Smart pi ECOsystem



Smart Public Information for the smart city.

Smart pi takes information from across the city and delivers it to the people who need it: as an announcement, on a display, through a help point or straight to a hearing aid, the moment it matters.

One ecosystem, designed to look, feel and work as one

Every product works on its own, and better together.

IN

Where information comes from

RTA · MIC · PBX · SPL · Fire panel

SMART PI CORE

Decides what to say, where and when

DVA · DVA-GTFS · EYE · DSP · SIP · FSM · LOG · NMS

OUT

How it reaches people: hear, see, ask

NAM · NAM-HP · EDC · EYE-HD · HLP

Smart pi

Product catalogue

Every Smart pi product on a page: what it does, its features and its specifications.

RTA · MIC · PBX · SPL · DVA · DVA-GTFS

EYE · DSP · SIP · FSM · LOG · NMS

NAM · NAM-HP · EDC · EYE-HD · HLP

Seventeen products, one ecosystem

Every Smart pi product works on its own and better together. This catalogue gives each one a page: what it does, its key features, its main specifications and what it works with.

IN

Where information comes from

- **Smart pi RTA** — Real-time aggregator — 3
- **Smart pi MIC** — Live paging panel — 4
- **Smart pi PBX** — IP PBX and network bridge — 5
- **Smart pi SPL** — Sound pressure logger — 6

SMART PI CORE

Decides what to say, where and when

- **Smart pi DVA** — Automatic voice announcements — 7
- **Smart pi DVA-GTFS** — Announcements from GTFS — 8
- **Smart pi EYE** — Visual display system — 9
- **Smart pi DSP** — Audio processor — 10
- **Smart pi SIP** — Software SIP audio bridge — 11
- **Smart pi FSM** — Fire system integration — 12
- **Smart pi LOG** — Audio logger and archiver — 13
- **Smart pi NMS** — Network management — 14

OUT

How it reaches people: hear, see, ask

- **Smart pi NAM** — Network amplifier modules — 15
- **Smart pi NAM-HP** — High-power amplifiers — 16
- **Smart pi EDC** — Plane array speakers — 17
- **Smart pi EYE-HD** — HD media player — 18
- **Smart pi HLP** — Help and information points — 19

Built on open standards

Dante and AES67 for audio, AES70 / OCA for control, SIP for calls, GTFS and GTFS-R for transport data, LDAP for sign-in, and REST APIs for integration.

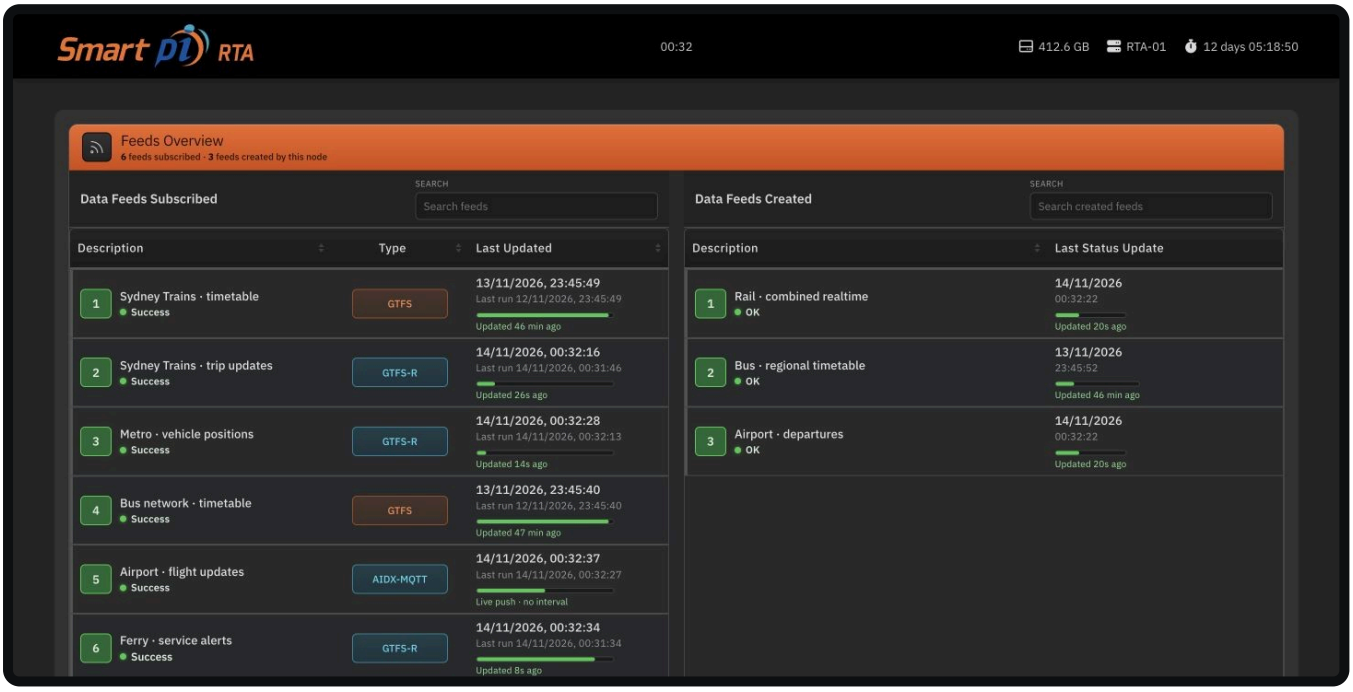
More detail

Most products have their own brochure with real screens, how it works and sizing. Download them from **smart-pi.info/downloads**.

Real-time aggregator

Smart pi RTA processes large realtime transport feeds in GTFS and GTFS-R, for one agency or many, so the rest of the system only handles the data it needs.

It filters, merges and trims feeds before they reach Smart pi EYE and Smart pi DVA, and runs on premises, in the cloud or as a hybrid.



Feeds
Real RTA interface with sample feeds.

