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Next issue, dated July, on sale June 22

Missing pages: 455-458, 463-468, 493-498

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NEXUS
MEDIA COMMUNICATIONS

White van man

One lunchtime I was in a retail car park when a man driving an unmarked white van rolled down his window and asked me if I wanted to buy a flat-screen TV.

I did not really want to buy one, as I have no space for one anyway, but I was curious nonetheless, so I asked if I could have a look. Inside there were about half-a-dozen sets with price tags, all shrink-wrapped and new looking.

I could not see the brand, but the driver assured me that they were genuine Philips. What a bargain they appeared to be! There was a 42" plasma set with a price tag a few pennies short of £2,500.

The man said he would settle for £500 cash there and then. I made my excuses and tried to extricate myself, but it seems he wanted shot of them pretty desperately.

The price quickly tumbled to £300. I am glad I did not have the money, or I would have been very tempted. He even offered to drive me home, about ten miles away, with the set if I wanted it.

All the time, I was wondering where he got these sets, and what would happen if I were to find that there was no electronics inside the casing, or if the set was defective.

In the absence of a prominent manufacturer's logo, I am assuming that the products were unbranded. Bargains can be had if you are prepared to settle for unbranded products, but you must be sure to obtain them from reputable suppliers, unless you fancy your chances of tracking down the manufacturer.

I recently visited an electronic products distributor, and the people there showed me an unbranded 23" LCD TV, which the manufacturer had suggested they may want to OEM.

The company noted that the infrared diode was not located at the middle along the bottom of the screen like most sets, but about a third of the way up on one side of the screen, which made it look distinctly odd.

They suggested to the manufacturer that the diode be moved, but the manufacturer would have none of it, so any possible deal fell through there and then.

I wonder if the manufacturer has had any luck elsewhere? Perhaps the only people willing to take it on are men in unmarked white vans.

Anyway, I am now moving on from Television magazine to pursue a career in freelance journalism. After this issue, I will produce the July and August issues, and then it is goodbye from me.

According to a recent Nationwide Building Society report, consumer confidence fell during March as people worried about the state of the economy and job prospects.

Its consumer confidence index fell two points during the month to stand 14 points lower than during the same month of 2005, after a slight rise seen during February was reversed.

It said people's confidence about the economy and about the current and future employment situation both fell to the lowest level on record.

Just over half of people questioned said they were positive about the number of jobs currently available, down from 63 per cent in March last year, while just 41 per cent felt positive about the employment situation going forward, down from 51 per cent 12 months ago.

At the same time consumers also remained subdued about the economic climate in the coming six months, while the number of people who felt positive about the current situation fell by 2 per cent to 41 per cent.

Who knows, I may get a white van myself!

Boris Sedacca
Editor

InFocus plays big

InFocus has introduced its Play Big series of digital home projectors, which the company claims are brighter than most plasma TVs and offer consumers the best value big screen viewing.

InFocus Play Big produces an image from 60-144" diagonal. The new InFocus Play Big IN72, IN74EX and IN76 projectors fill a wall or screen.

The InFocus Play Big IN72 is an affordable 480p resolution projector. The IN74EX features native 576p resolution, which provides a nice balance between DVD resolution and HDTV. The IN76 is a 720p native HD front projector.

The Play Big portfolio has automatic ceiling-mount detection, integrated tabletop pedestal, quiet operation and

a low light pollution case.

The Play Big projectors feature true 16:9 aspect ratio and video-optimised light output, colours and contrast and an image larger than traditional plasma, LCD or RPTV options.

Play Big projectors connect to DVD players, satellite receivers, high-definition broadcast receivers, TVs, computers, and major video game consoles.

They include an integrated cable cover to hide unwanted wires when ceiling mounted and a swivel pedestal that simplifies tabletop setup and is easily removed for ceiling mount applications.

InFocus Play Big includes the latest Texas Instruments enhanced definition DLP (Digital Light Processing) chip. The video image is enhanced with Pixelworks DNX video processing for brightness, contrast and overall video quality.

All models come calibrated to D65 colour standards for cinema-quality colour reproduction.

BBC defines vision for new media

Ashley Highfield, the BBC's director of new media & technology, has outlined the key challenges facing his division in a presentation to staff entitled 'Beyond Broadcast' as part of the BBC's 'Creative Future' strategy.

Highfield said: "Everything we do here is around technology innovation, to keep the BBC relevant in the digital age."

All the audience-facing services the division is planning to launch fall into three main categories: Find, Play and Share. Internally, all the initiatives are about transforming the production process and enabling programme makers.

The 'Play' product MyBBCPlayer – which is to be re-named BBC iPlayer – is subject to a Public Value Test and is being led by Tony Ageh.

Highfield said: "What BBC iPlayer is going to do is simply offer catch-up television on a computer, up to seven days after transmission.

"At any time, you will be able to download any programme from the eight BBC channels and then watch it on your PC and, we hope, move it across to your TV set or down to your mobile phone, to watch it when you want.

"We will also continue to experiment with different ways to broadcast live television over the internet and pilot a first taste of the archive."

"Metadata is the information that we hold about our programmes; if we want to unlock the archive, and enable people to search by programme or theme, then we are going to have to have awesome metadata," said Highfield.

JDSU to acquire Test-Um

JDSU is to acquire Test-Um, a provider of home networking test instruments for the FTTx and digital cable markets.

Test-Um and its 30 employees add to JDSU's triple-play test expertise and product portfolio.

The ability to conduct 'three-wire' home network testing is increasingly important as the number of broadband-connected homes and networked devices grows.

Test-Um's instruments include test sets for verifying line conditions and power-signal levels, wireless testers that facilitate communications on the job, tone tracing and identification to locate and track cable runs, and analysers for more advanced service troubleshooting and certification.

Samsung postpones Blu-ray

Samsung Electronics, the first company scheduled to sell high-definition DVD players based on Sony's technology, has delayed the introduction of its Blu-ray machine.

The delay is the latest setback for Sony, which pushed back the introduction of its PlayStation 3 game console because of Blu-ray, in its bid to avoid losing the battle to set the standard format for home entertainment, as it did with Betamax against Video Home System tapes during the 1980s.

Toshiba, which is promoting the rival HD DVD format, has begun selling players in Japan and has the support of Microsoft and Intel. Panasonic, meanwhile, plans to launch its Blu-ray player, the DMP-BD10, in September.

HD DVD is backward compatible with existing DVD discs, while Blu-ray players will have dual-format technology. Panasonic's offering, for example, supports DVD and CD formats, as well as other video and image formats.

While Toshiba is launching its player at price points of $500 and $800, the Samsung machine will have a $999 street price.

Difficulties faced by Blu-ray implementers in the past have involved the all-important content protection schemes of DRM.

It is believed this caused the delay of Sony's PlayStation 3 games console, which is now due to appear in November. Microsoft, which backs the HD DVD format, already has the Xbox 360 on the market. Apple, by contrast, backs the Blu-ray format.

Cirrus and Genesis announce receiver design

Genesis Microchip and Cirrus Logic have jointly developed a reference design for High Definition mainstream audio/video receivers (HD-AVR).

This enables the AVR to become the home entertainment hub and gives AVR manufacturers advanced audio and video features, among them:

- Extensive video processing capabilities, including up-conversion of high-definition digital video from any input signal, using Faroudja technologies. Manufacturers are also able to capitalise on Faroudja branding in promotion of the product.
- A simple-to-use, on-screen graphical user interface display to guide consumers through the set up process and to serve as the command centre controlling numerous functions and features of the AVR.
- It enables the use of a single cable from the AVR to the display device, such as a flat-panel monitor or projector, and supports a range of audio and video inputs.

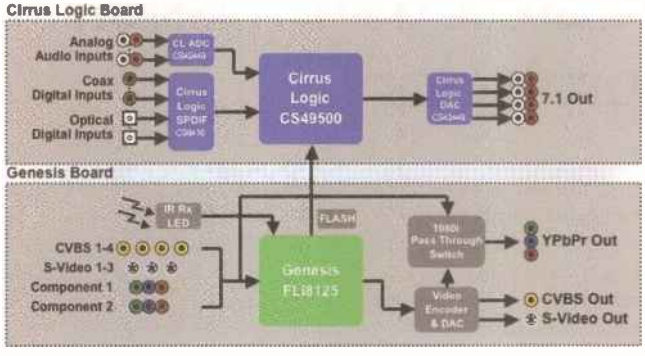
"The number of video and audio sources for the home is constantly growing, requiring greater capabilities from the AVR as the central control hub," said Raphael Mehrbians, Genesis Microchip's senior vice president of product marketing.

"This new reference design combines the high-quality video processing of Faroudja with the industry-leading audio processing of Cirrus Logic and offers manufacturers a platform to bring this new level of high performance AVRs to market quickly."

High Definition and DTV video require very high-quality video processing, coupled with maximum switching flexibility for the home theatre.

With this platform, AVR manufacturers can leverage Faroudja's superior video processing capabilities and can choose from Genesis Microchip's suite of video processing controllers including the FLI8125 (Hudson), FLI8532 (Cortez) and FLI8668 (Cortez Advanced).

HD-AVR Solution Block Diagram



Samsung and Sony conclude S-LCD joint venture

Samsung Electronics and Sony have signed a Letter Of Intent (LOI) on manufacturing 8th generation amorphous TFT LCD panels at their joint venture, S-LCD Corporation.

The companies plan to establish an 8th generation amorphous TFT LCD panel production line at S-LCD , which is currently manufacturing 7th generation amorphous TFT LCD panels.

They plan to invest approximately $2 Billion in the 8th generation amorphous TFT LCD panel facility and actual production is targeted to start in late 2007. Planned production capacity is 50,000 panels per month.

Pace Micro announces new CEO

Pace Micro Technology has announced that its new chief executive officer on the retirement of the current CEO, John Dyson, will be Neil Gaydon, currently a board member and the company's director of worldwide sales and marketing.

Gaydon (shown right) has led the development of the Group's customer and product strategy and heads up Pace's global sales, marketing, technology and product management teams.

As president & general manager at Pace Americas from 1999 to 2003, Gaydon led Pace into the US market and signed a series of important new customers around the world.

He has been at Pace since 1995 and joined the Pace Board in June 2002.

Dozens killed in Indian inferno

BBC News and Reuters have reported that at least 51 people have been killed in a fire that swept through a crowded consumer electronics trade fair in the northern Indian city of Meerut, officials say.

Police say at least 80 more people were injured, some seriously, in the blaze before it was brought under control.

Hundreds of people were inside three huge tents at the fair complex when flames engulfed them. Eyewitnesses said many victims were burnt beyond recognition.

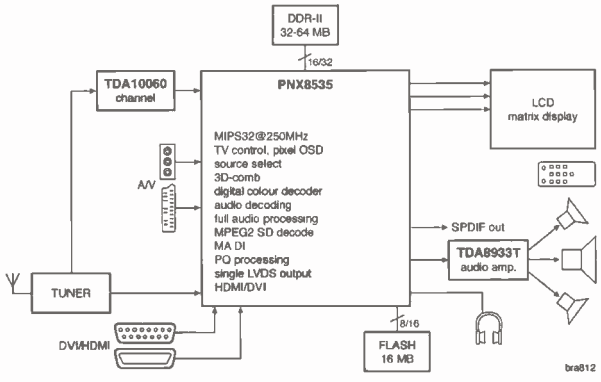
An Uttar Pradesh state police spokesman told the BBC that the fire at the site in the city's Victoria Park had been caused by an electrical short circuit.

Local journalists say there were more than 2,000 people at the consumer electronics fair in Meerut, about 80km (50 miles) northeast of the national capital Delhi, when the fire broke out.

Dell chooses Philips chips for LCD HDTV

Dell has selected Philips' Nexperia TV810 semiconductor reference design for its W2607C 26-inch digital LCD HDTV.

The Nexperia TV810 incorporates all elements of an advanced digital TV: video decoders, MPEG decoding, sound decoding, advanced de-interlacing, scaling and two programmable media processors running advanced picture quality algorithms to provide maximum picture quality to consumers.



Sharp plans LCD plant in Poland

Sharp Corporation is negotiating with the Republic of Poland to construct a manufacturing facility for LCD modules in the north-central city of Torun in Kujawsko-Pomorskie Voivodship.

The objective is to meet the needs of the LCD TV market in Europe, which is predicted to undergo extremely rapid growth in the near future.

Prime Minister Kazimierz Marcinkiewicz and Under Secretary of Economy, Andrzej Kaczmarek represented the government of Poland, and President Katsuhiko Machida attended on behalf of Sharp.

The facility will begin production of LCD modules in January 2007, for large-screen LCD TVs to be manufactured at plants at Sharp Electrónica España in Spain and Loewe Opta in Germany.

Unit production volumes will gradually be increased in the future to meet the demands of the rapidly expanding European market for LCD TVs.

Panasonic offers 'fastest transmission projectors'

Panasonic has introduced a new range of projectors, claiming to offer the 'world's fastest wireless transmission'.

The PT-LB50NTE, PT-LB55NTE and PT-LB60NTE models boast a wireless data transmission of five times the speed of conventional projectors, providing a smooth display of moving pictures and sound.

Other wireless functions include Wireless Prompter, allowing text documents to be displayed on a PC Screen while projecting slides from a presentation and Multi-Live Mode, which can project images from up to 16 PC's in small windows.

All models are portable, with the lightest in the range weighing just 1.9kg. The PT-LB50NTE has a profile of 57mm and an A4 footprint.

Amino forms software arm

Amino Technologies has established an independent business, IntAct Software, to license its software to set-top box (STB) system integrators.

In addition, service operators and integrators may also licence Amino's designs with unique signature form factor through IntAct Software.

The IntAct IPTV solution consists of both a client software stack and IP STB server management tools, which represent the culmination of more than 150 man-years of product development, third party interoperability and pre-integration.

This ensures that IPTV operators can use IntAct with the widest range of middleware, conditional access, silicon, head-end system and browser technology.

This pre-established interoperability, linked with IntAct's lean architecture, is said to drive down the deployment costs and reduces the time to market of the complete IPTV system.

Amino claims that IntAct has been successfully deployed in more than 500,000 set-top boxes in 80 commercial roll-outs. It has been ported onto six silicon platforms, in multiple software configurations, in MPEG2 and MPEG4 H.264, standard and high definition formats.

"The number of volume deployments of IPTV networks should increase significantly in 2007," commented Karthik Ranjan, vice president of sales and marketing at IntAct.

New EEIBA president

Jim Speirs, MSc FIQA, chief executive officer of the National Inspection Council for Electrical Installation Contracting (NICEIC), and director general for The Electrical Safety Council, has succeeded David Dennison as president of the industry's charity, the Electrical & Electronics Industries Benevolent Association (EEIBA).

Jim will commence his presidency in June following 30 years' experience in various quality and management roles within the manufacturing and consulting industry. He was previously managing director of NQA, one of the largest Accredited International Certification bodies in the UK.

He is currently president of the Institute of Quality Assurance and has served as IQA's council member since 1997 and is past chairman of the Association of British Certification Bodies (ABCB). Jim holds an MSc in Quality Management from Cranfield University.

He said " I must pay tribute to my predecessor David Dennison for the sure and sound way he steered the EEIBA's fortunes in the lead up to, and through its centenary year. He and his wife Elizabeth, managed to attend many EEIBA Branch functions and have as a result made many friends for the charity.

"It is a great honour to be asked by EEIBA's Council of Trustees to take on this role. I am looking forward to working with council, staff, and the loyal supporters of EEIBA."

Olswang advises Sony BMG

Olswang has advised Sony BMG on the establishment of a new independent production company, Fever Media, as a joint venture with two former BBC executives, Richard Hopkins and David Mortimer.

Hopkins and Mortimer, as creative heads of format and factual entertainment, have overseen a number of the BBC's highest-profile shows, such as Strictly Come Dancing and Dragons' Den.

Sony BMG has close links to programmes Pop Idol and The X Factor and has benefited from signing artists, such as Will Young, who have found fame through the shows.

Sony BMG executive, Clive Rich, said: "Olswang's ability to provide both media industry advice with a succinct corporate service was key to this important transaction for Sony BMG.

"I have always enjoyed working with Mark and the team and continue to be impressed with their forward thinking and comprehensive, timely advice."

The production company, set up under Sony's Futures division, will focus on the development of new television formats with particular emphasis on music based programming.

The venture is therefore a step towards Sony BMG's aim to become a 'multi-dimensional entertainment company'.

Deutsche Telekom and Microsoft IPTV

The German equivalent of BT Vision announced earlier this week, has been unveiled by Deutsche Telekom and Microsoft. currently a board member and the company's director of worldwide sales and marketing.

The two companies have said that they will deliver IPTV (Internet Protocol television) services to consumers across Germany.

Under the agreement Deutsche Telekom Group will offer customers what many are calling "next-generation television". The service will be made up of interactive services and a range of entertainment products all supplied over its VDSL broadband telephone networks – a type of ADSL that can run at speeds up to 50 mbps.

Deutsche Telekom will use the Microsoft TV IPTV Edition software platform to offer these services.

ADB wins HanseNet IPTV box contract

Advanced Digital Broadcast (ADB) has won a contract to supply its ADB-3800TW, High Definition (HD) ready, set-top boxes to German telecommunications operator HanseNet for the launch of its IPTV television service. The service will be marketed under the 'Alice' brand name.

