey" (p. 11, here) which we ask you to complete and return to SatFACTS. The objective is to create a data base that lists all receivers which do any form of teletext or closed captions/subtitling on any service. We will publish the tabulated data here and also post it on our joint web site (<http://www.apsattv.com>) for ready reference in the future.

At the same time we are requesting, here, that manufacturers reading this report make an effort to determine what their own

Look what
STILL
we have
under our
Christmas tree
for you!!!

COMSTAR ST-7 2.4m dishes
The "standard" of an
industry;
Rolled, expanded metal,
Strong, heavy duty.
Suitable for cyclone areas!



**BUY 10 and receive
a 10% discount!**

**Buy 20 and receive
a 20% discount!!**

**Buy 30 and receive
a 30% discount!!!**



**PACIFIC
SATELLITE**

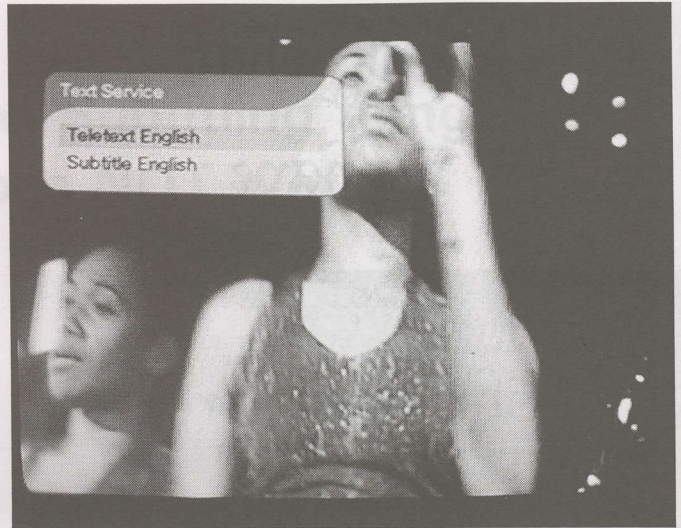
(AUSTRALIA) PTY. LTD.

ANTENNA & ACCESSORIES SUPERMARKET

**3/71 Beenleigh Rd Coopers Plains Qld 4108
Australia**

Ph: +61 7 3344 3883 Fax +61 7 3344 3888

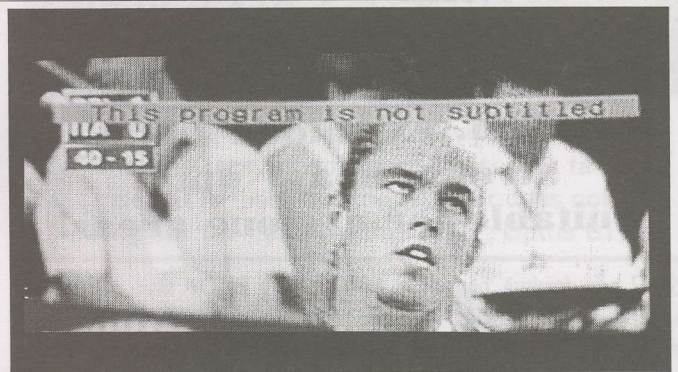
Email: info@psau.com <http://www.psau.com>



TV5 (left) teletext service - does it really exist? Why won't it play on receivers which the manufacturer insists are teletext compatible? Another version of "teletext" is subtitles (right), typically found on services such as ABC and SBS. If the IRD won't play teletext, it probably won't play subtitles either (below).

products do in this area, and to advise us directly (skyking@clear.net.nz) of their test results and plans for more universal performance in the future. At this point we know that a Taiwan built Winersat works on TVNZ while UECs work with some of the captioning available through Aurora. But nobody's IRD appears to work on all TT services.

The receiver is not telling the truth. There are subtitles included in the data stream - the IRD simply refuses to recognise and process them for the viewer.



DIGITAL FREE to AIR TV

Crystal Clear

TV1 - 2
Teletext
 Music
 + next?

**Best Prices & Quality
 Guaranteed on any
 Satellite equipment**

FAX: 09 814 9447
www.satlinknz.co.nz
peter@satlinknz.co.nz
ph: 025 937 025

SATLINK NZ
needs YOU now!

**Receivers from
 NZ \$230+**



**Register your interest for your area
 either as installer or distributor**

Trade Offs Available for Wideband Frequency Modulated Video

Basics first. The threshold (point where the received TV image is clean of any snow or other noise) with a 27 MHz bandwidth (analogue) transponder is in the region between 7 and 9 dB CNR (carrier to noise ratio). Which means, "If you have between 7 and 9 dB of signal, more than the receiver's noise, you will have a clean ('sparklie free') analogue image on the screen." This compares very favourably with a terrestrial AM (amplitude modulated) signal which requires not less than 40 dB CNR for the same quality of on-screen image.

This is "the secret" to why satellite TV works with relatively low level signals received by the DTH (earth station). MPEG-2 digital requires between 5 and 7 dB CNR to produce a noise free image - actually with digital there is "noise free", and, *no image at all* since between noise free and no signal there is a very narrow window measured in tenths of a dB (such as between 5.5 and 5.7 dB CNR).

Some pretty clever people (at Bell Labs) created the 27 MHz bandwidth for satellite TV - knowing from mathematical simulations and actual tests that anything significantly greater or less than 27 MHz caused the 7-9 dB threshold to rise (requiring more signal to have a noise free image). But as with anything else in life, there are trade offs - for example, if you cut the FM TV bandwidth in half (to 13.5 MHz), what happens to the original 7-9 dB threshold point?

The answer is it becomes a larger number - in the range of 10 to 12 dB. Said another way, if you transmit a signal 27 MHz wide through a satellite, the receiver requires only 7 to 9 dB CNR to produce sparklie free pictures. If you reduce the transmitted bandwidth to 13.5 MHz, the same receiver will now require 10 to 12 dB of CNR for a sparklie free picture.

Reducing the bandwidth and increasing the threshold point cannot be done as a singular exercise. The 27 MHz bandwidth has something called "pre-emphasis" of the transmitted energy and at the receiver de-emphasis of the received energy. This means the energy is varied within the bandwidth to favour different portions of the 27 MHz bandwidth. This is an

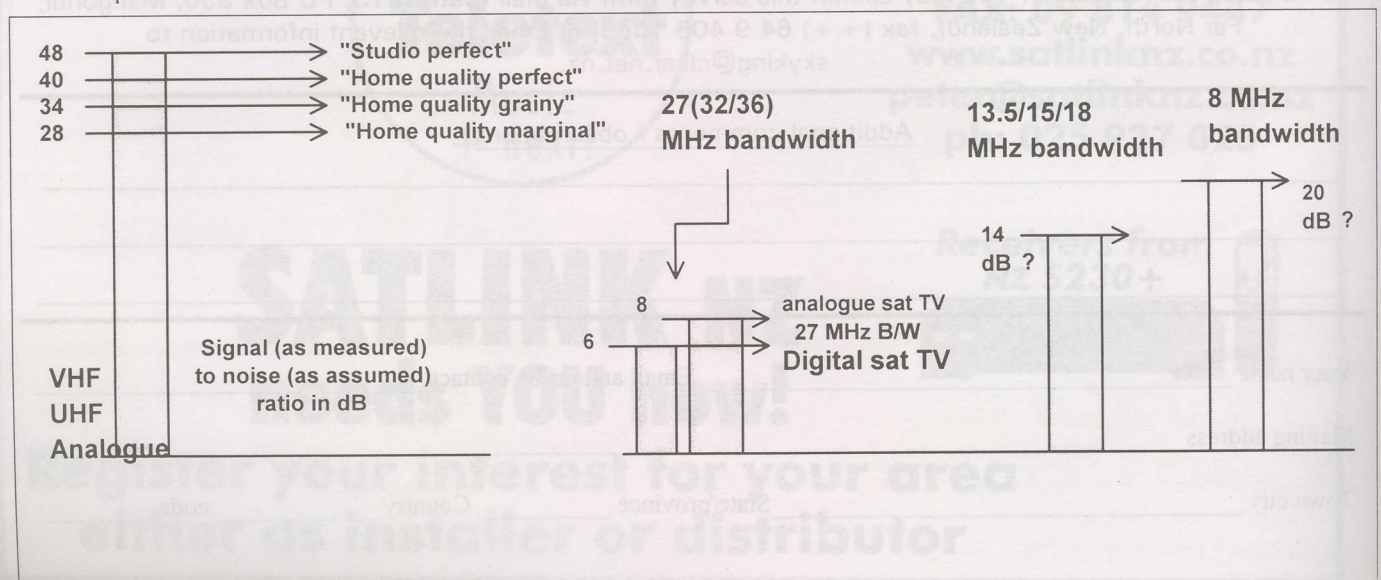
"unnatural" or manmade correction factor to optimise the received video signal as a function of bandwidth. The pre-emphasis at the transmitter (and the accompanying de-emphasis at the receiver) must be "optimised" when you modify the bandwidth transmitted.

Thus while the conventional "standard" for analogue satellite TV is a 27 MHz bandwidth, there is no "rule" that says you cannot use wider (or narrower) bandwidths as well. 27 MHz happens to be a number that works out well for the original FM (frequency modulated) satellite TV services.

If you reduce the bandwidth (below 27 MHz), the knee or threshold point goes up; it is no longer 7 - 9 dB CNR. How much it goes up is a function of several other design considerations including the transmitted signal's "pre-emphasis" and the receiver's de-emphasis. Pace's MSS-138G analogue receiver, for example, provides two user selected IF bandwidths; 27 MHz and 15. In theory, when you select 15 MHz for reception of a below threshold signal (one with a CNR less than 7-8-9 dB), the reception *should* improve. It usually does, but only *marginally* and in the process the text on screen begins to "tear" at the edges.

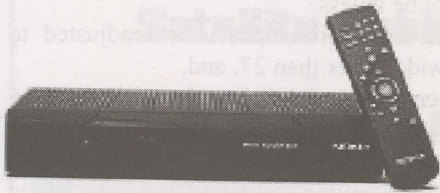
Reducing the bandwidth is a traditional method of improving the CNR, but only when the signal being received still "fits" into the receiver's selected bandwidth. Reducing the Pace's IF bandwidth to 15 MHz while you are still receiving a 27 MHz bandwidth signal leaves 45% (27 - 15 = 12 MHz) of the original transmitted information "outside" the receiver's signal processing window. This discarded bandwidth has important picture information in it, and when you discard it, the image quality naturally suffers.

There are other engineering approaches. The 27 MHz bandwidth analogue signal can be "digitised" (turned into a digital signal) and then "compressed" in bandwidth in a digital state. Now the receiver can handle the original 27 MHz bandwidth in an IF bandwidth of *less than* 27 MHz, and process the information with a minimum of "distortion". This



SATWORLD

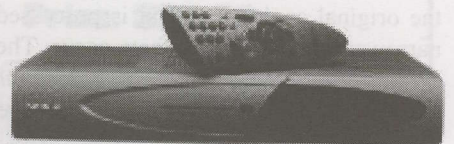
YOUR NOKIA SPECIALISTS!



NOKIA 9200S/9500S

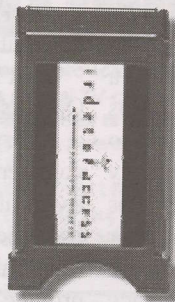


NOKIA MEDIA TERMINAL



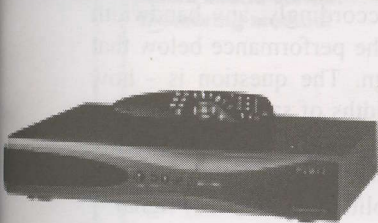
NOKIA 9902S WITH HDD

DIRECT IMPORTERS OF QUALITY BRAND PRODUCTS!



GRUNDIG UNIVERSAL DUAL OUT IRDETO CI CAM V2.06B HV GRUNDIG UNIVERSAL QUATTRO

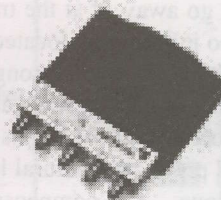
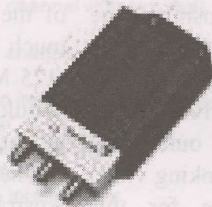
PLUS A WIDE RANGE OF PRODUCTS AND ACCESSORIES!



HUMAX IRCI 5400Z



TOROIDAL 90



NOKIA DISEQC SWITCHES

- ACCESSORIES
- RECEIVERS
- DISHES
- C & KU LNB'S
- TRADE PRICES

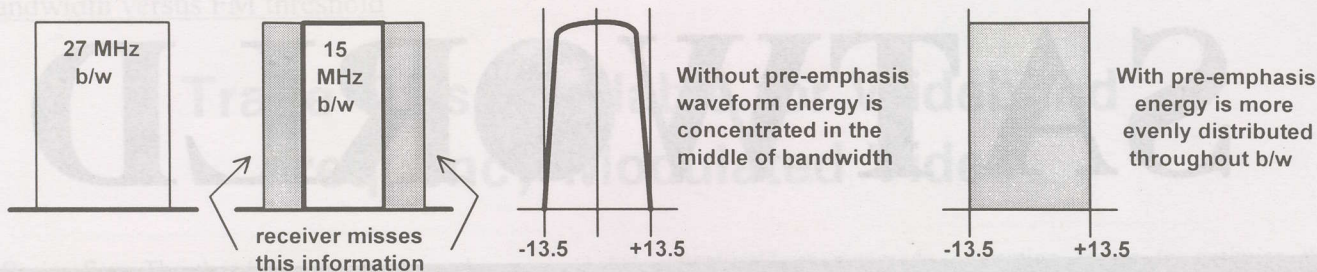
www.satworld.com.au

TRADE ENQUIRIES WELCOME!

PO BOX 24, PATTERSON LAKES, VICTORIA, 3197, AUSTRALIA, PHONE AND FAX: (03) 9773 9270

MOBILE: 0402 844 698 or 0412 55 77 11

E-MAIL: sales@satworld.com.au



is essentially what happens with a modern-day analogue receiver employing threshold extension. The original signal is still 27 MHz wide, but the receiver has converted it (digitally) to something less before trying to improve the carrier to noise ratio. A quality threshold extension system (such as the Palcom SL 7700/7900) works in small steps simply because as the original analogue signal is processed by the receiver to a narrower bandwidth, artefacts occur. There is always one-step -in-threshold extension which is *too much* - the receiver has gone too far and can no longer handle the compression without creating undesired "artefacts".

Other older version analogue receivers (such as a now legendary Winersat series) boasted a front panel control that allowed the user to vary the IF bandwidth between 32 and 8 MHz in continuous rotation of the knob. This was pre-threshold extension and like the Pace MSS-138G's single downward step to 15 MHz, something was missing.

