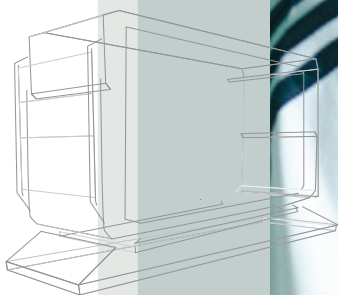


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DVB-SCENE



22

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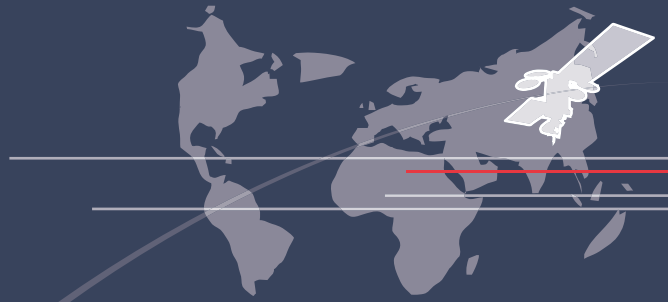
This issue's highlights

- > DVB-H & teletext
- > Winning the heart of broadband
- > DVB-H in Vietnam
- > HDTV in Asia-Pacific
- > Analysis: PVRs
- > DVB-SSU
- > Market Watch



Ahead of the Game

Unique Broadband Systems Ltd. is the world's leading designer and manufacturer of complete DVB-T/H system solutions for Mobile Media Operators and Broadcasters



■ DVB-H IP Encapsulator

DVE 6000



What makes DVE 6000 the best product on the market today?

- Dynamic Time Slicing™ Technique delivering unprecedented bandwidth utilization and network efficiency (Statistical Multiplexing)
- Internal SI/PSI table editor, parser, compiler and generator (UBS SI/PSI TDL)
- Internal SFN Adapter
- Internal stream recorder and player
- Single compact unit



DVE 6000 NetManager Application

■ DVB-T/H Modulator

DVM 5000



- Fully DVB-H Compliant
- 30 MHz to 1 GHz RF Output (L-band version available)
- Web Browser & SNMP Remote Control
- Available with +10 dBm amplifier for lab tests
- Available in portable version



■ DVB-T/H Exciter

DVX 5500



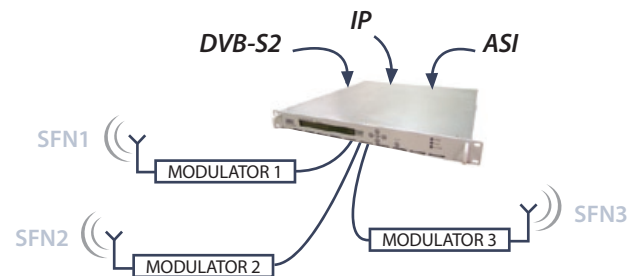
- Fully DVB-H Compliant
- Management of complete repeater system
- Web Browser & SNMP Remote Control
- +20 dBm for direct PA drive
- Built-in interfaces for cooling system management, transmitter diagnostics and emergency control functions
- Built-in NOC communication modem

■ DVB-T/H Gateway

DVE 7000 / DVE-R 7000



The DVE 7000 DVB-H Satellite Gateway is the core of highly optimized, efficient and cost effective mobile DVB-H architecture. A single DVE 7000 device processes, distributes and manages global and local content grouped in packages to multiple remote SFN & MFN networks through a satellite link and drastically improves satellite link efficiency. The DVE-R 7000 satellite receiver demultiplexes the content specific to it's location.



