



Freeview Interference

A quantitative research report: FINAL

Prepared by Essential Research

October 2011

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1 Executive summary

Research background and objectives

- 1.1. As a result of the release of 800Mhz spectrum to meet the demand for faster and better mobile broadband (planned by Ofcom), mobile base stations may cause interference to some Digital Terrestrial Television (DTT) services due to the proximity of their frequencies. Ofcom need to ensure that mobile services can be used effectively in the 800 MHz band but at the same time not inhibit DTT broadcasting to function properly.
- 1.2. With its obligation to explore mitigating actions to ensure the successful co-existence of new services in the 800 MHz band with digital terrestrial television, Ofcom is exploring the logistics and likely implications of providing filters to DTT consumers whose services are affected.
- 1.3. Essential partnered with SPA Future Thinking was commissioned to conduct quantitative and observational research with DTT consumers to explore the likely level of support that consumers will need with the installation of a filter to their television to counter the interference.

Research approach

- 1.4. The research was carried out across Great Britain between 21st September and 4th October 2011. It comprised 150 face-to-face and in-home interviews and an additional 10 interviews with vulnerable customers (having a disability or long-term health condition).
- 1.5. Respondents completed a pre- and post-test interview. The pre-test focused on respondents' expectations of fitting the filter to their television. The post-task assessed respondents' actual experience of fitting the filter. Respondents' ability to complete the task were observed and logged by interviewers.
- 1.6. The sample was designed to reflect the profile of DTT consumers by age and social class and all respondents had to meet the following criteria:-
 - Receive DTT services within a living area of their home
 - DTT services not currently experiencing any interference
 - That they would be likely to attempt installing such a device if the need arose
- 1.7. Recruitment data for those with DTT services in the home but not qualifying for interview was also captured to allow an extrapolation to the DTT consumer population for likely success in completing the task of installing a filter.
- 1.8. In addition to the sample quotas, data has been weighted by gender to the profile of DTT only households and has been fully analysed.

- 1.9. It should be noted that results are based on a small sample of DTT consumers and not the entire population and are therefore subject to sampling tolerances

Summary of key findings

Expectations of process (before shown filter or instructions)

1.10. An instruction leaflet was the most commonly cited form of support expected to accompany the filter (cited by 77%), with a further 14% stating a telephone helpline.

1.10.1. A significantly higher proportion of women and those with children in the household said they would expect an instruction leaflet (89% and 91% respectively).

1.10.2. Eight per cent of respondents aged 65+ claimed they would need physical help compared to no-one in the 45-64 age group.

1.11. Large print was the most commonly requested special provision in terms of the instruction leaflet (mentioned by 11% overall but 29% of 65+ year olds).

1.12. Having seen the filter, three-quarters said they could fit it with no support, less likely to say this were:-

- Women
- Single adults
- Those with children in household

1.13. Those saying they could not fit the filter without support were most likely to attribute this to a lack of confidence saying they '*like to have instructions to know they are doing it properly*' or that they '*might do it wrong*'.

1.14. Over nine in ten respondents (94%) were confident they could fit the filter when they actually saw it.

1.14.1. Having seen the filter, 65+ year olds show a similar level of confidence to younger respondents, however fewer stated they are *very* confident.

1.15. Eight in ten stated they would still expect an instruction leaflet to accompany the filter.

Observations of process

1.16. Over half the respondents (53%) reached a conclusion (either fitting the filter or abandoning the task) within a minute, with a further 19% taking 1 – 2 minutes. The median average is 1 minute.

1.16.1. Women, those aged 65+ and those not accessing the internet took longer to fit the filter.

1.17. Most were able to fit the filter without continuous reference to the instructions, half only looked at instructions prior to fitting and 19% read them only once during the fitting.

1.17.1. 16% of respondents fitted the filter without reading the instructions at all.

1.18. 87% of respondents observed experienced no problems with fitting the filter.

1.19. Nearly all the respondents (97%) fitted the filter and there were no significant differences in success by any sub-group category.

When extrapolating data from the recruitment stage, the estimated proportion of DTT consumers who would be able to fit the filter with instructions only is 91% with the caveat of being based on a very small sample base and that the views and likely action of vulnerable customers if faced with such as task may not be fully represented (especially those who are housebound).

1.20. Interviewers stated that 99% of those fitting the filter had done so correctly.

1.20.1. Of the six people who gave up, five stated it was their own fault they did not complete the task. In a real-life scenario they stated they would be most likely to ask assistance from a friend or family member.

Overall perceptions of task (after attempting to fit filter and having seen the instructions)

1.21. Just one per cent of those fitting the filter were not confident they had done so correctly.

1.22. 95% said the task was easy (80% saying *very easy*) with no differences by sub-group category.

1.23. Seven in ten claimed the instructions were important in helping them to fit the filter.

1.23.1. Higher proportions of men and 45-64 year olds claimed they were not important.

1.24. The instructions were well regarded, with nine in ten satisfied with their layout, use of pictures, use of text and clarity.

1.24.1. 84% were satisfied with their overall assistance in fitting the filter.

1.25. Three-quarters claimed the instructions require no improvement.

1.25.1. 87% stated no other support is needed in completing the task.

1.25.2. Of those giving an answer, a telephone helpline would be deemed most helpful.

1.26. Closing spontaneous comments from respondents were overwhelmingly positive and focused on the ease of the task.

Conclusions

1.27. In a real-life scenario, a small number of DTT consumers would be unlikely to attempt to fit the filter, most likely because they would use a professional because of concerns over damage to their television or that they are not technically minded. This is more likely to be older DTT consumers.

1.28. Overall, confidence was relatively high in undertaking such as task both before and after seeing the filter especially among men, those aged 18-44 and those in households of two or more adults.

- 1.29. Women, respondents in single adult households and those aged 65+ were more cautious in undertaking the task but were no less likely to complete the task and do so successfully.
- 1.30. An instruction leaflet to accompany the filter was deemed the most useful assistance and they were rated very positively with recommendations for improvement focused on them being shorter, easier to navigate and with more pictures.
- 1.31. The proportion of respondents successfully fitting the filter was almost 100% and among those who did give up, the most likely next step in a real-life scenario would be to ask for help from an informal source such as a friend or family member rather than from a professional or to the supplier of the filter.
- 1.32. Overall, the experience for the majority of respondents was positive and straightforward.

2 Background and objectives

Research background

- 2.1. Ofcom plans to release 800Mhz spectrum to meet the demand for faster and better mobile broadband. The 800 MHz spectrum is close in frequency to the spectrum used for digital terrestrial television (DTT), more commonly known as Freeview. Mobile base stations may therefore cause interference and affect the ability of some people to receive DTT services. Ofcom need to ensure that mobile services can be used effectively in the 800 MHz band but at the same time not inhibit DTT broadcasting to function properly.
- 2.2. Adhering to its responsibilities under the Communications Act 2003 and European legislation, Ofcom has set out a framework of proposals and is undertaking a consultation to fully explore mitigating actions to ensure the successful co-existence of new services in the 800 MHz band with digital terrestrial television.
- 2.3. It is estimated that around 1.5% of DTT households may be affected by mobile base stations and therefore one of the actions proposed by Ofcom is the provision of filters for DTT consumer equipment (for which it is proposed the costs would be borne predominantly by the new licensees of the 800 MHz spectrum).

Research objectives

- 2.4. A programme of quantitative research was commissioned with Essential Research working in partnership with SPA Future Thinking in order to explore the likely level of support that consumers will

need with the installation of a filter to provide advice to Government.

2.5. The core objective of the research was to provide insight into the ability of consumers to successfully install (a dummy version of) the DTT receiver filter and the level and type of support they would expect or require in order to undertake the task. It was also key to understand all the factors which would ease attempting and completing the installation and identify any barriers to the process.

2.6. More specifically, the study sought to:

- Explore how consumers respond to the provision of filters and related information and instructions
- Estimate the proportion of consumers that would be able to install the filters unaided
- Observe how long it takes for consumers to install the filters and any problems they might face
- Establish the likely level of support required with installation (written instruction, telephone support, in-home installation etc)
- Gauge the likely impact on vulnerable groups, for example older people and the disabled, and identify any specific issues they might face or additional support they might need

3 Methodology and sample

The research was a mix of quantitative and observational methods to provide data on key aspects of the process as well as anecdotal evidence of the experience of DTT consumers.

Methodology

- 3.1. The emphasis of this research was establishing the proportion of DTT consumers able to fit the filter unaided and any required support during the process. Quantitative research supported by interviewer observation was therefore deemed most suitable for the project.
- 3.2. The study was carried out using face-to-face interviewing, in respondents' homes, through SPA Future Thinking's fieldwork department. Interviewing took place between 21st September and 4th October 2011.
- 3.3. Broadly, the research stages comprised:-

Pre-recruitment to establish eligibility.

Interview involving:-

- pre-test questionnaire to establish uninformed and spontaneous attitudes and expectations of support
- interviewer observation to measure time taken to complete the task, ability to fit, use of instructions, any problems experienced and whether filter fitted correctly

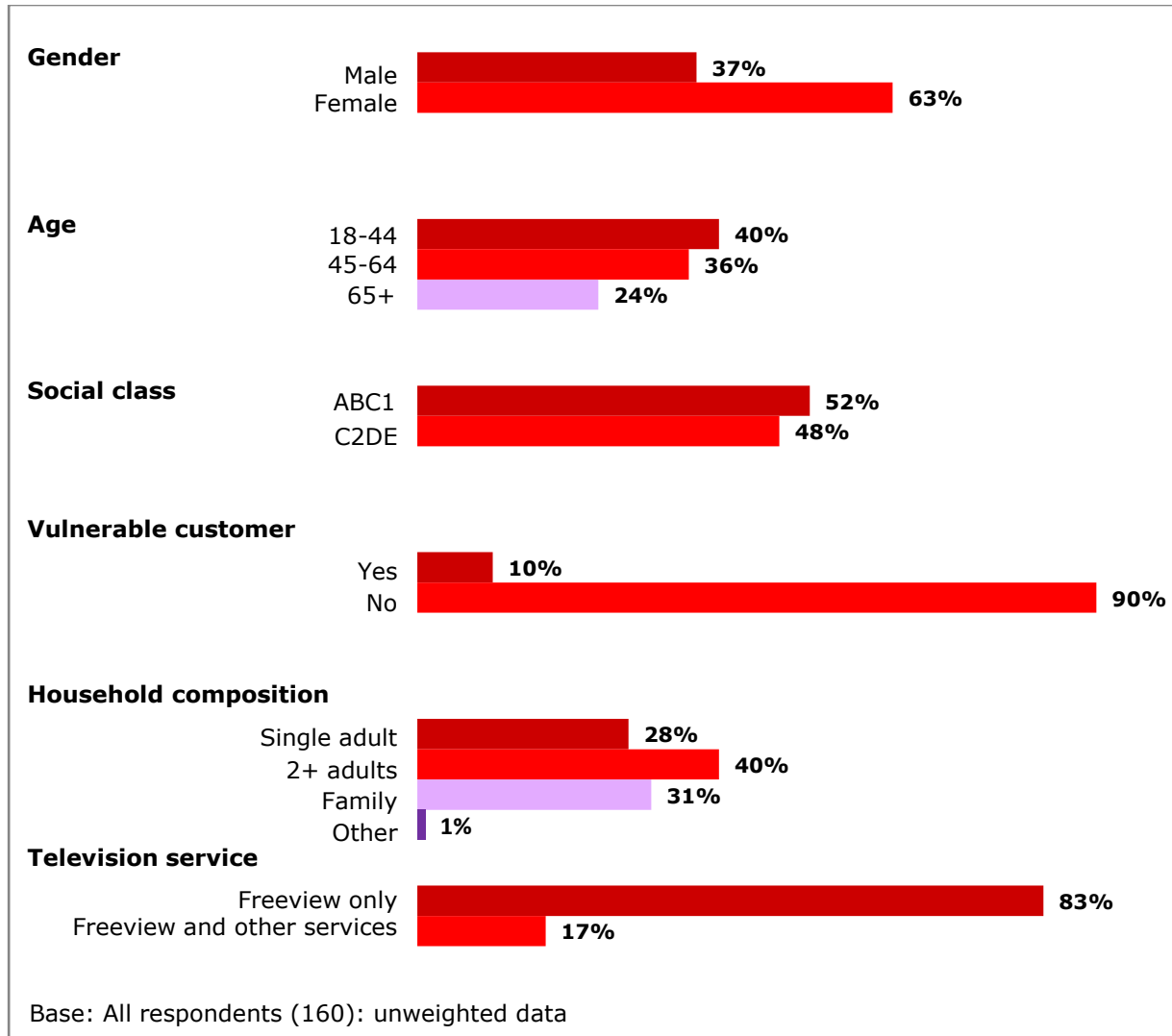
- post-test questionnaire to understand experience of fitting, any issues and recommended improvements to instructions or additional support required

Sample

- 3.4. 150 interviews were completed face-to-face in home. Quotas were set for the overall sample to match the profile of DTT only households by:-
- Age
 - Social Class
- 3.5. A further ten interviews were completed with DTT customers deemed vulnerable (having a disability or long-term health condition).
- 3.6. To ensure that people were willing and able to at least attempt installing the filter within the interview, the sample was further designed so that respondents met the following criteria:-
- Receive DTT services within a living area of their home
 - Services not currently experiencing any interference
 - That they would be likely to attempt installing such a device if the need arose
- 3.7. Data was also captured at the recruitment stage for those receiving DTT services but experiencing interference, using someone outside the household to undertake such tasks or merely unwilling to participate to allow estimates to be calculated for likely success of completing the task among all DTT consumers.

3.8. The unweighted profile of the 160 respondents is shown Table 1. A full weighted and unweighted sample profile is provided within the appendices.

3.9. Table 1: Unweighted Profile of Respondents



Questionnaire Design

- 3.10. The questionnaire was developed by Essential and SPA Future Thinking in consultation with Ofcom. The questionnaire was designed to allow respondents to provide their initial impressions of undertaking a filter installation, their expectations of support and their confidence in completing the process.
- 3.11. Respondents were given the opportunity to study the filter and a set of instructions (copy appended) before beginning the installation under observation by the interviewer.
- 3.12. Following the attempted installation, respondents were further questioned regarding their views of the process, the extent of help provided by the instructions, any problems experienced and proposed additional support required to fulfill the task.
- 3.13. The interviews lasted for around 15 minutes, and a copy of the questionnaire is included in the appendices.

