

## Introduction

In the UK, digital TV has been a resounding success. After only 4 years, more than 40 per cent of UK households have at least one digital receiver. This World-leading situation has been market-led. Consumers have access to a growing range of digital receivers, particularly for DTT which, with the demise of ITV Digital, is now a horizontal market. Manufacturers have recently delivered the affordable receivers recognised in 1999 by the DCMS as being crucial to achieving switchover.

Although there remain a considerable number of households which are still resistant to digital TV, a situation largely resulting from high appreciation of the 5 analogue terrestrial public service channels. The imminent re-launch of DTT as Freeview, combined with the increasing range of affordable DTT receivers, is expected to boost take-up of digital TV beyond the current level where digital adopters are principally pay-TV subscribers. Freeview should also provide an attractive and simple means, irrespective of their principal platform, for consumers to upgrade second and third TV sets to digital.

Further technical developments with digital satellite, including a marketing push for enhanced Sky+ functionality, and the increasing consumer appetite for cable broadband, should ensure that the market continues to build on its progress to date, attracting to pay-TV some of those consumers who will adopt digital TV initially for the Freeview services.

Yet for all this early success, it remains possible that digital switchover would not be completed within the Government's 2006-2010 window if adoption were left entirely to market forces. If that happened it would leave:

- Government with the current inefficient use of the UHF spectrum, in particular by DTT which would continue to operate far from optimally
- broadcasters with the costs of simulcasting digital and analogue TV, maintaining two terrestrial networks and having to invest in replacement analogue transmitter infrastructure with an uncertain required lifespan
- society divided between citizens who had access to a growing range of e-government and e-business services, and those who did not – digital TV has the potential to become the ubiquitous access device for e-services of all kinds
- television licence payers divided into those who pay for and receive all of the BBC's TV services, and those who pay but only receive two of them.

The preference must be for digital TV adoption to remain principally market-led, but some form of intervention might be required if the Government is really intent on delivering digital switchover within its specified time frame. Any such intervention should, however, be the minimum necessary to deliver the objectives.

The BBC welcomes this consultation. As the Government has recognised, there are considerable benefits to be reaped by implementing measures which would bring forward switchover. idTVs have a role to play here, one which their current limited range, high prices and poor marketing has so far denied them. Many consumers prefer not to have their homes filled with a multiplicity of boxes, with separate remote controls, connected by large quantities of “cable spaghetti”. Indeed, many consumers specifically resist adopting digital because they perceive that it would require the addition of a further box.

Opting for mandation of idTVs, rather than the far less certain (but legally and presentationally much easier) option of encouraging a *concordat* between consumer electronics manufacturers, would carry with it a considerable element of risk. But if the Government believed that the advantages of encouraging consumer adoption of idTVs outweighed the potential disadvantages, then mandation would achieve those advantages more surely than any less prescriptive course of action.

Attempting to rely on encouraging a *concordat* between consumer electronics manufacturers would still carry with it many of the disadvantages of mandation and, as the consultation notes, would add a new one of its own (the implications of competition law in respect of agreements between competitors). But its voluntary nature would mean that consumers would always be able to avoid purchasing idTVs if they wished and, if they shunned idTVs, the *concordat* would fall apart as some of those manufacturers which had signed up to it re-started production of analogue sets. The UK could be far less certain that the advantages offered by mandation would be realised as quickly and, if anything, this could be expected to increase consumer confusion.

If mandation of idTVs were the approach taken by the Government, it could be implemented in a manner designed to minimise some of the potential disadvantages, which we discuss below. One key option to minimise the degree of intervention resulting from mandation could be to require TV sets to be “digital ready” rather than fully integrated. This would mean that relevant analogue TV sets would contain:

- prescribed minimum specifications (e.g. demodulator, MPEG-2 decoder) sharing the integral power supply
- the facility for consumer upgrade (i.e. not requiring a return to retailer or manufacturer) to fully-functioning digital TV. This could be achieved by means similar to the PCMCIA card upgrade route for PCs. Such cards would probably be platform-specific.
- a remote control configured for a later digital upgrade.