■ DVB-T/H Repeater



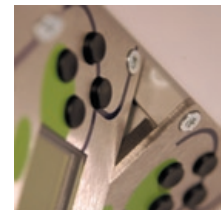
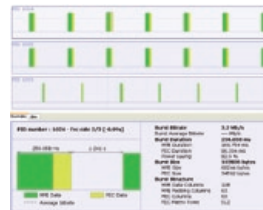
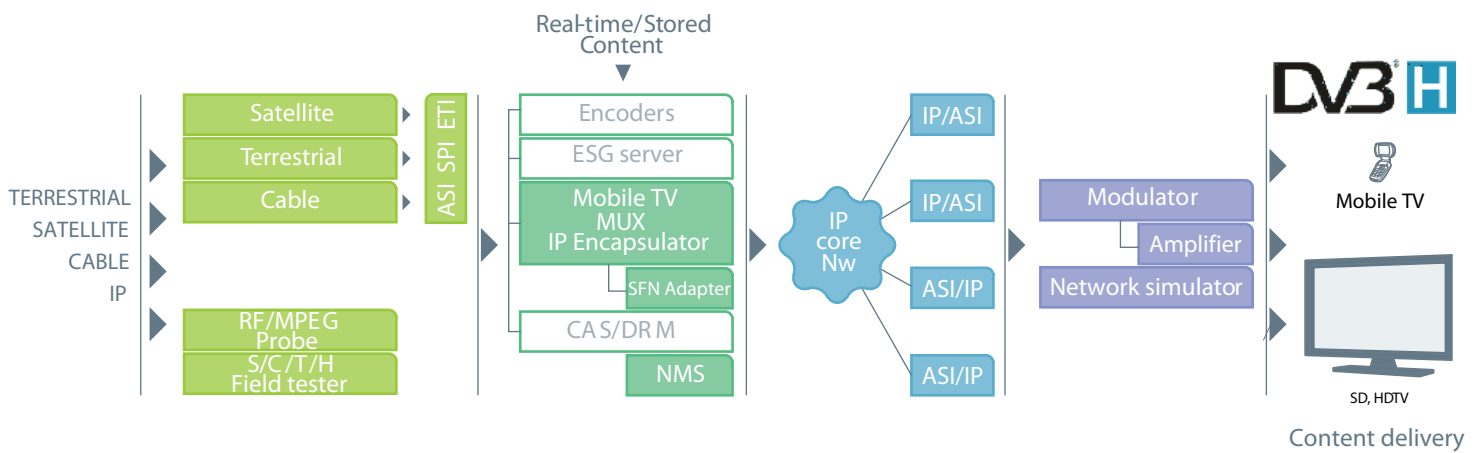
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Headquartered in Rennes, France, ENENSYS is in the heart of the European Digital Broadcast Cluster and has over 200 Customers located in 36 countries. ENENSYS is a public company listed on Euronext Paris Stock Exchange (FR0010286252 - MLENS).

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NO GUESS WORK, NO SCIENCE EXPERIMENTS.

Who will win the heart of broadband?

JOOST GOOD FRIENDS?

David Wood,
Head of New Technology, EBU



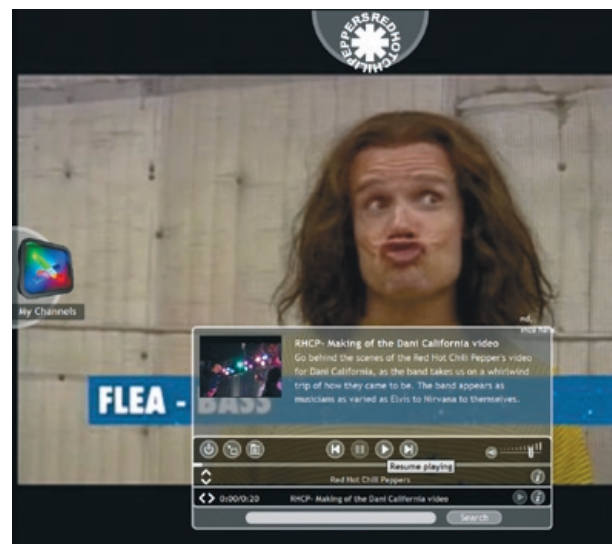
Is there some mistake? The hottest Internet idea is not from California? Janus Friis and Niklas Zennström are Europeans. The two Europeans who brought you Skype - free phone calls which don't always work but usually do - and the P2P (Peer to peer technology) service Kazaa - have recently launched an 'Internet TV' service, Joost (www.joost.com). Joost provides (or at least will provide when the beta test is complete) a package of TV channels, and programmes on demand. Sounds like an 'IPTV' or digital cable service? Looks like one too? But this time it is coming via the Open Internet, and anyone in the world can watch with no special set-top box or local network. IPTV networks are 'walled garden' networks which offer a package of channels, programmes on demand, play along multimedia, and stand alone interactivity. They are convenient because the costs to us are usually part of a network operator's triple play or quadruple play subscription package - a one stop shop for all our media and communication needs. The DVB Project continues to play an important part in the development of IPTV technologies, and will help converge the world on common standards. The traditional wisdom is that IPTV will provide many features that the

