PA Central System Controller

Model: KNTD-50PA

The system controller serves as the central intelligence of our Public Address and Voice Alarm solution. It efficiently:

- Routes all audio between network-connected devices
- Manages scheduled and on-demand announcements
- Orchestrates background music, business calls, and emergency notifications based on priority
- Monitors system health and provides comprehensive fault reporting
- Offers user-friendly web-based configuration

Connected via standard CAT6 network cabling and designed with reliability in mind, the controller supports backup power options to ensure continuous operation during power disruptions.

This powerful yet intuitive hub delivers seamless audio management while maintaining the highest standards of system supervision and operational stability.

Key Functional Features & Benefits

■ Robust Architecture & Secure Operations

☐ Dual Redundant Channel Design: Ensures continuous operation through multiple fault-detection mechanisms, automatic failover capabilities, and 24x7 round-the-clock operational readiness with built-in energy-saving features during standby modes.

☐ Comprehensive Event Management: Automated scheduling with time synchronisation capability and detailed activity logging for reliable operation, simplified compliance auditing, and efficient system management.

■ Scalable Deployment & Intuitive Control

☐ Extensive Zone Management: Seamlessly manages up to 50 IP devices across 50+ independently configurable zones.

☐ User-Friendly Interface: Browser-accessible control platform enables straightforward configuration and content management from any authorized device, with integrated monitoring panels for visual and aural verification of output levels for each broadcast zone.

☐ Flexible System Expansion: Easily accommodates additional zones and devices without requiring system overhaul, with built-in volume attenuators for local control in designated areas such as function rooms, meeting rooms, and office spaces.

■ Enterprise-Grade Reliability

- ☐ Multi-Layered Fault Tolerance: Features dual network connections with RSTP support, Up to 8+1 amplifier monitoring, and protected power inputs with optional polarity reversal safeguards, ensuring continuous system performance even during component failures.

- ☐ Proactive System Protection: Continuous self-monitoring with automatic fault detection and isolation to prevent cascading failures, enabling the system to maintain basic functionality even when configuration computers are offline.

■ Advanced Content & Scheduling Capabilities

- ☐ High-Definition Audio Storage: Maintains library of uncompressed audio files (MP3 / WAV format) for announcements and alert tones with pristine playback quality, supporting up to 100 minutes of message storage capacity.

- ☐ Precision Timing Control: Built-in real-time clock with NTP or GPS time synchronization ensures accurate message delivery and event coordination across the network, with automatic daylight saving time correction.

- ☐ Customizable Broadcast Scheduling: Creates and manages complex broadcast patterns based on time, date, or external triggers.

■ Superior Audio Performance & Data Protection

- ☐ High-Definition Sound Quality: Audio-over-IP technology with 24-bit / 48kHz sampling (upgraded from 8kHz) delivers exceptional clarity for all announcements, ensuring sound pressure levels at least 10dB higher than background noise in coverage areas.

- ☐ Supports AES67 for audio and using AES70 for control with encryption and authentication to prevent unauthorized access, misuse, and modification of data.

- ☐ Optimized Network Performance: Advanced traffic management prevents audio degradation even during peak network utilization, with integrated chime generators (single-tone, 2-tone, and 4-tone options) for professional announcement signaling.

■ Comprehensive System Monitoring

- ☐ Real-Time Supervision: Continuous verification of stored messages, tone data integrity, and overall system health via integrated watchdog processes, with storage capacity for up to 5000 system events for thorough system analysis.

- ☐ Detailed Event Tracking: Automated logging of all system activities and fault conditions supports rapid troubleshooting and preventive maintenance.