This approach would minimise consumer outlay, leaving consumers to choose a digital platform of choice when it suited them (e.g. when DTT coverage reached them). Manufacturers would have to be encouraged to agree a standardised form of upgrade (as works successfully for PCMCIA upgrades to PCs).

## The arguments for action

Mandating idTVs or digital ready TVs would bring many advantages worth having. In summary it should:

1. cut through consumer confusion about digital TV, especially if accompanied by point of sale “health warnings” about the obsolescence of analogue sets
2. drive production volumes of digital TVs, lowering their price premium and encouraging investment in a wider range of models (including portables)
3. bring forward digital switchover, and hence –
  - improvements in spectrum efficiency (including an end to simulcasting, increasing the money available for investing in programming)
  - social benefits (countering the “digital divide”)
  - all TV licence payers would have access to all of the BBC’s TV channels.

### 1. Consumer confusion

After 4 years, there continues to be considerable consumer confusion about the advantages of digital TV, how much it costs and even the fact that no subscriptions are required to obtain it. There are consumers who are actually still unaware that they could access additional services without acquiring a satellite dish or signing up for cable.

In addition, those consumers who would prefer the one box, one remote control solution offered by idTVs face additional confusion thanks to their limited promotion and availability combined with the liberal appendage within retailers to many analogue TV sets of the key word “digital” (e.g. “NICAM<sup>1</sup> digital stereo”).

The recent adoption of the DVB logo to denote idTVs has helped, but there remains consumer confusion about what is a “real” digital TV set. Consumer appreciation that all analogue TV sets are obsolescent due to the approach of digital switchover remains low.

This lack of digital knowledge will need to be tackled if switchover is not to be delayed as a result of consumers, who *could* have made an informed choice to upgrade to digital, instead purchasing another analogue TV. In addition, if idTVs are to be mandated at some point, then consumers must be made more knowledgeable in advance, otherwise many will not accept being forced to pay for something they do not value because they do not understand.

Sales of widescreen analogue TV sets, in particular, should be accompanied by clear and prominent consumer information which would enable them to make an informed choice about the advantages of purchasing an equivalent

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<sup>1</sup> Near Instantaneous Companded Audio Multiplex.

set with an integrated digital tuner. This could include requiring consumer “health warning” to be prominently displayed by retailers on all analogue widescreen TV sets to the effect that:

*“This 16:9 analogue widescreen TV does not receive 16:9 widescreen broadcasts. It will only give you true widescreen viewing (without distortion) if it is linked to a digital adapter or set top box (which you can also buy). Alternatively, you could buy a 16:9 digital widescreen TV set.”*

At the very least, manufacturers should be encouraged to provide clearer instructions for setting up analogue widescreen sets for use with digital STBs – at present, many digital viewers incorrectly set up their widescreen sets and so do not see one of the key advantages of digital.

The forthcoming re-launch of DTT as the Freeview platform should reduce some of the current consumer confusion, but this marketing is likely to be primarily aimed at encouraging consumers to purchase an affordable STB rather than an idTV.

Unless consumers perceive a value in paying more for an idTV, they will most likely instead delay purchasing a new TV set. Consumer information therefore would have to be tackled *prior* to the mandating of idTVs. But if the advantages of digital become obvious to consumers, many should be willing to “futureproof” their next purchase of a TV set, whether they were within coverage or not, in the same way that the introduction of NICAM stereo was immediately succeeded by an upsurge in demand for suitable sets, even though NICAM had limited geographical availability and very little programming was actually broadcast with it.

