YAMAHA

Preliminary

Acoustic Echo Canceller Card for Yamaha DME24N/64N

MY4-AEC

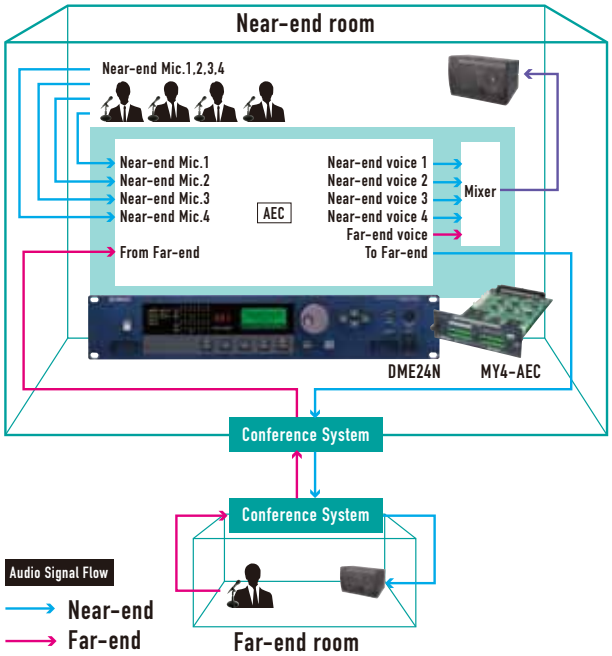
High Performance Conference System Solution with Yamaha AEC technology*

- 4ch Acoustic Echo Canceller
- Maximum echo time delay (Tail length) 400ms
- High definition sound (frequency range 20Hz-20kHz)
- 4ch far-end input for multipoint meeting
- 4ch Noise Reduction
- 4ch Feedback Suppressor
- Additional 4ch AES/EBU I/O with SRC

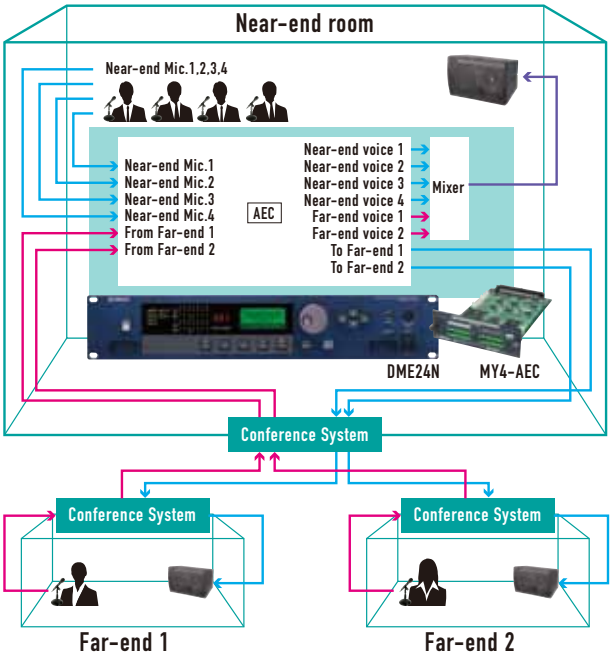
The MY4-AEC card provides 4 channels of acoustic echo cancellation for remote conferencing using Yamaha's DME24N and DME64N digital mixing engines. As well as the echo cancellation function, the MY4-AEC card also offers a noise reduction function which removes steady-state background noise such as air conditioning and projector fans etc. The card also has a feedback suppressor with 42 notch filters per channel to aid the suppression of feedback in PA systems. Any of the 8 internal mic/line inputs of the DME24N can be routed to the MY4-AEC. In the case of the DME64N, any of the MY card slots or CASCADE bus can route to the MY4-AEC. The AES/EBU inputs and outputs (with sample rate conversion) can route to either the MY4-AEC or be used independently in a DME design.

*For details about Yamaha AEC technology, please refer to **www.yamahaproaudio.com**

System Example 1 **Single point**



System Example 2 **Multipoint**



New MY4-AEC Component for DME Designer

With DME designer, you can easily optimize the performance of the Acoustic Echo Canceller parameters.

Acoustic Echo Canceller

The balance between echo reduction level and sound quality can be easily evaluated and maximised during installation.
Echo suppression is maximized by setting the Distance parameter to reflect the physical distance between microphone and loudspeaker.

Matrix Mixer

Multi-point conference systems are easily incorporated using the Matrix Mixer which allows up to 4 far-end inputs for each channel of AEC.

Feedback Suppressor

There are 42 notch filter bands whose width and depth parameters can be adjusted for best gain before feedback depending on the room acoustics.
Each band will analyze suppression point automatically.

Noise Reduction

Any constant and disturbing fan or HVAC noise can be attenuated using the Noise Reduction feature.

*Appearance may differ in final version

Note:DME firmware v4.0 or later is required to operate the DME Designer v4.0. However, due to differences in hardware specification, firmware v3.5x or earlier cannot be upgraded to v4.0. If you need to upgrade your DME from v3.5x or earlier to v4.0 or later, please contact your Yamaha dealer.

General Specifications

Compatible Hosts	DME24N, DME64N V4.0 or later software is required
Sampling Frequency	44.1kHz, 48kHz, 88.2kHz, 96kHz (-10%, +6%)

Digital Input/Output Characteristics

Terminal	Format	Audio Data Length	Level	Connector
AES/EBU In 1/2, 3/4	AES/EBU	24bit	RS422	Euroblock
AES/EBU Out 1/2, 3/4	AES/EBU (Professional use)	24bit	RS422	Euroblock

Audio

Signal Processing	Adaptive Echo Canceller, Feedback Suppressor
	Noise Reduction, Matrix Mixer
Frequency Range	20Hz to 20kHz
Arrival Time of Direct Sound	120ms maximum
Echo Time Delay	400ms maximum
Echo Cancelling Capacity	60dB maximum
Noise Reduction	17dB maximum

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Printed in Japan