Key features

- Processes large GTFS and GTFS-R feeds for one or many agencies
- About 70 seconds for GTFS and under 5 seconds for GTFS-R, for feeds up to 1 GB
- Filter by agency, or build new feeds with only the agencies you need
- Merge feeds, and strip unused data such as shapes
- Plugins map custom protocols to GTFS-R; optional SIRI module, and AIDX over MQTT or REST
- Audit log records every change against the signed-in LDAP user

At a glance

Input	GTFS and GTFS-R; custom protocols through plugins
Output	Filtered and merged GTFS and GTFS-R feeds
Scaling	Add nodes for capacity, redundancy or both, on a shared MariaDB database
Platform	Windows Server or Ubuntu LTS, as a service, with HTTPS
Sizing	From 2 CPU cores, 4 GB memory and 50 GB storage per feed

WORKS WITH DVA-GTFS EYE DVA

More at **smart-pi.info/products/smart-pi-rta**

Live paging panel

Smart pi MIC puts live paging at your fingertips. Illuminated buttons choose where your voice goes, the touchscreen shows what is selected, and a chime gets everyone listening first.

Press the zones, press TALK and speak. One network cable carries power, audio and control.



Smart pi MIC
The desk paging panel with its gooseneck microphone.

Key features

- Up to 24 zones across three pages of eight physical buttons
- Dedicated TALK button and touchscreen
- Configurable RGB colours, names and destination pages
- Dante and SIP network audio
- Pre-announcement chimes and local speaker monitoring
- Browser setup, XML backup and service logs

At a glance

Controls	Eight zone buttons, TALK button and touchscreen
Zones	Up to 24, across three pages of eight keys
Audio	Up to eight Dante transmit channels, plus SIP destinations
Power	Power over Ethernet: one cable for power, audio and control
Network	Built-in switch: 2 × RJ45 and 2 × SFP for fibre
Control	AES70, with Smart pi DSP zone mapping

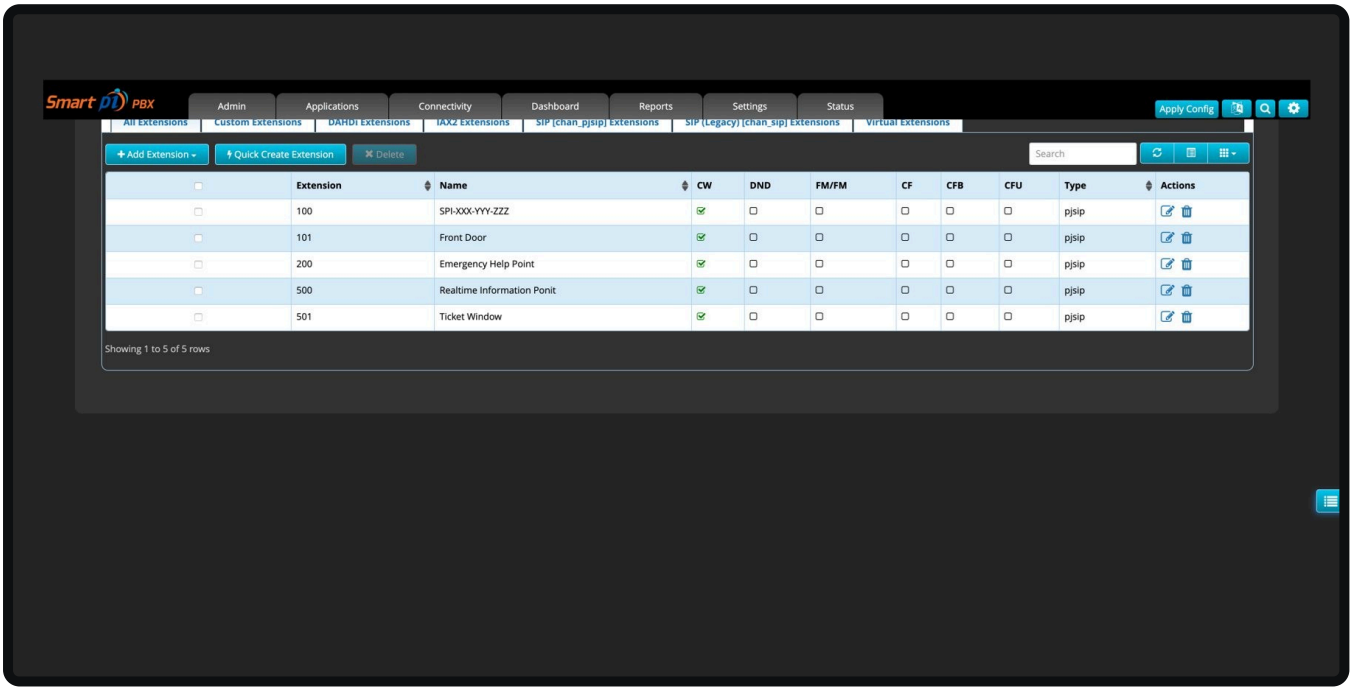
WORKS WITH DSP NAM SIP

More at **smart-pi.info/products/smart-pi-mic**

IP PBX and network bridge

Smart pi PBX is an audio-over-IP gateway and phone system. It uses OPUS compression for wide-area networks where linear audio such as Dante is not possible.

It ties the low-bandwidth products together and watches their connections: help points, Smart pi DVA messaging and Smart pi NAM paging from your phone system.



Extensions
Real PBX interface.

Key features

- Simple Smart pi web interface that anyone can use
- Easy monitoring of connected help points and extensions
- Standard SIP / IAX trunks over LAN, internet and VPN
- Extensions, ring groups, follow me, IVR auto attendant and call queues
- Paging and intercom groups
- Voicemail to email, conference rooms, call recording and call reports

At a glance

Capacity	500+ extensions per server, depending on CPU allocation
Audio	High-quality OPUS codec
Monitoring	Every endpoint, including help points and SIP trunks
Platform	Runs on VMware ESXi or XCP-ng
Security	LDAP / Active Directory, built-in firewall, scheduled backups

WORKS WITH HLP SIP NAM DVA

More at **smart-pi.info/products/smart-pi-pbx**

Sound pressure logger

Smart pi SPL is professional sound level metering and logging with two inputs, for venues and sites that must measure and record noise.