Open Internet cannot, and will be more attractive for 'lean backers' or 'couch potatoes'. The principle advantage is a high 'Quality of Service'. An IPTV system is engineered so that what the viewer asks for, he gets, without any argument, or the 'buffering' delays we used to get on Internet delivered video. Open Internet is a 'best effort' system, rather like a motor highway - when the highway is full of cars, things can grind to a halt. This is the price of it not being a 'walled garden'. But there are those who believe that things will improve on the Open Internet, and that, in time, we will see many systems like Joost being a 'reliable' Open Internet system which couch potatoes are happy with. The author believes that the two main technologies which will reduce the Internet route congestion weakness most are P2P and multicasting. For P2P systems, everyone opens their computer to others, so the streaming or downloading can be done without congesting the main highway back to the source. You get your stream from other people who are watching or have stored the same thing. The EBU (among others) has been testing P2P technologies, and last year's Eurovision Song Contest was live streamed in quite high quality with a peer to peer technology. It worked

faultlessly, and we are doing the same again this year.

Multicasting is rather like passing from house to house with the same content dropping off a copy as you go, so though the content can be a bit delayed, you do not congest the main highway back to the source. We are less advanced in trials of multicasting than P2P, but it is coming, and will probably be helped by the next generation Internet Protocol IPv6. It may be that these technologies will reduce the Quality of Service gap between the Open Internet and IPTV. Furthermore, Open Internet users may have no subscription to pay apart from a broadband connection. But the biggest advantage of all may be in choice of content. This could be huge and come from all over the world. Like Internet Radio today, where there are between 30,000 and 100,000 radio stations to listen to, the same cornucopia may be true of watchable Internet TV.

So Joost (and others) may be the shape of things to come. But...let's not jump to the conclusion that this is just throwing a switch and it happens! There is still a lot to be done to make the Open Internet the place people go for their normal viewing. We also still have much to learn about technology, what people want, and how much they are willing to pay for it. Don't put the TV or IPTV box in the attic yet.





Vietnam – Paving the Way for Broadcast Mobile TV in Asia

TAKING IT TO THE STREETS

Pawan Gandhi, Head of Mobile TV & Internet Experiences, Multimedia, Asia-Pacific, Nokia

Vietnam is on a roll. In November 2006, the World Trade Organisation's General Council approved the country's membership, with accession taking place in January. If this is big news for Vietnam on the world economic stage, the nation of 84 million people catapulted itself onto the technology stage, propelling itself over the entire world bar one country, when it launched the commercial deployment of live

By the end of March 2007, VTC recorded a healthy subscriber base, lending proof to the fact that consumers do wish to have their television intake whenever and wherever they can get it – not just in fixed locations such as their homes or offices.

"Mobile TV has changed my life," said Nguyen Quoc Huong, a 36 year old deputy general director from Ho Chi Minh City "I never thought the day

"Since the birth of television engineers have been tinkering with the tube to make it smaller, better, sharper..."

DVB-H broadcast mobile TV services in December 2006. Coming hot on the heels of the September announcement of the service, live signals began transmitting across Ho Chi Minh City (HCMC) and Hanoi – making Vietnam the first nation in the Asia-Pacific region, and only the second in the world behind Italy, to launch commercial DVB-H services.

Rolled out by the entrepreneurial and boundary breaking Vietnam Multimedia Corporation, or VTC, Vietnam's DVB-H services today reach subscribers in HCMC, Hanoi and Hai Phong, with clear expansion plans in place to not only extend out to a larger part of the population, but also to increase the offering from the current portfolio of radio and TV channels of sports, music, news and drama entertainment. VTC is also in negotiations with international broadcasters, seeking carriage rights to make the mobile TV offering more comprehensive.

would arrive when I would be carrying my TV in my pocket. More importantly, it helps me keep track of real-time business and local news as they are relevant to my business."

