

DigtaConferenceStation

Instructions

The DigtaConferenceStation uses an array of eight microphones and beamforming technology to reduce sound interference. This unique technology locates a speaker and automatically (and electronically) steers a listening beam, which is like an acoustic searchlight, in the direction of the person who is talking. This process creates spatial filtering; sounds from other parts of the room are diminished. In addition, the Digta ConferenceStation samples constant background noise (fans and so forth) and subtracts it. The dual-mode noise reduction, coupled with increased sensitivity because the DigtaConferenceStation's eight microphone elements are used continuously and constructively, gives the DigtaConferenceStation outstanding range and sound quality.

Generell Setup

Connect the power and audio cables to their appropriate jacks on the back of the DigtaConferenceStation (see Figure 1). Plug the power supply into a standard wall outlet. The adapter supplies 6V unregulated DC power to the microphone. Connect the audio cable to the MIC. input of the Digta 4015 DS. The DigtaConference Station has MIC Level Output, and it will be too soft if fed directly into a line level input. Set the microphone sensitivity of the Digta 4015 DS to "conference".

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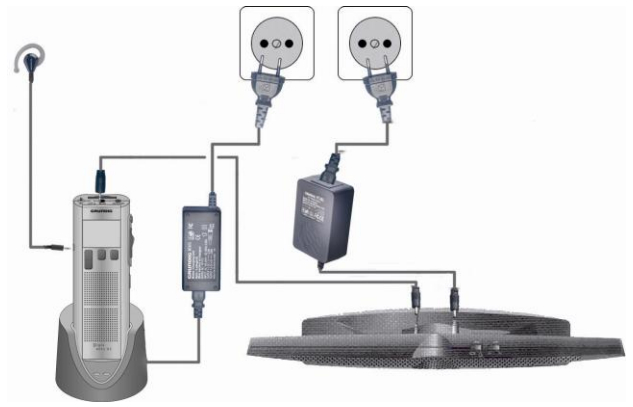


Figure 1 – Cable connections of DigtaConferenceStation

Positioning

Aim the ConferenceStation in the direction of the desired people talking. When properly positioned, the talker will be able to see all five green position indicators on the front side of the directional microphone. The DigtaConference Station can be tilted up or down. Please do not position the DigtaConferenceStation to the ceiling of the room but to the conference participants. Always insure it is secured so it doesn't fall off.

Mode Switches

The DigtaConferenceStation has four operational modes, selected by two switches: the Field switch and the Location Dependent Squelch (LDS) switch (see Figure 2).

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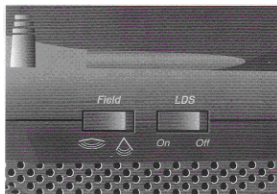


Figure 2 – Field and LDS Switch

The Field switch determines the scanning range of the station. In the wide-angle mode, the DigtaConference Station will scan ± 90 degrees. This is useful if the user desires to listen to an entire room. In the narrow-angle mode, the station will scan ± 45 degrees. The narrower scanning range helps to reduce the impact of undesired talkers and noise sources outside the region of interest.

When the LDS switch is set to On, the DigtaConference Station will turn off during periods of silence or when the sound source is located outside the station's reception region as determined by the Field switch. The station turns on again very quickly when the user resumes talking.

When used together with the narrow field of view, the LDS can be employed to ignore unwanted sounds. Once the talker pauses and the DigtaConferenceStation turns off, the station will only turn on again when sounds come from within the ± 45 degree listening area (see Figure 3).

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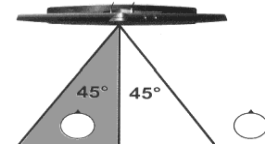


Figure 3 – Listening area

Examples for the positioning in conference rooms

There are several ways to configure the DigtaConferenceStation for use in conference rooms. Remember that the DigtaConferenceStation is sensitive and can be placed far from the meeting participants. It is often necessary to do so to cover all the participants in the $\pm 45^\circ$ field of view. When the DigtaConferenceStation is 3 m (10 feet) away from participants, they can be disbursed across a 6 m (20 foot) base of the field of view.

It is always better to have the microphone as close to the participants as possible, so putting the DigtaConferenceStation on the conference table is best. Although the DigtaConferenceStation can pick up sound from the front and the rear, it is more sensitive to sound in front. It is best to place the DigtaConferenceStation toward one end of the conference table.

If the DigtaConferenceStation is set to use LDS and a $\pm 45^\circ$ field of view, placement is also determined by the need to have the active participants within the forward and rear field of view. This might mean that the DigtaConferenceStation will have to be placed farther away, allowing the field of view to cover more area.

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Placing the DigtaConferenceStation at the free end of a table

Placing the Voice Tracker and speaker at the free end of a conference table keeps it out of the way for participants and the +/- 45° field of view can cover most of the table.

