MuxCo Gloucestershire Limited

**An application to Ofcom for the
Gloucestershire local DAB digital radio multiplex**

Part A – Public Section

October 2007

Executive summary

Please provide a summary of your application, of no more than four pages in length.

Our Beliefs

1. DAB digital radio is in its second phase of development. In phase one, the larger heritage operators colonised the DAB landscape, simulcasting popular analogue stations and introducing some new digital only services across the local, regional and national multiplexes. In phase two, new entrants are joining DAB. These include smaller radio groups wanting a digital future, as well as non-radio media companies. Together, they are creating new audio and data services, helping to drive the industry forward with new ideas and business models.

2. MuxCo Gloucestershire believes that digital radio should be available to as many organisations as possible. As a multiplex operator, we will work hard to offer a wide range of broadcast options, such as programme choice, variable bit rates and hours of broadcast, in order that DAB is as economical as possible to potential service providers.

3. The additional national capacity that is currently available in general provides opportunities for larger media companies, as the cost can be prohibitive. For smaller and more locally focused operators, a digital future can only be realised where there are opportunities to increase revenue and grow their businesses. This may be where a station can broadcast to a wider area or indeed share in the benefits of multiplex ownership.

4. We believe that all existing analogue stations should be encouraged to be available on DAB as soon as possible. This allows a consistent DAB focused message to be broadcast to all existing radio listeners and to create strong cross-promotional opportunities for radio's digital platform.

The Gloucestershire Marketplace

5. The Gloucestershire population profile is distinctly different from the UK. It is markedly older, with above average numbers of adults aged 35 plus. Conversely, those aged under 35 are under represented, with 40% fewer 16 to 24 year olds living in the county compared to the UK average. The county also has a distinct ABC1 bias.

6. Despite local commercial radio launching in Gloucestershire nearly 30 years ago, only three local commercial services currently serve the county. As a result of ILR's focus on younger audiences, to the detriment of older listeners, a high 61.1% of its audience is aged under 45 (a demographic who represent under 45% of the county's adult population). As a result, it is the BBC who is the dominant radio broadcaster, with a 74.6% share locally (compared to a national average of 54.8%).

7. The new local DAB multiplex will create the first real opportunity to significantly broaden choice and cater for a wide range of unserved tastes and interests, something we believe will improve commercial radio's performance in the county.

MuxCo Gloucestershire Ltd

8.   The applicant company is MuxCo Gloucestershire Ltd (which for ease of reference in the application is referred to as 'MuxCo Gloucs'). The shareholders are:

   - UKRD Group Ltd   25%
   - Murfin Media Ltd   25%
   - Town & Country Broadcasting Ltd   25%
   - MuxCo Ltd   25%

9.   Each shareholder has digital radio experience, with involvement in multiplex operations in other areas of the UK. In addition, the MuxCo management team has considerable experience as a multiplex operator, having established and operated a network of 19 local radio multiplexes, and as the current manager of UTV's multiplexes.

10. Three of MuxCo Gloucs' shareholders are involved in MuxCo Hereford & Worcester Ltd, which was recently awarded the licence for the neighbouring Herefordshire & Worcestershire multiplex.

Our proposals

11. Our proposals are to launch a cost effective multiplex to an aggressive timescale, allowing us to launch simultaneously with the neighbouring Herefordshire & Worcestershire multiplex. Our proposals are based on a thorough review of the market and the opportunities it presents. MuxCo Gloucs provides an excellent opportunity for a range of organisations to broadcast radio services. Our proactive involvement of shareholders, reasonable carriage costs, bitrate management policy and innovative Podcast Service have already attracted (and will continue to attract) new operators to local radio.

12. Our focus is 'local, local, local'. We are aware that other multiplex operators have tended to offer a range of existing analogue services and a number of new digital only services, which generally form part of quasi-national networks, with little (if any) relevance to the local area. We believe local radio has a strong commercial future – there will always be demand for local services that cater for local tastes and interests (geographic, demographic and community of interest focused), from both listeners and advertisers. It is important for multiplexes to provide opportunities for a wide range of local services, both existing and new, and for local radio operators to have the opportunity to provide these in an efficient and economical way. Indeed, we believe a local focus will be the unique selling point that allows these services to compete with those operated by the bigger radio groups. At least 7 of our proposed commercial services will contain commitments to providing local content.

13. Capacity has been allocated to accommodate all existing and proposed analogue services in stereo from launch. These services are listened to by 263,000 adults (45.7% of the adult population) each week. However, they represent only 21.8% of total radio listening.

   - Severn Sound
   - Gold 774
   - Star 107.5
   - BBC Radio Gloucestershire

14. Spectrum has therefore been allocated to provide a range of new digital services that will further broaden listener choice and expand the number of providers in the market. Individually and collectively, they cater for a wide range of tastes and interests.   The range of new services is especially relevant because of commercial radio's low share, indicating that an opportunity exists to grow share through more aggressive competition with the BBC.

- A service comprising music and listener-generated content for teenagers and young adults
- An easy listening melodic music service
- A classic rock service
- A speech rich service
- A service playing a variety of rock and pop
- A Christian music and speech service
- A traffic and travel service

15. 6 of these new digital only services will also be available on the neighbouring Hereford and Worcester multiplex, which launches in September 2008. The expansion of these services across Gloucestershire will greatly assist in the development of the brands, in particular the more locally focused services of Smithy Rock, Shuffle and Local Live, providing a combined audience potential of over 800,000 and thereby helping to maximise the value of both programming and commercial opportunities.

16. As well as these new radio services, MuxCo Gloucs will carry a local Podcast Service providing opportunities for niche services to cater for a diversity of passions, interests and communities to reach their audience. Downloadable podcasts will include a local what's on guide from Itchy, specialist music downloads from Channelfly, Asian programming from Sunrise and Sabras, as well as local produced podcasts from Tone Radio, Gloucester University's student radio station and local community groups, including North Cotswold Community Radio.

17. Capacity has also been allocated for the provision of DLS and EPG at launch, as well as for the development of innovative data services, such as music downloads, traffic and travel services, DABverts and slideshow.

Meeting the Award Criteria

Our proposed coverage

18. Our proposals will deliver solid coverage of the major population centres and transport routes in the county. We propose to launch using **4** transmitters which provides 'outdoor coverage' (e.g. to in-car and mobile receivers) of **79%** of the adult population, and higher strength 'indoor coverage' (e.g. to kitchen radios) of **67%** (Interference Limited). This level of coverage replicates the FM coverage areas of Severn Sound, Star 107.5 and BBC Radio Gloucestershire (which only cover a percentage of the multiplex PPA), and the majority of Gold's, which extends significantly into Herefordshire & Worcestershire.

19. MuxCo is in a unique position of being able to offer those service providers who broadcast on both the Gloucestershire and Hereford & Worcester multiplexes total population coverage of over **92%** of adults in the Gloucestershire PPA (81% indoors). At least six of our proposed services will be able to offer this level of coverage by broadcasting on both multiplexes.

Our timetable to achieve coverage and launch of services

20.   It is our intention is to launch a full complement of radio services at the same time and in conjunction with MuxCo Hereford & Worcester, thereby maximising launch awareness.

21.   As our launch would follow that of 4 Digital Group, which in itself will generate a considerable level of public interest in digital radio within the area, we are in discussion with 4 Digital Group to align our marketing activity with that of the new national multiplex.

Our ability to establish and maintain the service

22.   The shareholders behind MuxCo Gloucs have considerable analogue and digital radio experience. UKRD, owner of Star 107.5, has also been involved in DAB ownership and broadcasting since 2004. Town & Country and Murfin Media operate a number of well established and popular local radio services across the UK and are involved in a number of other MuxCo branded local multiplexes. All shareholders are committed to their digital futures and are well-resourced companies that can support the multiplex throughout the licence term.

23.   MuxCo itself is an ambitious and developing company with substantial digital radio experience and interests in a number of local multiplexes. Its management team has considerable experience of local digital radio.

24.   Our chosen transmission provider, National Grid Wireless, has considerable experience in building and operating DAB multiplex networks on time and on budget.

Catering for local tastes and interests and broadening choice

25.   MuxCo has completed an independent and comprehensive survey of local tastes and interests, allowing us to choose services that reflect the various tastes, interests and demographics of the population. We have also been concerned to select formats which take into account the changing demographic profile of the area and which complement existing services without delivering undue pressure on key audience demographics. The independent research included analysis of existing radio listening habits, analysis of the radio marketplace and assessment of local tastes and interests.

26.   Our research supports the simulcasting of local analogue services (which will help promote digital radio and drive listeners from analogue to digital) and for our proposed new services that will broaden choice, complement existing services and cater for unserved tastes and interests. Our research also underpins our audience projections and has provided information to forecast the potential share of digital listening.

27.   Locally relevant content will be included in the simulcast services and in at least four digital only services.

28.   The breadth of services proposed will cater for a wide range of local tastes and interests, with the complement of services providing something for all age groups, as well as more specialised communities of interest. Altogether, our proposals will provide further incentives for consumers to buy a DAB digital radio.

Demonstrating local demand and support

29.   RAJAR provides strong evidence of demand and interest in the simulcast services, whilst our specially commissioned consumer research supports our RAJAR analysis and enables us to measure local demand for our proposed digital only services. Our research demonstrates strong interest in the proposed services, which collectively appeal to 91% of the adult population.

Being fair and effective

30.   We have established fair and transparent policies for negotiations with potential programme and additional service providers, and maintain full records of any contacts and discussions which take place, in whatever form, prior to, during and after the application process.

31.   We have engaged with potential service providers in an open and non-exclusive manner allowing operators to ensure a digital future, whoever is awarded the licence.

Summary

32.   We believe that MuxCo Gloucs will be the most credible operator for the multiplex.

- MuxCo Gloucs will work closely with MuxCo Hereford & Worcester to deliver robust local DAB coverage across the two counties, with a simultaneous launch of the multiplexes. This will deliver technical efficiencies, resulting in more economical multiplex carriage for service providers.

- The combined population potential of the two multiplexes will enhance the commercial opportunities and therefore the viability of the 6 services that will broadcast on both multiplexes.

- Our understanding of the market coupled with our comprehensive and specially commissioned research has helped ensure that our plans relate to the needs of local citizens and consumers. This will help ensure that MuxCo Gloucs will deliver services that truly appeal to Gloucestershire and help commercial radio improve its market share. This information will also set a clear market benchmark and assist in developing the multiplex in the future as new technology provides the opportunity to develop further consumer choice.

- The shareholders have impressive track records in operating local stations. This management expertise will be invaluable to the multiplex, as well as assisting the development of new programming streams.

- Our allocation of capacity will bring both new and existing, large and small radio operators to Gloucestershire's radio market.

- The multiplex is well resourced, in terms of both management and finance, and will be led by a management team with an unparalleled track record in applying for and successfully operating local multiplexes.

- MuxCo will deliver a cost effective local DAB solution, collectively benefiting all service providers and ensuring a long-term commitment to DAB digital radio.

General information

1. Name of Applicant, Address, Telephone and Fax Nos., E-mail address

This must be a single legal entity: either a body corporate or a named individual person. If the former, a copy of the certificate of incorporation must be included with the application.

MuxCo Gloucestershire Ltd

Registered Number	6380838
Address:	96a Curtain Road, London EC2A 3AA
Telephone (daytime):	020 7739 7879
E-mail address:	info@muxco.com

2. Main Contact (For Public Purposes)

Please nominate at least one individual to deal with any press or public enquiries, stating:

Name:	Gregory Watson
Telephone (daytime):	07917 413700
Address:	96a Curtain Road, London EC2A 3AA
E-mail address:	gregory@muxco.com

3. Main Contact (For Ofcom Purposes)

Please nominate one individual to whom questions of clarification and/or amplification should be sent.

As above.

Section 51(2)(a) and (b): Extent of proposed coverage area and timetable for coverage roll-out

4. Summary of coverage proposals

Provide a summary, fully consistent with the more detailed information about transmission sites supplied separately (see Q.6 below), of the coverage areas proposed to be achieved by the applicant's technical plan, and an estimate of the adult (aged 15+) population which will be served by this local radio multiplex service. For the avoidance of doubt, Ofcom's assessment of coverage, and the concomitant roll-out obligations applied in the licence, will be based solely on the transmission data supplied in response to Q.6 of the application.

33.   The transmission proposal is designed in conjunction with National Grid Wireless ('NGW') to provide optimum population coverage across the licensed area, taking into account urban areas and the main road networks, in particular the M5, A38, A48, A417 and A40. The plan also takes into account the footprints of the existing analogue services and more than replicates the FM coverage areas of Severn Sound, Star 107.5 and BBC Radio Gloucestershire (maps detailing these are attached as an appendix in Part B). Careful consideration has also been given to the design requirement to maximise received field strength within the licensed area.

34.   MuxCo Gloucs proposes to launch with 4 transmitters:

Churchdown Hill
A medium power transmitter using the National DAB antenna providing:

- Robust indoor coverage to Cheltenham and Gloucester, much of Tewkesbury, Bishop's Cleeve and their environs, and also to the south west to include Cinderford and Newnham.
- Outdoor mobile coverage to much of the transport corridors, including the M5, A38, A48, A417 and A40 west of Birdlip. This also includes most of the M50.
- Coverage for mobile devices in a large proportion of key settlements.

Stroud
A near omni-directional low power transmitter providing:

- Robust indoor coverage in northern parts of Stroud, Bussage and Chalford, most of Minchinhampton and extending westwards to include the M5.
- Outdoor coverage in the southern parts of Stroud, most parts of Nailsworth and Stonehouse, plus coverage extending westwards to include the M5.

Blunsdon
A medium power transmitter utilising a directional antenna to provide:

- Robust indoor coverage to most of Cirencester and the south east of the count, including Tetbury and Kemble.
- Robust outdoor coverage to the remaining parts of Cirencester, Tetbury and Kemble.
- Mobile coverage to most major transport corridors including the A417 and A40 east of Birdlip.

Icomb Hill

A low / medium power transmitter utilising a directional antenna to provide:

- Robust indoor coverage to Moreton-in-Marsh, Stow on the Wold, Bourton-on-the-Water, Northleach and most of the north east of the county.
- Mobile coverage to the major transport corridors of the A417, A429 and A40 east of Birdlip.

The Icomb Hill site serves an important area of the Cotswolds - an area with local AM BBC coverage but with limited FM local radio coverage from either the BBC or commercial sectors. It is also an area with no current (or planned) local DAB coverage, other than through this multiplex.

As Icomb Hill is a non RAL site, NGW has conducted a desktop exercise in accordance with the Memorandum of Understanding. This study has produced the following results.

- The Gloucestershire multiplex is on block 10C. Other multiplex services audible in this area are BBC National (12B) and Digital One (11D). NGW expect that 4 Digital (11A) will have similar coverage to these existing services in this area. The new national will be two blocks away, while the others are at least three blocks away.
- In order to quantify the effect of the proposed service, NGW has considered the BBC National coverage. The protection ratio for an interferer 3 blocks away is 32dB. Therefore, a level of 90dBuV/m is the lowest level which could cause interference to a service at 58dBuV/m from either the BBC or Digital One.
- Using a proposed HRP at an antenna height of 40m and an ERP of 1kW, NGW calculate that potentially 371 households which are currently served at 58dBuV/m or better by BBC National, receive a field strength of 90dBuV/m or greater from Icomb Hill.
- Whilst NGW do not yet know the transmitter plan for the 4 Digital network, they have considered the possible effect on it being on the second adjacent channel, by carrying out similar calculations using BBC National coverage and a protection ratio of 27dB. They calculate that 1kW ERP at Icomb Hill would affect 467 households.

35. In planning the proposed network, NGW has assumed the following service levels:

- 58dBuV/m outdoor mobile.
- 65dBuV/m indoor portable.
- 76dBu/Vm indoor handheld.
- Where Interference Limited coverage is stated, this has been calculated using the interfering transmitter data and ERPs as stated in the Ofcom advertisement for the multiplex.

36. Ofcom's advertisement identifies a potential adult (aged 15+) population of 468,006. NGW calculates a potential adult population within the PPA of 468,166, and percentage coverage's are based on the NGW population estimate. Coverage using the 4 transmitters is as follows:

	Outdoor Coverage (58 dB)		Indoor Coverage (65 dB)	
	Adults '000	% Covered	Adults '000	% Covered
Noise Limited	367,385	78.5%	313,578	67.0%
Interference Limited	326,535	69.7%	298,116	63.7%

37.   This level of coverage replicates the FM coverage areas of Severn Sound, Star 107.5 and BBC Radio Gloucestershire, as well as the majority of Gold, which extends significantly into Herefordshire & Worcestershire.

38.   MuxCo Gloucs does not currently propose to implement any further transmitters. However, it is recognised that over time we may be able to undertake further development in an economically viable manner. We have identified a number of sites which we might consider for potential future network enhancement in a cost efficient and viable manner. We would wish to consult with Ofcom to explore these and other opportunities, including joint development with other multiplex providers e.g. BBC and Digital One. Candidate sites, and the percentage figures of estimated coverage improvement at each site, are as follows

        • Dursley (7.1%)
        • Cinderford (1.9%)
        • Coleford (1.2%)
        • Nailsworth (1.0%)
        • Wooton-under-Edge (0.9%)
        • Chipping Campden (0.4%)

39.   MuxCo Hereford & Worcester Ltd was awarded the contiguous Hereford & Worcestershire multiplex in September 2007. The two MuxCo companies will work together to maximise efficiencies (in terms of infrastructure, connectivity and therefore price) of the two multiplexes, with a proposal to launch both multiplexes at the same time. As the two multiplex overlap each other, this improves the robustness of DAB reception in the northern and western section of Gloucestershire, increasing the opportunity to receive a good quality outdoor signal from **78.5%** of adults to **92.2%.** By maximising such resource, MuxCo Gloucs is able to offer those services which will operate on both multiplexes (which is the majority) to have extremely solid coverage, thereby helping to improve their commercial opportunity by reducing costs but increasing the audience potential.

Standalone Coverage

40.   The following table shows the coverage (Interference Limited) within the PPA of each individual site, demonstrating the considerable overlap between transmitters which will ensure a reliable signal to a significant proportion of the licensed area, even should one of Stroud, Blunsdon or Icomb Hill be on reduced power or have failed.

Transmitter Site	Standalone Coverage: Outdoor	Percentage Licence Area	Standalone Coverage: Indoor	Percentage Licence Area
Churchdown Hill	248,651	53.1%	240,571	51.4%
Stroud	17,577	3.8%	8,537	1.8%
Blunsdon	42,484	9.1%	34,479	7.4%
Icomb Hill	15,298	3.3%	13,425	2.9%

Cumulative Coverage

41.   The table below shows how the overall PPA coverage (Interference Limited) is achieved up through the use of a network of transmitters.

Transmitter Site	Cumulative Coverage: Outdoor	Percentage Licence Area	Cumulative Coverage: Indoor	Percentage Licence Area
Churchdown Hill	248,651	53.1%	240,571	51.4%
Stroud	266,466	56.9%	249,232	53.2%
Blunsdon	311,415	66.5%	284,144	60.7%
Icomb Hill	326,535	69.7%	298,116	63.7%

Network Resilience

42.   The following table shows the impact (Interference Limited) from the loss of one transmitter at a time, demonstrating its contribution to the overall network.

Transmitter Site	Cumulative Population Loss: Outdoor	Percentage Lost	Cumulative Population Loss: Indoor	Percentage Loss
Loss of Churchdown Hill	251,204	53.7%	241,088	51,5%
Loss of Stroud	18,283	3.9%	8,736	1.9%
Loss of Blunsdon	44,649	9.5%	35,435	7.6%
Loss of Icomb Hill	15,120	3.2%	13,972	3.0%

Proposed Network - Power Enhancement

43.   It is proposed that at a future date (subject to financial and editorial considerations) and in agreement with Ofcom and other multiplex owners), to seek a power increase at any or all of the sites. If this was to proceed, then further studies would be undertaken with respect to Adjacent Channel Interference in accordance with the Memorandum of Understanding.

5. Timetable for coverage roll-out

Outline the timetable in accordance with which the coverage proposed at Q.4 would be achieved, and the technical means by which it would be achieved. This should also be fully consistent with the more detailed information provided confidentially in response to Q.6.

44.   We believe that the earliest launch of our multiplex service brings the greatest possible advantage to the development of the digital radio audience in Gloucestershire. We therefore aim to launch at the same time as the Hereford & Worcester multiplex, and no later than October 2008, using the 4 proposed transmitters.

45.   We have made contingent arrangements with NGW to ensure that this launch date can be achieved. In making this assertion we have assumed the multiplex licence would be awarded by 31st January 2008.

46.   We have identified additional areas for potential network enhancements in the future. At present, transmitters for these areas are not planned and no date is proposed when these enhancements might prove feasible within the business plan. However, we wish to reserve the right to consult with Ofcom during the licence term to examine these and other opportunities to increase population coverage in an economically viable manner.

Antenna Systems and Combiner
47.   NGW will be the owner of the required antenna systems at Churchdown Hill and Icomb Hill, with Arqiva owning the antenna systems at Stroud and Blunsdon. Discussions on all the antenna systems have taken place between NGW and Arqiva Network Access, and we are advised that no obstacles are expected to meeting the timetable for launch.

Transmitter systems
48.   NGW propose to use transmitters from Rohde & Schwarz (R&S) with whom they have a Frame Agreement. R&S has confirmed their ability to provide the necessary transmitter systems and installation services within the required timescales.

Distribution
49.   The distribution between the multiplex centre and the transmitters will be contained on NGW SHF link circuits and a BT E1 circuit. NGW confirms that it is able to install the new SHF link and BT E1 infrastructure within the timescale of the transmission roll-out.

Accommodation and Power Requirements
50.   NGW Network Access have confirmed that it can provide suitable accommodation and power supply at two of the sites and of the remaining two launch sites, NGW has negotiated new accommodation and power supply agreements with Arqiva Network Access.