When an analogue satellite transmitter is purposefully operated at something other than 27 MHz bandwidth, the operator changes something called "pre-emphasis". This is a clever circuit change that artificially changes the ratios between the low frequency video and the high frequency video information. In most pre-emphasis circuits, the high frequency energy is made artificially (unnaturally) stronger so as it is transmitted, it is not "lost" in the modulation process. In their natural state, the higher frequency video components are considerably lower in amplitude than the low frequency components. As a consequence, the further the modulation information resides away from the centre carrier frequency, the lower the "amplitude" of the energy there. This means the CNR (carrier to noise ratio) of the energy between say + and - 8 MHz away from the centre carrier frequency is quite poor. When the video information located out on the edges of the passband are recovered by the receiver, there is noise (the "N" in CNR) present which won't go away. If at the transmitter the level or amplitude of the video information located towards the edges of the passband is enhanced (made stronger than it is naturally), this portion of the passband now arrives at the receiver with a much better CNR. This outer-edge enhancement of course would produce unnatural looking video at the receiver if left alone. To compensate for this enhancement of the high frequency portion of the video waveform, at the receiver a reverse circuit using "de-emphasis" is installed. The end result is that while the signal is being transmitted, it is "top heavy" with enhanced high frequency video, but at the receiver the reversing circuit reduces the top heavy portion to a "natural" video waveform.

Now - when you switch to a 15 MHz bandwidth but the pre-emphasis remains for a 27 MHz bandwidth signal, something naughty occurs. The video de-emphasis tries to correct for 27 MHz but with 12 MHz of signal "missing" (including virtually all of the high frequency video portion),

the resulting image on the screen grows faint and video detail is lost.

If by some chance the transmitted video is also 15 MHz wide, you might suspect that this is self correcting. Unfortunately it will not be unless:

- 1) The transmitted video pre-emphasis is readjusted to reflect being 15 MHz wide rather than 27, and,
- 2) The receiver de-emphasis circuit is redesigned for a 15 MHz bandwidth.

So as a practical matter, when you select a bandwidth narrower than the transmitted bandwidth, the slight improvement you may see in receive quality is pretty much what is left over after the original pre-emphasis has been mishandled by the receiver's new bandwidth.

But suppose you did the following:

- 1) Reset the transmitter pre-emphasis to be correct for the transmitted bandwidth selected, and,
- 2) Redesigned the receiver's de-emphasis to fit the new transmitted bandwidth.?

What happens then?

Optimising

Very few receivers (including the multi-thousand-dollar commercial jobs) built for analogue bother too provide switchable de-emphasis circuits for changes in video bandwidth. Why? Because very few satellite transmissions utilise anything other than a 27 MHz (region) bandwidth. Why provide for something that occurs - so seldom?

It turns out that pre-emphasis and de-emphasis are not only very important but that there is essentially only one optimum value for each video (modulated) bandwidth. However, even when you have changed the pre-emphasis circuits to reflect the actual bandwidth (b/w) transmitted, and the receiver's de-emphasis circuits are adjusted accordingly, any bandwidth smaller than 27 MHz will reduce the performance below that of the original 27 MHz b/w design. The question is - how much will you give up with bandwidths of say 13.5 MHz (+/- 6.75 MHz deviation) or even 8 MHz (+/- 4 MHz deviation)? Would a 8 MHz FM bandwidth perform essentially the same as a standard VSB 8 MHz AM (amplitude modulated) signal?

There was a period of time (more than a decade ago) when Australia's satellite operator experimented with bandwidths in the region of 10 MHz using FM (+/- 5 MHz deviation), which allowed them to stack as many as five separate TV programmes into a 54 MHz transponder. History is cloudy as to what pre-emphasis was employed and whether the receiver's chosen for the tests were redesigned to reflect the narrower bandwidth with suitably modified de-emphasis circuits.

How all of this might impact on modern technology and the way we use the spectrum will be the question to be explored. The present terrestrial VSB 8 MHz (UHF-TV: 7 MHz in Australia) system has served us well for more than 40 years: can it be improved upon? Stay tuned.

Skandia

RG6 Quad Cable

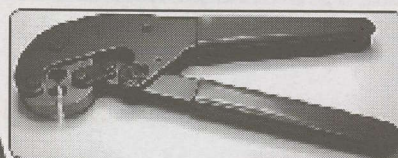


Satellite Cable \$119.00
per 305m

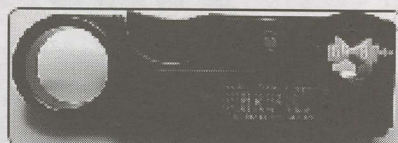
RG6 Dual Cable



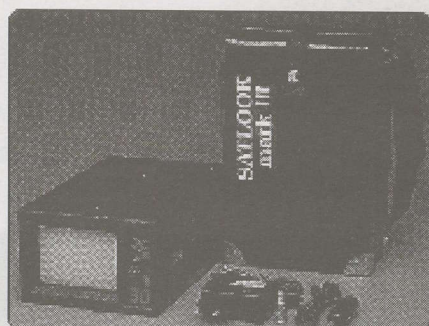
Digital Cable \$99.00
per 305m



Crimping Tool:
Crimper for RG6/RG59
0.360/0.324
Price: \$20.70



Stripping Tool:
Stripper for Coaxial Cable
Price: \$13.20



SATLOOK mark III

The instrument is provided with a 4.5" B/W monitor which either shows normal TV-channels or the frequency spectrum 920-2150MHz (normal or expanded mode). Sound frequencies between 5.5 - 8.5MHz can be tuned in and listened to. The polarisation of the LNB is switchable with 22KHz-tone and /or with 13/18V. The instrument is protected from short circuiting when connecting the LNB. Weighs only about 3.5kg

SPECIFICATIONS

Input Frequency:	920-2150MHz
Input level:	30-100dB μ V-volt
Input impedance:	75 ohm, BNC Connector
Monitor type:	Multi(PAL, NTSC, SECAM)
Picture mode:	KU and C-band(normal/inverted video)
Audio sound carrier:	Tunable 5.5 - 8.5MHz(Mono) Volume Control.
Measuring method:	1. Full spectrum, normal or expanded video
	2. 4.5" B/W monitor with full picture
	3. Level check on single channel with two digit LED display
	4. Level check on single channel with colour bar display
	5. Level check with audio indication on loudspeaker
Max Level:	Spectral with max peaks Two digit LED display with max value Colour bar with max indication Maximum audio tone on loudspeaker
Supply voltage LNB:	13V/18V switchable
Tone switch:	22KHz tone, On/Off
Operational:	Approx 1.5 hours
Weight:	Approx 3.5kg incl 12 volt, 3 Amp battery
Accessories:	Power supply 220/13.5volt DC, 1.7 Amp Car adaptor Carry case Adaptor BNC/F connector Owners manual.

The best meter for less than \$791.00

Skandia
is an Australian
Owned Company

www.skandia.com.au
Ph: +61 3 9819 2466
Fax: +61 3 9819 4281

CALL FOR QTY BUYS

STRONG AUST

NEWS

January 2002

HOLIDAY SAVINGS SPECIAL!

EXTENDED to February 15th only - buy a SRT4890 hard drive equipped IRD and STRONG Aust will GIFT YOU with a brand new analogue receiver!

STRONG SRT4890



Common Interface with twin card reader including integrated Hard Disk PVR recorder!

- DVB Common Interface - add CAM and smart card for any two of Viaccess, Conax, Cryptoworks, Nagravision, Irdeto or Mediaguard
- 30 Gb Hard Disk digital-state recording, up to 20 hours!
- 4:3, 16:9, composite, Y-C, RGB out - ready for w i d e screen ABC!
- C TICK approved, Australia (NZ) 230-250V AC, 50 hertz
- Software/digital audio out and programme list written for Australia/NZ
- Software upgradeable via PC, full EPG including PVR selections
- DiSEqC 1.0 & 1.2 compatible including antenna positioner control

STRONG AUST PTY LTD ABN 55 089 515 122

302 Chesterville Rd MOORABBIN EAST VICTORIA 3189 AUSTRALIA

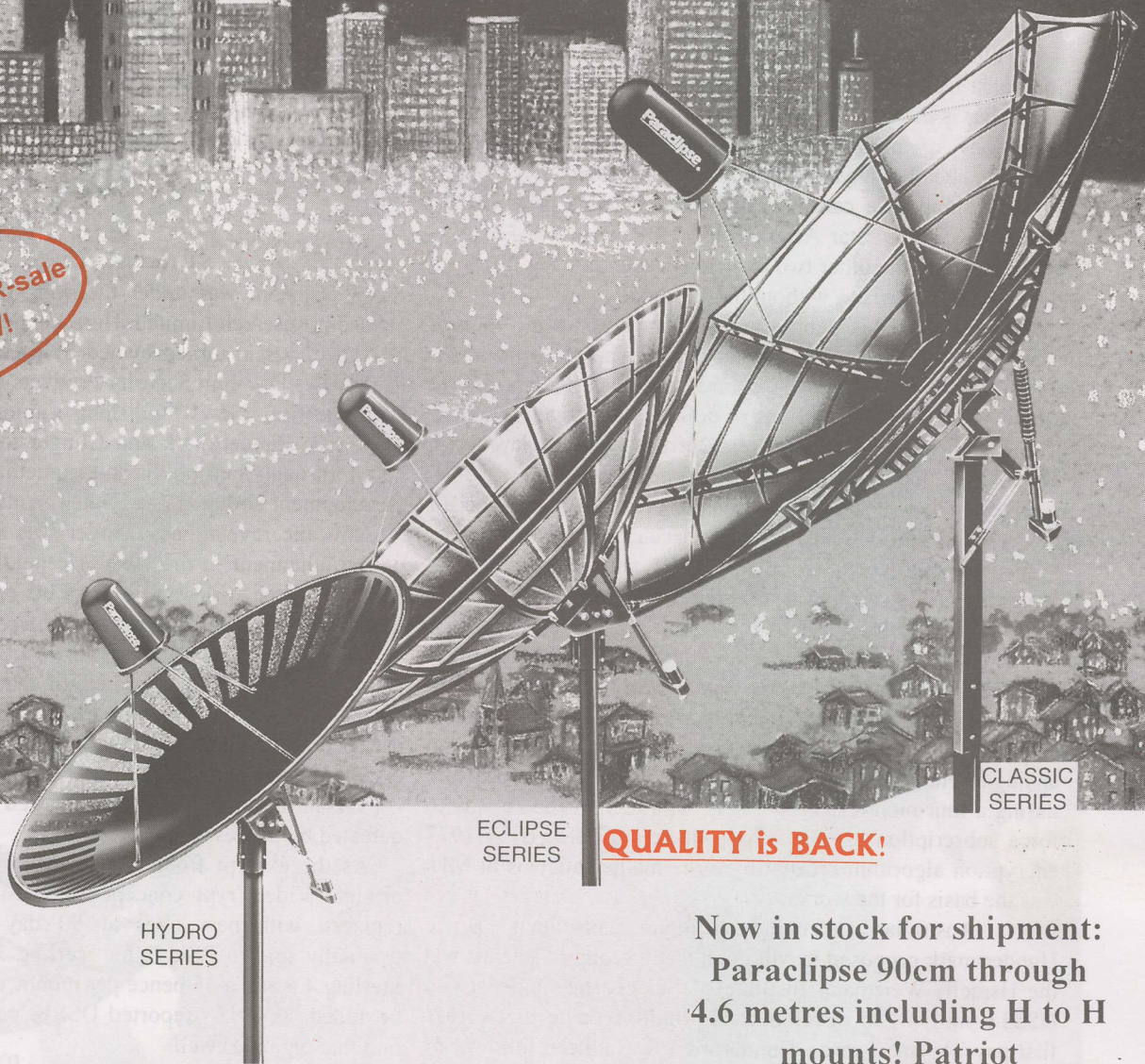
Ph 61-(0)3 9553 3399

Fax 61(0)3 9553 3393

eMAIL satellite@strong.com.au

Paraclipse[®]

STRONG AUST
is holding a **SUMMER-sale**
on Paraclipse **NOW!**



HYDRO
SERIES

ECLIPSE
SERIES

CLASSIC
SERIES

QUALITY is BACK!

When quality, strength, and accuracy are your main requirements, **Paraclipse** antennas are your first choice.

Only **Paraclipse** offers such variety; four distinctly different series: the Truss-Ribbed Classic, the Courier Deliverable Eclipse, the Stretch Formed Hydro, the Commercial Patriot.

Every **Paraclipse** model sets the industry standard in its class, worldwide.

Now in stock for shipment:
Paraclipse 90cm through
4.6 metres including H to H
mounts! Patriot
commercial dishes?
WE are the people!!!

Paraclipse[®]
HIGH PERFORMANCE ANTENNAS

MADE IN AMERICA

and distributed by

STRONG AUST PTY LTD

302 Chesterville Rd MOORABBIN EAST VICTORIA 3189
Ph 61(0)3 9553 3399. Fax 61(0)3 9553 3393

'Virtual Murdoch' reveals a side of Rupert we all suspected

Virtually any serious conversation involving the status of satellite TV and more precisely pay-satellite-TV works its way around to a single name: Rupert Murdoch. This Australian born, British subject, naturalised American has done more to upset the media-world apple cart than any other human being alive, or dead.

Numerous books have been written about Murdoch and his unique business methods. None have been exactly complimentary for the man is one of the most controversial on the planet.

'Virtual Murdoch' by Australian Financial Review journalist Neil Chenoweth (through Random House in NZ and Australia) is the most recent. For detail of dollar figures, dates, quotations of private conversations, 'Virtual Murdoch' is way-way ahead of anything previously published.

Why should we care? Well, Murdoch owns or indirectly controls Sky NZ, Star Asia and his 25% interest in Foxtel is enough to stop the other two owners (Packer and Telstra) from doing what they wish - without his approval.

Murdoch and his people are masters at shuffling money. There are so many bank accounts and "offshore" corporations intertwined under Murdoch's control that even his bankers (to whom he owes tens of billions of dollars) have given up trying to trace where or what they are. But this quick review is not about how Murdoch uses stock from one corporation which he sells to another of his corporations to create a false value for the first corporation's stock merely because the second agrees to pay an outrageous price for it. (If you understood that sentence without reading it a second time, you are now ready to read 'Virtual Murdoch'!)

Chapter Five is titled 'The Fugitive'. Here Chenoweth describes the creation of News Datacom in Israel which would grow into the encryption technology arm of the Murdoch empire. What was first of importance was VideoCrypt, an analogue encryption system designed under intense pressure during a four month span in 1991. Murdoch needed a way to force subscription payment from viewers of BSKyB. A 1977 encryption algorithm created by three mathematicians at MIT was the basis for the work.