Weighting and computer tables

- 3.14. Respondents were recruited to participate if they said they would be likely to attempt installing the filter for the household. Quotas were set by age and social grade to ensure the overall sample was representative of DTT only households. Data are weighted by gender to further reflect the true profile of the DTT only population.
- 3.15. Computer tables have been provided to Ofcom showing each question analysed by a number of variables.

Interpretation of data

- 3.16. It should be remembered that a sample, and not all DTT consumers have taken part in the research. This means that all results are subject to sampling tolerances, that is, we cannot be certain that the figures obtained are exactly those we would have if all eligible customers had been interviewed.
- 3.17. Interviews were only conducted with those who claimed they would be likely to attempt the task themselves. At the recruitment stage, data was collected for any person deemed eligible to participate but not willing to complete an interview. Data on reasons for non-participation has also been analysed and within this report we have made an adjusted estimate of overall likelihood of completing the task to take this group of DTT consumers into account.
- 3.18. Where percentages do not sum to 100, this may be due to computer rounding, the exclusion of 'don't know' categories, or multiple answers. Throughout the report, where bases for a question are less than 30, unweighted numbers are given rather than percentages.

4 Expectations of process

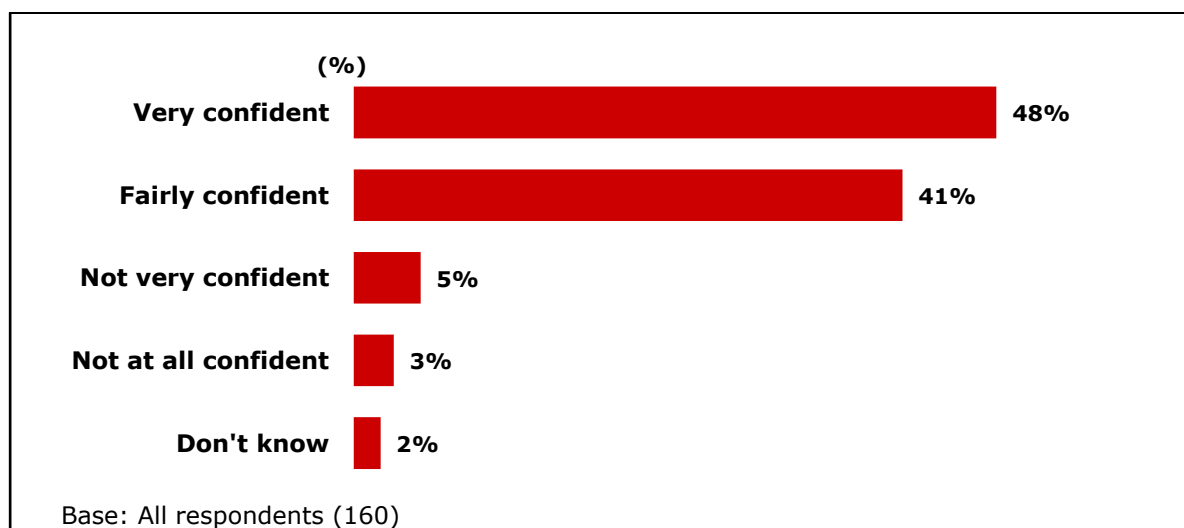
In this section, the report focuses on the initial impressions respondents had of undertaking a filter installation, their expectations of support and their confidence in completing the process.

Spontaneous reaction to technical tasks

4.1. Respondents were asked to put themselves in the position of a householder with DTT services experiencing interference due to external influences which requires a filter to correct the issue.

4.2. Nine in ten claimed they would be confident in completing such a task before seeing the device (89%). This was relatively evenly split between those saying they would be *very* and *fairly* confident.

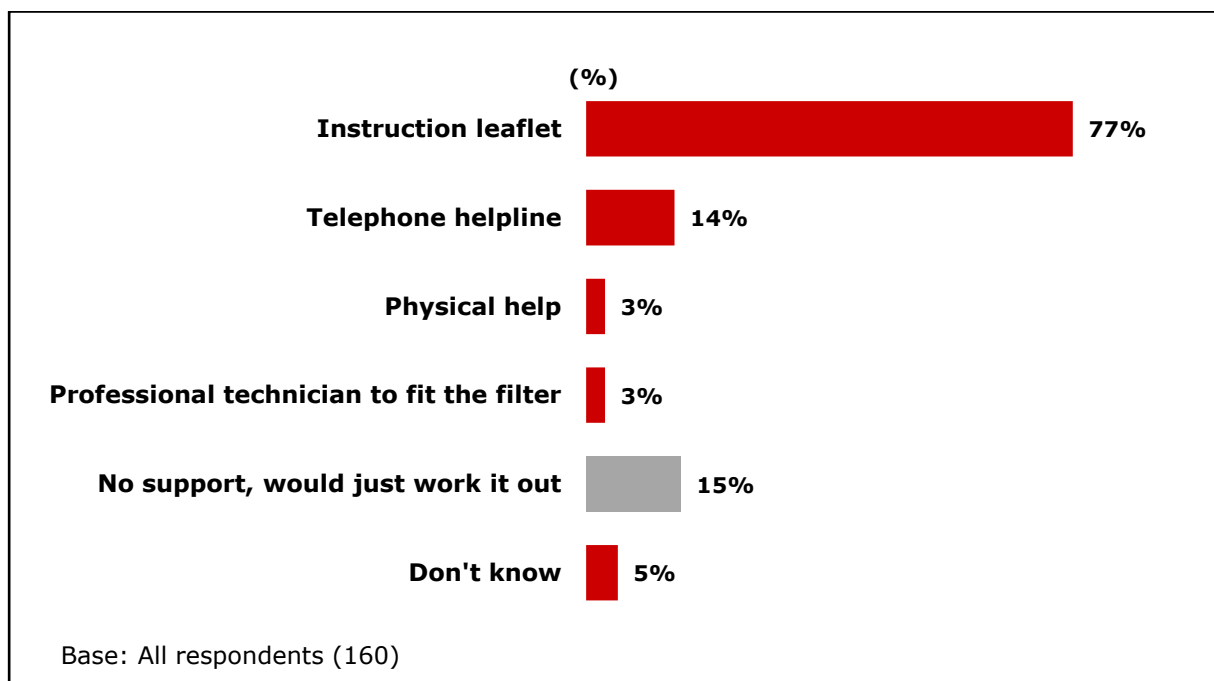
4.3. Table 2: Spontaneous confidence in completing task



4.3.1. Men were significantly more likely to say they were confident in completing such a task (95% versus 85% of women). Single adults displayed less confidence than both 2+ adult and family households.

4.4. There was an expectation that an instruction leaflet would accompany the filter (cited by 77% of respondents). A further 14% assumed a telephone helpline would be available while a similar proportion (15%) claimed they would not expect any support and would just work it out themselves.

4.5. Table 3: Expected support with fitting the filter



4.5.1. Higher proportions of women and respondents with children in the household stated an instruction leaflet would be expected (87% and 91% respectively).

4.5.2. Older respondents (aged 65+) did show differences in the type of support they would expect in installing the filter. Although only eight per cent of this group requested physical help with the installation, this is in comparison to no-one within the 45-64 age group.

4.6. The majority (82%) did not require any additional provision from an instruction leaflet while 11% of respondents stated large print would be beneficial. This was higher for those aged 65+ (29% versus 4% of 18-44 year olds and 7% of 45-64 year olds).

Response to filter

4.7. Picture 1: Filter



4.8. Given the opportunity to study the filter (pictured above), respondents' judgements of their capability to install it were very positive. Three-quarters stated they could fit it with no support (74%) however certain sub-groups were less likely to say this and included:-

- Women (62% vs. 86% men)
- Single adults (68% vs. 84% 2+ adults)
- Those with children in the household (65% vs. 84% 2+ adults)

4.9. Those saying they could not fit the filter without support were most likely to attribute this to a lack of confidence as shown in Table 4.

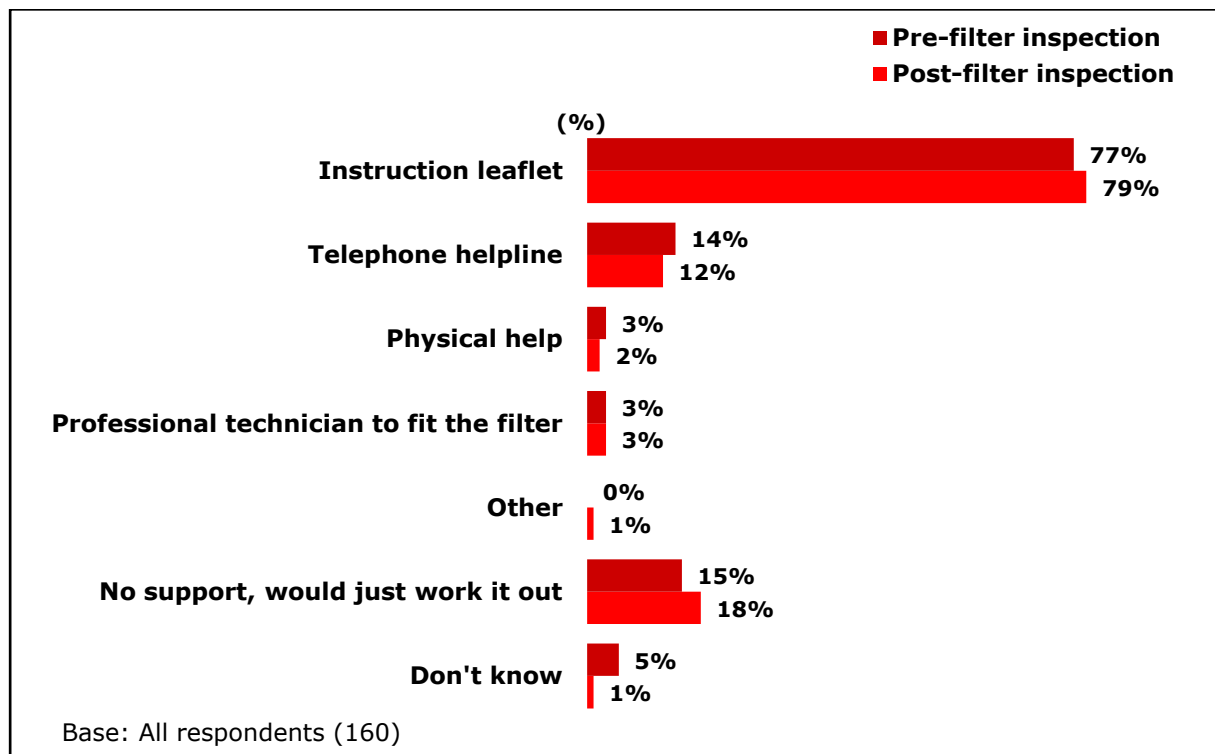
4.10. Table 4: Reasons for support need

Base: All respondents saying not able to fit the filter without support (29)
(multicode)

	N
Like to have instructions to know I am doing it properly	19
Might do it wrong	13
Would not know how/where to fit it	6
Not confident with electrical things	3
Looks difficult to fit	2
Might have to lift or move TV/set-top box/furniture	1

4.11. Once respondents had been given the opportunity to inspect the filter, the expected support to help fit it did not differ from initial and uninformed expectations.

4.12. Table 5: Pre- versus post-filter inspection expectations of support

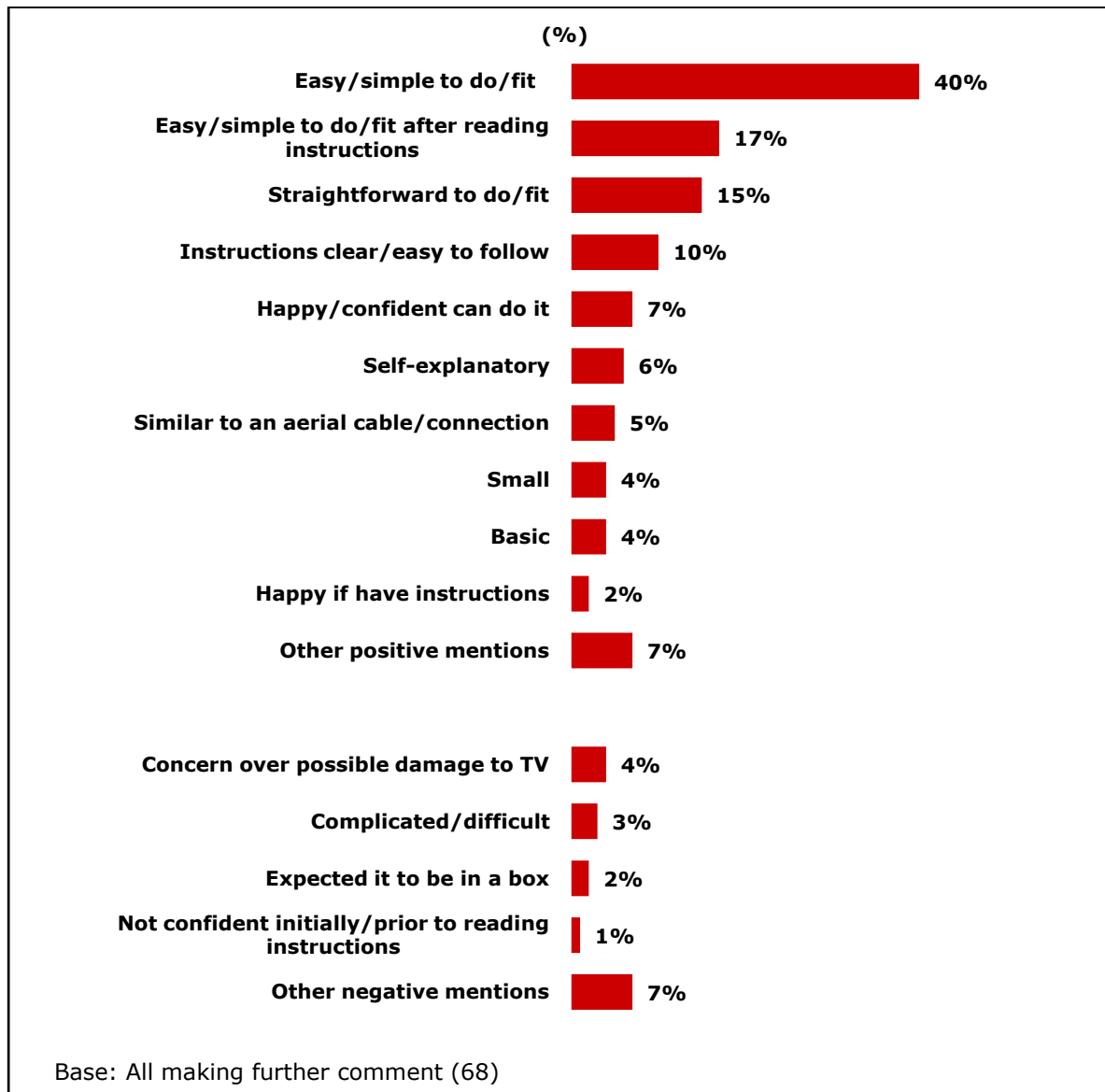


4.13. Having inspected the filter, over nine in ten (94%) respondents were confident they could fit it with the instructions provided.