6. Detailed coverage proposals

Provide, in an electronic text file, details of the technical plan, which should consist of the following components: assignment details, implementation table, and implementation data.
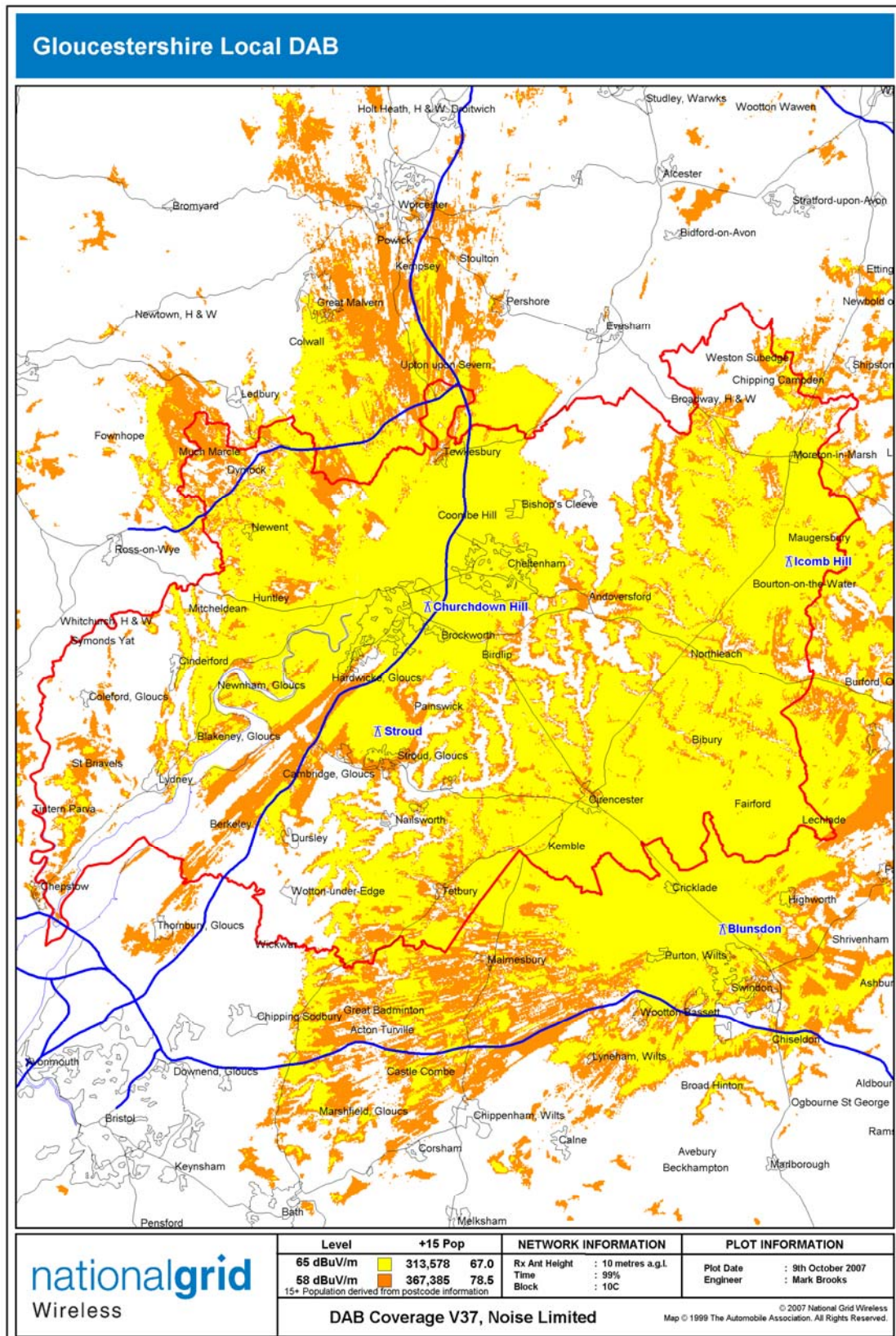
a) The first part of the technical plan is an electronic file of assignment details. This gives the relevant technical detail of each transmitting station which the applicant is undertaking to provide as part of its network. It will be used to enable Ofcom to estimate the coverage which will be achieved by the applicant, on a basis consistent with other applicants. It will also enable confirmation of the plan's compliance with Ofcom's various technical requirements. If more than one Technical Plan is proposed, a separate file should be submitted for each one. Each file of assignment details must be submitted in the data format specified at http://www.ofcom.org.uk/radio/ifi/rbl/dcr/. All files must be supplied in flat text format. This is the data format in which all transmitter co-ordination requests to Ofcom have been supplied to date, and is based upon ASCII97 defined by the European Radiocommunications Office – the Wiesbaden 1995 Plan management body.

51.   The assignment details accompanying this application are provided under separate cover as an electronic text file.
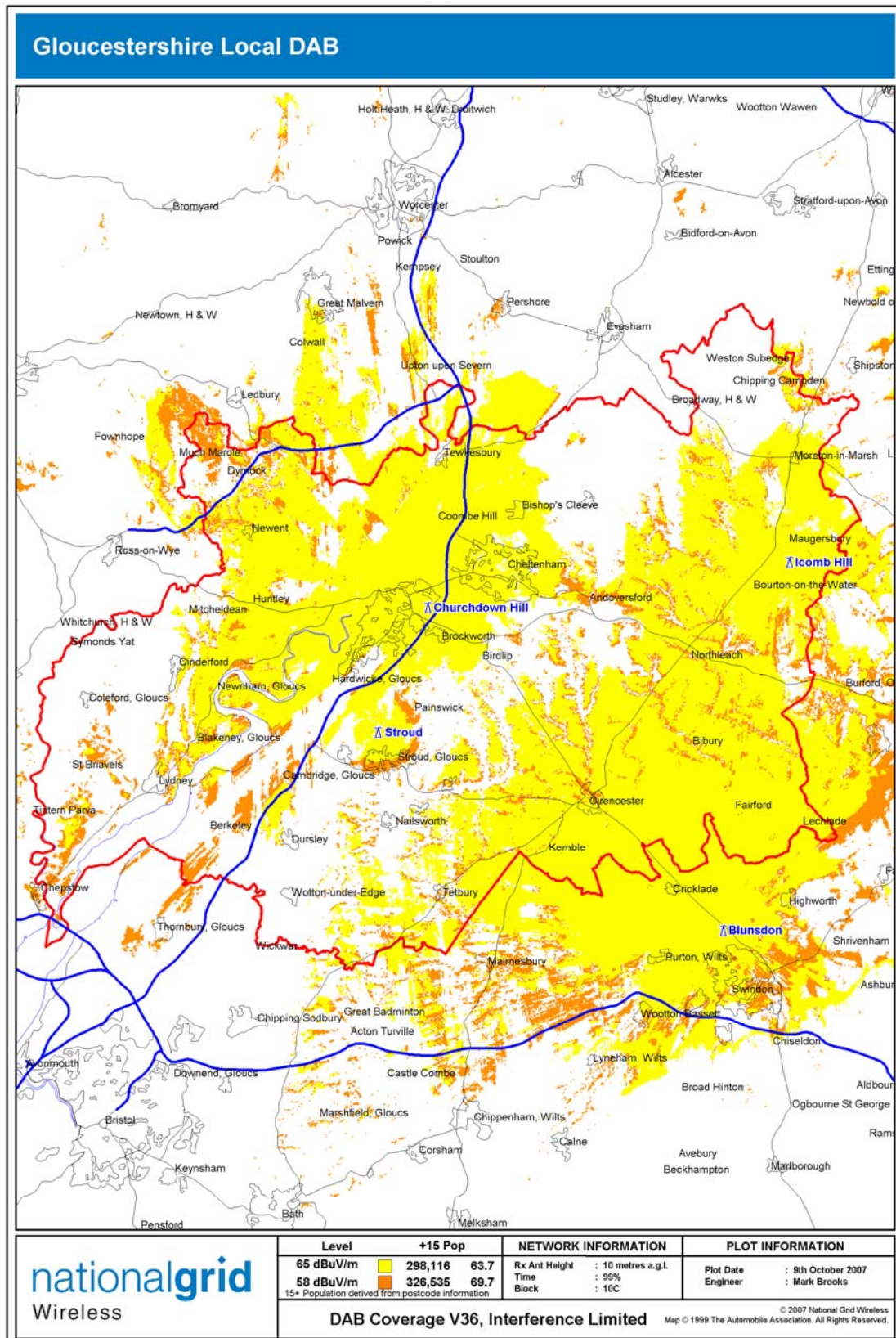
b) A separate table, the implementation table, should also be provided for the technical plan. This should list, for each proposed transmitter, the date of implementation promised with the parameters promised in the transmission plan, the owner/lessor of aperture space on the mast/tower, and any relevant accompanying notes. If it is proposed to introduce a transmitter with different parameters (typically lesser power or height) for an interim period, then on both lists there should be one entry for the initial assignment, and a second entry for the one which replaces it, with a note stating which transmission assignment is replaced.

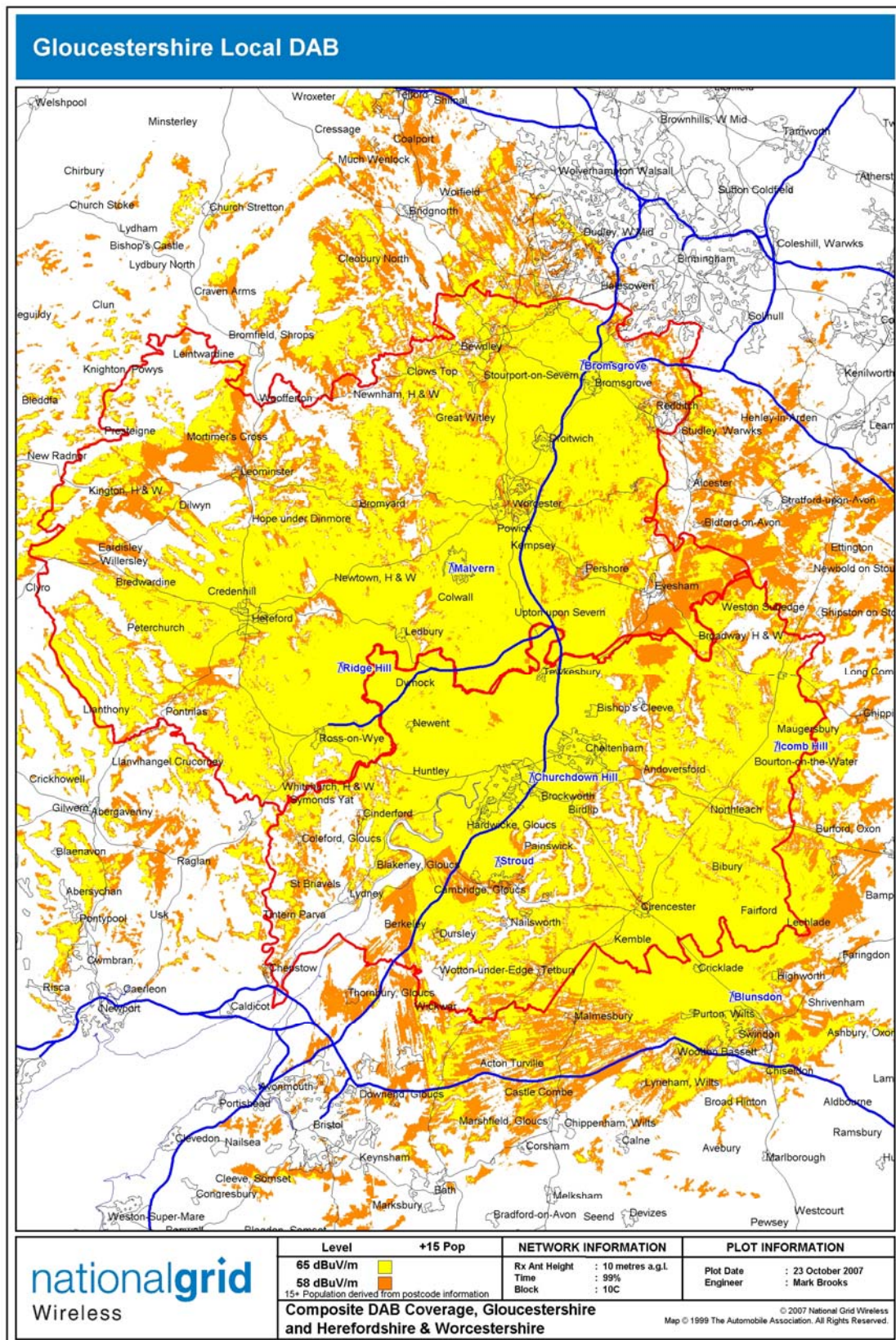| Site Name	NGR	Date of Implementation	Owner/lessor of aperture space on mast/tower	Antenna height (metres)	Notes
Churchdown Hill	SO 8801 1885	October 2008	NGW	20	NGW Network Access have offered a share of the existing National Digital Radio Antenna.
Stroud	SO 8360 0770	October 2008	Arqiva	30	NGW has an offer from Arqiva Network Access to install 2 tiers of new dipole antennas at this site.
Blunsdon	SU 1430 9000	October 2008	Arqiva	29	NGW has an offer from Arqiva Network Access to install 2 tiers of new cardiod antennas at this site.
Icomb Hill	SP 2020 2289	October 2008	NGW	40	NGW Network Access will provide 2 tiers of new cardiod antennas at this site.

52.   The following map details noise limited coverage at launch.

Gloucestershire Local DAB

Level		+15 Pop		NETWORK INFORMATION		PLOT INFORMATION	
65 dBuV/m		313,578	67.0	Rx Ant Height : 10 metres a.g.l.		Plot Date : 9th October 2007	
58 dBuV/m		367,385	78.5	Time : 99%		Engineer : Mark Brooks	
15+ Population derived from postcode information				Block : 10C			

nationalgrid Wireless

DAB Coverage V37, Noise Limited

© 2007 National Grid Wireless
Map © 1999 The Automobile Association. All Rights Reserved.

53. The following map details interference limited coverage at launch.

54.   The following map details the contiguous coverage of the Gloucestershire and
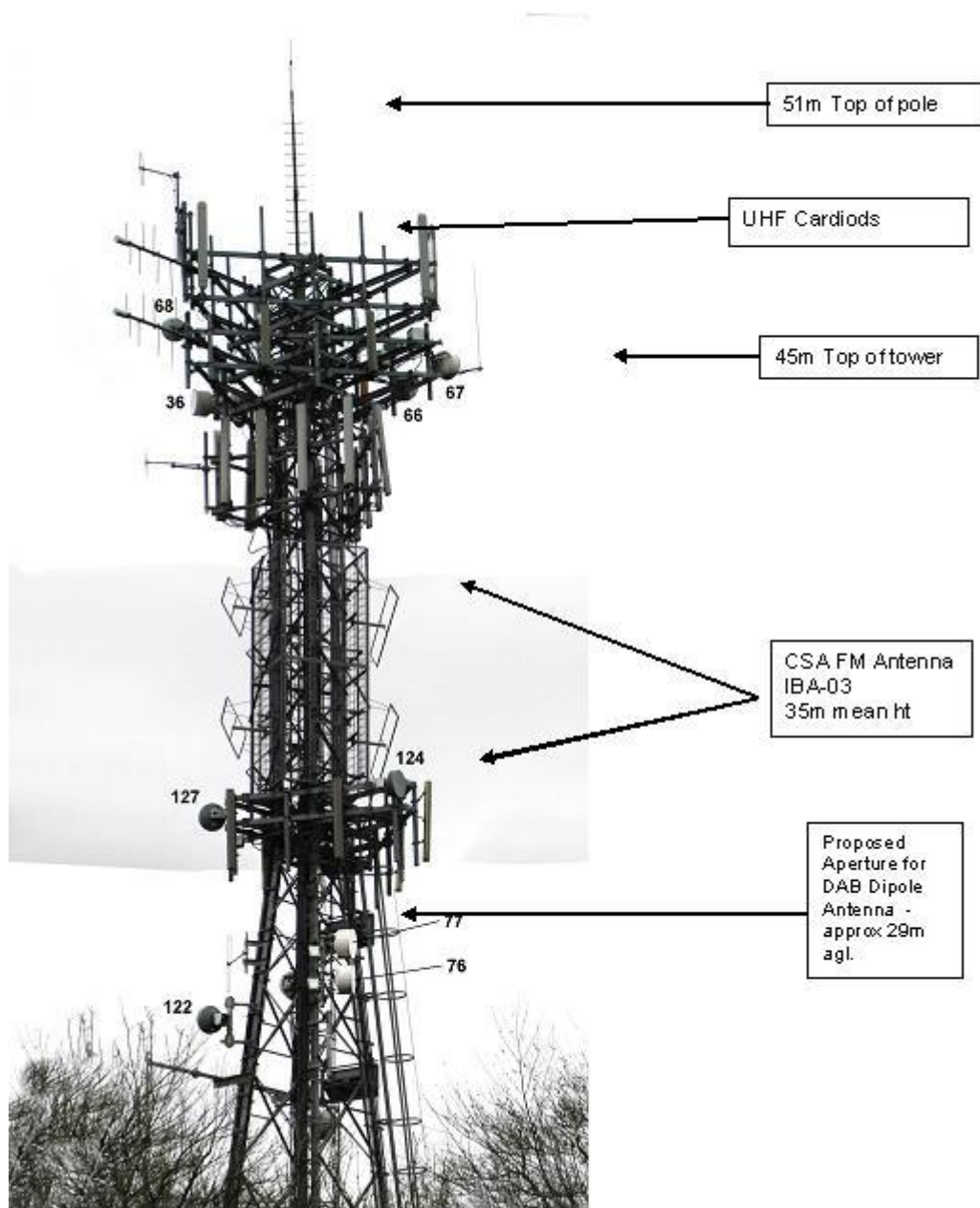   Hereford & Worcester multiplexes (noise limited coverage at launch).

c) Each transmission assignment should also be represented by site implementation data, specific to each transmission site (only one set of data for each site should be submitted). This detail is intended to elicit the practicability of the technical plan. For each site name (corresponding to assignment details and implementation table):

i) If existing aerials are to be used, this needs to be stated and an explicit reference made. If not, then applicants should provide a sketch diagram (or set of diagrams), approximately to scale, of the portion of the supporting structure on which the radiating aerials are to be mounted. Show the radiating aerials, and the aerials of other services mounted immediately above, below, and at the same level as, the radiating aerials of the applicant's service.

ii) Provide details of the building at the site in which the transmission equipment is to be housed.

iii) Provide confirmation from each of the relevant parties that they have seen and agreed the applicant's proposals (to the extent that this includes new works) in respect of:
- aerial mounting on the supporting structure, as proposed in the sketch
- diagram;
- running of feeder cable from transmission system to aerial(s);
- sharing of aerials and insertion/use of combiners, where relevant;
- siting of transmission equipment;
- supply of power;
- building works (if any).

The relevant party in each case, namely whoever controls the infrastructure (mast, cableways, building, power), should be named explicitly.

iv) State whether and if so how the transmission arrangements are expected to change due to the TV digital switchover programme.

Note: submission of this information does not imply that Ofcom will validate the design of the aerial system. The licensee will be required to adhere as far as is reasonably practicable to the antenna pattern proposed in the assignment details, and in all cases to limit the maximum radiated power in any given direction as may be required by Ofcom.
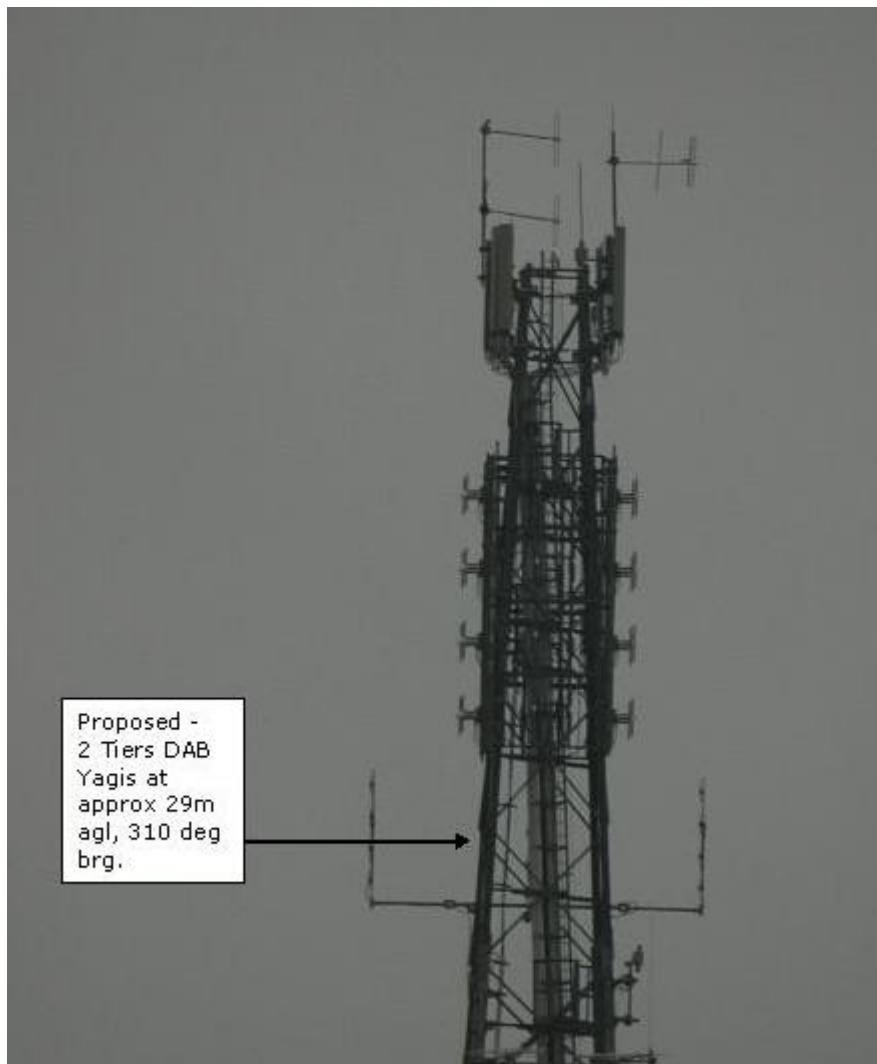
i) Diagrams

55. Drawings of each of the new proposed antenna at the transmitter sites are shown below in this document. All existing antennas are not shown as details are already known.

Stroud proposed DAB antenna sketch.

51m Top of pole

UHF Cardiods

45m Top of tower

CSA FM Antenna
IBA-03
35m mean ht

Proposed Aperture for DAB Dipole Antenna - approx 29m agl.

Blunsdon proposed DAB antenna sketch.

Proposed -
2 Tiers DAB
Yagis at
approx 29m
agl, 310 deg
brg.