Mr Nguyen's sentiments are echoed not just by his countrymen, but by the majority of pilot users around the world who have had the opportunity to experience broadcast mobile TV. A

recent London School of Economics study on the impact of mobile TV on how people consume television, commissioned by Nokia and conducted by Dr Shani Orgad, brought out the following results:

- People will consume mobile TV to gain increased flexibility and control through being able to watch their favourite programmes on the move
- People will consume mobile TV to fill empty times and kill boredom
- Viewers may prefer local content although global content, especially news and sports channels, are still likely to be popular
- People are likely to watch mobile TV when commuting on public transport, are in waiting situations (traffic, doctor's office, bus), during work and school breaks, and even at home (in the privacy of their rooms)
- The most popular viewing times for mobile TV are likely to be 6am – 9am, lunchtime and 6pm – 10pm
- The popular genres and programmes on mobile TV are likely to mirror their counterparts from traditional television, but will be tailored to the new medium. For example, news, but with an adapted format that will be short, focused and possibly personalised.

Mr Jawahar Kanjilal, Director for Multimedia Experiences, Asia-Pacific, Nokia, is aware that the fruits of his labour, and those of his untiring colleagues in Nokia's Multimedia business group's Watch New team – to promote open industry standards for mobile TV – are starting to ripen.

"There has never been a proposition more compelling than television in your pocket," said Kanjilal. "Since the birth of television, researchers, engineers, scientists, technologists – just to name a few groups of people – have been tinkering with the tube to make it smaller, better, sharper, and a host of

other modifications."

"We're witnessing a massive transformation in consumer trends and media consumption behaviour, as described in the LSE study. Our pilot studies around the world have also shown that consumers want live broadcast television in their pockets, and they're willing to pay for it, and Vietnam is no exception."



ASIA-PACIFIC FACES HDTV CHALLENGE

Tay Joo Thong, Chief Technology Officer, MediaCorp

HDTV has taken off the world over. At the end of 2006, global HDTV penetration was at 48 million homes out of 1.2 billion TV households worldwide. By 2010 the HDTV market is expected to reach US\$34 billion. The number of HDTV homes is set to treble by 2011. High definition TVs will be in 151 million homes worldwide by 2011, with more than half in the US. The US, Japan, China, UK and Germany are currently the top five markets for the number of HD set homes worldwide (Source: Informa Telecoms and Media). In the Asia-Pacific region, HDTV is also gathering momentum especially in Japan, South Korea and Australia. Over 9.9 million TV households in five Asia-Pacific countries - Australia, China, Japan, South Korea, and Singapore - received and watched HDTV programming by the end of 2006. Total consumer revenue from HDTV content being broadcasted in Asia-Pacific will reach US\$8.06 billion by 2012 (Source: In-Stat).

Japan is leading the HDTV movement with many households owning HDTV sets. China announced its HDTV plans at the Asia-Pacific Broadcasting Union (ABU) meeting held in Beijing in November 2006. Hong Kong has announced plans for HDTV and India is planning to conduct a test trial on HD. Similarly, other ABU countries such as Turkey are making HD plans. In the ASEAN region, Singapore completed its HDTV trial in March and announced an HD channel on UHF channel 38. Malaysia national broadcaster RTM is trying out digital services over two channels and is working out plans to broadcast HDTV during the Beijing Olympics using the DVB-T standard. The Philippines



3. HD broadcast equipment is getting more affordable
4. The quality and sound is superior to analogue and broadcasters see it as a logical development of analogue TV to fight the threat of HD DVD.
5. Regulators see value in HDTV services
Despite the above, countries, especially the less-developed ones, are taking a cautious approach. The main reason is the cost to consumers and broadcasters. Broadcasters are expected to pay 20 -30 percent more in production. An MPEG-2 standard definition set-top box can cost as little

Singaporeans have given the thumbs up for HDTV. According to the survey conducted, more than 90 percent of the trial participants interviewed were satisfied with the picture quality. Starhub, the cable company, launched two channels in January and MediaCorp, the free-to-air broadcaster, has continued its HDTV transmissions planning an official launch in November. Both companies use MPEG-4/H.264 set-top boxes.

The trial has highlighted some of the technical issues that will be faced by other broadcasters as well. The main issues are the costs of the MPEG-4 AVC set-top box, its stability, the efficiency of encoding, the legacy aspect ratio problems and a problem with audio. Just as MPEG-2 has stabilised over the years it will take a while before MPEG-4 AVC is stable. But without a doubt HDTV is the way to go. MediaCorp, the dominant broadcaster in Singapore, plans to move to a new complex where all its facilities and channels will be aimed at high definition. With the support of the Media Development Authority it is working closely with partners worldwide to produce programmes on HD for its own channels and for the international market.