4.13.1. 65+ year olds showed a similar level of confidence to younger respondents; however fewer stated they are very confident (50% versus 74% of 18-64 year olds saying very confident).

4.14. Respondents were asked if there was anything further they wanted to comment on prior to fitting the filter and 43% made an observation. Among these, the majority (85%) made a positive comment.

4.15. Table 6: Open comments about filter and impending task



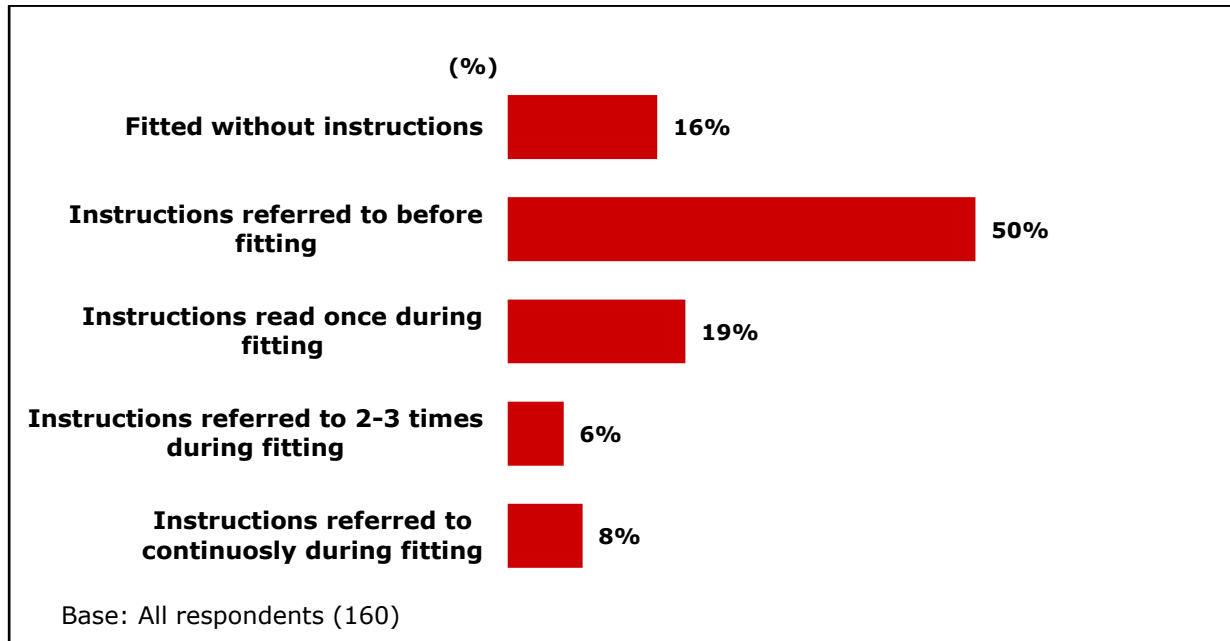
5 Observation of process

In this section, the report focuses on the interviewer observations made while respondents' attempted to fit the filter

Fitting the filter

- 5.1. Over half the respondents (53%) completed the task (either fitting the filter or abandoning the task) within a minute, with a further 19% taking 1 – 2 minutes. The median average for completing is 1 minute.
 - 5.1.1. Women, those aged 65+ and those not accessing the internet took longer to fit the filter.
- 5.2. Most were able to fit the filter without continuous reference to the instructions, half only looked at instructions prior to fitting and 19% read them only once during the fitting.

5.3. Table 7: Use of instructions during task

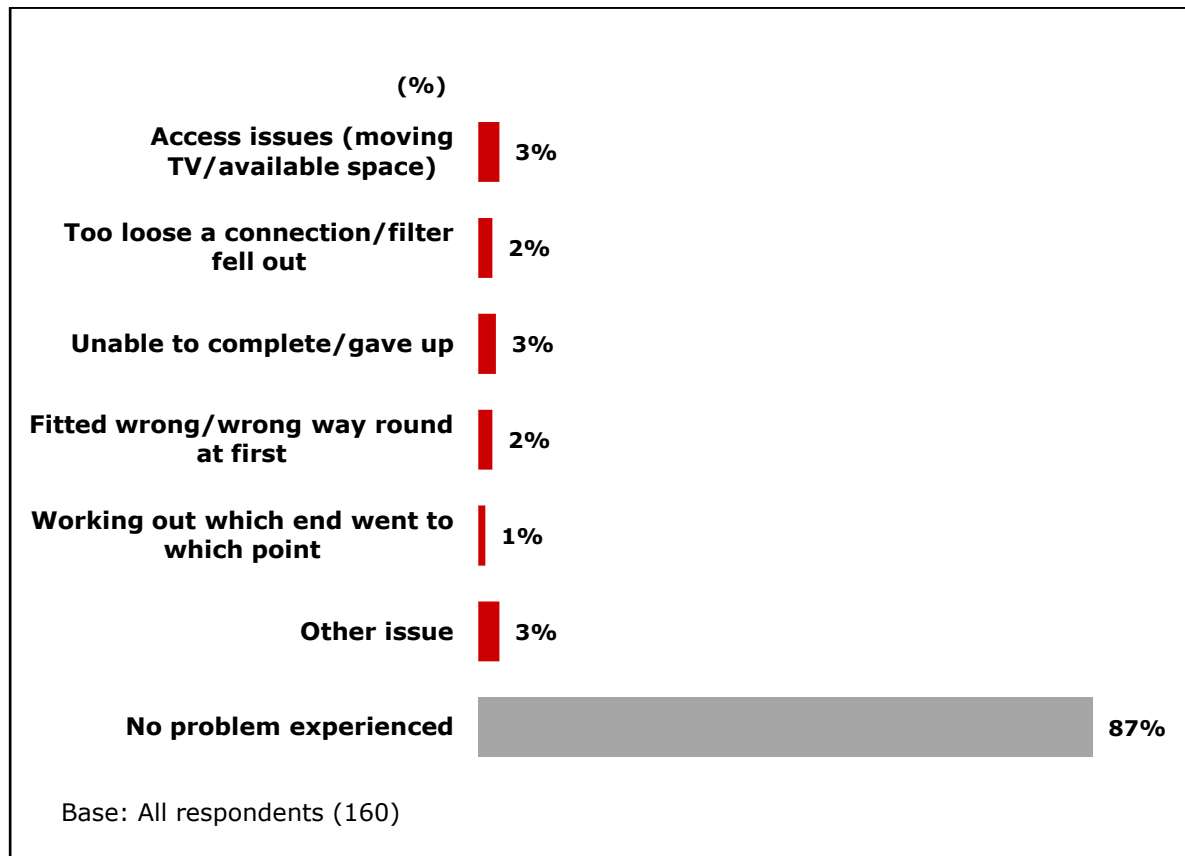


5.3.1. While interviewer observations found that 16% completed the task without using the instructions, some sub-groups were more likely to do so:-

- Men (24% vs. 10% women)
- 45-64 year olds (27% vs. 3% of those aged 65+)
- 2+ adult households (25% vs. 9% of single adult households)

5.4. Overall, 87% of observations cited no problems experienced in completing the task. Issues faced by the minority are shown in Table 8.

5.5. Table 8: Problems observed while respondent was fitting filter



5.6. As part of the instructions issued to interviewers, they were asked to log any relevant comments made by respondents during the task. Some of the most insightful comments are shown below.

Positive examples

"Is this all I have to do?"

"Easier than I thought, quite simple really"

"It was easy once I read through the instructions"

"Just an extension of the aerial already there, simple"

"Well this seems quite easy, just have to move TV table so I can get at the point, easy"

Negative examples

"This is fiddly, needs a good push"

"The connection is quite loose"

"Very difficult to get under TV to find aerial socket, our TV brackets don't move or tilt"

"It is a bit awkward getting my hand behind TV, my patience is running out, but done it if think"

5.7. Nearly all respondents fitted the filter (97%) and there were no significant differences in success by any sub-group category.

Success in fitting the filter

5.8. Interviewers observed that 99% of those fitting the filter had done so correctly. For the remaining 1%, it was not that they were fitted incorrectly, it was that interviewers were unable to accurately say whether fitted correctly or not due to the placement of the television or the set-up of their television equipment.

5.9. Picture 2: Examples of filter fittings



5.10. Of the six people who gave up (and with such a small number, no sub-group was significantly more likely to have done so), five stated to interviewers that it was their own fault they did not complete the task.

Reasons for abandoning the task

5.11. The six respondents who abandoned the process were asked why they had done so and their comments are shown below:-

"Because I didn't know what to do and didn't understand the leaflet"

"I couldn't get screw out of bracket to pull TV out from wall and couldn't get to it going from underneath"

"I found it really difficult and couldn't understand instructions, too hard for me and TV too big as I am elderly"

"I couldn't understand where the filter was supposed to go, couldn't figure it out"

"I don't want to ruin my TV, I can't afford to replace it, too technical for me"

"I struggled a bit and wasn't making much progress"

5.12. In a real-life scenario those abandoning the task would take a number of different actions but would be most likely to ask assistance from a friend or family member.

5.13. Table 9: Predicted actions taken by those abandoning task

Base: All respondents abandoning task (6) (multicode)

	N
Ask a friend/family member to help	5
Read instructions again	1
Look and see if there is a helpline to telephone	1
Ask a professional technician to fit the filter	1

Estimates of success within the wider DTT population

5.14. To estimate the likely proportion of DTT consumers successfully fitting the filter with only instructions to help them, we collected data of those eligible to participate but refusing to do so at the recruitment stage.

5.15. Participation rates among those eligible to do so (i.e. DTT consumers) were very high for the research.

5.15.1. This is likely to be due to the interest in the subject matter and the small incentive that was paid to participants as a thank you for letting interviewers into their home and undertaking a technical task.

5.16. Our first analysis was of the proportion of respondents who would qualify to take part but not doing so.

5.17. Table 10: Proportion of non-participants at recruitment stage

Base: All respondents receiving DTT services in living area of their home (187)

	%	N
Agree to participate on basis that they or other member of their household will complete the interview	86	160
Partner/spouse would normally complete such a task and will not agree to survey on their behalf	4	7
Would use professional installer	5	9
Friend/family member outside of households would normally complete such a task	1	1
Just did not want to take part	4	8
Currently experiencing interference with television	1	2

5.18. 97% of survey respondents fitted the filter, with no significant differences by sub-group. We can therefore assume that a similar proportion of those whose partner/spouse would complete the task or those who did not wish to participate would also complete the task successfully.

5.18.1. This assumption carries the caveat that the survey result (based on its sample size) could range by \pm three percentage points at the 95% confidence level, that is could range from 94% completion to 100% if all DTT consumers had been interviewed.

5.19. For those using a friend or family member outside the household to undertake the task for them, we collected the demographic data for these helpers. As there were no significant differences in ability to complete the task by sub-group at the survey stage, again we have assumed that a likely completion rate for 97% of this group of consumers. The same caveat applies here.

5.20. Those who claimed they would use a professional installer to install the filter for them were asked why this was the case.

5.20.1. Two out of the eight citing this reason for non-participation were aged 45-64 and the remaining six were aged 65+; none were aged 18-44.

5.20.2. Two core reasons emerged, not wanting to cause any damage to their televisions and not being confident to complete the task themselves.

5.21. Those experiencing interference were screened out of the survey to avoid any potential adverse effects installing the filter may have. We have therefore excluded this group from our extrapolation as we cannot know whether these DTT consumers would be likely to attempt the installation given their current service reception or would seek further professional or informal assistance.

5.22. We have therefore readjusted the figure for completing the installation process using the recruitment data collected. On this basis, we can make a crude estimate that 91% of DTT consumers would attempt and complete the process of fitting the filter using the instructions provided as shown in Table 11.

5.23. Table 11: Extrapolation to DTT population

Base: All respondents eligible to take part in research and not experiencing interference with current service (185)

	Number likely to fit filter
Agree to participate on basis that they or other member of their household will complete the interview	155
Partner/spouse would normally complete such a task and will not agree to survey on their behalf	6
Would use professional installer	0
Friend/family member outside of households would normally complete such a task	1
Just did not want to take part	7
TOTAL	169
Proportion of all DTT consumers (185)	91%

5.24. There are two caveats which should be taken into account with this estimation. Firstly, that it is based on a small sample and therefore as noted above in terms of statistical reliability, the true value (if all DTT consumers had been asked their likely action) will have a range, based on the sample size of 185, result of 91% and 95% confidence level, of \pm four percentage points.

5.25. Furthermore, the survey included a small number of vulnerable people and those aged 65+ who may have greater needs in terms of assistance to complete the task. Although the survey found no significant differences in the ability of these groups to complete the task, at the recruitment stage, it is unlikely that we were able to recruit or ascertain reasons for non-participation of DTT consumers who are house-bound or who have serious disabilities or long-term health conditions. The number who may use a professional installer

rather than a member of the household or friend/family member may therefore be higher than reflected in Tables 10 and 11.

