

The antenna dilemma: Canada's transition to digital television

Michael A.J. Robinson / Dr. Geneviève A. Bonin
Faculty of Arts / Department of Communication / Journalism

Context

Canada's transition from analogue to digital television has been a long, strained process which is still not completed. The inevitable transition to new technologies for broadcasting television signals has been hampered by divided responsibilities in both the private and public sector domains. With no policy agreed upon to implement public and private interests and no formal consensus between government departments, such as Industry Canada, Heritage Canada and the Canadian Radio-television and Telecommunications Commission (CRTC). The project is at a stand still. And, this has been the case for the past decade, leaving Canadian society in the dark, uneducated and unprepared for what may soon manifest into a digital divide between wireless communication providers and the general public. Dr. Geneviève Bonin, University of Ottawa, first documented the technological, political and financial challenges concerning the transition in Spring 2010 with the publication of her article, "Canada's transition to digital television: from policy to reality" in the *International Journal of Digital Television*. However, in the short time span of just 2 years, interesting updates have impacted the entire platform of the transition. Consequently, the object of this study is to determine the current state of the digital television transition in Canada following the so-called "shut down date" of August 31, 2011 by examining the changes since the original publication of the original article.

Methodology

Understanding of political-economic and fiscal broadcasting markets and policy frameworks were necessary to become familiar with the issues at hand. This contextualization process was ongoing, and difficult due to the lack of literature on digital television transitions, especially within Canada. This obstacle was circumvented with a contrasting of digital transition policy in other Western countries, such as the U.K. Specific terminology concerning television band technology, especially concerning the government auctioning of the wireless spectrum required the consultation of scientific literature. A historical comparative research approach was utilized to track changes in policy implementation over the past two years. The majority of the research involved sifting through thousands of CRTC decisions made between early 2010 and 2012. Content analysis was undertaken through textual dissection of CRTC and third party (private broadcasters) comments looking for keywords concerning transition or post-transition references. These keywords were refined throughout the research, as new terms were uncovered and thus, individual documents were screened numerous times and recorded in tables. Semi-structured interviews with industry stakeholders have been scheduled for the near future to complement the documentary analysis.



Figures

The use of charts when logging decisions (Figure 1.1)

Figure 1.1 is just one of numerous charts that were created to log CRTC decisions concerning the digital transition. Accompanied with each decision date is the numerical identifier, a summary of the decision's details, and the Uniform Resource Locator (URL). While all of these files (over 150 of them) have been digitally organized with virtual folder creation and maintenance on a personal computer, the visual coherency and visceral impact of charts proved to be an excellent information management tool to search for specific decisions quickly. Not only were charts used for logging decisions, they also proved effective as a research strategy. When executing keyword searches in online databases, such as the Government Information Resource Database, a research logging chart was created to avoid using previous key terms or sources that had already been consulted with thereby increasing research effectiveness.

Date	Decision/Details
March 5, 2009	CRTC 2009-119: The Commission approves an application for a broadcasting licence to operate an English-language transitional digital television undertaking associated with CICTV-TV Calgary. URL: http://www.crtc.gc.ca/eng/archive/2009-2009-119.htm CRTC 2009-120: The Commission approves an application for a broadcasting licence to operate an English-language transitional digital television undertaking associated with CITY-TV Edmonton. URL: http://www.crtc.gc.ca/eng/archive/2009-2009-120.htm
July 6, 2009	CRTC 2009-410: The Commission extends to 31 August 2011 the deadline to commence the operation of the transitional digital television programming undertaking CFMT-DT Montréal, Québec. URL: http://www.crtc.gc.ca/eng/archive/2009-2009-410.htm
August 14, 2009	CRTC 2009-490: The Commission renews the broadcasting licences for the television programming undertaking CKXT-TV Toronto and the transitional digital television programming undertaking CKXT-TV Toronto and transmitters in Hamilton, London and Ottawa, from 1 September 2009 to 31 August 2010. The licences will be subject to the terms and conditions in effect under the current licences, with the exception of the condition of licence relating to ethnic programming. The licences will also be subject to the amended conditions of licence relating to the broadcast of local and priority programming set out in this decision. URL: http://www.crtc.gc.ca/eng/archive/2009-2009-490.htm
August 19, 2009 - DTV	CRTC 2009-504: The Commission approves an extension to 31 August 2011 for the deadline to commence the operation of the digital television programming undertaking CHNM-DT Vancouver and its transmitter CHNM-DT-1 Victoria. URL: http://www.crtc.gc.ca/eng/archiv/2009/2009-504.htm
August 28, 2009	CRTC 2009-537: The Commission approves, subject to certain conditions, applications by 2190015 Ontario Inc. for authority to acquire from Carwest Television GP Inc. (the general partner) and Carwest Media Inc. (the limited partner), carrying on business as Carwest Television Limited Partnership the assets of the English-language television stations CHCH-TV Hamilton along with its transmitters and the transitional digital television station CHCH-DT Hamilton and for broadcasting licences to continue the operation of the undertakings. The conditions of approval are set out in the appendices to this decision. URL: http://www.crtc.gc.ca/eng/archive/2009-2009-537.htm
December 1, 2009	CRTC 2009-793: The Commission approves the application by Quebec Media Inc. (QMI) on behalf of TVA Group Inc. (TVA) for authority to acquire from Sun TV Company (Sun TV), as part of a corporate reorganization, the assets of the English-language television programming undertaking CKXT-TV Toronto and its transmitter CKXT-TV-1 Hamilton and the assets of the English-language transitional digital television programming undertaking CKXT-DT Toronto and its transmitters CKXT-DT-1 Hamilton, CKXT-DT-2 London and CKXT-DT-3 Ottawa and for new licences to continue the operation of the undertakings under the same terms and conditions as those in effect under the current licences. The Commission did not receive any interventions with respect to this application. URL: http://www.crtc.gc.ca/eng/archive/2009-2009-793.htm