It works with any Class 2 microphone for a measurement chain to IEC 61672-1, is calibrated in the browser and exports logs in several formats.



Smart pi SPL
Compact logger with two microphone inputs.

Key features

- 2 × Class 2 microphone preamps (MicW i436 recommended)
- Web interface for setup and display, up to 20 users
- HDMI output for a local display
- USB powered, no PC required
- Calibration through the browser, with certificates
- Ethernet and Wi-Fi

At a glance

Inputs	MIC 1 and MIC 2 (3.5 mm); MEMS mic (2.5 mm)
Network	Ethernet 10/100 and Wi-Fi 802.11n (2.4 GHz)
Display	HDMI 2.0 with HDCP
Power	5 V DC, 2 A micro USB; supply included
Weight	250 g
Temperature	−40 to +85 °C operating

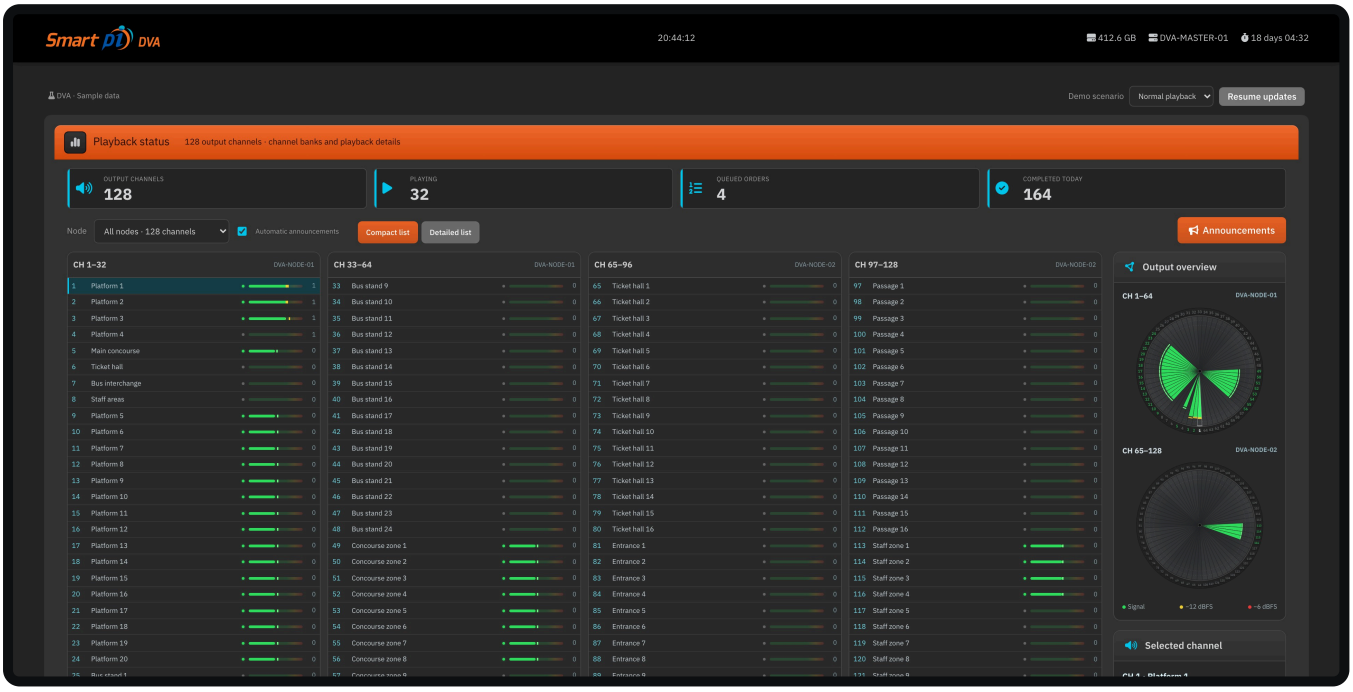
WORKS WITH DSP NAM

More at **smart-pi.info/products/smart-pi-spl**

Automatic voice announcements

Smart pi DVA is our digital voice announcement system, built for transport and for any large hub where clear, timely and correct announcements are key.

One web interface, with mobile support, schedules and plays announcements in many languages across thousands of zones.



Status
Real DVA interface with sample announcements.

Key features

- Multi-language, from an audio library or natural text to speech
- Full scheduler and timetable for scheduled or interval messages
- Automatic GTFS announcements through Smart pi DVA GTFS
- Fully redundant 1+1 online mode with seamless failover
- Centralised interface for 1000+ zones across many nodes
- LDAP / Active Directory security, and AES70 / OCA control

At a glance

Scale	One master, many nodes, 1000+ zones
Audio	Dante Virtual Soundcard up to 128 channels; Dante PCIe up to 512
Redundancy	1+1 online with seamless failover, per node
Platform	Windows or Linux service, with HTTPS
On trains	Runs on an EN 50155 server