"ADB was selected as a result of its first-to-market reputation and leadership in hybrid IPTV technology", commented Michele Novelli, marketing director of HanseNet.

"We look forward to providing Alice customers with a portfolio of IPTV based services this year".

The 3800TW is ADB's latest IPTV set-top box incorporating Standard Definition (SD) and High Definition (HD) television reception.

Equipped with H.264/MPEG4 Advanced Video Coding (AVC), the unit allows operators to optimise their broadcast bandwidth.

The product features an advanced microprocessor, resulting in enhanced system performance and innovative feature-set, including fast channel decoding, HDMI interface and fast rendering of on-screen graphics and applications.

"This supply agreement marks ADB's first entry into the German market", said Philippe Lambinet, CEO of ADB.

"ADB's experience in developing and integrating the world's leading IPTV technologies ensures that we are well placed to meet HanseNet's challenging launch schedule.

"ADB is delighted to be facilitating the provision of the first IP based service in Germany."

NAB2006 show review

NAB2006 took place from April 22-27 in Las Vegas. It is the world's largest electronic media show covering the development, delivery and management of professional video and audio content across all media

Federal Communications Commission Chairman Kevin Martin spoke on Tuesday, April 25 at the FCC Chairman's Breakfast.

The FCC Chairman's Breakfast is part of the Business, Law & Regulation Conference, where NAB brings federal regulators and legal experts together to highlight the most important legal issues of the day and teach broadcast managers, station owners and station counsel how to deal with ever-evolving technology policy.

Last year, President Bush elevated Martin to the FCC chairmanship following his four-year stint as FCC commissioner.

Also attending NAB2006 were FCC Commissioners Jonathan Adelstein, Michael Copps and Deborah Taylor Tate.

Amino launched its new generation of customer premises equipment. The AmiNET130 supports High Definition, H.264 (MPEG4/AVC) video streams.

The AmiNET130 provides the service provider with a cost effective means to deliver end-to-end digital High Definition TV as multicast, on-demand video and multi-room IPTV services.

The company expects to announce the first customer deployment of the new unit in Q3 2006.

"A number of companies have announced High Definition H.264 products in the past but we have yet to see any evidence of deployment," commented Roy Kirsopp, Vice President and General Manager, Amino Communications.

"We are confident that Amino will be the first company with actual commercial roll-out.

"In the IPTV industry today, interoperability and pre-integration of elements within the set-top box are critical in achieving seamless deployments with minimal time to market."

According to Steve Rago, principal analyst for iSuppli: "As HDTV has taken off in the US and other global regions, a second and third HD-ready TV is frequently bought for most homes.

Data pipe

"This stresses the 'data pipe' into the house, driving Telcos to migrate to H.264 for its higher compression and increased video streams. Amino is addressing this need with its new set-top box."

In anticipation of consumer expectations for H.264 HD services, the AmiNET130 supports Dolby Surround Sound (5.1) and is also compatible with adapters for home networking over the existing infrastructure.

Autoscript introduced Voice-Plus, claiming to be the market's first voice-activated teleprompting solution.

The voice-activated prompter uses core technology developed by SysMedia and is an add-on module to Autoscript's 'WinPlus' software.

Voice-Plus automatically scrolls the teleprompt in time with the spoken word, eliminating the need for manual control.

Benefits include the freedom to walk around the studio, no need for practice or training using conventional foot/desk controls, no need for a separate operator, and speed control by voice.

Wireless prompting

Also featuring at NAB is GoPrompt-15, a new, self-contained, wireless prompting system that features a 15-inch high-brightness screen designed to bring studio-standard readability to field operations. True studio prompting can be done in the field without the need for laptop PCs.

The NewsMarket announced the launch of enterprise search functionality and support for RSS (Really Simple Syndication) Feeds.

This marks the first of a multi-million dollar investment in the rollout of the next generation of its video platform for the news media.

Search was cited as the single most important feature by journalists in a series of surveys and focus groups conducted by The NewsMarket.

The digitisation of newsrooms and the explosion of online video news content are resulting in more journalists using the Internet to source and obtain video news clips.

"For the first time, journalists will now have enterprise search functionality to quickly search and find relevant video being produced by news makers," said Shoba Purushothaman, CEO & co-founder of The NewsMarket.

The new search capability will provide the media with unprecedented filtering options, offering drill down into content sub-categories, so search results yield the most relevant video clips.

Every month The NewsMarket delivers more than 25,000 video news clips to journalists in newsrooms ranging from CNN and CNBC to ZDF in Germany and CCTV in China for use in their news and feature programming.

RSS Feeds will allow these journalists to be alerted about The NewsMarket's new multimedia content from whatever news aggregation system they use.

The NewsMarket will also be able to provide its customers – organisations that create video for news media distribution – richer data that will enable them to create more relevant content for newsrooms.

Organisations distributing video clips through The NewsMarket include Google, Yahoo!, AOL, Intel, Nissan, GlaxoSmithKline and UNICEF.

Digital workflows

As the market for online video news content grows and newsrooms are increasingly moving to digital workflows, more journalists are using the Internet to source and obtain video news clips.

In 2005 the number of news outlets that sourced video from The NewsMarket increased 90% over the previous year, and the number of requests from the top 25 media outlets, including CNN, CNBC, BBC, Fox News and Bloomberg TV, tripled in 2005.

The amount of video content available for digital delivery on The NewsMarket grew by 75% in 2005.

Ascent Media Services announced that it won a contract from Universal Music Group International to encode, supply and manage downloadable music videos for sites such as iTunes and Yahoo!

The project involves digitisation and delivery of a vast back catalogue as well as the label's new releases, enabling Universal to fulfil an increasing demand for fast and cost-effective file-based distribution.

The project will see Universal's catalogue of over 10,000 music promos digitised by Ascent's Media Services division into a suitable format for download via partners such as Apple, Yahoo and Vodafone as well as for video-on-demand (VoD) applications.

"With increased broadband penetration, accessing video on the net is becoming routine, and almost half of all internet users are viewing music videos online," said David Redshaw, Chief Information Officer at Ascent Media Europe.

"This figure is rising sharply among younger demographics. Universal is leading the market by repurposing its most exciting music content for the all-digital future.

Federal Communications Commission Chairman Kevin Martin.

"Ascent's investment in the Atlas project and world-class technical expertise ensures that Universal's new business-focussed service reacts quickly and comprehensively to new requirements, providing the company with a clear competitive advantage in an extremely challenging industry."

Repurposing

The Universal Music Group International project uses Ascent Media's Atlas Media Asset Management system, the foundation of the company's Digital Solutions suite, enabling reliable storage, repurposing, and distribution of content.

Atlas acts as a bridge between the analogue and digital environments, easing the transition from physical media to file-based media.

"Atlas enables us to address the current needs of our clients and allows them to maximise the return on media assets once multiple delivery platforms such as IPTV and

mobile become mainstream," commented Paul Kind, Managing Director, Ascent Media Services Europe.

"Atlas offers a flexible way of managing, storing, repurposing and distributing content in electronic form and supports clients as they transition to an all-digital world."

The Atlas interface has been customised designed for Universal, to allow the team to view the status of the project online, search the catalogue and request digital fulfilment of orders for its business partners.

"UMGI recognised the technological challenges required in ensuring we meet the demands of the emerging online video marketplace and are pleased to be continuing a long standing collaboration with Ascent Media Group, whose expertise in managing and distributing our video assets are second to none", said Universal Music Group International's Mark Moroney, Vice President of Production.

World Cup

Pixel Power is to provide the HD graphics for Red Bee Media's new HD channel due to launch in May for the World Cup.

The deal for two Clarity 5000 hybrid SD/HD graphics systems sees Pixel Power and Red Bee offer the UK's first publicly available HD service.

Pixel Power is to provide the graphics solutions to display captions, scores, logos and statistics throughout the competition.

"Pixel Power has the longest history of HD character generator development and makes the ideal partner for this landmark HD launch," says Red Bee Media CTO Chris Howe.

"Our initial trial enabled us to gain valuable insight into the viability of various formats and operating processes and positioned us to pioneer HD best-practice."

The new channel is to use MPEG4 encoding for superior reception. Red Bee is also to use content originally captured in HD.

The HD channel launch follows the success of the two companies' proof-of-concept HD test channel showcased at IBC2005.

"Pixel Power understands the importance of creating original graphics in HD for HD transmission," says Pixel Power managing director James Gilbert.

"Red Bee and Pixel Power have already demonstrated that their technology is ready to fulfil HD ambitions and I look forward to providing HD graphics to broadcasters across the UK and around the world."

Pixel Power is a leader in the development and production of SD and HD broadcast graphics systems, news production workflow tools and live interactive content with more than 2,000 installations worldwide.

OB trucks

With a local presence around the world the company's award-winning solutions suit broadcasters, post-production houses and outside broadcast (OB) trucks of all sizes for distinctive, professional, reliable and cost-effective on-air graphics.

Established in Cambridge, UK, in 1987, the company also has a wholly owned subsidiary office in Florida, USA, and a dedicated network of distributors and support offices around the world.

Red Bee Media, formerly BBC Broadcast, specialises in the delivery and promotion of digital media and offers the complete range of services required to promote, playout and provide access to broadcast content across all media, from television to mobile phones.

Formerly a commercial subsidiary of the British Broadcasting Corporation, Red Bee Media is now owned by Creative Broadcast Services, which is owned by Macquarie Capital Alliance Group (65%) and Macquarie Bank (35%).

Harris Corporation announced that it will introduce a new line of television transmitters at NAB2006 to support mobile television applications using FLO technology.

The Harris Apex digital television exciter powers the Harris Atlas Mobile and Ranger Mobile TV transmitters, featuring fully adaptive linear and non-linear correction for FLO requirements.

Air-interface

"Harris has been working with the development team at Qualcomm MediaFLO Technologies since 2004 to develop a version of its Apex digital television exciter for FLO air-interface requirements," said Dale Mowry, vice president and general manager of the Harris Television Broadcast Systems business unit.

"At NAB2006, we're pleased to highlight the results of that effort: a complete range of television transmitters capable of transmitting FLO services."

Qualcomm developed the MediaFLO system to enable the delivery of rich, high-quality multimedia content to mobile handsets.

FLO technology, a key component of the MediaFLO system, is an air-interface technology designed to increase capacity and coverage and reduce costs for multimedia content delivery to mobile handsets.

MediaFLO USA, a wholly owned subsidiary of Qualcomm, will implement the technology in the United States in a nationwide mobile multicasting network.

The Apex FLO exciter is the newest version of the Harris Apex digital exciter first developed for ATSC transmission requirements.

Virtually the entire Harris ATSC transmitter range, from low-power to high-power in VHF and UHF bands, will be FLO capable.

Harris will initially offer FLO capability in versions of its Atlas and Ranger television platforms.

Since its first shipments in 2004, the Harris Atlas liquid-cooled UHF platform has shipped into television transmission operations in Europe, Africa, the Middle East, Asia, Latin America, and the United States, for analogue operations from 2.5-30kW and DVB-T and DVB-H applications from 1.25-6kW.

Harris is offering the Atlas Mobile transmitters for FLO applications from 1.7-10kW.

The Ranger Mobile transmitter platform builds upon the leading lower power ATSC Ranger transmitter platform.

Available in 250W and 500W FLO versions, the air-cooled Ranger Mobile transmitter is ideal for initial FLO transmitter deployments, as well as distributed, single-frequency networks.

Harris Broadcast Communications Division is an active member of the FLO Forum. The FLO Forum is a multi-company initiative committed to advancing the global standardisation of FLO technology, including compliance and certification benchmarks for the technology.

The National Association of Broadcasters is a trade association that advocates on behalf of more than 8,300 free, local radio and television stations and also broadcast networks before Congress, the Federal Communications Commission and the Courts.

Information about NAB can be found at www.nab.org

TELEVISION

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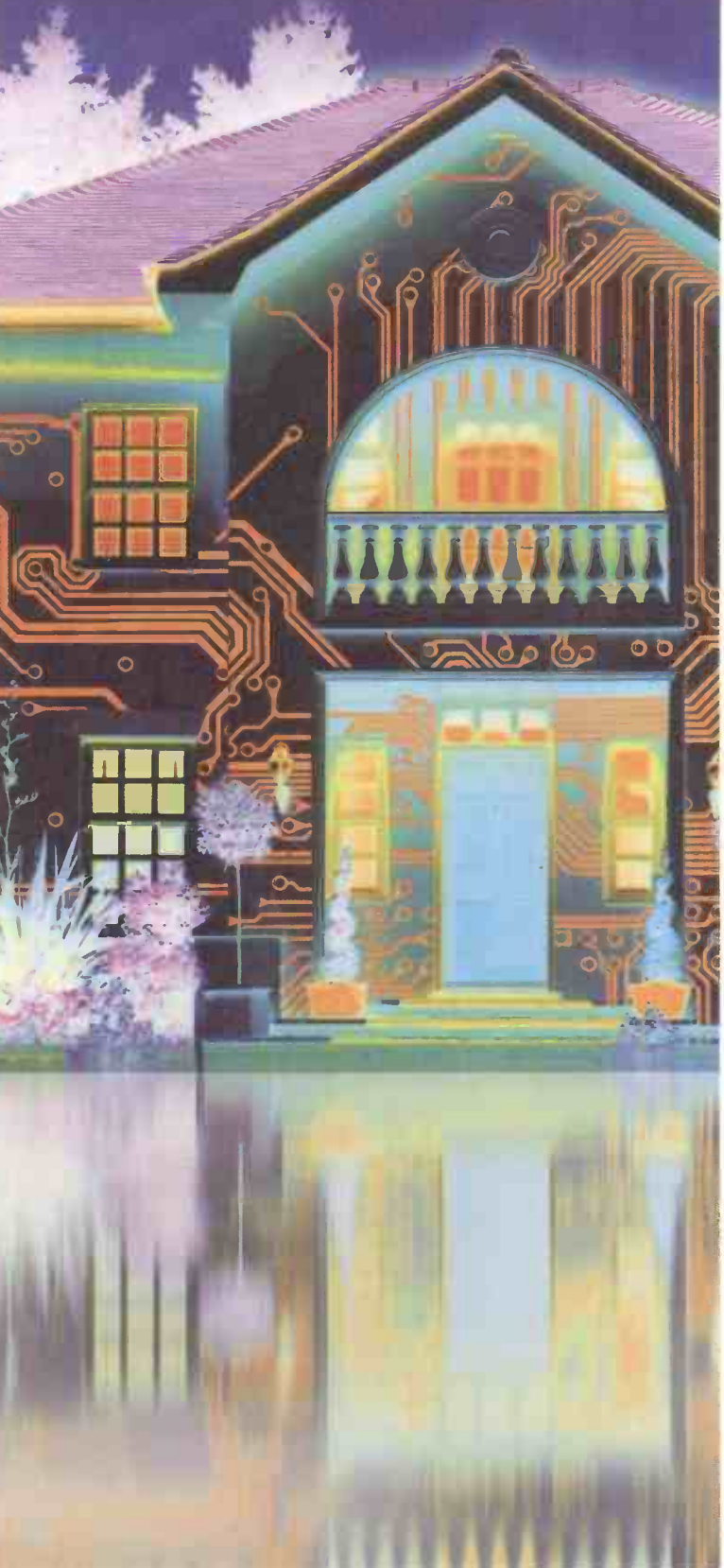

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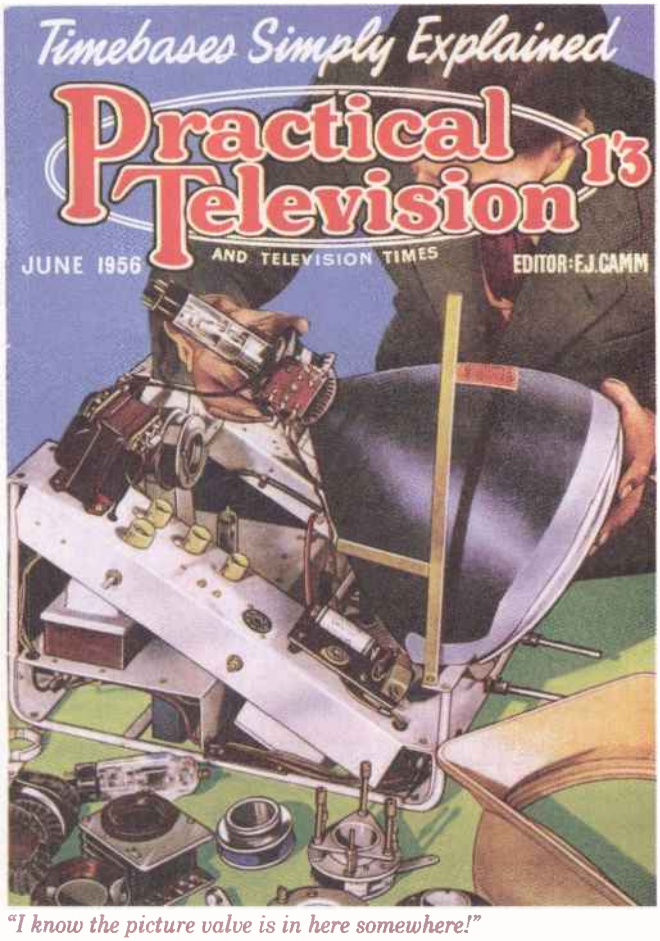
50 years ago

By Keith Wilson



"I know the picture valve is in here somewhere!"