Icomb Hill proposed DAB antenna sketch.

Proposed –
2 Tiers DAB
Cardioids at
approx 40m
agl, 270 deg
brg.

ii, iii & iv) Transmitter Accommodation Antenna Systems, Power, and Building Works

56. NGW has confirmed that the designs of the existing antennas and feeder systems are suitable for use at the powers indicated in the Assignment Details, and that the sites can be made available for the proposed transmitter systems. Electrical power is available. Minor building works are required in a small number of cases and NGW has confirmed that it will undertake these.

Site Name	Antenna System	Antenna Height (m)	Antenna Owner Permission	Accommodation Permission	Power Supply	Impacted By DSO
Churchdown Hill	Existing Digital Radio Antenna	20	NGW Network Access	NGW Network Access is providing accommodation in the existing NGW area	To be provided by NGW Network Access	No DSO Impact
Stroud	New 2 tier Cardioid Antenna	30	Arqiva Network Access	Arqiva Network Access are providing new accommodation	To be provided by Arqiva Network Access	See Note 1
Blunsdon	New 2 tier Cardioid Antenna	29	Arqiva Network Access	Arqiva Network Access are providing new accommodation	To be provided by Arqiva Network Access	See Note 1
Icomb Hill	New 2 tier Cardioid Antenna	40	NGW Network Access	NGW Network Access is providing accommodation in the existing NGW area	To be provided by NGW Network Access	No Planned Impact from DSO

Note 1
The DSO (Digital Switch Over) program is still being agreed. Details of the impact from DSO will become available once the various parties have formalised the DSO Planning.

d) Provide the following details regarding transmission arrangements:

i) Any transmission contracts that have been agreed

57. In the event of winning the licence, NGW will undertake the provisions for transmission and multiplexing.

ii) The status of these agreements

58. Initial agreements exist with NGW to put the proposed contracts in place.

7. Other technical proposals

a) Supply a network diagram, with associated tables and labels as necessary, showing in terms of functionality and (in principle) location: the source of each proposed digital sound programme service, digital additional service or television licensable content service, the point(s) of multiplexing, the point(s) of control of the elements of the multiplex (both FIC and MSC) and the distribution circuits to the transmitters. State the nature of the bearer circuit in each case, and its possible provider.

b) For each of the data services proposed in Q.11(d) and Q.12, show: the transport mechanism within the multiplex on which it would be carried; whether stream or packet mode; the average net data rate (including any protection or encryption bits additional to those provided for in the ETS 300 401 specification); the range of data rates which might apply in any one transmission frame in support of the service, both net and (specifically attributable to the service concerned) gross; the protection mechanisms applying to their effective transmission (with reference to the options available in the ETS 300 401 specification, quantified where the specification provides for different numerical values to afford protection); whether it should be regarded as an additional service, a television licensable content service or an ancillary service; whether encrypted or not, and the encryption system envisaged; the use to which the data service would be put, including a justification for the multiplex capacity required. Outline how compliance will be achieved with the requirement that no more than the statutory proportion of the total multiplex capacity will be devoted to non-programme related data services; the figure excludes Synchronisation, MCI and SI). See also Q.20, about audio services.

c) With reference to the response to Q.20, supply a diagram showing the relationship between the following elements of the multiplex: services; service components; transport elements (MSC sub-channels: dedicated, and X-PAD; FIDC).

d) List any of the services in the multiplex which it is proposed be susceptible to interruption by announcements common to more than one service. If announcements are to be made on a geographically-selective basis, describe how this is to be achieved within the provisions of the ETS 300 401 specification.

e) Describe how it is anticipated that the features of the ETS 300 401 will be used, if at all, in consideration of continuity of a programme service, or the offering of an alternative service, to listeners who lose reception of the multiplex signal, particularly in vehicles.

The response to this question should be submitted in confidence.

59.   Our response to this question is submitted in confidence in Part B.

Section 51(2)(b): Timetable for commencement of services

8. Commencement of services

If it is envisaged that any of the digital sound programme services or their related ancillary services will not begin broadcasting from the start of the radio multiplex licence period, provide details of which service(s) will not commence from the launch of the radio multiplex service, the reason(s) for this, and an indication of the expected timescale for the commencement of the service(s).

60.   It is envisaged that all services will broadcast from the start of the multiplex licence period, with the exception of 'Local Live' which will launch within nine months of the start (and at the same time that 'Local Live' launches on the Hereford & Worcester multiplex).

Section 51(2)(c): Ability to establish and maintain proposed service

9. Ownership and control of company which will operate the licence
(a) Board of Directors

i)   *Provide the name, occupation, other directorships, other media interests, background and relevant media experience of each director (executive and non executive), including the proposed chairperson.*

61.   Please see the following pages. It is proposed that the chair will rotate between the directors.

ii)   *If there are firm plans to appoint any further directors, provide information (with details of any specific individuals in mind). This information may be submitted in confidence.*

62.   See confidential answer to this question.

William Rogers

Occupation:
Chief Executive, UKRD Group Ltd

Other directorships:
5 Valleys Radio (Stroud) Ltd, Bristol Community Radio Ltd, Cambridge Radio Ltd, Community Ads on Line, County Sound Ltd, County Sound Radio Ltd, Eagle Radio Ltd, Extreme Radio Ltd, KLFM Ltd, Net-Additions Ltd, Net-Leads Ltd, Netrank Ltd, Norwich Broadcasting Ltd, North Gloucestershire Radio Ltd, Pirate FM Ltd, Pirate Radio Group Ltd, Pirate Radio Ltd, Pirate Television Ltd, Save Buckets Ltd, Star Media Group Ltd, Star Radio Group Ltd, Star Radio Network Ltd, South West Digital Radio Ltd, Surrey & North East Hampshire Radio Ltd, Swansea Radio Ltd, Today FM Ltd, UKRD Radio Services Ltd, UKRD Group (EBT) Ltd, UKRD Group Ltd, UKRD Support and Development Ltd, Web Gifts Online Ltd, Westcom Media Ltd, X-Cel F.M. Ltd, Oldham FM Ltd, The Small Business Bureau, William Rogers Insurance Brokers.

Other Media Interests:
None

William, a Cornishman by birth, became involved in radio in 1990 as part of the founding group of directors applying for the Cornwall licence; successfully now on air as Pirate FM102.

Leaving school at the age of 17, he embarked upon a career in the insurance broking world, eventually becoming a Registered Insurance Broker and setting up his own firm in 1984.

In 1982, William became an elected member of Penwith District Council at the age of 22 and Leader of the Council in 1988. In 1990 at the age of 30, he was awarded the MBE for political and public service.

He has played an active part in charitable and political work in the South West for twenty years having been a school and college governor, Chairman of a Housing Association, one of twelve regional treasurers for the Conservative Party and fighting a seat in the 1997 General Election.

With the merger of Pirate FM and UK Radio Holdings to form UKRD Group Limited in 1994, William joined the new board. Following a spell as Chief Operating Officer in 2000, he became Group Managing Director in October 2001 and Chief Executive four years later.

UKRD Group owns and operates nine radio stations across the UK in such diverse markets as Surrey, Bristol, Cornwall and East Anglia. Its first DAB involvement was as a shareholder and service provider on the Plymouth & Cornwall multiplex.

Jason Bryant

Occupation:
Chief Executive, Town and Country Broadcasting

Other directorships:
Haven FM (Pembrokeshire) Ltd, Dee 106.3 Ltd, Radio Carmarthenshire Ltd, Town and Country Broadcasting Ltd, JB Consolidated Ltd, Bridge FM Radio Ltd, Swansea Bay Radio Ltd, South Wales Radio Ltd, North Wales Broadcasting Ltd, Radio Hampshire Ltd, MuxCo Northeast Wales & West Cheshire Ltd, MuxCo Hereford & Worcester Ltd

Other Media Interests:
None

Jason is a well-known and highly regarded radio entrepreneur with a rare mix of expertise across analogue and digital radio. He has a successful track record in launching and developing innovative and successful local commercial radio services, and has built Town and Country Broadcasting to become the leading Welsh-based media company, which is profitable and with an annual turnover nearing £3m. Jason is also a founding investor in Chester's Dee 106.3, which is also profitable and has achieved market leadership in an extremely competitive market.

Jason started his career at BBC Radio Solent where he worked across news and programmes, before moving to London's LBC as a producer and editor on a number of high-profile shows. He moved to television as a producer, working with Sir David Frost and GMTV, before returning to radio as a producer and editor at London's BBC GLR. In 1994, Jason moved to Scotland as the launch Programme Director for Scot FM, before heading back South to join Talk Radio, where he became Programme Director. He left the station in 1997 to work as a consultant with the management team at BBC Radio 5 Live.

Following Kelvin MacKenzie's acquisition of Talk Radio in 1998, Jason returned as Development Director, and subsequently Managing Director to re-launch the service as talkSPORT. He was subsequently appointed Managing Director of Development at talkSPORT's parent company, TWG plc, where he oversaw a rapid growth in the company's activities, including several successful DAB multiplex licence applications in London and Scotland. Jason joined SMG plc in February 2003 to lead its radio development projects and develop its DAB digital radio brands.

In 1999 Jason assembled the successful application team for the Pembrokeshire local radio licence and three years later repeated the success in Carmarthenshire. Notably, Radio Pembrokeshire has one of the highest audience shares of any station in the UK, and Radio Carmarthenshire has recently been confirmed as the number one station in its area. Radio Pembrokeshire won the prestigious Arqiva/CRCA Station of The Year award in 2005 and 2006, and has also won a Silver Sony Radio Award for 'Station of The Year'. In November 2005, Town and Country was awarded the new local licence for Swansea, in 2006 it acquired 106.3 Bridge FM (giving the group continuous coverage from the Pembrokeshire coast to Cardiff) and in July 2007 the company expanded again when it acquired the Southampton FM licence which was subsequently re-launched as 107.8 Radio Hampshire (and is Town and Country's first DAB service, broadcasting on the South Hampshire multiplex).

Muff Murfin

Occupation:
Company Director

Directorships:
Murfin Media Ltd, Radio Maldwyn Ltd, Classic Hits Radio Ltd, South Shropshire Communications Ltd, Mansfield & Ashfield Broadcasting Company Ltd, Worcester Live Ltd, Q Records Ltd, Aston FM, Midland Radio Orchestra Ltd, Plusable Ltd, MuxCo Hereford & Worcester Ltd

Other Media Interests:
None

Muff trained originally as a teacher in the sixties but has been involved in the radio and music business since the seventies. He entered the radio business as a disc jockey on BBC Radio Birmingham's "DJ for a day" competition.

In 1981, Muff was a member of the consortium that won the radio franchise for Hereford and Worcester, and served as a director and consultant for Radio Wyvern during its early years.

In 1993, Muff took over the troubled Birmingham incremental station Buzz FM, and a year later bought Radio Harmony in Coventry and re-launched the station as Kix 96 (which was sold to CN Group in 2001). He was a director and founder shareholder of The Bear in Stratford-upon-Avon which launched to success in 1996.

In 1997, he became a director and major shareholder of Sunshine 855. After re-financing the company, he purchased new premises, and designed and built new studios and facilities. Also in 1997, he was invited to become a major shareholder in Radio Maldwyn, a station in mid-Wales owned at the time by over 200 shareholders and running as a Friendly Society. Muff re-launched the station with his own finance and new management.

In 1998, he became a director and significant founding shareholder of Mansfield 103.2fm. He is now Chairman and majority shareholder. In 1999, Muff purchased Classic Gold in Herefordshire and Worcestershire from GWR Group. After building new studios he moved the station to a new site adjacent to the AM transmitter site in Worcester. The station subsequently re-launched as Classic Hits. In 2006, Muff sold Classic Hits and Sunshine 855 to Laser Broadcasting Ltd, a company in which he remains the largest individual shareholder.

In 1977 Muff built The Old Smithy Studios in the grounds of his home, which have been used by many legends of rock. In addition, Muff has written, performed and provided a wide range of music of music for advertising, radio and television programmes, including the theme music of ITV's "The Gladiators", "You Bet" and many other programmes. His jingles have run on major radio stations in the UK and around the world. He owns a radio commercial production department within his recording complex.

Gregory Watson

Occupation:
Managing Director, MuxCo Ltd

Other directorships:
Reception Media Ltd, Folder Media Ltd, MuxCo Ltd, MuxCo North Yorkshire Ltd, MuxCo Northeast Wales & West Cheshire Ltd, MuxCo Hereford & Worcester Ltd, MuxCo Northamptonshire Ltd, MuxCo Oxfordshire Ltd, Radio Academy, Radio Academy Trading Ltd, Children's Radio UK Ltd, Children's Radio UK (London) Ltd, The Digizone Ltd

Other Media Interests:
None

Gregory graduated from the University of Exeter in 1986 with a degree in Accountancy studies, and commenced his career with KPMG Peat Marwick as a trainee accountant, where he qualified as a Chartered Accountant in 1990.

In 1991, he moved to the Radio Authority as Deputy Head of Finance. In this role his responsibilities were split between the management of the day-to-day financial operations of the Authority, the licensing and regulation of commercial radio and analysis of the radio and related media industries.

In 1998, Gregory joined GWR Group plc as Head of Special Projects, with responsibility for looking at all new analogue and digital opportunities. In this capacity, Gregory was involved in the submission by Digital One for the application to run the national digital radio multiplex, and played a significant role in the pre-operational period of that multiplex prior to its launch in November 1999.   Gregory also oversaw the development of GWR's local multiplex network, NOWdigital, and of the consortia multiplex businesses of DRG London, South West Digital Radio and NOWdigital East Midlands.

In 2001, Gregory was promoted to Group Corporate Development Director; a role under which he oversaw GWR's strategic development in new media alongside the development of local and regional analogue and digital radio licences. Gregory played a central role in the merger of Capital Radio plc and GWR Group plc which lead to the formation of GCap Media plc in May 2005.

Gregory has always been passionate about commercial radio broadening its horizons and developing new commercial opportunities. In 2005, Gregory orchestrated the establishment of Children's Radio UK Ltd as a joint venture between GWR Group, HIT Entertainment and Susan Stranks. The company launched FUN radio as the UK's first (and still only) radio station dedicated for pre and primary school children and their parents and carers.

In 2007, recognising that a significant proportion of the radio industry was being left behind by digital advancements, not because they were unable to take an active role but often were not encouraged to do so, Gregory left GCap Media to provide digital media advice to a number of independent radio and media companies, and to create MuxCo.

Gregory is a Trustee of the Radio Academy, and is Chairman of Radio Academy Trading Ltd. Gregory takes an active role in the development of the radio sector, and in the past has sat on the RadioCentre's Public Affairs Sub-Committee and ad-hoc committees.

Deanna Hallett

Occupation:
Managing Director, Hallett Arendt

Directorships:
Hallett Arendt Ltd, Folder Media Ltd, MuxCo Ltd, MuxCo North Yorkshire Ltd, MuxCo Northeast Wales & West Cheshire Ltd, MuxCo Hereford & Worcester Ltd, MuxCo Northamptonshire Ltd, MuxCo Oxfordshire Ltd

Other Media Interests:
Fellow of the Radio Academy, Full member of the Market Research Society, Radio Centre RAJAR Research Committee

Deanna has more than 35 years experience in marketing and research. Her career began in 1972 at NOP working on audience and programming research with the first wave of radio licence applicants.

She developed her radio research skills at Independent Radio Sales where she ran a mini RAB working with advertisers, agencies and client radio stations to improve the position of radio within the media and specifically with agencies to heighten their knowledge and understanding of planning, buying and researching radio. With IRS client radio stations she advised in all areas of programming research, sales product knowledge training and station marketing. She was appointed to the board as Marketing and Research Director in 1982.

Deanna set up Hallett Arendt in 1986 to work with radio stations in sales training, programming research and all aspects of station marketing having launched Essex FM as the first format driven station in the UK. Deanna was also involved in the first stage of cable franchise applications.

At NOP, she was instrumental in developing the now established radio diary research methodology and has sat on the industry research committee since its inauguration.

Today, Deanna is acknowledged as one of the top licence consultants in the country, with Hallett Arendt holding a record of unparalleled success, both in the UK and Ireland. They have worked as part of the winning teams for Classic FM - the first Independent National radio station - and Digital One - the first national digital radio multiplex operator. They also have successfully worked on a host of local and regional analogue licences as well as the new generation of digital services, again, both local and regional.

In 2003 Deanna set up a training programme, specifically with programmers in mind – 'The Programmers Development Plan', which has already been implemented across the EMAP group.

Moving forward, Deanna aims to bring all her expertise to MuxCo by offering training, research and marketing advice to all its service providers in order to maximise the audiences and revenue to the Gloucester multiplex.

(b) Proposed Investors and Shareholding Structure

Full details of the proposed shareholding structure should be provided, including:

iii) Names and addresses of all existing or proposed shareholders.

Shareholder	Shares	% Shareholding	% Loan stock
UKRD Group Ltd Carn Brae Studios Wilson Way Redruth Cornwall TR15 3XX	10,000	25%	25%
Murfin Media Ltd The Old Smithy 1 Post Office Lane Kempsey Worcester WR5 3NS	10,000	25%	25%
Town & Country Broadcasting Ltd Ashby House 64 High Street Walton On Thames KT12 1BW	10,000	25%	25%
MuxCo Ltd 96a Curtain Road London EC2A 3AA	10,000	25%	25%

iv) Total number, class/classes of shares and issue price of shares (specify voting, non-voting, preference, other etc.).

63.   40,000 £1 ordinary shares issued at par.

v) All voting shareholders and holders of 5% or more of non-voting shares and loan stock should be named. State the number, class/classes and price of shares to be issued to each investor.

64.   See above.

vi) Outline any shareholders agreements or arrangements which exist.

65.   A shareholders agreement will be entered into after the award of the licence. The shareholders have agreed terms which cover key issues of governance relating to the company including shareholdings, board composition, funding, pre-emption and confidentiality.

vii) Where a corporate body other than a current Ofcom licensee will be providing 30% or more of the required funding, details should be given of its directors and main shareholders, and of its activities.

66.   No shareholder holds 30% or more of the issued share capital.

viii) Ofcom may request additional information regarding the shareholders, or any other providers of finance, listed in the application.

67.   We would be happy to provide any information as requested by Ofcom.

(c) Involvement of the Applicant in Specified Activities

Details are required of the involvement by the applicant and its participants (including shareholders or other subscribers of more than 5% of the applicant's total funding requirements) in any of the activities listed below, and the extent of the interest. For these purposes, the applicant includes associates of the applicant (i.e. directors and their associates and other group companies).

i) Advertising agencies
None

ii) Newspapers
None

iii) Other broadcasting interests

UKRD Group Ltd
UKRD has interests in the following companies:

- Bristol Community Radio Ltd (86.95%)
- Cambridge Radio Ltd (100%)
- KLFM Ltd (100%)
- Oldham FM Ltd (50%)
- Pirate FM Ltd (100%)
- North Gloucestershire Radio Ltd (100%)
- Westcom Media Ltd (100%)
- X-Cel F.M. Ltd (100%)
- South Hams Ltd (23%)
- Eagle Radio Ltd (98.193%)
- South West Digital Radio Ltd (33.3%)

Muff Murfin
Muff Murfin, through Murfin Media Ltd and direct, has the following radio interests:

- Laser Broadcasting Ltd (9.95%)
- Radio Maldwyn Ltd (82%)
- Mansfield & Ashfield Broadcasting Company Ltd (92%)
- MuxCo Hereford & Worcester Ltd (33.3%)

Town and Country Broadcasting Ltd
T&C has interests in the following companies:

- Swansea Bay Radio Ltd (100%)
- Haven FM (Pembrokeshire) Ltd (100%)
- Radio Carmarthenshire Ltd (100%)
- Bridge FM Radio Ltd (100%)
- Radio Hampshire Ltd (75.5%)
- MuxCo Northeast Wales and West Cheshire Ltd (25%)
- MuxCo Hereford & Worcester Ltd (33.3%)

Town and Country Broadcasting is 100% owned by Jason Bryant, who also holds a 27.17% personal investment in Dee 106.3 Ltd.

MuxCo Ltd
MuxCo has interests in the following companies:

- MuxCo Hereford & Worcester Ltd (33.3%)
- MuxCo Northeast Wales and West Cheshire Ltd (25%)

iv) Bodies whose objects are wholly or mainly of a religious nature
None

v) Bodies whose objects are wholly or mainly of a political nature
None

vi) Local authorities
None

vii) Other publicly-funded bodies
None

10. Financial and business plan

(a) Overall Financial Strategy

Explain how the applicant considers it is able to establish and maintain, throughout the licence period, its proposed service. This explanation should include an assessment of each of the following, but is not restricted to these factors:

i)	The network construction phase
ii)	The operational start-up phase
iii)	Marketing
iv)	Ongoing operation of the service

The Strategy behind MuxCo Gloucestershire

68.   The strategy for MuxCo Gloucs can be summarised as working:

- To establish an efficient and progressive business that minimises the financial burden on operators to broadcast on DAB.
- To provide opportunities for existing analogue services to simulcast on DAB.
- To create an environment that encourages businesses, both new and existing, local and national, to provide services on local digital radio that will broaden choice and provide new commercial opportunities.
- To re-emphasise local radio as an important part of radio's digital future.
- To become part of a MuxCo network of local multiplexes, sharing best practice and future opportunities.
- To provide a good return on investment to shareholders.

The Shareholders and their Digital Strategies

69.   **UKRD Group Ltd ('UKRD')** owns and operates a number of analogue radio stations across the UK. It was formed in 1994 when Pirate FM Ltd merged with UK Radio Holdings Ltd to form UKRD, cementing a relationship between individuals who had been working together directly or indirectly for several years. Following the merger UKRD acquired controlling shareholdings in Star FM and Wey Valley Radio, and a minority share in Kiss 102. In 1995 UKRD was awarded the AM and FM licences for Surrey. In November 2000, a new management team was put in place, with a strategy of enhancing existing assets' output and developing regional clusters of stations. As part of the strategy, a number of stations were re-branded as 'Star'. UKRD has been involved in DAB since 2003, when as a founding shareholder in the Plymouth & Cornwall multiplex it launched its Pirate FM on DAB. UKRD are keen to ensure that its stations have a future in the digital landscape, but recognise that with additional costs incurred through duplication of transmission, this needs to be achieved in a cost efficient manner. It believes the MuxCo concept, of shared ownership and efficient planning, is such a model.