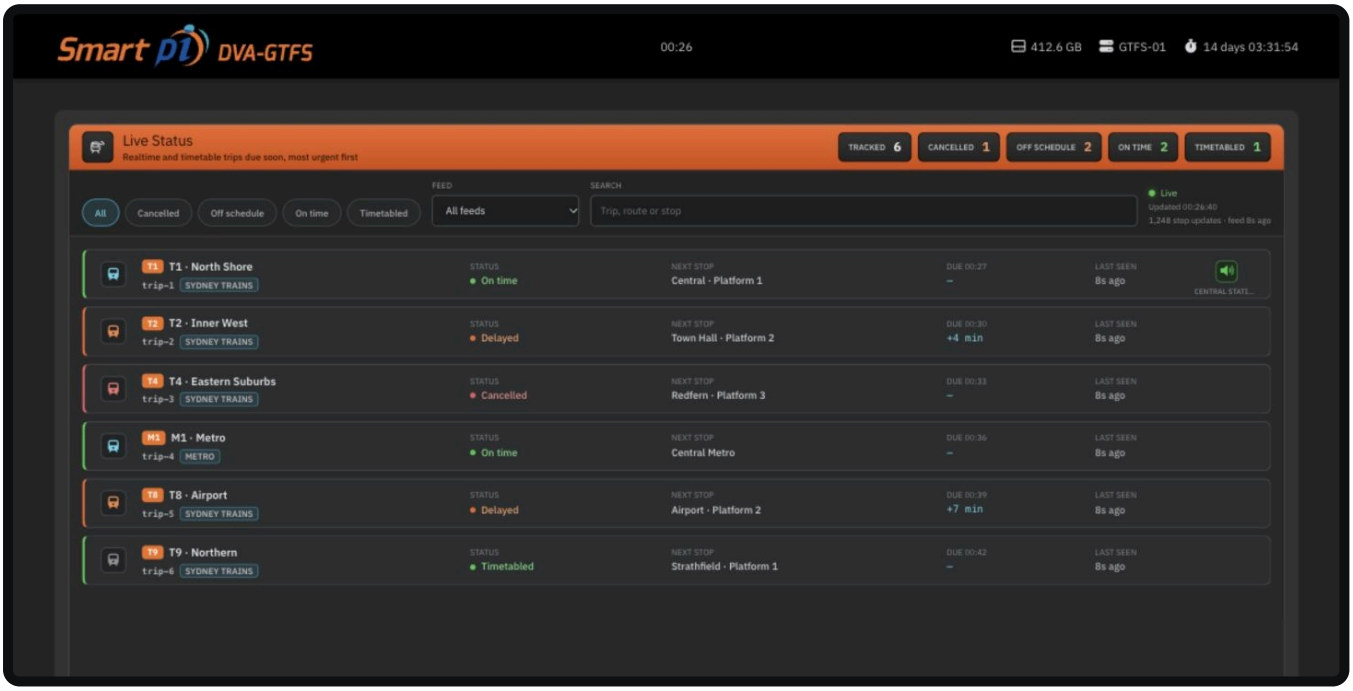
WORKS WITH DVA-GTFS NAM DSP EYE

More at **smart-pi.info/products/smart-pi-dva**

Announcements from GTFS

Smart pi DVA GTFS turns timetable and realtime data into automatic passenger announcements, and hands them to Smart pi DVA to play on the right channels.

Simple business rules set what is announced at each stop, from on-time arrivals to delays, cancellations and next-service updates.



Status
Real DVA GTFS interface with sample services.

Key features

- Announcements from GTFS timetables and GTFS-R realtime updates
- Ready-made triggers for on-time, delayed, early, cancelled and terminating services
- Repeats for long delays, and regular next-service announcements
- Handles services that split, join or change destination
- Per-channel priorities so the most important message is heard first
- Trip analysis and a full history of what was announced and why

At a glance

Data	GTFS and GTFS-R; other formats via Smart pi RTA
Output	Announcement orders to one or more DVA servers
Control	Web interface with mobile support, and REST API
Security	LDAP / Active Directory, HTTPS, API keys, audit logs
Sizing	From 16 CPU cores, 16 GB memory, 100 GB storage

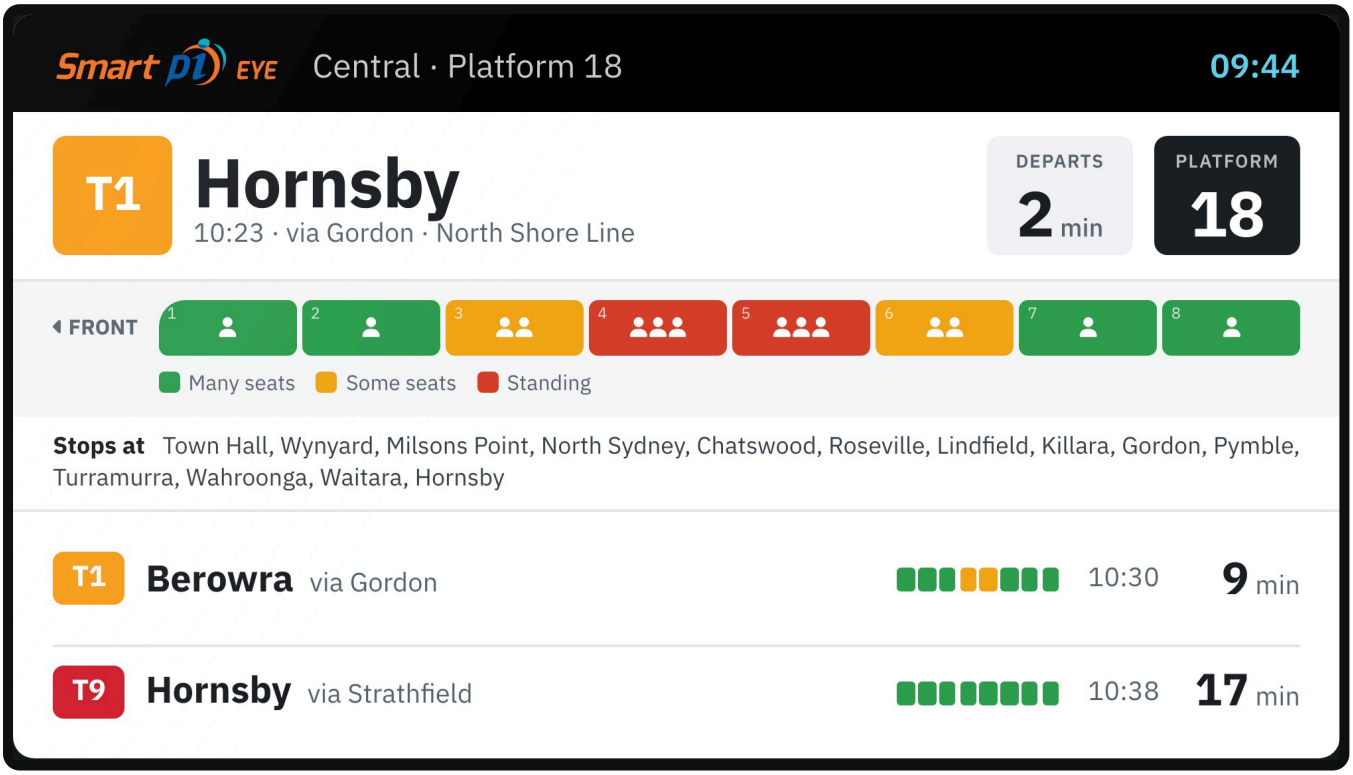
WORKS WITH DVA RTA EYE

More at **smart-pi.info/products/smart-pi-dva-gtfs**

Visual display system

Smart pi EYE is realtime digital signage. Passenger information, advertising and wayfinding all run from one interface, even for the largest systems.