The cover picture of the June 1956 issue of Practical Television is certainly eye-catching, even if it does bear no obvious relationship with any of the magazine's contents.

I can't help wondering, however, whether the gentleman shown has taken his search for that elusive fault altogether too far – it looks like a rather desperate approach to servicing!

Inside the magazine, the editor's comment page has an item that is equally surprising.

It is easy to believe that flat-screen displays are a recent development, but that's not quite true, because the editor reports that Dennis Gabor, who did some of the earliest work on holography, had developed a new type of cathode ray tube.

Although it had a 21-inch viewing screen, it was just 4 inches thick, giving rise to the prediction that it would soon be possible to hang television sets on the wall, just like pictures.

This prediction, I seem to remember, was repeated many times over many years before it became reality.

Gabor's tube had the gun at the top, projecting an electron beam vertically to the bottom of the tube, parallel with the viewing face.

Here, the beam was bent through almost 180° by an electrostatic lens, and thence directed by means of an electrostatic deflection system onto the rear of the viewing face.

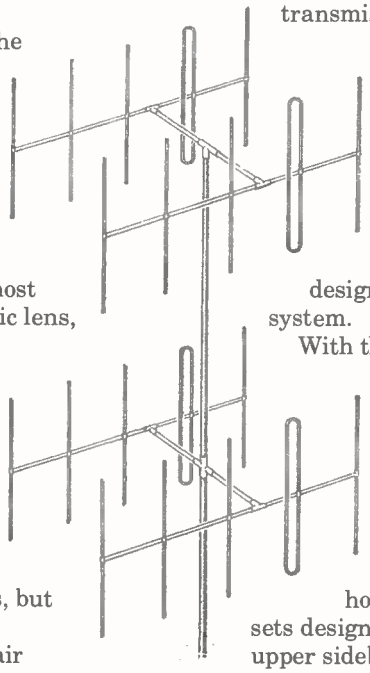
Clearly, this arrangement did not meet with a lot of commercial success, but it was not a complete failure as Clive Sinclair resurrected it for his tiny flat-screen pocket television which sold for a short period around 1983.

A little web research also suggests that Sony dabbled briefly with CRTs of this type.

Of more pressing concern for many readers in the London area was the new BBC television transmitter at Crystal Palace.

This had opened on 28th March 1956, to replace the pre-war transmitter at Alexandra Palace.

Quite apart from the need to re-orient aerials to suit the new transmitter location, there was another problem – vision transmissions from Alexandra Palace had been double sideband, but Crystal Palace was using the vestigial sideband system.



Getting one of these up a ladder must have been an interesting challenge

There is a lengthy article explaining how this change would affect sets designed for the older system.

With those that made full use of both sidebands, the effect was likely to be low-frequency over-emphasis, resulting in smeary pictures.

The viewers in real trouble, however, were those with sets designed to use only the upper sideband of the vision signal, a ploy adopted by some manufacturers to avoid the need for sound rejectors.

Pictures from Crystal Palace displayed on these sets would only include vision frequencies up to 0.75MHz, the top limit for the vestigial sideband.

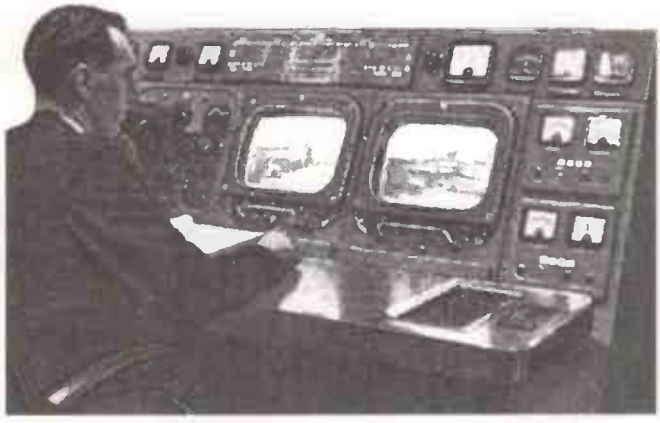
The author of the article understates the case a little, perhaps, by saying: "the quality of the pictures will be somewhat on the poor side!"

Various remedies are described, but none are within the scope of the average set owner, so there must have been some good opportunities for profit in the service trade!

While some viewers in London were struggling to get good reception of BBC television, many more around the country were desperate to receive the new ITV transmissions.

For them, this issue has a detailed article on long-distance Band III reception.

Most of the discussion centres on



Mr Cutler at the control desk of the new Crystal Palace transmitter. The original caption mentions he lives in Norbury, but gives no suggestion about his job!

the choice and siting of aerials, with stacked arrays being favoured over individual arrays with more than five elements, because of problems with the latter in high winds.

Some of those stacked systems were real monsters, and it would be interesting to know what the new Registered Digital Installers featured in the May 2006 issue would feel about tottering to the top of a rickety ladder carrying one of them!

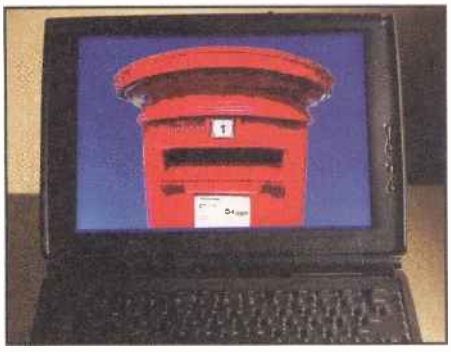
One suggestion I found surprising was that prospective ITV viewers 'beyond the fringe' should try tropospheric reception.

Good results were no doubt possible, but on how many days a month? Surely only the really desperate would go to the expense of installing an aerial system to secure such an unreliable service.

Let's close with a comment from the letters page, where Alex Barton of Glasgow suggests that he may be forced to give up the television 'hobby'.

His reason? The reduction in test card transmissions to only three hours a day. I know that, even then, programmes could be pretty dire, but I don't remember them being so bad that it was watching the test card that made it worthwhile keeping your set!

Sinclair used Gabor's novel CRT design in this flat-screen pocket TV of the 1980s



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using subject heading 'Television Letters'

Ekco U29 small table set

I read with interest the contributions in the letters column from Geoff Darby and Chas Miller regarding the use or not of a variac when working on power supplies.

There is a quote by Chas Miller that he has not, or does not know of anyone who has, experienced a condenser exploding when HT is applied at working level.

Well, I have. During my 50 years working at various levels in the Television Industry, I have experienced a number of electrolytic capacitor explosions.

I will give two examples. The first one was a TV in the early 1950s. This particular set was on 'soak test' after a repair.

Suddenly, there was a violent explosion – yes, a power supply electrolytic had blown. The impact inside the set caused a hairline crack in the cabinet.

The second example was not on a TV but a power supply in the apparatus room of the television studios where I was employed as a maintenance engineer. The scene is early 1960s and events are as follows:

One morning, on arriving for the day's operations, I switched on the mains supply to the apparatus room.

After a minute or so a horizontally mounted reservoir electrolytic in the equipment rack power supply exploded and the can shot across the room to hit the wall opposite. Luckily I was not in the firing line!

Experience tells us that when we engineers say: "Never had that one," someone out there has! Very useful with that elusive fault that has been driving you mad.

Variacs are useful for a number of reasons, for example, for assessing the performance of equipment over a voltage range.

I have a splendid Claude Lyons model with a Current rating of 10A and voltage range of 0-275V. I might want to sell it one day now I am well and truly retired.

Make me an offer Chas!

Laurie Jones,
Crowborough, East Sussex

The trade has changed

I have enjoyed the past 25 years of keeping up with the latest trends in the domestic TV line through Television magazine.

The trade has changed from when I came into it in 1958 as an apprentice at a local radio and television shop.

Being trained by professionals to deal with quirky sets and even quirkier customers was a revelation but an exceedingly busy and happy one.

Training at 'Technical College' did me no harm - I met several colleagues who I kept in touch with over the years.

Starting with BBC-only black and white 405 line sets, I progressed to ITV and converters, 625 lines in the 60's, colour in the late 60's and three channels as well!

Channel 4 and all transistor receivers came in the seventies, along with a few Japanese imported sets, which were very reliable.

Video recorders started to come in the late seventies and by the eighties the trade was really busy, both sales and service.

I was working six days a week non-stop and enjoyed every minute of it. Back to College to learn new techniques but still the work poured in. The trade was busy, but wages never reflected the worth of the engineer and by the mid-eighties I was forced to go self-employed.

This was a learning curve as you had to rely on your own wits and not on a company with all its back-up facilities.

Into the nineties and CD/DVD discs were taking over from vinyl records and tape/ video recorders. Many UK firms were disappearing-only to resurface as 'badged' TVs – a prime example is the Bush logo.




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- ○ Customer Service in Wholesaling Award
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- ○ Safety Product of the Year
- ○ Environmental Awareness Product of the Year

RoHS is a sleeping giant

The Restriction of Hazardous Substances (RoHS) directive will take effect across Europe this summer and poses some major challenges for electrical retailers in the UK and their servicing departments. Paul James, general manager of DHL's Environmental Compliance Solutions, provides some thoughts for retailers facing the environmental challenge

One of the EU's latest set of environmental regulations, RoHS, is designed to severely restrict the use of certain heavy metals and hazardous materials, such as lead and cadmium, in a wide range of electrical products including household appliances, IT equipment, power tools and consumer electronics.

And like it or not, in many instances it is up to electrical retailers to ensure the new rules are adhered to from July 1 2006.

The first challenge for retailers involves them clarifying their obligations under the new regulations.

In most instances, RoHS is an issue for any retailer that is either the importer of electrical items made outside the EU, is the brand owner for the product, or uses components to manufacture made-to-order products, such as PCs.

Significant paperwork

Whatever the nature of their RoHS obligation as an importer, brand owner or manufacturer, there is a significant amount of paperwork and administration required for retailers to prove their compliance to the new regulations.

Although some specific details of the implementation and policing of RoHS are to be confirmed, it appears that RoHS inspectors are currently being recruited, who may act in much the same way as Trading Standards, undertaking audits of product ranges to ensure they do not contain excessive levels of the six restricted substances.

For most retailers, this will at the very least involve obtaining and managing the correct documents from their suppliers to confirm that the products for which they are RoHS responsible are compliant.

While certificates from manufacturers to confirm RoHS compliance may be acceptable to inspectors, relevant chemical test information would be ideal.

Indeed, it is likely that at some point products will have to undergo destructive testing to demonstrate compliance.

Invasive testing

While this level of product detail may not be required from the outset, the adoption of this style of invasive testing is likely to be required soon thereafter.

Certainly, the impact of the additional administrative burden on retailers will be significant when the regulations come into force.

For many businesses, the task of data collection concerned with RoHS compliance is proving onerous, with many putting off the challenge until its importance starts to bite home.

However, retailers that undertake small-scale assembly of PCs need to be reviewing their components now in light of RoHS, as stocked components may not meet the strict new regulations.

Need to act

Add to this the time taken to obtain compliance certificates from suppliers and it is easy to see how the need to act now in readiness for July 2006 could not be more pressing.

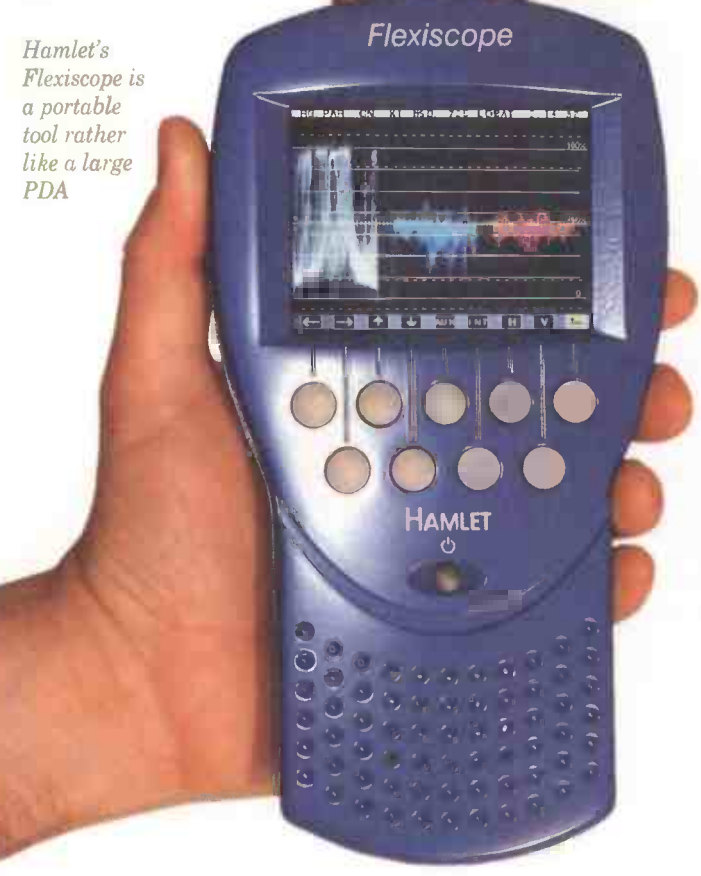
The bottom line is: if you cannot demonstrate RoHS compliance by this summer, you may lose business and reputation if you are caught selling sub-standard products.

Clearly, retailers that do manufacture need to have purged their stock by July to ensure that products sold after this date are compliant.

In the final analysis, RoHS is not just another minor irritation for retailers. The cost of recalling a product, if found to be non-compliant, could be very expensive in terms of reverse logistics, stock write-off and hard earned reputation.

Just ask the major manufacturer that had its products impounded only weeks after the introduction of legislation similar to RoHS in Holland.

Like all business issues, RoHS is not likely to be a problem for your business, unless you ignore it and hope it will simply go away.



Hamlet's Flexiscope is a portable tool rather like a large PDA

The role of the broadcast engineer has changed dramatically, according to Steve Nunney, managing director of test and measurement specialist Hamlet. That means that the engineer's toolkit has to change too

The broadcast engineer evolves

It was not so long ago that all the equipment in a television studio or a broadcast centre was analogue. The assumption was that peak white was 1V of video and peak sound was 0.775V of audio, so each output had to be calibrated to produce that, and each input set to accept it.

That made for a lot of adjustments. Many pieces of equipment involved a lot of tweaks. Engineers would spend hours aligning cameras to match.

When Cintel introduced its first all-digital telecine (film to video converter), it eliminated no fewer than 365 trim pots at a stroke.

To make all this alignment possible, every room would have its test equipment: vectorscopes and waveform monitors to set video levels, along with reference signal generators.

And there were plenty of engineers to make it all happen, not least because old analogue equipment tended to drift and so needed regular re-alignment and routine maintenance.

Over the last decade or so a chain of events has changed the way broadcast engineers work.

First came significantly more stable electronics, followed rapidly by the move from analogue signal processing and recording to digital. Both slashed the amount of routine alignment needed.

The move to digital broadcasting also expanded the number of channels, which meant each was fighting for its share of the income and budgets were slashed.

Guys in suits

The guys in suits saw that the equipment needed less looking after and equated that to fewer engineers.

When there was an engineer in every room it made sense to have test equipment in every room. Now that engineers are trouble-shooters, moving from suite to suite and studio to studio, it makes sense to tie the test devices to the engineer not the hardware.

Flexiscope is a portable tool rather like a large PDA. A smaller version will be launched soon, with the same functionality but designed for smaller hands, called MicroFlex.

To the basic digital processing board you add identity modules to provide the connectivity and to define precisely what you need to do with it.

On the front is a 90mm diagonal, 16:9 TFT screen. This can show you the picture, or act as a waveform monitor or vector scope.

An internally generated graticule and digital cursors allow for precise measurements.

Eye diagram

Other plug-in modules add other

FAULT REPORTS

TV and DVD Faults

Test Case 522

Charles Arundel ■ David Bullock ■

John Coombes ■ Neil Baker ■ Philip Salkeld ■

Solution – Test Case 522 ■

Daewoo Model DP42SP chassis SP115

Daewoo Model DSP4210 chassis SP110

Daewoo Model DP42SP chassis SP115

Daewoo Model DP42SP chassis SP115

Daewoo LCD Model DLP-3212 LCD CTV chassis SL-210P

Daewoo Combination TV/VCR Model GB20H1T chassis CP062

Daewoo Combination TV/VCR Model GB14H2T chassis CP062

Daewoo DVD Recorder Model DR2100P

Philips 32PW9618 32" Television Chassis EM6EAA.

Samsung SP42W5HFX/XEU 42" Rear Projection TV Chassis J54AC20

Philips 32PW9576/05R 32" television set. Chassis MG2.1EAA.

Goodmans 32" W322NS Colour Television Chassis F19

Matsui TVR 180 Combination TV/VCR

Hitachi C28W2TN 28" colour television Chassis A7

Toshiba 3327DB television receiver Chassis C2D

Bush WWS7674 Chassis PT92

Goodmans model TVC202TS

JVC model AV32T25EKS.