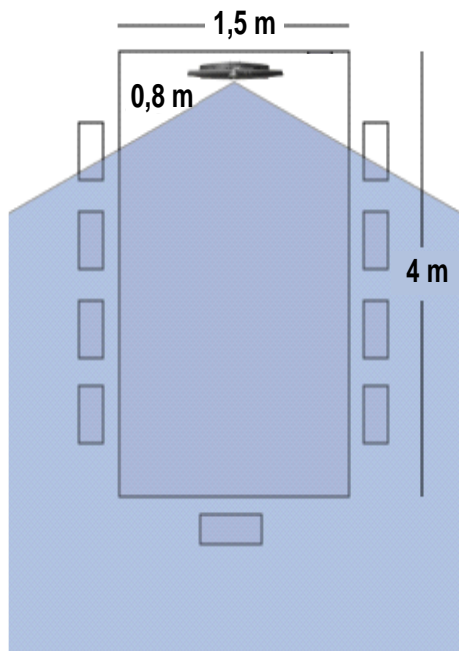


Figure 4 – This figure shows how to position the DigtaConferenceStation at the free end of a table.

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Placing the DigtaConferenceStation at the head of a conference room table

The DigtaConferenceStation can be placed on a conference room table, which lets it pick up sound from the front as well as the rear because both areas are within the +/- 45° field of view, as shown in the following figure. However, be aware that the people seated in seats 1 and 2 are outside the +/- 45° field of view in this setup.

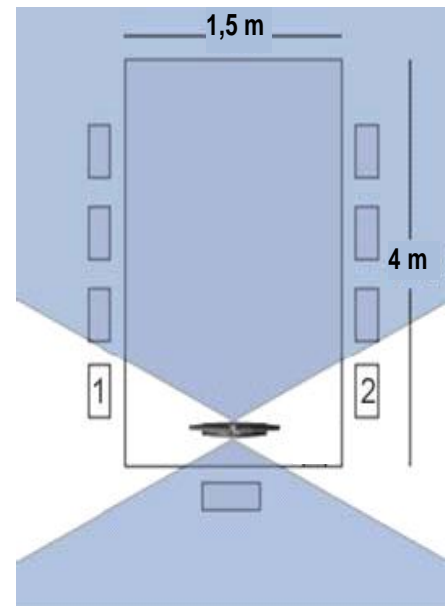


Figure 5 – This figure shows how the DigtaConferenceStation can be set up at the head of a conference room table. Participants in seats 1 and 2 cannot be recorded or can be recorded only very soft.

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DigtaConferenceStation placed along the front wall

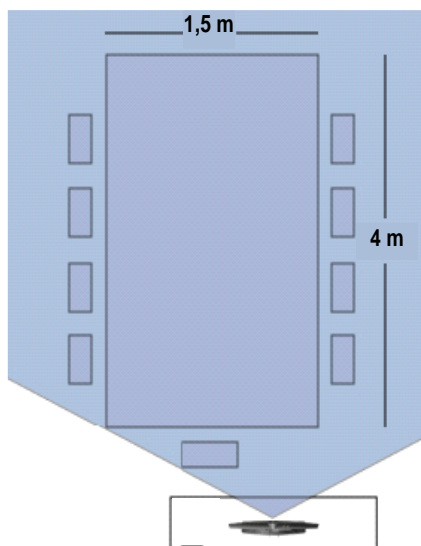


Figure 6 – This figure shows how the DigtaConferenceStation can be set up by the front conference room wall. Using this setup ensures that all participants are within the field of view.

Position Lights

The green position lights provide feedback on the operation of the station. They indicate where the station's listening beam is pointing. When the station recognizes a relevant sound, one of the five lights will be illuminated. The individual lights correspond to the range of potential sound source locations.

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For example, if a talker is directly in front of the station, the middle light will be illuminated. If the talker is to one side, a light on that side will turn on. If the talker moves across the field of view of the station, the lights will track the talker's motion. When two users are sharing the station, the light will indicate the direction of the active talker. In the narrow scanning range mode, only three lights are active. When there is no active talker, the lights may flicker as the DigtaConferenceStation searches for a talker.

When the LDS is on, the indicator light will be illuminated only when there is sound activity within the designated listening area. With the LDS off, a light will remain on continuously through both speech and silence periods. In the event that no lights are on and the LDS mode is off, it is possible that the array is not plugged in or is working improperly.

The recording of conferences has to be done with switched off LDS in wide scanning mode, to enable the recording of soft talking speakers as well.

GRUNDIG
Business Systems

Grundig Business Systems GmbH
Weiherstr. 10
95448 Bayreuth
Germany
www.grundig-gbs.com

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