

Broadcast battles

As usual this Christmas the populace of the UK will be sitting glued to one of four terrestrial national TV channels. Next Christmas, things will be different: viewers will have a bewildering 11 channels to choose from, provided they have equipped themselves with a simple and cheap receiver dish. The seven new channels will be coming from space, and a TV Star Wars will be fought in geostationary orbit. But how interested will the potential audience really be?

The UK's TV Star Wars will be fought between two satellites, Astra 1 and British Satellite Broadcasting's BSB 1.

Astra was to be launched by Ariane 4 on

A new Battle of Britain is about to be fought for the spending power of the television-viewing public, reports **Tim Furniss**.

December 10 and start operations in February 1989, and by August 10 the war will begin in earnest, as BSB's Hughes 373 is delivered into orbit to join the fray.

Like many European countries, Britain can already receive several TV channels by satellite. Of the 117 million TV households in West Europe, ten million are connected to

BSB uses the Hughes HS373 satellite

cable TV networks, which take satellite TV, and 7.5 million are equipped with SMATV dishes, the majority of which are on "community systems", such as hotels, feeding a number of TV sets.

Nearly 30 satellite TV operators, including Sky Channel, Superchannel, and Cable News Network, are broadcast by the Eutelsat 1, Intelsat V, and Telecom 1 satellites. Most existing satellites were conceived for telecommunications and are ill-equipped for TV. There are, nonetheless, more than 50 satellite transponders available to TV operators, and in 1990 there could be 140. More than 42 new satellite channels have already been proposed for the 1990s. Most of these

channels broadcast pan-European programmes.

Pan-European advertising to support these programmes, however, has been hard to come by, making the business generally non-profitable. An additional factor has been that the audiences have not taken to pan-European broadcasting. The majority prefer homemade programmes in the national language.

That the business has not proved to be highly profitable is indicated by the fate of the UK's pan-European Superchannel. It has lost millions, and has now been taken over by an Italian company, together with Britain's Virgin. News International's Sky Channel, available to a potential 13 million cable, SMATV, and individual dish-owner viewers, has not done much better, and is said to be losing £500,000 a month.

Existing satellite TV programmes can be received using large and expensive satellite dishes. Transmissions from the satellite transponders are made at low power. For example, a Eutelsat 1 transponder broadcasts at 20W. Large dishes are required to receive and amplify the signal power. They measure between 1.8m to 5m in diameter and cost about £1,000, plus £200 to install. Because of the cost, the market for satellite TV channels has mainly been limited to cable TV companies and community SMATV systems.

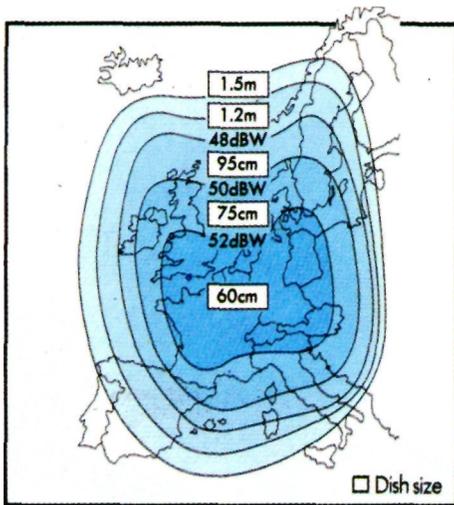
Originally, market predictions indicated that, as the power of satellite transmissions increased, the size of the dish could be reduced and the dish made cheaper, consequently increasing demand. As a result, grandiose high-power satellite projects, such as TDF, TV-Sat, and Olympus were born, with Government funding.

Meanwhile, technology improvements resulted in smaller dishes being able to receive broadcasts from medium-power satellites, such as the planned Eutelsat lis. Thus, a typical project such as France's TDF 1, with just four 230W transponders, was practically dead even before its launch on Ariane V26 in October. It has just one customer.

Existing satellite TV is provided through satellites operated by consortia comprising member countries' telecommunications authorities. Foreseeing the trend towards medium-power satellites with more transponders, broadcasting to smaller dishes, with a huge individual home-ownership market, Luxembourg's SES entered the public market with a private venture in 1985.

Astra offers 16 channels; an attractive package for viewers equipped to receive them. SES aims to market satellite channels to 80 million homes in Europe, plus the ten million already equipped to receive Astra. If only 10 per cent of this new market is achieved, says SES, it will double its subscriptions—and its advertising revenue.

