



Commission for
Communications Regulation

Information Notice

ComReg Response to Consultation on Frequency Spectrum Policy for Digital Broadcasting (DAB)

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1. Introduction

This document sets out the response of the Commission for Communications Regulation (ComReg) to the consultation issued on frequency spectrum policy for digital broadcasting (DAB), by the Department of Communications, Marine and Natural Resources (DCMNR) on the 6th August 2004. The Commission welcomes this timely consultation, which will define the national priorities in digital broadcasting for the foreseeable future and beyond.

As the indicated in the DCMNR consultation paper, the background to this consultation is the work going on at the international level to develop frequency plans for digital terrestrial broadcasting.

In May 2004 the International Telecommunication Union held the first (RRC-04) of two regional planning sessions to address the technical basis for the planning of digital radio and television services in the VHF and UHF bands. This is a major programme to bring digital technology to the predominantly analogue environment in which terrestrial broadcasting currently operates. RRC-04 also established the work programme for the period between sessions and the timescales for the work involved.

The work that must take place in the intersessional period requires clear national broadcast policy to form the framework around which the national preparations will revolve.

The current plan for analogue broadcasting in the VHF band III dates back to 1961 and has been used successfully for more than 40 years. It can be expected that any decision made on national broadcast policy following on from this consultation, will have a lengthy validity. For this reason ComReg strongly agrees with the statement in the consultation that '*there is a need to give some consideration as to how broadcasting may wish to develop in the future*¹'.

As stated in the consultation there is a need to future-proof the provision of broadcasting services in order to build consumer confidence, especially as convergence between broadcasting and telecommunications evolves at a quicker pace. Some of this future-proofing may be aided by looking ahead and making spectrum provision for the delivery of other services using broadcasting technologies.

¹ Paragraph 6 of section 3) of consultation.

1.1 ComReg's Role

The views in this response are based on ComReg's legislative role regarding the radio spectrum which are as follows:

- i. One of the primary functions of the Commission is to '*manage the radio spectrum* and the national numbering resource,².
- ii. The objectives of the Commission in exercising its function is to '*ensure the efficient management and use of the radio spectrum*³.
- iii. In so far as the promotion of competition is concerned, the Commission is mandated to take all reasonable measures to achieve its objective including '**encouraging efficient use and ensuring the effective management of radio frequencies**⁴.

Our response avoids giving views on areas of the consultation that that are the responsibility of RTE and BCI.

² Section 10 (1) (b) of the ComReg Act 2002.

³ Section 12 (1) (a) (i) of the ComReg Act 2002.

⁴ Section 12 (2) (a) (iv) of the ComReg Act 2002.

2. Responses to Consultation Questions

2.1 Formulating a policy for VHF Band III (174 – 230 MHz)

- 1). **In an all digital broadcasting environment how should the VHF band be allocated:**
- i). **Solely to digital sound broadcasting;**
 - or**
 - ii). **To both digital sound and television broadcasting.**

Response

ComReg is of the considered opinion that this band should continue to be allocated to the broadcasting service without any subdivision into whether the band be used for digital sound and/or digital television services.

Reasons:

The VHF Band III is currently used for analogue television transmissions and whatever digital service(s) is introduced, the consumer will have to purchase a new receiver. A single receiver capable of receiving any service broadcast in this band, be it audio, television or data would be in the best interests of the consumer, facilitate competition by removing barriers to entry and optimise spectrum use in this band.

DAB Digital Radio services based on the Eureka 147 DAB system have been available in the UK for almost a decade and the plan to implement DAB in Europe has been in existence since 1995. Yet the lack of demand for such services, the cost of rolling out a DAB-only network and the relatively expensive DAB receivers have mitigated against this service being implemented as an attractive alternative to analogue FM radio transmissions.

There are serious concerns that in order to provide a financially viable DAB service, it is necessary to increase the number of channels per multiplexer and by doing so eliminate the key advantage of DAB, that of near CD quality audio.

It may therefore be prudent to leap-frog the Eureka 147 DAB system and implement newer technologies that better utilise the spectrum, can deliver a variety of services including television, are hence potentially more attractive to consumers, leading to take up by consumers and achieving the goals set by Government⁵.

⁵ Goals as detailed in the Department of Communications, Marine and Natural Resources Statement of Strategy 2003 – 2005.

2). Are there any other uses that should be considered for the VHF band. Please specify.

Response 1

The current use of licence exempt short range devices (SRDs) in the band should be permitted to continue, under the current terms of use, on a non-interference, unprotected basis.

Response 2

ComReg proposes that the band, for the purposes of the Regional Radiocommunications Conference (RRC), should be allocated exclusively to the broadcasting service.

Reason:

Once the band is planned on a broadcasting exclusive basis and protected within a regional plan, Ireland is able to consider other users if the band is under utilised for broadcasting and if the need for other uses arises in the future. The priority at this stage, in light of preparations for the RRC, should be for broadcasting.

Response 3

In the context of RRC-06, ComReg recommends that the whole VHF band III be planned for DVB-T, using planning criteria for mobile reception, using a channel bandwidth of 8 MHz.

Reasons:

If the whole band is planned for DVB-T in 8 MHz wide allotments then it will be possible to use the multiplex to deliver a combination of services including broadcasting and data. These services could include the traditional broadcast content as well as any other services that fit onto the multiplex or use the DVB-T channel spacing.

Already consumer equipment is available, costing less than dedicated DAB receivers that provide sound broadcasting services, television broadcast and data streams using DVB-T. The 'Freeview' service available in the UK is one example where the consumer equipment is already available for less than £80 Sterling⁶.

