



## New recording studio at "Centre national de l'audiovisuel" (CNA)

Openings of large recording studios are rare, as the market in this field has become somewhat saturated. That's why it is worthwhile to take a closer look when a remarkable new recording studio is established. The new national audio-visual centre of Luxembourg is exceptional on both a technical and organizational level.

The centre national de l'audiovisuel (CNA) is the National Archive of Luxembourg, founded in 1989 as part of the department of cultural affairs. In 2003 they started to construct a new building, which they equipped in the summer of 2007 and occupied in early 2008.

The city of Dudelange and the CNA make equal use of the building, which as illustrated below, makes for an interesting symbiosis.

### Recording Studio

Unlike some national archives, which relate to bureaucratic organisations storing, classifying and administrating audio and video pieces, the concept of the national archive of Luxembourg includes sound recordings as well. In addition to a small room for audio recording or video production and mastering, the township of Dudelange makes their community hall available for special events. This hall normally hosts a variety of concerts and

interesting musical plays.

The AudioCube-System is equipped with 24 AES / EBU-I/Os and a MADI-interface. Cube-Tec Software-modules VPI's (Virtual Precision Instruments) are employed for mastering and restoration. A Merging VCube featuring SDI and AES/EBU-I/Os, which is synchronized to the AudioCube DAW, is available for video feeds. The studio is equipped with a 5.1 mastering system, with 5 Genelec 1037 and one 1094A subwoofer. The dimensions of the recording studio are quite generous. The core of the studio is a Euphonix System 5 BP including a Hybrid-Option to control the DAW software.



Digitalization room of the CNA



StorageTec Tape-Robot for long-term archiving

The 32 fade console provides 168 input channels and 16 mix busses. The central audio workstation for sound recording and editing is an Audio-Cube System manufactured by Bremen based pro-audio specialist Cube-Tec International.

Soon a Trinnov optimizer will be installed for acoustical corrections within the studio. An RTW meter provides surround metering display.

Outboard equipment includes a TC Electronic System 6000 featuring a 5.1 Reverb and a stereo-mastering-option, a GML 2032 mic preamp/EQ, a Pendulum PL2 Stereo-Limiter, a Crane Song STC8 Stereo-Compressor and a Denon professional Dolby Digital and DTS decoder. Products from Berlin manufacturer Mutec are used for clock-distribution.

Since an archive stores and plays recordings from many different formats, it requires a large range of playback equipment to accommodate different tasks. At CNA the-

se include Studer A810, A812 and A820 tape recorders with 1/4" stereo and 2" A820 16-track head stacks, Sony APR 1/4", Revox cassette player, Sony PCM 7010 and 7030 R-DAT master recorder and Sony PCM 800 DTRS eight track (DA88-compatible).

### Digitalization and record cleaning

The audio digitalization takes place in a separate room, which is equipped with a QUADRIGA Audio workstation. Cube-Tec's QUADRIGA recording modules are employed to facilitate a quality-monitored recording of the analog archive sound carrier. A/D and D/A conversion is provided by Lake People. Keith Monk's record cleaning system provides a professional wet cleaning of the archived vinyl records. After the cleaning process any liquid residues remain-

ing inside the record grooves are removed by a vacuum pump.

### Halls

In addition to two cinema halls, which can accommodate various formats including digital files, the Dudenlange township concert hall functions as the major live recording room for the recording studio. The concert hall can accommodate approximately 500 people and includes 40 Euphonix microphone amplifiers. The signals are distributed via splitter to



Senior sound engineer Philippe Mergen at the Euphonix 5

the PA system and simultaneously to 96 kHz capable Euphonix A/D converters, which are installed beneath the stage. The signals are then sent via fiber optics to the recording studio. Inside the studio an output at the mixing desk again creates a digital splitter, allowing the signals to be forwarded to a broadcast truck.

They offer a wide range of microphones, including Neumann M149, two U87, five KM130 and four KM140, as well as four Sennheiser MKH416 or MKH418S.

## Archive

Apart from vinyl records the archive maintains sound carriers such as quarter inch tapes. In addition to the audio archives, the National Archive includes movies, videos and photographs by local artists, or which are related to the history of Luxembourg. For long-term archiving there are two rooms with different temperatures. The video storage area is refrigerated while audio materials are stored at constant 15 degrees Celsius. The air-conditioning system for all rooms is the size of a multi-family house.

The long-term objective is to digitalize all analog records. For this purpose a modular tape robot from Sun/Storage-Tec serves as a storage magazine.

## Training and perspectives

The national audio/ visual archive of Luxembourg is different from other archives in

many ways such as providing assistance for artists.

As of 2009 some sound engineering courses are planned in conjunction with the music school of the township of Dudelange.

The cinemas showing historical and current movies are al-



ready in operation as well as a large media library with videos and books – including the subject 'audio engineering'. Despite CNA's slim staffing level, it is able to consider cultural considerations in addition to the administration and archiving of material.

The archive is about to implement an internet accessible search database for the archive inventory, including an MP3 sound sample facility and a downloading service for interested parties.

The archive also handles requests for special materials

from citizens of Luxembourg. This service-orientated structure of the CNA could be a role model for other national archives with respect to the way it handles the sound heritage of a country while remaining in touch with the people.

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