Bush model 2866NTX

Toshiba model 28W33B chassis 11AK37

JVC model AV28WFT1

Panasonic model TX32DK10 chassis Euro 5

Hitachi model C28W411TN chassis A7

Philips model 28PW6515 chassis A10E

Sony model K20DX20

Beco 324250WNS CTV

Beco 324250WNS CTV

Bush WS6674 SIL/A

Thompson 24WK25US CTV

Decca D28N440 (28BKD) CTV

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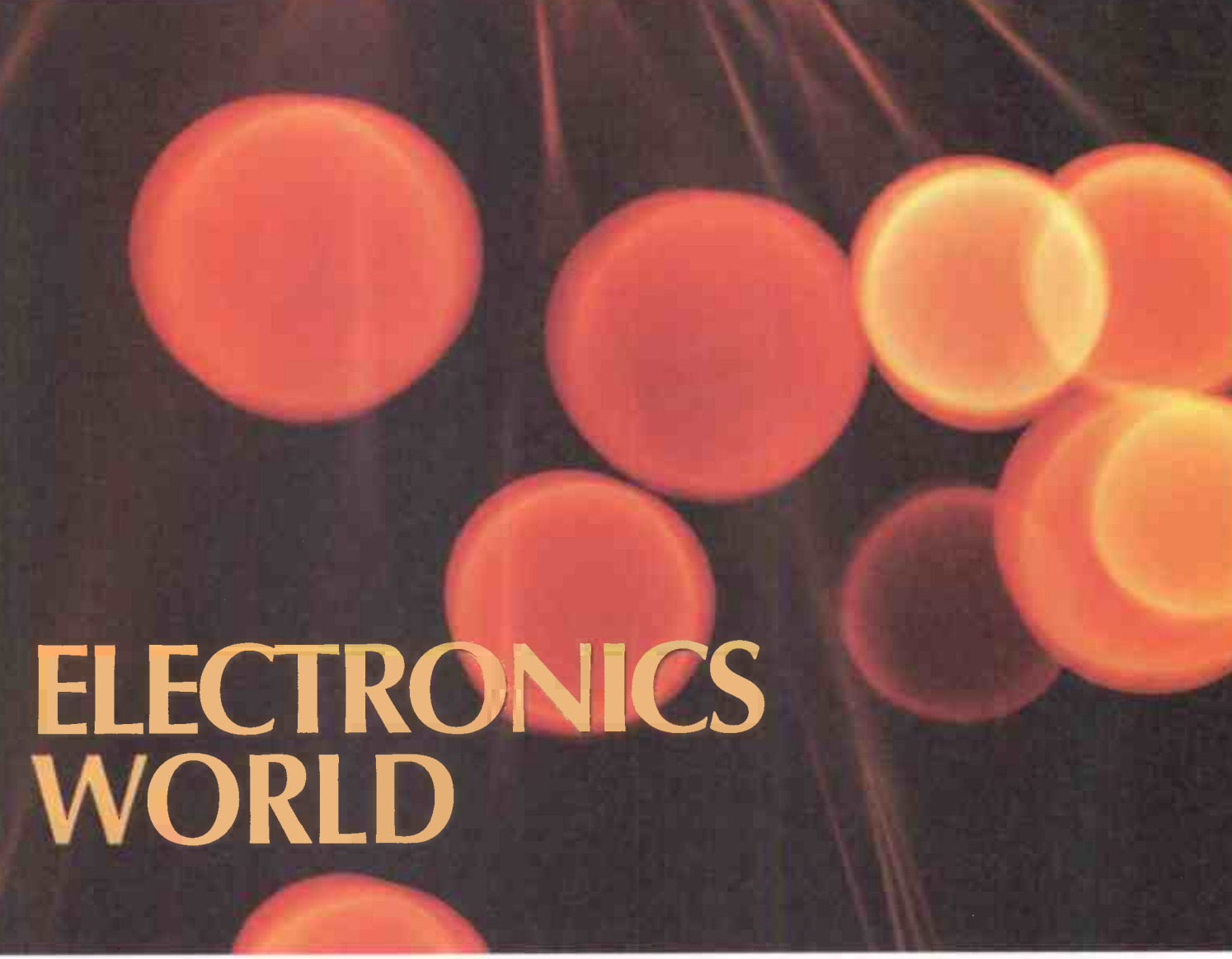

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Charles Arundel

Daewoo Model DP42SP chassis SP115
Fault: No picture just bright horizontal and vertical lines covering the whole screen. The sound was OK. Measurements around the power module of both low and high voltages proved correct.

Further investigation revealed, that the problem was caused by a loose LDVS plug on the digital PCB from the video PCB. Therefore there was no proper signal arriving at the Digital Board for it to process.

Daewoo Model DSP4210 chassis SP110
Fault: Picture OK except for a broad vertical area down the screen about 6" across. A faint picture can still be seen in the background in the area of the screen.

This Plasma has five individual data drive PCBs along the top and five along the bottom of the screen.

Each of these can be replaced, unlike the drive ICs on the later plasmas, which are fitted to flexible connectors and are connected directly to the screen.

It was therefore decided to ascertain if one of these PCBs was the cause of the problem. The appropriate top PCB in line with the broadband area was replaced but the fault still remained.

The bottom data drive in line with the broad band was then replaced but the fault still remained. The flexible leads from the data drive PCBs back to the digital PCB via the connector PCB were checked for proper connection but the fault was still apparent.
The problem was eventually located to a fault on the upper right union PCB, (which is just another name for the upper right connector board). The board was replaced and the fault cured.

Daewoo Model DP42SP chassis SP115
Fault: Picture initially OK then after a few minutes, patches of solarisation appear which eventually starts to cover the whole screen, then eventually the picture completely breaks up. A faulty digital PCB caused the problem.

Daewoo Model DP42SP chassis SP115
Fault: Slight patches of solarisation (patches of yellowish speckles) in certain areas of the picture. This can usually be attributed to maladjustment of the voltages on either the power module or the X and Y sustain boards, after they have been

Test Case 522

Achieving good sound reproduction has always been difficult for TV designers. The constrictions on speaker size and stray magnetic fields, and the unsuitability of plastic TV cabinets as acoustic enclosures are the main stumbling blocks. Even in flat-panel models, where magnetic fields are of no consequence, there are physical problems to overcome; one 20" LCD TV has two speakers little more than 3.5cm in diameter!

Some manufacturers go to considerable lengths to confer good sound on their TVs. One example of this is Toshiba, in its recent 21" model 21V53B: it has a Nicam stereo decoder, graphic equaliser, high-grade IC amplifiers, and a couple of drivers with (for all their small size) powerful magnets and as good a bass response as can be designed into little loudspeakers. Even so, a customer had us collect his rental 21V53B set, complaining that the sound was rough and distorted. This sort of thing is never easy to investigate in a busy workshop with lots of activity and ambient noise. Even so, Real Technician, after careful listening (particularly to Carol Vorderman, whose voice was claimed to trigger various troubles) discerned some rattle and distortion on the right hand side, and accordingly ordered a new loudspeaker under guarantee. It was fitted, the claim was made and back went the set to Coronation Cottages.

Well, that's just too straightforward for a Test Case, isn't it? Within a couple of weeks the set was back on the service bench with a long letter from the customer explaining how the set rattled and resonated, even giving details of the programmes which caused hassle – again Carol Vorderman figured in this! Plainly there would have to be a better investigation of the fault, and a definite cure this time round or the customer would terminate the rental contract. All rental terminations are personally investigated by the boss, and there's trouble indeed if any could have been avoided!

Perhaps this problem stemmed from something in the customer's home, maybe a rattling shelf, a resonating AV cabinet or whatever? No, replied the customer, questioned on the phone, the loan TV was OK, even with Carol. Real Technician hooked a double-beam oscilloscope to the two speaker feeds and turned up the sound. The waveforms looked fine – with peaks reproduced sharply, and distortion only taking place at excessively high volume settings, and then with symmetrical clipping. Next the set was tuned to the workshop test pattern with its 1kHz sine-wave mono sound tone. Again the 'scope traces showed a very good undistorted waveform with no crossover distortion, and amplitude limiting (on both positive and negative peaks) showing up only at very advanced volume settings.

If the customer was to be believed, then, the sound was poor in spite of an impeccable drive signal, at least at 1kHz rate. At 1kHz rate: could that phrase be the key to the diagnosis? Workshop Sage suggested inviting Carol to the Test Case operating theatre and giving her a microphone. It seemed unlikely that she would come, however, so he applied a different test, using a piece of equipment borrowed from another section of the service department. With its aid he got a proper diagnosis and a complete cure. What was Sage's 'secret weapon' here, and what was the actual fault? The solution is on page 476

replaced, due to a fault condition. However, these voltages may also require slight adjustment, as the screen gets older.

The adjustments must always be conducted with the plasma in service mode and the white picture selected. This white picture must not be produced externally by a pattern generator.

There are three potentiometers on the power module and four on the Y sustain and one on the X sustain PCBs.

There is a paper label stuck on the back of the screen near the power module, which has had six voltages written on it during its manufacture to enable the screen to produce optimum results.

Therefore, the voltages on each PCB must be reset to the voltages on this label.

However, there are eight potentiometers on the three PCBs but only six relate to those on the label.

This is because two pots on the Y sustain PCB are manually set by eye. These are the ramp down (which must be in the centre of its travel and the ramp up which must be 15 degrees clockwise of centre.

The main two maladjustments that cause solarisation on the picture, are the V-scan pot, located on the bottom of the Y sustain PCB, whose test point is difficult to locate because it is the small area of printed circuit which is the negative side of capacitor CY10, which is not actually inserted in the PCB.

The other potentiometer is on the power module and is the 170V V-Sus adjustment.

The voltage should be set very close to that marked on the label because it greatly affects the maximum wattage drawn by the screen, when on peak white.

However, as the screen ages, it may require a slightly different voltage to that on the label, to produce optimum results and remove any signs of solarisation.

Unfortunately, in this particular case voltage adjustments could not completely remove the solarisation. Therefore, the only cure was to replace the actual screen.

Daewoo LCD Model DLP-3212 LCD CTV chassis SL-210P

Customer complains of a split picture down the centre of the screen, dark on the left side and brighter on the right.

This is not a fault. The customer has inadvertently put the set in demo mode, which is a feature in the main menu that shows how wonderful the MGDI engine produces an excellent picture.

This MGDI engine is actually an additional circuit in the video processor that reduces the signal-to-noise ratio and uses other clever devices to improve the quality of the picture.

Therefore the picture on the left, when in demo mode, shows the results after it has been processed by the MGDI circuitry.

The customer was therefore asked access demo mode and switch it off.

Daewoo Combination TV/VCR Model GB20H1T chassis CP062

Fault: Can't select preset in the menu to enable set to be tuned in. This was caused by a corrupted EEPROM. Daewoo supplies blank replacements but when fitted, the correct parameters are loaded into it from the set's micro.

Daewoo Combination TV/VCR Model GB14N2T chassis CP062

Fault: Can't store height settings. If the height of the picture requires adjustment, the new settings cannot be stored when conducting this adjustment using the customer remote control, in Service mode.

The only way to do this, is by using a service remote control type R30SVC-5

Daewoo DVD Recorder Model DR210OP

Fault: Intermittent recording of channels and when you chose a thumbnail picture of a previous recording, the machine reverts back to its RF tuned channels. This problem was cured, by replacing the MPEG board.

David Bullock

Philips 32PW9618 32" Television Chassis EM6EAA.

'Blurred picture' read the job card on this monster set, but when I tried the set it was worse than that. It sprang to life, up came a faint picture, then it instantly died, to the accompaniment of a cracking sound. Hoping for a fat and juicy dry joint I hastily dismantled it and studied the chassis carefully.

Sure enough, there was a classic burned out joint on a line transformer connection to the chassis, and after the usual cleaning, re-tinning and re-soldering, I tried the set again with a light heart. Then it suddenly went off, again with a crackling noise. I must have missed another dry joint, I thought, as I started again. But the boys and I combined were quite unable to find a further dry joint.

I idly plugged the set in again as were stood discussing it, and this time, as the picture came and went, again with the crackling noise. Only this time Paul thought that it came from within the plug-top. He was right. The negative lead had half-pulled out.

At least, after we'd secured the mains lead, the fault was consistent, the picture appearing as a few faint and random, de-focussed blobs. We had never seen the like of it before.

The power and line stage voltages all read normally, except for one or two of the line-derived HT lines, and these were not far out.

After much discussion we decided to indict the line transformer, and fitted a new one. At first we feared the worst,

but after making adjustments to the screen voltage and focus controls, we were rewarded with a good picture. The set, a very expensive one, was only 18 months old.

Samsung SP42W5HFX/XEU 42" Rear Projection TV Chassis J54AC20

The picture on this set had a definite red cast, and there were red corona arcing lines in top left, which told us that there was arcing somewhere that was being picked up at the start of the line and frame scan.

We also noticed that the set was slipping into and out of convergence.

We've had this trouble before, and each time it has been due to arcing within, or on the solder joints of RZ127 or RZ128, which are both 3.9R.

But this time these were allright, and going deeper into the convergence stage we suspected trouble within STK392-040, the convergence IC. This proved to be right. A replacement cured the trouble.

Philips 32PW9576/05R 32" television set. Chassis MG2.1EAA.

What an absolute and frightening monster this set is! Its stand is solidly built into the cabinet, and removing it is quite a complex and time-consuming job. Nevertheless, it is worth it, because otherwise the set stands 37" high on the bench!

To remove the stand, first remove the back of the cabinet, release the two clips on the underside of the top front of the cabinet.

This allows the removal of the inbuilt glass plate to the top of the cabinet front.

Then place the set on its front. The securing systems for both sides of the aluminium front legs can now be seen.

Remove the single screw and pull the steel securing rod that passes down the left leg. Then twist and remove the leg. Adopt a similar procedure to remove the right leg.

Then undo the two plastic screws underneath the cabinet. This allows the removal of the bottom section of the stand, which incorporates two very heavy glass shelves. This renders the set itself much lighter, so that two persons can easily lift it onto the bench.

This set was dead, and we found that the mains fuse S1053 (3.15A) was open. This was because T7540, the chopper transistor type STW8NA60 was short circuit.

Advancing into the repair, we found a further IC was short circuit – the MC44603P, as was D6572, the 5.6V zener diode, type BZV85-C5V6.

As though this wasn't enough, we then found that R3546 and R3547 – both 0.39R - were open-circuit, and that relay RY1002, a type 250V (at an astonishing 10A capacity) was seriously troublesome, in that its contacts were badly burned and arcing when it fired.

Replacing all of these items restored the set to its excellent performance. All that now remained was to re-fit its stand and hope that its owner was up to settling our bill.

Goodmans 32" W322NS Colour Television Chassis F19

This set declined to start up and we eventually discovered a joint on a line transformer pin that looked perfect until we disturbed it, when we found that the pin was tarnished and black and electrically insulated from the panel.

Cleaning and re-tinning and re-soldering it restored results, but the centre of the screen was dark and blurred. As we were settling to diagnose the trouble the picture gently ballooned away and we found that the line transformer overwind was hot.

A replacement line transformer cured this trouble, but the set then had east-west bowing, and this we cured by replacing D26 in the correction circuits, a BA 157 diode, which was short circuit.

We now saw that the picture was 'breathing', and since we've had this before on this series of sets, we cured it quickly by replacing C69, a 400V .022mF condenser, so enabling us to get another set off the bench.

Matsui TVR 180 Combination TV/VCR

I never could take to any combined television/video recorder set, so I approached this one with little patience.

It was stuck in standby, and I eventually tumbled to the fact that its EEPROM had lost its message. I installed the correct dump into it, and was delighted when this brought the television section to life.

All that now remained before sliding it off the bench was to check the performance of the video recorder. I should have known that this would bring further trouble, and it did. The whole lot went dead again.

I concluded that the EEPROM must have a faulty bit in it, and replaced it with a new and blank one, and again installed the correct dump into it. This time the set worked well on all sections and I boxed it up with some relief and bade it goodbye.

Hitachi C28W2TN 28" colour television Chassis A7

This customer, who keeps a small hotel, brought us three of these sets. As always with these (among others), I checked to see if any of the tubes were the troublesome Philips ones that bore the dreaded ECF letters sliced into their numbers.

One was, so I checked its tube base and found, as feared, that some of the components were well cooked. This one I gave the set back to him and pointed him towards the local tip.

Both of the other two were tripping, not an uncommon fault on these. I tried the first, which tripped its way leisurely to channel 1, as they do.

So I opened it and found a rich crop of dry joints, most of them in the centre of the board, around ICs 951 and 952.

Having re-soldered these and any others I saw, I dared to hope that the set was cured, but on soak test it tripped again, and discovering the cause led me a dance.

I finally found that it was due to a well-cleated but never-been-soldered tag on VR950; the HT preset potentiometer. Re-soldering this cured the trouble, and the set behaved well on an extended soak test.

Now for the other set. This one was tripping too, more positively than the first, and I set about a similar joint-soldering exercise, but even after fifteen minutes soldering, it was tripping just as much.

This suggested a definite fault; that a voltage was excessive or that it was drawing too much current, and the set led me a merry dance.