## 2. Bringing down the price and widening the range of idTVs

As the market for digital receivers continues to grow, we would expect the market to deliver a wider range of idTVs, where the current range is somewhat limited and includes no portables or models with satellite or cable tuners. Satellite or cable STBs could, of course, be attached to idTVs equipped with DTT tuners, but the relevant consumers would have paid to acquire DTT functionality they may never use and, in any event, this would not appeal to consumers seeking a one box solution.

We would also expect increasing production<sup>2</sup> of idTVs, and the introduction of second generation idTVs (where the digital tuner, decoder and middleware were integrated into the set design from the outset), to be reflected in a reduction of the current price premium of idTVs over equivalent analogue sets.

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<sup>2</sup> Currently idTVs have small production runs, with total UK sales of perhaps 400,000 to date, and comprise only about 8 per cent of the market for digital receivers.

Mandation of idTVs would not be *essential* to bring down this price premium. As with colour TV<sup>3</sup>, left to make informed choices, consumer demand for idTVs could be expected to increase sufficiently to achieve this. But mandation, at least of “digital ready” sets, would undoubtedly speed up this process, helping to build demand, vital given the far greater advantages of adopting digital in the shortest time than was true for colour TV. Without mandation, the market alone may take too long to bring down idTV prices, resulting in many millions of additional analogue TV sets being installed in UK homes.

To reinforce the strong link between digital and widescreen TV (where only digital can deliver true widescreen pictures to consumers), idTV mandation should be applied only to widescreen TV sets. If the obligations on consumer electronics manufacturers and retailers were phased in, starting with large screen (e.g. those with visible screen size of at least 86cm/36”) widescreen TV sets, this would ensure that the impact on consumers would initially be minimal, as sales for such sets are currently small and their high cost would enable the higher cost of their idTV equivalents to appear less onerous. The combination of minimum screen size and 16:9 aspect ratio would exclude the booming market for analogue portables from being stifled by the considerable proportionate increase in price resulting from being required to be digital.

Thus if mandation were implemented, its initial impact would be to build publicity for digital TV and the inevitability of switchover and, in the process, usefully link digital TV with widescreen programming in the minds of consumers.

The initial mandation on large widescreen sets could be followed by regular reviews to assess when it would be appropriate to require digital tuners in smaller sets, the minimum screen size being progressively reduced as soon as market reviews indicated the likelihood of digital functionality being absorbed without an accompanying disproportionate increase in retail price. Until switchover was imminent, it may never be appropriate to require mandation for the smallest portables.

The Federal Communications Commission has recently<sup>4</sup> announced a similar, five year, phased implementation of mandating DTT (rather than digital generically) tuners, starting in 2004 with TV sets with screen sizes of at least 36”. And this despite the current low adoption of digital TV (especially of DTT) in the US. The UK’s world lead in digital adoption should make consumer acceptance of mandation, and the inevitability of switchover, easier here.

Whether mandation were phased in or implemented in a “big bang”, sufficient advance notice should be given to allow enough time for manufacturers to change production lines and offload affected analogue-only sets through their retail networks.

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<sup>3</sup> The average real price (in 1997 prices) of colour TV sets fell from about £1,300 in 1969 to a little above £200 in 1997. Sources: BREMA, Mintel, GfK, London Economics.

<sup>4</sup> FCC MB Docket 00-39, 8 August 2002.

If the consumer information could be in place before mandation of idTVs came in, the chance that consumers would then accept the (currently high) price premium over equivalent analogue sets would be increased if mandation were initially limited to more expensive, larger sets.

## **The potential disadvantages of action**

The potential disadvantages of mandating idTVs are that this may:

1. re-enforce the impression that digital TV is expensive
2. drive consumers towards adopting sub-optimal technical solutions
3. impact on inter-platform competition
4. raise premature and unrealistic consumer demands for universal DTT coverage.

### 1. Digital TV is expensive

There is still a common misconception amongst analogue-only viewers that digital TV is expensive. We hope that the launch of Freeview will help to counter this. But there is a possibility that, if the range of analogue TV sets for sale is gradually replaced by more expensive idTVs, then the misconception could be reinforced, at least during the initial period of mandation.