Australian telecommunications consultant Bruce Hundertmark proposed to Murdoch that a group of scientists at the (Israeli) Weizmann Institute of Science be funded (with US\$3.6 million) to develop what would become the world's first pay-TV smart card. Hundertmark was a keen follower of leading edge technology and he had recently run across the single-chip smart card that was originally invented by Indian-born California electrical engineer Bharat Kumar Marya.

Enter 'the fugitive': his name Michael Clinger. He had migrated from the USA to Israel in 1987. Clinger was technically bright, and had a level of business sophistication that totally overwhelmed virtually everyone with whom he came into contact. Hundertmark and Clinger set up News Datacom in a private issue with each holding a minority share.

This is where the penny dropped for Hundertmark. It was the question he had been nagging at for years: who in the modern world most needs to keep secrets, besides banks and racecourses? Who needs to control flows of information, to make things appear or disappear at will? The answer was obviously media companies. Information and entertainment is a commodity, and like any commodity it must be protected from unauthorised use. Within four months of Murdoch's Sky announcement, Adi Shamir had produced an encryption system for PAL called VideoCrypt, which would control access to satellite television transmissions. Pay channels on Sky would be encrypted, and decoded in the set-top box in each viewer's home. Actually the first efforts barely qualified to be called encryption. VideoCrypt in a fairly rudimentary way scrambled the lines that made up the picture. The really clever part of the system was the smart card which Sky subscribers had to insert into their set-top box. BSB had to put back its launch six months because of teething problems with the DMAC encryption chip in its set-top box. Sky went to air on time knowing that it could fix the holes in VideoCrypt later, not by replacing the whole set-top box but just by issuing a new smart card. Replacing the cards regularly - every three months was the plan - would also thwart hackers who wanted to pirate the Sky signal.

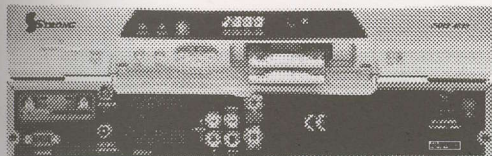
News Datacom was under the wing of a firm called News Datacom Research Limited. Here life gets more complex.

NDRL was in turned owned by a Hong Kong firm calling itself News Datacom Security Products Limited (NDSP). But a Bermuda firm, News Publishing Limited (NPL), owned 60% of NDSP. Hundertmark and Clinger together owned 20% of NDSP through their holdings in something called International Development Group NV, a (Dutch) Antilles registered firm.

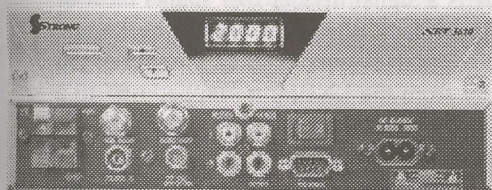
Now the revelations. Clinger was in fact a wanted man, under indictment in the USA. He held at least four different passports, each with variations of his real name. As journalist Chenoweth writes, "*Hundertmark was confronted with the knowledge he was in business with a major-league hustler.*" But to get rid of Clinger, something that could possibly double the stock held by Hundertmark in NDSP, was going to be tricky. For one thing, there was the piracy issue and Clinger, if tossed out on his rear end for being a bad boy, was totally conversant in how VideoCrypt worked - and how it might be defeated by pirates.

As the excerpt from 'Virtual Murdoch' above shows, the original VideoCrypt concept was for the smart cards to be replaced with new ones at 90 day intervals. The cards originally sold to BSKyB for Sterling 3, would later climb to Sterling 4.5 and a 45 pence per month 'maintenance fee' would be added. Sky NZ's reported US\$18 per card initial cost falls into that region as well.

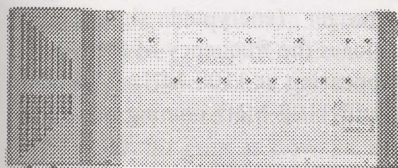
Clinger would exit with US\$5 million and a bonus US\$560,000 in "consultancy fees" based upon an analysis from accounting firm Arthur Andersen that valued NDSP at US\$29 to \$33 million. Years later he would "get even" by engineering an Israeli "arrest warrant" for none other than Rupert Murdoch. Seven days after Clinger departed, News sold NDSP for \$43.2 million to one of its offshore firms. Four years later News Datacom floated to the public at US\$750 million and after an additional four years the market value reached US\$5 billion. And Murdoch won again: temporarily.



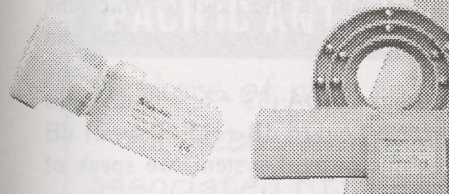
Digital Satellite Decoders



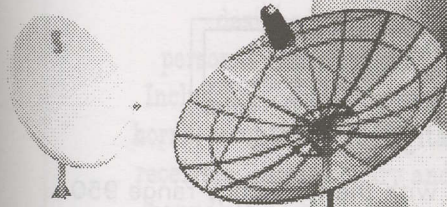
Digital Satellite Receivers



IF Distribution Systems



All types of LNBs



ø 60-450 cm

ROBUST SATELLITE TELEVISION RECEIVING EQUIPMENT AND PROGRAMMES FOR AUSTRALASIA



STRONG technologies
PTY LTD.

Internet: www.strong-technologies.com - E-mail: sales@strong-technologies.com
Unit 2, 1-3 Westpool Drive, Hallam, Victoria 3803, Australia
Tel: +61 3 8795 7990 - Fax: +61 3 8795 7991

SDStv Technical Application Notes

Clever things you can do with SDS.tv
check <http://www.sdstv.com> for more "Tech Tips"

BDA-33A confusion

"I can understand how a low power transmitter (the mW20) can 'pretend' to be a satellite transponder and send TV programming over a distance. I don't understand the difference, however, of the BDA-33A. Can you clarify how it differs from the mW20?"

BDA-33A confusion

The mW20 is, as you stated, a pure transmitter. It happens to operate within L-band, using the same frequency assignments as standard 24 transponder analogue satellites. When connected to an antenna it radiates (transmits) whatever video (picture) and audio (sound) information you have plugged into the unit (this is not limited to the video and audio output of a satellite receiver - it may originate in a VCR, DVD player, a security camera et al). Standing alone, it will cover a distance of up to 5km+ if the receive antenna is an SDStv.com "active" (amplified) logi. At the receiver, the logi antenna connects to the satellite receiver just as a satellite dish would connect, except the signal it now receives is coming from the mW20 transmitter. This is one channel (per mW20) at a time, the programming for which is selected at the mW20 by you deciding what you wish to transmit. The beauty here is that any standard analogue format L-band (that's the normal kind) satellite receiver will receive the mW20 signal, just as it would an analogue satellite signal.

The BDA-33A does not "receive" anything. Rather it goes in the line, typically fairly close to the LNBf. There are three (3) "F" fitting female ports on the BDA-33A. One goes to the LNBf in place of the RG6 that would normally go to the satellite receiver. A second goes to the (regular) satellite receiver and a third is the high powered output which you connect to a transmitting antenna; the SDStv.com transmitting Logi. The satellite receiver power (voltage) to run the LNBf now also runs the BDA-33A (both are powered by the satellite receiver).

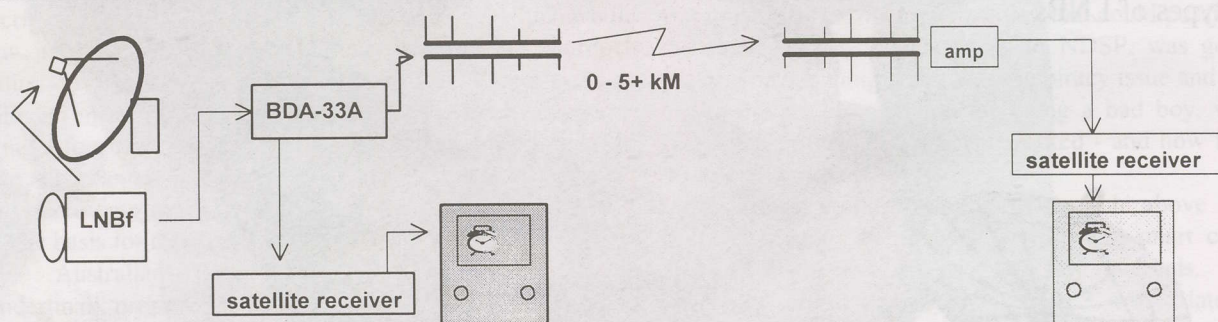
Inside the BDA-33A is a signal divider that shunts most of the original LNB(f) signal back down the line to the normal on-location satellite receiver. However, a small amount of the 950 - 1450 MHz energy from the LNB(f) is "tapped off" to a high power amplifier which raises the level by 33 dB.

This amplified signal is now taken out through a female F connector through a short length of RG6 cable to the SDStv.com transmit Logi antenna. The Logi has gain of its own - typically 6 dB - so when you sum the two (33 + 6) you end up with 39 dB more signal being retransmitted by the BDA-33A then it received from the LNB(f).

The individual signals (whether digital SCPC, digital MCPC, analogue) received by the LNB(f) are not altered in any way - they are merely made stronger (encrypted signals stay encrypted, FTA stay FTA). Nor is the frequency of the L-band signal(s) altered - a signal appearing at 1100 MHz L-band IF going into the BDA-33A is still 1100 MHz coming out of the BDA-33A.

The standing-alone BDA-33A has sufficient "power" when connected to a SDStv.com transmit Logi to cover a distance of 3km+ when received at the opposite end by a SDStv.com "active" Logi antenna. The "active" Logi has a built-in (masthead would be the term if this was VHF or UHF terrestrial TV) amplifier with 15 dB of gain. When this 15 dB of gain is added to the 6 dB gain of the Logi to which the amplifier is attached, we have 21 dB of "circuit" (system) gain added to the equation.

The gain of the transmit Logi + BDA (33 + 6 = 39 dB) plus the gain of the "active" receive Logi (6 dB + 15 dB) = 21 dB is 60 dB (39 + 21). In a "microwave" system, we speak of



The BDA-33A is a high powered "repeater amplifier" designed to deal only with the frequency range 950 - 1450 MHz. This is the same as the L-band IF (intermediate frequency) range that travels from the LNB(f) downward the RG6 coax to the analogue or digital satellite receiver. It "taps off" (removes) a small amount of signal that would normally go to the satellite receiver and sends it to a second "output port" on the BDA-33A which in turn is connected through RG6 cable to a "Logi" retransmission antenna. The Logi transmission antenna "launches" the 950 - 1450 bandwidth into the air and provides gain (amplification) to the BDA-33A amplified signal level(s). A second Logi antenna with a built-in 950 - 1450 MHz (L-band) amplifier receives the signal and carries it through standard RG6 to a satellite (L-band) receiver. The receiver does not "know" it is not directly connected to a satellite dish and it reproduces everything the receiver that is connected to the dish receives - from a few metres to 5km+ distant from the actual dish.

"circuit" gain which is the sum (total) of both ends of the circuit, reference the original signal level (the one going to the BDA-33A from the LNB[f]). This 60 dB is the amount of signal we can afford to "lose" between the satellite dish and the distant satellite receiver and *still retain* the same signal "level" (quality) as one would have with a satellite receiver plugged *directly* into the originating satellite dish.

If we fed this "plus-60 dB" of "extra" signal into a long run of standard RG6 cable, we would be able to go around 400 metres before we reached the same signal level (60 minus 60 = the original dish signal level). Through the air, we can travel upwards to 5km and accomplish the same result.

There are other options. If we require a greater distance, the BDA-33A output can be further amplified with an "afterburner" device. The SDStv.com 10-watt Linear Amplifier plugs 27 dB of additional circuit gain back into the system (making the original 60 dB now 87 dB). In the microwave (L-band) world, additional circuit gain equals greater distance. There are still more options.

In the system diagrammed here, the transmission antenna (a Logi) is directional - it achieves 6 dB of "circuit gain" because signal is radiated only in a single direction. If a situation requires signal radiation in all directions (a complete 360 degree circle), the SDStv.com Discone antenna is substituted. Unlike the directional Logi, the Discone has no gain - it has "0 dB" of gain when referenced to the Logi. This means the 60 dB of *circuit gain* is now 54 dB (60 - 6). And this in turn reduces the coverage distance by "6 dB".

It happens that 6 dB is a handy number in microwave work. For example, if the distance between the transmission antenna and the receive antenna is doubled, the amount of signal level available at the receive end will be 6 dB less than it was.

Conversely, if 5km is the maximum distance for a system employing a Logi as a transmit antenna, substituting the Discone for the Logi will reduce the distance to 2.5km (half of the original 5, a 6 dB reduction in coverage).

If the 10 watt amplifier is added to the same system, using the Discone as a transmit antenna, the coverage equation works out as follows:

- 1) BDA-33A alone = 2.5km
- 1A) add 27 dB of circuit gain (10 watt amplifier)
- 2) first 6 dB takes us back to 5km (double the distance for 6 dB more circuit gain)
- 3) next 6 dB (12 total now) gets us to 10km
- 4) next 6 dB (18 total now) gets us to 20km
- 5) next 6 dB (24 total now) gets us to 40km
- 6) next 3 dB (27 total now) gets us to 60km

There are conditions that apply, of course. The first relates to the number of separate TV signals passing through the BDA-33A (and subsequent amplifier) to begin with. As more transponders are added, the total power (amplification) available must be divided amongst *all* of the signals present. So while 60km might be *possible* with a single (analogue) TV signal passing through the BDA-33A + 10 watt amplifier, if we have a dozen signals, the distance will come back down simply because the total power available (10 watts in the amplifier) is now *divided* amongst the full number of separate signals.

The next consideration is "LOS" or line-of-sight. L-band microwave will not penetrate hills, nor tall buildings. It will "bounce around" between buildings and hills but for reliable reception, LOS (line of sight) or the ability to visually "see" the receive site from the transmit site is recommended. If a partially obstructed path is marginal in performance with the BDA-33A alone, the amplifier will resolve that situation.

PACIFIC ANTENNAS (2000) LTD.

Brokers of new and used antennas.
All sizes / makes together with
associated fittings and equipment.

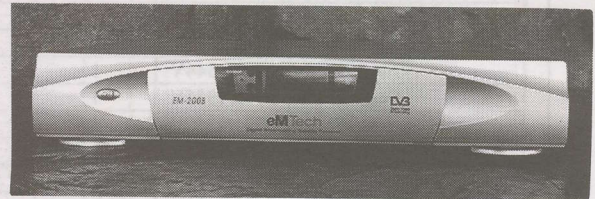
Your one stop source for antennas and satellite
electronics for the ENTIRE Pacific region.