5.26. Despite these caveats, it should be noted that both at the recruitment stage and during the survey, requests for additional assistance to the instructions, from whoever is responsible for the interference to services, were minimal.

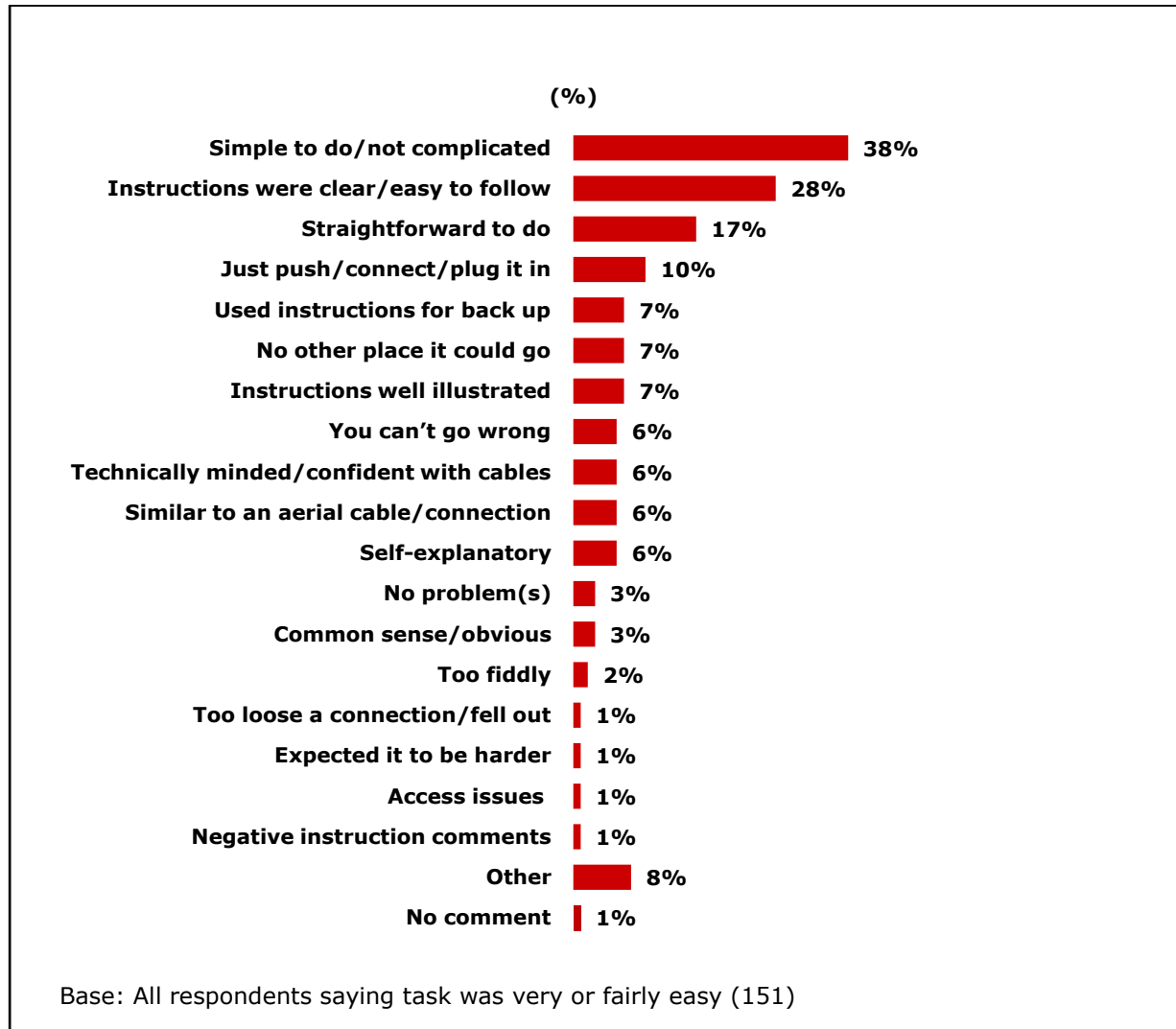
6. Overall perceptions of task

In this section, we explore respondents' overall perceptions of the task and their recommended improvements to support and instructions

Overall perception of task

- 6.1. Just one per cent of those fitting the filter were not confident they had done so correctly. 87% were *very* confident and certain sub-groups were more likely to have this level of confidence:-
 - Men (93% vs. 81% women)
 - 18-44 year olds (92% vs. 74% of those aged 65+)
 - Family households (95% vs. 75% of single adult households)
- 6.2. Supporting this finding, 95% said the task was easy (80% saying *very* easy) with no differences by sub-group category.
- 6.3. Reasons for believing the task to be easy varied and the range of responses are shown in Table 12. Some respondents gave negative comments despite saying the task was easy and this can often be because they have not given the highest rating of *very easy*.

6.4. Table 12: Reasons for finding task easy



6.5. Just nine respondents claimed it was not easy for them to fit the filter. Their reasons for this perception are shown in Table 13.

6.6. Table 13: Reasons for not finding task easy

Base: All respondents saying task was not very or not at all easy (9) (multicode)

	N
Access issues (moving TV/available space)	2
Physical/disability issue	1
Too loose a connection/fell out	1
Not easy/fiddly	1
Instructions easy to understand	1
Other	4

Assessment of instructions

6.7. The instructions shown to respondents comprised four pages, each page referring to a potential scenario:

- Aerial socket on wall
- Set-top aerial
- Aerial input cable enters room with no aerial socket
- Amplifier or splitter is used

6.8. Picture 3: Extracts from filter fitting instructions issued to respondents

Filter fitting instructions

Step 1 – IMPORTANT: Turn off the mains power supply to your TV and to any equipment such as Freeview boxes and video recorders that are connected to your TV.

Step 2 – Locate the aerial input cable for your TV equipment. If your TV equipment uses a rooftop aerial, the cable will usually come into the room via a TV aerial socket on a wall. Two examples of TV aerial sockets are shown below:



NB:
If your TV equipment uses a set-top aerial, please skip to step 4 on page 2.
If your aerial input cable does not enter the room via an aerial socket (e.g. if it simply enters through a hole in the wall), please skip to step 7 on page 3.

Step 3 – Unplug the aerial input cable from the TV aerial socket. Now insert the aerial input cable into the fixed end of the filter provided. Insert the plug on the cabled end of the filter into the TV aerial socket.

You have completed your filter installation and can now turn the mains power supply back on. The completed installation may look similar to the picture below:

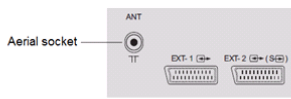


Where no TV aerial socket is used

Step 7 – Follow the aerial input cable along from the wall and locate the first piece of TV equipment that the cable plugs into. This could be your TV, your Freeview set-top box, your Personal Video Recorder (PVR), an amplifier, or a splitter.


NB: If your system uses an amplifier or splitter, please skip to **steps 10 – 12** on page 4. (An amplifier is an electronic device about the size of a thick paperback book that boosts your TV signal and which is usually also connected to the mains electricity. A splitter is a small device, about the size of a matchbox, that splits your TV signal, but which is not connected to the mains. Typical amplifier and splitter designs are shown in step 10.)

Step 8 – Unplug the aerial input cable from the aerial socket of the TV equipment (the TV, set-top box or PVR). The diagram below shows a typical aerial socket for a TV:



Step 9 – Now insert the aerial input cable into the un-cabled end of the filter provided. Insert the plug on the cabled end of the filter into the aerial socket of the TV equipment.

You have completed your filter installation and can now turn the mains power supply back on. The completed installation may look similar to the picture at right:

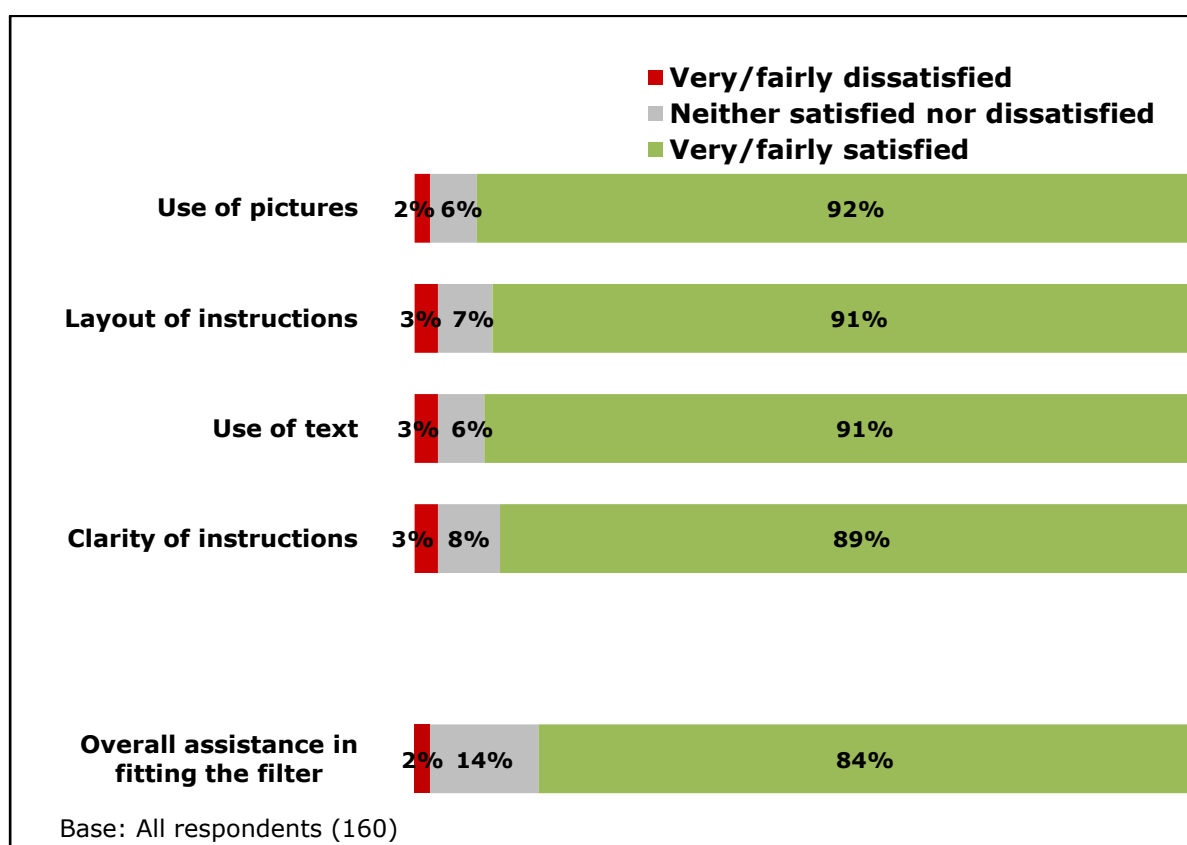


6.9. Seven in ten respondents claimed the instructions were important in helping them to fit the filter with 28% stating they were either not very or not at all important in assisting them.

6.9.1. Higher proportions of men (39% vs. 19% of women) and 45-64 year olds (36% vs. 14% of those aged 65+) claimed they were not important.

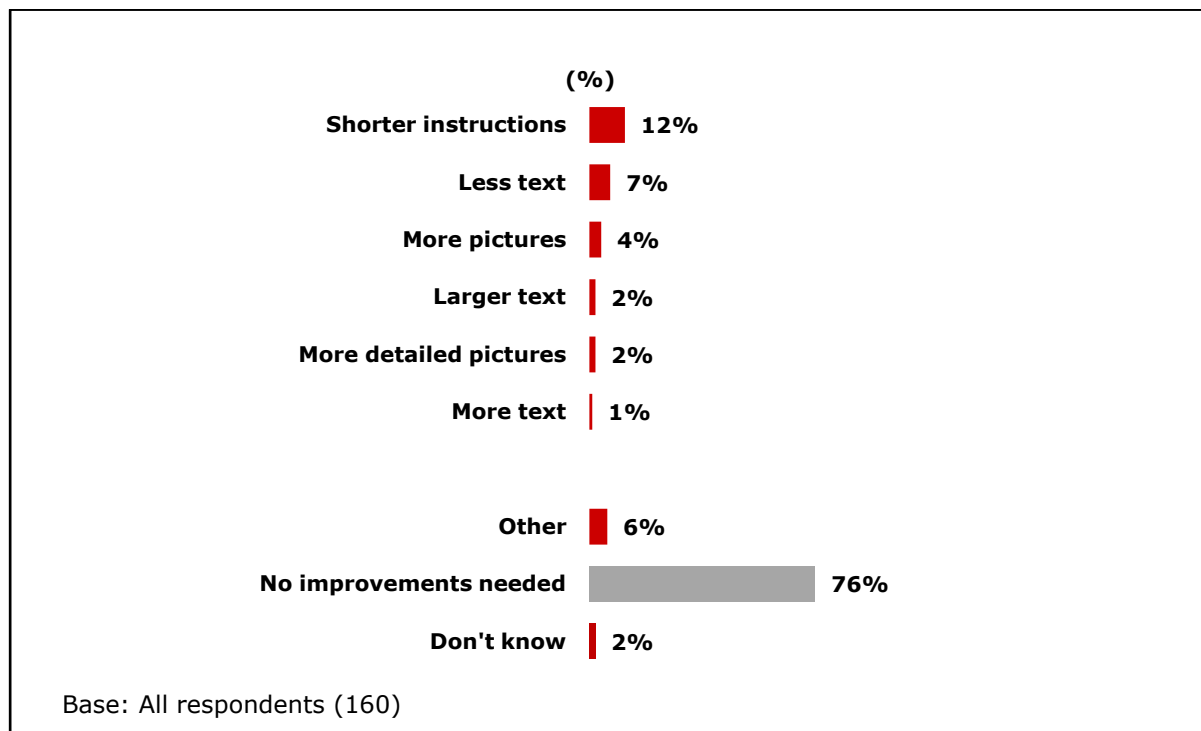
6.10. The instructions were well regarded, with nine in ten satisfied with their layout, use of pictures, use of text and clarity. There were no significant differences in attitudes by sub-groups.