Figure 1.1 - Chart of CRTC broadcast decisions in the year 2009



Historical comparative approach (Figure 1.2)

A timeline (Figure 1.2) was created to accurately log and track policy and licence amendments that concerned post-transition digital transmitters from 2009 to 2012. Over 100 decisions were obtained, summarized, and referenced from the Canadian Radio and Telecommunication Commission's (CRTC) website. Each decision is characterized by the year of when the decision was made, and the following number the numerical identifier.

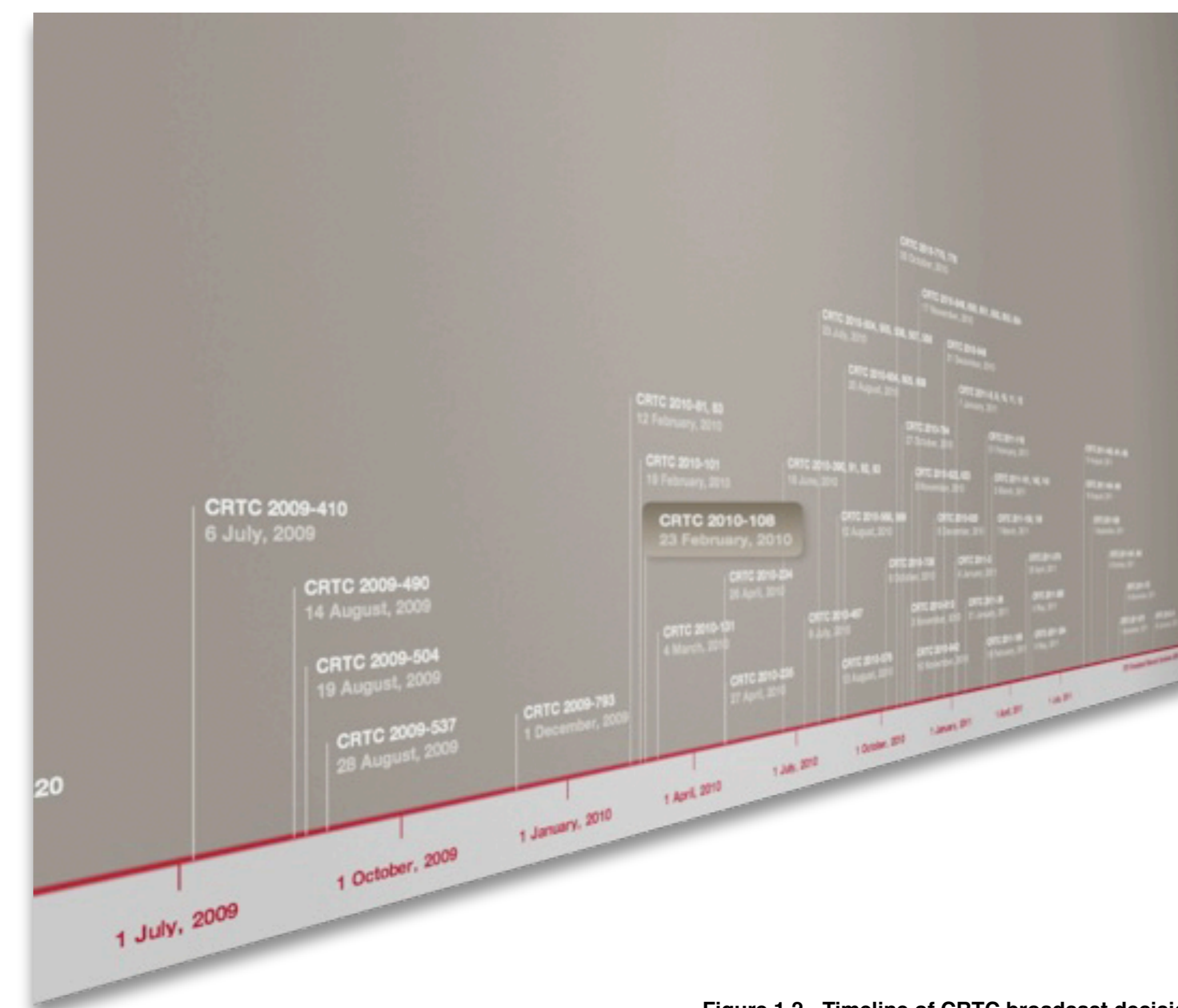


Figure 1.2 - Timeline of CRTC broadcast decisions from 2009 - 2012

Results

Indeed, many changes have been discovered and all the required analyses are not complete, however, their mere presence does offer some insight to answer the research question. In total, the organization of thousands of items collected off official online CRTC and government databases has resulted in the creation of a virtual, private, chronologically and content specific digital database holding 649 unique items complete with references and original uniform resource locators (URLs). These items contain information regarding post-digital transmitter implementation, public notices, monitoring reports, media releases, press documentation and even transcribed speeches from both government and CRTC officials, as well as private stakeholders.

A shocking result of the research unveiled the potential plight of Canadians who rely on over-the-air (OTA) signals. Canadians with a low socioeconomic status may one day wake up, unaware of the transition having taken place, and be unable to access their digital content since they have older televisions. A so-called 'digital divide' may occur, leaving disenfranchised, uneducated Canadians to fend for themselves. To make matters worse, private broadcasters are unsupportive of broadcasting what was originally 'free' content digitally without a paid subscription. Furthermore, we are interested in the lively debates with regards to the upcoming spectrum auction that will see space originally dedicated to broadcasting fall in the hands of telecommunications operations.

