WAVES CA
COMMERCIAL AUDIO

WAVES CA SOLUTION GUIDE:
Public Facility Center Installation

This solution guide describes a practical implementation of the Waves CA DSP Engine in a public facility to improve microphone speech intelligibility and enhance audio playback quality

SOLUTION BENEFITS INCLUDE

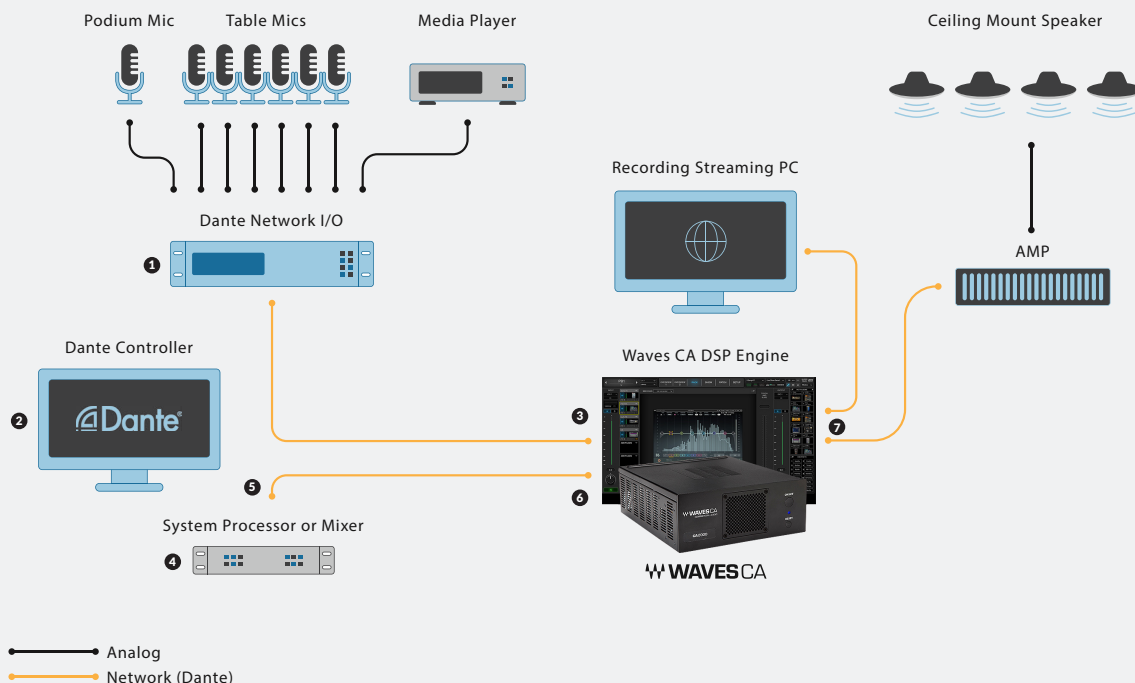Automatic microphone feedback suppression

Optimized audio feeds for archive recording and online streaming

Improve speech intelligibility without loss of tonality

SYSTEM REQUIREMENTS

- 6 table microphones (one as leader), 1 podium microphone
- Media playback system (stereo audio)
- Room speakers (ceiling mount)
- Audio recording for archives and online streamed meetings

Podium Mic   Table Mics   Media Player   Ceiling Mount Speaker

Recording Streaming PC

Dante Network I/O

❶

Dante Controller

❷ Dante

AMP

Waves CA DSP Engine

❸

❼

❺

❻

System Processor or Mixer

❹

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— Analog
— Network (Dante)

SOLUTION OVERVIEW

Note – numbers below correspond to the numbers on the system diagram.

1. All mics and line inputs use a standard I/O-to-Dante interface box to convert analog inputs to Dante network.

2. Each input is routed using the Dante Controller to an individual Rack assignment on the Waves CA DSP engine.

3. Waves CA DSP engine is configured with the following presets: "Speech Mics w-Dugan" preset for table mics (Racks 1-6), a "Q&A Mic" for podium mic (Rack 7), and "Playback Group" for stereo music player (Rack 8 (L/R))

4. The processed audio from the Waves CA DSP engine is routed to a Dante-enabled audio mixer. The mixer is set for appropriate source levels for the room and audio recording/streaming output.

5. Outputs from the mixer are routed using the Dante Controller to the Waves CA engine for final processing.

6. Waves CA DSP engine is configured with additional presets for both main outs – the main mixer outputs in the room, and another for final processing of the mixer for audio recording/streaming (Rack 10).

7. The final processed audio from the Waves CA DSP engine is routed to the Dante-enabled PA system and a computer used for the archive recording and/or streaming.

THE WAVES CA DIFFERENCE

The Waves CA DSP Engine integrates directly in the Dante network to dramatically improve speech clarity and audio playback quality for city government center installation. The Waves CA presets are used to process the audio streams based on the input type: Speech Mic, Q&A Mic and Playback Group.

The presets used on the microphone channels are preconfigured to support common mic types and usage in public meeting rooms and government centers. The presets treat and suppress typical challenges with mics including feedback, pops & thumps, hissing and background noise.

Each microphone channel input is processed independently in order to provide the best results. This also gives the system integrator complete control and flexibility to optimize the settings for different mics that may be used in the facility.

The table mics are also assigned to the Dugan automixing group. This feature provides automatic and constant audio level control of the microphones used at the conference table, a process that delivers the best speaking quality without coloring or compressing the individual speaker's voices.

In addition to the microphone processing, the Playback Group preset is used to provide consistent volume level and sound for the media player, which could be a CD playback unit, MP3 player, or audio output from a video system. The preset provides automatic levelling of the source audio without over-compressing, such that the resulting audio stream does not exceed the desired loudness while remaining consistent across different source media.

The Waves CA DSP Engine also includes presets to fine-tune the audio outputs that are sent to the room PA and computer system(s) used for meeting archive recording or online streaming. These presets provide a baseline configuration for integrators to customize the presets for the exact needs of the installation.

All Waves CA presets can be used "out-of-the-box" to get superior results, however they can also be easily adjusted and stored for optimal performance in a specific installation.

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