RFmondial


Logging System RFarchiver

Overview

RFarchiver is an uncomplicated solution to fulfil the logging task of your broadcasting content in a fully digital matter. Designed for the enhanced audio and multimedia services of Digital Radio Mondiale (DRM) and Digital Audio Broadcasting (DAB), the system can directly store one or several Multiplex Distribution Interface (MDI) or Encapsulation of DAB Interfaces (EDI) streams for a specified period of time. For analog broadcasts, AM/FM audio is compressed, time tagged and stored as well.

The intuitive browser-based user interface gives straight forward access to the live and archived content and decodes audio and multimedia services online, such that no software installation is necessary.
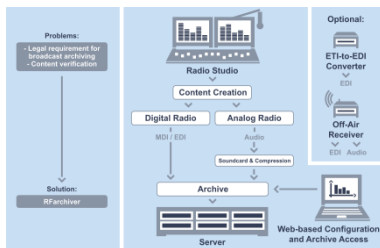
Benefits

- Fulfils legal requirement for broadcast archiving
- Proof of advertisement broadcasting
- Serves as tool for content verification
- Full digital approach. No tapes needed
- Supports digital & analogue standards (DRM, DAB, AM, FM)
- Browser-based user interface
- Easy access to archived content to the second
- Online audio and data decoding
- Data capture at studio, transmitter, during distribution, and/or off-air

Specification

Input interfaces

The following formats can be processed depending on the product version:

- EDI (ETI-LI) (Encapsulation of Digital Audio Broadcasting (DAB) Interfaces)
- Logging of ensemble multiplex and/or service multiplex
- Full UDP/DCP (Distribution & Communication Protocol) incl. PFT (Protection, Fragmentation & Transport) Layer und FEC (forward error correction)
- Multicast capability

Browser-based user interface

The browser-based application serves as the interface to the user for monitoring, archive access and playback, configuration and maintenance of the system. The following functionalities are given:

- Digital storage of data streams in EDI/MDI format for a configurable time frame
- Radio standards: DAB, DRM, FM, AM
- Independent of operating system: usage of WebAudio and Javascript
- Easy remote access: if Internet connection (also over satellite) is available, remote access to live and historical data is available from any location
- Access: direct access to each second as well as live access
- Download: Download of EDI streams, download of selected audio service as wave- or MP3-file
- Bookmarks of selected time intervals possible
- Browser compatibility: latest versions of Firefox, Chrome, Edge
- Streaming: Streaming of selected EDI-stream via DCP/UDP from server
- Configuration: length of archiving period (max. 90 days) is configurable
- Graphical user interface and user manual in English, multi-language possible (optional)
- Multiuser capability: users have only read and replay access to archives,

administrators have full access (e.g. deletion and configuration of archives)

Built-in application decoder

Integrated audio and data decoding, licensed by Fraunhofer IIS:

- Audio- and data decoding in browser, i.e. no local software installation necessary
- Audio decoding for DAB: MPEG-1 Audio Layer 2 (DABclassic) and HE AAC v2 (DAB+), all incl. MPEG Surround
- Optional: DMB-audio
- Data services: service selection and information, dynamic label and DL+, Intellitext, Journaline, MOT Slideshow, MOT Broadcast Website, TPEG (Textuell), EPG/SPI,
- Services decoding: PAD and NPAD, primary and secondary services
- Statistics: Statistics information for each service.
- Display of audio related information, e.g. audio rate, sampling rate, mode
- Streaming and downloading of selected audio service to remote PC
- Service and signalling decoding, e.g. service description, emergency warning feature (EWF)

Database system

RFarchiver database system serves as the backend of the system, captures the measurement parameters and processes them for analysis and long-term data storage.

- Operating system: Linux with relational database server
- Data storage with compressed audio and time stamps, automatic deletion after configured archiving period
- Maintenance: Export and import of current configuration
- License: Flexible license management per incoming stream

Hardware requirements

The system can be configured most flexible to the user's requirements:

- Can be installed on dedicated hardware or in virtual environments
- The network connection must be able to handle the combined data rate of all incoming EDI-streams and outgoing client connections (e.g. streaming of audio)

Virtual cluster system

It is possible to install the RFarchiver software system in a virtual cluster system. Generally, all current cluster technologies should work.

Server hardware

RFarchiver can be installed on standard server hardware, which can be provided either by the customer or by RFmondial. Necessary storage and CPU capability must be considered.

Options

Several options can be added to the RFarchiver:

Alarm system

The system can be extended with an alarm system, in which flexible alarm rules for all parameter can be created. Alarms are displayed in the remote application as well as via SNMP.

TPEG Professional

The following features can be added to the application decoder:

- Advanced list view (detailed view, search, XML export)
- TPEG frame recording
- Monitoring mode (incl. reception timeouts)
- SNMP trap support
- SNI view
- Detailed statistic
- Logging

Off-air reception

The DAB monitoring receiver RF-DAB fits perfectly in the RFarchiver system,

as it decodes DAB off-air and outputs the full DAB ensemble via EDI.

ETI-to-EDI conversion

An ETI to EDI converter can be added to the system such that legacy data streams can be logged.

Ordering Information

RFarchiverDAB: Software system DAB incl. 1 incoming EDI stream

Option EDI: Additional incoming EDI stream licenses

Option ALM: Alarm system

Option DMB: DMB-audio decoding

Option ETI: ETI to EDI converter

For DAB monitoring RF-DAB configurations, see RF-DAB specification.