

## SYSTEM OVERVIEW

The School Sound System - a full audio over IP-based classroom solution including teaching, paging, messaging, class change & scheduling, hands-free intercom & emergency communication, providing a safe and secure environment for students and staff. The system incorporates Terra-SAP amp processor, a range of IP loudspeakers and PCM201W pendant microphone which can be used for both intercom and classroom speech monitoring applications.

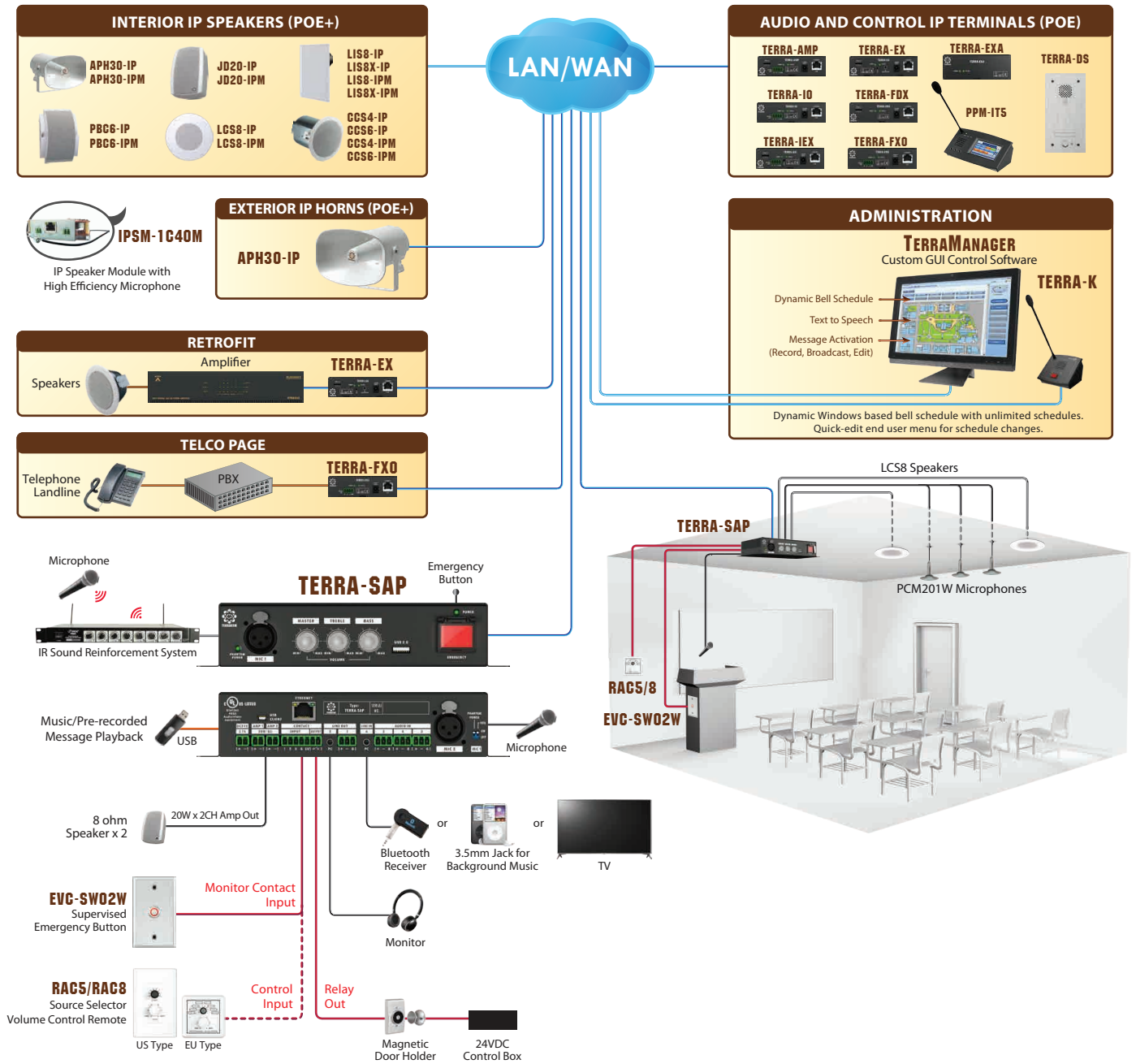
The Terra-SAP networkable processor is equipped with 20W x 2CH amplifier and also acts as an audio hub for local connected devices such as mic/line inputs, USB interface for message/music storage and playback, and the connection with audio-visual devices such as projectors as well as logic input/outputs. Local volume control and audio input selection can be managed using RAC5 or RAC8 source selector & volume control remote. In case of an emergency, press the supervised EVAC button on Terra-SAP in order to alert the central monitoring station to respond to an incident.

The TerraManager Graphical User Interface (GUI) software brings all together by facilitating full control, paging, intercom, messaging, recording, streaming, audio routing, device I/O monitoring, and bell scheduling with the greatest ease. Communication between administrative staff and classrooms can be quickly established whether it is a district wide school intercom, campus paging, messaging/BGM distribution on multiple stores, and so on.

