Dear Friends,

We proudly present to you our Audio and Control IP product range;

**Audio and Control over IP Solutions**

An Audio over IP solution has become more commonly used nowadays, therefore by introducing such features as contact closures, relays, event management, scheduler, priority management, TerraManager integrated GUI control software and TerraServer management software, the TERRACOM family of products will have the solutions you require. We hope to deliver you the most suitable products and the most flexible solutions to meet the need of your projects.

**APPLICATIONS**

**Medium-Sized Systems**
- Stores (Restaurant, Shopping Malls)
- Office/Industrial Buildings
- University Campus
- Education Institution

**Fully Integrated Large-Scale Systems**
- Transportation (Railways, Subways, Airport)
- Hotels/Churches/Arenas
- Museums/Theme Parks
- High-Rise Buildings
TERRACOM is our audio over IP terminal range, with a wide variety of devices that offer a solution to multiple markets.
We offer a cost effective solution which utilises a standard network or the Internet for live audio paging, intercom, music streaming, routing, background music playing, control input/output triggers, and monitoring.

OVERVIEW - Which TERRACOM Device Fits Your Project Best?

- TERRA-EX: Cost-Effective IP Audio Decoder
- TERRA-EXA: Cost-Effective Amplified IP Audio Decoder (2 x 20W)
- TERRA-IEX: Full Duplex IP Audio Encoder/Decoder
- TERRA-AMP: Amplified IP Terminal (2 x 15W)
- TERRA-K: IP Based Intercom Microphone
- TERRA-FDX: Full Duplex IP Terminal for Intercom
- TERRA-DS: Flush-Mount SIP/IP Door Station
- TERRA-FXO: Full Duplex IP Terminal to Telecom Gateway
- TERRAMANAGER: Integrated GUI Control Software
- TERRA_SERVER: Integrated Management Software
- TERRA-IO: Contact I/O Terminal over IP
- PPM-IT5: Colour Touch Screen Secure Paging Console
- RAC5 / RAC8: 5/8 Steps Level and Source Selector
- URC-200: Ethernet Universal Programmable Remote Controller
- APPLICATIONS: PA-BGM / PA/VA-Transport / PA-BGM, Intercom / PA-BGM, In-Store
- ORDERING INFORMATION

The intuitive and powerful audio distribution software TerraManager and TerraServer will handle the announcement, background music, zone paging, audio routing, scheduler, priority management, monitoring and so on.

TERRA-IO is a programmable network I/O device with serial port (RS232/RS485), adapted to automation and monitoring applications.
The TERRACOM Audio over IP system is a range of products designed to transmit live audio paging, stored messaging, background music, 2-way intercommunications, control input/output triggers, and audio monitoring over TCP/IP. The TERRACOM supports PoE (Power over Ethernet), and/or can be powered locally with external 24VDC power supply. TERRACOM also communicates with traditional phone and IP phone systems over a network.

A built-in browser interface allows simplified control and program mapping of the TERRACOM devices, with the option of using TerraManager or TerraServer for more complex applications.

Why IP?
Nowadays, almost all buildings are equipped with a network infrastructure, therefore audio over IP technology has the huge advantage of utilising existing networks and crossing routers for ease of integration.

Where to use it?
From the standard applications like shopping malls, hotels, museums, theme parks, hospitals and schools, to more bespoke and specialised projects, IP networks exist nearly everywhere and thus IP offers such integration flexibility.

Benefits
The TERRACOM price competitive solution is the answer to a lot of applications. By using the standard network and PoE technology, installation and maintenance is simplified.

Powerful Platform
The TERRACOM devices have a powerful processor which provides a list of remarkable features, including priority management, event management, scheduler, local channel and volume control, paging, Acoustic Echo Cancellation and Noise Reduction.

Professional Audio
Instead of non-professional connectors, the TERRACOM have balanced audio on terminal block connectors for the Pro Audio market.

Audio Streaming
TERRACOM offers the possibility for audio streaming using standard RTP protocol in unicast, multicast or broadcast. For In-Store applications, TERRACOM streams using shoutcast/icecast protocols.

SIP Benefits
All TERRACOM devices use SIP technology, which gives you the benefit of having a standard session protocol with inherent simplicity. Therefore, it is compatible with IP PBX and soft phone which helps with the complex management of the IP address world.

PoE Benefits
Most TERRACOM devices support PoE (Power Over Ethernet), therefore the constraint of having AC power outlets is eliminated. This provides flexibility in placing the TERRACOM devices in various locations. Optimal placement leads to more efficient network designs and superior application performance. The network installation can be accomplished easier, faster and for less cost. It is also safer because you can centralise the power management and protect it with a UPS (Uninterruptable Power Supply). Lastly, by using a manageable PoE network switch via web browser or SNMP allows the remote networking devices to be reset or shut down, which saves time and expense of an on-site technician.

Management
All TERRACOM devices embed a web browser interface that enables you to control the TERRACOM through your favourite internet browser. For larger systems, you can use SNMP protocol. For more complex systems, the TerraServer will be your supervisor and management solution of your installation (Firefox web browser is suggested).
## Which TERRACOM Device Fits Your Project Best?