Tay Joo Thong is the CTO at MediaCorp and was Chairman of the Technical Committee that selected the Digital TV Standard for Singapore. Currently, he is working on the HDTV project and the ADB initiative. He also chairs the ABU HDTV Advisory Group.

“...without a doubt HDTV is the way to go.”

is reported to be interested in HDTV services, but will leave it to the market to decide the timing. Brunei is planning to trial HDTV later this year.

The other countries: Indonesia, Vietnam, Cambodia, Myanmar, Laos, and Thailand are running tests of standard definition services and are planning to set aside spectrum for HDTV.

This sudden HDTV phenomenon is brought about by a number of factors – chief of which is the advance of consumer electronics and the threat of the New Media. The factors that are encouraging the growth of HDTV are:

1. Consumer displays for HDTV services are getting cheaper and proliferating the market
2. HD programmes are also available with major distributors producing in HD

as US\$25 and an HD MPEG-4 AVC set-top box about ten times more.

An interesting development is taking place – the ten country ASEAN group (population about 500 million) is discussing how the group could adopt a common DTT standard. This is done through an initiative from Brunei and supported by Singapore. Known as the ASEAN Digital Broadcasting Initiative (ADB) broadcasters and regulators held the fourth meeting to agree on how a common digital terrestrial TV standard could be adopted. Among other issues discussed were analogue switch-off dates and common equipment issues, such as set-top box and integrated TV receivers. HDTV is one of the features in this initiative but implementation will depend on the various development plans of each country.

DIGITAL MIGRATION

While working as a broadcast journalist eight years ago, I remember wishing for someone to invent a 'tapeless' way of capturing video. Little did I know that a technology genie was actually listening to my lament! The irony of it all is that I have moved on to print journalism. However, I am fortunate enough today as managing editor of APB to have a front seat view of how broadcasters across the region are enjoying the coming of age of digital technology. I have witnessed how digital technology has brought about greater productivity and creativity in a TV network, such as the Philippines' ABS-CBN station, where I used to work.

When I left the company in 2000, it was still very much in the analogue domain. Three years later, when I interviewed the head of ABS-CBN's new digital production unit, I heard stories of initial resistance to the change in its production workflow. But constant discussions between management and staff, supplemented by large doses of training to handle the new digital production process, made the migration to a tapeless environment a success story for this TV network.

Thus, in a span of just a few years, the tape based analogue workflow is rapidly being eased out of newsrooms and production houses across the Asia-Pacific region.

However, going digital in Asia is more than just improving production and newsgathering workflows. Digital technology is also an opportunity to tap into new geographic markets. While the Asia-Pacific is not a homogeneous region, TV programmes can now be repurposed for other markets with similar culture or taste. Some genres of programming do find easy acceptance in neighbouring



Millette Manalo-Burgos is the managing editor of Asia-Pacific Broadcasting (APB). Prior to joining APB as a news editor in July 2001, she was a broadcast journalist for a top rated news show (Balitang K), produced by ABS-CBN Channel 2, in the Philippines.

APB has been the voice in the broadcast and multimedia industry for the past 25 years. APB brings to its readers news of groundbreaking events, views and interviews, reviews of the hottest development impacting the industry as well as tracking the latest technology trends.

IPTV, and are busy crafting policies that would nurture the growth of these new platforms.

Indeed, one of the most commercially successful IPTV deployments in the world is in Hong Kong. PCCW's NOW Broadband service has more than 750,000 paid subscribers.

However, despite the convergence in

The big question for many individual countries in Asia is which digital standard to adopt — DVB, ATSC, ISDB, or the newly developed Chinese DMB-T/H standard?

The majority of countries in Asia are opting for DVB. In recent months, three more ASEAN countries, that is, Indonesia, the Philippines and

“...some broadcasters are still taking a cautious attitude in migrating to digital.”

countries, and exporting them via digital satellite technology is becoming more prevalent. For example, TV content produced by a Beijing based TV network or production house can be easily exported to viewers in Singapore and Malaysia.