I thought that I had cracked it when I found a short-circuit Q951 (BD438) in the 26V line, but in fact that was only half the trouble. The R947 (82k, 5%) was practically open-circuit too.

Toshiba 3327DB television receiver Chassis C2D

This was another giant set. It came in as dead, and was riddled with dry joints in the line stage. After a few minutes of re-soldering I tried it and was delighted when I heard the welcome rustle of corona.

But this was not the end of the repair. The picture height and linearity geometry varied as I watched, slowly changing from normal to quite unacceptable, when it became stretched at the top and cramped at the bottom. Driven by custom, I began to look for physical leakage from C322 and C317. Not this time, however. The cause was C305, a 50V 1mF electrolytic condenser.

Bush WWS7674 Chassis PT92

This one came in as dead, but in fact its red LED was lit, and when switched from standby, it momentarily flickered green.

I checked around its power supply circuits, expecting to find a solid fault there, but in fact all was normal there, including its output voltage of 145V. The line transistor was allright, too.

Then I noticed the tiniest black dot on the line transformer overwind. It turned out to be a smoke-hole from its internal cooking. A new transformer did the trick, and the set then produced an excellent picture.

John Coombes

Goodmans model TVC202TS

If the set is completely dead then first check the primary side of the power supply. Check the power regulator IC801 (STR-F6653) for short circuit, also check resistor R809 (0R27 2W) for open circuit checking carefully diode D806 (UZ13BM) and Q801 (KTC3207) and/or Q802 (KTC3207).

If all these components are at fault then replace also D828 (1N4937G) and the thyristor I822 (X0202DA) on the secondary side of the power supply but be sure to replace all the components at once to avoid failure of power supply again.

JVC model AV32T25EKS.

Dead: Although this set is dead the standby LED is lit which means the fault can be traced to a faulty capacitor C907 (220uF 400V) for loss of capacity or a high ESR reading.

If this proves to be negative then check transistor Q521 (2SD2553) and also diode D521 (BY228). Check both by replacement if necessary as an incorrect reading may not be located.

Bush model 2866NTX

Dead: if this fault occurs then check the power supply for resistor R109 (680k) for open circuit.

Toshiba model 28W33B chassis 11AK37

Intermittently tripping: if the set does intermittently trip then check capacitor C829 (47uF 250V).

Beware if this fault is allowed to continue for to long because it can destroy the power supply.

If the power supply is at fault then replace IC800, Q801, C860, D892, D896, R805, R852 and resistor R855. All must be replaced to restore normal operation.

Philips model 28PW6515 chassis A10E

East/West fault: if there is an east/west or pincushion distortion then check capacitor C2962 (4.7mF 10V) by replacement. If this proves to be negative however then suspect and replace a faulty painter IC7064.

JVC model AV28WFT1

Cuts out: if the set cuts out after a few seconds from switch on, and there is also no EHT present be sure to check the surface mount zener diode D301 (5.1V) for leaky condition which will cause a low voltage supply line to IC301.

Panasonic model TX32DK10 chassis Euro 5

Tripping: if when turning the set on it begins to pulsate from the power supply, be sure to check capacitor C584 (390pf 2kv) for short circuit.

Hitachi model C28W411TN chassis A7

Tripping: in this case if the set is tripping and the LED is also flashing then check capacitor C957 (1000uF 10V) by replacement.

Philips model 28PW6515 chassis A10E

Fold-over at top of picture: this fault could be due to faulty frame output IC but not in this case.

We traced fault to diode D6505 (BYD33D) and a replacement restored normal operation.

Sony model K20DX20

Whistling from power supply: if this fault should occur, check the mains smoothing capacitor C603 (330uF 450V) this will make the power supply whistle and also distort the picture.

Hitachi model CL28W460N

Incorrect geometry settings: this fault can usually be traced to the corruption of the memory which is due to the EEPROM device IC502 (24C16) collecting incorrect data or ruined due to flashover from EHT arcing or transient spikes along the mains input voltage. A replacement IC502 and setup of all functions will restore normal operation.

Neil Baker

Beco 324250WNS CTV

Intermittent picture fades on and off was the customer's explanation of the fault. The most likely cause is the heater chain and the fault was found to be R529 dry jointed at both ends.

Beco 324250WNS CTV

The purity was miles out. We have had several of these TVs and also Sharp ones. The PTC was taken out but it does not rattle.

Manually degaussing the TV cures the fault for a few days in some cases. Or if the set is run without the PTC then it is OK after several days use.

Taking the PTC apart, one of the resistive conductors has splatter damage. Always replace these on spec. 'MZ73 B 18ohmM' is printed on top. SEME seems to supply a cheap version of this part.

Bush WS6674 SIL/A

This TV was tripping: check two capacitors as either can cause this fault - CD18 Value 471k 2kV or CD22 222k also 2kV in our set. Both were split.

Thompson 24WK25US CTV

On/off switch faulty would not stay latched in: it is worth taking the back off and looking at the clear plastic knob before ordering the on/off switch as the knob splits and slid up the shaft of the mains switch CHS can supply the knob part 20104JM

Decca D28N440 (28BKD) CTV

No sound or Picture if you adjust the screen a blank plain raster appears.

Check TP6 regulator transistor on the large heat sink. This had been overheating and destroyed itself, but not totally short circuit. The part was a BD441. It is worth checking while inside this set CL18 (10uF 250V) beside the LOPTX. It goes o/c.

Philip Salkeld

Bush Model Box 66NSIL

This one-month old set which was bought at a local supermarket at an amazing price of £99 was stuck in standby.

Some of these sets are Beko chassis. I noticed that R525 1R5, the HT feed to the line output stage, was getting very hot. Disconnecting one end restored the HT to the correct 145V.

A point worth noting is that these sets do not work with a dummy load to check the power supply. Everything in the line stage checked OK. No alternative but to order the line output transformer TR502 Part No. 057834EL2 and when fitted restored the set back to normal.

Sony KF42SX200U Projection

This set came in dead with the standby light flashing. The fan was rotating but the lamp unit XL2000E was out.

The lamp unit comes out from the front and you generally find that the glass is cracked or the filament is blown, but neither had occurred.

Next step was to remove the lower back and remove the power block for inspection, but once again nothing obvious.

Time to make a decision, my better judgement being to order the power block Part No. 146851014 at £114 + VAT.

It proved the right choice, bringing the set back to a working condition.

Goodmans GTV42P4 Plasma

This in-warranty set came in with the picture pixelating, accompanied by a squealing noise.

Bush technical came to my aid: check IC in U454 position; if it is LM2576 change it to a LM 2596S Part No. 453007. This IC can be found on the power supply panel on a heat sink next to a choke.

It is worth noting that Beko produces this power supply and in later 'P4' sets the power panel has been changed again. Happy days.

Schneider TV92-85239M

This monster came in with the fault: sound and no picture. Strange fault for Schneider sets in general as the faults are normally line output transformer arcing, blowing line output transistor.

To add more confusion, the picture appeared. When on soak test, the picture would fade away - a clear indication of a tube heater problem. Indeed it was a dry joint on the heater pin of the tube socket.

Bush RF6683VPL 11AK45B5 CHASSIS

This relatively new set came in with the sound crackling mainly when the set was first switched on.

One morning the fault appeared and the first thing I noticed on mono the sound was clear, this ruling out the sound output stage.

Once the set was put on the bench and freezer was used, the fault was located to the multiple sound processor chip (MSP3411) Part No. 30009354.

The number of in-warranty repairs that are coming in is out of control.

Solution to Test Case 522

It is not often that there is such a hoo-hah about a TV audio fault, is it? Especially on a 21" stand-mounted CRT type. Even so this particular model, Toshiba 21V53B, merited careful attention because it is a Nicam stereo type with creditable sound arrangements in its processing, amplifier and speaker departments – and because they were anxious to keep the rental contract!

Sage's technique was to hook up a variable-frequency audio generator to the AV socket (with some TV designs you need to provide a video signal too, to prevent the set from muting) and sweep the entire audio spectrum with the sound volume set quite high. At some points the TV 'came alive' as it were, with powerful resonances: one (Carol?) at exactly 385Hz was found to involve the cabinet right-hand front shell, vibrating against the edge of the picture tube face, while another (467Hz) was the 'tuning point' of the tongue moulded on the rear cabinet shell where it joins the front half. Using two sorts of adhesive foam-plastic strip cured these – and other smaller rattles. Sage also discovered that the menu/OSG-based audio graphic equaliser was irregularly set, so he readjusted it for a flat response. After this the frequency sweep-through produced no 'nasties', and nothing more has been heard from the set's discerning user in three months – so it must be OK! Wow....

We welcome reader's fault reports.

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Peter Gamby: "The plasma makers must ensure good supply"

CRT SETS OVERTAKEN by year-end

The latest forecast from Meko's DisplayCast ATV market intelligence service indicates that although the overall market for TV sets in Europe is not growing significantly, the transition from CRT to flat panel sets is accelerating

By the end of this year, more non-CRT sets will be sold in a quarter than CRT sets, marking a clear and important transition point for the market.

"We expected to see rapid growth in sales of flat panel TVs when we first began our research in this area", noted Pete Gamby, Meko's research director.

"But the speed with which some markets have adopted LCD and plasma sets has been exceptional. This rapid rate of adoption is driven by falling prices and wider availability of flat panel sets at all screen sizes".

Shipments of LCD TVs in Europe topped 7.5 million units in 2005 and plasma TV set sales also boomed to exceed 2.1 million sets sold. This was despite some shortages in the latter part of the year for some suppliers for both types of flat panel set.

Away from the flat panel market, Sony revitalised the rear projection TV sector and its fourth quarter sales boosted shipments to just over 0.25 million units for the year.

Despite these strong performances from the newer TV technologies, CRT shipments still accounted for the majority of the market by volume in 2005 with sales totalling 27 million of the approximately 38 million sets sold.

The forecast for the incumbent TV technology is not good though, with Meko predicting a decline in CRT sales to 21 million in 2006.

"Looking further ahead, CRT shipments will be down to 12 million in 2008 as supply is reduced as tube factories close or are converted to supply other components", commented Gamby.

For 2006, Meko estimates that sales of LCD TVs will rise to more than 14 million units with plasma set shipments increasing to nearly 4 million.

Real battle

"The expectations for plasma are high but there will be a real battle in the 40" and 42" screen size segment", says Gamby.

"The plasma makers must ensure good supply and stay competitive on pricing in order to achieve their targets and many are expecting higher sales than we have predicted for this year", he continued.

Meko believes that there is a danger that the enormous capacity being added in the LCD supply chain will swamp the market with cheap products and this could force the plasma makers to move the battle up in size to the 50" and larger sector.

For the European TV market, this sector is not a large one though, as both limited consumer expenditure and relatively smaller living spaces than in the US mean only 1% of sets sold in Europe are 50" or larger. In contrast, the 40" and 42" sector already accounts for about 8% of the market by volume and falling prices will drive this up to more than 20% of sales by the end of 2008.

While Meko is not expecting anything more than single digit growth in year on year unit sales in the TV market, the opportunity for revenue is good provided that European economic growth continues as expected.

High definition

Average selling prices for LCD and plasma sets will fall. However, consumers will want to buy TVs that can receive high definition (HD) programming and that will be usable after the transition to all-digital TV transmission.

This means that revenues should increase as old CRT sets are replaced sooner than they have been in the past.

"It is also possible that we could see households making two major set purchases between now and the expected analogue switch-off dates", commented Gamby.

"The first might be a household's first LCD TV and perhaps this will be a 26" or 32" set. Later, as HD-capable sets at 40" and above become more affordable and have integrated digital tuners or even integrated HD receivers as standard, consumers might upgrade again and move the first set to another room in the house".

Meko is forecasting revenue growth at the consumer purchase price level from around $27 billion in 2005 to more than $41 billion in 2008 based on the current ASP trends and the shift from CRT to flat panel sets.

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1352.5036 F	LOT1545	£19.00
1352.5037	LOT2184	£16.00
1352.5037 A	LOT2184	£16.00
1352.5037 D	LOT2184	£16.00
1362.5001	LOT2262	£15.00
1362.5001 A	LOT2262	£15.00
1362.5002	LOT2262	£15.00
1362.5002 A	LOT2262	£15.00
1372.0052	LOT2262	£15.00
1372.0052 A	LOT2262	£15.00
1372.0052 B	LOT2262	£15.00
1372.0062	LOT2262	£15.00
1372.0062 A	LOT2262	£15.00
1372.0066	LOT2262	£15.00
1372.0066 A	LOT2262	£15.00
1372.00662	LOT2262	£15.00
40313-16	LOT1814	£14.00
40348-02	LOT1148	£19.00
40348-06	LOT1545	£19.00
40348A-02	LOT1148	£19.00
40348A-03	LOT1814	£14.00
40348A-06	LOT1545	£19.00

Part No	Code	Price
GOODMANS..continued		
40348A-09	LOT2184	£16.00
40348A-10	LOT1148	£19.00
40348A-12	LOT2184	£16.00
GRUNDIG		
29201.029.63	LOT1987	£15.00
29221.029.63	LOT1987	£15.00
M 29221.029.63	LOT1987	£15.00
HITACHI		
BW 02862	LOT2374	£20.00
BW02862	LOT2374	£20.00
FA 014 WJ-H	LOT2374	£20.00
FA014WJH	LOT2374	£20.00
L.G.		
057.834 TR 2	LOT2238	£15.00
058.434 TR 4	LOT2238	£15.00
058.834 TR 1	LOT2238	£15.00
058.834 TR 2	LOT2238	£15.00
058.834 TR 5	LOT2238	£15.00
3311159	LOT2238	£15.00
3311167	LOT2238	£15.00
3311187	LOT2238	£15.00
3313110	LOT2238	£15.00
58.834	LOT2238	£15.00
M 12-130	LOT2238	£15.00
M 12-133	LOT2238	£15.00
M 12-138	LOT2238	£15.00
M 12-157	LOT2238	£15.00
M12130	LOT2238	£15.00
M12133	LOT2238	£15.00
M12138	LOT2238	£15.00
M12157	LOT2238	£15.00
RO 682	LOT2238	£15.00
RO 685	LOT2238	£15.00
TR 682	LOT2238	£15.00
TR 685	LOT2238	£15.00
PHILIPS		
21921	LOT2376	£14.00
13821921	LOT2376	£14.00
138 21921	LOT2376	£14.00

Part No	Code	Price
PHILIPS..continued		
3128 138 21921	LOT2376	£14.00
312813821921	LOT2376	£14.00
OV 2076/21921	LOT2376	£14.00
OV 2076-21921	LOT2376	£14.00
OV207621921	LOT2376	£14.00
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FA 014 WJ-H	LOT2374	£20.00
RTRNFA014WJZZ	LOT2374	£20.00
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1-453-308-31	LOT2196	£17.00
1-453-310-11	LOT2196	£17.00
1-453-314-21	LOT2196	£17.00
1-453-372-11	LOT2196	£17.00
8-598-834-00	LOT2196	£17.00
8-598-834-10	LOT2196	£17.00
8-598-834-20	LOT2196	£17.00
8-598-834-30	LOT2196	£17.00
8-598-834-40	LOT2196	£17.00
8-598-834-50	LOT2196	£17.00
THOMSON		
105009.8	LOT1505	£19.00
10500980	LOT1505	£19.00
10500980.P1	LOT1505	£19.00
10531460	LOT1505	£19.00
105660.6	LOT1505	£19.00
10566060	LOT1505	£19.00
10566060.P2	LOT1505	£19.00
105660060	LOT1505	£19.00
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R26	RC1986HL
R-26	RC1986HL
TV33	RC1986HL
TV36	RC1986HL
GRUNDIG	
29622050	RC160HL
2962205070	RC160HL
2962205312	RC160HL
2962205313	RC160HL
2962205315	RC160HL
2962205361	RC160HL
2962205363	RC160HL
2962205372	RC160HL
2962205373	RC160HL
2962205375	RC160HL
2962205573	RC160HL
2962205701	RC160HL
2962205801	RC160HL
2962205821	RC160HL
2962205906	RC160HL
29622516	RC160HL
E72911DPL	RC160HL
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RMC663	RC665HL
RMC761	RC665HL

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J.V.C...continued	
RMC771	RC665HL
RMC792	RC665HL
RMC793	RC665HL
RMC794	RC665HL
RMC795	RC665HL
RMC870	RC665HL
MITSUBISHI	
RM05401	RC737HL
RM05403	RC737HL
RM05407	RC737HL
RM05409	RC737HL
RM07901	RC737HL
RM521V59401	RC737HL
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RM541V59202	RC737HL
RM541V59502	RC737HL
RM541V59503	RC737HL
RM551V59502	RC737HL
RM551V59503	RC737HL
RM561V59601	RC737HL
RM6312163807	RC737HL
RM63121V63803	RC737HL
RM640V63804	RC737HL
RM641V63304	RC737HL
RM651V59506	RC737HL
RM76151V65801	RC737HL
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RMM6050V57802	RC737HL
PHILIPS	
PT150A	RC437/HL
PT520A	RC437/HL

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PT532A	RC437/HL
PT700A	RC437/HL
RC0311	RC437/HL
RC031201	RC443/HL
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RC22401	RC443/HL
RC283509	RC443/HL
RC5601	RC437/HL
RC5915	RC437/HL
RC6502	RC437/HL
RC6511	RC437/HL
RC6512	RC437/HL
RC6513	RC437/HL
RC6941/01	RC443/HL
RC694101	RC443/HL
RC7301/01	RC443/HL
RC730101	RC443/HL
RC7500	RC437/HL
RC7502	RC437/HL
RC7503	RC437/HL
RC7512	RC437/HL
RC751201	RC437/HL
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RC7535	RC443/HL
RC7535/01	RC443/HL
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KP53S4	RC523/HL
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KV29C3D	RC523/HL
KV29X1D	RC523/HL
KVB2511D	RC523/HL
KVE2531A	RC523/HL
KVM1440	RC523/HL
KVM1441	RC523/HL
KVM1450D	RC523/HL
KVM1451D	RC523/HL
KVM2170D	RC523/HL
KVM2171D	RC523/HL
KVS2951	RC523/HL
RM342	RC522HL
RM637C	RC522HL
RM640	RC522HL
RM641	RC522HL
RM641A	RC522HL
RM642	RC522HL
RM642A	RC522HL
RM644	RC522HL
RM646	RC522HL
RM649	RC522HL
RM650	RC522HL
RM651	RC522HL
RM652	RC522HL
RM654	RC522HL
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RM657	RC522HL
RM658	RC522HL

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RM661V8	RC522HL
RM662	RC522HL
RM663	RC522HL
RM664	RC522HL
RM665	RC522HL
RM677	RC522HL
RM677A	RC522HL
RM687	RC522HL
RM687B	RC522HL
RM687C	RC522HL
RM689	RC522HL
RM717A	RC522HL
RM811(NO PIP)	RC522HL
RM811(NOPIP)	RC523/HL
RM816	RC522HL
RM817	RC522HL
RM833	RC523/HL
RM836	RC523/HL
RM838	RC522HL
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OFCOM DETAILS spectrum licences

Ofcom has published details of the release of new radio spectrum, which could be used to provide consumers and businesses with a range of new broadband, wireless communications and mobile multimedia services

New services require access to additional radio spectrum, a finite national resource upon which all wireless communications depend.