This would hold true whether analogue TV sets were replaced by idTVs as a result of mandation or as a result of a *concordat* between consumer electronics manufacturers.

Better consumer information would help to counter this. But as idTV production increased, the price premium would fall. This would happen faster if idTVs were mandated than if a *concordat* were implemented or, alternatively, the Government chose to do nothing.

### 2. Sub-optimal technical solutions

Current sales of affordable DTT receivers suggests that, even when upgrading to digital for free-to-view purposes only, consumers prefer to add a STB to their existing analogue TV set. For some, this is a considered approach to the rapid changes in digital TV technology, for others it reflects a desire not to purchase another TV set.

Given the differing rates of obsolescence for the display screen technology (which, for most sets, has been essentially unchanged for decades) and the digital receiver technology (which can be expected to date quickly in respect of middleware, memory size, return path capability, hard disk storage and, in respect of DTT, the ability to decode 8k transmissions), any policy for mandating idTVs should include easy provisions for upgradeability. However even then some consumers who already have a STB, and effectively only wish to upgrade their display screen, may resent being required to purchase

an idTV. An option where mandation permitted “digital ready” sets could provide a workable solution.

It is true that for those households which already had a DTT STB, this could always be relocated to another room (subject to access to a satisfactory aerial), but this is less easy for satellite and cable subscribers – always assuming that idTVs actually came equipped for satellite and cable use straight from the box (see below).

### 3. Effects on inter-platform competition

Apart from one, now discontinued, model with a satellite tuner, all idTVs are designed for use with DTT. Yet DTT households currently comprise fewer than 10 per cent of digital households. Satellite, the digital platform of choice for most households, is overwhelmingly accessed via subsidised STBs while cable is exclusively accessed via rented STBs.

While any mandation of idTVs would undoubtedly be made platform neutral, the short term effect would probably favour DTT-ready idTVs. As DTT currently has no pay element, consumers who wanted, or felt that they might at some time want, to add pay services would be required to buy a set they didn't need. In addition, satellite and cable STBs could be connected to DTT-equipped idTVs.

So favouring DTT-ready idTVs should not have too great an impact on inter-platform competition although, at the margins, it may reduce the likelihood of purchasers of idTVs choosing to adopt satellite or cable if they didn't have it already.

To minimise the effects on inter-platform competition, and consumer resentment, mandation of idTVs should not be triggered until Freeview has proved itself. Minimising the competition effects could also be addressed if manufacturers and the operators of the cable and satellite platforms were willing to work to address it. To a considerable degree, the preference for manufacturers to design idTVs for DTT reflects the degree of control which BSkyB and the cable companies choose to exercise over the design of appropriate receivers and the closed nature of cable networks in the UK. It is to be hoped that those operators will change their current approaches in reaction to any mandation of idTVs. This is an issue which would require careful monitoring in order to ensure that mandation of idTVs did the maximum to assist digital take up.

### 4. Premature consumer expectations of DTT universality.

If, as seems likely in the short term at least, idTVs continued to be principally designed for DTT use, then their purchasers would be likely to expect that they could then have satisfactory reception of DTT services. The argument that their purchase had been “future-proofed”, even if their household was not

then within DTT coverage, would probably not be popular, would tend to build consumer resentment and, after multiplex equalisation had been completed, could only lead to pressure on the multiplex operators to roll out more DTT transmitters.

Yet spectrum planning, reaching agreement between all six multiplex operators and actually building additional transmitters will be a costly and time-consuming business. In addition, after about a further 30 transmitters (i.e. taking the total to 110), the net households added with each further transmitter falls to fewer than 10,000.

The increasing marginal inefficiency of building more transmitters, combined with the fact that universal coverage by DTT alone is technically impossible while analogue TV is still being broadcast, implies that mandating idTVs may lead to unrealistic consumer expectations.

