

Voice Tracker™ II INSTRUCTIONS

Included Components

The Voice Tracker II comes with a USB cable (primary audio connection), one 6 ft. audio cable and a ceiling mount.

Setup for USB Audio Operation

For simple microphone operation, just connect the Voice Tracker II array microphone to a computer using the USB cable. Power for the Voice Tracker II is provided from the computer through the USB connection. Audio output is through the USB connection. Be sure to select the Voice Tracker II as the default recording input in the computer. Adjust the audio output level using the gain slider under record, set up, properties. See Fig 1

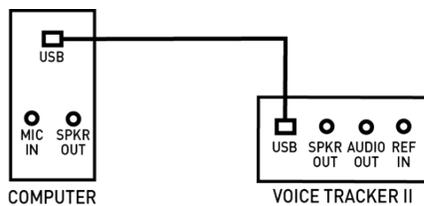


FIG 1 USB MIC CONNECTION

Note that USB cables should not be used for lengths greater than 10 feet. USB extenders often cause problems, so if the microphone is placed more than 10 feet away from the computer, we recommend using the analog audio output (3.5mm cable) from the Voice Tracker II (see below). If a USB connection to the computer is required (as it is with Macs), you can use an analog to USB adapter like our part 102A.

Setup for Analog Audio Operation

If the Voice Tracker II is to be connected to devices that require an analog signal (such as a handheld recorder or video camera), its output is available in analog format at mic level through the "Audio Out" 3.5 mm jack. The included audio cable could be used for this connection. See Fig 2

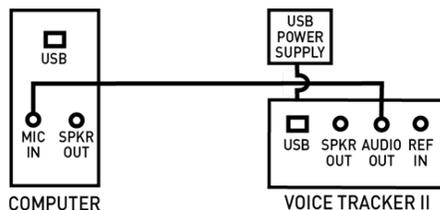


FIG 2 ANALOG MIC CONNECTION

Extension cables like our part 107 can be used for longer runs.

When used with a computer, make the soundcard as the default recording device. Output signal level should be adjusted thru the sound card's boost and level controls (set with "properties, levels").

If analog output is used, power needs to be provided by connecting the USB cable to a USB wall power supply, or to the computer. If power is provided by the computer, be sure the VT II is not selected as the recording or playback device.

Full Duplex VoIP telephony/conferencing Setup

Acoustic Echo occurs when the far end talker's voice is picked up by the open mic at the near end and sent back to the far end as an echo. If the Voice Tracker II is connected to a computer running a VoIP application with a robust AEC, like Skype or Zoom, the AEC feature in the Voice Tracker II isn't required. If the VoIP or camera product doesn't have a robust AEC, the AEC feature inside the Voice Tracker can be used.

To enable the internal AEC in the Voice Tracker II a sample of the far end talker signal must be transmitted to the Voice Tracker II. This can be accomplished by selecting the Voice Tracker II as the playback device in the computer, and connecting the loudspeaker cable to the speaker out jack in the Voice Tracker II. See Fig 3.

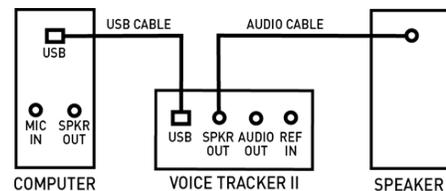


FIG 3 AEC CONNECTION-USB REFERENCE

The playback level in the computer should be set near the middle of its range. If it is too strong, alternate LEDs on the Voice Tracker II will blink, telling you to lower the level. If a louder sound is needed from the external loudspeaker, increase the level in the speaker itself.