With a working capital of \$96 million, SES, in which Thames TV, TSW TV, and Ulster TV have a share, has purchased an



Astra's broadcasting footprint

American off-the-shelf GE Astro Space Ku-band 4000 satellite for about \$45 million, and an Ariane 4 launch for \$37 million. The three-axis-controlled, 1,793kg, 2,350W satellite will be placed at 19°E in GEO. Its 16 transponders will operate at an output of 45W, and it also has six spare transponders.

SES claims that Astra's carefully selected footprint will cover an area representing 92 per cent of consumer purchasing power in Europe. Astra will enable the viewer in this footprint area to receive high-quality pictures using a simple 60cm-diameter dish and an inexpensive tuner attached to his existing TV set. A viewer on the extremity of Astra's footprint will require a dish of 1.5m diameter.

Dishes and associated decoding equipment will receive programmes on the new MAC/packet as well as the PAL transmission formats, the latter still being the reception mode for most existing TV sets.

MAC/packet (multiplexed analogue component) is the collective name of a group of transmission formats. For example, DMAC and D2MAC are MAC systems with particular sound and data encoded formats. Various European suppliers offer over 20 types of receiver, including a new 78cm-diameter flat antenna, which can be fixed inconspicuously to the wall of a house.

SES has established a satellite control centre at Betzdorf Castle, 25km outside Luxembourg, and the 60-strong staff has just moved there. The communications station will monitor the TV signals 24hr a day to ensure a perfect service, and will allow uplink from Luxembourg if necessary. The centre uses 9.5m and 11m antennas.

Astra, aiming to be Europe's "Hot Bird", was slow to pick up business for its 16 transponders. Eventually, Sweden's Scansat tentatively booked three transponders. Then, to the surprise of Eutelsat, British Telecom entered a marketing agreement with SES by leasing 11 transponders.

In August 1988 the breakthrough arrived,

when BT announced that it had leased four channels to Rupert Murdoch's News International. Astra's "Hot Bird" was warming up at last. Sky TV, as Murdoch's new venture is called, will provide an enhanced and refined version of what was originally the troubled Sky Channel service, broadcast via Eutelsat 1. It will also offer Sky News, a 24hr service like the USA's CNN, Sky Movies, and Sky Sport. In addition it will operate an FM stereo radio channel.

While its programmes will be marketed to 17 countries in continental Europe, Sky believes that it can reach a UK audience of 2.5 million in 1989—more than that achieved by all the independent terrestrial TV companies in the UK and Eire together, with 11 per cent coverage of the market. It also believes that this audience will increase to six million in 1992, capturing 25 per cent of the UK market.

SES believes that, by the year 2000, the figure will have grown to 11 million, with nine million equipped with home dishes. The fact that Astra-accessible homes in the UK now number just 0.75 million gives an indication of Sky's tough task.

Sky's guaranteed ten-year entry into the market was linked to the launch of a small satellite dish for home viewers, by Amstrad's Alan Sugar, although programmes will also be available through cable and SMATV systems as well. The £199 Amstrad Fidelity SRX 100, a 60cm-diameter dish, and associated equipment will receive and convert PAL format pictures. The cost will be £259 if the viewer has remote control, and he also has to pay a further £40 for installation.

The questions being raised are: will the quality and sound be acceptable to the viewers, and will the dishes be suitably compatible with new MAC/packet transmission being introduced? Amstrad says that picture quality will be as good as MAC quality, the UK Government's desired format for DBS being offered by BSB, and, with a small encryption device, can be made compatible with MAC. The cost of this conversion would, however, be about £500.

The simple and perfectly understandable rationale behind using the cheaper and simpler PAL technology receiver is short-term profit, and the establishment of a market base for the future. After all, 95 per cent of all existing TV sets in the UK are PAL format.

The decision to broadcast on PAL won Murdoch the "Man of the Satellite Year 1988" award from the magazine *Tele Satellit*, "which had no doubt that his decision to transmit in PAL "has enormous impact for Europe". "We have always warned against using obscure technology like MAC," the magazine said. "Pal is the existing standard." British Satellite Broadcasting, the main competitor, says that the Sky TV dish is "obsolete from the day it is born". The eventual replacement of PAL by MAC seems inevitable, however.

Sir Clive Sinclair has also entered the receiver market with a £180, 60cm flat receiver. Other suppliers are Alba, Dixons, NEC, and Ferguson. A complication will arise if Sky decides, in the interests of making a profit, to convert the channels to subscription or-pay-as-you-view. This will mean that receivers will have to be fitted with encryption decoders, and this cannot be done cheaply on PAL systems.