In January 2005 Ofcom outlined a rolling programme of spectrum awards that will see more than 400MHz of prime spectrum between 400MHz and 3GHz made available for a range of services over the next few years. This is more than the equivalent of all spectrum currently used for mobile telecoms.

New spectrum licences

Ofcom intends to auction licences for frequencies at 1452-1492MHz (40MHz) on a technology and application-neutral basis by March 2007.

In response to the January 2005 proposals, a number of organisations expressed an interest in acquiring a licence for frequencies in this spectrum band. A number of possible uses for the spectrum have been suggested, including:

- Mobile TV – mobile multimedia services might be deployed using a variety of technologies such as DVB-H (Digital Video Broadcasting- Handheld) or DMB (Digital Multimedia Broadcasting);
- Broadband wireless access – high-speed internet access on the move using technologies such as WiMAX;
- Satellite digital radio – such services are popular in the US. The upper 12.5MHz of the 40MHz available could be used to deploy satellite digital radio using the S-DAB standard; and
- Programme-making and special events – frequencies might be used to enable the use of wireless cameras at sporting and other events.

This block of spectrum is subject to certain international agreements, including a plan agreed at Maastricht in 2002. These agreements impose some constraints on use of the spectrum in the UK.

Ofcom considers that some of these constraints are no longer necessary in the interests of good spectrum management, and Ofcom will be seeking international agreement to a more flexible approach over coming months.

Key proposals

The following are the main elements of the proposed award:

- The licences will be tradeable, with an initial minimum period of 15 years.
- The licences will be technology and application neutral (though some constraints will be necessary because of international arrangements).
- The lower 27.5 MHz of the 40MHz available could be made available as one or more packages, under options set out in the document.
- The upper 12.5MHz of the 40 MHz available will be awarded as a single spectrum block.
- The award will be decided by a simultaneous multiple round auction.

Next steps

The deadline for responses is 9 June 2006. Following an assessment of the responses and international discussions, Ofcom intends to publish the following later in 2006, ahead of an auction that could be held in the first quarter of 2007:

- A statement on the responses to the consultation.
- An Information Memorandum with details of the award procedure and rules, licence conditions and other information likely to affect use of the band.
- Draft regulations setting out the auction rules and the mechanisms allowing trading in these bands.

The full consultation document is published at www.ofcom.org.uk.

Executive summary

1.1 As part of Ofcom's plans to implement its strategy of ensuring optimal use of the radio spectrum it has developed a programme of awards of wireless telegraphy licences that is designed to put unused or under-used spectrum into the market. One such award is of wireless telegraphy licences for the spectrum band 1452 – 1492 MHz.

Ofcom's Riverside House HQ

1.2 This consultation sets out in detail Ofcom's proposals for the award of wireless telegraphy licences to use these frequencies, in the light of responses it received to the Spectrum Framework Review: Implementation Plan consultation document published in January 2005 and the October 2003, Opportunities for Future Use of Spectrum within VHF Band III (174 to 230 MHz) and in the 1.5 GHz Band (1452 to 1492 MHz) consultation.

Demand assessment

1.3 The spectrum available for award is 40 MHz (1452 - 1492 MHz). Less than 100 fixed links are still operating in this spectrum band, as well as some PMSE users. These users have been given notification to vacate this band by 31 March 2007, making the band available for alternative use from April 2007.

1.4 This spectrum has particular importance due to the wide range of potential uses that the band could be put to. This includes new services such as mobile multimedia (using standards like DVB-H or DMB) and broadband wireless access (using technologies such as TDD-IP and WiMAX). Terrestrial digital broadcasters (T-DAB) might also be interested in this band, as well as those seeking to provide programme-making and special events (PMSE) services such as digital wireless cameras. Finally, satellite digital radio (S-DAB) services may be deployed in the upper 12.5 MHz of this band (1479.5 – 1492 MHz). Given the wide range and variety of the potential services that could be deployed, and consistent with Ofcom's established policy for spectrum release, technology and service neutrality will be key principles in this award.

1.5 There is a limited amount of other spectrum that may be made available to the market over the coming years that could be used to provide one or more of the services listed above. Ofcom will seek to provide additional information on the availability of other bands before this spectrum band is released for use. In particular, Ofcom's ongoing Digital Dividend Review (DDR) project is examining the options arising from the release of spectrum afforded by the digital switchover programme.

International constraints

1.6 Several international arrangements are relevant to different parts of this band, most notably:

- 1452 – 1479.5 MHz: the CEPT Maastricht 2002 Special Arrangement ("the Maastricht Plan") provides an allotment plan for T-DAB. The Maastricht Plan gives the UK the right to deploy T-DAB services in this band, but also requires us to protect T-DAB services in neighbouring countries. These rights do not currently extend to services and technologies other than those that meet the definition of T-DAB (or T-DAB variants including T-DMB and DAB-IP), resulting in limited rights to use other technologies (or to demand interference protection for these). However the plan does not prevent deployment of other technologies subject to international coordination.
- 1479.5 – 1492 MHz: the ITU Radio Regulations require us to protect reception of registered satellite radio services in neighbouring countries. At least five such satellite networks are notified (or pending notification), resulting in material constraints on terrestrial use in this sub-band across much of the UK.

1.7 As they stand, these international arrangements will impose material constraints on the use of this spectrum band. However, Ofcom considers that not all of these constraints are necessary or justified to achieve the internationally-shared goal of efficient use of the spectrum. Ofcom therefore intends to engage in discussions with the UK's international neighbours, with the aim of agreeing less restrictive arrangements. This would create a more certain framework within which a wider range of technologies and services could be deployed.

1.8 In the light of other initiatives in Europe, Ofcom considers that there is a reasonable chance of success in these discussions. But the outcome plainly cannot be guaranteed, and the timetable for the completion of these discussions is also uncertain.

1.9 However, Ofcom considers that, even if these discussions are not successful, the release of this band would represent a significant opportunity for the deployment of new or expanded services providing significant benefits to citizens and consumers in the UK. New mobile multimedia services could, for example, be deployed within the existing international agreements, using standards such as DMB or DAB-IP that fit within the specifications used in the Maastricht Plan.

1.10 Ofcom considers that, whether or not the existing constraints in the Maastricht Plan are relaxed, it would be possible to use each of the frequency blocks covered by that plan on a UK-wide basis. It would not, in particular, be necessary for use to be based on the pattern of local multiplexes, and frequency re-use, provisionally planned in 2002 (some constraints

on geographic coverage within the footprint of the UK may however still arise as a result of incoming or outgoing interference constraints; these are discussed in this document).

Overview

1.11 Ofcom proposes, subject to the outcome of the current consultation, to award national wireless telegraphy licences to use the spectrum band 1452 – 1492 MHz as soon as practically possible. Ofcom's aim is to award licences by the end of the financial year 2006/07. Ofcom plans to make all 40 MHz available to the market through this process.

1.12 Four options for the packaging of the lower 27.5 MHz (1452 – 1479.5 MHz) are put forward in this consultation. Specifically:

- Dividing the spectrum into 16 lots of 1.7 MHz (in line with the Maastricht Plan).
- Dividing the spectrum into five lots of 5.1 MHz and one lot of 1.7MHz.
- Dividing the spectrum into varied-sized lots.
- Offering the spectrum as one 27.5 MHz block.

1.13 It is proposed that the upper 12.5 MHz (1479.5 – 1492 MHz) be awarded as one spectrum block (due to the requirement to protect potential foreign satellite networks which may be deployed across the entire sub-band).

1.14 It is proposed that the key elements of the licensees' rights and obligations for the spectrum to be auctioned should be as follows:

- The licences should have an indefinite term with a minimum period of 15 years (during which time Ofcom's powers to revoke will be limited).
- The licences should be tradable.
- The licences should be technology and application neutral (though some technical constraints on use may exist as a result of the need to respect international arrangements).
- The licences should contain transmission rights including limits on aggregate field strength at defined points outside the UK (in order to comply with the Maastricht Plan).
- The licensees should be required to agree criteria and procedures for the mutual coordination of transmitter location between themselves.

1.15 It is proposed that the licences would be awarded by auction. Ofcom considers that a simultaneous multiple round auction (SMRA) design is likely to be the most appropriate for the award of this spectrum band.

1.16 An SMRA can be more or less complex, depending on the specific rules created for the award. Ofcom has identified two SMRA formats that may be most suitable for this award:

- An SMRA with augmented switching rules.
- An SMRA with limited packaging.

1.17 Ofcom plans to study both formats in further detail and consider comments received in response to this consultation prior to deciding on a preferred approach.

More details from:
www.ofcom.org.uk

USB does not make it easier

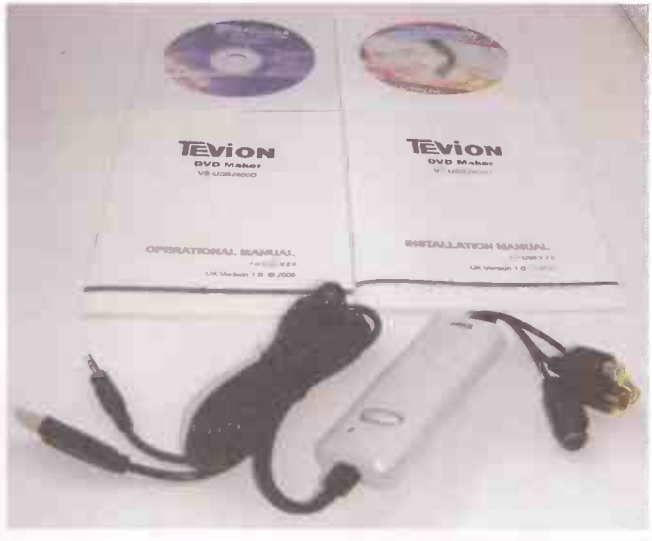
In March, Boris Sedacca reported on his experiences of installing a TV card into a PC. For those who do not want to open up their PCs, there is always the alternative of USB-based systems, provided they do not mind a substantial drop in functionality

I bought the Tevion DVD Maker shown below for the standard retail price of around £30, and I must say that my expectations were high after the success I had with the AVerTV card installation.

Unlike a TV card, this product does not offer TV reception and therefore no recoding of TV programs – only of video cassettes or of other media producing a video-compatible signal.

The outside of the box shows a contraption with several kinds of plugs and sockets on leads. More about this shortly.

The contents are shown below. They include, from top left, an installation CD for the hardware itself, an installation CD for separately sourced DVD recording software from CyberLink called PowerProducer 2 Gold, an operational manual, a DVD manual and the product itself.



Once again as in March, you will need additional cables and connectors, and possibly a SCART adaptor depending on the connections provided by your VCR.

The next photos show the actual cables I ended up using, which made use of all connections, meaning that I could switch between S-Video and composite video, and therefore choose which of them gave the best result.

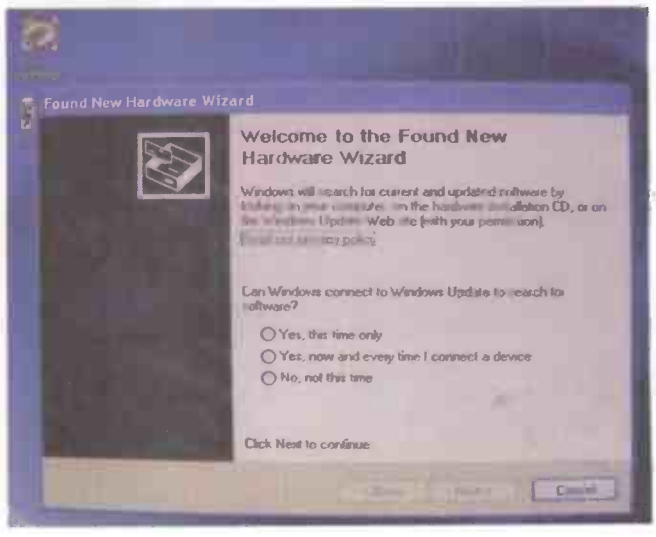
At the other end is a USB plug and stereo audio plug that plug into the PC's USB socket and mic input respectively, as shown below.

I was curious about the Cyberlink software, because it is a stand-alone package for writing DVDs from various video format files, so I installed this first. If installation is successful, you should see the following screen when first loading up:

You are now ready to burn DVDs from whatever video files you already have in your PC, but now you want to start recording from video cassettes, so the next step is to now run the installation CD for the hardware, and you should first see the following screen:

Provided everything goes according to plan, you should then see the following screen:

You might need to restart your PC, after which time the system will detect the new hardware and start installing the drivers for it.



Once this has satisfactorily completed, you can load the software, and you will see the first screen from which the applications are launched. There are four applications and their icons are shown on the left.

TVR: TVR turns your PC into a digital video recorder. This is the primary application.
MPEG Encoder: MPEG Encoder converts AVI files into MPEG format.
MPEG Editor: MPEG Editor makes editing MPEG videos easy.
Burn DVD: DVD Maker creates VCD, SVCD and DVD that can be played on a PC or DVD player.

Double clicking on TVR brings up a new application window for the main panel.

When you start executing TVR, the first state is 'Live' mode. In Live mode you can switch video sources, adjust channels, surf channels and take screen snapshots.

Video source switch

There are five video input sources - Antenna, Cable, Memory, Composite and S-Video – of which only the last two are applicable for this particular package. You can change video source by clicking the video source button on the control panel or by choosing 'Switch Video Source' on the popup menu.

When you change video source, the control panel will also change. The Video setup property page, allows you to configure the way TVR displays video.

You can use colour sliders to adjust:

- Brightness - Adjusts the amount of white in the image.
- Hue - Adjusts whether the image looks red, green, blue, yellow, orange, etc.
- Contrast - Adjusts the gradation of tone between the image highlights, mid-tones, and shadows.
- Saturation - Adjusts the colour intensity of the image.

When you enable the 'Enable high quality preview' checkbox, the display window will use large preview size and de-interlacing.

When you select the checkbox 'Don't use overlay as display surface', the display window won't use overlay as display surface anyway. If you find video can't be displayed properly on overlay window, enable this option.

The size of the display window is determined by choosing between three aspect ratio formats:

1. Free - Unlocked aspect ratio
2. 4:3 - Standard
3. 16:9 - Wide screen

If you set the aspect ratio to one of the two fixed options, 4:3 or 16:9, the display window will always preserve and adjust to that aspect ratio. If you set the aspect ratio to Free, you can freely resize and stretch the display window.

This option is not available in full screen mode. If the aspect ratio of the display window does not correspond with the actual aspect ratio of the video input, the video image may appear stretched or deformed.

Snapshot

You can do Snapshot (still image capture) on current preview window by clicking the button on the control panel or by choosing 'Snapshot' on popup menu. When snapshot is finished, the snapshot window will show up, you can then view, save, or delete images. The saved image format supports both Bitmap and JPEG.

In Live mode, you can start recording the current live video by clicking the capture button on the control panel or by choosing 'Capture' on the popup menu. Once you are capturing, clicking the stop button on the control panel or choosing 'Stop' on the popup menu will stop the current recording. You can review your recorded files in the playback list after recording.

Once your recording file size exceeds 4GB, the system will automatically create a file whose name is appended an index number from current file name and keep on recording until you stop.