<table>
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<th>Audio Interface</th>
<th>PPM-IT5</th>
<th>TERRA-EX</th>
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<th>TERRA-10</th>
<th>TERRA-K</th>
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<tbody>
<tr>
<td>Gooseneck mic (unidirectional)</td>
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</table>

### Other Interface

| RS232/RS485                        | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Contact input                      | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 4/3 In x 4 Out (TERRA-4IO) |
| Contact output                     | 1 | 1 | 1 | 2 | 2 | 2 | 2 |   |   |   |
| USB                               | 1* | 1* | 1 | 1 |   |   |   | 1/2/3/4 | 1 |   |
| Push button                        | 3 |   |   |   |   |   |   |   |   |   |

### Power Supply

| 24 VDC                            | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| PoE                               | ✓ | ✓ | ✓ | ✓ |   |   |   | ✓ | ✓ | ✓ |

### Software

| Embedded web interface            | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| G.711/G.722/G.726/G.727/G.729 codec | ✓ Decoding only | Decoding only | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| AAC+ decoder                      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MP3 codec                         | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Icecast - shoutcast               | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| SIP/IGMP/DHCP/NTP/SNMP            | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| DTMF                              |   |   |   |   |   |   |   |   |   | ✓ |
| Acoustic Echo Cancellation        | ✓ |   |   |   |   |   |   |   |   |   |
| Built-in scheduler                | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Noise Reduction                   | ✓ |   |   |   |   |   |   |   |   |   |
| Matrix with priority management   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1 to group paging                 | ✓ | Receiving | Receiving | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 1 to 1 intercom                   | ✓ | Receiving | Receiving | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

*Optional, see Ordering Information chapter for details.

**Maximum 2 x 6W when locating by the PoE switch.
TERRA-EX

Cost-Effective IP Audio Decoder

TERRA-EX is an IP audio decoder, and is equipped with an optional USB flash interface for playlist backup or prerecorded announcements.

The TERRA-EX device is proposed as the most cost-effective output device which comes with 2 independent balanced line outputs, 1 contact output, 3 contact inputs.

The TERRA-EX will be your ideal IP solution for any application where you need a simple balanced audio output with I/O contacts & replays.

Thanks to the scheduler and the music/message management via optional USB interface, the TERRA-EX is also the perfect solution for in-store applications. The volume and channel can be modified by connecting to RAC remote source selector.

TERRA-EX CHARACTERISTICS

2 balanced line outputs (1 stereo or 2 mono)
1 stereo line input (3.5 mm mini-jack) for headphone
Audio outputs: maximum level +5dB, bandwidth 20 Hz ~ 20 kHz
Single CAT5/6 cable connectivity for audio and control
PoE or 24 VDC power supply (if PoE is not available)
Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ (decoding only)
Full duplex intercom with AEC (Acoustic Echo Cancellation) and NR (Noise Reduction)
Web browser interface for device management and monitor
SNMP (Simple Network Management Protocol) for device management on IP networks
Optional USB 2.0 interface for music/message storage, playback and recording (TERRA-EXU, TERRA-EXU2 and TERRA-EXU4)
Power LED and Status LED
3 contact inputs and 1 contact output
RS232 or RS485 for for 3rd party control
Power consumption: 2W
Weight: 0.95 lbs (433g)
Dimensions (D x H x W): 4” x 1-1/4” x 4-3/10” (104 x 32 x 109 mm)

TERRA-EXA

Cost-Effective IP Audio Decoder with Amplifier Built-In

The TERRA-EXA comes with 2 x 20W amplifier outputs for the IP terminal, 8 ohm speakers, 3 contact outputs and 1 contact input.

TERRA-EXA CHARACTERISTICS

2 x 20W (8 ohm) amplifier outputs
Audio outputs: bandwidth 20 Hz ~ 20 kHz
Single CAT5/CA6 cable connectivity for audio and control
24 VDC power supply
Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ (decoding only)
Web browser interface for device management and monitor
SNMP (Simple Network Management Protocol) for device management on IP networks
Power LED and Status LED
3 contact inputs and 1 contact output
Power consumption: 48W
Weight: 1 lb (453g)
Dimensions (D x H x W): 4” x 1-1/2” x 2-3/4” (103 x 37 x 70 mm)
**TERRA-IEX CHARACTERISTICS**

- 2 Mic/line balanced input
- 2 balanced line outputs (1 stereo or 2 mono)
- 1 stereo line input (3.5 mm mini-jack) for headphone
- Audio outputs: bandwidth 20 Hz ~ 20 kHz
- PoE or 24 VDC power supply (if PoE is not available)
- Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder
- Full duplex intercom with AEC (Acoustic Echo Cancellation) and NR (Noise Reduction)
- Web browser interface for device management and monitor
- SNMP (Simple Network Management Protocol) for device management on IP networks
- Optional USB 2.0 interface for music/message storage, playback and recording (TERRA-IEX and TERRA-IEXU)
- Power LED and Status LED indicators
- 3 contact inputs and 1 contact output
- RS232 or RS485 for 3rd party control
- Power consumption: 3W
- Weight: 433g (0.95 lbs)
- Dimensions (D x H x W): 4” x 1-1/4” x 4-3/10” (104 x 32 x 109 mm)

**TERRA-IEX**

**Full Duplex IP Audio Encoder/Decoder**

The TERRA-IEX is a 2 channel audio over IP encoder/decoder which operates as an audio source for an IP network. It comes with 2 independent balanced line outputs for full duplex communication for paging and broadcasting.