This, of course, assumes that idTVs continue to include analogue tuners. If the Government received indications from manufacturers that they were considering dropping analogue tuners from idTV sets, then it may have to consider mandating analogue tuners for them, at least until the start of the rolling switchover process.

## **Conclusion**

Notwithstanding that the Government's current switchover criteria are focussed on only one TV set per household, the rapidly growing number of analogue TVs unconnected to STBs undoubtedly is storing up problems for the future.

As the FCC has recently recognised, if a Government is determined that the advantages of taking action to increase the sales of idTVs outweigh the disadvantages, then mandating is one of the routes available. It probably provides the more certain route to achieving switchover while minimising consumer confusion.

If the Government chose to implement this course of action, there are several steps which could be taken to minimise the potential disadvantages of mandating idTVs:

- ensure that sufficient consumer information was available including, crucially, at point of sale which explained the advantages of digital, the built-in obsolescence of analogue TV sets (and 4:3 sets in particular) and how to upgrade to digital. In particular, "health warnings" should be required to be prominently displayed on widescreen analogue sets
- do not introduce mandating until Freeview had proved itself (to minimise consumer resentment and the effects on inter-platform competition)

- provide sufficient advance notice of the introduction of mandate to allow enough time for manufacturers to change production lines and offload affected analogue-only sets through their retail networks
- until the cost of the digital upgrade falls, mandate should initially be restricted to large (86+cm) widescreen sets, where the additional cost could be absorbed more invisibly to consumers. The initial benefit of mandate would thus be to publicise the digital future, but would later build volumes and bring down the price premium over analogue
- put in place regular reviews, reducing the minimum screen size at which the obligations would bite as the digital price premium was eroded by volumes (until switchover was imminent, it may never be appropriate to require this for the smallest portables)
- manufacturers and retailers to offer the flexibility to satisfy the obligations by providing “digital ready” analogue TV sets, complying with prescribed minimum specifications and easy consumer upgrade, instead of fully functioning idTVs.

## Specific questions

*Q1: To what extent do you think consumers can benefit from having digital decoders included in television sets? Are some consumers, such as those with disabilities, particularly affected?*

Consumers, and society as a whole, benefit from households having access to digital receivers, whether stand-alone (STBs) or integrated.

Digital TV offers not simply more television channels but, when connected to a return path, will offer a ubiquitous, easy route to a range of e-society services. The capacity for data transmission and interactivity brings the benefits of e-commerce services as well as government services delivered via electronic means.

This has the potential to benefit every UK citizen while offering additional revenue streams (e.g. interactive advertising, e-commerce, games, broadband Video-On-Demand) to commercial broadcasters and platform operators.

In the future, digital television should enable people who are housebound to order their shopping from home, those who can't speak English to have interactive digital reading lessons and the people who may be too busy during the day to apply for a new passport when they come home at night.

In a shorter timescale, digital TV already offers consumers access to a range of niche services (e.g. in minority languages), whose provision is often only economic in digital, and DTT, in particular, should soon offer the potential for consumers who are hard of hearing to have access to audio description. TV licence payers would also have access to all of the television services which they have paid for. Also, as digital penetration increases, broadcasters will increasingly schedule programming with mass appeal, at least on its first showing, on their digital-only services.

In addition to these advantages, as we have discussed above, many consumers would prefer a single box solution and many more are highly resistant to consciously paying extra for access to multichannel TV even though, once made available to them, it can be reasonably expected that those consumers would add some of the digital services to their personal favourites.

Mandating digital tuners in TV sets would bring forward these advantages. But as we have discussed above, there could be disadvantages associated with any such move and mandation should therefore be implemented in a manner designed to minimise these.