This is what the setup screen looks like:

When I finally got around to recording a video, 'Quadrophenia' with The Who, I noticed there was image distortion at the top of the screen and realised the video cassette itself was a bit dodgy, as shown in the screen capture below:

So I changed the video cassette to another one, 'Jubilee' by Derek Jarman, which looked fine, so I recorded the entire video, a scene from which is shown in the following screen capture:

It was only when I played back the MPEG file produced by the system that I noticed a major problem:

TVR Specifications

- supports NTSC & PAL TV system and frequency table.
- Supports MPEG1, MPEG2 codec, and MPEG4 compression format for recording and playback.
- Supports Time-shifting.
- Automatic recording through advanced scheduling agent.
- Supports power-off scheduling.
- Supports picture-in-picture (PIP) playback and with easy switch between main and sub screen.
- Supports De-interlacing for high quality video preview.
- Supports FM radio listening and recording.
- Allows 50 Memory channels for customized using.
- Supports Remote control.

increasingly poor lip-sync towards the end of the film. There is online technical support from where you can download a patch to fix this problem.

Even though I did this, there were still lip-sync problems when the MPEG file was converted to DVD. One possible solution I am contemplating is splitting the film into 10- or 15-minute lengths and running them together. I am still working on this problem and hope to report a fix for it in a later issue of *Television*.

In the meantime, I can only conclude that a USB-based system will not necessarily make it easier to capture video than using a PCI card.

However, if your servicing department is part of a retail outfit, it probably makes more financial sense to sell such a self-install package to customers, rather than fit a TV card.

Nigel Peck (second from left) and Fawzi Ibrahim point a satellite dish at Astra 19..

Hands-on HDTV training

Boris Sedacca attended a one-day HDTV training course organised by Steljes for its servicing personnel. Fawzi Ibrahim of the College of North West London presented the course.

Steljes is a technology market development and services organisation that sources technologies from around the world, develops support services and works with users in the classroom, in the boardroom, at home or even on the battlefield.

In 2005 Steljes, the sole distributor of Smart Technologies in the UK (including Smart Board interactive whiteboards) grew to 160 employees, and created six specific companies, Steljes Trade, Markets, Training, Software, Managed Services and Technical Services.

To accommodate the organisation's growing needs, founder Nigel Steljes acquired Bagshot Manor, a building spanning 26,000 square feet, near to the town centre and minutes from the M3 corridor.

The companies of Steljes Trade, Software, Training and Markets will join the Group functions of finance, IT support, HR, marketing and administration in moving to Bagshot during April and hope to quickly enjoy the benefits of more space, increased numbers of meeting and demonstration rooms, a dedicated staff canteen and an outdoor relaxation area.

"Britain is at the forefront of ICT in education and Steljes is dominating the sector," said Martin Large, Group Chief Executive of Steljes Limited.

Landmark

"Taking over such prestigious premises is an important landmark in the history of our company and demonstrates our continuing vision of transforming the way people live, learn and work through technology."

Nigel Steljes, has a keen awareness of the need to constantly change and evolve new product offerings in order to maintain a successful customer solution, and to maximise new industry sectors.

He has an understanding of the hotel and leisure, pharmaceuticals, and education sectors. His ability to build strong business relationships extends across his own people and management, as well as customers at all levels.

Nigel Peck is managing director of Steljes Technical Services, the company that will benefit from the

	SDTV (PAL)	HDTV 1080 i /25
Lines/frame (total)	625	1250 (2 x 625)
Lines/frame (active)	576	1080
Pixels/line (active)	720	1920
Line frequency	15.526 kHz	31.25 kHz (2x15.625)
Frame rate	50 Hz	50 Hz
Line duration (total)	64 µs	32 µs
Interlace/progressive	Interlace (i)	Interlace (i)
Sampling rate	13.5 MHz	74.25 MHz
Max video frequency	6MHz	30 MHz (5x6)
Aspect ratio	4:3	16:9
Compression	MPEG-2	MPEG-4/AVC/AAC

increased space left behind when the other Steljes companies move to Bagshot.

Nigel Peck was previously Client Director at Acentic (formerly part of the Granada Group). Much of Nigel's career has been with the Granada Group, his career transitioning from TV rental to computer hardware, software and infrastructure, to technology services as the market evolved.

He has been responsible for providing a portfolio of technology based products and services, through multiple subsidiaries across Europe, and in the hotel and leisure sector.

He has an understanding of the productisation of services, branding and market positioning and the need for customer service through agreed and formalised service level agreements.

He has the operational skills to ensure the customer solution remains effective as the top line is grown, particularly as a business expands and changes.

Timely HDTV course

High definition television is arguably the most important innovation in television since the introduction of colour. Commercial High Definition Television services are now becoming a reality with 'HD Ready' receivers flooding the market. It was thus very timely that a course on HDTV was held at Steljes in April.

Fawzi Ibrahim pioneered courses on some of the latest developments in TV and video technology. The course began with a general review of digital video broadcasting outlining the basic elements of digitising, compression and delivery.

HDTV was contrasted with SDTV in terms of number of lines, sampling frequency and compression techniques as illustrated in the Table (left).

Uncompressed digitised video would result in a bit rate of 124 Mbps rate. This is brought down to 15 Mbps or less by MPEG-2 data compression and entropy coding.

The problem becomes even more acute when we move to high definition video, which extends the video bandwidth by a factor of five from 6MHz for SDTV to 30MHz.

This results in a staggering uncompressed HD bit rate of 622 Mbps. Using MPEG-2 compression would reduce the bit rate by a factor of 10 or more but it remains too high for practical broadcasting purposes.

Hence the need for a new compression technology, the MPEG-4 H.264/AVC, more commonly known as advanced video decoding, AVC.

The aim is to make it possible to produce HDTV at a bit rate of 6-10 Mbps and for internet and mobile applications to produce SD quality pictures at a bit rate of 1.5–2 Mbps.

Both MPEG-2 and AVC use frame-by-frame compression known as inter-prediction. One of the novelties of AVC is the new intra-prediction that compresses the data

Fawzi Ibrahim shows Stelejes workshop engineer Jatinder Randhawa how to analyse an HDTV signal on a spectrum analyser, while a leopard cub looks on in wonderment.

within a single frame.

Coupled with AVC is its audio equivalent, advanced audio coding (AAC) and surround-sound. Following compression, the process of packetisation and forward error correction was covered. Both methods of delivery, satellite and terrestrial were explained.

The two systems are not compatible. However, because of the common delivery platform, an HD decoder box can receive and decode both SD and HD transmissions. Decoding is carried out by a multi-standard MPEG-2/AVC/AAC decoding chip.

HDMI connection

The standard configuration at the receiving end (decoder box HDMI connection - HD Ready set) was outlined and the essential components of each part were highlighted with relevant block and schematic diagrams.

A substantial part of the one-day course included practical hands-on activities in the afternoon that provided a consolidation of the theory in the morning.

This included observing waveforms at various test points on both an HD decoder box and an HD-Ready LCD TV receiver and storing them on a floppy for future reference.

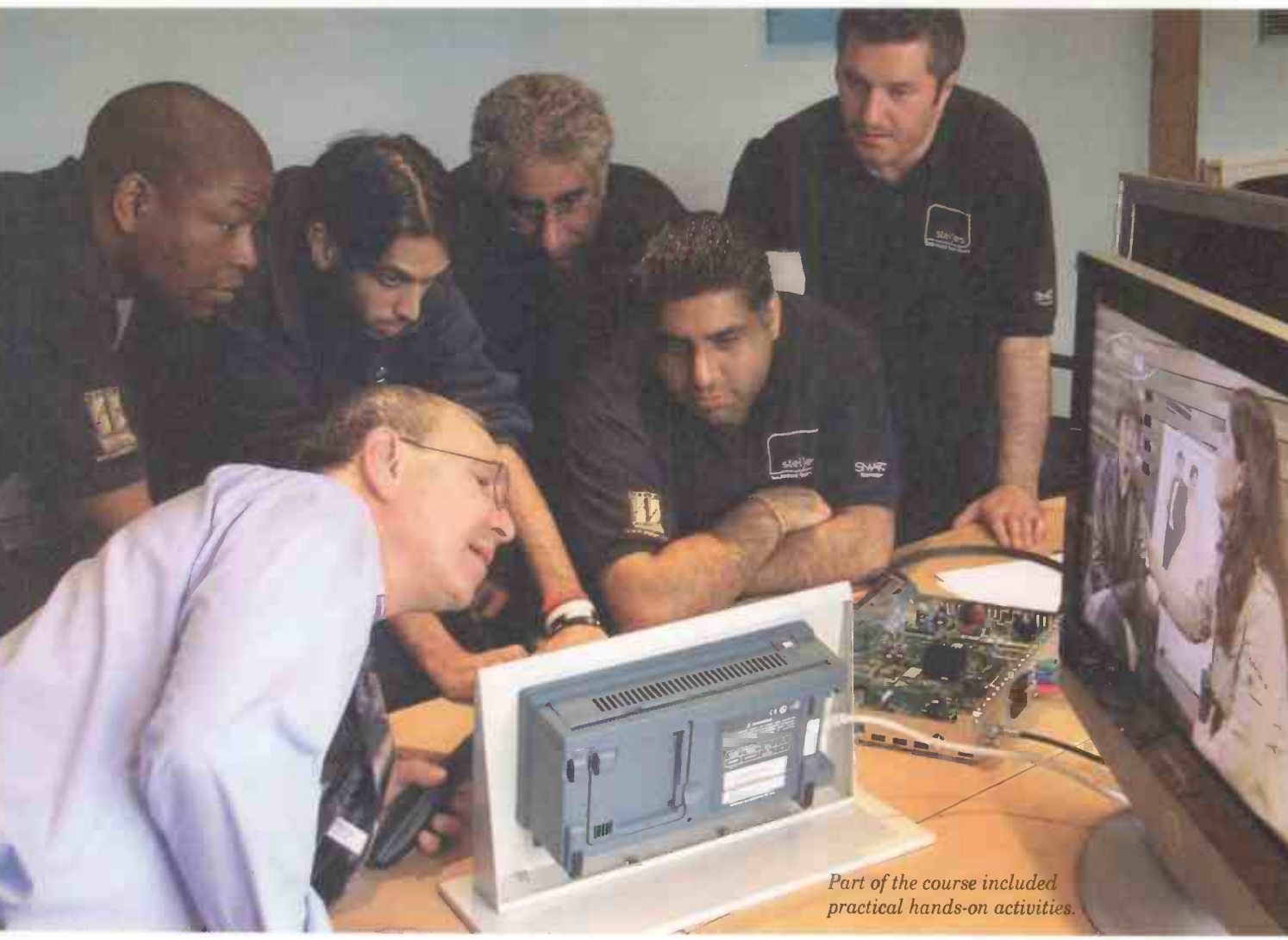
An HD TV signal was obtained using a PACE DS818HD decoder receiving a satellite signal from a dish pointing to Premiere (Astra 19.2).

The participants were able to compare the superior details of an HD picture with a normal SD picture produced by using the SCART outlet of the HD decoder.

"The purpose of the course is to get practicing engineers to acquaint themselves with this new and exciting technology," said course tutor Fawzi Ibrahim.

"The course is very compact with not a minute to spare. I am pleased with the way it went. I think all participants got a lot out of it. This will prove as popular as the Plasma Roadshow has been in the past 12 months."

The course design is such that it can be delivered at different venues including colleges and service centre workshops. The next HDTV course is scheduled for June this year and a two-day Plasma/LCD course is planned for May31/June1 at Bedford College. Fawzi Ibrahim may be contacted on 07976 350724 or by email: fawzi.ibrahim@cnwl.ac.uk.



Part of the course included practical hands-on activities.

IFA 2006
Kick-off in Athens

There was significant interest in the annual IFA show in April, with 250 participants attending the IFA 2006 European Launch in Athens. IFA 2006 takes place from 1-6 September in Berlin.

"The Consumer Electronics industry is prospering on a pan-European basis as well as throughout the world," explained Dr Rainer Hecker, chairman of the supervisory board of the Association for Consumer and Communication Electronics (gfu) during the IFA 2006 European launch in Athens.

"This is due to outstanding innovations and the trend to digital technologies. In our digital world the Consumer Electronics gain considerable momentum and self-confidence as demonstrated by the actual market figures. These market developments demand an annual IFA."

Market growth

Jürgen Boyny, division manager of European market research institute GfK, gave information about the market development of Consumer Electronics. In 2006, he expects a growth rate of 4.1 per cent, which will continue in the following years.

In 2005, 77% of the turnover generated by TV sets was of models being less than one year in the market. In 2000, this level was only at 51 per cent. Moreover, only ten per cent of the global TV set population consists of the modern flat display technologies LCD and plasma.

In addition, more than 160 million mobile devices like mobile phones, digital still cameras, camcorders, portable navigation systems, MP3 players, and notebooks were sold in 2005.

"IFA 2006 will represent the transition to High-Definition media," Hecker added.

HD-DVD & Blu-ray

"Both the new optical HD media HD-DVD and Blu-ray Disc will premiere for Europe at IFA, bringing cinema quality videos to the consumer's living-rooms.

"Other highlights are the trend to user-friendly communication and media usage in mobile environments. IFA will stage the European premiere of new media services for hand held devices."

A retailer forum will deal with the developments of the markets in Europe internationally. The International Keynotes, featuring top-managers of the worldwide consumer electronics industry, will highlight the latest technological innovations and the strategies for future developments. Well-known personalities have already committed their attendance to these events.

Evaggelos Antonaros, deputy government spokesman of Greece, said: "For Greece, it is a great honour to host IFA – the worldwide leading event for Consumer Electronics.

"It was a pleasure to welcome high-ranking representatives of industry and media in Athens.

"I was impressed by the enormous charm of such a leading trade show as was reflected by the large number of international participants of the IFA 2006 European launch. I wish IFA 2006 in Berlin a big success."

Young Hon Choi, vice president the Korea Electronics Association added: "I was very impressed that the IFA 2006 European launch was held so successfully with such a large number of experts.

"Without doubt, IFA will become the leading international trade show in the area of consumer electronics."

After the first decisive test of the new technology during the upcoming

football World Cup in Germany, HDTV programmes will be produced featuring sports events, movies, documentaries and reports.

Many of these new programmes will be presented on large screens at the booths of CE manufacturers and media corporations.

Moreover, HDTV has as a strong impact on the market of large-screen, flat-panel displays and home-cinema beamers. Also at IFA there is an impressive choice of large-screen LCD and plasma TVs, proving their HD capabilities with the "HD ready" quality seal.

Whether LCD TV, plasma equipment or video beamer, more and more products can now display pictures of the highest possible HDTV resolution of 1920 x 1080 pixels in progressive mode.

The HD-DVD and Blu-ray optical recording media are making their European debut at IFA 2006. Many player products for the new video media will be on show, and of course the major Hollywood studios will announce their releases for this year's season.

Quality audio

The sound of the home cinema also gets a push in quality. Both the HD-DVD and the Blu-ray Disc reproduce soundtracks of Hollywood movies with up to seven full range audio channels and an additional subwoofer channel for powerful playback of very low frequencies.

New digital sound formats store the audio without loss, without any change to the tracks produced in the studio and without any decrease in quality. For example, live recordings of concerts will be experienced with a live atmosphere.

Manufacturers of A/V receivers and A/V amplifiers have already started to design new product generations for adequate treatment of the new packaged media's high-definition audio.

Nearly all HDTV programmes – even the World Cup football games – will be broadcasted in digital 5.1 surround sound. In the near future, HDTV sound reproduction may become even more convincing, since the latest specifications of HDTV sets include the option of decoding even more than 5.1 channels possibly provided by future programmes.

HD camcorder

Presently, even amateur cinematographers can take videos in high-definition quality. During IFA 2006 an entirely new range of next-generation HD camcorders using different recording media will be launched.

Some of them operate with the proven compact digital DV cassette, some store their HD videos on an integrated miniature hard disk, and others even use solid state memory.

Pocket Television

Throughout Europe, 2006 is the year when TV and data services on mobile phones and other portable mini devices will be launched.

In Germany, a pilot project has already started in the region around the city of Regensburg/Bavaria, and other test programmes will be broadcasted at the locations of the Football World Cup.

Around the Lake Constance (Bodensee) another pilot project will be launched this year, including the adjacent regions of Austria, Germany and Switzerland.

There are various technical standards available for broadcasting. In Germany DVB-H, DMB and UMTS are in use. For DVB-H broadcasting, the infrastructure of the digital terrestrial DVB-T can be applied which is already in place.

DMB is a multi-media extension of the digital radio system DAB. UMTS is the latest mobile phone standard featuring high data rates.

All the major European telecom corporations are now speeding up their digital networks to serve as media-content ready infrastructures to pave the way for IPTV, an interactive television system based on the internet protocol (IP) over DSL networks.

In France, IPTV services have already been established. In Germany IPTV will be launched this year with the broadcasting of the 'Fußball-Bundesliga' (national football club competition).

Media PCs

Compared to 'classical' consumer electronics, media PCs have some specific disadvantages. Their powerful processors need cooling, often with noisy fans; their time-consuming boot and shutdown procedures lead to uncomfortable handling, and their sophisticated user interfaces do their best to put consumers off.