We now offer a full range of satellite equipment
designed for your particular
personal or professional requirements.
Including: 2.4 to 13 metre antennas, feed
horns, mounts, LNBs, digital and analogue
receivers, geostationary and inclined orbit
manual and automatic tracking systems,
cable and fittings.

Most equipment available on short or long
term leases. H.P. also available.

PO Box 214, Silverdale, Auckland, N.Z.
Ph/Fax 64-9-426-2324 : Mobile 025-789-160
Email: pacant@nznet.gen.nz

KANSAT is proud
to present **eM**Tech



eMTech by KANSAT: *superior performance,
reliability - before the name goes on.*

- SatcoDX compatible digital satellite receivers -
download channel data using **SatcoDX** (tm)
(CD/Internet) ■ Picture in graphic EPG ■
SCPC/MCPC 1-45Ms/sec ■ DiSeqC 1.0 & 1.2
- **eM-100B** - FTA, 1MB Flash Memory, 2MB
DRAM, 2,000 ch; **eM200B** - 2 CI slots, 2 MB
Flash, 2 MB DRAM, 4,000 ch; **eM110B** - FTA +
positioner; **eM210B** - 2XCI/positioner
- **Brand New!** **eM300B** 20 Gb PVR, 2 CI slots,
USB shareware + PC connection



KANSAT Satellite Television, Gunalda QLD 4570
Tel (61) (0) 7 5484 6246 Fax (61) (0) 7 5484 6136
www.kansat.com.au

SatFACTS Pacific/Asian MPEG-2 Digital Watch: 17 January 2002

Bird	Service	RF/IF &Polarity	# Program Channels	FEC	Msym
Thcm3/78.5	SkyChAust	3695/1455V	up to 3	3/4	5(.000)
	MRTV-Myn	3676/1474H	1	2/3	6(.000)
	MidEst Mux	3640/1510H	up to 12	3/4	28(.066)
	Mahar/DD1	3600/1550H	up to 8	3/4	26(.661)
	ME Mux	3569/1581H	up to 4	3/4	9(.000)
	Nepal TV+	3554/1596V	3+ in mux	3/4	13(.333)
	3ABN +	3551/1600H	4+ TV, radio	3/4	13(.330)
	PTV1 +	3521/1629V	1TV, 1 radio	3/4	3(.333)
	TARBS/Th5	3485/1665H	6+ TV?	3/4	18(.180)
	Thai Global	3425/1725V	up to 7?	2/3	27(.500)
InSat 2E/83	ETV mux	4005/1145V	6+ TV	3/4	27(.000)
	DD2	3910/1240V	1	3/4	5(.000)
	DD National	3830/1320V	1	3/4	5(.000)
	Kairali TV	3699/1451V	1	3/4	3(.184)
	AsiaNet	3683/1467V	1	3/4	4(.340)
	Jaya TV	3615/1535V	1	3/4	3(.255)
	Euro Bouq	4000/1150H	6TV, 21r	3/4	28(.125)
	5-Star Med	3951/1199H	3TV	3/4	13(.185)
	Reuters Sing	3907/1243H	1	3/4	5(.632)
	WorldNet	3880/1270H	4+/20+radio	1/2	20(.400)
As2/100.5E	Hubei/HBT	3854/1296H	1	3/4	4(.418)
	Hunan/SRT	3847/1303H	1	3/4	4(.418)
	Guan./GDT	3840/1310H	1	3/4	4(.418)
	In. Mongolia	3828/1322H	2	3/4	8(.397)
	APTN Asia	3799/1351Hz	1	3/4	5(.632)
	Reuters/Sing.	3775/1375H	1	3/4	5(.631)
	WorldNt/US	3764/1386H	1 + 20 radio	3/4	6(.100)
	Liaonin/Svc2	3734/1416H	1	3/4	4(.418)
	Jiangx/JXT	3727/1423H	1	3/4	4(.418)
	Fujian/SET	3720/1430H	1	3/4	4(.418)
As2/100.5E	Hubei TV	3713/1437H	1	3/4	4(.418)
	Henan/Main	3706/1444H	1	3/4	4(.418)
	Egypt/Nilesat	3640/1510H	7+, radio	3/4	27(.850)
	Feeds	4086/1064V	1	3/4	5(.632)
	Jilin Sat TV	3875/1275V	1	3/4	4(.418)
	HeiLongJian	3834/1316V	1	3/4	4(.418)
	JSTV	3827/1323V	1	3/4	4(.418)
	Anhui TV	3820/1330V	1	3/4	4(.418)
	ShaanxiQQ	3813/1337V	1	3/4	4(.418)
	Guan/GXTV	3806/1344V	1	3/4	4(.418)
As3S/105.5	Fashion TV	3795/1355V	1	3/4	2(.533)
	MSTV	3791/1359V	1	3/4	4(.340)
	Myawady	3766/1384V	1	7/8	5(.080)
	Les Amis	3714/1436V	2	3/4	6(.500)
	Saudi TV1	3660/1490V	5+/tests	3/4	27(.500)
	Zee bouquet	3700/1450V	9TV	3/4	27(.500)
	Arirang TV	3755/1395V	1	7/8	4(.418)
	Now TV +	3760/1390H	4	7/8	26(.000)
	Star TV	3780/1370V	17(+TV)	3/4	28(.100)
	Star TV	3860/1290V	14(+TV)	3/4	27(.500)
Cak1/107.5	Star TV	3880/1270H	12(+TV)	7/8	26(.850)
	Indus Music	3900/1250V	5TV	7/8	27(.895)
	Star TV	3940/1210V	12(+TV)	3/4	26(.850)
	CNNI	3960/1190H	6(+TV)	3/4	26(.000)
	StarTV	3980/1170V	2+TV	3/4	28(.100)
	Star TV	4000/1150H	7(+TV)	7/8	26(.850)
	Sun TV	4095/1055H	1	3/4	5(.554)
	CCTV bqt	4129/1021H	4(+TV)	3/4	13(.240)
	Zee Bqt #2	4135/1015V	4(+TV)	2/3	15(.000)
	Indovision (S-band)	2.536, 2.566, 2.596, 2.626	33(+TV)	7/8	20(.000)
T'Kom/108E	IndoBqt	3460/1690H	up to 6	3/4	27(.500)
	C2M/113E	TPI	4185/965V	1	3/4
C2M/113E	Anteve	4144/1006V	1	3/4	6(.510)
	Satelindo Bq	4089/1061H	2+ 1 radio	3/4	14(.062)
	Indosiar	4074/1076V	1	3/4	6(.500)
	SCTV	4048/1102V	1	3/4	6(.618)

Receivers and Errata
Finally settled here from As2
erratic service
Now essentially all CA
USA religion chs, CMM music FTA
New November - possibly TARBS?
FTA + CA mux
3 Angels USA, Ch of Hope, + 9 radio
recent frequency change
TARBS label, Thai 5, may go CA?
FTA (reaches SE Australia)
ETV Bangla now here; wide beam
SCPC, ; OK E. Aust. wide beam
SCPC; OK E. Aust. wide beam
SCPC, OK E. Aust wide beam
SCPC, OK E. Aust. wide beam
SCPC; OK E. Aust. wide beam
FTA (TV5 teletext); MCM gone
Macau MUX
occasional feeds, some FTA MPEG2
Will move here-replace analogue
FTA SCPC, teletext
FTA SCPC, teletext
FTA SCPC, radio APID 81
FTA: #1 Mongolian, #2 Mandarin
Sometimes FTA; also 3895Vt
FTA & CA
FTA; to shut down "soon" (see 3880H)
FTA SCPC, radio APID 256
FTA SCPC, teletext, radio APID 81
FTA SCPC, + radio APID 80
FTA SCPC, radio APID 80
FTA SCPC, + radio
Thru TARBS Aust, occ. FTA
FTA SCPC feeds
FTA SCPC, + radio
FTA SCPC
FTA SCPC, + radio
FTA SCPC + radio
FTA SCPC, radio APID 81
FTA SCPC, radio APID 257
FTA SCPC, reload VPID 308, APID 256
FTA SCPC
FTA SCPC - difficult to load
two test cards - December
FTA MCPC, Dubai Sports Europe
Mediaguard CA
FTA SCPC; reported audio problems
includes TECH TV from USAFTA
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DV211, Zenith) + 1 FTA
PAL, NTSC, 1 ch CA
Recently started -NDS CA as above
PowVu CA; CNN + Cartoons, occ FTA
"777" Fox News USA FTA
NDS CA + 2 (Phoenix Chinese) FTA
"History Channel" testing SCPC
moved from 4115 July 1
some (i.e. Kaveri) FTA + CA
NDS CA using RCA/Thomson, Pace IRDs
Test mux; try 3480H & 26.667 also
FTA SCPA; NT/NC only
recent change from 4055V; FTA SCPC
ChNewAsV33/A34,
FTA SCPC; NT/NC only
FTA SCPC; NT/NC only

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym	
(C2M)	Indone.Mux	4000/1250H	6+TV	3/4	26(.085)	
	ABC radio	3976/1174H	2+ radio only	3/4	2(.061)	
	Indo. MUX	3880/1270H	3+ TV	3/4	28(.125)	
	Brunei/Sing	3733/1417H	1TV	3/4	6(.000)	
	MMBN?	3580/1570H	up to 12?	3/4	26(.850?)	
	RCTI	3475/1675H	1	3/4	8(.000)	
JcSt3/128	Miracle Net	3996/1154V	3 up to 6	5/6	22(.000)	
	Asian bqt	3960/1190V	up to 8	7/8	30(.000)	
MeaSat 2	Astro Mux	11.478H (+)	up to 10TV	7/8	30(.000)	
Op 3/156	Mediasat	12.336V/T2	7TV, radio +	2/3	30(.000)	
	Aurora	12.407V/T3		2/3	30(.000)	
	Aurora	12.532V/T5	Inc Zee TV	2/3	30(.000)	
	Aurora	12.595V/T6		3/4	30(.000)	
	Aurora	12.657V/T7	TV tests	2/3	30(.000)	
	Aurora	12.720V/T8		3/4	30(.000)	
	Austar	12.314H/T9	iTV + here	3/4	29(.473)	
	Austar/Optus	12.376H/T10		3/4	29(.473)	
	Austar/Foxtl	12.438H/T11		3/4	29(.473)	
	Austar/Foxtl	12.501H/T12		3/4	29(.473)	
	Austar/Foxtl	12.564H/T13		3/4	29(.473)	
	Austar/Foxtl	12.626H/T14		3/4	29(.473)	
	Austar/Foxtl	12.688H/T15	(some FTA ra)	3/4	29(.473)	
	Op 1/160	ABC NT fd	12.258V	1TV, 3 radio	3/4	5(.026)
		ABC feeds	12.317H	1	3/4	6(.980)
		Central 7	12.354H	1TV	3/4	3(.688)
Imparja mx		12.360H	1	3/4	5(.424)	
Mediasat#2		12.406V	up to 6 TV	2/3	30(.000)	
Mediasat#3		12.424H	3+ TV	2/3	19(.800)	
TVNZ DTH		12.456V	2TV	3/4	22(.500)	
Nine Net		12.512H	1 TV typ.	3/4	5(.632)	
Sky NZ		12.519/546V	7TV/7TV	3/4	22(.500)	
Sky NZ		12.581/608V	6TV/6TV	3/4	22(.500)	
Sky NZ		12.644/671V	9TV	3/4	22(.500)	
ABC HDTV		12.670H	5TV	7/8	14(.300)	
Tel/Saturn		12.706/733V	8+TV, 1 radio	3/4	22(.500)	
PS8/166		TARBS3	12.326H	13TV + radio	3/4	28(.067)
		TARBS	12.526H	13TV + radio	3/4	28(.067)
	TARBS2	12.606H	13TV + radio	3/4	28(.067)	
	JEDI/TVB	12.686H	11+ TV	3/4	28(.126)	
	ABC A-P	4180/970H	2TV, 2 radio	3/4	27(.500)	
	Disney Pac	4140/1010H	typ 6 TV	5/6	28(.125)	
	NHK Joho	4065/1085H	7TV, 1 radio	3/4	26(.470)	
	ESPN USA	4020/1130H	7+TV, data	7/8	26(.470)	
	Discovery	3980/1170H	8 typ.	3/4	27(.690)	
	CalBqt/Pas8	3940/1210H	up to 8TV	7/8	27(.690)	
	CNBC HK	3900/1250H	up to 7TV	3/4	27(.500)	
	Filipino Bqt	3880/1270V	up to 9 TV	3/4	28(.700)	
	TaiwanBqt	3860/1290H	4TV + 30 radio	5/6	28(.000)	
	CCTV Mux	3839/1311H	up to 4	3/4	13(.240)	
	EMTV PNG	3808/1342V	1 + 2 radio	3/4	5(.632)	
	CNNI	3780/1370H	3, up to 5 TV	3/4	25(.000)	
	MTV	3740/1410H	8	2/3	27(.500)	
PS2/169	Pv Bouquet	12.281V	2+ TV, radio	2/3	27(.500)	
	WA PowVu	12.637(.5)V	4TV, 8 radio	1/2	18(.500)	
	HK PowVu	4148/1002V	up to 8	2/3	24(.430)	
	TVB Mux	4026/1124V	up to 8	3/4	22(.000)	
	Fox Bouquet	3992/1158V	8TV/data	7/8	26(.470)	
	Feeds	3966/1184V	1	2/3	6(.620)	
	Feeds	3957/1193V	1	2/3	6(.620)	
	Feeds	3929/1221V	1	3/4	10(.850)	
	Feeds	3912/1238V	1	2/3	6(.620)	
	Feeds	3898/1252V	1	2/3	12(.000)	
	Middle East	3836/1314V	4 typ	3/4	13(.331)	
	Feeds	3803/1347V	1	2/3	10(.322)	
	YTN Korea	3769/1381V	2+ TV	3/4	11(.570)	
	BBC +	3743/1407V	3	3/4	21(.800)	

