Specifications

Transmission Characteristics
Standard:
ETSI ES 201 980 (DRM)
ETSI TS 102 820 (MDI)
ETSI TS 102 821 (DCP)

Synchronisation:
NTP Server necessary in the local network

Environmental Conditions
Guaranteed specifications: 10° C – 35° C up to 3000 m
Relative humidity: < 90 % without condensation

Electrical Mechanical and Cooling Characteristics
Rack: 19"; 1U, depth = 705 mm
Weight: max. 17 kg (all hard drives installed)
Air cooling: Redundant fans

Mains Power Supply
Power supply: 100 VAC to 240 VAC – 850 W
Frequency: 50 or 60 Hz (± 2 Hz)
Remark: all device specific hardware and
software equipment is integrated in an industrial
computer

Hardware
The DRM Content Server is based on robust 19"
server hardware for reliable 24/7 operation.

A console display is supported to locally activate con-
figurations, to monitor the system status and to setup
the basic hardware parameters. Administration and
data provision are based on Ethernet network or
modem dial-in connections featuring a detailed user
management. The strong firewall functionality guards
the access to the system. The audio A/D conversion
and system synchronization rely on a GPS clock source.
Alternatively the system synchronization can be done
via network timing protocol.

Monitoring System
A powerful new monitoring system is included and
allows close control of various system functions in-
cluding all IP based provision input sources.

Fraunhofer IIS
MPEG-2-AAC is a FhG technology
Audio coding technology licensed by Fraunhofer IIS
www.iis.fhg/de/audio

DRM Content Server
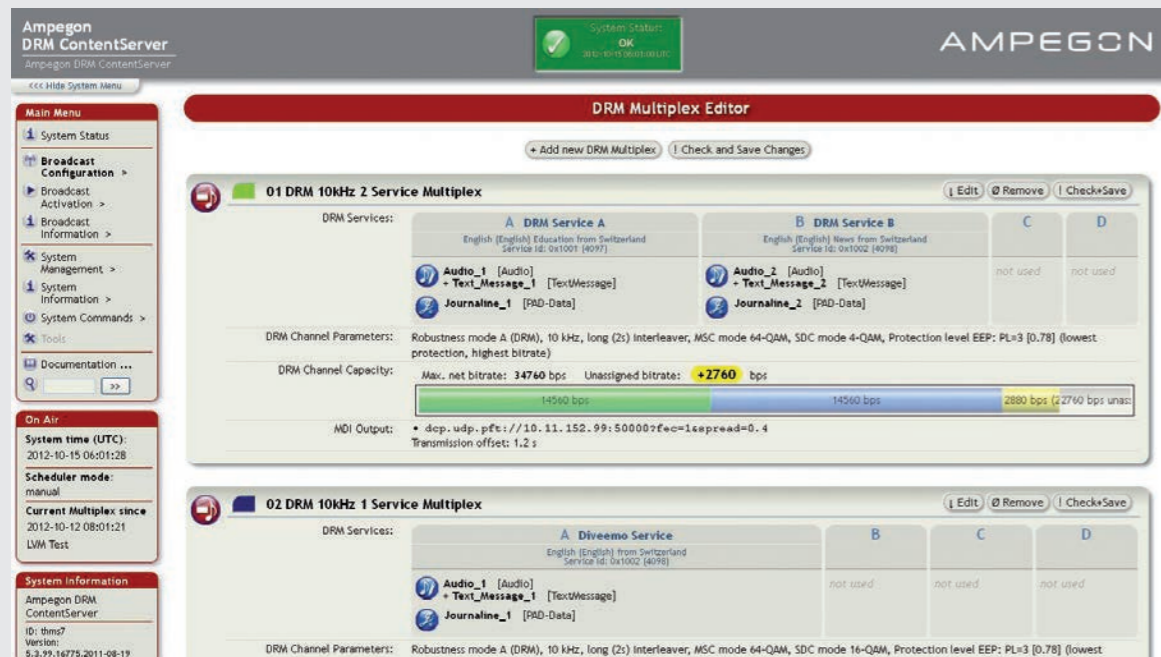
TXW 5128

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Science   MedTech   Industry   Broadcast

DRM Content Server

The DRM Content Server (TXW 5128) is a reliable and robust system, designed to meet the demands of any DRM operator

As a leading force for digital broadcasting since the beginning, our DRM compatible equipment meets highest standards and customer requirements. Designed to provide end-to-end DRM solutions for broadcasters and network operators, the DRM product line allows:

• to facilitate data import, preparation, encoding and broadcast with DRM content server
• to broadcast a modulated DRM signal with UCS-SW or DMOD3
• to analyze a DRM signal with professional monitoring receiver

A perfect fit for all Ampegon transmitters, DRM products are also open for use with any AM system.

Automated DRM Broadcast Solution
The system provides all options DRM offers and all interfaces for a smooth integration into the broadcast chain.The DRM content server provides triple functionality: DRM audio server with multi stream real-time audio encoding. DRM multimedia data server providing all standardized as well as proprietary mechanisms for data collection, import, processing, encoding and broadcast. DRM multiplex generator managing the extensive DRM signaling capabilities, generating the full digital DRM multiplex and providing standard MDI/DCP output streams.

The system can easily be scaled to match individual requirements and to support proprietary data applications. The system is typically located in the studio or a playout center (server room) with full remote control for administration and data provision. An integration into the transmitter is also feasible.