By using the optional USB interface the playlists shall be used as a backup of the decoded stream or as a source for the IP streaming.

**TERRA-AMP CHARACTERISTICS**

- 1 mic/line balanced input
- 2 balanced line outputs (1 stereo or 2 mono)
- 2 x 15W (8 ohm) amplifier outputs
  - Note: 2 x 6W by PoE
- 1 stereo line input (3.5 mm mini-jack) for headphone
- Audio inputs/outputs: maximum level +5 dB, bandwidth 20Hz ~ 20 kHz
- Single CAT5/CAT6 cable connectivity for audio and control
- PoE or 24 VDC power supply (if PoE is not available)
- Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder
- Full duplex intercom with AEC (Acoustic Echo Cancellation) and NR (Noise Reduction)
- Web browser interface for device management and monitor
- SNMP (Simple Network Management Protocol) for device management on IP networks
- One optional USB 2.0 interface for recording, message and music files
- Power LED and Status LED indicators
- 3 contact inputs and 2 contact outputs
- RS232 or RS485 for 3rd party control
- Power consumption: 30W
- Weight: 1 lb (460g)
- Dimensions (D x H x W): 4” x 1-1/4” x 4-3/10” (104 x 32 x 109 mm)

**TERRA-AMP**

**Amplified IP Terminal (2 x 15W)**

TERRA-AMP is an IP audio terminal which delivers 15 watts/channel into 8 ohm. Each device comes with 2 channels and 15W independent outputs with external power.

TERRA-AMP model features mic/line inputs that can be played locally as a source for network streaming. Playlist backups or prerecorded announcement are achieved via USB flash memory interface, which offers an ideal solution for commercial audio & also public address systems.
TERRA-K

IP BASED INTERCOM MICROPHONE

TErra-K CHARACTERISTICS

High quality gooseneck microphone and built-in loudspeaker (2.5W)

Web browser interface for device management and monitor

PoE or 24 VDC power supply (if PoE is not available)

Automatic gain control on microphone input

Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder

Paging to pre-defined zones

Pre-recorded announcement and dynamic zone paging via TerraManager

Full duplex intercom

Push-to-talk button, Talk LED and Power LED

Power consumption: 3.12W

Weight: 1.76 lbs (800g)

Dimensions (D x H x W): 5” x 13-4/5” x 5-3/10” (125 x 350 x 135 mm)

A new level of inter-company security and communication systems.

TERRA-K

Secured Desktop Microphone

The TERRA-K is a multi-function IP based microphone which is designed for full-duplex intercom and paging (Unicast/Multicast/Broadcast) over LAN/WAN. The TERRA-K can also be used with TerraManager to perform a recording function. Its pre-chime and post-chime can be configured via the web browser interface. It also has 2 LED indications and one button on the front panel, which displays device status and triggers certain functions.

By using the TerraManager integrated control software, paging (Unicast/Multicast/Broadcast), full-duplex intercom, music streaming, audio routing, message playing, Scheduler functions, TTS SVE (Text To Speech - Synthetic Voice Engine), device I/O monitoring and volume control (3rd party) can be achieved. Remote Intercom with a PPM-ITS through a SIP Server can be achieved via TERRA-FXO and web browsers, which increases its flexibility and integration with other TERRACOM products in adapting to various situations.

TERRA-FXO

TERRA-FDX

TERRA-AMP

TERRA-DS

TERRA-K

PPM-ITS

LAN/WAN

PBX System

Telephone Company

Control Room

Door

SIP Server

Microphone

Amplifier

Microphone

TERRAManager
**TERRA-FDX / TERRA-DS / TERRA-FXO**

**INTERCOM TERRA FAMILY**

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**TERRA-FDX**

*Full Duplex IP Terminal for Intercom*

The TERRA-FDX is designed for paging and full duplex intercom, and it offers the possibility to create bidirectional IP links for high audio quality and data transmission. Thanks to the standard SIP protocol, calls can be done by IP phones (AVAYA, CISCO, 3COM...).