⁶ See http://www.digitalradiotech.co.uk/freeview_rx.htm

2.2 Difference between analogue and digital broadcasting

There is a link between the quality of the programmes services provided on a multiplexer versus the number of services. For the purpose of planning the frequency spectrum certain assumptions have to be made.

For the purpose of this document the following assumptions has been made:

- 1). For Digital Audio Broadcasting (DAB) 5 programme channels per multiplexer is being assumed.**

Do you agree with this assumptions?

Response

ComReg asserts that in an all DVB-T environment, where there is sufficient capacity for competition, that questions of quality versus capacity and the combination of services are issues for the multiplex provider's business plan.

Comment:

ComReg has published the technical details appropriate to DAB in ODTR document 01/90. These conditions detail the characteristics of the equipment that need to be considered for the purposes of frequency spectrum management, safety and the provision of a satisfactory service to the subscriber.

2.3 Transition from Analogue Broadcasting to Digital Broadcasting

As a general principle should the development of a spectrum plan to accommodate digital broadcasting be done in

i). A one step approach (i.e. fit the digital channels around the analogue channels);

or

ii). A two steps approach (i.e. develop the optimum plan for an all digital environment but include an interim step that would allow for the introduction of digital broadcasting while still protecting the existing analogue transmissions).

Response:

ComReg considers that the two steps approach is the best and most likely option. With this approach an optimum all digital plan is developed, whilst permitting simulcasting of existing analogue television and new digital television, sound and data services during a transition phase. The provision of additional services might encourage the take up of new technology and a more rapid phasing out of the analogue network.

Comment:

The response to this question is given in the knowledge that the rules of the new agreement to be finalised at the end of the RRC process are not yet clear. At this stage it is uncertain if the new agreement will protect existing analogue assignments; for how long the analogue assignments will remain protected or if analogue assignments will/can be converted after some transitional phase into digital assignments.

2.4 Types of broadcasting networks

In planning for Digital Audio Broadcasting at the national network level the following matters need to be addressed:

- 1). Are two national multiplexer networks, giving capacity for typically 10 programme channels, sufficient to cater for future broadcast developments?**
- 2). If answer to 1 above is “No” give an indication of how many national multiplexers should be planned for.**
- 3). Should national networks be planned on the basis of common programming throughout the entire service area or should the option of allowing for area opt-out be included? Should this apply to all the multiplexers or only for some?**

Response:

ComReg proposes that this band is planned on the basis of DVB-T implementation. With this arrangement it is possible to provide sufficient multiplex capacity which would greatly exceed not only the capacity required for the current analogue television services available in Ireland but also, simultaneously, to provide capacity that exceeds that required for the current national analogue radio services available in Ireland.

We should as a priority seek as many national DVB-T coverage's as possible at the RRC. However this need not preclude regional opt-outs.

Reason:

The 56 MHz available in Band III, utilising DVB-T technology is able to meet the capacity noted in our response.

Comment:

The complex issue of transitioning Band III from analogue to digital will need to be dealt with.

In planning for Digital Audio Broadcasting at the Regional network level the following matters need to be addressed:

- 1). On what geographic basis do you consider planning for regional networks should be undertaken?**
- 2). How many multiplexers should be planned for in each Regions?**
- 3). How many multiplexers should be planned for in the larger Urban conurbations?**

Response:

ComReg proposes that priority should be given to achieving as many coverage's as possible in Band III. Plans for national Multi-Frequency Networks need not preclude regional variations in content in the final implementation.

Reason:

The propagation characteristics of the VHF spectrum make it attractive for large area network planning.

Comment:

The complex issue of transitioning Band III from analogue to digital will need to be dealt with.

In planning for Digital Audio Broadcasting at the community level the following matters need to be addressed:

- 1). How should community radio be taken into account in the planning work:**
 - **Should separate multiplexers for community type services be considered?**
 - **Should provision be made on larger area multiplexers (Regional/county multiplexers) to allow for community services use a programme channel on a time sharing basis.**
- 2). What other options could be considered for accommodating community services?**

Response:

ComReg proposes that priority should be given to achieving as many coverage's as possible in Band III. Plans for national Multi-Frequency Networks need not preclude regional variations in content in the final implementation.

Reason:

The propagation characteristics of the VHF spectrum make it attractive for large area network planning.

Comment:

The complex issue of transitioning Band III from analogue to digital will need to be dealt with. It would make most sense at this stage to continue operating community radio in the FM Band. There is no reason to believe that the allocation of the FM band for broadcasting will cease in the foreseeable future. Analogue FM is very cheap and can be easily used to serve only a small area, encompassing the needs of community radio.

2.5 Other services that could use DAB Technology

Due to convergence and the ability to use broadcasting technologies to deliver other services the following matters need to be addressed:-

- 1). What other services should be catered for in planning the spectrum for DAB technologies?**
- 2). How many addition DAB multiplexers should be planned for to allow the deliver of other services?**
- 3). Should the multiplexers be planned for the provision of services on a national basis or on a regional basis?**

Response:

ComReg maintains that once the immediate and future requirements of multiplex capacity for broadcasting is met in VHF Band III, then unused multiplex capacity in Band III can be assigned to any other service that uses the DVB-T technology as its platform.

3. Conclusion

ComReg has taken an approach in this response, in line with its legislative requirements, that attempts to optimise the use of the radio spectrum.

Planning the future use of VHF Band III with DVB-T, a digital technology that can simultaneously provide a number of different services; encourages flexibility of spectrum use and promotes convergence while balancing the needs of the consumer.