70.   **Town & Country Broadcasting Ltd ('T&C')** was established to build a local network of radio stations. It enjoys an excellent track record establishing and maintaining local radio licences and is committed to bring its creative, critical and commercial successes to digital radio. T&C aims to become the leading media group based in Wales. It has a strong commitment to local radio and whilst recognising the current difficulties that many local radio services face, has the confidence in the continuing value of localness.

71.   Jason Bryant also has a strong track record in digital radio, having helped create the local digital radio businesses for The Wireless Group and developing SMG's digital brands. Jason recognises the importance of DAB for all stations, and the opportunities it can provide for companies such as T&C. In relation to digital, T&C's objective is to apply alongside MuxCo and partners for the new local multiplexes being advertised in and contiguous to Wales, and to develop a new local speech rich service that is distinctive and viable. T&C is a shareholder in both the MuxCo Wrexham & Chester and Hereford & Worcester multiplexes, on which it will also broadcast speech rich services. T&C is developing sales opportunities for new digital-only stations to be sold as a package to local and regional advertisers. Outside radio, T&C's strategy is to develop local media businesses that complement their traditional broadcast operations, including online local information sites and magazines. Through its participation in DAB ownership and its strong existing production resources, T&C is able to be more confident about the investment in digital service provision.

72.   **Murfin Media Ltd** was established by Muff Murfin in 1997 to invest in radio and other media opportunities. Over the last decade, Muff has owned or had involvement in Kix 96, The Bear, Sunshine 855, Radio Maldwyn, Mansfield 103.2 FM and Classic Gold. Following disposals to CN Group and Laser Broadcasting (in which he is the largest individual shareholder), Muff remains involved and committed to radio, with interests in Radio Maldwyn and Mansfield 103.2 FM, and is a director of the new FM licence for Herefordshire and Monmouthshire. Through his knowledge and experience of running profitable small scale radio services, as well as his extensive music background, Muff has recognised for some time the value and enormous opportunities that local DAB offers. Muff is a shareholder and service provider on the MuxCo Hereford & Worcester multiplex. From the start, Muff's proposals for DAB are not just as a shareholder, but to create a new radio station that reflects his, and the region's, passion for rock music.

73.   **MuxCo Ltd** was established to provide viable digital radio solutions to local radio companies and other parties interested in developing on DAB. The MuxCo management team has extensive experience as a multiplex operator at local, regional and national level. The team established and operated the NOWdigital network for GCap Media, as well as managed local multiplexes owned by consortia in which GCap Media was a partner (CE Digital, DRG London, South West Digital Radio and Now Digital East Midlands). The Folder Media management team have recently been appointed as multiplex managers for UTV's multiplexes. MuxCo's strategy is to build a network of local multiplexes, working with local partners in each area, to ensure opportunities exist for all analogue operators to broadcast on DAB. Working with local partners helps encourage and make them more confident to take a more active role in digital radio, as part of the multiplex as well as being a service provider. Under this model, partners receive financial benefits of ownership which helps reduce their net cost of investment in DAB. MuxCo believes that there is a strong business model to be developed for local multiplexes - one that provides a range of interesting services demanded by local residents. Further information on MuxCo is provided in Part D.

The Business Plan and its Objectives

74. MuxCo Gloucs has established a business model that will drive the company to provide a premium digital radio service. Four key objectives have been identified that will ensure that this goal is achieved:

- To operate a multiplex that offers a wide choice of live and on-demand programme services which address local tastes and interests (as highlighted in our market analysis and via our commissioned research), broaden choice and increase plurality.
- To promote and maximise take-up of digital radio receivers, by working with our analogue and digital service providers and through membership of industry bodies, such as the DRDB.
- To operate in a manner ensuring fair and effective competition.
- To operate a sound financial business, with confirmed service providers helping to demonstrate viability.

75. MuxCo Gloucs is committed to ensuring that digital radio is successfully established. We are well resourced technically as well as financially to support the needs of the service providers.

76. The following chart summarises the reporting structure of the company.

77. The Board has responsibility for the company's business strategy; monitoring and reviewing trading performance; appointing and contracting with service providers; developing multiplex bandwidth policies; developing pricing structures; appointment and supervision of the Multiplex Manager and regulatory compliance. The Board will meet at least quarterly.

78. MuxCo Gloucs has appointed Folder Media to provide multiplex management services. Folder Media is a company that has unparalleled experience in the day-to-day management of successful local multiplexes, and currently is managing UTV's local multiplex network and the launch of multiplexes in Wrexham and Chester and Herefordshire and Worcestershire. Folder Media will ensure that changes and any requirements from the service providers can be enacted in a timely and cost-effective manner. It will also ensure that it keeps abreast of technical developments to ensure that the multiplex is responsive to the changing radio marketplace. Further information on Folder Media is provided in Part D.

(i) The network construction phase

79. The network construction phase includes three stages – planning, building and testing.   MuxCo Gloucs will contract with NGW to provide a transmission solution, and on the basis of this commitment, NGW will fund the capital expenditure and installation of the infrastructure.

80. **Planning** – MuxCo Gloucs has designed its transmission plan taking into account the requirements of service providers, including the BBC, to ensure that key population centres and major roads are well covered, and to take into account any local geographical issues. A number of iterations have been produced before settling on a commercially prudent plan that maximises coverage and meets our planning criteria. NGW has provided strategic support during this stage and will liaise with Ofcom for transmission matters on behalf of MuxCo Gloucs.

81. **Building & testing –** Following award, we will work with NGW to finalise our plan and prepare milestones to the launch of the multiplex. This will include international clearance, the build timetable and service provider installation. As an established and respected transmission service provider, NGW has considerable existing resource and the infrastructure to build the proposed transmission network.

(ii) The operational start-up phase

82. The operational start-up phase includes contracting with service providers, monitoring the installation of multiplex equipment at service providers' studios (for both audio and data services) and ensuring that the necessary testing is undertaken prior to launch; liaising with Ofcom over the build process; ensuring regulatory issues are followed, including the issuing of DSPS licences; and liaising with the DRDB and service providers on marketing activity, including ensuring the postcode checker is up to date with the new coverage and service information.

(iii) Ongoing operation of the service

83. As multiplex manager, Folder Media will be responsible to the MuxCo Gloucs board for the launch of the multiplex and its subsequent day to day operation; in particular:

- Overseeing bit rate variations, enhancements or projects required by service providers, such as EPG provision, temporary services and data developments.
- Working with service providers and the transmission subcontractor to maximise multiplex functionality and efficiency.
- Monitoring and fault reporting, ensuring that the output of all service providers is correctly logged and compliant with legislation and codes
- Helping to develop new revenue streams.

84. NGW has considerable resource and infrastructure to support the multiplex and as such will provide 24 hour monitoring of the network. By using a secure remote control system, NGW will control multiplex re-configurations, something MuxCo Gloucs will have remote access to should the need arise to take direct control. Multiplex reconfiguration will be undertaken in line with our policies and contractual agreements with service providers.

85. Folder Media will provide ongoing management cover for the multiplex, including purchase and sales ledgers, IT, secretarial, legal, research, marketing co-ordination and technical support.

86. Through the MuxCo website, we will promote digital radio generically and the services specifically. The main aim of the site, as well as providing a conduit of information between MuxCo Gloucs and service providers, will be to help educate and inform listeners, advertisers and equipment retailers.

(iv) Marketing

87. We believe that despite DAB digital radio having been 'live' for 9 years and there being high top-level awareness of the platform, there is still a considerable lack of understanding by the public of the benefits of the DAB, something we believe needs to be addressed. We recognise that as a sole body, our voice will be too small and inefficient. We will therefore seek to join the DRDB (or any successor) and will actively support industry-wide generic promotion of digital radio. We also propose to co-ordinate our local marketing activity with 4 Digital Group.

88. The key objectives of our press and communications activity will be to:

- Build interest and knowledge of DAB and specifically the radio services available
- Build audience awareness and raise the profile of DAB and content offerings to the consumer
- Build awareness amongst the trade audiences including advertisers and retailers

89. We will work closely with our service providers to help co-ordinate the locally focused marketing of digital radio generically, as well as of the services on the multiplex, with advice provided where relevant by Folder Media. There will also be excellent marketing opportunities by combining activity on MuxCo Hereford & Worcester multiplex with activity on MuxCo Gloucestershire.

90. Service providers are likely to undertake their own brand marketing highlighting their appearance on DAB. We will work with these service providers, particularly those that currently broadcast on analogue, to use airtime to promote DAB digital radio in a consistent manner across all MuxCo partner stations.

91. To fund membership of the DRDB, a contribution proportional to contracted capacity will be levied at cost from the month following the launch of the multiplex.

92. We believe that for listeners, multiplex owner identity is of little or no importance (and is potentially confusing). We will work with the DRDB to use a national through-the-line identity and graphic style that makes both digital radio and station brands the 'heroes'.

(b) Funding

Detail the sources of finance that will be used to fund the licence, under the following headings:

Source of finance	£
Share capital	40,000
Loan stock	40,000
Leasing/HP facilities (capital value)	0
Bank overdraft	0
Grants and donations	0
Other	0
Total	**£80,000**

Applicants should provide evidence that sufficient funds are available to each investing shareholder to cover their proposed investments.

93.   Letters of investment are provided in Part B.

Applicants should also provide a copy of the most recent unabbreviated accounts for each investing shareholder.

94.   The accounts for the shareholders will be provided to Ofcom under separate cover by each shareholder direct. MuxCo Ltd is a new company and details of its shareholders and funding commitment is provided in Part D.

Where relevant, provide information on:

   i)   Loan terms (e.g. interest rate, repayment terms, redemption/conversion terms);
   ii)   Assets leased.

All of the funding identified above should be confirmed to the applicant. Explanation should be provided if this is not the case.

95.   Loan stock will be issued interest free, as and when required. Loan stock will be repaid in a timely manner as permitted by the cash position of the company.

(c) Financial Projections

The purpose of this question is to allow the applicant to demonstrate its understanding of the market. The forecasts should be based on reasonable assumptions, which are logically applied and justifiable.

The applicant should confirm in writing to Ofcom that:

a) The projections contained in the financial model have been properly and accurately compiled on the basis of the assumptions listed and explanatory notes accompanying the projections
b) That the policies adopted follow generally accepted UK accounting standards
c) Such accounting policies have been properly and consistently applied.

Ofcom may request independent confirmation of the above, in the form of a letter from a firm of authorised UK accountants, addressed to the board of directors of the applicant.

The applicant should provide financial projections for the pre-operational period and on an annual basis for the subsequent 12 year licence period. The projections must include:

i) Profit and loss accounts
ii) Balance sheets
iii) Cash-flow forecasts
iv) Appropriate supporting schedules

The forecasts should be supplied on an Excel spreadsheet or similar and guidance notes should be provided. The applicant must also complete and submit the spreadsheet located at http://www.ofcom.org.uk/radio/ifi/rbl/dcr/ using information from its business model. Guidance notes for completion of the Template can be found in Annex 3 to this Notice. This section must include a full listing of the underlying assumptions on which the financial projections are based.

The application should detail how revenue figures were derived, distinguishing between:

i) access fees
ii) fees based on audience or revenue shares
iii) other fees (please specify)

Revenue forecasts should also distinguish between digital sound programme services, digital additional services and television licensable content services.

The application should clearly set out the fee structure for each service provider, and explain the reasons for any differences in fees paid between providers.

The response to this question may be submitted in confidence.

96.   Our response to this question is submitted in confidence in Part B.

(d) Audience Projections

97.   We have selected a TSA akin to that of BBC Radio Gloucester (473,000 adults). As our chosen transmitter network will cover the county (to help match the analogue footprints of Severn Sound and Star), service providers may still elect alternative TSAs for RAJAR research purposes.

98.   The following table summarises our audience projections for the simulcast services and digital only services.

	Year 1	Year 2	Year 3	Year 4
Severn Sound				
• Weekly Reach %	21.0%	20.5%	20.0%	20.0%
• Ave Hours	8.3	8.2	8.1	8.0
• Total Hours '000s	828	790	766	757
• Digital Hours '000s	48	88	123	150
Gold 774				
• Weekly Reach %	3.5%	3.8%	4.0%	4.1%
• Ave Hours	9.0	9.2	9.3	9.4
• Total Hours '000s	150	164	176	182
• Digital Hours '000s	12	23	35	43
Star 107.5				
• Weekly Reach %	2.5%	3.0%	3.3%	3.5%
• Ave Hours	8.8	9.0	9.1	9.2
• Total (& Digital) Hours '000s	104	128	141	152
• Digital Hours '000s	8	18	28	36
Smithy Rock				
• Weekly Reach %	2.2%	2.5%	2.8%	2.9%
• Ave Hours	4.0	4.4	4.6	4.8
• Total (& Digital) Hours '000s	42	52	59	66
Local Live				
• Weekly Reach %	2.0%	2.4%	2.7%	2.9%
• Ave Hours	4.0	4.6	5.0	5.3
• Total (& Digital) Hours '000s	38	52	53	71
Shuffle				
• Weekly Reach %	1.5%	2.0%	2.3%	2.5%
• Ave Hours	4.0	4.2	4.4	4.6
• Total (& Digital) Hours '000s	28	41	45	54
Easy Radio				
• Weekly Reach %	1.8%	2.5%	2.9%	3.0%
• Ave Hours	4.0	4.4	4.7	5.0
• Total (& Digital) Hours '000s	34	52	64	71
Variety Pop & Rock				
• Weekly Reach %	1.9%	2.5%	2.8%	3.0%
• Ave Hours	4.0	4.4	4.8	5.1
• Total (& Digital) Hours '000s	36	52	63	72
UCB				
• Weekly Reach %	1.3%	1.6%	1.8%	2.0%
• Ave Hours	4.0	4.3	4.6	5.0
• Total (& Digital) Hours '000s	25	32	40	47

	Year 1	Year 2	Year 3	Year 4
Traffic				
• Weekly Reach %	2.0%	2.5%	2.7%	3.0%
• Ave Hours	2.0	2.0	2.0	2.0
• Total (& Digital) Hours '000s	19	24	25	28

99. In relation to simulcast services, we have forecast their total hours across both analogue and digital platforms, and then apportioned digital hours.

iii) Projections for the total weekly number of listening hours anticipated for all digital sound programme services (national and local) both in absolute numbers, and as a proportion of all radio listening hours per week as recorded by RAJAR or equivalent audience measurement research, over at least the first four years of the service

	Year 1	Year 2	Year 3	Year 4
Population 15+ '000s	473	473	473	473
All radio hours '000s	10,377	10,333	10,290	10,246
All digital radio hours '000s	2,421	3,272	3,684	4,066
All digital hours as % of all radio hours	23.3%	31.7%	35.8%	39.7%
MuxCo Gloucs multiplex hours '000s	291	434	534	640
MuxCo Gloucs multiplex hours as % of all radio hours	2.8%	4.2%	5.2%	6.3%

iv) The basis on which the estimates above have been calculated, and any assumptions taken into account.

Audience projections for programme services

100. In estimating audiences, we have based our assumptions on RAJAR within the BBC Radio Gloucestershire TSA, which closely mirrors the population figures published by Ofcom for the PPA.

Projections for the total weekly number of listening hours

101. Projections for existing services are based on RAJAR for the performance of each service within this TSA, and for the proposed new services, on our consumer research.

102. In order to calculate projections for the total weekly listening hours for all digital programme services (national and local) both in absolute numbers, and percentages, we looked at the following factors to create a robust audience model:

- Population
- Total radio listening
- Digital share of listening
- The relative market shares of:
  o BBC Network
  o BBC Local
  o INR
  o ILR listening to stations originating in the area
  o Out of area ILR
  o Other radio listening

Population

103. The multiplex TSA covers 473,000 adults. We have reviewed RAJAR data within this TSA using rolled 12 month data over the three years to Q2 2007. Whilst we believe there will be population growth, we have prudently held the population as a constant for the first four years of the licence period.

Total Radio Listening

104. In the 12 month period to Q2 2007, 92.3% of Gloucestershire's adult (436,000 adults) listened to at least one radio service, on average for 23.9 hours, delivering total radio listening hours of 10,444,000. The market has experienced a small increase in the total listeners over the 3 years, as well as the average time spent listening. Detailed analysis is provided in answer to Q14.

105. Whilst we believe that increased radio choice will help stimulate the total market, a view confirmed by our consumer research, we believe it prudent to forecast some decline both in the penetration of all radio and total hours delivered. Competition from a wide range of new media, ranging from more TV choice, mobile phone and the internet will impact, especially on younger listeners. The following table summarises our forecasts of all radio reach and hours.

Population '000s	Year 1 473	Year 2 473	Year 3 473	Year 4 473
Reach %	92.2	92.2	92.1	92.1
Reach '000s	436	436	436	436
Total Hours '000s	10,377	10,333	10,290	10,246
Ave. Hours	23.8	23.7	23.6	23.5

Digital Share of Listening

106. To establish the potential share of listening attributable to digital, we have reviewed the digital radio penetration forecasts published by the DRDB, as well as other pertinent data as to the current and future take up.

107. Our penetration growth forecasts are based on the DRDB's 5 year forecast, which we have up-weighted using the known 2007 penetration data, and then carried forward the forecast growth on the basis of this new base.

108. We are comfortable with the DRDB forecasts:

- The latest sales data from the DRDB is that 5.1m DAB sets had been sold by the end of June 2007.
- 72% of the population are reported to be aware of DAB digital radio (source IPSO MORI Tracker Jan 07)
- RAJAR Q2 2007 highlights that 26.2% of adults are able to access radio via a digital platform.

109. Our consumer research highlighted that in Gloucestershire 28% already own a DAB digital radio, a finding higher than the UK average, with a further 4% being able to access a DAB radio.

110. We have created a long-term digital listening model using industry data and work undertaken by NGW. We have used their forecasts for digital share of listening as the starting point for calculating digital listening within the Gloucestershire area.

The relative market shares of the radio sectors

111. We have analysed the radio sectors of BBC Network, BBC Local, INR (i.e. services broadcast on national platforms), ILR listening to stations broadcasting from within the area, out of area ILR and other radio listening.

112. The following table summarises our views as to how each of these sectors will change in terms of the numbers of services provided under each and their relative markets shares between today, 2009 (the first full year of MuxCo Gloucs and the new national multiplex) and 2012. This analysis enabled us to establish a view on the overall radio market within Gloucestershire and the changes that each sector would experience. The detailed workings behind these numbers are provided in Part B.

	Analogue Stations 2007	Digital Stations 2007	Total Stations 2009	Relative share 2007	Relative share 2009	Relative share 2012
BBC Network	5	7	11	64.8%	60.5%	54.2%
BBC Local	1	0	1	9.8%	10.4%	9.5%
INRs	3	5	18	11.0%	13.0%	18.6%
ILR Gloucester	3	?	11	9.2%	11.3%	12.9%
Out of area ILR	-	1+	1+	4.5%	4.3%	4.3%
Other	-	-	-	0.8%	0.7%	0.6%
Total				**100.0%**	**100.0%**	**100.0%**

Section 51(2)(d): Cater for local tastes and interests

11. Proposed digital sound programme services

Provide, for each digital sound programme service for which capacity is to be allocated, a description of the service. This should include a short-form (no more than four or five words) description of the type of service (i.e. its 'format'), and should also include a summary of the type(s) of music and speech to be provided, together with a quantification of the proportions of these within the programme mix. The number of hours each day that the service will be broadcast, and details of any content unique to this local area (with trigger-points for when such content will be included if not from the commencement of broadcasting, as appropriate), must also be included. These format descriptions will form part of the licence. Therefore, questions of clarification may be asked prior to licence award and the wording amended to reflect this, if necessary. Examples of format descriptions included within existing radio multiplex licences can be viewed at: ttp://www.ofcom.org.uk/radio/ifi/rbl/dcr/.

113. MuxCo Gloucs will offer carriage to the existing commercial analogue services of Severn Sound, Gold 774 and Star 107.5. Each will be offered the opportunity to broadcast in stereo, an important requirement highlighted by our research. Together, these services are listened to by just over a quarter of all adults (119,000), and represent 10.7% of total radio listening. Their RAJAR audience results demonstrate their popularity.

114. Capacity has also been reserved for BBC Radio Gloucestershire.

115. Capacity has also been allocated for seven digital only services. Our local research demonstrates that these services cater for demanded local tastes and interests.

   - An easy listening melodic music service - *Easy Radio*
   - A rock service – *Smithy Rock*
   - A mixed music and speech service – *Local Live*
   - A service comprising music and listener generated content for teenagers and young adults - *Shuffle*
   - A service playing a variety of rock and pop
   - A Christian music and speech service - *UCB UK*
   - A traffic and travel service - *Traffic Radio*

116. Capacity has also been allocated for a Podcast Channel, which will provide opportunities for niche services to provide downloadable content offering a range of programming which will be targeted at specific interest groups.