DRM Administration Interface
A convenient web-interface allows easy and efficient handling of all daily configuration work and provides detailed system status information.

DRM Audio Server
Live Audio Encoding
The DRM content server is capable of encoding up to 4 audio programs in parallel that is the maximum the DRM system can carry.

The required audio signals can be fed into the system in a variety of ways. All encoding options defined by DRM are provided. In addition the latest member of the MPEG AAC codec family xHE-AAC is available. This codec combines speech and audio coding within one unified system to deliver consistently high quality at low bit rates for all audio signals.

All possible bit rates and sampling rates can be chosen. SBR (a sound enhancement technology) and UEP (stronger protection for essential parts of the audio signal) are supported.

DRM Multimedia Data Server
Data Application Types
The DRM content server supports DRM data applications like:

• DRM text messages
• Jounaline®
• MOT slideshow/broadcast website
• TPEG traffic information
• PRBS internally generated synchronous or asynchronous test patterns
• EPG electronic program guide
• TMC traffic message channel
• Diveemo® small-scale video application
• EWF emergency warning features

Proprietary data transmissions
Open interfaces allow the transmission of any custom-tailored proprietary applications at various protocol levels.

Data Import Interfaces
A wide variety of data import mechanisms and interfaces are supported to meet the requirement of the studio, the broadcast environment and of course the various application types.

• RSS import (automatically scheduled or manually triggered) RSS: real simple syndication news sources on the internet
• FTP and http-mirroring
• Web-interface for quick data editing using a standard web browser
• Socket interface for real-time data insertion
• Encrypted connections for secure and reliable data import restricted to the predefined data sources: ftps, ftps-mirroring

DRM Multiplex Generator
All DRM transmission channel options are supported. The output signal of the DRM content server carries the complete DRM multiplex (FAC, SDC, MSC) in MDI/DCP format according to ETSI TS 102 820 (multiplex distribution interface) and ETSI TS 102 821 (distribution and communications protocol).This DRM multiplex can be fed simultaneously to any number of DRM modulators (optional SFN operation) and monitoring stations.
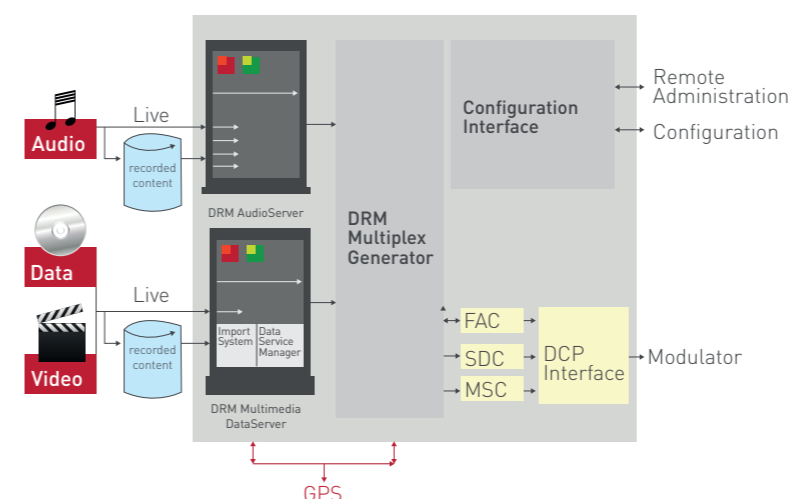
Block Diagram of the DRM Content Server System.

Input Characteristics

Input	Type	Connector	
Data Input (Several Protocols)	Ethernet	RJ45 female	
Livewire Audio Input (Streaming)	Ethernet	RJ45 female	
Analog Line Node 8x Input	Analog	XLR3 female	Selectable at order time
Digital Line Node 8x Input	AES/EBU	XLR3 female	Selectable at order time

Output Characteristics

Output	Type	Connector	Protocol
Data output	Ethernet	RJ45 female	DCP/MDI, several IP protocols

Control & Monitoring Characteristics

Interface	Type	Protocol
Administration & Configuration Interface	Ethernet	WWW
Administration & Configuration Interface	Ethernet	SNMP (depends on Software Option)
Remote Monitoring E-Mail System	Ethernet	SMTP (depends on Software Option)
Server Local Administration Interface	Ethernet	WWW

DRM Text Messages

DRM text messages are the widest spread type of DRM data application.
The DRM content server therefore provides a range of features to simplify the process of importing and handling text messages:

• Support for a range of import sources
• multiple sources can be assigned per text message service component
• Text elements can be defined per source to be added before/after every message

Jounaline®

Jounaline is the data application that offers pure textual information in a hierarchical menu structure. It provides a real extra benefit to the DRM listener.

Diveemo®

Small-scale video with a multimedia receiver it is now also possible to receive small-scale video services over DRM on a color display. This feature is one example of the substantial advantages made possible by digital AM radio systems.

Key Features

• Reliable hardware with full redundancy and powerful security features
• Hot pluggable disk drives
• Intuitive web-interface and ease of operation
• Extensive on-line help functions
• Implementation of attractive DRM services
• Full remote control & configuration via web-interface
• Automatic broadcast scheduling
• Full redundant remote system administration interface
• Innovative in-place-editing technology for quick and convenient system configuration
• Powerful security features
• Features supported are selectable through the software edition (compact basic, transmitter edition, standard or professional)