- ☐ Customizable Alerts: Configurable notification system for immediate awareness of potential issues before they impact performance, with prioritization capabilities ensuring critical announcements always override lower-priority audio sources.
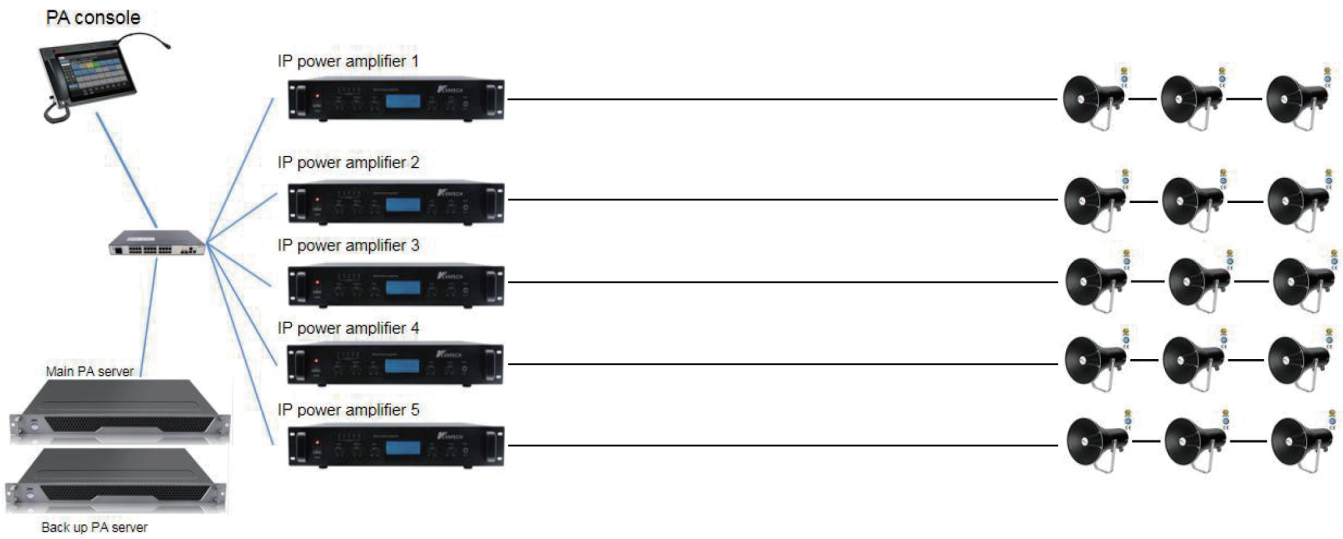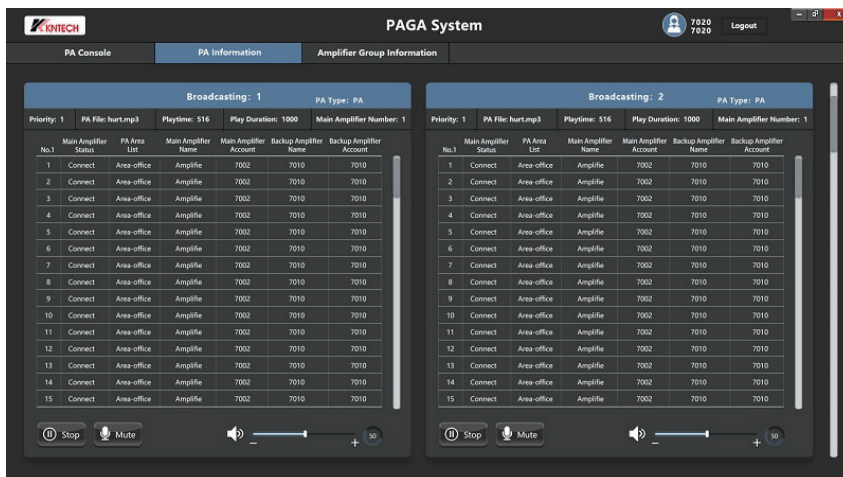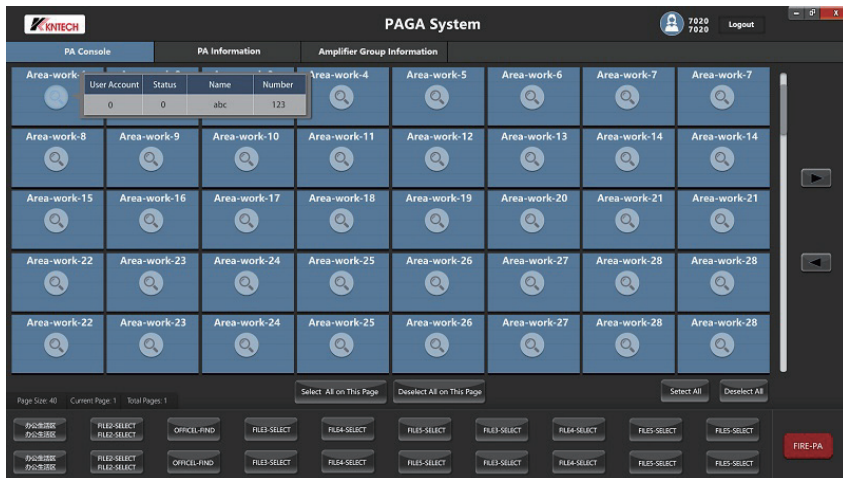

Front View

Rear View

Specitfication

Parameter	Description
Model Information	Digital IP-based Public Address and Voice Alarm System Controller, KNTD-50PA
Performance Specifications	
Power Consumption	Max. 6W
Number of Channels	Unlimited
Sample Rate	48 kHz with 24-bit audio processing for high-definition sound quality
Pre-Installed Operating System	Linux-based
Message Storage	100 min of uncompressed audio storage
Number of Events (storage)	5,000
Output & Protection	
Protection	Watchdog protection, RSTP support
Network & Integration	
Number of Ethernet Ports	2
Ethernet Type	100BASE-TX / 1000BASE-T
Protocols and Interfaces	Supports SIP and SIP TRUNK with Audio over IP protocol compatible with AES67 for audio and AES70 for control
Configuration	Webserver
Encryption	■ AES128 for audio transmission ■ TLS for control data
Redundancy & Monitoring	
Redundancy	Support for Dual redundant architecture with automated failover capabilities
System Monitoring	■ Front-panel LED indications and software monitoring ■ Real-time supervision of stored messages, tone data integrity and system health ■ Detailed Event Tracking
Real Time Clock Synchronization	NTP
Daylight Saving Time Correction	Automatic adjustment
Physical & Environmental	
Operating Temperature	-5 to +50°C
Colour	Black
Case Material	Durable steel
Dimension (H x W x D)	440 (L) x 280 (W) x 44 (H) mm
Mounting	Rack-mounted: 19in, 1U
Weight	5.8kg
Compliance	BS 5839-8, BS EN 60849, IEC 62368-1 / IEC 60950-1 or equivalent

PAGA System Architects

System Configuration and Management Interface

Dimensions

Unit: mm

44

280

440