**TERRA-FDX CHARACTERISTICS**

- 2 Mic/line balanced inputs
- 2 balanced line outputs (1 stereo or 2 mono)
- Audio inputs/outputs: maximum level + 5 dB, bandwidth 20 Hz ~ 20 kHz
- Single CAT5/CAT6 cable connectivity for audio and control
- PoE or 24 VDC power supply (if PoE is not available)
- Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder
- Full Duplex with Acoustic Echo Cancellation
- Web browser interface for device management and monitor
- SNMP (Simple Network Management Protocol) for device management on IP networks
- Message storage for playback and recording
- USB 2.0 interface for music, message storage and recording
- Power LED and Status LED indicators
- 3 contact inputs and 2 contact outputs
- RS232 or RS485 for 3rd party control
- Power consumption: 2.66W
- Weight: 0.95 lbs (430g)
- Dimensions (D x H x W): 4” x 1-1/4” x 4-3/10” (104 x 32 x 109 mm)

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**TERRA-DS**

*Flush-Mount SIP/IP Door Station*

The TERRA-DS wall-mount SIP/IP intercom station is an indispensable device for intercom solutions, featuring high quality hands-free SIP/IP communication. Additionally, the contact inputs/outputs on TERRA-DS allows for electronic door/gates lock down.

**TERRA-DS CHARACTERISTICS**

- Full duplex Intercom with Noise Reduction
- Web browser interface for device management and monitor
- Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder
- SNMP (Simple Network Management Protocol) for device management on IP networks
- Electronic kits available for customized door phone
- Stainless steel front panel
- Built-in condenser microphone
- Built-in loudspeaker (2.5W)
- 1 to 4 push-to-talk buttons on the front panel
- TERRA-DS1 = one-key button
- TERRA-DS2 = two-key buttons
- TERRA-DS3 = three-key buttons
- TERRA-DS4 = four-key buttons
- Support SIP based call
- 4 contact inputs and 2 contact outputs
- PoE or 24 VDC power supply (if PoE is not available)
- Power consumption: 3.12W
- Weight: 1.77 lbs (808g)
- Dimensions (D x H x W): 1-3/8” x 8-3/5” x 4-3/10” (35 x 220 x 110 mm)

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**TERRA-FXO**

*Full Duplex IP Terminal to Telecom Gateway*

The TERRA-FXO offers full duplex communication for IP intercom and telephone, it comes with 2 sets of telephone interfaces and DTMF management for receiving calls or broadcasting.

**TERRA-FXO CHARACTERISTICS**

- SNMP (Simple Network Management Protocol) for device management on IP Networks
- PoE or 24 VDC power supply (if PoE is not available)
- 2 sets of telephone lines interface
- Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder
- Full duplex with Acoustic Echo Cancellation and Noise Reduction
- Web browser interface for device management and monitor
- Internal 80 mb storage for recoding, message storage
- RS232 or RS485 for 3rd party control
- Power LED and Status LED indicators
- Power consumption: 2.66W
- Weight: 0.95 lbs (430g)
- Dimensions (D x H x W): 4” x 1-1/4” x 4-3/10” (104 x 32 x 109 mm)

Audio Distribution over IP
The TERRA-IO is a TERRACOM device without the audio inputs & outputs. It comes with either 8 contact inputs and 8 contact outputs or 4 contact inputs and 4 contact outputs which shall be used in audio applications which require lots of analogue I/O such as industrial & home automation applications or monitoring contact closures. The RS232 and RS485 interface shall be used for IP tunneling between a PC and a device such a sensor for tele-monitoring.

**TERRA-IO CHARACTERISTICS**

- Available for two options:
  - TERRA-4IO: Contact In x 4 and Contact Out x 4
  - TERRA-8IO: Contact In x 8 and Contact Out x 8
- Web browser interface for device management and monitor
- SNMP (Simple Network Management Protocol) for device management on IP networks
- RS232 or RS485 for 3rd party control
- PoE or 24 VDC power supply (if PoE is not available)
- Power LED and Status LED
- Power consumption: 2W
- Weight: 0.92 lbs (420g)
- Dimensions (D x H x W): 4” x 1-1/4” x 4-3/10” (104 x 32 x 109 mm)

**Application of Alarm Automation**

In this example schematic, the TERRA-IO is used as an access controller to detect intruders and to trigger alarms. The temperature sensor is connected to RS232 on the TERRA-IO and will send its status to a server which allows the control centre to activate procedures when errors occur. The serial link can be used for IP tunneling between a PC and a device like a sensor for tele-monitoring. With the contact I/Os and serial link, the TERRA-IO is the ideal platform for monitoring contact closures and integration with home and office appliances.
TerraManager is an integrated control software which operates on a touch screen PC/Laptop and provides an GUI components to control ATEIS products such as IDA8, BOUTIQUE, and TERRACOM system etc.

The TerraManager can perform call-paging (Unicast/Multicast/Broadcast), IPS (Internet Paging Service), full duplex intercom, music streaming, background music routing, message playing, recording and event scheduling, device I/O monitoring, parameter presets, TTS SVE (Text To Speech - Synthetic Voice Engine), volume control (3rd party) and numerous other control functions. Meanwhile, the TerraManager can monitor all zones, list the logs/faults and display the status of the current paging sources.

**Logical Model Description**
TerraManager is an independent application program which operates on any PC/Laptop that support Java Virtual Machine (JVM).