Sky TV is investing a massive £20 million in advertising to launch its services on Astra, offering a 25 per cent reduction on the cost-per-thousand offered by ITV, plus other discounts and incentives. Programmes will be financed by advertising and sponsorship only, but Sky Movies will be available on subscription. Sky will operate from a new, 77,500ft², £15 million headquarters and satellite control centre on a 3i-acre site in the Centaurs Business Park in Osterley, west London.

SES expects further bookings for Astra, including confirmation of two transponders to Sweden's Scansat. Five transponders are expected to be available to German and Luxembourg broadcasters. Competition in the UK could be intensified by the entry of the Maxwell Communications group, together with W. H. Smith and BT Vision, with a lease of up to six transponders. Maxwell is considering waiting until Eutelsat II becomes available.

SES plans two more Astra satellites, located at similar positions in GEO. Three Astras could provide 48 TV channels, including French, Spanish, and Italian customers. An RFP has been issued for Astra IB, a satellite with higher-performance transponders and with eight redundant transponders. The company has received a "good launch offer for 1990", which will put it ahead of the more competitive Eutelsat II.

In the UK DBS satellite TV market, the downmarket Sky TV will be up against stiff competition from the slickly marketed British Satellite Broadcasting company. This company was born from the collapse of the proposed UK DBS Unisat project in 1985, in which the BBC was to be the key participant. Later, the IBA awarded the franchise to BSB, one of several bidders. On August 10, 1989, when a McDonnell Douglas Delta lifts off from Cape Canaveral's pad 17A or B, the battle will really begin.

BSB 1, a Hughes 373 comsat, will provide three services: The Movie Channel; Now, a news service, provided by the consortium of Crown Communications, LBC Radio, and Independent Radio News, with sports coverage provided by Mark McCormack's TWI enterprise; and Galaxy for general entertainment. As with the Sky TV programmes, all programmes will be regulated for quality and acceptability by the IBA, or a similar body formed as a result of the Home Office's new plan for TV in the UK.

The higher-power, HOW comsat will



Astra 1 was built by General Electric Astro Space

broadcast for DMAC reception, "a new standard in TV viewing", says BSB, which also maintains that PAL has little further development potential. DMAC will provide a "leap in quality and versatility", the company claims. The PAL, NSTC, and SECAM systems of today were designed to be compatible with monochrome, are not ideal for colour coding systems, and are unreliable. BSB claims that, in a viewer test, 95 per cent of test subjects preferred DMAC to PAL broadcasts.

DMAC receiver technology also offers additional facilities such as stereo sound, parental control, and text and data transmission. It will also be associated with further developments, such as widescreen, extended-definition broadcasting. MAC will also allow conditional access for subscription and pay TV services.

BSB aims to have two million houses equipped to receive programmes by 1992, including those with PAL TV sets which can still receive BSB programmes, by the use of a set-top decoder. A quarter of all sets with a screen size greater than 17in, are already equipped to take MAC, reflecting the onset of this new standard. Unlike Sky TV, BSB has renounced European coverage.

The BSB enterprise, headquartered in London in the grand Marco Polo building near Battersea Power Station, is clearly a gamble. Unlike Sky TV, which is cushioned by the enormous News International empire, BSB is on its own. Market predictions vary wildly. CIT Research estimates that only 150,000 homes will be taking BSB

programmes in five years. BSB puts the figure at five million, while Astra reckons that, with Sky and other operators, it can have 6-8 million in the UK in the same timeframe.

Aiming to be the third force in British TV, BSB has so far raised £222.5 million from 11 major private shareholders, led by the Bond Corporation, Pearson, Granada Group, Virgin, Charguers SA, and Reed International. Amstrad was an original investor, but pulled out last year. BSB will need a full budget of about £600 million, and does not expect to operate at a profit for five years after the launch of a second satellite BSB 2 in 1990, also on a Delta.

BSB has already begun the big spend. An estimated £200 million has been paid for the on-orbit delivery of two satellites; £50 million on four million receiver chipsets being manufactured by Intermetall; and £100 million on conditional access modules from General Instruments.

The company has awarded contracts to Ferguson, Nokia, and Tatung to design and manufacture the receiver equipment, for the first three years. By that time, BSB hopes that 2.5 million-worth will have been sold. The receivers are expected to sell for about £250, with a remote control unit. BSB will operate its satellite control centre at the Chilworth Centre in the University of Southampton's science park.

BSB is also investing £30 million in marketing its programmes, which will not only be supported by advertising, but also by subscriptions and pay-as-you-view revenue.