6.11. Table 14: Rating instruction elements



6.12. Three-quarters claim the instructions require no improvement.

6.13. Table 15: Suggested improvements to instructions



6.14. Some respondents were more likely than others to suggest improvements:-

- 2+ adult households (35% vs. 10% of family households)
- 45+ year olds (27% vs. 12% of 18-44 year olds)

6.14.1. However, reasons for making suggested improvements are different for these core groups. As previously reported, 2+ adult households showed higher levels of confidence in the task and correspondingly, while more likely to suggest an improvement to instructions, this tended to be a requirement for 'shorter instructions' (23%).

6.14.2. In contrast, older respondents, (65+) tended to make suggestions for more help within the instructions, with 11% asking for 'more pictures'.

6.15. Just nine people claimed the task was not easy and therefore there are no significant differences in their requests for improved instructions.

6.15.1. However from interviewer observations, there was frequent reference to some respondents finding it difficult to know which page was relevant to them of the four provided. Anecdotally therefore, a contents page or more direction to the most appropriate section may have been of assistance.

6.16. When asked if any other support in addition to the instructions would have been helpful, 87% claimed no other support was required.

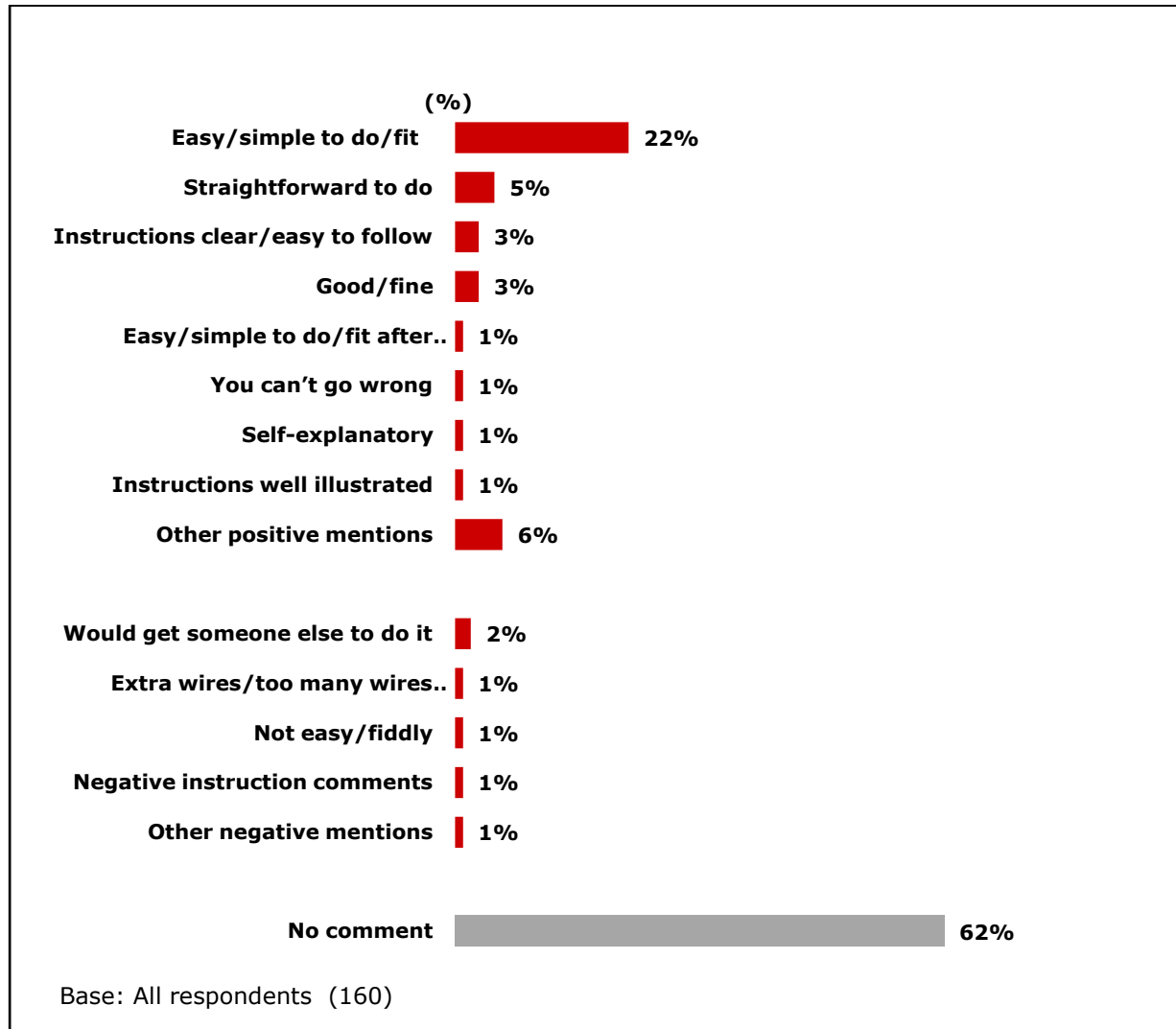
6.16.1. Of those providing an answer, a telephone helpline was deemed as being the most helpful addition (cited by eight per cent).

6.16.2. Consistent with the overall picture, men and 18-44 year olds and 2+ adult households were more likely to state they required no further support.

6.16.3. In contrast, those aged 65+ were more likely to state a requirement for physical help (10% vs. no 18-44 year olds).

6.17. Finally, respondents were asked if there were any further comments they would like to make about their experience of attempting to fit the filter. The majority made no comment and among those that did, most were positive in nature, as shown in Table 16.

6.18. Table 16: Open comments on task



Vulnerable customers

6.19. Sixteen interviews were completed with people who have a disability or long-term health condition (ten of which were booster interviews). Whilst caution must be taken given the small sample size, these individuals did not find the filter any harder (or easier) to fit than the respondents not classified as vulnerable.

7 Conclusions

- 7.1. A very small segment of DTT consumers were unlikely to attempt to fit a filter to their television, and the most common reasons for not participating were:
- Partner/spouse would normally undertake the task and respondent would not agree for them to be interviewed.
 - They would expect to use a professional to complete the task because of concerns they may damage their TV/TV wall mounted or because they are generally not confident with technical tasks.
- 7.2. It is also worth noting that when potential respondents were asked to take part in the research they had not had sight of the filter and therefore some of those with concerns may well have attempted it in a real-life scenario had a filter been delivered to them.
- 7.3. Among those willing to be interviewed and attempt installing the filter, confidence was relatively high in undertaking such as task both before and after seeing the filter. Many showed surprise that it was a small device and it was recognisable to them in having aerial plugs to fit, which ultimately was reassuring for many.
- 7.4. The findings are consistent in showing men, those aged 18-44 and those in households of two or more adults to have greater confidence in completing such tasks, more likely to undertake the task without any support or instructions and less likely to suggest any additional support is required.

7.5. Women, respondents in single adult households and those aged 65+ were more cautious in undertaking the task but were no less likely to complete the task and do so successfully.

7.5.1. Older respondents (65+) in particular were more likely to lack confidence and to make requests for physical help and for large print instructions.

7.6. An instruction leaflet to accompany the filter was deemed the most useful assistance however a significant minority wished for a telephone helpline.

7.6.1. The need for such a helpline did diminish having installed the filter with fewer claiming a need for this additional support than before attempting the installation.

7.7. The proportion of respondents successfully fitting the filter was almost 100% and among those who did give up, the most likely next step in a real-life scenario would be to ask for help from an informal source such as a friend or family member rather than from a professional or to the supplier of the filter.

7.7.1. The time taken to complete the task was very quick, averaging 1 minute.

7.8. The instructions received very favourable feedback with few recommendations for improvements however having more pictures for those aged 65+ and making them shorter and possibly easier to navigate by having a contents page would be beneficial.

7.9. Should the need arise for the distribution of filters to people experiencing interference from mobile stations, some support in undertaking the task will be required however this is not extensive and should comprise:

1. An instruction leaflet which has a contents page
2. An instruction leaflet which covers each potential scenario of TV equipment/set-up
3. Detailed pictures of the stages of the installation process within the instructions
4. A telephone helpline (although in reality this may not be used in great numbers)

7.10. Overall, the experience for the majority of respondents was positive and those providing open and spontaneous comments about the task were overwhelmingly encouraging giving a general sense of ease.



Appendices

Appendix A: Sample Profile

Sample Profile

Sub-groups	Unweighted N	Unweighted %	Weighted N	Weighted %
Gender				
Male	59	37	75	47
Female	101	63	85	53
Age				
18-44	64	40	62	39
45-64	57	36	59	37
65+	39	24	39	24
Social Grade				
ABC1	83	52	81	51
C2DE	77	48	79	49
Region				
Greater London	62	39	63	39
Midlands	32	20	31	19
North	32	20	33	21
Scotland	22	14	23	14
Wales	12	8	11	7
Vulnerable Customer				
Yes	16	10	16	10
No	144	90	144	90
Accesses Internet				
Yes	135	84	135	84
No	25	16	25	16
Freeview Installation				
Result of Digital Switchover	19	12	19	12
Not result of Digital Switchover	141	88	141	88
Household Composition				
Single adult	45	28	46	29
Two adults	51	32	52	32
Three+ adults	13	8	13	8
One parent family	17	11	14	9
Two parent family	32	20	33	21
Other	2	1	2	1



Appendix B: Topline

Topline Findings

- 160 interviews and observations conducted face-to-face with Freeview users across Great Britain
- Quotas were set by age and social class and data are weighted by gender to the profile of Freeview only users
- Fieldwork was conducted between 21st September and 4th October 2011
- Where figures do not add up to 100% this is due to computer rounding, the exclusion of don't know or refused categories or multiple responses
- Where bases are less than 30, unweighted numbers (N) are given rather than percentages
- Data are based on all respondents unless stated otherwise

Screening and Quota Allocation

Gender

Base: All respondents (160)

	%
Male	47
Female	53

Age

Base: All respondents (160)

	%
18-24	3
25-34	11
35-44	24
45-54	26
55-64	11
65+	25

Social Class

Base: All respondents (160)

	%
AB	14
C1	37
C2	25
DE	24

Region

Base: All respondents (160)

	%
Greater London	39
Midlands	19
North West	20
Scotland	14
Wales	7

Vulnerable customer

Base: All respondents (160)

	%
Yes	10
No	90

Television Service

Base: All respondents (160)

	%
Freeview Only	83
Freeview and other services	17

QA Just to confirm, you receive television services in a living area of your home through Freeview? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Yes	100
No	0

QB And you can access the aerial cable which feeds into one of these televisions which uses Freeview? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Yes	100
No	0

QC And do you receive your Freeview services through a set-top box or do you have an integrated TV (a television with a built-in digital tuner)? **SINGLE CODE ONLY**
Base: All respondents (160)

	%
Via Integrated TV	65
Set-top box	31
PVR (Personal Video Recorder)	0
Mixture of above	4
Don't know	1

Pre-test questionnaire

Q1. How long have you had Freeview services? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
<2 years	17
2 - 4 years	42
5+ years	41

Q2. Do you know if your television requires an amplifier or 'booster' to receive services? **ADD IF NECESSARY.** Properties in some locations require their aerial signal to be boosted, for example if they live in low lying land or have a natural obstruction such as a hill blocking the local signal. There might also be a booster amplifier if the TV signal from the main rooftop aerial is distributed to a number of rooms around the house. **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Yes	6
No	93
Don't know	1

Q3. Where is the amplifier located? **SINGLE CODE ONLY**

Base: All with amplifier (9)

	N
In the loft	4
Behind the TV	2
Outside (e.g. on aerial)	1
Other	2
Don't know	0

Q4. How many televisions do you use in your household? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
One	18
Two	46
Three	24
Four+	12

Q5. What type of aerial is used for the TVs in your house? **PROMPT IF NECESSARY.**
SINGLE CODE ONLY

Base: All respondents (160)

	%
One rooftop aerial for all TVs	84
More than one rooftop aerial	8
Rooftop aerial for main TV, set-top for others	4
Set-top aerials for all TVs	2
Other	1
Don't know	1

I would like you to imagine that your Freeview service is experiencing interference due to external influences, so there is nothing wrong with your television and interference is being caused from outside sources. You have been informed this can be corrected by fitting a small filter (provided to you) to your television and you are waiting to receive this.

Q6. Without seeing the filter, can I ask how confident you would normally be in completing a task like this? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Very confident	48
Fairly confident	41
Not very confident	5
Not at all confident	3
Don't know	2

- Q7.** What kind of support would you expect to be given to you in completing a task like this? **ADD IF NECESSARY** that is fitting something to your TV or the wires leading to it? **MULTICODE OK**

Base: All respondents (160)

	%
Instruction leaflet	77
Telephone helpline	14
Physical help (to lift or move TV/set-top box/furniture)	3
A professional technician to fit the filter	3
Neighbour/carer	0
Other	0
No support, would just work it out	15
Don't know	5

- Q8.** If an instruction leaflet accompanied the filter, what, if any of these, additional provisions would you require from the instructions? **MULTICODE OK**

Base: All respondents (160)

	%
Large print	11
A weblink for further information	4
Audio	1
DVD	1
Braille	0
Other	2
Don't know	7
None of these	75

Now I would like to show you an example of a filter which can counter the type of interference we are talking about

- Q9.** Do you think you would be able to fit this filter to your aerial cable without any support, that is no instructions or support of any kind? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Yes	74
No	16
Don't know	11

Q10. Why not? **DO NOT PROMPT. MULTICODE OK**

Base: All respondents saying not able to fit filter without support (29)

	N
Like to have instructions to know I am doing it properly	19
Might do it wrong	13
Would not know how/where to fit it	6
Not confident with electrical things	3
Looks difficult to fit	2
Might have to lift or move TV/set-top box/furniture	1
Partially sighted/blind	0
Mobility/dexterity issues	0
Other	0
Don't know	0

Q11. Seeing the filter, what kind of support would you expect to be given to you in fitting it to your TV? **DO NOT PROMPT. MULTICODE OK**

Base: All respondents (160)

	%
Instruction leaflet	79
Telephone helpline	12
A professional technician to fit the filter	3
Physical help (to lift or move TV/set-top box/furniture)	2
Neighbour/carers	0
Other	1
No support, would just work it out	18
Don't know	1

I will give you instructions on how to fit the filter to your TV and it will not affect your current services. The filter can be removed at the end of the interview.