A Master manages content, Nodes add capacity, an Ingester reads realtime feeds, and Smart pi EYE-HD players drive each screen.



Carriage load display
Sydney Trains template, shown with sample times and loads.

Key features

- Completely web-based configuration and management
- Scales to many thousands of screens
- Next services, departure boards, LED displays and interactive kiosks
- Live and DVA announcements shown as text, in several languages
- Messages and modes switch many screens at once
- Full redundancy options, with LDAP single sign-on

At a glance

Data	GTFS / GTFS-R and RSS; SIRI and others via RTA
Screens	Any resolution, landscape or portrait, LED pixel-mapped
Players	Smart pi EYE-HD, or your own media players
Platform	Windows or Linux, on premises, cloud or hybrid
Failover	Second instance behind VRRP or a load balancer

WORKS WITH EYE-HD · RTA · DVA · HLP

More at **smart-pi.info/products/smart-pi-eye**

Audio processor

Smart pi DSP is the next generation of digital PA processor, with the power for the smallest systems and the very largest.

It is modular and upgradeable through firmware, built on Dante and OCA / AES70, and configured entirely in a web browser.



Smart pi DSP
Rack-mounted modular processor.

Key features

- Exceptional audio quality and speech intelligibility
- Modular system for flexible installation
- Each card manages itself and can be mirrored (N+1), on a passive backplane
- Front-to-back cooling and an embedded web server, no extra computer
- Connected paging with Smart pi MIC
- Standards-based API using OCA / AES70

At a glance

Cards	Up to 3 DSP cards and 1 I/O card
Zones	Up to 192
Switch	Up to 12 ports: 6 Ethernet, 6 SFP
Power	88–264 V AC, max 50 W
Temperature	0 to +50 °C

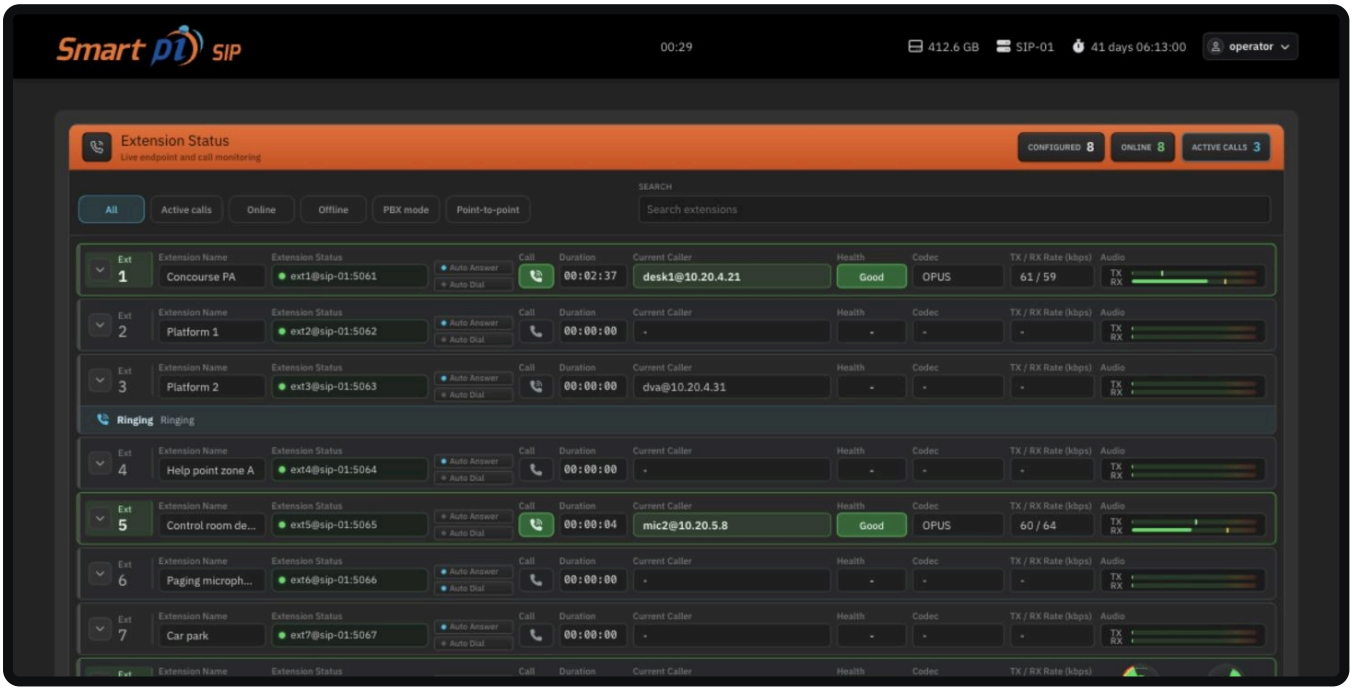
WORKS WITH NAM MIC DVA FSM

More at **smart-pi.info/products/smart-pi-dsp**

Software SIP audio bridge

Smart pi SIP is a software SIP endpoint that connects sound card audio channels to SIP calls, so sources and speaker zones can link over any network.

Extensions register to Smart pi PBX or any SIP server, or call point-to-point. OPUS keeps audio clear where Dante is not practical.