Conclusion

Digital television promises a better quality picture and sound, but how long do Canadians have to wait to gain access to it? While the infrastructure is in place, with our research revealing the implementation of post-transition digital transmitters, the blame for Canada 'falling asleep at the switch' is undoubtedly due to the inability for government and a concentrated private sector to agree upon policy. There is hope however, with the announcement of the Canadian Government's new telecom and spectrum policy that aims to promote increased competition for present incumbents. In its wake however, lies the concern of a lack of e-waste programs necessary to aid Canadians as they empty their houses of old 'tube' TVs to make way for digital-ready high definition models. Perhaps an area of even more concern is an evaluation of Canada's lack of public education communicative efforts versus the, arguably, more effective and visible U.K. model. Additionally, further research suggests an investigation into 'politically inappropriate' appointments to the CRTC.

Goodbye rabbit ears (Figure 2.1)

Figure 2.1 reveals the inner science of digital video broadcasting. By either purchasing a digital tuner for their tube televisions or purchasing a brand new television, Canadians will have access to better quality picture and sound. This enhanced signals are considered 'high definition'. This is due to the receiver being able to process digital channels which carry unique carry multiple sub-channels. A single channel can deliver 19.39-megabit-per-second (Mbps) streams of digital data. This technology impacts the entire wireless spectrum, where the original analogue channels resided. The clearing of the spectrum frees up wireless space, known as 'white space' to be used for experimental purposes or licenced by the government to new wireless providers.