## FEATURES

- Audio over IP classroom solution including paging, audio streaming, messaging, bell scheduling, hands-free intercom, voice evacuation, etc.
- Control, monitor and management via a dedicated web browser
- Digital Signal Processing-PEQ, AEC, AGC, noise reduction, Hi/low Pass, VoIP etc.
- CAT5/CAT6 connection for audio and control
- 20W x 2CH (Class-D amp) or bridged to 40W x 1CH amplification
- 2 XLR microphone inputs with master volume control and bass/tremble sound level adjustment
- Support phantom power/voice activated (VOX) on the 2 XLR microphone inputs and 3 balanced mic inputs (configured via web browser)
- USB 2.0 interface for music/pre-recorded message playback
- Mini-USB to connect to PC/Laptop for web conferencing

## SYSTEM STRUCTURE



## TECHNICAL SPECIFICATIONS

### CONTROLS AND INDICATORS

- Front Panel
  - XLR microphone input (MIC 1)
  - Master volume knob
  - Two knobs for tremble and bass adjustment
  - 1 USB 2.0 interface for music/pre-recorded message playback
  - 1 monitored emergency button to alert central monitoring station
  - Phantom power LED and power LED
- Rear Panel
  - XLR microphone input (MIC 2)
  - 48VDC phantom power/voice activated (VOX) DIP switch (for MIC 1 only)
  - 20W x 2CH (Class-D amp) or bridged to 40W x 1CH amplification on 8 ohm load
  - 1 stereo line input for background music
  - 1 stereo line output for monitoring
  - 1 audio line output
  - 3 balanced mic inputs used for student to intercom with administration
  - 3 monitored control inputs for hidden emergency button or programmable source selector and volume control (RAC5/RAC8)
  - 1 relay control output
  - 1 Ethernet port
  - 1 Mini-USB interface to connect to PC/Laptop for web conferencing
  - 24 VDC power input (2.7A)

### ELECTRICAL

- DC power input: 21 VDC ~ 26 VDC
- Max. power consumption: 60W

### AUDIO CHARACTERISTICS (GENERAL)

- A/D-D/A bit resolution: 24 bit
- Sampling rate: 48 kHz
- Frequency response: 20 Hz ~ 20 kHz ( $\pm 1.5$  dB) @ 0 dBu
- SNR: > 92 dB

### AUDIO CHARACTERISTICS (MIC)

- EIN: < -110 dBu @ 3 dB gain
- Input impedance: 10k ohm
- Input gain range (MIC-1&2): 3 ~ 21 dBu (adjustable)
- Maximum input level (mic): -3 dBu @ 3dB gain
- CMRR: < -100 dB @ 3dB gain, -3dBu (1 kHz) in
- THD+N: < 0.005 % @ 3dB gain, -3dBu (1 kHz) in
- Crosstalk: > 70 dB @ 3dB gain, -3dBu (10 kHz) in
- Phantom power: 48 VDC, 7 mA

### AUDIO CHARACTERISTICS (EURO-BLOCK LINE IN & LINE OUT)

- Input gain range: 12/24/36/48 step (fixed)
- Input impedance: 10k ohm
- Output impedance (balanced): 20 ohm
- Maximum input level (line in): -12 dBu @ 12 dB gain
- Maximum output level (line out): 0 dBu @ 0 dB gain

### AUDIO CHARACTERISTICS (PHONE JACK LINE IN & LINE OUT)

- Input impedance: 5k ohm
- Output impedance (balanced): 6 ohm
- Maximum input level (line in): -3 dBu @ 0dB gain
- Maximum output level (line out): 0 dBu @ 0dB gain

### NETWORK

- Maximum distance: 100m (RJ45 connector, STP CAT5/6)

### RELAY OUTPUTS

- Maximum voltage: 100 VDC
- Maximum current: 0.5A

### CONTROL INPUTS

- Contact mode
  - Non-isolated analogue interfaces with internal pull-up to +3.3V by 6.2k ohm
  - Monitored analogue contact thresholds
    - Faulty-open circuit: > 2.2 VDC
    - Inactive voltage: 1.5 VDC ~ 2.2 VDC
    - Active voltage: 1.5 VDC ~ 0.8 VDC
    - Faulty-short circuit: < 0.8 VDC

### MECHANICAL

- Dimensions (W x H x D): 215 x 45 x 130 mm (9 x 2 x 5.1 inch)
- Weight: 0.5 kg (1.1 lb)
- Colour: RAL 7016

### ENVIRONMENTAL

- Operating temperature: -5 °C ~ +55 °C (+ 23 °F ~ +131 °F)
- Storage temperature: -40 °C ~ +70 °C (-40 °F ~ +158 °F)
- Relative humidity: 20% to 95%
- Air pressure: 600 to 1100 hPa
- Heat dissipation: 68 BTU/hr

### ORDERING INFORMATION

- TERRA-SAP: School Sound Amp Processor, 20W x 2