Receivers and Errata
unstable platform - testing?
SCPC radio only - purpose unknown
TVRI, others FTA
FTA; share time, Brunei-23hrs, Sing1h
Tests? Try Sr 26.667 also
FTA SCPC, Australia OK
PowVu, some FTA (ch # 1,3)
CA & FTA NTSC: Japan, Taiwan
+11.664; 18 pay-TV svcs, CA
FTA, CA
Aust, NZ 90 cm; CA (*); ABC Nat
cvrs Aust, NZ 90 cm; CA (*)
Aust only; * - smart card p. 26
cvrs Aust, NZ 90cm (Optus FTA test)
Aust only; * - smart card p. 26
Austar i-TV; CA, subs avail. Aust.
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
CA, subscription available Australia
Also try 12.265; V832, A833
also 12.326, 12.335; ex PAS8 Ku
VPID1280, APID 1281
VPID 1024, APID 1025
also try Sr 28.000; FTA & CA
net feeds, Australia only, FTA & CA
FTA 2 channels; more possible
testing digital feeds
NDS CA, subscription available NZ
NDS CA, subscription available NZ
NDS CA, subscription available NZ
also 12.686 12.706H; levels back up
Irdeto CA, tests, S16 FTA occ.
TPG/Eurodec CA, occ. FTA
TPG/Eurodec CA, radio FTA
TPG/Eurodec CA; TRT FTA
Irdeto CA, some FTA tests
Launched 31 December
PowVu CA
PowVu CA & FTA; subscription avail
PowVu CA; ch 11 DCP-CCP bootload
PowVu/CA (some audio FTA)
PowVu CA & FTA (EWTVN, BBC)
FTA at this time
Some FTA; also 4040V, 27.686, 7/8
New Sr from November
PowVu FTA, replaces PAS-2 svc
was As2; PowVu CA
PowVu, CNN/CNNI now CA
1-7 CA; #8 MTV China FTA
PowVu CA, WIN, ABC NT
PowVu CA, WA only - D9234
PowVu CA; some FTA, occ feeds
CA feeds to pay-TV; 6 chs FTA
Pv, CA/FTA (FTA ch 3 only)
PowVu (FTA) occ feeds
PowVu (FTA) occ. feeds
PowVu (FTA) occ sport feeds
PowVu(FTA) occ. feeds
PowVu (FTA) occ. feeds
LBC CA Irdeto; JSC, ART to follow
PowVu (FTA) occ sport feeds
Svcs 1 and 2, CA
BBC FTA , others CA usually

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(PAS-2/169)	Feeds	4040/1010H	1	3/4	10(.850)
	KBS/Korea	4026/1124H	1	3/4	5(.062)
	7thDayAdv.	3872/1278H	1	3/4	6(.620)
	Feeds	3868/1182H	1	2/3	6(.620)
	Feeds	3939/1211H	2 (typ NTSC)	2/3	6(.620)/7(.498)
	Cal PowVu	3901/1249H	up to 8	3/4	30(.800)
	occ feeds	3776/1374H	1 typ	3/4	5(.560)
	Korean Bqt	3762/1388H	up to 3	3/4	11(.570)
	Satcom 1-6	3743/1407H	up to 5	7/8	19(.465)
I702/176E	AFRTS	4177/973LLIC	8TV, 12+radio	3/4	26(.694)
	RFO Poly	4027/1123L	1TV	3/4	4(.566)
I701/180E	TNTV	11.060V	9	3/4	30(.000)
	Canal+Sat	11.610H	16TV, 1 radio	3/4	30(.000)
	TVNZ	4195/955RHC	1	3/4	5(.632)
	TVNZ/BBC	4186/964RHC	1	3/4	5(.632)
	TVNZ	4178/972RHC	1	3/4	5(.632)
	TVNZ/Aptn	4170/980RHC	1	3/4	5(.632)
	TVNZ/feeds	4161/989RHC	1	3/4	5(.632)
	RFO-Canal+	4086/1064L	4TV, radio	5/6	12(.250)
	TVNZ/feeds	4052/1098RHC	1	3/4	5(.632)
	TVNZ feeds	4044/1106R	1	3/4	5(.632)
	NZ Prime TV	4024/1126L	1	2/3	6(.876)
	NBC to 7 Oz	3960/1190R	1	7/8	6(.447)
	Ioarana	3772/1378L	1	3/4	4(.566)
	TVNZ	3846/1304R	1	3/4	5(.632)
	10 Australia	3769/1381R	4	7/8	20(.000)
	USA feeds	3749/1401R	4?	?	26(.400)

Receivers and Errata
PowVu occ FTA feeds
occ. FTA, usually CA
Sat, Sun 0030, 0900+UTC
FTA (occ sport); also try 3863, Sr6.100
FTA-typ NTSC-occ sport, live Shuttle
PowVu CA + FTA
occ feeds, typ FTA; also Sr 5.600
Korean MUX, reloads June 01
poss. USA pgming to Carnival Line
PowVu CA
SE spot beam
eastern spotbeam CA; 8,000 subs
3 FTA, Mediaguard; also 10.975
DMV/NTL early version, occ feds, typ ca
DMV/NTL early version, occ feds, typ ca
DMV/NTL early version, occ feds, typ ca
DMV/NTL early version, occ feds, typ ca
DMV/NTL early version, occ feds, typ ca
east hemi 20.5 dBw thru 2003+
DMV/NTL early version, occ feeds, typ ca
SCPC, mixed CA and FTA feeds
PowVu CA; Auckland net feeds
CA, Leitch encoded
FTA SCPC; East Hemi Beam-Tahiti
SCPC, mixed CA & FTA, feeds
PowVu CA & FTA; #3 TBN
16-QAM (not MPEG-2 compatible)

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

AV-COMM R3100. FTA, excellent sensitivity (review SF May 1998); new version Sept. '99. Av-COMM Pty Ltd, 61-2-9939-4377.
Benjamin DB6600-CI. FTA, Foxtel/Austar w/CAM+card. Autosat Pty Ltd 61-2-9642-0266 (review SF#72)
eMTech eM-100B (FTA), eM-200B (FTA + CIx2), eM210B (FTA + 2xCI + positioner); KanSat 61-7-5484 6246 (review SF#89)
Humax F1-CI. Primarily sold for TRT (Australia), does (limited) PowerVu (not Optus Aurora approved).
Humax ICRI 5400. Embedded Irdeto + 2 CAM slots; initial units had NTSC glitch, now fixed. Widely available, review SF#76.
Hyundai-TV/COM. HSS100B/G (Pacific), HSS-100C (China) FTA. Different software versions; 2.26/2.27 good performers, 3.11 and those with Nokia tuners also good; later 5.0 not good. SATECH (V2.26)
Hyundai HSS700. FTA, PowerVu, SCPC/MCPC. Review SF March 1999. Kristal Electronics, 61-7-4788-8902.
Hyundai HSS800CI. FTA, Irdeto (with CAM) + other CA systems, PowerVu, NTSC. Kristal Electronics, above; review SF#63.
MediaStar D7. FTA, preloaded w/ known services, exc. software (review SF July 1998). MediaStar Comm. Int. 61-2-9618-5777
MediaStar D7.5. New (May 00) single chip FTA; review June 00 SF. MediaStar Comm. Int. 61-2-9618-5777
MultiChoice (UEC) 660. Essentially same as Australian 660, not grey market contrary to reports. Sciteq tel 61-8-9306-3738
Nokia "d-box" (V1.7X). European, FTA, may only be German language, capable of Dr. Overflow software. Tricky to use.
Nokia 9200. When equipped with proper CAM, does Aurora, pay-TV services provided software has been "modified" with Dr Overflow or similar program was available from (www.BAKKERELECTRONICS.COM), now only from established users.
Nokia 9500/9600. Numerous versions for different world parts; not distributed in Pacific but assistance from Av-Comm Pty Ltd.
Pace DVS211. NDS CA (no FTA) for Star Asia, previously used for Indovision. (Solution 42, 61-2-9820-5962)
Pace DGT400. Originally Galaxy (Now Foxtel+Austar). Irdeto, some FTA with difficulty (Foxtel Australia 1300-360818)
Pace DVR500. Original DGT400 modified for NBC (PAS-2) affiliate use, with CAM equivalent to DGT400 but more reliable.
Pace "Worldbox" (DSR-620 in NZ). Non-DVB compliant NDS CA including Sky NZ, no FTA; similar "Zenith" version.
Panasat 520/630/635. MCPC FTA, Irdeto capable, forerunner UEC 642, 660. Out of production, spares fax ++27-31-593-370.
Panasonic TU-DS10. FTA + Irdeto CA; one of 2 IRDs approved by Optus for Aurora, but never available in Australia.
Phoenix 111, 222. PowVu capable, NTSC, graphics, ease of use. (111 review SF#57). SATECH(below)- 222 out of production
Phoenix 333. FTA SCPC, MCPC, analogue + dish mover. Detailed SF review Nov. 1998. SATECH 61-3-9553-3399.
Pioneer TS4. Mediaguard CA (no FTA), embedded Msym, FEC, only for Canal+Satellite (AntenneCal ++687-43.81.56)
PowerVu (D9223, 9225, 9234). Non-DVB compliant MPEG-2 unless loaded with software through ESPN Boot Loader (see below). Primarily sold for proprietary CA (NHK, GWN+ PAS-2 Ku, CMT etc). Scientific Atlanta 61-2-9452-3388.
Prosat 2102S. FTA SCPC/MCPC, NTSC/PAL, SCART + RCA. Sciteq 61-8-9306-3738.
SatCruiser DSR-101. FTA SCPC/MCPC, PowVu, NTSC/PAL. (Skyvision Australia 61-3-9888-7491, Telsat 64-6-356-3749)
SatCruiser DSR-201P. FTA SCPC/MCPC, PowVu, NTSC/PAL, analogue, positioner - (Skyvision - see above).
Strong SRT 4600. SCPC, MCPC, PowerVu, exc graphics, ease of use, review SF#64. Strong Aust 61-3-9553-3399.
Strong 4800. SCPC, MCPC, embedded Irdeto+ CAM slots, Aurora, exc. vendor support. Strong Aust 61-3-9553-3399.
Strong 4890. SCPC, MCPC, 30Gb PVR, 2 CAM slots, DiSEqC 1.0, 1.2, wide screen (review SF#84); Strong Aust (above)
UEC642. Designed for Aurora (Irdeto), approved by Optus; w/new software, C-band FTA; faulty P/S. Norsat 61-8-9451-8300.
UEC660. Upgraded UEC642, used by Sky Racing Aust., Foxtel-limited FTA. (Nationwide - 61-7-3252-2947); P/S problems.
UEC700/720. Single chip Irdeto built-in design for Foxtel; unfriendly for FTA. Power supply problems, seldom sold to consumers.
Xanadu. DVB compliant special-priced receiver for members of SPACE Pacific (Av-comm Pty Ltd, tel +61-2-9939-4377)
Accessories:
Aurora smart cards. New v1.6 now available, 1.2 no longer available for RABS. Price now A\$105, Sciteq 61-8-9306-3738.
PowerVu Software Upgrade: PAS-8, 4020/1130Hz, Sr 26.470, 7/8; pgm ch 11 and follow instructions (do not leave early!)



IKUSI ANZ PTY LTD

7 Amsted Road, Bayswater, Victoria
Australia 3153

Tel: ++ 61 3 97207022 Fax: ++ 61 3 97207422

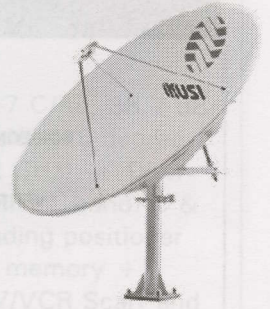
e-mail: sales@ikusianz.com.au

Web: http://www.ikusi.com

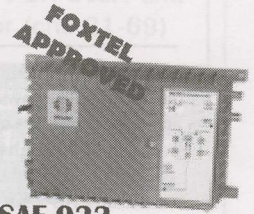
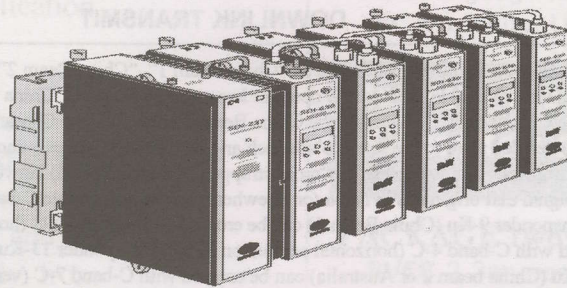
IKUSI

SDI - TOTALLY TRANSPARENT QPSK to QAM TRANSMODULATORS

Why Re-Invent the wheel !



FOXTEL APPROVED
SZB-190
Sat IF Head Amp
+ Power Inj + Terr. DPX



FOXTEL APPROVED
SAE-933
Sat. & Terr.
Extension Amplifiers

Our SDI-630 / 640 TDT's mounted at the headend will receive the full Satellite QPSK transponderstream, rebuilding it, using both Reed Solomon & Viterbi error correction algorithms.

The output is then digitally remodulated & compressed into a 16 - 256 QAM stream of your choice, anywhere in the VHF or UHF band.

Being TOTALLY TRANSPARENT, no part of the bit stream is altered in anyway.
This of course includes the NIT, which is part of the TS or Transport Stream.

The output of the headend can be then distributed into the existing MATV or CATV distribution network with the least of fuss delivering perfect BER of >1E-8.

With more than 250,000 SDI-630 TDT's sold worldwide, we know that our product delivers the goods at a fraction of the cost of a QPSK distribution.



SDA-041
QPSK to AM VSB
For FTA & Encrypted
Services

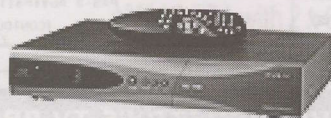
Free Quotation Service Available for any number of outlets: 10 - 100 - 1000 - 10,000 !

MELBOURNE SATELLITES

JONSA
HUMAX
ACER

Norsat

ZINWELL
ROYALTY Certified



Get your **IRCI-5400z, IR-5410z & F1-Ace** HERE



C-Band LNBF
with Scalar Ring

Established 1992
ACN: 065 270 733
ABN: 51 477 349 864

Dual Output Ku-Band LNBF
Suit Optus 11.3Ghz
Run 2 Receivers
H/V on Both Ports



Cat# **LK-ZINOSDu**

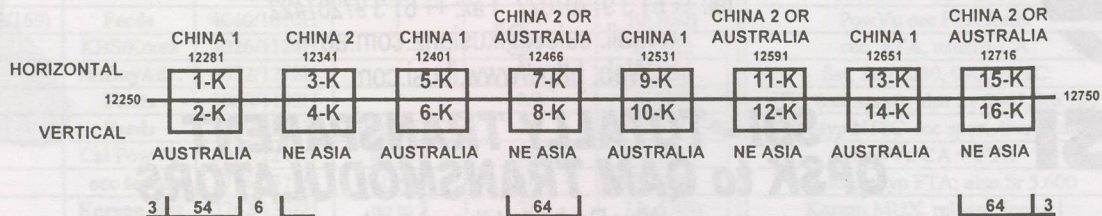
Full Range of Hardware & Accessories
Stockist of most Popular Brands
Intersate Inquiries Welcome
Freight Deliveries Available to Most Areas

Please Phone, Fax or Email for SATalogue and Pricelist.