Digitised video can also be cut and repurposed into offerings for new delivery platforms such as IPTV and mobile TV.

Thus, we find in Asia today many countries are carrying out mobile TV trials. In the more technologically advanced Asian countries like Japan and South Korea, mobile TV is a reality. Broadcast and telecom regulators in the region are very optimistic on the growth of new TV services like mobile TV and

broadcast and IT technologies gaining a foothold in the broadcast industries across the Asia-Pacific region, some broadcasters are still taking a cautious attitude in migrating to digital.

The cost of going digital is still relatively high. What additional streams of revenue can be obtained from going digital? What are the price points of a new LCD or plasma TV in the country? Are consumers willing to pay a premium for a new TV set and digital programming?

Thus, many broadcasters we spoke to are still very cautious; they would rather wait until their government sets an analogue switch-off date — or when they wake up one day to find that they are living in analogue isolation.

Malaysia, have announced that they are going the DVB way.

Thus, the announcements gave a much needed fillip to the efforts by the ASEAN countries to come up with a common digital set-top box.

The Asia-Pacific Broadcasting Union's recent DTV Symposium 2007 in Kuala Lumpur, Malaysia, on Digital TV: "The Path to Implementation" can be seen as another noteworthy effort to offer free-to-air broadcasters an opportunity to gain first hand knowledge on how to go digital.

But whether the pull or push factors of going digital in Asia are coming from the broadcasters, the regulators or market forces, one thing is certain — going digital is no more an option!

operators. Bandwidth limitations will apply implying minimum download durations.

What was less obvious though were the cooperation models between the involved parties and to what extent they would need to be reflected in the transport and signalling mechanisms. The diagram summarises the result of these considerations.

The regulator and consumer have clear roles. But the network operator, manufacturer and platform operator may take different roles based on the responsibilities agreed between them. In addition to those contractual relationships, legal aspects need to be taken into account. In most markets, updates must not be installed on retail terminals without prior consumer consent. Vertical platform operators may on the other hand insist on their right to forcibly install an update on their rental terminals. Hence the SSU specification provides the means for all involved players to present themselves and act in a way reflecting their role in this ecosystem and to fulfil their obligations and execute their rights to manage.

SSU Specification Features

Two profiles for SSU service operation are defined: the simple and the Update Notification Table (UNT) enhanced profile.

On some networks all software updates from all manufacturers need to share the same PID (Proportional-Integral-Derivative) whilst on others, each manufacturer gets their own PID. All this needs to be accommodated and

the terminals need to unambiguously and efficiently locate and acquire the update. And then, software update services may be - and are - remultiplexed from other networks.

The enhanced SSU profile enables all of these scenarios whilst the simple profile allows exploiting the reduced complexity in simpler environments. In either profile, the software download(s) are locatable via the UNT which can be found via the Network Information Table (NIT) and/or the Bouquet Association Table (BAT). So search paths to those updates can be built and flexibly maintained whatever the network architecture or service plan inflexibilities are.

For transporting the software image, proprietary format streams (simple profile) or a standard update carousel, potentially shared between manufacturers, which contains standard identification of the receiver and manufacturer (enhanced profile) are defined.

Various modes of targeting a software image at individual receivers, groups, ranges and types of receivers based on addresses (Smart Card, MAC, IP) and serial numbers enable efficient and fully controlled management of the installed base.

Finally, an interface for delivering software updates to network operators for playout is recommended. It ensures consistent operation of the download by providing a means of controlling signalling and transmission characteristics according to the needs of the terminal.



Alexander Adolf received a Dipl.-Ing. (FH) degree from the Georg-Simon Ohm University of Applied Sciences in Nuremberg (Germany) in 1995. After developing GSM terminals for Nortel, he entered the digital media industry in 1996 by joining BetaResearch where he helped in the commercial launch of the Premiere pay TV service. Since 2000 he chairs the DVB TM-GBS group, which he first joined 1997. In 2001, he joined Micronas, a leading independent provider of innovative application-specific semiconductor system solutions for consumer and automotive electronics, where he is Concept Engineer Systems Software.