Severn Sound

Format	Contemporary Hit Radio
Licence Description	A simulcast of Severn Sound (licence AL030); a contemporary chart music station for Gloucestershire, broadcasting predominantly current chart hits, new releases and hits up to 10 years old. Speech will feature news and information relevant to its target audience.
Local Content	Severn Sound broadcasts local programming from 6am to 7pm weekdays (5am to 10am and Midday to 7pm Saturdays and 5am to 10am and Midday to 4pm Sundays). Local news bulletins are broadcast during daytime.
Music to Speech	Minimum 85% music and 10% speech
Hours of Broadcast	24

Gold 774

Format	Gold
Licence Description	A simulcast of Gold 774 (licence AL029); a classic pop hit-led service targeted primarily at 35 to 54 year olds, broadcasting classic pop hits from predominantly 15 to 40 years before broadcast. Speech includes national and local news and information relevant to its target audience.
Local Content	Gold broadcasts a 4 hour locally automated programme each weekday, and provides local information and news, travel and information throughout daytime.
Music to Speech	Minimum 85% music and 10% speech
Hours of Broadcast	24

Star 107.5

Format	Local Full Service
Licence Description	A simulcast of Star 107.5 (licence AL225); a local FM service for Cheltenham and the surrounding area, playing AC and classic pop hit music from the last 5 decades. Speech features news and information relevant to its target audience.
Local Content	Local news bulletins are broadcast between 7am and 10am, and between 3pm and 6pm. The format requires the station to be live for at least 16 hours weekdays, 10 hours on Saturdays and 6 hours on Sundays.
Music to Speech	Minimum 80% music and 10% speech
Hours of Broadcast	24

Smithy Rock

Format	Classic Rock
Licence Description	A service playing classic and some new rock, targeting listeners aged 35 plus.
Local Content	A new service reflecting the regional rock music scene, and featuring artistes who have recorded at the Old Smithy studios. Speech will include music related information relevant to the audience, including regional news and information. Smithy Rock will also broadcast on the Hereford & Worcester and potentially other neighbouring local multiplexes. A service that broadens music choice.
Music to Speech	Minimum 90% music and 5% speech
Hours of Broadcast	24

Local Live

Format	Full Service
Licence Description	A full service providing mainly current and classic hit music and speech. Speech will include news, traffic and travel, entertainment news, sport and listener interaction. The target audience is aged 30 plus.
Local Content	This speech rich radio station will provide local and national news, as well as information pertinent to everyday lives. It will also include opportunities for listeners and local organisations to air their points of views. Other speech will include travel, weather, sport, general entertainment and what's on. The service will share resource and some programming with its sister service on the Hereford & Worcester and potentially other neighbouring local multiplexes. A service that will broaden music and speech choice.
Music to Speech	Minimum 50% music and 30% speech
Hours of Broadcast	24

Easy Radio

Format	Easy Listening
Licence Description	A broad range of easy listening music with a significant element of tracks with a country crossover influence, including rock, folk and blues.
Local Content	A network service offering a broadening of music choice. There are currently no plans to introduce local content on this service.
Music to Speech	Minimum 85% music and 10% speech
Hours of Broadcast	24

Shuffle

Format	Youth
Licence Description	A music station comprising listener-generated content and chart, dance and rock tracks, and focusing on the tastes and interests of under 35 year olds.
Local Content	Shuffle will reflect the trends of young people. It is a music intensive service, playing chart, dance and rock music alongside programmes and features created by local listeners. Speech will include information of relevance to the target audience. The brand will also broadcast on the Hereford & Worcester and potentially other neighbouring local multiplexes.
Music to Speech	Minimum 90% music and 5% speech
Hours of Broadcast	24

Variety Pop & Rock

Format	Variety Pop & Rock
Licence Description	A music intensive station of particular appeal to 35 to 54 year old adults, with news and information relevant to the target audience. Music will be broad based and mainstream spanning more than four decades.
Local Content	A service broadening music choice, with speech relevant to the area.
Music to Speech	Minimum 90% music and 5% speech
Hours of Broadcast	24

UCB UK

Format	Religious
Licence Description	A service providing contemporary Christian music and classic favourites, together with spoken features including news, Christian teaching and short features offering a Christian perspective on today's lifestyle.
Local Content	A network service broadening music and speech choice. There are currently no plans to introduce local content on this service.
Music to Speech	Minimum 60% music and 25% speech
Hours of Broadcast	24

Traffic Radio

Format	Traffic and Travel
Licence Description	Continuous traffic and travel information.
Local Content	The service forms part of the South West region. As such, it will cover all motorway and key trunk roads within the region, including a focus on Gloucestershire's road network.
Music to Speech	100% speech
Hours of Broadcast	24

Podcast Service

Format	Varied
Licence Description	A wide selection of speech and music podcasts provided by a range of companies.
Local Content	Podcasts will include material of a local nature.
Music to Speech	Minimum 5% music and 5% speech
Hours of Broadcast	24

Further information on the Podcast Service

117. The Podcast Service will provide an opportunity for those who have an interest to broadcast on the multiplex, but who are not yet in a position to finance a full service or who are currently unable to demonstrate a substantial listener base, to take an active role. In addition, there are providers who are established brands in other media but would like to test their content on a new platform, as well as providers of niche content carefully targeted at distinctive communities of interest.

118. We have had discussions with 4 Digital Group and other industry colleagues to align our podcast delivery system to ensure compatibility for listeners. We have also spoken with set manufacturers to ensure that new receivers are able to decode and store this material.

119. In our research, 22% of respondents and 38% of under 25s were interested in being able to download new specialist music and or speech programmes. Our research also highlights that the public are keen to experience downloadable material on a variety of different subjects. The Podcasts Service will therefore carry content that reflects many of these interests and will complement the proposed range of live audio services.

120. We believe that podcasts are a good way to meet listeners' content requirements where the economic benefit of running a live service cannot be met. We believe that certain material, in particular speech content, is best delivered in an on-demand style, where the lower cost base for production and transmission makes material easier and cheaper to distribute to local listeners.

121. Initial podcast providers will include:

News and Information
- 'ITN On' will provide a news and information service. The service will initially be audio, but as technology develops ITN wish to review opportunities for video.
- 'Itchy Media'', who produce Itchy Guides for major centres across the UK, will provide a dedicated guide for Gloucestershire.

Music
- 'Channelfly' produce one of the UK's biggest music magazines ('The Fly'), manage bands like Franz Ferdinand and the Kaiser Chiefs and operate a large network of music venues ('The Barfly'). Already a podcast producer, 'The Fly Podcast' will bring a unique new and live music service to the area.
- 'Totallyradio' is an internet delivered specialist music service. Covering genres from hip hop to nu jazz, they will provide a range of specialist music created by their producers and local talent.

Charity and Learning
- 'Headliners' (formerly Children's Express) is a charity that encourages learning through journalism. They act as a news agency with young people writing and recording their own stories for broadcast. DAB podcasts are an excellent opportunity for local children to get their stories on the air.

Specialist
- Passion for the Planet are keen to expand their world music and environmental issues service but need to do at so an appropriate and economical rate. Their podcast will include best of material from their existing service with local features of interest to Gloucestershire residents.
- 'Sabras Radio' are keen to develop a localised podcast for Gloucestershire's Asian population.
- 'Sunrise is keen to develop their youth Asian focused service, Yarr, through podcasts in markets were the potential audience size is not sufficient to maintain a full service.

Local content
We believe that digital radio should be open to as many broadcasters as possible. There are already many local podcasters in Gloucestershire and DAB offers them a new outlet for their locally specific material. We have spoken with a number of local groups and organisations and can confirm the following. We will actively seek other local Podcast service providers:

- The Gloucestershire Echo produces podcasts for distribution online at www.thisisgloucestershire.com. They will be developing these further over the next year and are keen to use DAB to broadcast them to a wider audience.
- Tone Radio is Gloucester University's student radio station. They are keen to provide programming to demonstrate the station's and the University's activities in the local area.
- North Cotswold Community Radio is a new online radio station for listeners in the North Cotswold area and they are looking to expand their content distribution across a number of different platforms.

a) **Outline the expected target audience of each digital sound programme service to be accommodated on the multiplex, in terms of demographic profile (i.e. age range, gender, socio-economic background), ethnic composition, and/or any other relevant characteristics. To what extent will each of these services cater for local tastes and interests, general or particular?**

	Severn Sound
Target Audience & Demographic Profile	• 103,000 adults (21.8% of all adults) listen to Severn Sound each week, making it the leading commercial service in the multiplex TSA (it achieves 26% reach within its own TSA). • Principal listening is amongst those aged under 44. • It has a strong female audience (56%, against a TSA profile of 52%). • Whilst delivering almost equal number of ABC1 and C2DE listeners, this is in contrast to the population which is very ABC1 biased (59.5%).
Local Tastes & Interests	As Gloucestershire's heritage local commercial service, many tune into Severn Sound for its local news, travel and information features, as well as its broad music repertoire. Its strength as a local service is evident through RAJAR. Severn Sound broadcasts half hourly news bulletins between 6am and 9am, with hourly bulletins between 9am and 7pm. At weekends, local bulletins are broadcast between 7am and 1pm. Bulletins contain local and national stories, sport, weather and entertainment news.
Summary	Severn Sound appeals to those with an interest in contemporary hit radio. Despite recent declines in reach and average hours, it remains the most popular local service across the county, providing local news and information. Our research highlights that existing ILR listeners have high interest in DAB functionality, in particular being able to pause, rewind and record programmes, visual enhancements through a colour screen, music downloads and red button functionality than BBC radio listeners. Given its current strong market position and a predisposition of its listeners to utilise the ancillary advantages of DAB, Severn Sound will play an important role in the promotion of digital radio. In addition, as an existing service, Severn Sound is able to enhance its digital proposition with specific DAB only content. • Existing heritage service • 25 to 44 age profile • Female bias • Promoter of DAB and encourages trial

Gold 774	
Target Audience & Demographic Profile	• 3.6% of all adults in the multiplex TSA listen to Gold each week (4% within its analogue TSA). • The station has a particular appeal with 45 pluses, a demographic that accounts for 68% of all listeners. • Gold has a female bias, in keeping with the population profile. • The service is markedly C2DE (69% of listeners); a reflection of its older age appeal.
Local Tastes & Interests	In the main, Gold is a network service, with one 4 hour automated local programme provided each weekday, with county news and information provided across the day.
Summary	A popular format, but one that over recent years has suffered from broadcasting on AM. As such, we believe the format has great potential as a digital service. As previously stated, ILR listeners have a high interest in DAB functionality. MuxCo's commitment to provide functionality to enable slideshow, music downloads and red button functionality will help both DAB and services such as Gold. • Existing heritage service • 45 plus age profile • Female bias • C2DE • Promoter of DAB and encourages trial

Star 107.5	
Target Audience & Demographic Profile	• Across the multiplex TSA, Star achieves a 2.5% reach, which equates to 6% in its analogue TSA (which is just one third of the multiplex TSA). • It has particularly strong appeal amongst men (55% of the total audience), and a pronounced ABC1 profile (62.2%). • Its strong male appeal would appear to be a result of the high 21.2% contribution that men 35 to 44 make as a share of the total weekly audience.
Local Tastes & Interests	Star focuses on Cheltenham and the surrounding area, and broadcasts local news, information and features of particular local relevance, such as what's ons, entertainment, sport and travel information.
Summary	Star will benefit from the transition to DAB, being able to maintain listenership amongst its audience as they travel across the county. Its business model can be further advanced with the adoption of DAB ancillary and additional features that MuxCo will make available. • Existing local service • 25 to 54 age profile • Male bias • ABC1 • Promoter of DAB and encourages trial

Smithy Rock	
Target Audience & Demographic Profile	• The principle audience is aged 35 to 64, but with significant interest amongst under 35s. • It has broad appeal amongst both males and females, and an ABC1 bias. • The format should be a strong motivator to digital take up, with 68% of those wanting to hear this service not yet owning a DAB radio. • There is strong appeal among BBC listeners - 70% of those wanting to hear classic rock currently listen to BBC stations, and 31% only listen to BBC stations.
Local Tastes & Interests	A classic rock service with a focus on the Midlands' rock scene, playing tracks from the last 4 decades, with a sprinkling of more recent tracks that will stand the test of time. Primarily a music service, speech will include content relevant and of interest to the audience. As well as broadcasting to Gloucestershire, it will also broadcast to Hereford & Worcestershire, and potentially other contiguous local multiplexes.
Summary	A popular format with broad audience appeal. It would bring new listeners to DAB digital radio and attract an audience from the BBC. • New service • Strong 35 to 64 • Broad male and female appeal • ABC1 • Attractive to solus BBC listeners

Local Live	
Target Audience & Demographic Profile	• The target audience for Local Live is adults aged 30 plus. • Research highlights that more than three quarters of those interested are aged 35 plus, with almost equal appeal among men and women. • A high 72% of respondents wanting to hear this format do not currently own a digital radio, indicating this service should be an excellent motivator for digital take up. • There is high interest in this format among those who currently have BBC stations in their listening repertoire (78%) or who only listen to the BBC (46%).
Local Tastes & Interests	The only mixed music and speech service for the county, and the first commercial station with an objective to offer a speech rich service. The Local Live brand will also broadcast on the Hereford & Worcester multiplexes, with whom programming and resources will be shared, and potentially on other contiguous local multiplexes.
Summary	A popular format with broad audience appeal. It would bring new listeners to DAB digital radio and attract an audience from the BBC. • New service • Distinctive service • Broad appeal, particularly 30 pluses • Equal male and female appeal • Excellent motivator for digital take up • Attractive to current BBC listeners

Easy Radio	
Target Audience & Demographic Profile	• Research highlights high interest in the Easy Radio concept. • This service will appeal to a 45 plus listener, who will account for 58% of the audience. • Interest is almost evenly divided between men and women, with an overall ABC1 bias. • The service should be a strong motivator to stimulate DAB take up, with 65% of those choosing the service not currently owning a digital radio. • This service also has the potential to draw listeners away from the BBC – more than three quarters of those expressing interest currently listen to BBC stations, and half <u>only</u> listen to BBC services.
Local Tastes & Interests	Easy Radio is essentially a music experience, with a broad range of easy listening music from the 60s to today, and some music specialisation, such as country, creating a relaxing environment for the listener. Speech will include news, relevant information for the audience and an element of interactive programming. A network service that will also broadcast on Hereford & Worcester.
Summary	A popular format that would appeal to an older audience, bring new listeners to DAB digital radio and attract an audience from the BBC. • New service • 45 plus profile • Appeals to men and women • ABC1 • Attractive to solus BBC listeners

Shuffle	
Target Audience & Demographic Profile	• The format has high appeal with its target under 35 audience - 66% of those registering interest were under 35 • It has equal appeal among the sexes, and a slight ABC1 bias. • Another new service that will stimulate digital take up, particularly among younger demographics, with 55% of those expressing interest not currently owning a DAB radio. • High interest in the format from those who are heavy BBC listeners – 78% of those expressing interest are BBC listeners and more than a third only listen to BBC services.
Local Tastes & Interests	A youth format, reflecting on the musical tastes and interests of listeners in the area. It will be the first station in the area specifically targeting the area's younger listeners, enabling them to submit their own music for airplay, as well as contribute to programming. Shuffle will also broadcast on the Hereford & Worcester multiplex, and potentially on other contiguous local multiplexes.
Summary	The station's musical genres (of modern rock, chart and dance) are extremely popular with the target audience. In contrast to the broader focused analogue local services (and niche specialist formats available on other platforms), this format will super-serve its listeners with information relevant to the target audience, including music updates and what's on. • A popular new service • Under 35 profile • ABC1 • Encourage DAB trail • Attractive to BBC listeners

Variety Pop & Rock	
Target Audience & Demographic Profile	• A format with particular appeal to 35 to 54 adults, with a male and slight ABC1 bias. • The format has strong appeal amongst those who currently do not own a DAB set. • It is also likely to attract a considerable percentage of its audience from the BBC (with 38% of those interested being BBC solus listeners).
Local Tastes & Interests	A music service that will appeal to a demographic that traditionally has grown up with commercial radio but has increasingly found itself switching to music services provided by the BBC, especially from BBC Radio 2.
Summary	The service will complement the existing local commercial choices by appealing mainly to older adults; an audience that has left commercial radio for stations like Radio 2 that better cater for their musical tastes. • New service • 35 to 54 age profile • Male bias • ABC1 • Attracts audience from BBC • Encourages DAB uptake

UCB UK	
Target Audience & Demographic Profile	• UCB UK targets all adults, although research highlights main interest to be with those aged 55 plus. • It is likely to have a slight female bias and deliver a strong ABC1 profile. • Just under 60% of those choosing this service do not currently own a DAB radio, indicating another service that should help drive take up. • A very high 80% of those wanting to listen to this type of service are currently listeners to BBC stations, while more than a third listen exclusively to BBC stations.
Local Tastes & Interests	UCB UK is a networked Christian radio station for the whole family. It will bring a unique service to the area, offering a rich alternative to existing provision. It will also provide a wide range of programming to inspire and transform the listening experience. The station is non-commercial, carrying no advertising other than for in-house services.
Summary	UCB UK will appeal to listeners who want to hear programmes with religious themes or would like a station with a heavier speech to music ratio. It will also provide good commercial radio competition to the BBC and attract new listeners to DAB digital radio. • New service • Broad audience appeal, but delivering an older 55 plus profile • Attract audience from the BBC • Female bias • ABC1 • Encourage DAB

Traffic Radio	
Target Audience & Demographic Profile	• The target for the service is broad, appealing not just to business commuters, but also housewives and parents with children. • Our research highlights very strong interest for a station broadcasting traffic and travel news and information.
Local Tastes & Interests	An innovative service from the Highways Agency providing 24/7 regionalised traffic and travel information and focusing on all major road networks. On traditional radio services, traffic bulletins are provided sporadically, at a time when the station wishes to provide them rather than when an issue arises. Their frequency also varies across the week, with significantly lower non-peak and weekend updates. Traffic Radio is a service to which drivers are able to 'dip-in' prior to or during a journey.
Summary	By making information about the road network more accessible, the proposed service will help reduce congestion by informing motorists about major congestion problems, thereby enabling them to divert, delay or cancel their journey. The benefit of the service is not just to individuals, but also to business. Reducing road journey times will help deliver environmental benefits through reduced emissions and improved driver safety. With broad appeal, the service should have a significant benefit on the take up of DAB receivers. • New service • Broad interest • Encourage DAB in-car listening

Podcast Service	
Target Audience & Demographic Profile	• The Podcast Service will include content of interest to all age groups, males and females. • Interest in the service is particularly strong amongst younger audiences; almost two thirds would be under 45, with a quarter aged under 25. • The service will help promote DAB uptake, and therefore a move to DAB+, with 57% of those interested in the service not owning a DAB radio. • 77% of those interested are BBC listeners, with 40% listening only to BBC services.
Local Tastes & Interests	The service will carry a wide range of material, ranging from music to speech, and from content that will have national interest to content with a particular focus on Gloucestershire.
Summary	The Podcast Service will enable the multiplex to cater for niche tastes and interests and small communities of interest, which would not otherwise be sustainable on a 24/7 basis. • An innovative new service • Strong youth appeal • Encourage DAB uptake

b) **If agreement has been reached (either firmly or provisionally; state which) with particular providers of some or all of the digital sound programme services to be accommodated on the multiplex, identify these programme providers. For each one, state whether it has already been issued by Ofcom with a licence to provide a local digital sound programme service.**

Service	Service Provider	Confirmed	DSPS Held
Severn Sound	GCap Media plc (or alternative)	See Part B	Yes
Gold 774	GCap Media plc (or alternative)	See Part B	Yes
Star 107.5	UKRD Group Ltd	Yes	Yes
Smithy Shuffle	Murfin Media Ltd	Yes	No
Local Live	Town & Country Broadcasting Ltd	Yes	Yes
Easy Radio	Easy Radio Ltd	Yes	Yes
Shuffle	MuxCo Gloucestershire Ltd	Yes	No
Variety Pop & Rock	See Part B	See Part B	No
UCB UK	United Christian Broadcasters Ltd	Yes	Yes
Traffic Radio	Highways Agency	Yes	Yes
Podcast Service	Folder Media Ltd	Yes	No

122. MuxCo will provide opportunities for service providers to create new and innovative content streams. Our chosen multiplex platform will support Dynamic Label Services ('DLS') and MOT carousel using simple, industry standard interfaces allowing service providers to use the "off-the-shelf" and well-supported software packages for generating content. Therefore, from launch, all service providers will have access to:

- Scrolling text functionality
- Electronic Programme Guide

123. As data technologies and standards mature, we will work with service providers to launch other data services (such as Broadcast SlideShow etc).

Dynamic Label

124. DLS is a very simple technology, which gives it enormous strengths. It provides an immediate point of difference between a digital radio and a traditional FM receiver. Consumers value the information provided unexpectedly highly – informal feedback from listeners is very positive about features such as displaying information on the currently playing song. The industry has recently begun to develop DLS into a commercial opportunity, with advertisers recognising the value of DLS as an additional communications tool.

125. We are supportive of recent extensions to the DLS spec, such as Pure Digital's IntelliText® technology, which stores the scrolling text to allow the user to navigate, by topic, straight to the news they want. Service providers can generate DLS very simply, using a range of software packages that integrate into their existing systems. DLS is transmitted in the XPAD.

Electronic Programme Guide

126. Electronic Programme Guides ('EPG') are important in a multi-channelled environment – they allow listeners to find stations and programmes quickly, and enable functionality like "time-shifting" of stations. They enable service providers to promote their new services and programmes, and also allow the user to take advantage of features such as programme summaries, search by subject or channel, immediate access to the selected programme and also to set reminders for their favourite shows.

127. Our research showed a comparatively strong interest in an EPG. We will make an EPG channel available to all service providers. This channel will conform to the ETSI TS 102 371 DAB EPG standard, currently broadcast by the two existing national multiplexes. We will encourage our service providers to use some of the more advanced features of the EPG, such as "series linking" and incorporating telephone, SMS, website and email addresses into the schedule data.

128. We have had detailed discussions with All In Media Ltd ('AIM') relating to the launch of an EPG channel on the multiplex. AIM's Managing Director, Chris Gould, led the WorldDMB TaskForce that created the DAB EPG standard. In the event of award of the licence, it is our intention to work with AIM to launch an EPG from the start of the licence term. The EPG will be transmitted in a dedicated packet data channel.

129. We also believe an enhanced EPG will allow listeners to navigate the podcasts that are available from the multiplex.

Use of variable-XPAD

130. From launch, we will enable each service provider to be able to run programme-related data services within their short XPAD data capacity. With Folder Media and other associates, we have a strong team who have substantial experience in the field of launching data services, ranging from the work that was undertaken on the world's first commercial data services in 2000 through to the development of standards such as the EPG and the launch of highly dynamic text services.

131. We intend to use our experience to help service providers to launch new programme-related data services. For example:

Tagging (Book marking)
- The ability to log a song on your mobile phone/device in order to download it later.

Broadcast Slideshow
- The ability to add visual content to make programmes and adverts more engaging, for example showing the cover of the record currently playing, or an image of the car being advertised.

"Red button" functionality
- *Competitions and Voting* - a listener could use the red button to vote on the next tune to be played or select the correct answer to win a prize.
- *Enhanced Advertising* - an advert for a new car could be visually demonstrated through a screen, with red button functionality sending information via a URL link to the external car dealer's web site.
- *Rewards* – creating opportunities for listeners to get free content (perhaps music downloads) in return for responding to an advertiser's call to action, or clicking through to the web page could generate redeemable loyalty points.

Podcast Channel

132. The multiplex will broadcast a Podcast Channel, managed by Folder Media Ltd. The channel will be a carrier for a variety of different podcasts (outlined in the answer to question 11) from a range of different service providers.