TerraManager provides user interface switching between “Edit Mode” for function adding or parameter adjustments, and “User Mode” for operating. The system defines “zone” as an area or region which is used as an audio output. The zone can be an output from an IDA8, BOUTIQUE, Terracom or other ATEIS processor/device. A “source” means an audio source. The audio source is similar to the output, which comes from one of the inputs from an ATEIS product.

TerraManager supports a configurable control panel layout, priority and parameters preset, protocol selections and remote device management including volume, threshold and network interfacing. Highly secured system design features include a password setting, auto data storage and back up for devices/users. Multi-language system interfaces are a must, therefore included are English, Chinese, German and French etc.

**Features**
- Support TCP, UDP, SIP, RTP and IGMP protocols
- Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder
- Various zone buttons selections, including single zone, group zones or message broadcasting
- Support paging (Unicast/Multicast/Broadcast) and full-duplex intercom
- Support adjustable pre-chime/post-chime and panel layout configuration
- Monitoring device status, such as online/offline
- Configurable prerecorded audio sources for zone broadcasting and bell scheduler arrangement
- 3rd party control via UDP, TCP and Modbus protocols for real-time remote control
- Parameters preset, storage or backup for each device
- Support Text to Speech-Synthetic Voice Engine broadcasting
- Support remote device management in volume, threshold, network interface, etc.

**System Requirements**
- CPU: > 2.5 GHz, Dual Core
- Memory: > 2 GB RAM
- Hard-Disk: > 500GB
- Java Runtime: Java 8 update 60
- OS: Windows 7 SP1 / 8.1 / 10
- VGA Card
  - NVIDIA: GeForce100 series or higher
  - ATI: Radeon HD 4000 or higher
  - Intel: GMA 4500 or higher
- Others
  - Network Card
  - Network bandwidth: > 100Mbps

Audio Distribution over IP
GUI Buttons
The highly customized and flexible button can be configured as various functions including zone selection, message/music playing, background music routing, source selection, 3rd party command string, device logic I/O control and monitor. The zone button displays the status of the fault and evacuation, multiple buttons on one page represents a global view of an area such as a building or a terminal of the airport. If a zone has been occupying a source, it’s name will be displayed on the graphic of the button even the user can identify if it is a higher priority source or lower priority source of its color. Furthermore, the text and color of device I/O button LEDs can be customized.

Paging (Unicast/Multicast/Broadcast)
TerraManager performs live paging and recording functions in the control panel page. Users can easily select the desired paging locations with a mouse click. With the system, background music playing and pre-chime/postchime functions are supported when preforming unicast/multicast paging or broadcasting over LAN/WAN.

Intercom
Full duplex intercom can be achieved among TERRACOM devices over LAN/WAN. For larger applications, zone buttons provide quick access for users in selecting desired locations.

Device I/O Monitoring & Control
The system enables users to monitor or manage device status with a mouse click. When having considerable quantities of devices, the TerraManager displays all the device information on a table view such as online/offline, line-occupied/line-available and parameter adjustments, as well as providing central control including preset scheduler, group paging, real-time 3rd party control capabilities for users.

Preset Scheduler
Advanced scheduler management in the system enables users to run multiple sources in different timing/zones without interrupting each other. Month, week, day, hour, repeat times and starting time are adjustable depending on users’ needs.

Background Music and Audio Routing
The TerraManager allows you to perform message/background music routing to other channels/devices with a few mouse clicks. The input sources can either be music/radio that come from other devices, or pre-recorded messages based on the users requirements. Routing offers users with real-time notification ability or alerts for certain events/situations.

The easy-to-use and configure TerraManager software is a flexible Windows-based GUI platform that can configure as a matrix programmable and customizable soft buttons on the screen – or dynamic buttons can be actual graphic images of imported map layout of the physical building, campus, or geographical area – overlayed on image to coincide with the actual page/intercom zones for easy identification and activation. Virtually unlimited panels or screens can be created and navigation is via drop-down menu, “Quick-Link” function buttons and/or programmable Panel Link buttons that can be placed and customized anywhere within the design.
The TerraServer combines the integrated software and operation management together. There are two parts of the TerraServer. One is the back-end service (TerraServer Service), and the other is the front-end user interface (TerraServer Client), allowing multiple PCs/users to log on remotely. TerraServer also applies in Public Address & Evacuation purposes which rest on a TCP/IP networking architecture. The TerraServer provides streaming media, IPS (Internet Paging Service) paging, pre-arrange the audio files, remote store for chime, web page banners, themes, fonts and USB messages etc., play prerecorded messages, scheduler, priority announcements, multiple devices management & monitoring or routing music through the network from a central based server and/or operator unit.

**Features**
- Client-server model
- Up to 99 priority levels
- Multiple devices management & monitoring
- Scheduler for background music
- Ethernet, TCP/IP and VLAN compliant
- Message recording, store and play simultaneously
- Pre-arrange the audio sources and apply them into the TERRACOM devices
- Remote Store (chime, messages, web banner etc.)
- Hardware supported:
  - PPM-IT5
  - TERRACOM
  - IDA8
  - DIVA

**Configuration & User Interface**
The TerraServer can be installed on multiple computers on the client side at the same time, associating with microphone paging desks, IP matrix and IP terminals. This PC server is also used for system configuration settings and logging which can be linked to a back-up server system.