Status
Real SIP interface with sample extensions.

Key features

- Connects sound card channels to SIP calls, in both directions
- OPUS audio, plus G.711 (PCMA / PCMU) for compatibility
- Up to 512 audio channels per server
- Physical sound cards, or virtual Dante and AES67
- Jitter buffer profiles for LAN, WAN, 5G / mobile and resilient links
- REST API and AES70 (OCA) for control and monitoring

At a glance

Protocol	Standard SIP, registered or point-to-point
Codecs	OPUS (48 kHz, 8–256 kbps), G.711 A-law and μ-law
Channels	Up to 512 per server, by sound card and licence
Sound cards	ALSA on Linux; ASIO or WDM on Windows
Jitter buffer	Auto (40–500 ms), LAN, WAN, mobile, resilient

WORKS WITH PBX NAM DSP HLP

More at **smart-pi.info/products/smart-pi-sip-server**

Fire system integration

Smart pi FSM (Fire Safety Manager) is built to EN 54-16 and helps a Smart pi ECOsystem meet EN 54-16.

It also monitors and controls audio for other standards, such as EN 50849 and, in Australia, AS 1670.4.



Smart pi FSM
1RU fire safety manager.

Key features

- Built to the EN 54-16 standard
- Monitors an evacuation zone across several Smart pi NAMs
- Easy to configure through the built-in web interface
- Built-in watchdog protection
- OCA / AES70 interface for control and integration
- Zones can switch Smart pi EYE screens to evacuation modes

At a glance

Standards	EN 54-16; EN 50849 and AS 1670.4 modes
Front panel	General alarm, general fault and system fault
Status	Dual power supply, protection, path and zone
Buttons	Silence, test and reset
Security	LDAP / Active Directory

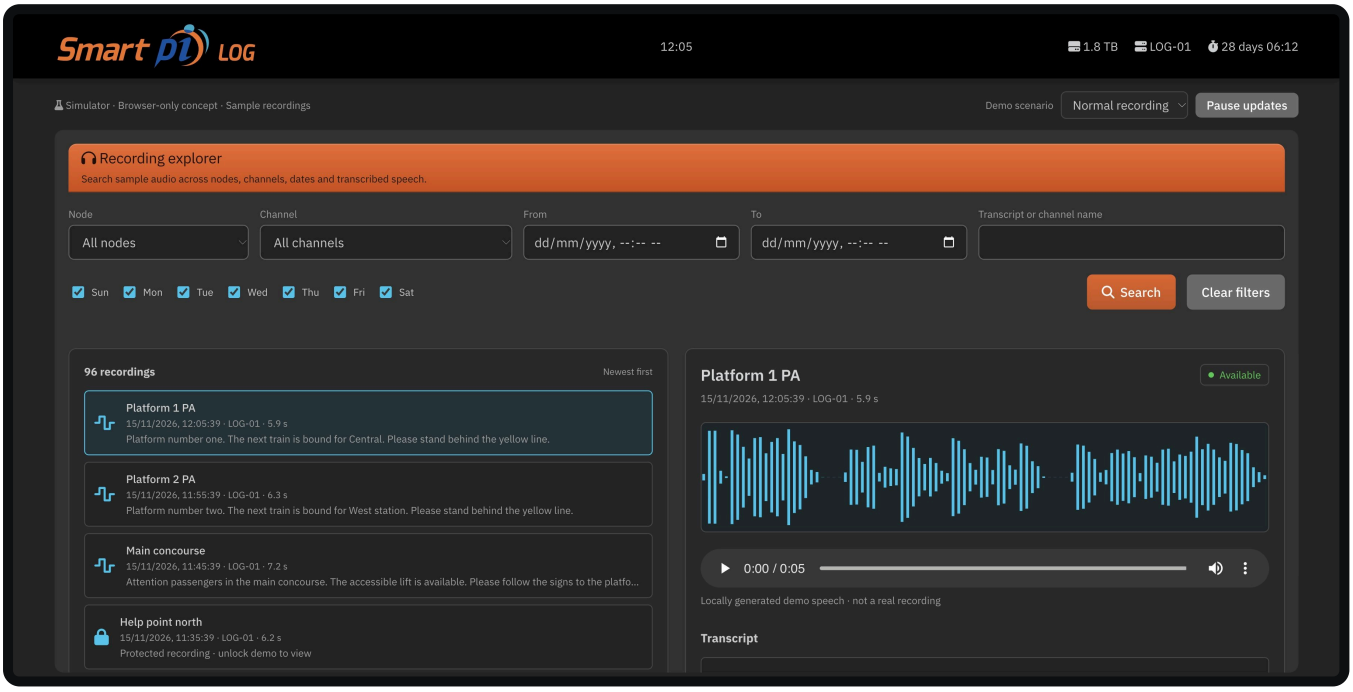
WORKS WITH NAM DSP EYE

More at **smart-pi.info/products/smart-pi-fsm**

Audio logger and archiver

Smart pi LOG records every page and announcement, from 2 to 512 channels on one server and beyond 1000 channels with node servers.

Users search, listen to and download recordings in a web interface with mobile support, and speech can be stored as text alongside the audio.



Recordings
Real LOG interface with sample recordings.

