DAB+ HEAD-END
DATASHEET

docker CONTAINERIZED

WORLD MOST USED DAB SYSTEM

Appreciated by customers worldwide, Paneda is the first choice for clients with high demands on reliability and technical performance.

ASA Compliant

NEW!

ASA Automatic Safety Alert

Paneda supports the latest DAB standard for emergency warning, the ASA standard and has together with our customers sucessfully tested the functionality in live transmissions.

SRT Support

NEW!

SRT SECURE RELIABLE TRANSPORT

In addition to standardized EDI, the system now also supports encapsulation of SRT, which can further enhance robustness over public IP networks.

SYNCHRONIZED PICTURES

NEW!

Artist: ABBA
Title: Waterloo

What You See Is What You Hear
The unique Paneda implementation, “Synchronized SLS,” delivers an enhanced user experience by allowing SLS images to be synchronized with the audio content.

DESCRIPTION

Complete system

Paneda offers the most advanced DAB system on the market, designed for ease of operation and delivering a cost-efficient solution. A Paneda DAB Head-End system includes DAB multiplexers, DAB/DAB+ encoders, data inserter, and a comprehensive management system. The system is fully compliant with the DAB standard ETSI EN 300 401.

The Paneda system can be deployed in two main type of configurations:

• Paneda 1U hardware platform fully containerized systems using Docker with Fedora CoreOS as the execution environment.

• Server platform, fully containerized systems using Docker with Fedora CoreOS as the execution environment.

Efficiency

On standardized server hardware, it is possible to install multiple head-end systems — up to 10 complete DAB head-end systems with a total of 300 audio encoders.

Redundancy

Paneda is well known for its unique redundancy implementation featuring SMART content-aware switching. In essence, this approach ensures both 100% seamless switching between components and a continuous ‘best-possible-output’ principle across all system elements.

Audio

The Paneda system is compatible with the most common AoIP formats, including: LiveWire, AES67, Dante, Ravenna, ST 2110-30, MP-TS

In addition, the system supports a wide range of streaming formats, such as: MP3, AAC, HLS, FLAC

The Paneda 1U hardware also provides 4 × AES/EBU inputs, available on rear-mounted XLR connectors, enabling direct integration with professional audio equipment.

Rev 1.10

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Made in Sweden

world dab MEMBER

ISO 9001 CERTIFIED

PANEDA®

DAB+ HEAD END
DATASHEET

CONTAINERIZED

PANEDA 1U ALL-IN-ONE HARDWARE

For smaller deployments, the Paneda 1U hardware is a generic hardware that can host any of the Paneda DAB Head-End products, such as multiplexer and encoders.

STATION LOGO

NEW!

Built-In support for adding station logo directly using the Paneda webinterface. No external systems required.

LANGUAGE

NEW!

The Paneda system supports a wide range of languages in the web interface, and additionally complies with the latest DAB standards for Arabic and Asian languages, including DLS text and service name encoding.

SUPPORT

Paneda offers superior support agreements, including optional 24/7 support for customers who require around-the-clock assistance.

DEVELOPMENT

The Paneda system is modern, secure, flexible, and highly extensible. It is developed by experienced specialists and continuously improved through an active development cycle that delivers frequent releases with new features and enhancements.

Paneda applies agile methodologies that enable rapid adaptation to changing requirements. Each development sprint spans two to four weeks, culminating in a new release. The development process follows test-driven principles and utilizes continuous integration to ensure high quality and reliability.

Advanced audio input redundancy

Each audio service can be configured with source redundancy, allowing multiple audio input sources to be defined with seamless switching between them. For example, the primary source may use AES67 or AES/EBU, while a secondary source may be configured as a web stream. In a redundant encoder setup, the system uses the unique Paneda SMART content aware subchannel switching, enabling the principle of “best possible output” from all sources.

Additionally, it is possible to upload and use audio files as a disaster-recovery source, ensuring that silence is avoided on air in the event of a source failure.

Advanced API

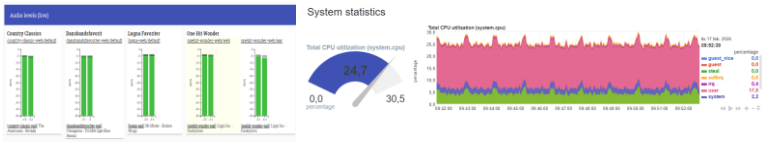
Paneda uses the Open API v3 standard for interacting with the system, the well documented API is built for both monitoring and controlling the complete platform.

Security

With a Paneda system, you can be confident that the solution meets the highest standards of IT security. All internal and external connections are encrypted using TLS/HTTPS, and the system supports two-factor authentication as well as the installation of custom certificates. Paneda uses Fedora CoreOS as its operating system — a minimalist, container-optimized platform built on a lightweight Linux kernel and designed according to the ‘all ports closed’ security principle.”

User Interface

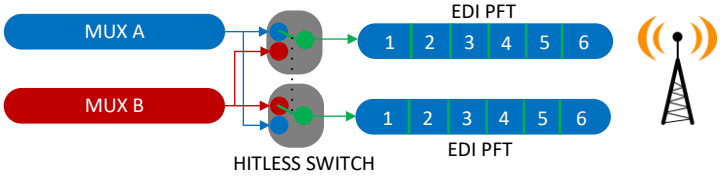
Paneda offers an intuitive interface where all information is presented in real time, including audio status with VU meters, statistics, metadata, buffer levels, and more. Advanced schedule management, audit logs, and event history are just a few of the many other features appreciated by our users.



Advanced EDI outputs

The EDI outputs in a Paneda system are fully synchronized with each other for seamless redundancy. The system includes built-in switches that enable 100% seamless switching. An EDI receiver, such as a transmitter, can freely select any EDI output from the Paneda system without affecting the SFN.

All EDI outputs are fully PFT-aligned, enabling Paneda’s unique ‘EDI Timeshift’ functionality.



Rev 1.0

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