Other services

133. Folder Media, our data service provider, intends to provide a music download capability such as the new Instant Music Buying Service 'Cliq' from UBC, which will provide a value enhancing service for radio services, providing opportunities for listeners to access and acquire music on the go.

d) **If it is intended to use an encryption system, state that this is so, and make clear to which digital sound programme services it will apply, and how listeners will subscribe to the service.**

134. It is not proposed that any services will be encrypted and none of the proposed service providers has indicated an interest in encryption.

12. Digital additional services and television licensable content services

Provide details of any digital additional services and/or television licensable content services planned, other than programme-related data services (see Q.11(d) above), and the proportion of the total multiplex capacity which will be allocated to each of these.

The response to this question may be submitted in confidence.

* Applicants should note that this information is not relevant to section 51(2)(d), which relates only to digital sound programme services, but this question is positioned here for convenience.

135. Our response to this question is submitted in confidence in Part B.

Section 51(2)(e): Broadening of local commercial DAB choice

13. Broadening of choice

Outline how the programming provided by the local digital sound programme services (other than BBC services) proposed will broaden the range of local digital sound programme services available in the area, and describe the extent to which the proposed local digital sound programme services will cater for tastes and interests different from those already catered for by local digital sound programme services already available in the area. If the licence applied for is the first local radio multiplex licence to be advertised in an area, detail the breadth of programming delivered by the range of local digital sound programme services to be provided on that local radio multiplex alone.

136. The Gloucestershire multiplex is the first and likely to be the only local multiplex for the county. The county is fringed by local multiplexes to the north (the new MuxCo Hereford & Worcester multiplex), the east (the new Oxfordshire multiplex) and the south (NOWdigital's Swindon and Bristol, as well as MXR's Severn Estuary multiplexes). As such, listeners around the border of the county already have access to increased choice. However, for most residents, the only increase in local choice will be from this new multiplex.

137. We believe that MuxCo Gloucs will deliver a breadth of programming that will provide a genuine increase in commercial radio choice. In addition to existing local commercial services, the multiplex will carry a selection of locally focused services, as well as a number of networked, nationally focused services targeting specific communities of interest. The following table summarises our overall breadth of programming, which has been measured by the range of local digital services to be provided on the multiplex.
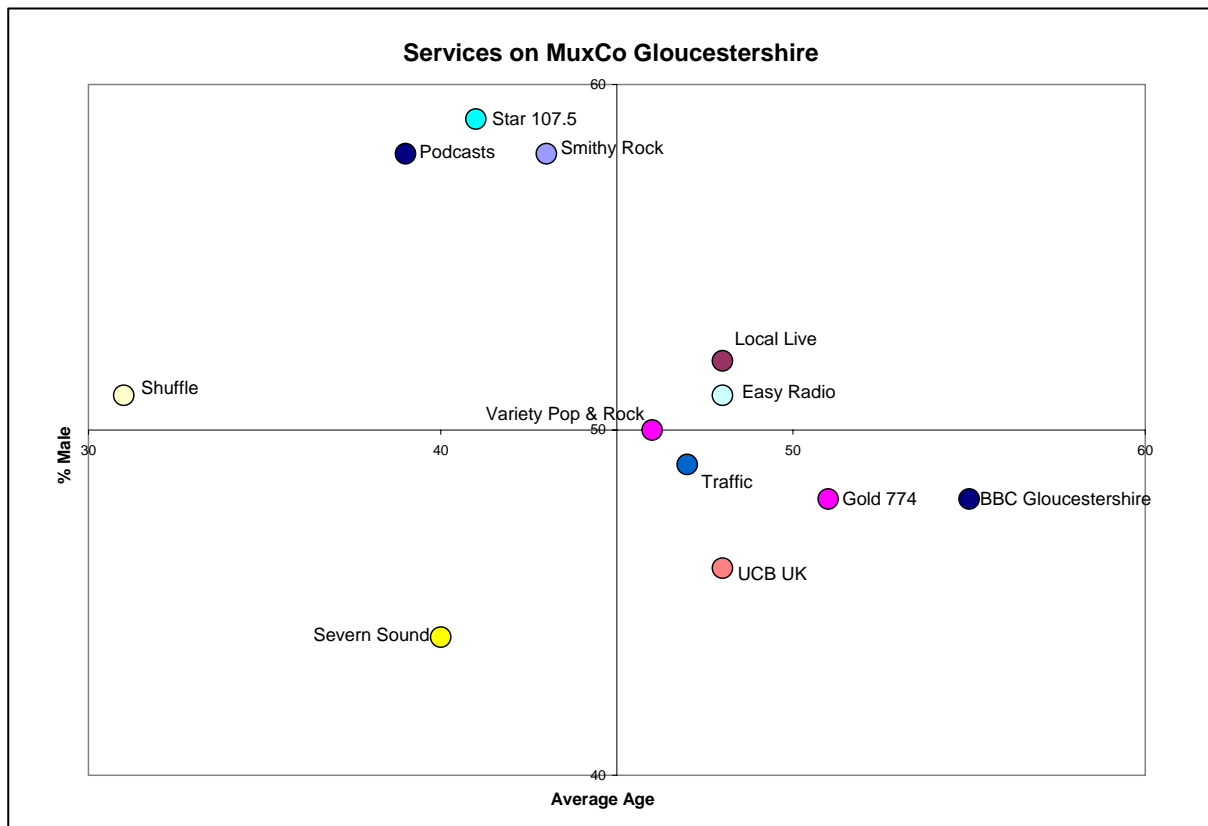
Severn Sound	A contemporary and chart hit music and information station for 15 to 44 year olds. Music is predominantly current chart hits, new releases and hits up to ten years old. Whilst the station is music led, local news and information features are provided across daytime. As a broad appeal format, it will overlap to a degree with the music played on some other music focused services. However, none of the new services cover the range of music played by Severn Sound. In addition, Severn Sound's heritage position and editorial focus will ensure that it continues as a key local service.
Gold 774	A gold music service playing hits from the last four decades. Gold broadcasts a unique 4 hour automated local programme each weekday. At other times, it shares network programming with other Gold services, although with local drop-ins, news and advertising. The upgrade to digital and stereo output will help improve the sound of the station and its appeal to potential listeners who have yet to enjoy its mix of music, personalities and local information. Whilst there will be some musical overlap with broad formatted services, Gold is the only service focused on this genre. In addition, specific local programming and local news and information for Gloucestershire provides a differentiator.
Star 107.5	An FM station providing a locally focused music and information service for a 25 plus audience living in and around Cheltenham. Musically, Star plays a wide mix of adult contemporary and classic hit music. As a broad appeal service playing a broad music mix, there will be some music overlap with Severn Sound and Gold. Star's editorial policy, presentation style and local focus, however, provides significant differentiation.

Smithy Rock	A classic rock service focusing on the Midlands rock scene and reflecting the music heritage created at the Old Smithy studios. It will be the only local rock service audible within the TSA.
Local Live	A mixed music and speech service, playing a broad mix of current and classic hits, alongside local, national and international news, information relevant to the listener and interactive programmes. As the only commercial speech-rich service on the multiplex, it will cater for the untapped demand for news and information. Its will also provide an alternative source of news and speech to the popular BBC Radio Gloucestershire.
Easy Radio	A music based service playing a range of easy listening genres featuring familiar music from 60s to today and drawn from a broad library. The broader music mix of Easy Radio, including music from artists with a country crossover influence including rock, folk and blues, provides a point of difference and a broadening of choice over other proposed services. Speech, with news and relevant information for the audience and an element of interactive programming, will also act as another point of differentiation. In addition, plurality of ownership provides additional broadening of choice.
Shuffle	A youth station focusing on the tastes and interests of under 35s, with an emphasis on under 25s, exclusively playing a mix of chart, dance and rock tracks. The range of music will be Shuffle's principal differentiator, as will its positioning as a youth service and its style and editorial focus. In addition, Shuffle will have a commitment to listener-generated content. For younger listeners, Shuffle will be a welcome addition to the radio landscape, providing strong local commercial competition to BBC Radio 1.
Variety Pop & Rock	A music intensive service appealing to 35 to 54 year olds. Music would be broad based, featuring well known pop and rock album tracks. It will cater for an audience that has left commercial radio for the BBC. Given the scope of the format, there will be some music crossover with other services. However, the broader music repertoire, its focus on 35 to 54 year olds and its overall presentation style will be significant differentiators.
UCB UK	A unique service targeting the Christian community with contemporary Christian music and classic favourites, alongside news, current affairs, teaching and a positive perspective on today's lifestyle. UCB UK will cater for the many listeners who would like a Christian perspective on the radio and enjoy a more speech-led radio experience. There will be minimal music overlap between UCB UK and other services on the multiplex.
Traffic Radio	A unique service providing regular and up to date traffic and travel information. It will be distinct from other services on the multiplex and from other travel services available in the county. While existing services provide traffic and travel bulletins, these are often limited in scope and only broadcast during peak programming. Only Traffic Radio will provide traffic information 24/7.
Podcast Service	A mixture of music and speech content, serving a broad range of tastes and interests that will complement the full time services carried by the multiplex. The inclusion of a Podcast Service will bring additional listening choice to all, and especially younger demographics.

138.   As a whole, the proposed complement of services caters for:

- People interested in hearing local news and information, with at least 7 services providing such content and with the Podcast services providing further localness, and catering for different tastes and interests.
- A wide age range, albeit with more choice for the 35 pluses because of their dominant position within the population and because of a willingness to switch from the BBC with the right choices available. Additional choice for younger listeners will be provided through Shuffle and the Podcast Service.
- A significant proportion of the population, as well as for a broad range of listeners' tastes and interests.

139.   The following chart summarises the profiles of each service to be carried on the multiplex in relation to their age and male to female interest. It highlights how the proposed new services will complement existing choice. Information for existing services is taken from RAJAR and for the new services from our commissioned research.

Section 51(2)(f): Local demand or support

14. Audience requirements

Summarise the main findings of any original market research undertaken, or any analysis of existing audience research information, or any other form of evidence which demonstrates demand for the types of programme service and/or programme-related data or other data services proposed, or has otherwise influenced the applicant's proposals.

If original market research has been undertaken, please provide the following information for each piece of research:

a) A statement of the key objectives of the research;
b) The specific questions that the research sought to answer;
c) How the research was conducted;
d) The size and composition of the sample(s);
e) When and where the research was conducted;
f) A summary of the main findings from the research, showing how these demonstrate evidence of demand for the service proposed – this summary should represent a fair and accurate summary of the full results;
g) A copy of any detailed audience research report or analysis, from which the summary provided in the main application document has been derived, full data tables for any quantitative research undertaken, and any questionnaire used (these may be submitted in confidence).

Please provide your responses to (a) – (e) in tabular format.

	Key Objectives	Specific Questions	How Conducted	Size and Composition	When
Desk Research	To analyse the local market To get an up to date picture of the digital landscape.	To review population growth and change. To track digital penetration.	Analysis of Census 2001 data. Review of DRDB and relevant RAJAR data on digital audiences. Analysis of existing multiplexes.	Not relevant	July to September 2007
RAJAR	To understand the local radio market.	To track the performance, strengths and weaknesses of existing services.	Using the Octagon analysis system and RAJAR data.	Not relevant	July 2007 and again September 2007
Consumer Study	To further understand the local radio market. To gauge consumer awareness, understanding and usage of DAB digital radio. To quantify interest in potential formats and data usage applications. To estimate audience levels, individually and collectively, for the proposed complement of services.	To investigate the performance, strengths and weaknesses of existing services. To identify the likely audience profiles for each planned service and to see how these services work collectively to enhance the total audience potential for DAB digital radio. To look at the propensity to listen and the impact that the new services collectively would have on the existing market.	Consumer survey conducted by TNS. All interviews conducted face to face using Computer Aided Personal Interviewing equipment.	500 adults 16+ from across the PPA. Sampling PPS Quota controls to known demographic profile.	9th August to 8th September 2007

140.   We have provided an analysis of our research under the following headings:

- The Gloucestershire market
- Radio choice
- Current radio listening habits
- Uptake of DAB digital radio
- What people would like from digital radio

The Gloucestershire market

141.   Gloucestershire, which borders Wiltshire, Warwickshire, Monmouthshire, Herefordshire and Oxfordshire, covers an area of over a thousand square miles. It is essentially a rural county, with significant activity in farming, forestry and horticulture.

142.   Split into three areas - the Cotswolds, the Royal Forest of Dean and the Severn Vale, the county has a population of 575,200, which has been forecast to grow by 3.8% over the next decade. The areas of Cheltenham, Gloucester, Stroud and Tewkesbury are forecast to experience the highest levels of growth.

143.   Gloucester is the main administrative centre and is situated in the Severn Vale area. A historic cathedral city, whose significance dates back as far as Roman times, it is also one of the main employment centres, with a diverse industrial base that is home to many engineering firms and a growing service sector including some large insurance companies.

144.   Cheltenham is the best-preserved regency town in Britain, which originated from the accidental discovery of a saline spring in the early 18th century. With a population of around 110,000, as well as a strong shopping reputation, Cheltenham also has a strong festival culture, with a diverse range of events, including literature and jazz. The Gold Cup in March is the highlight of the National Hunt racing calendar, and attracts hundreds of thousands of visitors. These two urban areas account for nearly 50% of the county's employees.

145.   In Roman times, Cirencester was the second largest town after London. Today, it has a population of 17,000. The town lies on the lower dip-slopes of the Cotswold Hills, adding to transmission coverage issues. It is a popular tourist and shopping destination. Stroud, which is situated below the western escarpment of the Cotswold Hills is noted for its steep streets and cafe culture. Whilst Stroud still has a small textile industry (the green baize cloth used to cover snooker tables is made here), the town functions primarily as a centre for light engineering and small-scale manufacturing, and a provider of services for the surrounding villages, with a weekly farmers market in the Cornhill.

146.   Gloucestershire is part of the high performing north east area of the South West region. It benefits from major road links both north and south (M5), and east and west (A40) through the county, with train links to London, Midlands, the South West and South Wales. The county maintains a significant manufacturing presence, with a particular strength in advanced engineering. It is also a major centre for banking, insurance and business services, with the headquarters of Cheltenham & Gloucester plc, Zurich, Stroud & Swindon Building Society and Endsleigh Insurance located in the county. A number of government departments are also located here, including GCHQ.

147. The potential adult population within the multiplex area is 460,042. For analysis, we have adopted the BBC Radio Gloucestershire TSA, and its adults (15+) population of 473,000 (Q2 2007). The following table highlights the relative demographic splits of the population, with comparison to the UK as a whole.

	Gloucestershire	UK	Index on UK
15 to 24	9.8%	16.1%	61
25 to 34	14.8%	15.5%	95
35 to 44	20.0%	18.4%	109
45 to 54	17.4%	16.0%	109
55 to 64	17.6%	14.5%	121
65 plus	20.5%	19.5%	106
ABC1	59.5%	53.6%	111
C2DE	40.5%	46.4%	87
Male	48.5%	48.6%	100
Female	51.5%	51.4%	100

- Gloucestershire has a marked under representation of 15 to 24 year olds, with this age group almost 40% smaller than the UK average.
- Whilst 25 to 34 year olds are also under represented, it is by a much smaller 5%.
- All age groups 35 plus are over represented in the population, particularly 55 to 64 years (the baby boomers) where the level is 21% higher than the UK average.
- Gloucestershire has a significantly higher level of ABC1s when compared with the UK as a whole.
- The county's strongly atypical population profile has had a significant bearing on the range of services we propose to offer on the multiplex.

Radio choice

148. Three local commercial analogue services and one local BBC service are currently audible in the county.

- Severn Sound (owned by GCap Media)
- Gold 774 (owned by GCap Media)
- Star 107.5 (owned by UKRD Group)
- BBC Radio Gloucestershire

149. Our RAJAR analysis indicates that whilst there is some listening to services from neighbouring areas, this level of other listening is substantially lower than the UK average (0.9% v 2.1%).

150. With regard to national radio, the national services of the BBC and commercial services carried by Digital One are audible across the county, as will the services proposed by 4 Digital Group from summer 2008. No local multiplex currently covers the area, although a number are audible in parts of the county.

Current radio listening habits

151. RAJAR audience data has been analysed within the BBC Radio Gloucestershire TSA, using rolled 12 month periods to Q2 in each of the last 3 years. The following table details total audience and hours over this period.

	2005	2006	2007
Population '000s	**463**	**474**	**473**
Reach %	86.5%	92.4%	92.3%
Reach '000s	401	438	436
Total Hours '000s	9,435	10,914	10,444
Ave. Hours	23.5	24.9	23.9

- In 2005, radio achieved an abnormally low level of reach
- Over the last two years, reach has been more stable (and more in line with national averages).
- Whilst still higher than in 2005, a decline in time spent listening to all radio has occurred in the 12 months to Q2 2007.

152. We have reviewed radio listening in Gloucestershire against data for the UK as a whole to gauge how listening in the county compares with elsewhere. The following table summarises RAJAR performance for the 12 months ended Q2 2007 within Gloucestershire and compares this with the UK as a whole.

Market Share	Gloucestershire	UK	Index
All BBC	**74.6%**	**54.8%**	**136**
• BBC Network	63.2%	44.4%	142
• BBC Local	11.4%	10.4%	110
All Commercial	**24.5%**	**43.1%**	**57**
• INR	10.8%	8.8%	123
• ILR	15.1%	34.3%	44
Other	**0.9%**	**2.1%**	**43**

153. The BBC dominates radio listening in Gloucestershire:

- 'All BBC' currently accounts for 74.6% of all radio listening, significantly higher than its national average of 54.8%.
- BBC Network services perform significantly above average (index of 142).
- BBC Local radio also performs above the UK average, although to a lesser degree.
- Commercial radio's performance is 43% below its UK average; a result of the low level of local commercial choice currently in this market and its focus on serving younger age groups who represent less than a quarter of the population.
- In relation to national commercial radio, Classic FM and Virgin Radio both perform above average (indexes of 138 and 177 respectively), whilst Talksport underperforms (index of 55).

154. The following table details the relative historical market shares between the BBC and commercial radio within Gloucestershire for three key age groupings, and compares the 2007 data with results for the UK as a whole.

Market Share by Age	2005	2006	2007	12 mths ended Q2 2007 - UK
15 to 34				
All Commercial	40.2%	37.2%	29.1%	56.0%
All BBC	59.1%	60.7%	69.4%	41.5%
35 to 64				
All Commercial	28.0%	28.1%	25.5%	43.5%
All BBC	71.2%	70.9%	73.6%	54.3%
65 pluses				
All Commercial	16.0%	16.3%	17.8%	25.1%
All BBC	83.5%	82.9%	81.9%	73.4%

Source RAJAR 12 mths ending Q2

- Compared with the UK, commercial radio in Gloucestershire under-delivers in all age groups, resulting in strong BBC domination. Share for the BBC has improved dramatically among 15 to 34 year olds in the past couple of years, with market share increasing 10 percentage points, from 59.1% to 69.4%.

- Whilst commercial radio's performance in total is strongest with 15 to 34s, its market share is currently 29.1%, down from 40.2% just two year ago. This result is particularly disappointing given that this age group represents commercial radio's strength and that both Severn Sound and Star view this age group as a key constituent of their target audience. ***Additional youth focused content such as 'Shuffle' and through the Podcast service will help improve commercial radio's position.***

- Among listeners aged 35 to 64, market share has declined in the last 12 months after having been stable for the previous two years. Given the over representation in the population of all sub sets of this age group, better and more variety of services will help to improve commercial share. ***'Smithy Rock' will meet particular tastes and interest across this age group. 'Easy Radio' will have a broad appeal especially for those seeking a more relaxing radio service to listen to. We also expect that 'Local Live' and 'Variety Pop & Rock' will have broad appeal, providing strong reasons to listen to commercial radio among solus BBC radio listeners***.

- We were not surprised to find that the BBC performs best overall among those aged 65 plus. Commanding just 17.8% of all listening in this age group, commercial radio's share is significantly below the UK average. ***'Easy Radio', 'Local Live' and 'UCB UK' will offer considerable appeal to this demographic group.***

155. The table below details reach and hours profiles for BBC, all commercial radio and all ILR, and their indexation against the population.

Reach	All BBC Radio	Index on Population	All Commercial	Index on Population	All ILR	Index on Population	Population Profile
	%		%		%		%
15-24	9.7	99	12.0	122	15.9	162	9.8
25-34	14.1	95	17.0	115	19.8	134	14.8
35-44	19.8	99	23.1	116	25.4	128	19.9
45-54	17.5	101	18.7	107	20.7	119	17.4
55-64	18.4	105	13.8	78	10.3	59	17.6
65+	20.5	100	15.3	75	8.0	39	20.5

Hours	All BBC Radio	Index on Population	All Commercial	Index on Population	All ILR	Index on Population	Population Profile
	%		%		%		%
15-24	6.5	66	9.4	96	12.4	127	9.8
25-34	12.2	82	14.6	99	15.0	101	14.8
35-44	16.9	85	27.5	138	32.3	162	19.9
45-54	18.3	105	19.2	110	23.3	134	17.4
55-64	21.3	121	13.0	74	8.6	49	17.6
65+	24.8	121	16.4	80	8.4	41	20.5

- In relation to the BBC:
  o The BBC's reach profile is in line with the population profile.
  o However, in relation to hours listened, it substantially under delivers amongst those aged under 45, and in particular those aged under 25.
  o Conversely, it achieves high hours of listening amongst older age groups, resulting in above average levels of listening, especially with those aged 55 plus.

- In relation to local commercial radio:
  o The reach profile shows a distinct bias to delivering an under 55 audience.
  o However, amongst those aged under 35, local commercial radio fails to maintain their loyalty to the same degree (the index of hours amongst 15 to 24s is only 127, against a reach index of 162).
  o Local commercial radio underperforms with 55 pluses in terms of both reach and hours.
  o Commercial radio appears not to be delivering enough services with appeal to older audiences.