**In-Store**
The In-Store function enables users to make prearrangements for the audio sources and to apply the sources to all TERRACOM devices. The sources include music files, radio channels, pre-recorded massages. Its date and time can be configured and be carried out in a few easy steps via TerraServer. This application can be used in particular with chain stores, as it is a time saving and convenient way to manage a large number of devices.

**Scheduler**
In some applications such as schools, you will need to schedule the announcement and music play list. TerraServer proposes a scheduler programming with different events for daily, weekly, monthly or play task.

**Remote Store**
The TerraServer can handle mass audio sources of TERRACOM devices in a time-saving control interface. The Remote Store including the file storage (both image and audio sources) and also storing into multiple TERRACOM devices at the same time. Additionally, you can also delete the chime storage, web page banners storage, USB messages storage, PPM IT-5 theme/fonts storage and radio storage with only a few simple steps required.

**System Requirements**
- For Service
  - CPU: > 2.5 GHz, Dual Core
  - Memory: > 4 GB
  - Disk: > 100 GB
  - OS: CentOS 6.2, 32-bit
  - Java Virtual Machine: 1.7.0_22 or higher
- For Client
  - CPU: > 2 GHz, Dual Core
  - Memory: > 2 GB
  - OS: Windows XP SP3 / 7 SP1 / 8. All in 32-bit
  - Java Virtual Machine: 1.7.0_22 or higher
  - Hardware Acceleration Supported

**Specifications for Video Card**
- **NVIDIA**
  - Mobile GPUs: GeForce 8M/100M/NVS 2100M/Mobility Quadro
  - FX 300M or higher
  - Desktop GPUs: GeForce 8/100 series or higher
  - Workstation GPUs: Quadro FX 300 series or higher
- **ATI**
  - Mobile GPUs: Mobility Radeon HD 3000/4000/5000 series
  - Desktop GPUs: Radeon HD 2400/3000/4000/5000/6000 series
- **Intel**
  - Mobile GPUs: GMA 4500MHD/GMA HD
  - Desktop GPUs: GMA 4500/GMA HD

**Background Music**
Thanks to priority management, background music playing and announcement will make seamless cooperation without disturbing each other. The background music can be played from either a play list or dedicated hardware inputs such as a CD player, for music playing and priority announcements.
PA/VA Configuration

TERRASERVER
Per-recorded messages
Music library

TERRAManager
Touch Screen

TERRA-K
Microphone
RAC
Speaker

PPM-ITS
CD Player

TERRA-AMP

TERRA-EX
SPA-2120

TERRA-AMP

TERRA-FXO
PBX System

TERRA-DS

TERRA-SAP
School Sound System

PA/VA
Networkable PA/VA System

Redundant A/B
Speaker Line

Zone 1(A+B)
Zone 2(A+B)

Zone 7(A+B)
Zone 8(A+B)

Amplifier

Computers with TerraServer Software

TERRASERVER
Backup

TERRAManager
01

TERRA-K

TERRA-K

Redundant Server Setup

IP Network over Ethernet & Internet (128K bits per stream)
**PPM-IT5 / RAC5 / RAC8 / URC-200**

**IP PAGING CONSOLE, REMOTE CONTROLLER**

**RAC5 / RAC8**

5/8 Steps Level and Source Selector

The RAC5/RAC8 can be used to adjust audio level or switch audio channel remotely. The 5/8 steps knobs on RAC5/RAC8 can be programmed via TERRACOM web browser. The RAC5/8 is available for US and EU type, and is powered by 24VDC.

**Mechanical**

- **Weight**: 0.22 lbs (100g)
- **Dimension (W x L x H)**: 2” x 3-3/10” x 3-3/10” (52 x 84 x 84mm)

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**URC-200**

Ethernet Universal Programmable Remote Controller

The URC-200 is a programmable remote controller (TCP/IP) which is powered over IP and can be easily integrated with room control such as light turn on/off, curtain, audio control to create smart homes and offices.

The full colour display is easy to read and has a low-power consumption, it features a scalable knob, 2 buttons for ‘enter’ and ‘back’.

**Mechanical**

- **Weight**: 0.77 lbs (350g)
- **Dimension (W x L x H)**: 5-1/2” x 4-1/4” x 1-3/10” (140 x 108 x 34mm)

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**PPM-IT5**

Colour Touch Screen Secure Paging Console

The PPM-IT5 console comes with a 5” TFT touch screen interface which allows for intercom with the entire TERRACOM range, as well as call-paging, messages broadcasting and DSP matrix parameter control. Its back-lit touch screen is designed for simple and user-friendly operation. Thanks to powerful echo cancellation, the PPM-IT5 delivers clear sound for full duplex communication. The 3 hardware keys can be freely assigned within the system control software. The PPM-IT5 is a versatile device that fits well in a commercial shopping centre where paging over IP networking brings flexibility and easy access.