Key features

- Full linear audio quality
- Node-based design that scales to thousands of channels
- Active Directory / LDAP sign-in
- Optional file encryption
- Speech to text with Google AI or Voice Interaction, cloud or on premises
- Search across all nodes or individually

At a glance

Channels	2 to 512 per server; 1000+ per system
Storage	Limited only by disk size
Platform	Windows or Linux service, virtualised or bare metal
Sound cards	ALSA on Linux; ASIO or WDM on Windows
Security	HTTPS with your own certificates

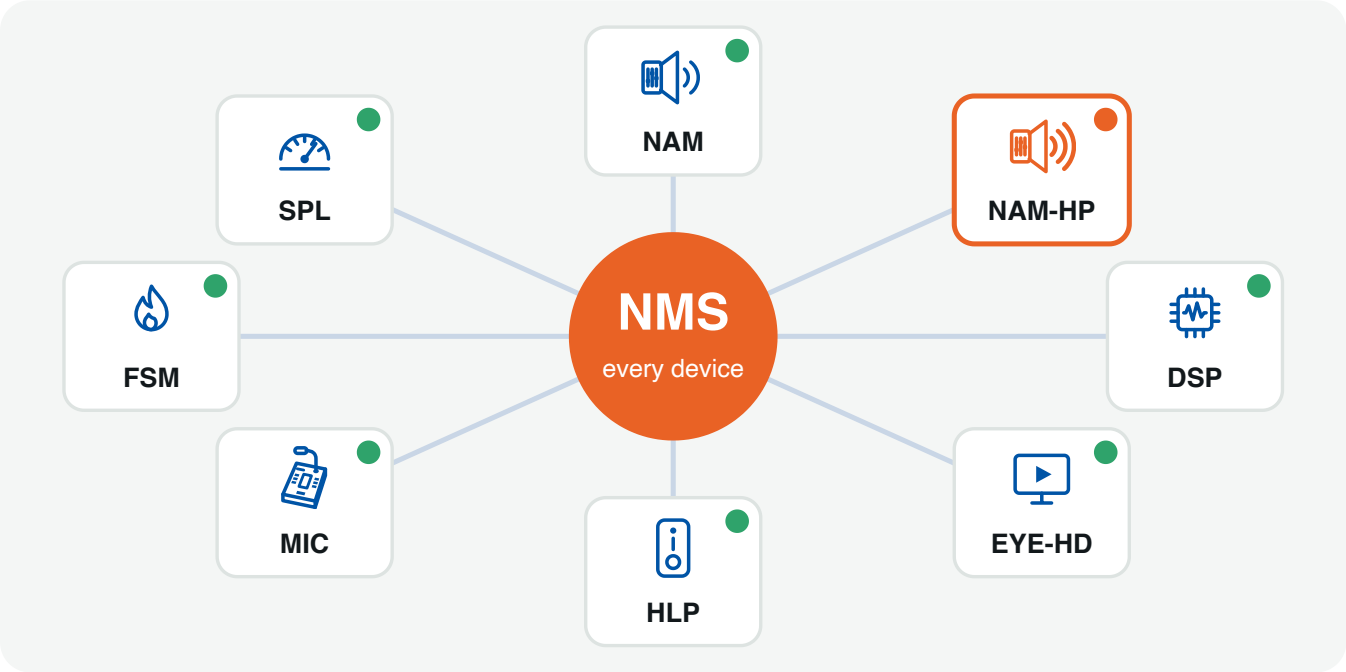
WORKS WITH DVA PBX DSP MIC

More at **smart-pi.info/products/smart-pi-log**

Network management

Smart pi NMS monitors and manages your Smart pi and AES70 / OCA devices from one place, and alerts your team when something needs attention.

It shows every device's status and settings, places equipment on maps and keeps a full history. NMS is under development; features may change.



How NMS sees a site
Illustration: every device reports in. A speaker line fault on a NAM-HP raises an alarm, and SMS and email go out.

Key features

- Status and configuration of every Smart pi and AES70 / OCA device
- Equipment placed on maps for a clear overview
- Back up and restore device configurations centrally
- Full history of changes, alarms, backups and restores, as CSV
- Alarm management with severity levels and acknowledgement
- SMS and email alerts with your own recipients

At a glance

Devices	Smart pi and any AES70 / OCA device
Covers	Properties, parameters, connections, presets, firmware
Maps	Custom views with zoom, pan and edit tools
Alerts	SMS and email, set per alarm severity
Licence	Required

WORKS WITH NAM · NAM-HP · DSP · EYE

More at **smart-pi.info/products/smart-pi-nms**

Network amplifier modules

Smart pi NAM amplifiers are installed out in the field, close to the speakers they drive, so zoning, sources, priorities and volume can be set for every speaker.

Each NAM has four amplifier channels, a switch with two fibre and two Ethernet ports so units link along the network, and DSP on board.



Smart pi NAM
Field amplifier with fibre and Ethernet.

Key features

- 4 × 12 W RMS low-noise Class D amplifiers
- Built-in switch: 2 × Gigabit Ethernet and 2 × SFP fibre
- Built-in DSP: 7-band parametric EQ, FIR, delay and gain
- Linear Dante; SIP (OPUS) option for wide-area links
- Auracast option for Bluetooth LE Audio broadcast
- Ambient noise sensing and speaker monitoring

At a glance

Amplifiers	4 × 12 W RMS (8 Ω)
Network	2 × Gigabit Ethernet, 2 × SFP; redundant LANs
Power	36–52 V DC (1.5 A), monitored
Versions	Indoor and outdoor (IP66)
Temperature	0 to 70 °C operating