Q12. How confident are you in being able to fit the filter to your aerial cable using these instructions? **SINGLE CODE ONLY.**

Base: All respondents (160)

	%
Very confident	68
Fairly confident	27
Not very confident	2
Not at all confident	3
Don't know	1

Q13. For the purposes of this interview, are you still willing to fit the filter to your aerial cable/TV? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Yes	100
No	0

Q14. Do you have anything else you would like to comment on relating to your first impression of the filter and fitting it to your aerial cable/TV before we continue?

Base: All making further comment (68)

	%
Positive mentions	85
Easy/simple to do/fit	40
Easy/simple to do/fit after reading instructions	17
Straightforward to do/fit	15
Instructions clear/easy to follow	10
Happy/confident I can do it	7
Self-explanatory	6
Similar to an aerial cable/connection	5
Small	4
Basic	4
Happy if have instructions	2
All other positive mentions	7
Negative mentions	18
Concern over possible damage to TV	4
Complicated/difficult	3
Expected it to be in a box	2
Not confident initially/prior to reading instructions	1
All other negative mentions	7

Observation

Respondent to turn television on to check it currently works, turn power off and try to fit the filter

Q15. Comments made during fitting

Base: All respondents (160)

Verbatim comments available under separate cover

Q16. Problems experienced during fitting

Base: All respondents (160)

	%
Access issues (moving TV/available space)	3
Too loose a connection/fell out	2
Unable to complete/gave up	2
Fitted wrong/wrong way round at first	2
Working out which end went to which point	1
Other	3
No problems experienced	87

Q17. Time taken to reach a final conclusion (i.e. filter fitted or exercise abandoned)

Base: All respondents (160)

	%
Up to 30 seconds	24
31 seconds - 1 minute	29
1.01 - 2 minutes	19
2.01 - 5 minutes	24
>5 minutes	4

Q18. Which of the following statements best describes respondent's use of instructions?
SINGLE CODE ONLY

Base: All interviews (160)

	%
Instructions only referred to before fitting	50
Instructions read once during fitting	19
Filter fitted without reading instructions	16
Instructions were referred to continuously during fitting	8
Instructions were referred to 2-3 times during fitting	6

Q19. Did respondent fit the filter? **SINGLE CODE ONLY**

Base: All interviews (160)

	%
Filter fitted	97
Respondent gave up	3

Q20. Did respondent appear to think reason for not fitting was their own inability or the fault of equipment/instructions? **SINGLE CODE ONLY**

Base: All interviews where filter not fitted (6)

	N
Own fault	5
Equipment	0
Instructions	1
They did not say	0

Q21. How easy or difficult do you think respondent found fitting the filter? **SINGLE CODE ONLY**

Base: All interviews (160)

	%
Very easy	77
Fairly easy	18
Not very easy	1
Not at all easy	4

Q22. Did respondent fit the filter correctly? **SINGLE CODE ONLY**

Base: All interviews where filter fitted (154)

	%
Yes	99
No	0
Could not tell	1

Post-test questionnaire

Thank you for completing that exercise. I would now like to ask you some questions about the process.

Q23. Can you tell me why you gave up fitting the filter?

Base: All respondents who did not fit filter (6)

	N
Didn't know what to do/ understand the instructions	2
Could not access back of TV	1
Could not move furniture/ TV to access	1
Did not want to damage TV	1
Too difficult	1

Q24. And what would you be likely to do next if you could not fit the filter?
MULTICODE OK

Base: All respondents who did not fit filter (6)

	N
Ask a friend/family member to help	5
Read instructions again	1
Look and see if there is a helpline to telephone	1
Ask a professional technician to fit the filter	1
Go online	0
Other	0

Q25. How confident are you that the filter is fitted correctly? **SINGLE CODE ONLY.**

Base: All respondents who fitted filter (154)

	%
Very confident	87
Fairly confident	13
Not very confident	0
Not at all confident	1

Q26. Overall, how easy or difficult did you find fitting the filter? **SINGLE CODE ONLY.**

Base: All respondents (160)

	%
Very easy	80
Fairly easy	15
Not very easy	1
Not at all easy	4

Q27a. Why do you say it was fairly/very easy?

Base: All respondents finding it easy (151)

	%
Simple to do/not complicated	38
Instructions were clear/easy to follow	28
Straightforward to do	17
Just push/connect/plug it in	10
No other place it could go	7
Used instructions for back up	7
Instructions well illustrated/show you want to do	7
Technically minded/confident working with cables	6
Self-explanatory	6
You can't go wrong	6
Similar to an aerial cable/connection	6
Common sense/obvious	3
No problem(s)	3
Too fiddly	2
Expected it to be harder	1
Access issues (moving TV/available space)	1
Too loose a connection/fell out	1
Negative instruction comments	1
Other	8
No comment	1

Q27b. Why do you say it was not very/not at all easy?

Base: All respondents not finding it easy (9)

	N
Access issues (moving TV/available space)	2
Instructions easy to understand	1
Physical/disability issue	1
Too loose a connection/fell out	1
Not easy/fiddly	1
Other	4

Q28. How important were the instructions in helping you to fit the filter? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Very important	44
Fairly important	26
Not very important	13
Not at all important	15
Don't know	2

Q29. Thinking further about the instructions, how satisfied or dissatisfied were you with the following? **SINGLE CODE ONLY**

Base: All respondents (160)

		Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied
a) Layout of instructions	%	69	22	7	2	1
b) Use of pictures	%	75	17	6	1	1
c) Use of text	%	69	22	6	2	1
d) Clarity of instructions	%	70	19	8	2	1
e) Overall assistance in fitting the filter	%	61	23	14	1	1

Q30. How, if at all, would you improve the instructions? **DO NOT PROMPT. MULTICODE OK.**

Base: All respondents (160)

	%
Shorter instructions	12
Less text	7
More pictures	4
Larger text	2
More detailed pictures	2
More text	1
Smaller text	0
Less pictures	0
Less detailed pictures	0
Longer instructions	0
Other	6
No improvements needed	76
Don't know	2

Q31. What, if any, other support would have been helpful to you in fitting the filter?
MULTICODE OK

Base: All respondents (160)

	%
Telephone helpline	8
Physical help (to lift or move TV/set-top box/furniture)	3
Neighbour/carers	1
A professional technician to fit the filter	1
Other	2
No other support needed	87
Don't know	2

Q32. Are there any other comments you would like to make about your experience of fitting the filter?

Base: All respondents (160)

	%
Positive mentions	33
Easy/simple to do/fit	22
Straightforward to do/fit	5
Instructions clear/easy to follow	3
Good/fine	3
Easy/simple to do/fit after reading instructions	1
You can't go wrong	1
Self-explanatory	1
Instructions well illustrated/show you want to do	1
All other positive mentions	6
Negative mentions	5
Would get someone else to fit it	2
Extra wires/too many wires already	1
Not easy/fiddly	1
Negative instruction comments	1
All other negative mentions	1
No comment	62

Classification

That completes the survey, I just have a few final questions which will help in our analysis of the results.

Q33. Do you, or does anyone in the household have any of the following? **MULTICODE OK**

Base: All respondents (160)

	%
Mobile phone	70
Laptop	64
Desktop PC	42
Smartphone	35
Tablet computer (e.g. Apple ipad or Blackberry Playbook)	8
Netbook	5
None of these	3

Q34. How often, if at all, do you access the Internet? **SINGLE CODE ONLY.**

Base: All respondents (160)

	%
Every day	50
2-3 times a week	22
Once a week	8
2-3 times a month	1
Once a month	1
Less often	3
Do not access	16

Q35. For which of these functions, do you use the Internet? **MULTICODE OK**

Base: All respondents accessing internet (135)

	%
Web browsing	91
Email	88
Interaction with social media sites	70
Online shopping	68
Transactions with bank	59
Transactions with other services (e.g. paying utility bills etc)	46
Other	16
None of these	0

Q36. Can I ask, did you install Freeview Services as a result of the Digital Switchover programme? **ADD IF NECESSARY.** Digital switchover is the nationwide programme to move all TV services from analogue to digital between 2008 and 2012. **SINGLE CODE ONLY**

Base: All respondents (160)

	%
Yes – changed to Freeview because of the Digital Switchover	12
No – did not change to Freeview because of the Digital Switchover	88

Q37. Overall, how easy or difficult did you find switching to Freeview services?
SINGLE CODE ONLY.

Base: All respondents installing Freeview as a result of Digital Switchover (19)

	N
Very easy	13
Fairly easy	5
Not very easy	1
Not at all easy	0

Q38. Which of the following, best describes your household composition, that is the people living in your home? **SINGLE CODE ONLY**

Base: All respondents (160)

	%
One adult (aged 18+)	29
Two adults (both aged 18+)	32
Three+ adults (all aged 18+)	8
One parent family with at least one child aged under 18	9
Two parent family with at least one child aged under 18	21
Other	1

Q39. Which of these, if any, apply to you? **MULTICODE OK**

	%
Other disability/long-term health condition	7
Hearing impairment	3
Chronically sick and limited in being able to leave your home/household	1
Wheelchair user	0
Visual impairment	0
None of these	90

Appendix C: Recruitment Questionnaire

Respondent Details	Interviewer Declaration						
<p>Name:</p> <p>Address:</p> <p>Postcode:</p> <p>Telephone Number:</p>	<p>I declare that this is a true record of an interview conducted with the named respondent who was previously unknown to me. It was conducted in accordance with instructions shown in the interviewer handbook within the code of conduct of the Market Research Society.</p>						
<p>Gender</p> <p>Female 1</p> <p>Male 2</p>	<p>Name:</p> <p>Date:</p> <p>Signature:</p> <p>Interviewer Number:</p>						
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">PLEASE ENSURE A SPREAD</div>	<p>Respondent Recruited (Tick as relevant)</p>						
<p>Age</p> <p>18-44 1</p> <p>45-64 2</p> <p>65+ 3</p>	<p style="text-align: center;">Yes No</p> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <div style="border: 1px solid black; width: 50px; height: 30px;"></div> <div style="border: 1px solid black; width: 50px; height: 30px;"></div> </div>						
<div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">Recruit to Quota:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">18-44</td> <td style="width: 50%; text-align: right;">40%</td> </tr> <tr> <td>45-64</td> <td style="text-align: right;">35%</td> </tr> <tr> <td>65+</td> <td style="text-align: right;">25%</td> </tr> </table> </div>	18-44	40%	45-64	35%	65+	25%	
18-44	40%						
45-64	35%						
65+	25%						
<p>Occupation:</p>							
<p>SEG</p> <p>ABC1 1</p> <p>C2DE 2</p>							
<div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">Recruit to Quota:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">ABC1</td> <td style="width: 50%; text-align: right;">50%</td> </tr> <tr> <td>C2DE</td> <td style="text-align: right;">50%</td> </tr> </table> </div>	ABC1	50%	C2DE	50%			
ABC1	50%						
C2DE	50%						

SCREENING

Good morning/afternoon/evening. I am from SPA Future Thinking, an independent research agency. We are inviting people to take part in an important research project on behalf of Ofcom (the Independent regulator and competition authority for the UK communications industries including responsibilities across television, radio and telecoms).

We are looking for people who are willing to take part in an interview and the testing of a television filter. The session will last around 20-25 minutes and would take place in your home to enable you to test the television filter. To say thank you for giving up your time, we would like to offer you (outside Greater London) £10/ (Greater London) £15.

We are looking for particular groups of people, therefore I would first like to ask you some questions about yourself to see if you are eligible to participate. We operate within the Market Research Code of Conduct and all information you provide remains confidential and will be anonymised.

QA First of all I would like to ask whether **you, or any of your close friends or family**, work now, or have ever worked, in any of the following industries or occupations? **MULTI-CODE OK. SHOWCARD**

<i>Advertising.....</i>	<i>1</i>
<i>Journalism</i>	<i>2</i>
<i>Marketing.....</i>	<i>3</i>
<i>Market Research</i>	<i>4</i>
<i>Public Relations.....</i>	<i>5</i>
<i>Media: TV/Radio/Press/ Film</i>	<i>7</i>
<i>Telecoms: Landline/mobile telephone provider.....</i>	<i>8</i>
<i>Communications technician: aerial, TV, telecoms repairs/installation.....</i>	<i>9</i>

**IF CODE ANY OF THE ABOVE, THANK AND CLOSE
OTHERS GO TO QB**

QB Which, if any, of the following television services do you use in your home? **SINGLE CODE ONLY. SHOWCARD**

Freeview only	1	Continue and recruit to quota
Sky only	2	Close
Cable only	3	Close
Terrestrial TV only (no digital service)	4	Close
Mixture of Freeview and other services	5	Continue and recruit to quota
Mixture of other services	6	Close

QC And do you use Freeview within a living area in your home, that is, **not a bedroom**? ADD IF NECESSARY. By 'living area', I mean within a sitting room, kitchen, playroom etc. **SINGLE CODE ONLY**

Yes	1	Continue
No	2	Close

ALL TO HAVE FREEVIEW IN A LIVING AREA WITHIN THE HOME

ASK IF FREEVIEW WITHIN LIVING AREA OF HOME, OTHERS CLOSE

QD And do you receive your Freeview services through a set-top box or do you have an integrated TV (a television with a built-in digital tuner)? **SINGLE CODE ONLY**

Set-top box	1
Via Integrated TV	2
PVR (Personal Video Recorder)	3
Mixture of above	4
Don't know	5

QE Are you be able to access the aerial cable which feeds in to the television(s) with Freeview services, which is/are located within a living area of your home? ADD IF NECESSARY. Some televisions are wall mounted with aerial cables boxed away. **SINGLE CODE ONLY**

Yes, can access the aerial feeding 1 Continue
into all televisions which receive
Freeview services within a living area of
the home

Yes, can access the aerial feeding 2 Continue
into at least one television which
receives Freeview services within a
living area of the home

No, cannot access aerial cable to 2 Close
any television which receives
Freeview within a living area of the
home

RESPONDENTS SHOULD BE ABLE TO ACCESS AERIAL CABLE TO AT LEAST ONE FREEVIEW TELEVISION

QF Do you currently experience any interference with your television services through Freeview? **SINGLE CODE ONLY**

Yes 1 Close
No 2 Continue

NO RESPONDENTS TO CURRENTLY EXPERIENCE INTERFERENCE WITH THEIR FREEVIEW SERVICE

Explanation of session

In the future, it is possible that a very small proportion (1.5% at most) of homes using Freeview services may experience some interference with their reception from new mobile broadband services. If this occurs, a small filter may be provided to them to counter this effect. As the regulator of communications, it is important for Ofcom to understand how people respond to fitting this filter and we are therefore testing the process with a small number of Freeview users.