ON AIR

Mobile Video RF Network Emulator

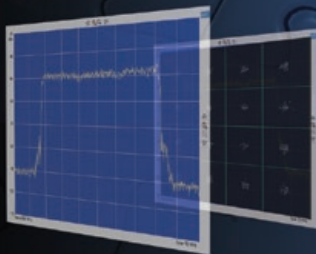
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Moore
Analysis

PMPs

Acquiring TV shows and movies online is such a new consumer activity that the degree of its potential disruptiveness is difficult to quantify.

That online programming acquisition will threaten incumbent video programming distributors (pay and free TV broadcasters) is a foregone conclusion, however. Those broadcasters who haven't created and implemented a plan to operate within this new reality might as well start writing their obituaries now.

The earliest online video programming path has typically been to the computer hard drive, or to the computer hard drive and then to an optical disc.

Online programming is now wending its way from the computer hard drive to Portable Multimedia Players (PMPs), and it's only a matter of time before another spoke – the TV – will be added to that wheel.

Examining the burgeoning PMP market sheds some light on online distribution's potential. Although these devices are also used as audio players, there is demand for video playback. In a

May 2006 survey conducted by the Consumer Electronics Association, 38 percent of respondents said they would like to watch TV programmes on their portable digital audio/video players in the next two years. In fact, Apple reported in February of 2007 that it had sold more than 50 million TV programmes and 1.3 million movies on its iTunes service since May 2005. Granted, not all of these titles have been transferred to an iPod, but it's likely that a high percentage of them have.

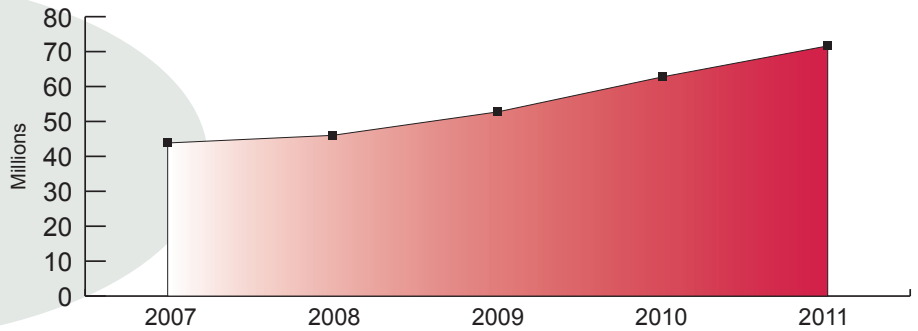
In 2007, Digital Tech Consulting (DTC) estimates that more than 43 million PMPs will be shipped worldwide growing to more than 71 million in 2011. DTC's definition of a PMP is a device that plays video from a local hard or flash drive, or from a memory card; has a viewing screen; uses any type of video codec, and has no feature more important than audio and video playback. Examples of these include the Creative Zen Vision W, and Apple's 'video' iPod. It excludes, for example, mobile telephones that include PMP

functions (such as the iPhone).

In fact, DTC views the transfer of video programmes from the PC to the PMP as just one of several ways programming is being consumed without the help of incumbent broadcasters. Think of the PC hard drive as an electronic Trojan Horse. Many say that consumption of TV and movies on a small screen will never be a mass market reality. Maybe so. But once programmes make it to the PC, the small screen isn't the only place for them to travel. The recent introduction of the Apple TV and other in-home distribution devices that feature more efficient video codecs and wireless technology, gives the consumers just one more way to access programming.

Myra Moore is chief analyst for Digital Tech Consulting (DTC), a market research firm that tracks and analyses the consumer digital video marketplace. More information on the company and its latest report on the PMP market is available at www.dtreports.com.

Estimated Worldwide PMP Shipments



DVB-SCENE : 14

ACH/AD/07/008



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MARKET WATCH

Radyne has launched the compact, lightweight DMD1050 card based modem. Also available as a DISA compliant 188-165A modem, the new modem targets the fly-away and mobile applications solutions providers. It can be purchased as a card and integrated into existing hardware or purchased with an outdoor hardened enclosure. www.radn.com



Radyne DMD1050 Modem

The new portable **Rohde & Schwarz ETL** provides a universal multistandard platform for analysing TV signals. The product combines the functionality of a TV test transmitter and a spectrum analyser in a single measuring instrument. The TV analyser platform is designed for commissioning, installing, and servicing cable headend stations and TV transmitters. www.rohde-schwarz.com