156. The following table summarises the historical performance of each local service over the last three years.

	2005	2006	2007
Severn Sound			
Weekly Reach %	19.9%	22.7%	21.8%
Total Hours '000	959	1,050	861
Market Share	10.2%	9.6%	8.2%
Gold 774			
Weekly Reach %	4.4%	3.2%	3.6%
Total Hours '000	339	175	156
Market Share	3.6%	1.6%	1.5%
Star 107.5			
Weekly Reach %	3.4%	4.2%	2.5%
Total Hours '000	90	164	106
Market Share	1.0%	1.5%	1.0%
BBC Radio Gloucester			
Weekly Reach %	15.6%	18.1%	19.4%
Total Hours '000	785	1,106	1,045
Market Share	8.3%	10.1%	10.0%

Source RAJAR rolled years ending Q2

- Over the period, Severn Sound has grown reach by 10%, although 2007 saw year on year decline of 4%. Average hours have declined consistently, with its market share declining by 20% since 2005, suggesting that this service is disenfranchising listeners.
- As has been the experience of other gold services, Gold 774 has suffered in terms of both reach and hours, due in part to its AM frequency, with market share slipping by 60% since 2005.
- The audience pattern of Star 107.5, which broadcasts to Cheltenham, has seen a more irregular pattern of listening. Market share, which reaches 1% across the wider Gloucestershire TSA, is identical to that achieved in 2005, although down on 2006.
- By comparison, BBC Radio Gloucestershire has seen steady and significant improvement. Reach is now 19.4%, up 25% on 2005. Average hours have also shown steady improvement. The appetite for local news and information is strong albeit biased toward 55 pluses.

157. Our consumer research supports the RAJAR results:

- 91% of adults claimed to have listened to a radio station in the past 7 days.
- 71% had tuned to a BBC service, compared with only 35% who had listened to any commercial service, with 26% saying they had listened to an ILR service.
- The most popular services were:
  o Radio 1 and Radio 2 (both 24%)
  o Severn Sound (22%)
  o BBC Radio Gloucestershire (20%)
  o Radio 4 (19%)
- 48% only listen to BBC services, i.e. are solus listeners.
- Listening to BBC services is, for the most part, significantly stronger among DAB owners than among those who do not have digital access. In particular, an above average proportion of DAB owners listen to Radio 2, Radio 4 and Radio 5 Live, as well as Radio 1. Conversely, Severn Sound scored lower among DAB users, though both Gold 774 and Star 107.5 benefited slightly.
- 7% of the population claimed to listen to digital only services. Among DAB owners, this figure is more than 2.5 times greater, at 18%.

158. Respondents were also asked what aspects about the local stations they listen to they particularly enjoyed, *these being features and attributes that perhaps the new services should reflect.*

- The provision of local news and information is the single most enjoyable feature. 60% of listeners mentioned this, which placed it head and shoulders above other aspects, including the music mix (19%) and travel news (16%). *This will be catered for by strong local content by the majority of MuxCo services.*

- There was little or no difference in these findings by DAB ownership status. However, there were noticeable differences in the strength of attitude when looked at by listener status. Commercial radio listeners (and ILR listeners in particular) were more likely to enjoy hearing local news and information on these stations (64% and 65% respectively) compared to their BBC listening counterparts (60%) or even those who solely listen to BBC stations (57%). ILR listeners were also twice as likely to say they enjoyed the music mix on these stations (40% v 19%).

Uptake of DAB digital radio

159. The uptake of DAB is strong, and with new developments over the next 12 to 18 months, such as the iPod adapter and in-car receivers, means that by the time the multiplex launches, the potential DAB audience in Gloucestershire will be significant.

160. The latest sales data from the DRDB is that 5.1m DAB sets had been sold by the end of June 2007, whilst RAJAR Q2 2007 highlights that 26.2% can access DAB. This level is lower than claimed DAB ownership in our Gloucestershire research, where:

- 28% claimed to own a DAB radio
- A further 4% claimed access to a DAB radio.
- Ownership was a little higher among men than women (30% v 26%)
- Ownership increased with age, from 27% of 16 to 24s, to 32% of 35 to 44s, to 34% of those aged 45 to 54.
- ABC1s showed higher than average DAB ownership compared with C2DEs (34% v. 20% respectively).

161. The following table details the profiles of DAB owners in Gloucestershire against the UK profile of adults in DAB homes (per RAJAR).

	Profiles of		Gloucester Index on UK DAB Population
	UK Population DAB Profile	Gloucester Adults in DAB Homes	
	%	%	
Men	48.6	50.3	103
Women	51.4	49.7	97
16 to 24	16.1	16.8	104
25 to 34	15.5	13.0	84
35 to 44	18.4	20.5	111
45 to 54	16.0	19.3	121
55 to 64	14.5	16.1	111
65 plus	19.5	14.9	76

Source RAJAR 12 mths ending Q2 2007

- Adults in DAB homes in Gloucestershire are more likely to be aged 35 to 64 than the UK average. An above average number of 16 to 24 year olds also claimed DAB access.
- Ownership showed no significant bias by sex.

162. In our survey, we asked DAB owners what led them to purchase a set in the first place. The key motivators were:

- The prospect of improved sound quality for existing analogue services (43%)
- The opportunity to hear new stations not currently available on analogue (33%); this particularly appealed to men (36%) and those aged 25 to 34 (41%) and 45 to 54 (49%).
- Interference free reception (26%); more so by women (28%) and those aged 35 to 54 (36%), in particular 35 to 44s (40%).
- Ease of tuning (20%); again especially those aged 35 to 54 (25%), and 35 to 44s in particular (29%).

163. Having acquired a set, DAB owners were asked whether DAB had met their expectations:

- DAB owners maintain that DAB's biggest asset is improved sound quality (29%). Men were a little more likely to say this than were women (30% v. 27%), as were those aged over 35.
- Interference free reception was mentioned by 23%.
- Access to new stations was mentioned by 20%, and proved a particularly attractive asset to under 35s (34%), and especially those under 25 (37% and for whom this was the biggest asset of all).

164. The effect of owning or having access to digital radio has been an increase in listening to the radio. 29% mentioned that their radio listening had increased, with women increasing their radio listening more than men (30% v. 28%). In relation to age, those aged under 35 (42%, and in particular under 25s - 47%) recorded the biggest increases.

165. Non DAB owners were asked what would tempt them to acquire a DAB set:

- The prospect of interference free reception would tempt 36%; particularly those aged 35 to 54 (41%).
- Improved sound quality (27%); though for under 35s this was as tempting as interference free reception (both 34%)
- The availability of new stations (23%); in particular for those under 35 (27%) and even more so under 25 (28%).
- Men were generally more attracted to each of attributes than women, with the exception of ease of tuning (22% women v. 20% men).

166. Since Q2 2007, it has been possible to quantify radio listening by platform through RAJAR. Overall, the response to this additional aspect of data collection in the survey diary has been high. However, 22.8% of listening is not attributed. We expect to see improvements as this feature of the survey as more data is available to the industry. The following table summarises the split of total UK digital listening between each platform, and details the relative digital splits between each category for all radio, for the BBC and for commercial radio.
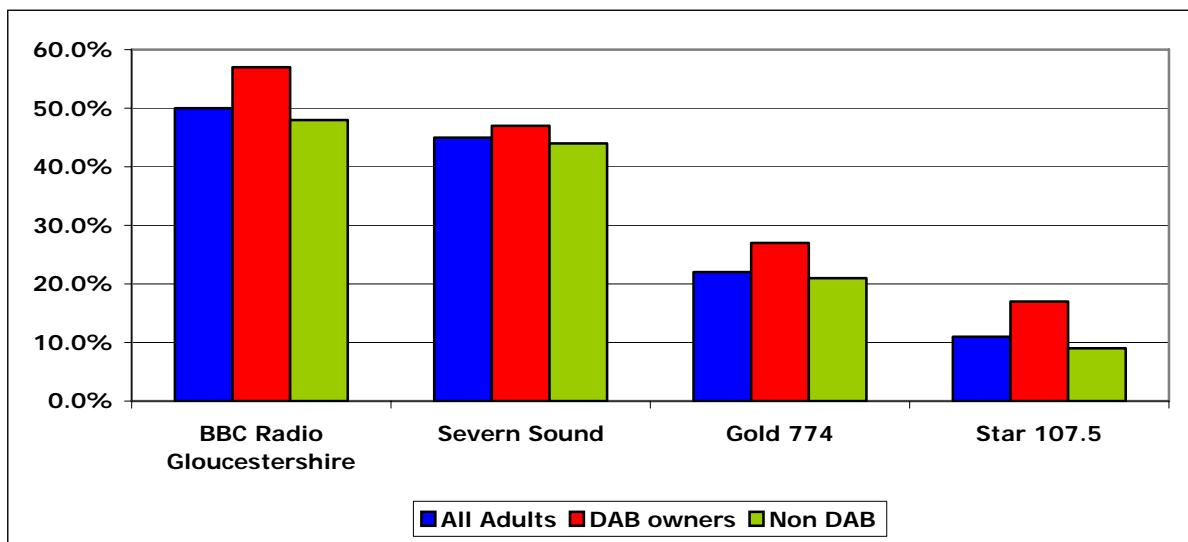
167. In overall terms, 12.8% of all radio listening is via digital platforms. There are slight variations between commercial and BBC listeners. Commercial radio delivers a higher proportion of its listening via digital than the BBC, 13.8% v 11.9%.

		% of All Digital	BBC	Commercial
DAB	7.0%	54.7%	64.9%	45.3%
DTV	2.6%	20.3%	15.8%	23.9%
Internet	1.5%	11.7%	11.7%	10.4%
Other digital	1.7%	13.3%	7.6%	20.4%
	12.8%	100.0%	100.0%	100.0%

- In overall terms, DAB accounts for 54.7% of total digital listening, ahead of DTV and the internet.
  - Among commercial listeners, DAB represents 45.3% of all digital hours, with DTV more highly rated at 23.9%.
  - The BBC derives the vast majority of it digital listening via DAB, 64.9%, with a significantly lower 11.7% coming via DTV.
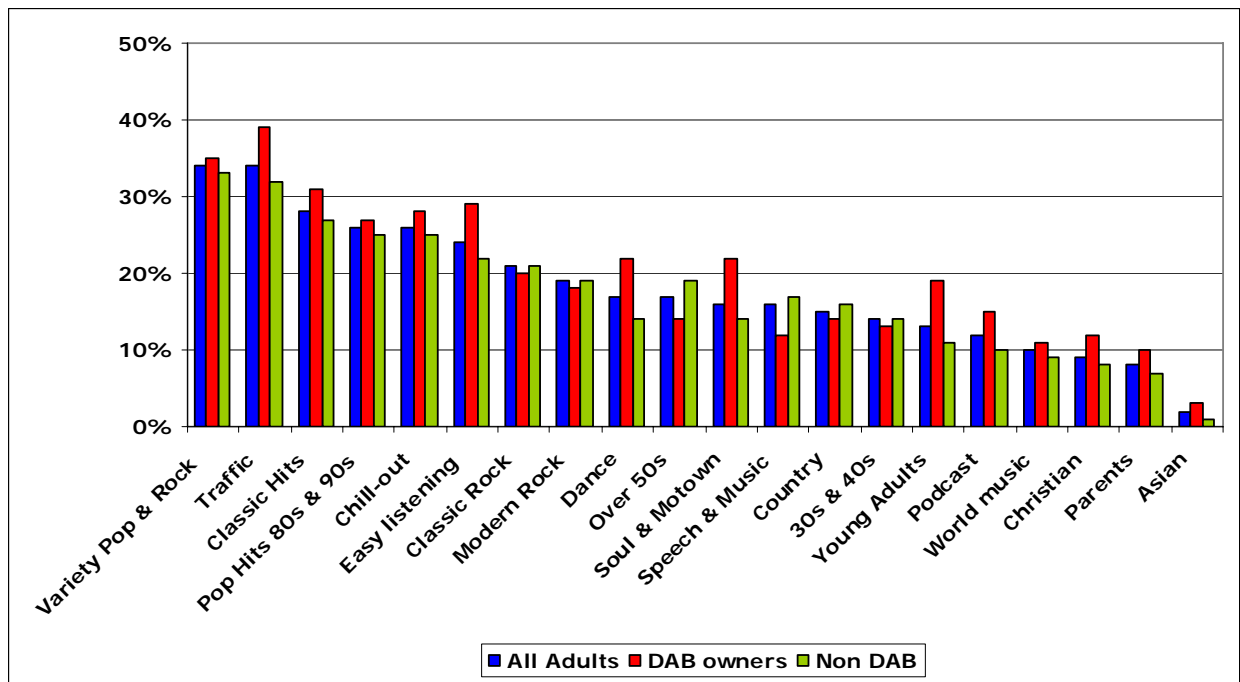
What people would like from digital radio

168. Having reviewed existing radio listening habits through RAJAR and our local consumer research, the next stage of our research was to evaluate interest in accessing existing radio services, new formats and data services. The following chart summarises the results for existing local services.

- As expected, there is strong interest in being able to hear the countywide services of BBC Radio Gloucestershire and Severn Sound.
- Whilst Gold 774 and Star 107.5 scored lower, this is, we believe, a reflection of broadcasting on AM and smaller analogue coverage areas respectively.

169. Our local consumer research also sought to gauge interest in a range of music genres and lifestyle genres. The majority of formats tested in the consumer research were ones for which we were confident that a service provider would be forthcoming, either at the time of the application or during the licence period. In addition, we felt that having consumer reaction to additional alternative format choices would be particularly relevant when expanding the choice of services in the future (either full or part time, or as Podcast services).
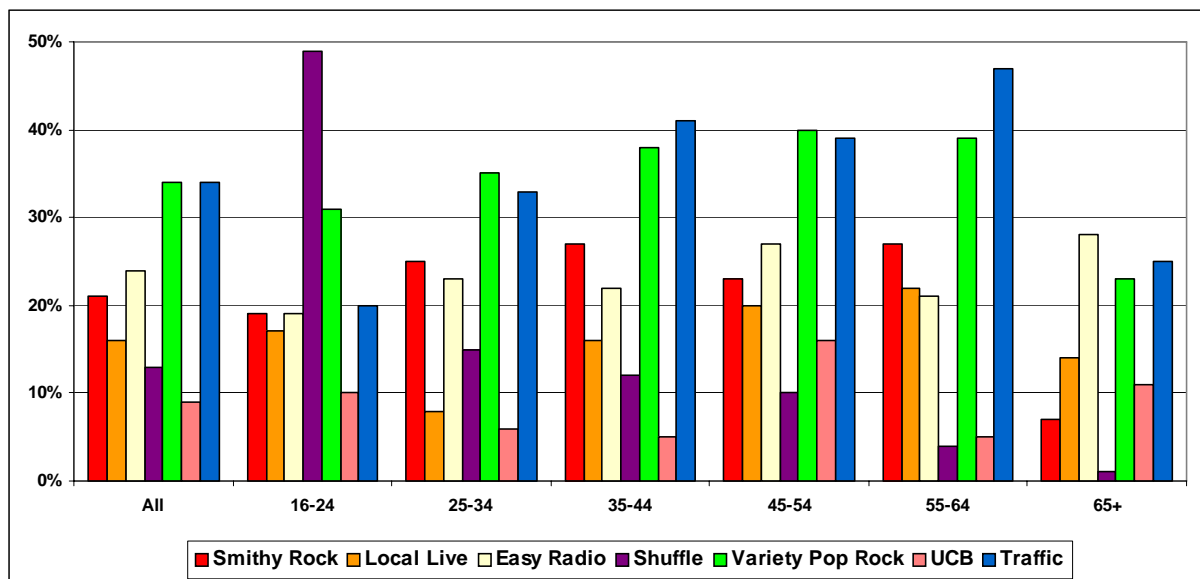

170. In selecting formats for inclusion on the multiplex, we considered:

- The profile of the population
- Existing commercial analogue services
- Research findings for new services
- Interest from programme and podcast service providers

171. **The profile of the population** – Gloucestershire's profile is radically different from the UK average. The under 35 age group is almost 40% smaller than the UK average, especially those aged under 25. All age groups aged 35 plus are over represented, and with anticipated population growth, older residents will become an increasingly significant proportion of the population.

172. **Existing commercial services** - our analysis of the audience profiles of Severn Sound, Gold 774 and Star 107.5, along with their stated intentions laid out in their "format promises", indicates a strength for Severn Sound with under 45s (and more specifically under 35s). Star 107.5 has a stronger 25 to 54 appeal, whilst Gold 774 has a strong 45 plus interest. We believe that too much additional competition in general for the youth audience in this market would be counter productive for Severn Sound and Star 107.5 whose audiences are declining partly as a result of the shrinkage of this age group.

173. **Research findings for new services** – in evaluating formats, we have also analysed scores in overall terms, as well as by ten year age groups. The research assisted in our selection of formats, although was not the primary driver. Having an identified and confirmed service provider for a format was deemed of higher importance than purely the score of a particular format. We are aware that we could have included certain formats in our line up which would have further increased overall interest in the multiplex. However, from our extensive multiplex experience, we know the implications of including unsupported formats in an application. Whilst they make the overall complement of services look better during the application process, such services have tended never to appear in reality, with the multiplex having to seek changes in the services carried. We have therefore elected only to include services that were either existing local analogue services or had a confirmed service provider. When we are able to provide new services, our research will help support any request to Ofcom to amend our licence to include such additional services.

174. **Interest from programme service providers** - we actively sought interest from a variety of service providers. Full details of our activity in this area is supplied in Part B.

175. **Interest from podcast service providers** - we have actively explored opportunities for the provision of podcast service. It is our belief that this will increase choice of content significantly in the market whilst allowing new entrants to explore the medium in an affordable way. We have in particular sought the involvement of local groups and organisations to provide content.

176. Our chosen selection of formats will appeal to a wide range of listeners. Whilst some may appear to have limited broad appeal, their specific targeting makes them an important component in the overall complement of services.

- **Smithy Rock** has universal appeal, but scores particularly well with 35 to 64 year olds. It has strong male appeal and given the inclination for most music based formats to seek woman listeners, Smithy Rock will help redress this balance whilst providing a complementary and distinctive music service.

- **Local Live's** innovative format attracts interest from 16% of respondents, with high interest amongst its target audience (35 to 64 year olds), with equal appeal among men and women.
- **Easy Radio** has broad appeal across all age groups, but particularly with those aged 35 plus.
- **Shuffle** attracts overall interest of 13% of respondent, but a very high 49% amongst its target audience. In addition, when evaluating this service, it is important to look at the individual music genres that would feature.
- **Variety Pop & Rock** has high broad appeal, in particular with its target 35 plus demographic.
- **UCB** is a niche service. Whilst 9% of all adult are interested in the proposed service, it attracts significantly higher interest within an older audience.
- **Traffic** was highly rated, rated highly by all age groups between 25 and 64 (the primary car driving group). It underpins the very real problems that exist in getting around the county.
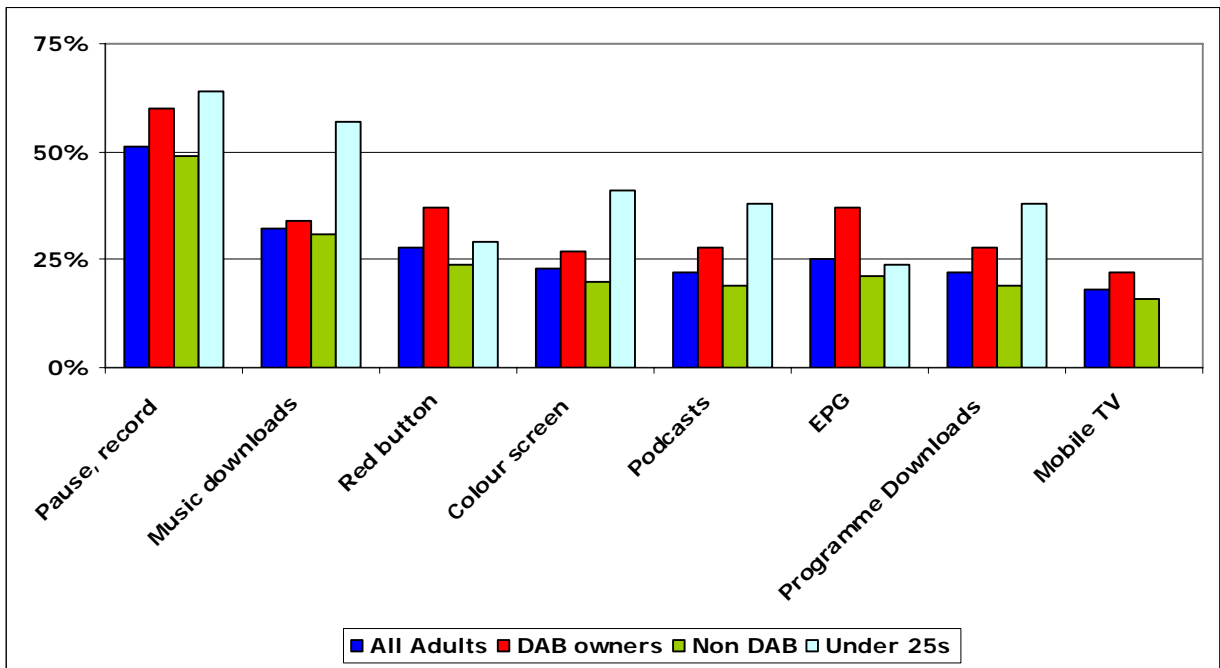
Maximising Appeal