MELBOURNE SATELLITES Pty Ltd
84 Bayfield Road East
P.O. Box 901
Bayswater VIC 3153
Phone: 03 9738 0888
Facsimile: 03 9729 8276

sales@melbournesatellites.com.au
www.melbournesatellites.com.au

BANDSCAN: PanAmSat PAS-2 Ku Analysis



DOWNLINK TRANSMIT

PanAmSat PAS-2 Ku has four separate possible transmit beams labelled as "China Beam 1", "China Beam 2", "Northeast Asia Beam" and "Australia". As the table above shows, some of these beams are switchable - that is, the operator has a choice between "China 2" or "Australia" (#7 Ku, for example). There are 16 transponders total of which: 4 can be China Beam 1 only, 1 can be China Beam 2 only, 3 can be China Beam 2 or Australia, 4 can be Northeast Asia and 4 can be Australia only. All of this was decided prior to the satellite's launch and the operator makes a choice between China 2 or Australia from Napa's control centre. Additionally, there are four transponders which can be "cross strapped" (interconnected) between selected PAS-2 C-band transponders and selected PAS-2 Ku band. This means a signal that originates in Napa (or elsewhere) on the appropriate C-band transponder can be converted within the satellite to Ku band for down linking. Transponder 9-Ku (China Beam 1) can be crossed with C-band 2-C (horizontal centred on 3730), transponder 11-Ku (China 2 or Australia beam) can be crossed with C-band 4-C (horizontal centred on 3790), transponder 13-Ku (China beam 1) can be crossed with C-band 5-C (vertical centred on 3850) while 15-Ku (China beam 2 or Australia) can be crossed with C-band 7-C (vertical centred on 3915). There have been very occasional reports of reception of services intended solely for some portion of Asia by observers located in New Zealand or Australia. In all likelihood, this would have been a service operating on a switchable beam (7-Ku, 11-Ku or 15-Ku) when the Napa control centre got the beam switch in the wrong position.

Although we publish only the PAS-2 Ku Australia beam vertical footprint map here, there is a separate map for PAS-2 Ku horizontal as well. It differs only slightly from the vertical version, with slightly lower peak boresight levels (44 dBw rather than 45 dBw).

12.281Vt (Ku-2 Australia beam) Telstra lease PowerVu CA (Sr 27.500, FEC 2/3) for ABC-TV Northern, WIN-TV nets and Telstra Big Pond data.

12.291 Hz (Ku-1 upper China beam) CTS MPEG-2, Sr 3.722, FEC 2/3

12.399Hz (Ku-5 China Beam 1) TVBS Newsnet MPEG-2 Sr 3.000, FEC 3/4

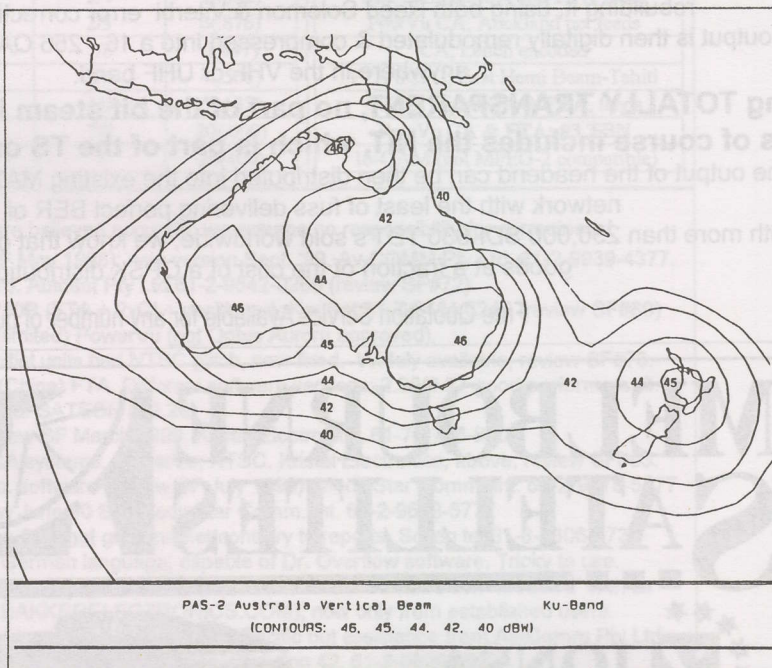
12.448Vt (Ku-8 lower Northeast Asia Beam) DirecPC

12.480Hz (Ku-7 upper Australia Beam) IHUG data Sr 19.440, FEC 3/4

12.495Vt (Ku-8 upper Northeast Asia Beam) KNTV Korea Now TV, MPEG-2 Sr 2.206, FEC 5/6

12.577Vt (Ku-12 lower Northeast Asia) She-TV MPEG-2 Sr 18.860, FEC 3/4

12.637Vt (Ku-14 Australia Beam) Telstra PowerVu Sr 18.500, FEC 3/4 for WIN-TV, GWN-TV, ABC-TV West, SBS-TV West + 8 radio (available only WA by purchasing SA Pv CA receiver* no subscription fees).



TUNING IN THE INDUSTRY'S TV PROGRAMME

SPACE Pacific, the Asia-Pacific industry membership trade association, has produced (and continues to produce) a series of one hour television programmes. These "SPACE Pacific Report" shows, hosted by Bob Cooper, cover a range of topics of interest to installers and enthusiasts. Show numbers and content are as follows: #9901- Spectrum Analyser techniques, #9902- Feeds and LNBS, #9903- Dish antenna designs and problems, #9904- The dish marketplace, and, "tiny parts," #9905- Dr Overflow (Nokia) software (Robin Colquhoun), #9906- How the uplink works (tour of RCA's Vernon Valley site), #9907- Uplink Two, including uplink transmitters, #9908- Digital Basics (Mark Long), #9909- Real World Installs (Mark Long), #9910 - Installing a polar mount dish and signal level test equipment, #9911 - "SPIN" (the hidden side of satellite). #0012 - First Report from SPRSCS 2000 (recorded in Melbourne June 28, 29 - "Ideal IRDs," more), #0013 - Second Report from SPRSCS 2000 (recorded in Melbourne June 29, 30 - "ABA Blackspot session"), #0014 - Naughty Nokia from SPRSCS 2000; #0101 - Preview of new technology including SDS from SPRSCS 2001 (September 27, 2001 Melbourne). "Report" is broadcast by Mediasat on Optus B3, 12.336Vt, ad-hoc channel 4(*) (Sr 30.000, FEC 2/3). The coming-weeks schedule: **Sunday January 20** - 0012 at 0200-0300 UTC (1500 NZST, 1300 AEST, 0900 Western Australia; repeats 0700 UTC/8PM NZST, 6PM Sydney, 2PM Perth). **Sunday January 27** - Show 0013, same times as January 20; **Sunday February 03** - Show 0014, same times as January 20; **Sunday February 10** - Show 9901, same times as January 20; **Sunday February 17** - Show 9902, same times as January 20; **Sunday February 24** - Show 9903, same times as January 20; **Sunday March 3** - Show 9904, same time as January 20 (Note: Daylight savings time adjustments - we stay with original UTC times). (* - Mediasat may pre-empt showings, check other bouquet channels - such as 3 - if not on 4.) In the event of schedule changes (*), SPACE Pacific attempts to pre-announce which show(s) will appear through <http://www.apsatv.com> Sponsorship of SPACE Pacific Report. In general answer to queries - Av-Comm, Satech and Sciteq have contributed corporate funding to make possible the production of the first set of nine SPACE Pacific Report programmes. IKUSI ANZ contributed funds for completion of 9910. If interested in sponsoring future shows, contact Bob Cooper at skyking@clear.net.nz (64-9-406-0651) * - Note: Mediasat Sunday feed loads have increased and the first showing (0200UTC) may be "bumped" to accommodate other clients. The 0700UTC feed typically is not bumped and would be the better choice if taping for later review.

INSTALLING AURORA KITS?

Buy your kits from the people who have
been solving television reception
problems for 40 years.

The deal

- Optus Approved UEC Mod 700 IRD packed with 4 page out of area application
- Aurora Card
- LNB
- 90 cm Dish (choice of 2 brands)

Dish shipped totally enclosed in wooden crate (pallet size).

All for \$773 plus GST and freight
Trade installers only, from

RURAL ELECTRONIC PRODUCTS

"The better reception centre"

315 Summer Street Orange NSW 2800
Phone (02) 6361 3636

PRICE BUSTER!

PACKAGE one: Au \$5xx

Comstar 2.3m dish (Model ST-7 C/Ku, 38.2 dB gain at 4.2 GHz) + Zinwell LNB (15 degree Kelvin, 65 dB gain, 3.4 - 4.2 GHz) + Dion Digital receiver (950 - 2150 MHz L-band: C & Ku) + DiSEqC 1.0/1.2 (including positioner control) + 3100 channel memory + Multi-language (5) menu + TV/VCR Scart and RCA outputs, UHF remodulator (chs 21-69)

**Dealers: We want to supply you!
Come to us for your best deals**

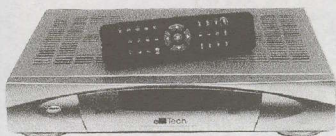
PACKAGE two: Au\$4xx

SVEC 2.3m mesh dish + PBI LNB + Innovia Digital Receiver - equipped with all of the primary features of the PACKAGE One system but slightly lower quality dish and electronics for those bargain hunters who simply must have the lowest price!(Conditions apply)

SVEC COMPANY PTY LTD

64 Mahoneys Road Forest Hill Victoria
tel 61 3 8801 0336 fax 61 3 9893 6908 mobile 0425 770 336

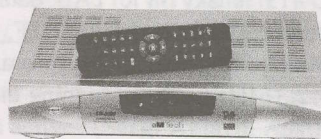
eMTech Digital Satellite receivers-SatcoDX[®] compatible



eM100 FTA only \$A499 RRP
eM200 FTA + 2 x CI Slots- \$A599 RRP
eM210 FTA + 2 x CI slots + Positioner

- MPEG-2 DVB Compliant
- Quick Channel Switching Time
- 256 Color On Screen Display
- Easy Installing Program Setup
- SCPC & MCPC Receivable from C/Ku-Band Satellites 1-45Ms/sec
- Output in PAL or NTSC OSD selectable
- EPG for On Screen Channel Information
- Subtitle & Teletext Supported by OSD & VBI
- MPEG/Music Cam Layer I and II, CD Quality Audio Sound
- Small Window Screen Picture with EPG Graphic Menu
- Automatic TP Scan Function with Manual PID
- DiSEqC 1.0 & 1.2 Control Compatible
- TV Screen format selection (16:9 / 4:3)
- Auto-Searching function for many popular default satellites
- Firmware be Download Through RS232 From PC to Set and From Set to Set
- SATCODX chart compatible (Download from the Internet or SATCODX CD satellite chart list)
- PLL RF-Modulator (Ch. 21 - Ch. 69)
- RS232 Data Port & 2 Scart / 3 RCA Jack
- Flash Memory 8Mbit * 1, Dram 16Mbit * 2
- Power Supply AC 90V ~ 260V

**20Gb
PVR
Model**



eM300 FTA with 2 x CI slots and 20GB Hard drive built in \$A999 RRP

The eM300 is the latest model from eMTech.
20GB HDD gives up to 11 hours of recording/playback at 4MB/sec.
The unit has 2 x CI slots and can be used for encrypted services with the relevant CI module and authorised smart card.
Time shift function allows you to pause live off-satellite program and resume after a period up to 11 hours, and continue watching the program with the time shift.
The receiver will continue to record the incoming live program while you watch the delayed program!
USB port allows to upload and download PVR, WAV and MP3 files to and from your PC.
USB lead and driver supplied.
Dolby AC3 digital optical bitstream output lets you patch into a high quality audio surround system
The latest software is on our site

HUMAX



IRCI5400Z embedded irdeto + 2 CI slots
IR5410Z embedded irdeto only

KRISTAL
electronics

25 Cataract Ave, Rangewood Townsville Qld 4817 Australia.
Contact Us-email- philip@kristal.com.au
Fax- (07) 47888906 Phone- (07) 47888902
Check out our on-line store at -

<http://www.kristal.com.au>

WITH THE OBSERVERS

AT PRESS DEADLINE

Uncertain reports at press-time - ABC NT, variously strong and weak on Optus B1 TP1 vertical, reported as moved from 12.258 to 12.265. However, receivers that do not change frequency on their own still seem to be working on 12.258; if you are having trouble at 12.258, try 12.265 and let us know your results!

AsiaSat 2/ 100.5E: "APTN Asia on 3799Hz could be relisted in 'Watch' as they are now frequently FTA; Sr 5.632, 3/4; companion 3895Vt, Sr 5.632, 3/4 is used less often but typically FTA as well" (Anthony K, Aust).

AsiaSat 3/ 105.5E: "Indus Music Channel, 3900Vt, is no longer operating as a 'Test' - appears to be regular programming" (D. Leach, NSW).

InSat 2E/ 83E: ETV Gujarati, ETV Telugu, ETV Bangla, ETV Marathi, ETV Urdu, ETV Kannada + ETV Oriya are testing in MCPC 3485Vt, Sr 27.000, FEC 3/4 but this may be a zone beam that excludes Pacific.

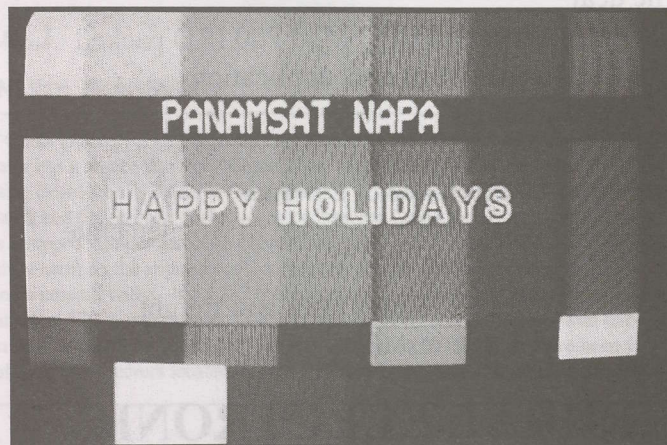
Intelsat 701/ 180E: "Contrary to some reports, Canal + Polynesie including RFO Tempo Tahiti still operating 4086L, Sr 12.250, FEC 5/6" (A Harrison). "Details on Canal + Sat new 10.975 GHz Hz service: Sr 30.000, FEC 3/4, VPID 512/APIID 650 BT LA test card FTA, V513/A660 BT LA test card FTA, V2305/A2306 Action Channel CA, V2308/A2309 National Geographic CA, V2307/A2311 TF6 CA" (Bill Richards, Aust)

Optus B1/ 156E: "Signal levels have bounced back up on ABC's HDTV channels (12.670, 12.686, 12.706Hz) after being down for more than a month; now load properly on 90cm" (D. Mitchell, NSW). "New PIDs for these channels are 1101/1102 and 1301/1302 - ABC NW and ABC TV4 test card" (D. Mitchell, NSW).