Rohde & Schwarz ETL TV Analyser

Enensys has introduced DiviCatch RF-T/H, a compact receiver, analyzer and recorder for live DVB-T or DVB-H streams. It provides key RF indicators (MFER, C/N, etc.) and MPEG2-TS analysis. Also new, the FastCaster provides a solution for transporting high quality digital video content over IP networks. It has a throughput of 40 Mbps and fully supports SNMP and Forward Error Correction. www.enensys.com



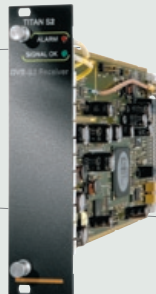
Enensys DiviCatch RF-T/H & FastCaster



Micronas & Ikonvergenz Kentaurus 3

Micronas and **Ikonvergenz** have introduced the Kentaurus 3 production ready LCD TV series for TV manufacturers wishing to introduce motion blur removal and film de-judder solutions to their product portfolio. Its system architecture is based on the Micronas VCT-Pro LCD TV processor and the Micronas truD HD frame rate converter. www.micronas.com, www.ikonvergenz.com

Scientific-Atlanta has launched its Titan S2 DVB-S2 digital satellite receiver allowing the reception of 30 percent more data in the same bandwidth. This allows one transport stream to include more SD and/or HD services. The compact unit is part of the company's flexible Galaxy rack concept. Its performance in digital satellite reception for headends makes it suitable for digital video applications such as HFC, xDSL, MMDS and DVB-T. www.scientificatlanta.com



Scientific-Atlanta Titan S2

Verimatrix is extending its software based Video Content Authority System (VCAS) to DVB networks. VCAS provides a unified software based protection system for content delivered through DVB and IP segments of hybrid networks, and can be extended to offer smart cardless security for one way architectures. A key benefit for pay TV operators is the ability to transition existing subscribers from legacy CA systems to a more advanced security system. www.verimatrix.com

Kathrein has recently launched a new series of DVB-T and DVB-H UHF indoor antennas. The new directional, bidirectional, and omnidirectional antennas are available in a variety of models aimed at handling varying frequency ranges. The compact antennas are especially suited for TV reception in conditions where there is a penetration loss of more than 10 dB owing to the structural materials used in the construction of a building. www.kathrein.com

Ateme is introducing the compact Kyrion MPEG-4/H.264 encoder/transcoder product family. Kyrion live encoders broadcast HD content at near SD bitrates and include SDI inputs, CBR and capped-VBR rate control modes, audio stereo and 5.1 channels. It also includes SNMP administration/supervision plus MPEG-2 TS over UDP or RTP transport. Live encoders - from 1 to 4 channels - and live multi-format transcoder - from mobile to HD - are available with IP or ASI output. www.ateme.com

NDS is expanding its VideoGuard broadcast headend solution that will extend the reach of TV content to a broader range of devices over a wide variety of networks. The main addition is a new DRM Server component that handles the rights management of content delivered to multiple devices. The VideoGuard unified headend allows operators to essentially control and manage content and rights for the entire content. www.nds.com



NDS VideoGuard

Tandberg Television has launched the mPlex media processing platform which enables ultra-low bandwidth video broadcasting to mobile devices. The compact system offers superior picture quality at bandwidths of 200-300 kbit/s or below. This high performance DVB-H encoding and transcoding solution is based on MPEG-4 AVC baseline profile with constant bitrate and variable bitrate encoding, native IP processing and flexible architectures for VBR control and mobile-specific scrambling. www.tandbergtv.com

TeamCast has introduced a DVB-SH compliant solution, comprising the MSH-2000 modulator and the RSH-1000 receiver modules. The MSH-2000 modulator enables the user to build DVB-SH terrestrial repeaters. It includes a DVB-SH compliant modulator ready for SFN operation, and an integrated S-Band up-converter for signal retransmission. The RSH-1000 receiver is an S-Band measurement device which provides DVB-SH demodulation and measurement of signal quality in field trials and operational networks. www.teamcast.com

TeamCast MSH-2000 Modulator & RSH-1000 Receiver



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A handwritten signature in black ink that reads "Gerald T. McGoey".

Gerald T. McGoey
Chief Executive Officer
Look Communications Inc.



another successful rollout



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