All of this may change in the not-too-distant future. New generations of processors and chip sets are tuned for high efficiency, so they will not need noisy fans.

Fundamentally new architectures of semiconductors and computers will be on display in Berlin. In addition, it is expected that the first next-generation media PCs will demonstrate how close they are to the usual comfort of conventional consumer electronic products.

Is this a hostage situation? See 'Satellite Sightings'

Live pictures from NASA TV showing the crews aboard the ISS (W1)

The Iranian president announces that they have succeeded in refining Uranium (W1)

A 250V wkg TCC 0.5nF capacitor circa 1928. Brand new but dusty!

during 2011. As the analogue spectrum is cleared so space will be provided for additional multiplexes. Finland will complete her DTT coverage by Autumn 2007 and then switch off analogue.

Algeria — Telediffusion d'Algerie opens her first DTT in Algeria next year with target figure of 70% coverage by 2009 and 95% by 2015. Analogue will continue until 2015 when it will be closed down. Both Morocco and Tunisia will also move into DTT and have a target close for analogue at the same time.

Hong Kong — By mid 2007 both the TVB and ATV TV networks in Hong Kong will have launched their own DTT networks and should cover at least ? of the island within 18 months. Both analogue and digital services will be simulcast and continue for 5 years when analogue will close down. Hong Kong being part of mainland China will await the decision of Beijing for the announcement of the definitive DVB-T standard that will be adopted – however if Beijing cannot confirm that standard by January 2007 then Hong Kong will adopt the European DVB-T standard.

Australia — The Australian Communications and Media Authority (ACMA for short) have confirmed that the 1386KHz medium wave frequency will be allocated for digital radio tests in the Wollongong area. Transmissions have already started and continue using the DRM (Digital Radio Mondiale) standard until early October. Australia expects to use DRM in the regional and wide-open spaces of the country to maximise coverage and has indicated that DAB may be used in the larger cities. The ACMA have previously suggested that low VHF (Band 1) may be used for DRM in the country areas once analogue TV has close down. Already the newspaper/on-line publisher Fairfax Holdings has indicated that it'll bid for a DTT licence when the Australian government auction soff 2 DTT licences in 2007 – provided that there are no content restrictions. Fairfax in 2000 won a DTT licence but content restrictions led to the company withdrawing from proceeding further. The ACMA has also received an expression of interest from Darwin Digital TV for a 2007 digital licence, if successful Darwin Digital must be on-air by December 2007. Companies in Tasmania and Mildura, Vic currently own DTT licences.

Satellite news

PanAmSat has just signed an agreement with 'My-TV', recently licensed as a DTH satellite operator, to downlink DTH content into the sub-Saharan region of Africa targeting Nigeria from the PAS-10 satellite @ 68.5° East. By end 2006 at least 13 channels will be available in the Ku band multiplex and uplinked for Strong Technologies (Dubai) from the German uplink site at Stellar, Germany. The channel line up includes BBC World, Fashion TV, kids TV, sport, movies and general entertainment with Conax CA57 encryption.

Further action has been taken against the Hezbollah TV channel 'Al Manar' with the banning of sister radio channel 'al Nour', both operated by the Lebanese Media Group [LMG]. The LMG and its above broadcast channels was identified as being funded by Iran and supporting terrorist operations and following representation both the Spanish Hispasat and French satellite Globecast operators have removed LMG content from its transmission circuits. Their actions removed Al Manar/al Nour programmes from South America (ex Hispasat), to SE Asia (ex AsiaSat) and to Europe (ex New Skies Satellite - NSS).

Turkish authorities have been seeking the closure of 'ROJ TV', a Kurdish language satellite channel which uplinks programming out of Denmark targeting Kurdish speakers in Turkey. 'ROJ-TV' is planning a Kurdish 24 hour news channel which has further angered Turkey who claim the channel is the tool of a the rebel Kurdistan Workers Party [PKK] – also deemed a terrorist group by the EU and USA. Denmark disagrees and has refused to shut down the station.

The Optus-1B satellite @ 160° East that provides Sky TV downlinking into Australia/NZ – in Ku Telecom band - lost Sky programming and other essential communications end March due to 'an outage' that occurred during a positional correction manoeuvre. Optus-1B is a vintage 1992 launched satellite and during the recent equinox (when the solar panels that charge up the batteries were receiving less solar light) the batteries ran rather too low and the satellite electronic 'loading' was switched out until essential recharging was complete – and normal operation was gradually re-introduced. It's now working OK but the bird is clearly reaching its sell-by date!

A new satellite channel will air this summer transmitting programming from the Malawi Broadcasting Corporation (MBC) and Television Malawi [TVM] which will give full coverage of Malawi and neighbouring countries. Problems have been experienced with co-channel interference from terrestrial transmissions and satellite will instantly provide quality reception. TVM are also anticipating increased revenues from their commercials both local and from other African countries.

Satellite sightings

April 18th and bad news for the Peugeot-Citroen car plant in Coventry, it's closing down next year with the loss of 2300 jobs. Serious news and rightly so the BBC carried a live OB feed from the factory gates discussing with staff the situation as it unfolded. Sat truck 'SCOPUS-NET TE' uplinked into both the regional news programme and to network news the latest developments over Atlantic Bird-1 (AB-1) – 11.100GHz-Vertical (Symbol Rate 4226 + Forward Error Correction 7/8). Same evening and a caption 'SKY NEWS' is being radiated down from Eutelsat W2, 16o East, it's been there for 45 minutes or so, the service identification is 'BSKYB-LONDON' – 12.554GHz-Horizontal (SR 5632 + FEC $^3/_4$), unusual since satellite time can be expensive and Sky tend to use 12.525GHz on this satellite. At 1940 hours the signal just cut off!

The ABC SCOPUS feeder ex Baghdad to NY via the London Bureau has provided a 24 hour signal for a long time over Intelsat 10-02, 1o West. In early April and a 2nd NTSC feed for ABC News has arrived. 'ABC SCOPUS' is found @ 11.674GHz-V (3207+$^3/_4$) with the familiar view of the nearby Baghdad houses. The new arrival is 'SERVICE 1' @ 11.678GHz-V (3207+$^3/_4$)

TELEVISION BOOKS
AND HOME ELECTRONICS REPAIR

The Television Book Service offers access to our team of specialist publishing experts. We can order any book or CD-ROM currently in print from *War And Peace* to the *Newnes Guide to Television and Video Technology*. All books are delivered free of charge within the UK unless otherwise stated. Contact us at the numbers below:

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CLOSED CIRCUIT TELEVISION: CCTV INSTALLATION, MAINTENANCE AND OPERATION

Joe Cieszynski

CCTV surveillance is one of the fastest growing areas in the security industry, and this is a thorough guide to the technical side of CCTV – including installation, maintenance, video recording, cameras and monitors. The second edition is fully dual-standard for PAL and NTSC systems.

2nd edition ▲ Sept 2003 ▲ 256 pages
Glossary ▲ Index ▲ PB ▲ Published in UK
Code 0-7506-5728-6 **£24.99**

DICTIONARY OF VIDEO AND TELEVISION TECHNOLOGY

Jack Tsatsoulin

This work provides comprehensive and contemporary information on the essential concepts and terms in video and television, including coverage of test and measurement procedures. The CD accompanying the text includes an electronic version of the book.

Sept 2002 ▲ 365 pages & CD-Rom
Published in UK
Code 1-878707-99-X **£29.99**

DVD PLAYERS AND DRIVES

K F Ibrahim (College of North West London)

This text is based on hands-on experience and acts as a guide to DVD technology and its application, with a special focus on design issues. The principles of the subject are introduced from the basics, and DVD applications are illustrated by genuine technical information.

Aug 2003 ▲ 256 pages ▲ Glossary ▲ Index
PB ▲ Published in UK
Code 0-7506-5736-7 **£24.99**

ELECTRONIC CLASSICS: COLLECTING, RESTORATION AND REPAIR

Andrew Emmerson

This text encompasses all aspects of buying, collecting, restoring, repairing, sourcing parts, professional services, clubs and societies. The first part covers technical aspects of restoration and details where components can be found; the second presents useful information for collectors.

Aug 1998 ▲ 256 pages ▲ Index
10 halftones ▲ 50 line illustrations ▲ PB
Published in UK
Code 0-7506-3788-9 **£21.99**

INTRODUCTION TO DIGITAL SYSTEMS

John Crisp

This self-study text introduces digital electronics from first principles, before going on to cover all the main areas of knowledge and expertise. It covers the practicalities of designing and building circuits, including fault-finding and the use of test equipment.

Feb 2000 ▲ 302 pages ▲ Glossary ▲ Index
PB ▲ Published in UK
Code 0-7506-4583-0 **£18.99**

NEWNES DICTIONARY OF ELECTRONICS

S W Amos; R S Amos

Aimed at engineers, technicians and students working in the field of electronics, this dictionary provides clear and concise definitions, including TV, radio and computing terms, with illustrations and circuit diagrams.

4th edition ▲ Mar 2002 ▲ 394 pages
100 illustrations ▲ PB ▲ Published in UK
Code 0-7506-5642-5 **£12.99**

NEWNES GUIDE TO TELEVISION & VIDEO TECHNOLOGY

Eugene Trundle

An exploration of television and video technology. It covers the fundamentals of digital television (satellite, cable and terrestrial) and digital video, as well as providing a grounding in analogue systems.

3rd edition ▲ Feb 2001 ▲ 432 poges ▲ Index
PB ▲ Published in UK
Code 0-7506-4810-4 **£17.99**

NEWNES GUIDE TO DIGITAL TV

Richard Brice

Covering all aspects of digital television, this text encompasses the electronics of the equipment, data compression, television production, servicing and the different transition methods - terrestrial, satellite and cable. The text has been updated with developments since the 2000 edition.

2nd edition ▲ Oct 2002 ▲ 304 pages ▲ Index
45 illustrations ▲ 15 photographs ▲ HB
Published in UK
Code 0-7506-5721-9 **£24.99**

PRACTICAL ELECTRONIC FAULT FINDING AND TROUBLESHOOTING

Robin Pain (Design Engineer, Cotag International Ltd)

A text using simple circuit examples to illustrate principles and concepts fundamental to the process of analog and digital fault finding. It aims to help the reader tackle any job, from fixing a TV to improving the sound of a hi-fi. A digital multimeter and oscilloscope are needed for these jobs.

Apr 1996 ▲ 284 pages ▲ Index
50 line illustrations ▲ PB ▲ Published in UK
Code 0-7506-2461-2 **£21.99**

PRACTICAL ELECTRONICS HANDBOOK

Ian Sinclair

A collection of all the key data, facts, practical guidance and circuit design basics needed by a spectrum of students, electronics enthusiasts, technicians and circuit designers. It provides explanations and practical guidance, and includes new sections on SHF techniques and intruder alarms.

5th edition ▲ Feb 2000 ▲ 571 pages
Illustrations ▲ PB ▲ Published in UK
Code 0-7506-4585-7 **£16.99**

RSGB RADIO & ELECTRONICS COOKBOOK

Radio Society of Great Britain

Only a basic knowledge of electronics is assumed for this collection of electronics projects, and it is ideal for all electronics and DIY enthusiasts and experimenters. Designed by the RSGB, the UK radio amateurs federation, the projects are clearly explained step by step.

Nov 2000 ▲ 336 pages ▲ PB ▲ Illustrations
Published in UK
Code 0-7506-5214-4 **£17.99**

REFERENCE DATA FOR ENGINEERS: RADIO, ELECTRONICS, COMPUTERS AND COMMUNICATIONS

Mac E Van Valkenburg; Edited by Wendy Middleton

Written by professionals for professionals, this is a complete reference for engineers. As well as addressing radio technology data, it covers digital electronics, computers and communications.

9th edition ▲ Aug 2001
1568 pages & CD-Rom ▲ 1385 line illustrations
HB ▲ Published in UK
Code 0-7506-7291-9 **£90.00**

SERVICE ENGINEER'S POCKET BOOK

Lewis & Sinclair

This title aims to provide the service engineer with all the necessary information to carry out work on domestic electronics equipment. The coverage ranges from satellite reception to NICAM. Both analogue and digital equipment are covered, and there are chapters on common problems.

Jan 1998 ▲ 238 pages ▲ HB
Code BUTO-7506-3448-0 **£14.99**

SERVICING TV, SATELLITE & VIDEO EQUIPMENT

Eugene Trundle

A practical hands-on guide for service engineers, installation technicians and servicing students, this text emphasises the practical business of fault diagnosis and repair of TV, satellite and video equipment.

Revised 2nd edition ▲ Nov 2001 ▲ 336 pages
Symptom index ▲ PB ▲ Published in UK
Code 0-7506-5507-0 **£21.99**

TELEVISION MICROPROCESSOR IC DATA FILES

J Edwards

Microprocessor ICs are the most complicated part of TV equipment and present special problems to the engineer. This text covers the most popular microprocessor ICs. Each device is presented graphically with the relevant data information given against each pin.

Mar 1997 ▲ 240 pages ▲ 200 line drawings
PB ▲ Published in UK
Code 0-7506-3335-2 **£19.99**

TELEVISION IC DATA FILES

J Edwards

A compendium of data on all the most common integrated circuits used in televisions. Each device is illustrated with a pin-out diagram, and all the measurements and signal data in the book were taken under actual working conditions. This second edition contains over 70 new ICs.

2nd edition ▲ Jan 2000 ▲ 245 pages
PB ▲ Published in UK
Code 0-7506-4581-4 **£18.99**

TV FAULT-FINDING GUIDE

Edited by Peter Marlow

A distillation of the most-used fault reports from 11 years of *Television* magazine. Arranged by make and model, it features over 200 reports on over 300 models of television, including diagnosis and repair advice.

Mar 2000 ▲ 387 pages ▲ Illustrations
PB ▲ Published in UK
Code 0-7506-4633-0 **£20.99**

VALVE AMPLIFIERS

Morgan Jones

The author's straightforward approach, using as little maths as possible, should be of use to those with only a limited knowledge of the field as well as being the standard reference for experts in valve audio. Design principles and construction techniques are also provided.

3rd edition ▲ Aug 2003 ▲ 624 pages ▲ Index
PB ▲ Published in UK
Code 0-7506-5694-8 **£29.99**

VCR FAULT-FINDING GUIDE

Edited by Peter Marlow

A distillation of the most-used fault reports from 11 years of *Television* magazine. Arranged by make and model, it features over 2000 reports on over 200 models of VCR, including diagnosis and repair advice.

Mar 2000 ▲ 447 pages ▲ Illustrations ▲ PB
Published in UK
Code 0-7506-4634-9 **£20.99**

VCR IC DATA FILES

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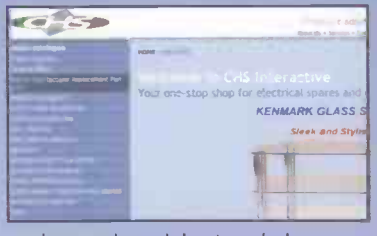

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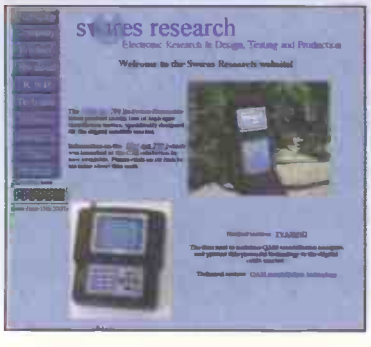

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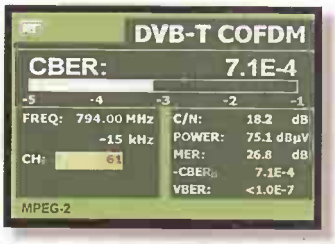

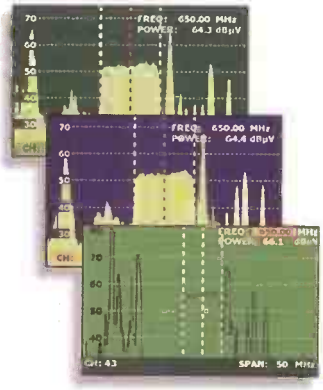

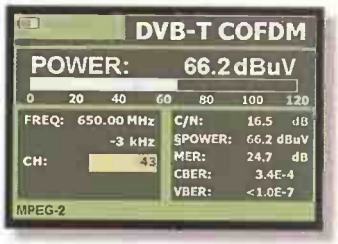

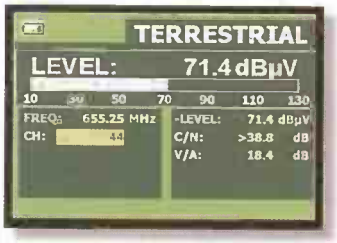

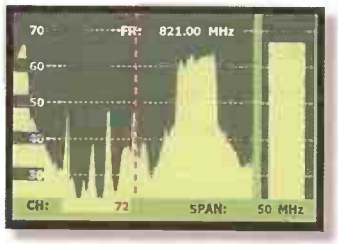

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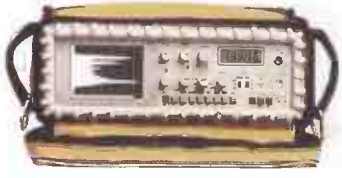

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