**Programmable Functions**

All the paging parameters needed for site operation can be programmed within the PPM-IT5, such as assigning zones to the various buttons, naming of zones, groups of zones, messages triggering or event control. There are a total of 168 keys over 14 pages for zone or group of zones selections. The pre-recorded messages and chime can be stored within the PPM-IT5 console. A built-in browser interface allows simplified control and program mapping of the PPM-IT5. The device can also be used to control other 3rd party devices over IP.

**PPM-IT5 CHARACTERISTICS**

- **5” TFT LCD full colour touch panel**
- **Zone selection, paging and control**
- **Ethernet interface including PoE (Power Over Ethernet)**
- **Half or full duplex intercom with AEC (Acoustic Echo Cancellation) and NR (Noise Reduction)**
- **High quality gooseneck microphone and built-in loudspeaker (SW)**
- **Web browser interface for management and monitor**
- **Support G.711, G.722, G.726, G.727, G.729, MP3 audio codec and AAC+ decoder**
- **PoE or 24 VDC power supply (if PoE is not available)**
- **Automatic gain control on microphone input**
- **SNMP (Simple Network Management Protocol) for device management on IP networks**
- **3 user-defined hardware keys on front panel (Power/Fault/EVAC)**
- **RJ9 for telephone headset and 2 mini-jack plugs for headset**
- **Dimensions (D x H x W): 9-7/8” x 3-1/5” x 5-1/2” (250 x 80 x 140 mm)**
- **Microphone flex length: 11” (280 mm)**
- **Weight**: 2.4 lbs (1098g)
- **Colour**: RAL7016

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Audio Distribution over IP 15
The live announcements will be broadcast with a dedicated PPM-ITS IP paging console, or microphone plugged into the TERRACOM device, such as TERRA-IEX, TERRA-AMP or TERRA-FDX. The selection of the announcement destination is done directly on the touch screen of PPM-ITS console, or on a PC with a TerraServer client management software. The background music is stored on the TerraServer, or alternatively on another source such as a CD player connected to a TERRA-EX.

For the output, the TERRA-EX shall be used as a terminal, or use the TERRA-EXA if you need amplified outputs. Additionally, you could use the outputs of the TERRA-IEX & TERRA-FDX if you need outputs at the same place as the inputs. The priority management is controlled by the TerraServer. The priority management is controlled by the TERRACOM devices themselves, if you are not using the TerraServer solution.

The TERRACOM range interfaces with the ATEIS Public Address & Voice Alarm systems such as the IDA8, offering a powerful solution for transport applications such as subways and tramways. In each station, the IP matrix of the IDA8 would handle the streaming. The TERRA-EX can also deliver a decoded audio stream, plus a serial link (RS233 or RS485) to control another standard matrix. The TERRA-FXO is capable of linking to a traditional telephone system with the IP system.
APPLICATIONS

INTERCOM-BACKGROUND MUSIC

Nowadays, there is no real limitations between intercom & PA BGM. You can decide whether to use TerraServer management software depending on the complexity of the system needs. The background music shall come from a hardware device like an audio processor such as a UAPG2, then connected to a TERRA-IEX. The priority management is done by the TERRACOM devices themselves.

The TERRACOM software provides pre-recorded messages and background music playing over a standard Internet connection in advance to shops, shopping malls or any desired locations around the world. Its messages and audio sources can be programmed before hand and be stored in any Terra devices with a USB port. With the TERRACOM architecture, a user-friendly interface requires fewer people in operation which makes it a cost effective solution to customers.

Promotion Message Management
Users are encouraged to upload the desired messages or music on TerraServer, and have them scheduled in the desired sequences under priority setting, playing dates, repeating times, etc.

Later, users can upload the desired promotion schedules to the selected TERRACOM devices in any targeted locations worldwide over the internet, and store the setting in advance on any TERRACOM device which has a USB port. The pre-stored USB lists will be broadcast according to the schedules in certain areas. Users are welcome to browse through or refresh all device status to get the firsthand information.

Uploading status is visible to users under history tab, as well as preset schedule modifications that can be achieved via the TerraServer. This then provides customers the ability to handle worldwide advertising management by overcoming the geographical restrictions and time zones concerns.

