

DIGITAL RADIO ARCHIVES (DRA) AT THE NORWEGIAN BROADCASTING CORPORATION

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In June 1989 a new Legal Deposit Act was passed in Norway. This was a renewal of an existing law that had only dealt with printed materials. The new law, which was effective from July 1990, stated that electronic documents, photography, sound recordings, video and broadcasting also be deposited at the National Library of Norway [Nasjonalbiblioteket]. As a consequence of this, the Norwegian Broadcasting Corporation [Norsk rikskringkasting, hereafter NRK] is obliged to deposit in Nasjonalbiblioteket every item it broadcasts on radio and television. The deposited material is available for research.

NRK was the only institution in Norway with a professional sound archive of any size until Nasjonalbiblioteket was established in 1999.¹ Although sound archives were to be found in some music libraries and collections, NRK was the only institution that was able to document the history of the Norwegian twentieth century in sound. NRK's Radio Archive consisted mainly of recordings on analogue tape, in one copy only. The tapes were not copied for lending, so the original tape was used and reused. The storage of the tapes was not optimal, and danger of deterioration was great. NRK's archives had a preservation problem. Nasjonalbiblioteket aspires to be the best source of documentation on Norway. According to the Legal Deposit Act, Nasjonalbiblioteket aims to collect all types of information produced in varying types of media. Furthermore, Nasjonalbiblioteket deals with the development, preservation, conservation and presentation of these collections. The broadcasting world is rapidly becoming fully digitized. This gives us new challenges in fulfilling the Legal Deposit Act.

If we at NRK were to deposit files on legal deposit at Nasjonalbiblioteket, why keep our own files here as an archive? Couldn't we with our technology transfer material from digital storage direct to the National Library? A project group was established in 1996 to consider future co-operation between NRK and the Nasjonalbiblioteket. The aim was to establish total co-operation in archiving day-to-day production, historical material and documentary material for legal deposit. The following items were focused on: access, security, level of service, digitizing, storage format and medium, back-up, ownership, rights management, programme information and systems for retrieval. It was important to avoid duplicating work and to establish a sharing of responsibilities between the two institutions.

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¹ *See the articles by Jorid Nordal Baumann/Inger Johanne Christiansen and by Trond Valberg elsewhere in this issue.*

The project led to the establishment of an archive pilot trial of digitizing and archiving radio material from NRK into Nasjonalbiblioteket. After a highly successful pilot the project Digital Radio Archives [Digitalt Radioarkiv] was established. Both institutions discovered many possibilities for co-operation from the project work and through the pilot. Nasjonalbiblioteket would get valuable experience in the fields of digitization, storage and preservation of large sound collections. NRK's historical archives were included in the project, thus Nasjonalbiblioteket would now have access to Norway's largest sound archive (approximately 60,000 hours), which was not covered by the law on legal deposit. The Norwegian Kultur- og Kirke departementet [Ministry of Culture and Church Affairs] funded the project on behalf of Nasjonalbiblioteket because of the possibilities for making these collections available to the public in future. There is no doubt that this will happen one day. But the road to it is surrounded by difficult legal questions. Most of the material in the collection has different rights issues, which have to be cleared before material can be made public.

Today it is possible to get access to the material in NB for research. This means that Norwegian researchers now have better access to documentation from various sources. A pilot for making some of this material accessible to the public was launched in Spring 2003. Material to which NRK has the rights concerning the county of Nordland is digitized and made available to all public libraries in Nordland. According to NB and NRK this is an exciting pilot for future possible use of the material.

For NRK the advantage of the agreement is obvious. NRK gets half the cost of digitizing the archives funded from outside NRK budgets. In a digital production environment an analogue archive would never have been used, as it would have cost too much in resources and equipment. NRK, for its part, would never have been able to digitize the old archive within its normal budget. Now, halfway through the digitizing process, we already clearly see an increased use of archive material. In addition to this both NRK and Nasjonalbiblioteket have seen results of synergies in the project. Both institutions have gained technical competence from the process, and another great advantage for NRK is the storage of the original analogue tapes in a secure, controlled environment, in the large mountain vaults of Nasjonalbiblioteket.

Every Friday between 200 and 300 tapes are packed in special wooden boxes and sent *ca* 1,000 kilometres by car to the NB Department in Mo i Rana. The tapes arrive on Monday morning. They are registered and then digitized by the project staff. There is no enhancement of the sound, or noise reduction, during the digitizing process. The tapes are digitized in their original format. The reason for this is mainly that the future will bring better tools for this type of work. Therefore the work has to be done when the recording is used. In this way the sound is preserved as close to the original as possible.

For each tape three files are created:

1. **Linear waw**, 48 kHz sampling and 16 bit
2. **MPEG II** (More correctly MPEG 1, layer II with 384 kBit/s.) This is NRK's digital production quality format
3. **MP3** (More correctly, MPEG 1, layer III). Browsing quality format.

The linear files are stored in a tape robot. All the browsing files and most of the MPEGII files for production are stored on servers. The original tapes are, as mentioned, stored in environmentally-controlled mountain vaults.

Metadata is exported daily from NRK's databases into an Oracle database at the NB. Both new and changed data records are exported. The data is indexed and made available to NRK and NB through a web interface powered by the search engine FAST (the same one used for AllTheWeb on the Internet). The two search interfaces are "simple search" and "advanced search", though the "simple search" is actually the more advanced. Boolean operators and searches by free text in all fields in the database are possible. "Advanced search" allows searching in special fields for title, dates, names and content.

Searching, browsing or listening are accessible online to everybody in NRK and NB. From the browse interface it is easy to order a download of production files to the production systems in NRK (Dalet and DigAs). When a file is ordered it is put on an ftp server that is mirrored on another ftp server inside NRK's firewall. It is from this ftp server that the production systems upload the files. The entire process takes between two and five minutes depending on traffic.

The Digital Radio Archive is giving journalists possibilities to search for, retrieve and use material in future radio productions. The response we have had from journalists so far has been overwhelmingly positive. There is general agreement that this is the tool they have been waiting for, and that this really will boost the use of archive material in productions.