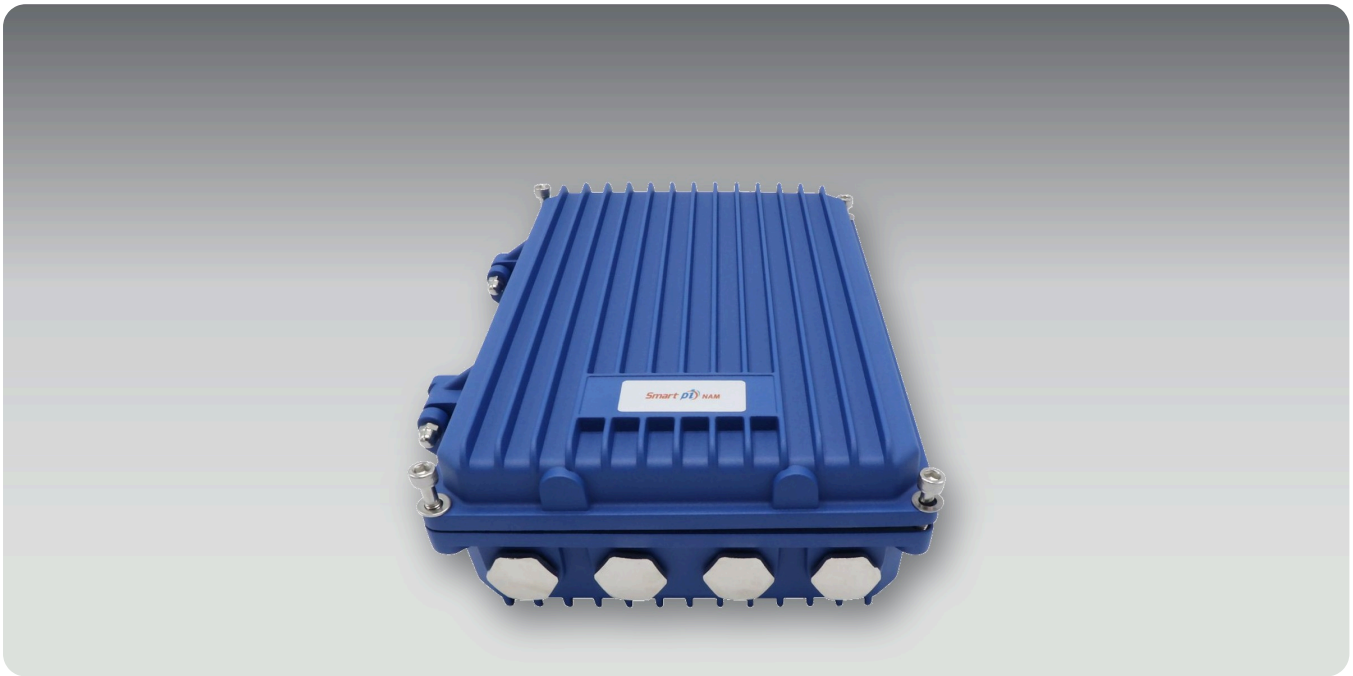
WORKS WITH NAM-HP DSP FSM MIC

More at **smart-pi.info/products/smart-pi-nam**

High-power amplifiers

Smart pi NAM-HP is the high-power member of the NAM family, with four 75 W channels for larger areas and higher sound levels.

It also drives hearing loops, so the same announcements reach people with hearing loss, alongside Auracast on outdoor units.



Smart pi NAM-HP
High-power field amplifier.

Key features

- 4 × 75 W RMS low-noise Class D amplifiers
- Drives up to two hearing loops (AFILS), single or phased array
- Identifies the connected loop and reports its impedance
- Built-in switch: 2 × Gigabit Ethernet and 2 × SFP fibre
- Built-in DSP; linear Dante, with a SIP (OPUS) option
- Auracast module available on outdoor units

At a glance

Amplifiers	4 × 75 W RMS (8 Ω); bridged 2 × 150 W
Modes	25 V line, single or phased hearing loops
Network	2 × Gigabit Ethernet and 2 × SFP
Power	36–52 V DC, monitored
Versions	Indoor and outdoor (IP66)

WORKS WITH NAM DSP NMS MIC

More at **smart-pi.info/products/hearing-loops-afils-nam-hp**

Plane array speakers

Smart pi EDC brings EDC Acoustics' Plane Array™ technology into the ecosystem, for coverage you shape in software.

Every speaker can be steered vertically and horizontally, so coverage can be reconfigured for any venue and speech stays clear in difficult spaces.



Smart pi EDC
The three sizes of plane array speaker.

Key features

- EDC Plane Array™ technology
- Digitally steerable in software
- High directivity to minimise noise spill
- Weatherproof, designed for outdoor use
- High SPL with on-board amplifiers and DSP
- Dante and OCA / AES70 over fibre or Ethernet

At a glance

Sizes	Three: CS-30, CS-60 and CS-90
Dispersion	User configurable 0–120°, H and V
Pan and tilt	±60°, in 0.1° steps
Response	100 Hz – 20 kHz (0, –3 dB)
Options	Weatherproofing, U bracket, custom colours

WORKS WITH DSP NAM

More at **smart-pi.info/products/smart-pi-edc**

HD media player

Smart pi EYE-HD is the compact player behind every Smart pi EYE screen. It drives a display over HDMI and takes everything from the EYE system.

Give it a device name and it configures itself. It reports back a screen grab every 60 seconds, so you can see what every screen shows.



Smart pi EYE-HD
Compact player for every EYE screen.

Key features

- No moving parts
- Controlled in real time from the Smart pi EYE web interface
- One-word provisioning: set the name and it configures itself
- HDMI up to 1920 × 1080, including custom resolutions
- Low power: can run from the screen's USB port
- Hyundai IT and Daktronics display integration

At a glance

Front	3 × USB, Ethernet, status screen
Rear	HDMI, 2 × GPI/O, 2 × balanced audio, micro USB
Power	5 V DC, 500 mA
Size	145 × 130 × 27 mm, 500 g
Rack kit	3RU, up to 9 players

WORKS WITH EYE NMS

More at **smart-pi.info/products/smart-pi-eye-hd**

Help and information points

Smart pi HLP help points connect passengers to an operator, or play automated information from Smart pi DVA at the press of a button.

They carry vital information, so audio quality and reliability come first. Housings can be customised to fit any organisation.



Smart pi HLP
Help points with display and two-button versions.

Key features

- Clear audio with the OPUS codec, even over the internet
- Large 108 mm 30 W driver, clear in loud places
- Noise-cancelling MEMS microphone
- Built-in induction loop for people with hearing loss
- Monitored, with alerts, through Smart pi PBX
- Display option with Smart pi EYE

At a glance

Audio	30 W speaker, 60 Hz – 20 kHz; 7-band EQ
Calls	Standard SIP, or point-to-point
Setup	Any web browser; no app needed
Network	Wired or Wi-Fi
Housings	Custom, or electronics only for yours

WORKS WITH PBX SIP DVA EYE

More at **smart-pi.info/products/smart-pi-hlp**

SMART PI ECOSYSTEM

Start with one product. Grow into the rest.

Tell us about your site, and we will show you the products that fit, running with your own data.



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Smart pi ECOsystem

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