ADD IF NECESSARY: It has been established that only a very small number of homes may be affected by possible interference and my asking you to take part in this research in no way suggests you would be more or less likely to be affected. We merely want to understand how people would manage fitting a small filter to the back of their television.

To All:

An interviewer will attend your home and conduct a short survey with you, ask you to fit the filter to your television and then ask you to respond to some further questions. Your television services will not be affected in any way and the equipment will be disconnected at the end of the session.

RECRUITMENT

ASK ALL

Q1 If you needed to fit something to your television to restore or improve services, who would be most likely to do this?

SINGLE CODE ONLY

Respondent	1 – GO TO Q8
Other person LIVING IN HOUSEHOLD (WRITE IN relationship e.g. husband/wife, son/daughter etc)	2 – GO TO Q7
Friend/family member NOT LIVING IN HOUSEHOLD	3 – GO TO Q3-Q6
Professional installer	4 – GO TO Q2 THEN CLOSE
Other	5 – THEN CLOSE

**IF PROFESSIONAL WOULD FIT EQUIPMENT (CODE 4 AT Q1) ASK Q2.
OTHERS GO TO INSTRUCTION AT Q3**

Q2 Why would you use a professional? **WRITE IN THEN CLOSE**

**IF FRIEND/FAMILY MEMBER OUTSIDE THE HOUSEHOLD WOULD FIT
EQUIPMENT (CODE 3 AT Q1) ASK Q3. OTHERS GO TO INSTRUCTION AT
Q7**

Q3 Why would you use a friend/family member? **WRITE IN THEN ANSWER
Q4-Q6 AND CLOSE**

For analysis purposes only, can I ask you a couple of questions about this other person who would help you.

Q4 Gender

Q5Age

Q6Social Class

Occupation:

SEG

ABC1	1
C2DE	2

IF FRIEND/FAMILY MEMBER OUTSIDE THE HOUSEHOLD WOULD FIT EQUIPMENT NOW CLOSE

IF OTHER PERSON IN HOUSEHOLD WOULD FIT EQUIPMENT (CODE 2 AT Q1) ASK Q7. OTHERS GO TO INSTRUCTION AT Q9

Q7 Would the person more likely to fit the filter be willing to take part in this research? **SINGLE CODE ONLY**

Yes	1
No	2

Q8 And can I ask how old they are? **SINGLE CODE ONLY**

18-24	1
25-34	2
35-44	3
45-54	4
55-64	5
65+	6
Refused	7

ASK Q9 IF CODE 1 AT Q1. OTHERS GO TO INSTRUCTION AT Q10

Q9 Would you be willing to take part in the research? **SINGLE CODE ONLY**

Yes	1
No	2

IF NO TO TAKING PART IN RESEARCH AT Q7 OR Q9 ASK Q10 THEN CLOSE. OTHERS GO TO Q11

Q10 Why would you/they rather not participate in the research? **WRITE IN THEN CLOSE**

ASK ALL WILLING TO TAKE PART IN RESEARCH (CODE 1 AT Q7 OR Q9)

Q11 Can you tell me which, if any of the following, apply to you or the person more likely to fit the filter? **MULTICODE OK. SHOWCARD**

Chronically sick and limited in being able to leave your home/household	1
Wheelchair user	2
Visual impairment	3
Hearing impairment	4
Other disability/long-term health condition	5
No disability/long-term health condition	6

Q12 Which of the following, best describes your household composition, that is the people living in your home? **SINGLE CODE ONLY. SHOWCARD**

One adult (aged 18+)	1
Two adults (both aged 18+)	2
Three+ adults (all aged 18+)	3
One parent family with at least one child aged under 18	4
Two parent family with at least one child aged under 18	5
Other	6

RECRUITMENT SUMMARY

150 INTERVIEWS (INCLUDING NATURAL FALLOUT OF VULNERABLE ADULTS) PLUS BOOSTER OF VULNERABLE ADULTS TO ACHIEVE ADDITIONAL 10

Greater London	Birmingham	Manchester
60 Interviews + 2 vuln.	30 Interviews + 2 vuln.	30 Interviews + 2 vuln.
50% ABC1 50% C2DE	50% ABC1 50% C2DE	50% ABC1 50% C2DE
40% 18-44 35% 45-64 25% 65+	40% 18-44 35% 45-64 25% 65+	40% 18-44 35% 45-64 25% 65+
80% Freeview only 20% Freeview and other services	80% Freeview only 20% Freeview and other services	80% Freeview only 20% Freeview and other services

Scotland	Wales
20 Interviews + 2 vuln.	10 Interviews + 2 vuln.
50% ABC1 50% C2DE	50% ABC1 50% C2DE
40% 18-44 35% 45-64 25% 65+	40% 18-44 35% 45-64 25% 65+
80% Freeview only 20% Freeview and other services	80% Freeview only 20% Freeview and other services

- All initial interviewees to consent to being **video recorded** as part of the sessions – any recording would only ever be used internally / in a business environment for analysis purposes

RESPONDENT DETAILS

Name of person to do test/interview

Address for test/interview

Contact telephone number

Date of test/interview

Time of test/interview



Appendix D: Interview Questionnaire

NAME: Freeview Interference

CLIENT: Ofcom

EXEC: RM/LP

JN: 415OFC/013619/01

Serial Number

--	--	--	--

Card Number 01

RESPONDENT NAME	OCCUPATION OF CHIEF INCOME EARNER
RESPONDENT ADDRESS	SEG AB (3) C1 1 C2 2 DE 3 4
POSTCODE	REGION (4) Greater London 1 Midlands 2 North 3 Scotland 4 Wales 5
RESPONDENT PHONE NUMBER INC STD CODE	TELEVISION SERVICE Freeview only (5) Freeview and other services 1 2
GENDER (1) Male 1 Female 2	VULNERABLE BOOSTER INTERVIEW Yes (6) No 1 2
AGE (2) 18-24 1 25-34 2 35-44 3 45-54 4 55-64 5 65+ 6	
WRITE IN EXACT AGE	

Interviewer Name **Interviewer No.**

I declare that this is a true record of a face-to-face interview conducted with the named respondent who was previously unknown to me. It was conducted in accordance with the instructions, interviewer handbook and abided by the Code of Conduct of the Market Research Society

Interviewer Signature **Date of Interview**/11

READ INTRODUCTION

Good morning/afternoon/evening. I am from SPA Future Thinking, a market research company. As you know we are conducting an important research project on behalf of Ofcom (the Independent regulator and competition authority for the UK communications industries including responsibilities across television, radio and telecoms). I am here today to conduct a survey with you and ask you to test fitting an interference filter to your television.

ADD IF REQUIRED

Needless to say the answers that you give will be treated in the strictest confidence. Your participation is greatly appreciated and helps ensure we speak to a representative cross section of people.

FURTHER BACKGROUND IF REQUIRED

Ofcom will very soon run an auction to sell some new parts of the TV airwaves to be used for mobile phone services. These new airwaves will allow mobile companies to provide faster and better mobile broadband services. This is needed as more and more people are using their phones for surfing the web and accessing services. The new airwaves will also help some rural areas to get better broadband services.

In a few places the new services might disrupt TV services for people who use Freeview. This could be fixed by using a simple filter. We want your help today to help us understand how easily people will manage with fitting the filters, what problems they might face in doing so and what support arrangements might need to be put in place to assist viewers.

SCREENING AND QUOTA ALLOCATION

ASK ALL

QA Just to confirm, you receive television services in a living area of your home through Freeview? **SINGLE CODE ONLY**

	(7)
Yes	1
No	2
Don't know	3

CONTINUE IF YES, CLOSE IF NO/DON'T KNOW

QB And you can access the aerial cable which feeds into one of these televisions which uses Freeview? **SINGLE CODE ONLY**

	(8)
Yes	1
No	2
Don't know	3

CONTINUE IF YES, CLOSE IF NO/DON'T KNOW

QC And do you receive your Freeview services through a set-top box or do you have an integrated TV (a television with a built-in digital tuner)? **SINGLE CODE ONLY**

	(9)
Set-top box	1
Via Integrated TV	2
PVR (Personal Video Recorder)	3
Mixture of above	4
Don't know	5

GO TO MAIN QUESTIONNAIRE OVER THE PAGE

PRE-TEST QUESTIONNAIRE

ASK ALL

Q1. How long have you had Freeview services? **SINGLE CODE ONLY**

	(10)
<2 years	1
2 - 4 years	2
5+ years	3

Q2. Do you know if your television requires an amplifier or 'booster' to receive services? **ADD IF NECESSARY.** Properties in some locations require their aerial signal to be boosted, for example if they live in low lying land or have a natural obstruction such as a hill blocking the local signal. There might also be a booster amplifier if the TV signal from the main rooftop aerial is distributed to a number of rooms around the house. **SINGLE CODE ONLY**

	(11)
Yes	1
No	2
Don't know	3

ASK IF AMPLIFIER TO RECEIVE SERVICES (CODE 1 AT Q2). OTHERS GO TO Q4

Q3. Where is the amplifier located? **SINGLE CODE ONLY**

	(12)
Behind the TV	1
In the loft	2
Outside (e.g. on aerial)	3
Other	4
Don't know	5

ASK ALL

Q4. How many televisions do you use in your household? **SINGLE CODE ONLY**

	(13)
One	1
Two	2
Three	3
Four+	4
Don't know	5

Q5. What type of aerial is used for the TVs in your house? **PROMPT IF NECESSARY. SINGLE CODE ONLY**

	(14)
One rooftop aerial for all TVs	1
More than one rooftop aerial	2
Set-top aerials for all TVs	3
Rooftop aerial for main TV, set-top for others	4
Other	5
Don't know	6

I would like you to imagine that your Freeview service is experiencing interference due to external influences, so there is nothing wrong with your television and interference is being caused from outside sources. You have been informed this can be corrected by fitting a small filter (provided to you) to your television and you are waiting to receive this.

Q6. Without seeing the filter, can I ask how confident you would normally be in completing a task like this? **SINGLE CODE ONLY. SHOWCARD**

	(15)
Very confident	1
Fairly confident	2
Not very confident	3
Not at all confident	4
Don't know	5

Q7. What kind of support would you expect to be given to you in completing a task like this? **ADD IF NECESSARY** that is fitting something to your TV or the wires leading to it? **MULTICODE OK CODES 1-6. DO NOT PROMPT**

	(16)
Instruction leaflet	1
Telephone helpline	2
Physical help (to lift or move TV/set-top box/furniture)	3
Neighbour/carer	4
A professional technician to fit the filter	5
Other (WRITE IN)	6
No support, would just work it out	7
Don't know	8

Q8. If an instruction leaflet accompanied the filter, what, if any of these, additional provisions would you require from the instructions? **MULTICODE OK CODES 1 -6. SHOWCARD**

	(17)
Large print	1
Braille	2
Audio	3
DVD	4
A weblink for further information	5
Other (WRITE IN)	6
Don't know	7
None of these	8

Now I would like to show you an example of a filter which can counter the type of interference we are talking about

Q9. Do you think you would be able to fit this filter to your aerial cable without any support, that is no instructions or support of any kind? **SINGLE CODE ONLY**

	(18)
Yes	1
No	2
Don't know	3

ASK Q10 IF NO (CODE 2 AT Q9). OTHERS GO TO Q11

Q10. Why not? **DO NOT PROMPT. MULTICODE OK CODES 1-9.**

	(19)
Not confident with electrical things	1
Looks difficult to fit	2
Would not know how/where to fit it	3
Like to have instructions to know I am doing it properly	4
Might do it wrong	5
Might have to lift or move TV/set-top box/furniture	6
Partially sighted/blind	7
Mobility/dexterity issues	8
Other (WRITE IN)	9
Don't know	10

ASK ALL

Q11. Seeing the filter, what kind of support would you expect to be given to you in fitting it to your TV? **DO NOT PROMPT. MULTICODE OK CODES 1-6.**

	(20)
Instruction leaflet	1
Telephone helpline	2
Physical help (to lift or move TV/set-top box/furniture)	3
Neighbour/carer	4
A professional technician to fit the filter	5
Other (WRITE IN)	6
No support, would just work it out	7
Don't know	8

I will give you instructions on how to fit the filter to your TV and it will not affect your current services. The filter can be removed at the end of the interview.

HAND RESPONDENT INSTRUCTIONS AND FILTER AND ALLOW THEM A MINUTE OR SO TO GET ACCUSTOMED TO IT

Q12. How confident are you in being able to fit the filter to your aerial cable using these instructions? **SINGLE CODE ONLY. SHOWCARD**

	(21)
Very confident	1
Fairly confident	2
Not very confident	3
Not at all confident	4
Don't know	5

Q13. For the purposes of this interview, are you still willing to fit the filter to your aerial cable/TV? **SINGLE CODE ONLY**

	(22)
Yes	1
No	2

IF NO, TRY TO ALLAY ANY FEARS THE RESPONDENT MAY HAVE OF DAMAGE TO THEIR TELEVISIONS BY REPEATING THAT IT SHOULD NOT AFFECT THEIR TELEVISION SERVICES AND THE FILTER WILL BE REMOVED AFTER THE TEST IS COMPLETED.