In addition, idTVs are already required by regulations to include a standardised interconnector, which is usually interpreted as meaning the Common Interface. The cost of including a Common Interface is less noticeable on a TV set than on a STB (where it is not currently required). Thus

greater sales of idTVs would increase the numbers of consumers with poor sight who could access the audio description services on DTT by installing the necessary modules. The larger potential market for these modules, which mandation of idTVs would signal, should provide the necessary encouragement to manufacturers to commit to producing audio description modules commercially.

*Q2: How far do you think idTVs can contribute to encouraging take-up of digital services?*

At present, despite considerable cross promotion by the public service broadcasters, some consumers continue to be ignorant of the availability of these broadcasters' new digital services or of the enhancements (including true widescreen) of the simulcast services when provided in their digital forms.

In part, this is a reflection of the quality and variety of programming available on the five analogue terrestrial services and we hope that continuing marketing of digital services, especially in connection with the re-launch of DTT as Freeview, would increase consumer interest in the additional services which would be available to them in digital.

However mandation of larger widescreen TV sets as idTVs, combined with "health warnings" on smaller analogue widescreen sets, would enable consumers to make an informed choice in favour of digital.

We would also expect the reduction in the "idTV price premium", and the wider range of idTVs, which would result from mandation to make the "one box" digital solution much more attractive to those households resistant to acquiring and wiring up another box with its own remote control.

If idTVs were mandated early enough, and the minimum screen size was kept under review and reduced as soon as was practical, this could have a huge effect on driving digital penetration and consumer appreciation of the new digital services.

The conditions for switchover, both quantitative (e.g. measurements of digital adoption within an analogue transmitter's coverage area) and emotional (e.g. widespread acceptance amongst voters of the inevitability of switching off analogue), would be achieved much sooner as a result of mandation, to the benefit of society as a whole.

*Q3: How far do you think idTVs can contribute to reaching the point at which analogue terrestrial transmissions could be switched off in the UK? And in the rest of Europe?*

Many consumers will prefer to continue to have the traditional analogue "one box" solution when accessing digital television services. A wider, cheaper range of idTVs, eventually including portables, would make upgrading to

digital more attractive to such consumers, boosting digital adoption and bringing forward switchover.

For idTVs to have a similar effect in other Member States where cable is the dominant delivery platform would require idTVs to come equipped with (or be easily upgradeable by consumers to have) cable tuners and middleware.

*Q4: How might we ensure that any proposal to make sets contain a digital decoder did not favour one platform over any other?*

*Q5: How might we ensure that any proposal to make sets contain a digital decoder was neutral with respect to the market models and technical choices made by individual service providers?*

It would be essential that any obligations mandated would need to be platform neutral, requiring connectivity to any of the UK digital delivery platforms (although, to avoid consumer confusion, where no DTT tuner was installed, this should be made abundantly clear at the point of sale).

In addition, as discussed above, mandation need not require full digital connectivity “out to the box”, but could instead encompass relevant analogue TV sets being required to be “digital ready”, incorporating minimum specifications and easy upgradeability by consumers to the digital platform of their choice.

*Q6: If there was a proposal to make sets contain a digital decoder, what conditions should apply? For example, should the proposal apply only to sets of a certain size, or including certain features, or from a certain date? Should it include all receivers (including VCRs) with a PAL or SECAM decoder?*

As we have discussed above mandation of idTVs, or a requirement for sets to be “digital ready”, should be phased in, initially affecting larger widescreen TV sets only. Regular market reviews would help to determine when these obligations could be spread more widely to smaller (but, we would propose, still widescreen only) TV sets.

This action should be linked to the availability of consumer information explaining the advantages of digital and the obsolescence of analogue-only TV sets.

For VCRs, the advantages of mandating digital tuners would probably not outweigh the disadvantages, given that consumers on average do not use their VCRS for much timeshifting (playing back rented videotapes is more popular). Analogue VCRs can, in any event, record successfully off the analogue output from digital STBs, although twin digital tuners would be a useful market development for consumers who do make use of timeshifting.