177. The following table summarises the anticipated audience profiles for the new services.

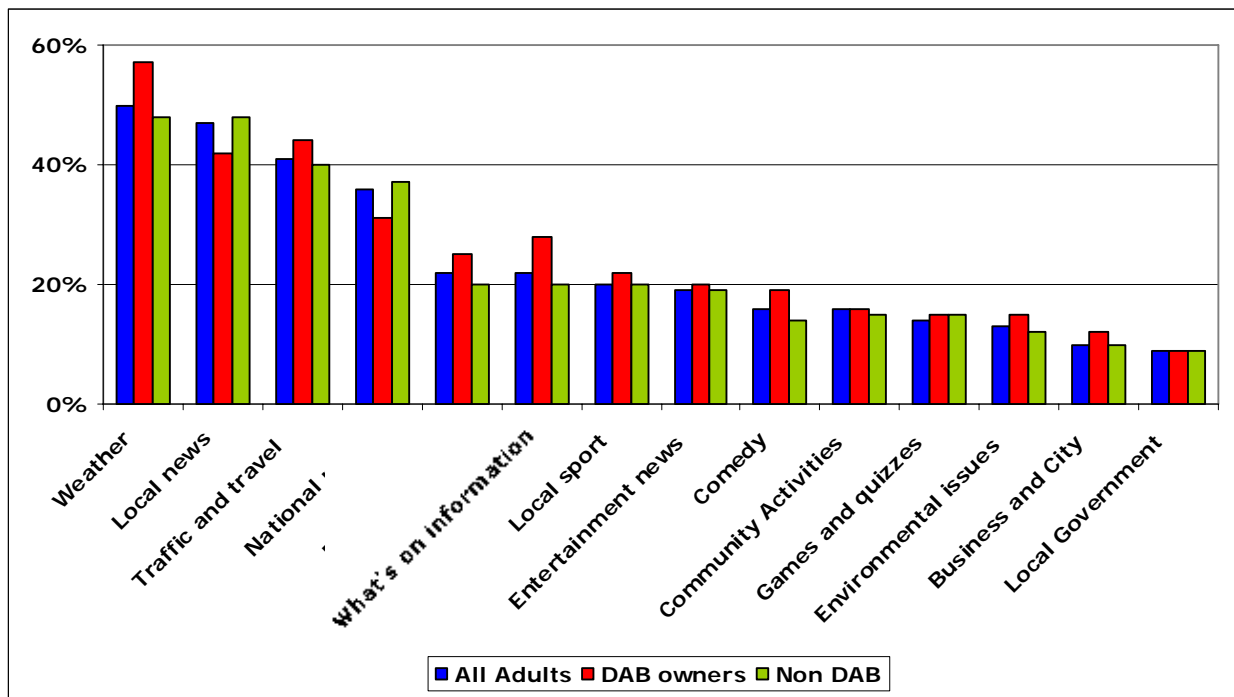|	Smithy Rock	Local Live	Shuffle	Easy Radio	Variety Pop & Rock	UCB	Traffic	Podcasts
	%	%	%	%	%	%	%	%
Male	58	52	51	51	50	46	49	58
Female	42	48	49	49	50	54	51	42
15-24	14	15	52	11	13	15	8	24
25-34	16	6	13	13	13	9	12	19
35-44	25	18	18	18	21	11	23	20
45-54	18	21	12	19	20	29	19	18
55-64	20	21	4	13	18	9	22	13
65+	7	19	1	26	15	27	16	6
ABC1	64	50	54	56	55	65	59	65
C2DE	36	50	46	44	45	35	41	35

Data Functionality and Services

178.   The opportunities for DAB to provide a range of data services that will complement radio services, or provide additional services, is an important aspect. The following chart summarises views on a range of functionality that DAB sets could provide.
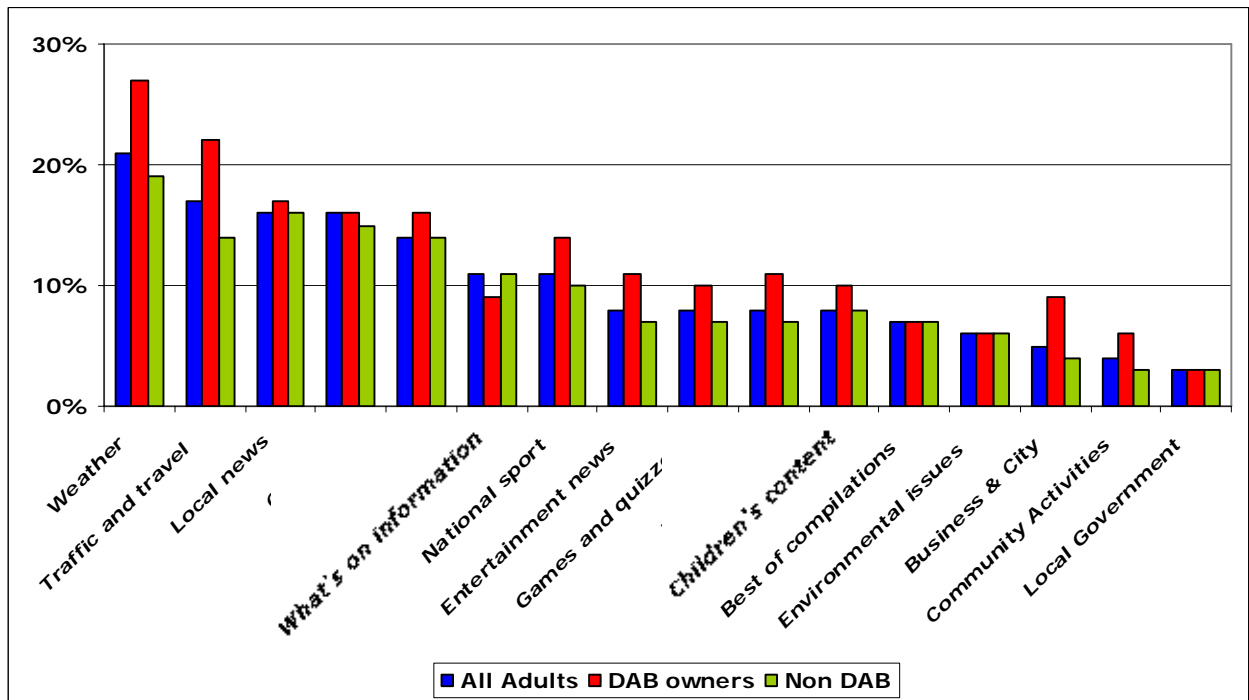

- The ability to pause, record and rewind was the most attractive prospect (51%).
- There was high interest in being able to purchase and save songs heard on the radio (32%).
- 28% expressed interest for red button functionality similar to that available with television and/or a large colour screens capable of showing various images, photos or statistics.
- Existing DAB owners found all these functions of above average appeal.

- Under 25s generally expressed a higher degree of interest in almost any type of functionality, as well a different set of priorities and interests from their older counterparts:
  o   Two thirds of this age group were interested in a facility to pause, record or rewind programmes compared to the sample average.
  o   Against the sample average, they were almost twice as likely to be interested in saving and purchasing songs listened to on the radio (57% v 32%) and downloading podcasts (38% v 22%).

179. The following chart summarises reaction to a range of possible services that could be accessed through a screen on the radio.

180. And as audio downloads.

- DAB owners were often much more interested in being able to hear each of these news and information types. In particular, local news headlines, weather, national news and traffic & travel.

What does the future hold for digital radio?

181.   The new multiplex, with its proposed complement of existing and new services, will help increase the amount of time spent listening to the radio. Of those who would choose to listen to new services:

- 59% of those who would listen to one or more services on the multiplex would spend more time listening to radio in general to do so.
- 31% would spend less time listening to their current choice of stations.
- Only 11% would stop listening to a station in order to find the time to listen.

182.   In relation to which stations people would listen to less (in order to accommodate new ones):

- The BBC would be most affected, with 71% saying they would incorporate the new stations into their repertoire by listening less often to a BBC service.
- By contrast, only 37% would listen less often to an ILR station.
- The main losers would be BBC stations - Radio 1 (26%), BBC Radio Gloucestershire (24%) and Radio 2 (22%).
- A highly significant 42% claimed they would only listen less to BBC services, underlining the impact this would have on time spent listening to BBC services.

183.   In relation to those who would cease to listen to one or more station:

- Those who would stop listening to one or more services, represents only 7% 7% of the Gloucestershire population, so the overall impact would be minimal in terms of reach.
  - o   Of these, 59% would stop listening to a BBC station.
  - o   Radio 1 (23%) and BBC Radio Gloucestershire (22%) would be the main services affected.
- By comparison, 41% would cease listening to a commercial station, and just 26% would stop listening to a local commercial service.

184.   If the new stations were available today, the proposed services are likely to command just over a third of time spent listening. Amongst existing DAB owners, this was higher at 42% of time spent listening.

185.   Respondents who are radio listeners but who do not currently own a DAB set were then re-asked about their propensity to buy one.

- 48% said that they would now be at least quite interested in buying a digital radio, 21% were at least very interested and 11% were definitely interested.
- If *all* those expressing interest in purchasing a DAB set were to go ahead, then digital penetration would rise from 28% to 63%. If only those who said they would *definitely* buy a digital set were to do so, then penetration would rise to 37%.
- Interest in going digital was particularly apparent amongst the under 35s (62%) and especially those aged 25 to 34 (65%).
- Existing commercial radio listeners showed significantly more interest in going digital than their BBC counterparts. 65% of commercial radio listeners were at least quite interested in buying a DAB radio, compared to 53% of BBC listeners and 45% of those who only listen to BBC stations.

186. Finally, those who had claimed not to listen to any radio at the start of the questionnaire (9% of respondents) were asked whether having heard about DAB digital radio and its possibilities, their radio listening habits might now change.

- 49% now expressed some degree of interest in buying a digital radio. 42% said the potential variety of new stations might provoke them into buying a digital radio.
- 7% said they would definitely be interested buying a DAB radio.

Overall conclusions from our research

187. We believe that our research findings have given the citizens of Gloucestershire an opportunity to shape their radio choice for the future. The area already commands an above average level of DAB ownership and the proposed new radio choices will help erode the BBC dominance in this market.

188. Information on likely levels of listening to each service has helped underpin our audience projections, helping to demonstrate the viability of each service and therefore the multiplexes ability to establish and maintain the service.

189. Overall, we have been able to demonstrate that our services are demanded, increase choice and would stimulate the purchase of digital radios.

15. Local support

Provide any evidence which has been gathered of local support for the provision of the proposed local radio multiplex service.

190. We believe that interest in the complement of services is best measured by the level of support for the services to be broadcast on the multiplex. The breadth of our research has been detailed in Q.14. Through this research, demand for each format has been evaluated, both individually and collectively on the basis of the chosen complement of services. The research studies have also evaluated interest in digital radio and the key drivers for the new technology, over and above pure choice of formats.

191. We have discussed the DAB opportunity and our proposals with a number of local organisations and individuals to make sure that the opportunities to broadcast as full services or as part of the Podcast Service are recognised, and to build local relationships.

Research
192. We will undertake on-going consumer research. This, in the main, will be undertaken in association with service providers through bodies like RAJAR. Such 'RAJAR' style research will assist service providers to measure audiences and the level of take-up, with obvious benefits to the subscribers. However, there may be times when there is a need to undertake original research, such as to evaluate demand for further potential services or to assess the style and level of content in programmes for contractual reasons. This research may be undertaken through quantitative, focus groups or desk research.

Marketing
193. We will also have a marketing role in generating awareness of digital radio both as a concept and, alongside the service providers, of the complement of services carried on the multiplex.

Internet
194. MuxCo Gloucs will be served by a website at www.muxco.com. Through the site, MuxCo outlines its proposals and plans to apply for local multiplexes and seeks interest from prospective service providers. A copy of this application and further information about MuxCo and the licence opportunity are provided on the site.

195. In addition, the site promotes DAB digital radio and links to other multiplex operators elsewhere in the country. The website will also provide a means of communication between the multiplex and service provider, in particular providing information on transmission issues and fault notices.

196. Whilst a local multiplex is a virtual company, what is not eliminated is the need to develop a relationship with the listeners about the services it carries. We will want to ensure that we understand the local population, their likes and dislikes, the market gaps and what other services it can provide. Therefore, although there is no wish to have a dialogue with the audience, there is a need to provide a means of access and communication.

Section 51(2)(g): Fair and effective competition

16. Measures taken to ensure fair and effective competition

Detail the measures that have already been taken, and will be taken before and during the licence period, to demonstrate that "in contracting or offering to contract with persons providing digital sound programme services or digital additional services or television licensable content services, the applicant has acted in a manner calculated to ensure fair and effective competition in the provision of those services".

197. Our intention to apply for the licence has been documented on our website (www.muxco.com), which has provided an opportunity for prospective applicants to register their interests.

198. We have not advertised our proposals in local newspapers or the trade press, as our experience has identified that during the licence application process, such activity generates little response. Once operational, however, and with greater awareness of the multiplex in the locality, any new opportunities will be advertised in the trade press and local newspapers, as well as through the MuxCo website.

199. Following the advertisement of the licence opportunity, we contacted the identified local analogue licensees to discuss their digital aspirations and invite expressions of interest in providing programme services, as well as local community groups and organisations. We also contacted other radio groups who have known digital aspirations or operate digital service elsewhere.

200. All companies who registered expressions of interest were sent a Service Provider Questionnaire. They were advised that information received would be used alongside research to decide which formats would be included and therefore which service providers would be accommodated in the multiplex application. A summary of all contacts is included in Part B.

201. Headline terms including approximate carriage costs have been supplied to the proposed service providers.

202. During the licence period a similar process will be adopted, with a standard questionnaire being used to assess applicants.

203. During the application process, we have engaged with all potential service providers in an open and non-exclusive manner.

Fair and Effective Competition during the Licence Period

204. Each service provider will enter a Service Provider Agreement; the key terms of which will be identical for all service providers. All fees charged will be based solely on a 'cost plus' basis, pro-rata to capacity contracted by each service provider. No fees will be related to revenue.

205. We will establish a Service Level Agreement with service providers. This will set out our communications and work policies, especially those relating to planned work and emergency outage notification.

17. Contacts with prospective service providers

Provide a comprehensive list of all prospective providers of digital sound programme services and/or digital additional services and/or television licensable content services with whom the applicant has had contact prior to and during the preparation of this application, at the initiative of either party, and in whatever form. Summarise the nature of the proposals discussed and, for each proposal which is not among those planned for inclusion on the multiplex (as per Q.11 and Q.12 above), state the reason(s) why the prospective provider and/or the service(s) proposed by that provider has not been included.

The response to this question may be submitted in confidence.

206.   Our response to this question is submitted in confidence in Part B.

18. Contractual and other arrangements with service providers

For each digital sound programme service provider and/or digital additional service provider and/or television licensable content service provider named in this application:

a)   Supply details of the terms of access, including financial agreements;

b)   To what extent are any or all of these terms of access conditional? Clarify and conditions that exist.

c)   In respect of each named service provider for which details of terms of access are provided, supply a letter from the service provider confirming its agreement with the account of the terms of access provided above, and in particular with the fees it expects to pay.

The response to this question may be submitted in confidence.

207.   Our response to this question is submitted in confidence in Part B.

Technical quality

19. Division of multiplex capacity

Show, by means of a pair of clearly-labeled tables, the proposed division of the available multiplex capacity into digital sound programme services and other services during all time periods. The tables should depict the proportion of the total available capacity (in kbits/sec) which it is proposed to allocate individually to each of the digital sound programme services listed in response to Q.11, plus any capacity reserved for expansion, inclusive of any which it is proposed to allocate to digital additional services and television licensable content services. Please also indicate what proportion of these services will be programme-related (see paragraph 4.35). One of the tables should refer to the capacity units taken by each service (i.e. inclusive of capacity used for error protection), and the other table should refer to the bitrate net of error protection capacity, together with the associated protection level (1 to 5) which it is proposed to use, in accordance with ETS 300 401.

208. Increased choice of popular quasi-national and more local brands is a strong driver for the purchase of DAB receivers. When allocating capacity, we have sought to achieve the optimum balance between existing and new services, quasi-national and local, ensuring that there is sufficient capacity to develop ancillary and additional data applications which will help place radio at the centre of a multi-media, multi-platform UK.

209. We are aware of a number of recent listening tests undertaken to evaluate the latest 'state of the art' MPEG 1 Layer II audio codec. These tests demonstrated that there was only slight degradation (1.7 points on the ITU scale). Reflecting the high demand for capacity for this multiplex and on the back of these recent tests, we have decided to broadcast all commercial music services in stereo at a bit rate of 112 kbits using the 'state of the art' encoder.

210. The following table details the division of multiplex capacity by kbits between the proposed audio channels, data capacity and EPG.

Kbits Allocation	Service Type	UEP	6am to Midnight	Midnight to 6am
BBC Gloucester	MPEG1L2	UEP3	128	128
Severn Sound	MPEG1L2	UEP3	112	112
Gold 774	MPEG1L2	UEP3	112	112
Star 107.5	MPEG1L2	UEP3	112	112
Smithy Rock	MPEG1L2	UEP3	96	96
Local Live	MPEG1L2	UEP3	96	96
Easy Radio	MPEG1L2	UEP3	96	96
Shuffle	MPEG1L2	UEP3	112	112
Variety Pop & Rock	MPEG1L2	UEP3	80	80
UCB UK	MPEG1L2	UEP3	64	64
Traffic Radio	MPEG1L2	UEP3	48	48
Podcast Service	AAC	EEP3A	16	64
Data	DATA	EEP3A	56	24
EPG	EPG	EEP3A	8	8
Total			**1,136**	**1,152**
Allocated as % Total			*98%*	*99%*
Data as % Total			*7%*	*9%*

211. The following table details the division of multiplex capacity by Capacity Units (CUs) between the proposed audio channels, data capacity and EPG, during two time periods.

CUs Allocation	Service Type	UEP	6am to Midnight	Midnight to 6am
BBC Gloucester	MPEG1L2	UEP3	96	96
Severn Sound	MPEG1L2	UEP3	84	84
Gold 774	MPEG1L2	UEP3	84	84
Star 107.5	MPEG1L2	UEP3	84	84
Smithy Rock	MPEG1L2	UEP3	70	70
Local Live	MPEG1L2	UEP3	70	70
Easy Radio	MPEG1L2	UEP3	70	70
Shuffle	MPEG1L2	UEP3	84	84
Variety Pop & Rock	MPEG1L2	UEP3	58	58
UCB UK	MPEG1L2	UEP3	48	48
Traffic Radio	MPEG1L2	UEP3	35	35
Podcast Service	AAC	EEP3A	12	48
Data	DATA	EEP3A	42	18
EPG	EPG	EEP3A	6	6
Total			**843**	**855**

20. Basis of allocation of multiplex capacity

On what basis have technical decisions on the allocation of multiplex capacity to each of the proposed digital sound programme services been made?
How has the balance been determined between the number of services to be accommodated and the audio quality and robustness of reception which each will enjoy?

212. In allocating capacity between services, the following factors have been taken into account:

- A desire to increase listener choice and to provide a range of value enhancing data services
- A need to provide a reasonable level of sound quality
- To ensure robustness of reception
- The wishes of individual service providers
- The reserved capacity of the BBC

213. Our aim is to provide each service provider with the ability to broadcast in stereo. However, for smaller stations and new digital only services, a further decision that service providers need to make is the benefit of broadcasting in stereo, especially during the initial years of digital, versus the financial saving of broadcasting in quality mono. We confirm that the decisions on bit rate are those of each service provider.

214. NGW has evaluated two different audio codecs at various different bitrates. They have found subjective differences that may lead to preferences for use of one codec over another, but dependent on the content and bitrate chosen. MuxCo Gloucs therefore intends to offer a choice of codecs to our service providers. At low bit rates of 64 kbits or below, we will consider the use of half rate coding at the request of our service providers.

215. We have chosen an error protection level of UEP 3 as it has been shown through widespread experience to give a good balance between CU allocation on the multiplex and robust reception.

216. We note that the WorldDMB Forum has now released the DAB[+] specification. This specification brings with it a significant improvement in spectrum efficiency over the existing standard, but raises a number of migration challenges. We believe that this technology offers an opportunity in the longer term to increase the choice of audio services and enhanced data services on our multiplex. We would like to work with Ofcom to manage the introduction of DAB[+] services on the Gloucester multiplex.

217. In reaching agreement with service providers, we will seek to contract flexible capacity allocations that will reflect the expected listening patterns of their individual audiences. As audiences vary in size and their daily activity changes, we will seek to provide service providers with the opportunity to vary their capacity up and down to meet their particular requirements, by varying bandwidth to suit listening patterns. As the requirements of service providers develop, and enhanced data services are implemented, there may be increasing demand for regular multiplex re-configurations.

21. Audio characteristics

For each local digital sound programme service proposed to be provided, state whether it will be broadcast in 'stereo' or 'mono', and whether it will operate at 'full-rate coding' or 'halfrate coding'. The response to this question should be consistent with the proposed division of multiplex capacity set out in response to Q.20.

	Service Type	Stereo / Mono	Coding	Protection Level	Audio Sampling
BBC Gloucester	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Severn Sound	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Gold 774	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Star 107.5	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Smithy Rock	MPEG1L2	Mono	Full Rate	UEP3	48kHz UEP3 Mono
Local Live	MPEG1L2	Mono	Full Rate	UEP3	48kHz UEP3 Mono
Easy Radio	MPEG1L2	Mono	Full Rate	UEP3	48kHz UEP3 Mono
Shuffle	MPEG1L2	Stereo	Full Rate	UEP3	48kHz UEP3 Stereo
Variety Pop & Rock	MPEG1L2	Mono	Full Rate	UEP3	48kHz UEP3 Mono
UCB UK	MPEG1L2	Mono	Full Rate	UEP3	24kHz UEP3 Mono
Traffic Radio	MPEG1L2	Mono	Half Rate	UEP3	24kHz UEP3 Mono
Podcast Service	AAC	Mono or Stereo	Full Rate	EEP3A	48kHz EEP3A Mono / Stereo

218. The Podcast Service will be licensed under a DSPS licence. The nature of the downloaded content will define the format of the coded audio; files with a majority of music content will be in stereo but those with predominately speech content may be encoded as mono to conserve data capacity. The use of AAC audio encoders will, however, allow us to maximise the audio quality at lower bit rates by employing the Parametric Stereo and Spectral Band Replication options.

219. The inclusion of an AAC based podcast service will also ensure that the new receivers that support it will be able to decode this codec, something that will likely make them capable of decoding DAB+ services when they come to the UK.

Declaration

Applicants are required to conclude their submission by responding to the following question:

Do you confirm that, to the best of your knowledge and belief:

a) the applicant is not a disqualified person in relation to the licence by virtue of the provisions of section 143(5) of the Broadcasting Act 1996 (relating to political objects);

b) no director or person concerned directly or indirectly in the management of the company or the applicant group is the subject of a disqualification order as defined by section 145(1) of the Broadcasting Act 1996;

c) no person involved in the application has been convicted within the past five years of an unlicensed broadcasting offence and that the applicant will do all it can to ensure that no person so convicted will be concerned in the provision of the service, the making of programmes included in it, or the operation of a radio station if the applicant is granted a licence; and

d) any matters which might influence Ofcom's judgement as to whether the directors and substantial shareholders involved in the application are fit and proper persons to participate in a radio licence have been made known to Ofcom?

Applicants should note that Ofcom reserves the right to revoke a licence if at any time any material statement made is found to be false and to have been made by the applicant or any member or officer thereof knowing it to be false, and that in the circumstances of section 144 of the Broadcasting Act 1996, the provision of false information or the withholding of relevant information with the intention of misleading Ofcom could incur a criminal conviction and a disqualification from the holding of a licence.

220.   MuxCo Gloucestershire Ltd is not aware of any issues which would prevent the award of a licence to the company.