HOWEVER, DO NOT PRESSURE ANYONE TO CONTINUE IF THEY DO NOT WISH TO AND CLOSE INTERVIEW

ASK ALL WILLING TO CONTINUE (CODE 1 AT Q13). OTHERS CLOSE

Q14. Do you have anything else you would like to comment on relating to your first impression of the filter and fitting it to your aerial cable/TV before we continue? **WRITE IN**

(23-25)

ASK RESPONDENT TO TURN TELEVISION ON TO CHECK IT CURRENTLY WORKS,

THEN ASK THEM TO TURN ALL POWER OFF AND TRY TO FIT THE FILTER

REMIND THEM THEY CAN LOOK AT THE INSTRUCTIONS AT ANY TIME DURING FITTING IF THEY WANT TO

OBSERVATION

FOR ALL

Q15. RECORD ANY COMMENTS RESPONDENT MAKES WHILE FITTING THE FILTER

(26-29)

Q16. RECORD ANY PROBLEMS RESPONDENT HAS WHILE FITTING THE FILTER

(30-33)

Q17. TIME TAKEN TO REACH A FINAL CONCLUSION (I.E. FILTER FITTED OR EXERCISE ABANDONED)

Minutes		Seconds	
(34)	(35)	(36)	(37)

Q18. Which of the following statements best describes respondent's use of instructions?
SINGLE CODE ONLY

	(38)
Instructions were referred to continuously during fitting	1
Instructions were referred to 2-3 times during fitting	2
Instructions read once during fitting	3
Instructions only referred to before fitting	4
Filter fitted without reading instructions	5

Q19. Did respondent fit the filter? **SINGLE CODE ONLY**

	(39)
Filter fitted	1
Respondent gave up	2

IF RESPONDENT GAVE UP FITTING FILTER, ANSWER Q20. OTHERS GO TO Q21

Q20. Did respondent appear to think reason for not fitting was their own inability or the fault of equipment/instructions? **SINGLE CODE ONLY**

	(40)
Own fault	1
Equipment	2
Instructions	3
They did not say	4

ANSWER FOR ALL

Q21. How easy or difficult do you think respondent found fitting the filter? **SINGLE CODE ONLY**

	(41)
Very easy	1
Fairly easy	2
Not very easy	3
Not at all easy	4
Don't know	5

ANSWER IF RESPONDENT FITTED THE FILTER. OTHERS GO TO POST-TEST QUESTIONNAIRE

Q22. Did respondent fit the filter correctly? **SINGLE CODE ONLY**

	(42)
Yes	1
No	2
Could not tell	3

POST-TEST QUESTIONNAIRE

Thank you for completing that exercise. I would now like to ask you some questions about the process.

ASK IF GAVE UP FITTING THE FILTER (CODE 2 AT Q19). OTHERS GO TO Q25

Q23. Can you tell me why you gave up fitting the filter? **WRITE IN**

(43-45)

Q24. And what would you be likely to do next if you could not fit the filter? **MULTICODE OK. DO NOT PROMPT**

	(46)
Read instructions again	1
Look and see if there is a helpline to telephone	2
Go online	3
Ask a friend/family member to help	4
Ask a professional technician to fit the filter	5
Other (WRITE IN)	6
Don't know	7

ASK IF FILTER FITTED (CODE 1 AT Q19). OTHERS GO TO Q26

Q25. How confident are you that the filter is fitted correctly? **SINGLE CODE ONLY. SHOWCARD**

	(47)
Very confident	1
Fairly confident	2
Not very confident	3
Not at all confident	4
Don't know	5

ASK ALL

Q26. Overall, how easy or difficult did you find fitting the filter? **SINGLE CODE ONLY. SHOWCARD**

	(48)
Very easy	1
Fairly easy	2
Not very easy	3
Not at all easy	4
Don't know	5

ASK ALL BUT DON'T KNOW (CODE 5 AT Q26)**Q27.** Why do you say it was easy/difficult? **WRITE IN**

(49-51)

ASK ALL**Q28.** How important were the instructions in helping you to fit the filter? **SINGLE CODE ONLY.**
SHOWCARD

	(52)
Very important	1
Fairly important	2
Not very important	3
Not at all important	4
Don't know	5

Q29. Thinking further about the instructions, how satisfied or dissatisfied were you with the following? **SINGLE CODE FOR EACH a) – e). SHOWCARD**

	Very satisfied	Fairly satisfied	Neither satisfied nor dissatisfied	Fairly dissatisfied	Very dissatisfied	
a) Layout of instructions	01	02	03	04	05	(53)
b) Use of pictures	01	02	03	04	05	(54)
c) Use of text	01	02	03	04	05	(55)
d) Clarity of instructions	01	02	03	04	05	(56)
e) Overall assistance in fitting the filter	01	02	03	04	05	(57)

Q30. How, if at all, would you improve the instructions? **DO NOT PROMPT. MULTICODE OK.**

	(58)
Less text	1
More text	2
Larger text	3
Smaller text	4
Less pictures	5
More pictures	6
Less detailed pictures	7
More detailed pictures	8
Longer instructions	9
Shorter instructions	0
Other 1 (WRITE IN)	X
Other 2 (WRITE IN)	Y
	(59)
Other 3 (WRITE IN)	1
No improvements needed	2
Don't know	3

Q31. What, if any, other support would have been helpful to you in fitting the filter?
MULTICODE OK CODES 1-5. DO NOT PROMPT

	(60)
Telephone helpline	1
Physical help (to lift or move TV/set-top box/furniture)	2
Neighbour/carer	3
A professional technician to fit the filter	4
Other (WRITE IN)	5
No other support needed	6
Don't know	7

Q32. Are there any other comments you would like to make about your experience of fitting the filter? **WRITE IN**

(61-63)

CLASSIFICATION

That completes the survey, I just have a few final questions which will help in our analysis of the results.

Q33. Do you, or does anyone in the household have any of the following? **MULTICODE OK CODES 1-6. SHOWCARD**

	(64)
Desktop PC	1
Laptop	2
Netbook	3
Tablet computer (e.g. Apple ipad or Blackberry Playbook)	4
Mobile phone	5
Smartphone	6
None of these	7

Q34. How often, if at all, do you access the Internet? **SINGLE CODE ONLY. DO NOT PROMPT**

	(65)
Every day	1
2-3 times a week	2
Once a week	3
2-3 times a month	4
Once a month	5
Less often	6
Do not access	7

ASK IF ACCESS TO INTERNET (CODES 1-6 AT Q34). OTHERS GO TO Q36

Q35. For which of these functions, do you use the Internet? **MULTICODE OK CODES 1- 7. SHOWCARD**

	(66)
Web browsing	1
Email	2
Interaction with social media sites	3
Transactions with bank	4
Transactions with other services (e.g. paying utility bills etc)	5
Online shopping	6
Other	7
None of these	8

ASK ALL

Q36. Can I ask, did you install Freeview Services as a result of the Digital Switchover programme?
ADD IF NECESSARY. Digital switchover is the nationwide programme to move all TV services from analogue to digital between 2008 and 2012. **SINGLE CODE ONLY**

	(67)
Yes – changed to Freeview because of the Digital Switchover	1
No – did not change to Freeview because of the Digital Switchover	2
Don't know	3

ASK IF CHANGED TO FREEVIEW DUE TO DIGITAL SWITCHOVER (CODE 1 AT Q36). OTHERS GO TO Q38

Q37. Overall, how easy or difficult did you find switching to Freeview services?
SINGLE CODE ONLY. SHOWCARD

	(68)
Very easy	1
Fairly easy	2
Not very easy	3
Not at all easy	4
Don't know	5

ASK ALL

Q38. Which of the following, best describes your household composition, that is the people living in your home? **SINGLE CODE ONLY. SHOWCARD**

	(69)
One adult (aged 18+)	1
Two adults (both aged 18+)	2
Three+ adults (all aged 18+)	3
One parent family with at least one child aged under 18	4
Two parent family with at least one child aged under 18	5
Other	6

Q39. Which of these, if any, apply to you? **MULTICODE OK. SHOWCARD**

	(70)
Chronically sick and limited in being able to leave your home/household	1
Wheelchair user	2
Visual impairment	3
Hearing impairment	4
Other disability/long-term health condition	5
None of these	6

INTERVIEWER TO ASK RESPONDENT TO DISCONNECT FILTER IF STILL FITTED AND HAND BACK

ASK RESPONDENT TO TURN TELEVISION ON TO CHECK FULLY OPERATIONAL AND SIGN DISCLAIMER

Thank you very much, that is everything I need to ask you today

INTERVIEWER TO CHECK:-

- Demographics on page 1 are for respondent if different to person in pre-recruit

- Filter disconnected and TV switches on and works. In the unlikely event of there being a problem, apologise to respondent and call office who will ensure a technician goes to the house to repair and compensation is paid

.....

ESSENTIAL

Appendix E: Filter Fitting Instructions

Filter fitting instructions

Step 1 – IMPORTANT: Turn off the mains power supply to your TV and to any equipment such as Freeview boxes and video recorders that are connected to your TV.

Step 2 - Locate the aerial input cable for your TV equipment. If your TV equipment uses a rooftop aerial, the cable will usually come into the room via a TV aerial socket on a wall. Two examples of TV aerial sockets are shown below:



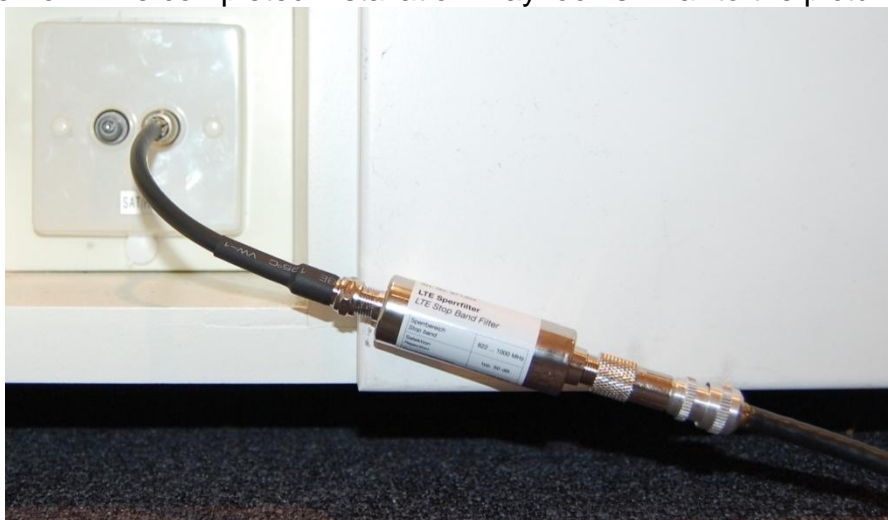
NB:

If your TV equipment uses a set-top aerial, please skip to step 4 on page 2.

If your aerial input cable does not enter the room via an aerial socket (e.g. if it simply enters through a hole in the wall), please skip to step 7 on page 3.

Step 3 – Unplug the aerial input cable from the TV aerial socket. Now insert the aerial input cable into the fixed end of the filter provided. Insert the plug on the cabled end of the filter into the TV aerial socket.

You have completed your filter installation and can now turn the mains power supply back on. The completed installation may look similar to the picture below:



Where a set-top aerial is used

Step 4 - If your TV equipment uses a set-top aerial rather than a roof-top aerial, the aerial input cable will be attached directly to the aerial itself. A typical set-top aerial is shown below:



Step 5 - Unplug the set-top aerial cable from the input socket of the TV equipment (e.g. the TV, the set-top box or the video recorder).

Step 6 - Now insert the set-top aerial cable into the un-cabled end of the filter provided. Insert the plug on the cabled end of the filter into the input socket which the set-top aerial cable was previously plugged into.

You have completed your filter installation and can now turn the mains power supply back on.

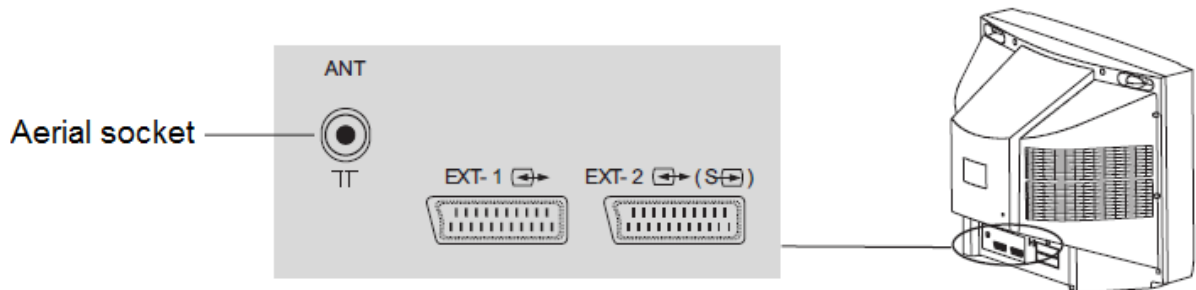
Where no TV aerial socket is used

Step 7 – Follow the aerial input cable along from the wall and locate the first piece of TV equipment that the cable plugs into. This could be your TV, your Freeview set-top box, your Personal Video Recorder (PVR), an amplifier, or a splitter.

NB: If your system uses an amplifier or splitter, please skip to **steps 10 – 12** on page 4.

(An amplifier is an electronic device about the size of a thick paperback book that boosts your TV signal and which is usually also connected to the mains electricity. A splitter is a small device, about the size of a matchbox, that splits your TV signal, but which is not connected to the mains. Typical amplifier and splitter designs are shown in step 10.)

Step 8 – Unplug the aerial input cable from the aerial socket of the TV equipment (the TV, set-top box or PVR). The diagram below shows a typical aerial socket for a TV:



Step 9 – Now insert the aerial input cable into the un-cabled end of the filter provided. Insert the plug on the cabled end of the filter into the aerial socket of the TV equipment.

You have completed your filter installation and can now turn the mains power supply back on. The completed installation may look similar to the picture at right:



Where no TV aerial socket is used but an amplifier or splitter is used

Step 10 - There are a variety of amplifiers and splitters on the market. Your amplifier or splitter may look similar to those shown below:

AmplifierSplitter



Step 11 - Unplug the aerial input cable from the socket on the amplifier or splitter.

Step 12 - Now insert the aerial input cable into the un-cabled end of the filter provided. Insert the plug on the cabled end of the filter into the socket on the amplifier or splitter.

You have completed your filter installation and can now turn the mains power supply back on