BACKGROUND MUSIC IN RETAIL SHOPS

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<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERRA-EX</td>
<td>IP Audio Decoder (stereo line-OUT x 1 or mono x 2, input contact x 3 &amp; relay output contact (NO/NC) x 1)</td>
</tr>
<tr>
<td>TERRA-EX2</td>
<td>IP Audio Decoder (including all interfaces on TERRA-EX, plus RS232 x 1)</td>
</tr>
<tr>
<td>TERRA-EX4</td>
<td>IP Audio Decoder (including all interfaces on TERRA-EX, plus RS485 x 1)</td>
</tr>
<tr>
<td>TERRA-EXU</td>
<td>IP Audio Decoder (including all interfaces on TERRA-EX, plus USB2.0 x 1)</td>
</tr>
<tr>
<td>TERRA-EXU2</td>
<td>IP Audio Decoder (including all interfaces on TERRA-EX, plus RS232 x 1, USB2.0 x 1)</td>
</tr>
<tr>
<td>TERRA-EXA</td>
<td>2 x 20W (8 ohm) Amplified IP Audio Decoder (stereo OUT x 1 or mono x 2, input contact x 3, relay output contact (NO/NC) x 1)</td>
</tr>
<tr>
<td>TERRA-EXU</td>
<td>IP Audio Decoder (including all interfaces on TERRA-EX, plus USB2.0 x 1)</td>
</tr>
<tr>
<td>TERRA-EXU4</td>
<td>IP Audio Decoder (including all interfaces on TERRA-EX, plus RS485 x 1)</td>
</tr>
<tr>
<td>TERRA-EX</td>
<td>2 x 15W (8 ohm) Amplified IP Terminal (3.5 mm stereo in x 1, mic/line x 1, stereo OUT x 1 or mono x 2, input contact x 3, relay output contact x 2, RS232 x 1)</td>
</tr>
<tr>
<td>TERRA-EXU</td>
<td>IP Audio Encoder/Decoder (including all interfaces on TERRA-EX, plus USB2.0 x 1)</td>
</tr>
<tr>
<td>TERRA-EXU4</td>
<td>IP Audio Encoder/Decoder (including all interfaces on TERRA-EX except change the RS232 x 1 to RS485 x 1, plus USB2.0 x 1)</td>
</tr>
<tr>
<td>TERRA-AMP</td>
<td>2 x 15W (8 ohm) Amplified IP Terminal (3.5 mm stereo in x 1, mic/line x 1, stereo OUT x 1 or mono x 2, stereo line-OUT x 1 or mono x 2, input contact x 3, relay output contact x 2, RS485 x 1)</td>
</tr>
<tr>
<td>TERRA-AMP4</td>
<td>2 x 15W (8 ohm) Amplified IP Terminal (3.5 mm stereo in x 1, mic/line x 1, stereo OUT x 1 or mono x 2, stereo line-OUT x 1 or mono x 2, input contact x 3, relay output contact x 2, RS485 x 1)</td>
</tr>
<tr>
<td>TERRA-K</td>
<td>IP Based Intercom Microphone</td>
</tr>
<tr>
<td>TERRA-FDX</td>
<td>Full Duplex IP Terminal (mic/line x 2, stereo line-OUT x 1 or mono x 2, input contact x 3, relay output contact x 2, USB2.0 x 1, RS232 x 1)</td>
</tr>
<tr>
<td>TERRA-FDX4</td>
<td>Full Duplex IP Terminal (mic/line x 2, stereo line-OUT x 1 or mono x 2, input contact x 3, relay output contact x 2, USB2.0 x 1, RS485 x 1)</td>
</tr>
<tr>
<td>TERRA-DS1</td>
<td>Flush-Mount IP Door Station Intercom Unit (mic/line-IN x 1, speaker-OUT x 1 &amp; button x 1, button ext. port x 1, relay output contact x 2)</td>
</tr>
<tr>
<td>TERRA-DS2</td>
<td>Flush-Mount IP Door Station Intercom Unit (mic/line-IN x 1, speaker-OUT x 1, button x 2, button ext. port x 1, relay output contact x 2)</td>
</tr>
<tr>
<td>TERRA-DS3</td>
<td>Flush-Mount IP Door Station Intercom Unit (mic/line-IN x 1, speaker-OUT x 1, button x 3, button ext. port x 1, relay output contact x 2)</td>
</tr>
<tr>
<td>TERRA-DS4</td>
<td>Flush-Mount IP Door Station Intercom Unit (mic/line-IN x 1, speaker-OUT x 1, button x 4, button ext. port x 1, relay output contact x 2)</td>
</tr>
<tr>
<td>TERRA-FXO</td>
<td>Full Duplex IP Terminal to Telecom Gateway (analog phone interface x 2, RS232 x 1)</td>
</tr>
<tr>
<td>TERRA-FXO4</td>
<td>Full Duplex IP Terminal to Telecom Gateway (analog phone interface x 2, RS485 x 1)</td>
</tr>
<tr>
<td>TERRA-4IO</td>
<td>IP Contact Input &amp; Output Terminal (contact IN x 4, relay contact OUT x 4, RS232 x 1)</td>
</tr>
<tr>
<td>TERRA-8IO</td>
<td>IP Contact Input &amp; Output Terminal (contact IN x 8, relay contact OUT x 8, RS232 x 1)</td>
</tr>
<tr>
<td>TERRA-4IO4</td>
<td>IP Contact Input &amp; Output Terminal (contact IN x 4, relay contact OUT x 4, RS485 x 1)</td>
</tr>
<tr>
<td>TERRA-8IO8</td>
<td>IP Contact Input &amp; Output Terminal (contact IN x 8, relay contact OUT x 8, RS485 x 1)</td>
</tr>
<tr>
<td>PPM-ITS</td>
<td>Colour Touch Screen Secure Paging Console</td>
</tr>
</tbody>
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