The sample of the far end talker signal can alternatively be provided to the Voice Tracker II as an analog signal (from the sound card or other device) through the Ref In 3.5mm jack. As before, the external loud speaker should be connected to the Speaker Out jack. See: Fig 4

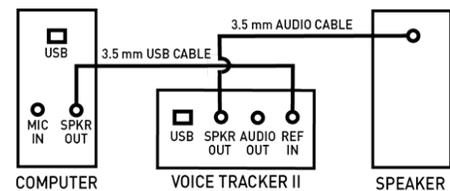


FIG 4 AEC CONNECTION-ANALOG REFERENCE

Position Lights

The green position lights provide feedback on the operation of the array. They indicate where the array's listening beam is pointing. When the array recognizes a relevant sound, one of the 5 lights will be illuminated. For example, if a talker is directly in front of the array,

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 array, the lights will track the talker's motion. When two users are sharing the array, the light will indicate the direction of the active talker. When there is no active talker, the LEDs will be off.

Controls

The Voice Tracker II has a pushbutton mute switch. Press the button once to put the Voice Tracker II into mute mode. The five green LEDs will blink (continuously), indicating that the microphone is in mute mode. Press the button again to return to microphone to listening mode (the LEDs will indicate the active talker).

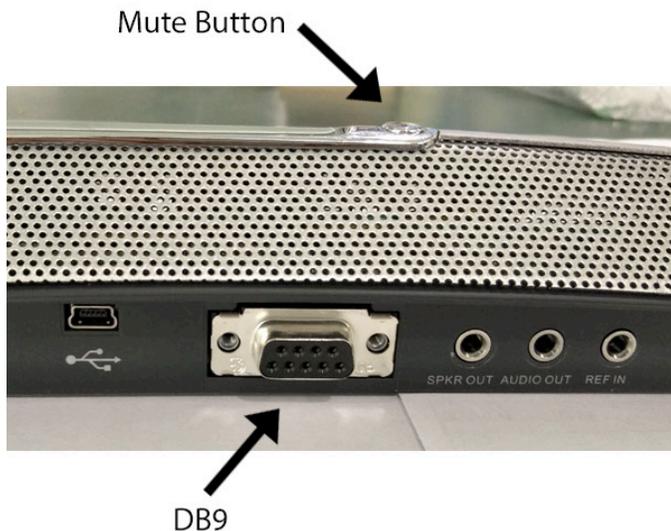


Figure 5 – Mute Button and Connectors

Positioning

The Voice Tracker II scanning listening beam can pick up sound from a full 360° field of view. However, the Voice Tracker II is more sensitive to sound in front than from the sides or from behind.

For use with a PC (speech recognition or VoIP telephony/conferencing) the Voice Tracker II can be placed under or next to the display.

In a conferencing application, it is best to place the Voice Tracker II on one end of the table with its front pointing towards the far end.

Voice Tracker II can also be mounted (with an optional bracket) on walls or on the ceiling to reduce clutter.

Talker location signal

Since the Voice Tracker automatically points a “listening beam” at the loudest talker, it knows the location. This signal is made available as a digital word through the DB9 connector (cable is optional).

The RS 232 serial output signal consists of 8 bit words, no parity, 1 stop bit; commonly referred to as 8,N,1. 2400 baud.

Data is between 0 and 250, corresponding to talkers from the far left in front of the Voice Tracker (0) to the far right (250). If the talker is directly in front of the Voice Tracker, the data will read 125.

Note that the Voice Tracker picks up sound from the behind. So a reading of 125 could mean the talker is directly in front or directly behind the Voice Tracker.

When the Voice Tracker detects no talker, the location signal reads 255.

The user will have to create application SW to calibrate these signals into degrees.

Trouble Shooting:

USB connection is not recognized.

PCs and MACs should recognize the Voice Tracker automatically. If not, it is probably a cable problem. USB extension cables often interfere with recognition. For long separations between the computer and the mic, we suggest using the analog output (and a USB adapter if connecting to a MAC).

No Audio

Check whether the LEDs track the talker. If not, reboot (repower). If so, the problem is probably in the computer setup. Make sure it is defaulting for recording input where the Voice Tracker is connected (USB, or soundcard).

Analog or USB Audio too weak.

In the computer's recording control, select properties then levels and increase the gain/boost to increase the audio level.

FCC Compliance

This equipment has been tested and found to comply the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against interference when the equipment is operated in a commercial environment. This unit generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference with radio communications.



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