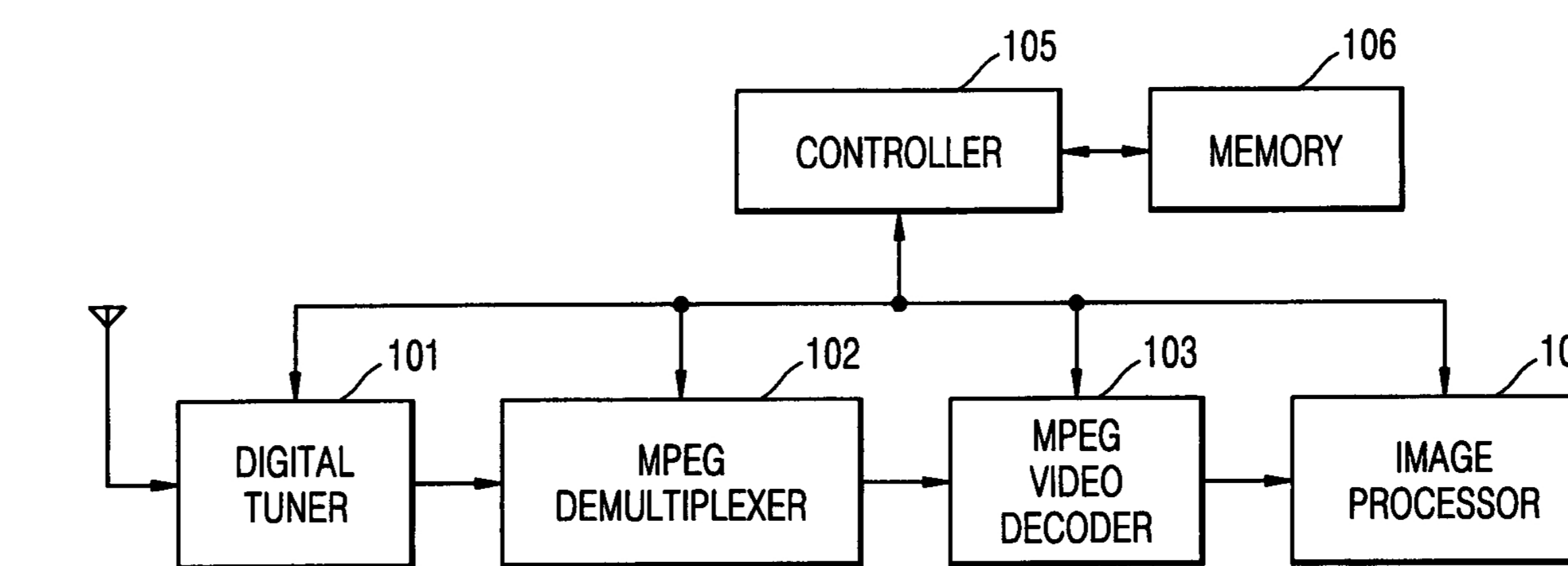


Figure 2.1 - Diagram of scanning for channels using a digital tuner instead of the traditional use of an antenna (i.e. rabbit ears)

Selected References

- Bonin, G. A. (2010). Canada's transition to digital television: From policy to reality. *International Journal of Digital Television*, 1(2), 135-154.
- Canadian Radio-television and Telecommunications Commission. (2012). *Broadcasting decisions*. Retrieved 14 January - 17 March, 2012, from <http://www.crtc.gc.ca/eng/dno2.htm>
- Industry Canada. (2012). *Spectrum management and telecommunications; spectrum management and telecom - spectrum auctions*. Retrieved 18 January - 4 March, 2012, from http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf01714.html.
- Kleinman, S. (2011). *The media and communication dictionary: A guide for students, educators, and professionals*. New York: Peter Lang.
- Lundström, L. (2006). *Understanding digital television: An introduction to DVB systems with satellite, cable, broadband and terrestrial TV*. Boston: Elsevier/Focal Press.
- Pitts, G. (2012). Canada needs to reinvent CRTC, outgoing head says, *The Globe and Mail*.
- Revised List of Non-Canadian Programming Services Authorized for Distribution – Annual Compilation of Amendments, CRTC 2012-86, (2012).
- Sturgeon, J. (2012). Era of big TV has come to an end. *Vancouver Sun*.
- Young, N. (2010). In Misener D. (Ed.), *Michael Geist and Bill St. Arnaud on Canada's digital television transition* (Sparks Radio.).
- Link to the *International Journal of Digital Television*: <http://www.intellectbooks.co.uk/journals/view-journal,id=175/>.
- *For a full list of references, please consult the authors (see contact information).

Acknowledgements

The author would like to thank those who have, and will participate in the upcoming qualitative interviews. Thanks also to Dr. Geneviève A. Bonin for providing guidance and insight in the successful completion of this project. Sincere gratitude is directed to the Office of the Vice-President, Research who provided both the opportunity and funding for this research to have taken place. Many thanks to my supportive parents, and academic benefactors who consistently supply to me the grounded knowledge and support which I applied to this project: Dr. Mahmoud Eid, Dr. Mark Lowes, Professor Jozsef Orosz and Dr. Evan Potter.

Contact Information

Michael A.J. Robinson
Tel: (613) 618-2085
Email: mrobi115@uottawa.ca

Dr. Geneviève A. Bonin
Tel: (613) 562-5800 ext. 3839
Email: gbonin@uottawa.ca



uOttawa