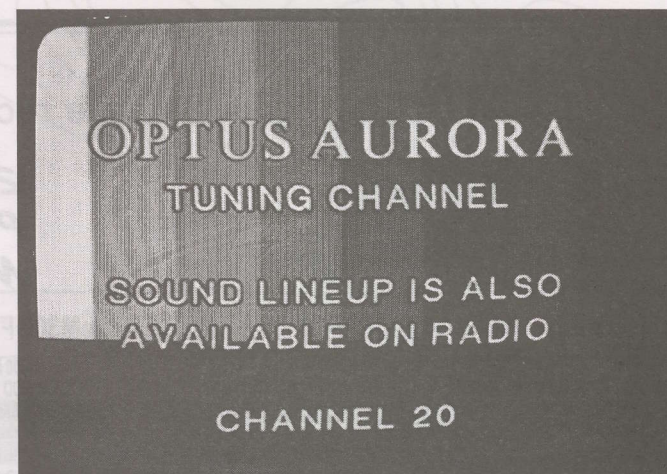
Optus B3/ 160E: "Sky Sport Australia has now labelled a new, extra, channel; #13 is Sky7-Vic TAB data only" (NS, NSW). "Correct Sr for 12.314Hz to 30.000" (IF, Qld) "ABC Radio Victoria is now operating on 12.720 Aurora, APID 777" (Charlie). "FYI on 12.314Hz has been running in FTA mode" (Charles P.)

Palapa C2M/ 113E: "FTV News, FTV Entertainment and CTS have left their temporary use of 3633Hz" (D. Samuels, PNG). "Asialink feed channel 3935Hz, Sr 5.632, FEC 3/4, VPID 308, APID 256" (Bill Richards, Aust)

PanAmSat PAS-2/ 169E: "TVB Mux 4026Vt, new Sr 22.000, FEC 3/4: up to 6 FTA and 2 CA as follows, (1) TVBS-FTA, 2) TVBS-N-FTA, 3) TVBS-G-FTA, 4) MUCH-FTA, 5) ERA News-FTA, 6) Asia-CA, 7) TVBS-N/USA-FTA and 8) Asia Plus-CA." (D. Mitchell, NSW). "News feeds 4044Vt, Sr 6.618, originating Singapore and IDing as 'SIG2 Mux 1, Mux2' VPID 2160, APID 2120, PCR PID 2160" (D. Nolan, NT). "Adventist Television Network saluting growth of church in India at 0030UTC



TRADITIONAL. PanAmSat (and most others) used their inactive transponders during holiday period to spread the joy of the season (above). Optus Aurora tune channel is free to air within Aurora and on occasion within Austar/Optus 12.376Hz transponder as well.



Saturday (11.30AM Saturday in Eastern Australia) 3872Hz, Sr 6.620, VPID 1160, APID 1220" (Bill Richards, Aust).

PanAmSat PAS-8/ 166.5E: "Taiwan Bouquet 3860Hz, Sr 28.000, FEC 5/6 - eMTech 100 plays four FTA TV channels properly but for the 30 radio channels, it loads 'No audio available'" (D. Mitchell, NSW). "ABC Asia-Pacific FTA 4180Hz, Sr 27.500, FEC 3/4 with one English language Radio Australia, one non-English Radio Australia channel as well"

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 February 15th issue: February 4 by mail or 5PM NZST February 6th if by fax to 64-9-406-1083 or Email skyking@clear.net.nz.

New channel listings for Canal + Sat services Intelsat I701 at 180E

(Requires LNB with 9750 MHz LO, covering as a minimum 10.900 - 11.700)

System is Viaccess encrypted, Sr 30.000, FEC 3/4 on 10.975 and 11.610 Hz

Bold face listings are at publication time operating on new frequency of 10.975

Underlined listings are at press time FTA (free to air)

Channel	Programme Service		
1	Canal +	41	Disney Channel
<u>3</u>	<u>TV Caledonie</u>	42	Cartoon Network
<u>4</u>	<u>Tempo/RFO Sat</u>	45	MCM
5	TV5 Asie	46	RFM TV
11	LCI	51	Cine Cinemas
12	EuroNews	53	Action
14	EuroSport	54	TCM
21	TF6	59	XXL (adult)
22	M6	61	Europe 1
23	RTL9	100	CSAT Promo
31	National Geographic	201	BT OU1
32	Planete	202	BT OU2
33	Voyage	203	EPG
41	Disney Channel		

BT201, BT202 are colour bar patterns (test), often NTSC. Channel 61 (Europe 1) is a radio (only) service. The 10.975 GHz service may be 1/4 - 1/2 dB lower in level than 11.610 GHz. (Credit: F. Kosmalski)



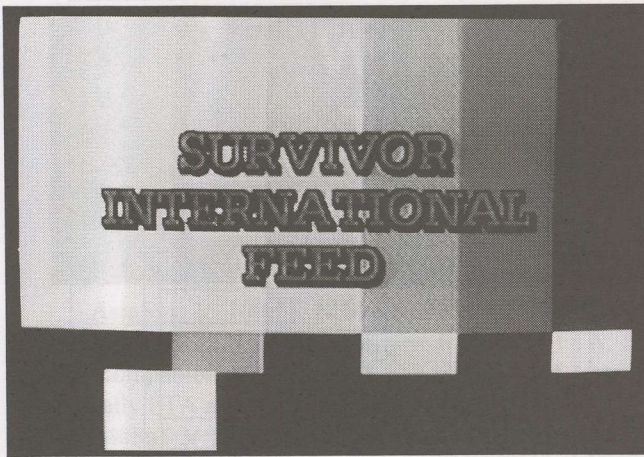
ONE method to hang second LNB + feed offset from prime focus to receive additional offset satellite without moving dish.

(DP, Australia) "MTV China is new, FTA, on 3740Hz replacing a brief test for MTV Korea" (Charlie).

ST-1/ 88E: "Some MMBN channel changes including appearance of Scholar Business Network on 3632Vt, FTA; PIDs have also changed for all channels" (Andrew, Taiwan).

Telekom 1/ 108E: "Some channels are FTA on 3460Hz" (Frank S., Taiwan). "On again - of again testing on 3480Hz, Sr 26.667, 3/4 FTA includes up to five TV programme channels when active" (Sergi Kolard, Aust).

Soapbox: "Reference closed captions - the UEC642 always has problems with the ABC 7PM news. The first line appears at the bottom of the screen, and is then overwritten (on top) without eliminating the first line which by the end of line 2 is a jumbled mess" (IF, Queensland) "With respect to the NZ chart appearing p. 7, SF#88. I think you have left out the best option, using two fixed dishes and 22 kHz or DiSEqC switching. The first could be a 65cm (Sky size) dish and the second a 90cm for the Aurora channels that cover NZ. Your suggestions included 1.2/1.5m dish which should to be safe be mounted on a ground mount pole. With the actuator suggested, the average consumer is going to opt for something less complex. A pair of dishes will probably be cheaper than one with an actuator and if the largest is 90cm, both can be side of house or roof mounted. I realise this won't get ABC NT which requires a larger dish but as unreliable as that service is anyhow, why does the typical NZ viewer need it?" (AI, NSW) "In addition to Foxtel's new AFL channel, on channel 14 of the Foxtel bouquet and channel 62 of the DTH bouquet, there are also 'fNSW FOX footy for NSW' on DTH#37 and test#43, 'fQLD Fox Footy Qld' on DTH47 and test 44, 'fWA Fox Footy WA' on DTH62 and test 45. The EPG on the AFL reads 'Fox Footy call 131999 to order' and the extended EPG says, 'FOX



"SURVIVOR" is typical of CBS USA prime time shows exported "live" on PAS-2 California bouquet, 3901Hz.

Footy channel available as a 12 month pass, season pass or on a monthly basis. Call 131999 for details. Conditions apply." (HE, Qld). "ABC's news coverage December 31 of opening of ABC Asia-Pacific had a very strange coverage map that appeared to be centred on Indonesia; for political reasons?" (Neil, NSW) "Central 7's subtitling is not totally compatible with the UEC642, the 6PM Qld time news (7PM Sydney) has the same overwriting problem as ABC National on Aurora" (IF, Qld). "(Nokia) users of DVB Universal through the DVB2000 software will find a listing of local (as in Asia-Pacific) satellites available through <http://www.apsattv.com> under 'Pacific_07_01_2002.SAT' with DVB_Universal vs 2.10 universal_2010.zip and DVB_Recorder vs 1.14 DVBRRecorder-v1.4b.zip; Nokia enthusiasts should also check www.no-access.de/en/en_software_multifunctional.html" (Craig Sutton, NZ). "We have a customer for whom we have installed a (90cm) dish and appropriate Irdeto receiver to receive Zeelink. He is Indian and he now is demanding the TV channels at no charge having bought the equipment. Help!" (NR, NZ). "With respect to ABC A-P, there is to be a very active web page linked directly to the service at www.abcasiapacific.com. Because of the different time zones we will cover, ranging from Bangladesh to Fiji, even Samoa, we'll be constantly re-enforcing on the TV service to refer to the web page for program guides and other information." (Ian Morphet, ABC Asia Pacific as Morphet.Ian@abc.net.au).



HOW the Americans do (did!) it. Although C-band dishes stopped selling there in the late 1980s, there are still an estimated 2 million in service. Note how this 3m is ground mounted with 6" OD pipe at bottom, filled with concrete and in a sizeable base (not visible) while the 3" OD pipe supporting the dish clears the roofline. And the conduit that wraps under the roof eaves for the cabling.

If you live in Australia ...
the most extraordinary service for

SatFACTS Monthly

is through

Av-comm Pty Ltd.

Email cgarry@avcomm.com.au

or telephone 02 9939 4377

YES - we have CI Modules for **SECA** cards
that fit all CI module capable IRDs.

Top quality European products designed to do the job.

You supply the card - **we** supply the module!

JOHN's Electronics (61) 418 698 106

e-mail manager@johnselectronics.com.au

<http://www.johnselectronics.com.au>

AT

Sign-off

Sky New Zealand's Public Relations Challenge

As most of us are aware, not one single satellite DTH service provider has ever managed to break through the red ink barrier. Not one has ever turned a profit in the world of delivering digital television to consumers via satellite. Galaxy has disappeared in bankruptcy proceedings, the world's largest (DirecTV in the USA owned by none other than General Motors) is in the process of consolidating with USA #2 Echostar's DISH service. Austar hangs on the brink of extinction. And Sky NZ continues to lose money.

If you sat down to establish a business plan which was guaranteed to fail, you could not do much better than Austar or Sky NZ. First you spend upwards of \$500 of your own money to "connect" a subscriber and then you try to get that \$500 back by taking money out of the \$50 monthly subscription fee. Only there is never - never - money left over after you pay your operating and raw programming costs so the original \$500 investment you make to connect a home hangs there on your books as an uncollected account. Eventually, because you have to spend another \$400 to \$500 to replace the original set-top box you so kindly gifted to the subscriber, you write off (discharge as uncollectable) the first \$500. And so it goes on - for 100,000 "new" subscribers you spend \$50,000,000 (million) of money that you have raised from banks, foolish investors, of your mother in law.

Eventually you come to the realisation that as long as this charade continues, the only thing you are doing is moving money around. You are not getting any closer to financial profits. So you look for new ways to make money - if pay-TV is a losing proposition, how about adding some new services which will (you hope) make money. How about Email, or home shopping, or movies on demand?

Each new service plateau creates an opportunity for the pay-TV provider to go back to the stock market with a new set of promises - "This one will turn us profitable," and if the market believes the hype, the public stock price stays up. Austar's stock was as high as A\$9.50 during 2001. Unfortunately, it was as low as A\$0.08 and that is one hell of a swing! When the public gets a whiff of failure, they dump stock as fast as they can speed dial their broker.

Public stock is the barometer for pay-TV firms. When you raise hundreds of millions of dollars from the public, as Austar and Sky NZ have done, you are totally dependent upon the public's perception of that stock's value to stay afloat. Financial people "measure" the worth of a company by its "cash-out" value - how much money it could raise in a big hurry if the need arose. When Austar stock was hanging in at A\$9.50, the company had a large "cash out" value. When it dropped to A\$0.08, it was in the public's mind worthless. Once you become "worthless" it is very difficult to ever recover.

Sky NZ stock has hung in there in the region of NZ\$3.50 for most of 2001. Sky has been candid with investors, telling them quite honestly it does not expect to make a profit (and

Sky TV gets on top of its digital bugs

Sky Television hopes to have the bugs in its new digital format ironed out within the next few days, ending the teething problems that have had the service's subscribers complaining.

Their problems have included slow channel changing, sudden volume surges and missing programme information.

The problems have been caused by bugs in the new system's electronic programming guide.

Sky spokesman Tony O'Brien said yesterday the company hoped that the problems would be sorted out within the next few days.

"We're not hiding the fact we have had problems with it, but it's nothing like the problems we had when we launched the digital service in 1998."

from the company's old service was now "99 per cent complete".

The new digital format includes the addition of video games, TVNZ free-to-air channels, 11 radio channels, and an interactive weather service that includes marine reports and live satellite maps.

Mr O'Brien said the main problem was the slowness of electronic programming guide software.

While the new system would be slower than the previous one, it was hard to say by how much.

"It's like if you have everything open on your computer, it slows things down, but you will have many more features and applications - the old service had only one."

He said Sky's investment in the

therefore declare a stock holder dividend) "this year." Or, "next year." But they hang on a thin thread of credibility - that the public continues to believe, "someday they will be profitable, someday stockholders will receive a dividend, someday the stock will be worth more than the hang-in-there NZ\$3.50 range."

Public perception - it can make and it can break you.

Which is why Sky's disastrous error in making a major change in their satellite data stream is so important. In December Sky NZ reconfigured the data stream to allow it to include Email and games. This extra data in the stream created operational problems for the Zenith and Pace set-top boxes. It was no longer possible to "channel surf" because changing from one channel to the next in line now took as much as 5 seconds. There were other problems as well - the EPG (electronic programme guide) and sound recovery were acting bad, frequently. And people began to complain (see partial article from New Zealand Herald, above). A New Zealand web site of some credentials (aardvark) ran a series of reports and invited Sky customers to comment. Their comments as reported in CTD for January 11th were scathing - and they were honest. People were threatening to drop Sky altogether, or cutback on their optional channel packages (such as Sundance) if Sky did not "fix" the problem.

Of course there is no fix - the Pace and Zenith set-top IRDs do not have enough data processing capability (which = speed) to do any better than they now do. Sky added new data to the stream to expand to Email and games and other marginal optional services (including a raft of new audio channels). My 1974 Jaguar was a fine car in its day - but I am not foolish enough to run it against a 2002 12 cylinder model. So it is with the Pace and Zenith boxes - they were designed for a pay TV service that did not include Email, games, or extra audio services. Sky, when asked about this, assures the public, "We planned ahead for this expanded data stream." Perhaps - but regardless of what planning was done, it does not work as it did before the new data was added to the stream, it cannot work as it did previously simply because the box is "too slow" to cope with the added data.

Which brings us to Sky's public relations problem. If the stockholders get a whiff of Sky's judgement error, that NZ\$3.50 per share price is in jeopardy. The New Zealand Herald story partially reprinted above was kind to Sky - the writer knew and understood the real mistake Sky has made and chose not to write about it. Perhaps that was because I personally reminded the writer how Austar had dropped from A\$9.50 to A\$0.08 per share as a result of bad press in Australia. "Bad press" (as in "honest press") here in SF is safe - but not in widely read newspapers. Sky has a problem.

CABLE OPERATORS & SATELLITE INSTALLERS

throughout the Pacific & Asia (and the world!)
are turning SDStv into a verrry profitable tool
for introducing new viewers to satellite and
pay-TV.

Ireland
BDA-33A + 1
dish shares
BSkyB to flats

India
mW20 + active Logis
= s low cost security
camera net

PNG
BDA-33As used
for extending
EMTV service

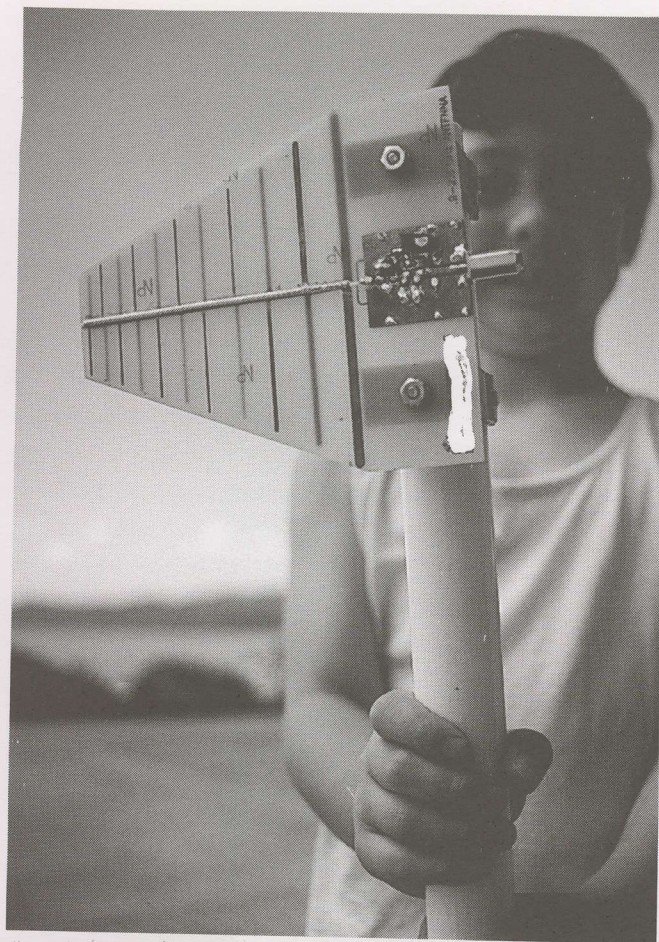
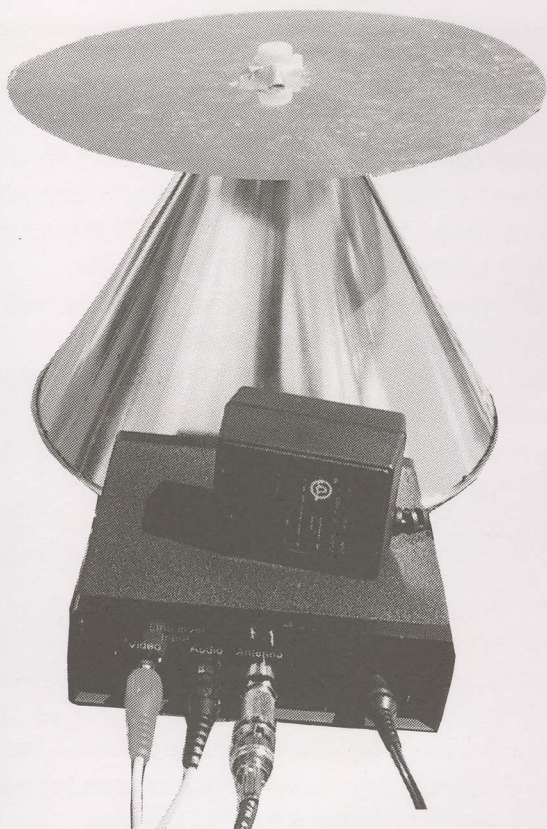
Vanuatu
10 watt, mW 20
tests for pay
TV service

FIJI
Pay-TV operator
testing 10 watt
mW20

Norfolk Island
BDA-33A + 2.3m
dish shares Foxtel
with neighbourhood

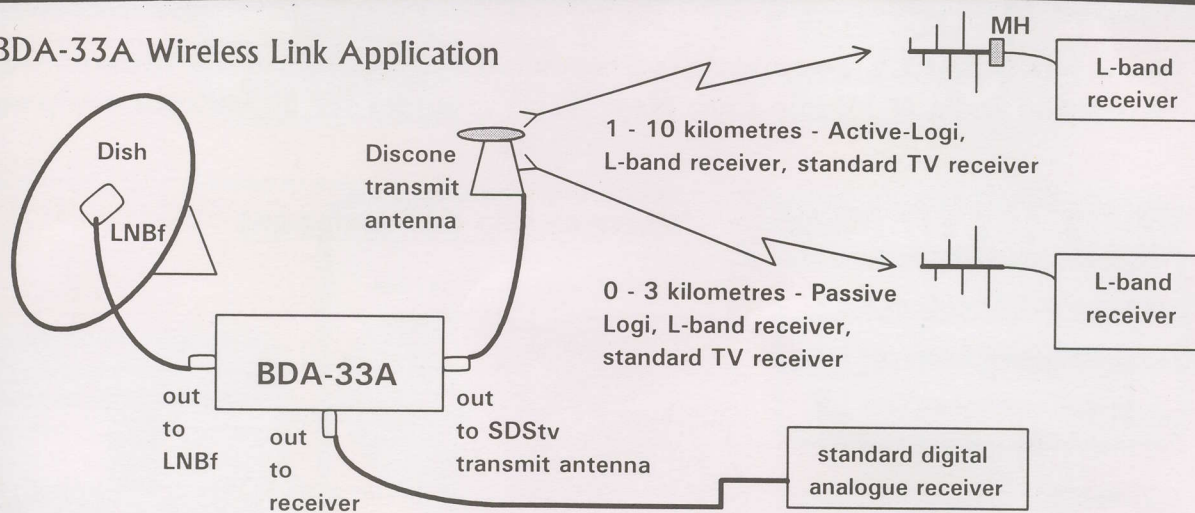
Cook Islands
BDA-33A used to
share Canal + Sat
dish over 3km

SDStv.com Limited has everything you need to "share" your video/audio signals with your neighbourhood!



20 milliwatt (mW20) 24 channel transmitter (left) with discone transmit antenna; 21 dB gain Active (receive)Logi (right)

BDA-33A Wireless Link Application



Simple is as simple does. Why battle with cables, inline amplifiers, signal splitters or multiple dishes when one dish and a BDA-33A can serve an entire building, apartment or condominium, even a small community? With virtually no cable. The BDA-33A is a compact weathertight metal container (92mm x 39mm x 32mm) with three female "f" fittings. One connects to RG6 and your LNB(f). The second connects to RG6 and your normal L-band digital or analogue receiver. The third is a "secret weapon"; a +33 dB gain output which connects to RG6 and your SDStv.com "linking antenna." Now - everything the dish + LNBf receives (between 950 & 1450 MHz) will be carried to the linking antenna and sent **through the air** to 1, 10, 100 - any number of air-link connected L-band receivers. With our SDStv.com Passive Logi, reception to 3km. With our Active-Logi, to 10 km LOS. Yes, through walls, dense vegetation, crossing streets and property lines with no wires to install! Each "remote receiver" performs as it would if connected to master-dish

Order form / pricing on page 34

SatFACTS January 2002 - page 33

YOU CAN HAVE SDS.tv in YOUR AREA!

* - Not available in New Zealand nor Australia unless you are a licensed Radio Amateur
Use this form to order equipment, solicit additional information

SDStv.com Limited Factory-Direct Orders

- SDStv.com 20 mW Starter Kit.** You receive 24 channel-agile L-band transmitter with (230-260 V AC) power pack supply, Discone omni-directional transmit antenna with RG6 pigtail and F connector, 6 dB gain "Passive-Logi" receive antenna. Connect up your A/V source, connect "Passive-Logi" to any functional analogue L-band receiver, set the mW 20 and receiver to the same L-band channel and turn it on. Instant television with subcarrier audio over distances of 0 - 4km.
- SDStv.com 20 mW Starter Kit - X003.** Same as above but substitutes R-003A "Active Logi" with 21 dB package gain for receive antenna. US\$358 + Air Parcel Post/Fed-X charges.
- SDStv.com Passive Logi antenna.** 6 dB gain over frequency range 950 - 2600 MHz, 75 ohm, F connector installed with mounting snaps. 1 - 6 US\$25 each; 7 - 24 US\$22.50 each. Quantity required: _____
- SDStv.com Active-Logi antenna.** 21 dB gain over frequency range 950 - 1450 MHz, reduced gain to 2150 MHz. 75 ohm, F connector installed with mounting snaps. 1 - 6 US\$90, 7 - 24 US\$81 each. Quantity required: _____
- SDStv.com 10-watt Linear amplifier.** 27 dB gain turns 20 mW into 10 watts, or BDA-33A (below) into 10-watt total for full 950 - 1450 MHz bandwidth. Requires external 24V DC, 2 amp power supply (you supply - Dick Smith Model AIL 4542 M9636 or equivalent). US\$590 + Air Parcel Post/ Fed-X charges.
- SDStv.com BDA-33A Wireless Link System.** You receive BDA-33A bandpass amplifier (powered from your existing analogue or digital receiver), SDStv.com Discone transmit antenna with pigtail RG6 and F connector, 6 dB gain "Passive-Logi" receive antenna. Connect as shown on p. 33 here and use any analogue/digital receiver with passive logi to receive full 950 - 1450 bandwidth dish signals over distances as great as 3 kilometres. US\$260 + Air Parcel Post/Fed-X charges.
- SDStv.com BDA-33A/R003A Wireless Link System.** Same as system directly above but substitutes R-003A "Active Logi" for passive Logi receive antenna. US\$323 + Air Parcel Post/Fed-X charges.
- YES** - I have checked <http://www.sdstv.com> web site and I have the following question(s):

Have you REALLY gone to <http://www.sdstv.com> for more information???
Attention India & Middle East: New "local" sources for SDStv.com equipment
- ask us!

Who I am - Where to ship this equipment

Name _____ Company _____

Mailing/shipping address _____ (e-mail _____)

Town/City _____ State/Province _____ Mail Code _____ Country _____

If this is an order:

Payment by: Cheque enclosed (drawn in US\$ or your equivalent to SDStv.com Limited) in the amount of US\$/equivalent \$ _____

Charge to (VISA or Mastercard - only) credit card as follows:

Name on card _____ Card expires ____/____

Card number _____ - _____ - _____ - _____

Total amount of order (in listed US\$) \$ _____ (*) Signature of card holder _____

* - Air parcel post (or Fed-X) charges will be added; GST where applicable

Return: Fax to 64-9-406-1083 (tel 64-9-406-1282; email skyking@clear.net.nz) or mail to
SDStv.com Ltd, PO Box 30, Mangonui, Far North, New Zealand

- UNIVERSAL COMPATIBLE TUNER 950-2150 MHz
- LOOP THROUGH TO ANALOGUE RECEIVER
- DiSeqC 1.0 LNB OR POSITIONER CONTROL
- EXTENDED SYMBOL RATE (2-45 Mbps)
- PID FUNCTION FOR VIDEO, AUDIO & PCR
- EPG/ TELETEXT DISPLAY
- TP SEARCH, NETWORK SEARCH AND FTA ONLY FUNCTION
- NTSC TO PAL AUTO CONVERTING
- RF MODULATOR (CH 21-69) PLL CONTROL)
- TV AND RADIO CHANNELS EDIT WITH MOVE, DELETE AND FAVOURITE FUNCTION.
- SOFTWARE UPDATE VIA RS-232 SERIAL DATA PORT.

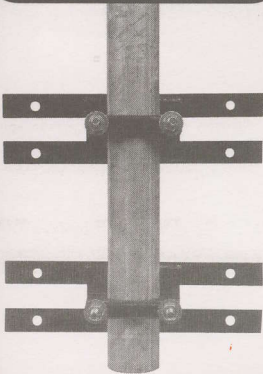
**NEW
D7.5
MediaStar**



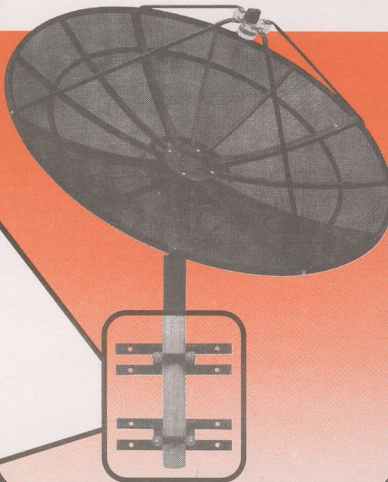
**MediaStar
Communications
International**
24 Bosci Road
Ingleburn NSW
2565 Australia

Tel: 61 2 9618 5777
Fax: 61 2 9618 5077
Opac@bigpond.com

**ALL SUPPLIED WITH
WALL BRACKETS**



HIGH PERFORMANCE ANTENNA DISH



AVAILABLE iN

- 1.95m Quad Fixed mount
- 2.3m Quad Polar mount
- 3.1m Quad Polar mount



**RG6 Tri shield 300 and 100m
ACTUATOR CABLE AVAILABLE**

HUMAX

IR-5410Z

- Software upgradable from home PC
- Latest software FREE on the web
- Channel/Transponder data upload/download to PC
- Embedded IRDETO (compatible with all Australian IRDETO services)
- Digital Audio Output
- DiSEqC 1.0 switching
- DiSEqC 1.2 positioning
- 22kHz Switching
- 4:3 or 16:9 aspect ratio

Shop online at
<http://www.sciteq.com.au>



Trade supplier of quality products:



Phone: +61 8 9306 3738 Fax: +61 8 9306 3737
sales@sciteq.com.au <http://www.sciteq.com.au>