STUDIO GEAR

ACOUSTIC SCIENCES CORPORATION

# QUICK SOUND FIELD™

QUICK SOUND FIELD


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**"ANALOG TOOLS FOR THE DIGITAL AGE"**

## RECORD WITH STUDIO TRAPS™

The QUICK SOUND FIELD is a nearfield acoustic environment that improves the quality of the signal at the mic. It surrounds and separates both mic and talent from the room. The QSF creates a controlled and very stable acoustic workstation and completes the missing link, the acoustic part of the mic environment in today's digital studio. Sonic structure inside the QSF is so consistent, you can break the kit down, put it away, days later you can casually set it back up anywhere and get the same sound you had before.

The Studio Traps have a bright side *(indicated by a chrome button)* and a dead side. Rotate them and dial yourself into two very different kinds of acoustic spaces. Dead side in and you have the traditional studio-dead environment. Rotate the bright side in and you have a sound you probably haven't heard before, in a studio. It's the full sound of natural presence and it is so good to hear that you'll almost forget about the effects rack. The QSF provides the recording engineer with a dead sounding vocal booth effect or a great sounding live room effect. Both in one freestanding acoustic space that is carved right out of your own room.

# THE QUICK SOUND FIELD

The *QUICK SOUND FIELD* is created out of ASC's patented Studio Traps, the most versatile acoustic tool for today's modern recording studio. The front half of the Studio Trap is treble range reflective and the back side is treble range absorptive. The entire surface of the Trap is bass range absorptive. This remarkable blend of acoustic properties provides a means to the balanced, broadband control of sound.

*Studio Traps* are adjustable in height and are usually set up midway between the floor and ceiling, but they can be raised or lowered for different mic positions or line of sight requirements. By setting up the Studio Traps around the talent, iso-booth techniques can be developed to more easily control the sound. In the treble range, the QSF eliminates undesirable room reflections while creating a time delayed diffusive back fill, injecting a sense of acoustic presence into the track.

## •HISTORICAL CONTEXT

The QSF was discovered the first few months after TubeTraps began to be used in recording studios, back in 1985. Big studios typically would simply buy a pallet of TubeTraps and give them to their engineers play with, Acoustic Legos. The engineers eventually stacked Tubes and formed a circle around the mic and talent, creating a dead vocal booth out in the middle of a live room. That was nifty. Then they rotated the traps for fun and heard something new and alive, the QSF sound.

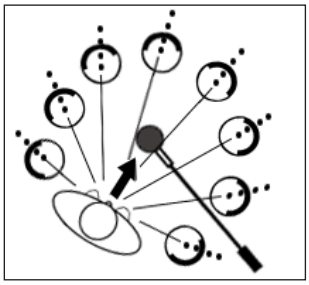
We got these field reports and did our own experiments and discovered what was going on. Engineers also reported using some 30 mics at varying distances and angles, within 20' of the talent in a dead room and getting a sound similar to QSF. A radio engineer/jockey in the late 50's said he used a "secret" multiple time delay box to create a high presence effect, like the QSF sound. These signal compositions were variations on what we call the Haas Saturated Signal. The Haas effect is the fusion of the direct to very early reflections. If we have one or two reflections, we have comb filtering which sounds bad. But with QSF there is over 30 random time offset specular reflections spread out over the 20 millisecond Haas sound fusion window. There is no comb filtering, just a great sounding acoustic blend.

Pete Townsend endorsed the QSF sound in 1987. It was used for research in deep space voice communications and was the Synclavier reference sampling room. Many since have discovered it since including the godfather of recording, Bruce Swedien (I can't live without my Tubes) who has been recording nearly all vocal tracks in QSF starting with Michael Jackson in 1995 and more recently in 2002 with the Jennifer Lopez movie track album.

## •QUICK ACOUSTICS

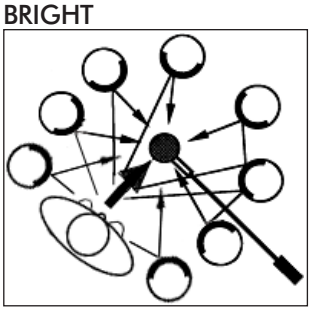
The QSF is created by a set of at least 8 StudioTraps that wrap around the talent and mic. There are two sides to each trap, one half is studio live and the other is studio dead. The traditional dead sound of a recording studio is created by rotating the traps so their dead side is facing inward. The ambience of the room disappears. Because room noise is down, you can inch the mic back and up the gain, reaching for that more natural sound at the mic. Unlike vocal booths, the QSF space absorbs and vents bass and there is no bass build up.

DEAD



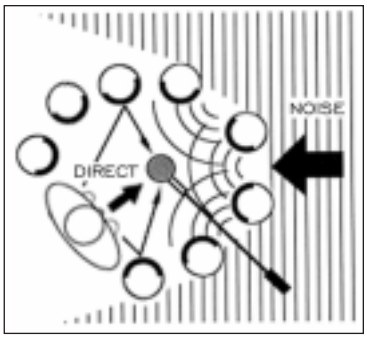
And then with a quick move, spin the traps around so their bright side is facing inwards and something amazing happens. You have a sound at the mic that is astounding. You no longer hear the ceiling. You no longer hear the script stand. Step the mic back and the level stays the same. The more distant ambience mic track also sounds the same. You now have sound the way nature intended people to hear sound, with lots of very early reflections. The original meaning of the Quick Sound Field is an acoustic space with lots of very early reflections that quickly die out, RT-60 is 1/10 second. And there is no bass build up because this acoustic space both absorbs and vents bass.

BRIGHT



## • ISOLATION

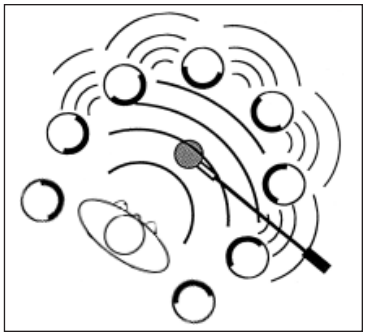
The QSF is a "vented trap" type of gobo. The backside of each Studio Trap is broadband absorptive and facing outward towards the room. The ambient signals in the room get absorbed before they get to the mic. About 25% of a sound wave incident from outside the gobo setup will pass right through the openings between the Traps. Sound that does get through the perimeter is further weakened because the wavelet expands due to edge diffraction effects.




Finally, because of multiple strip openings and the inner reflections, the presence of the live room is often all but eliminated. The closer the Studio Traps are placed to each other the less outside noise they will let in. There is also acoustic gain inside the bright QSF, an easy +5dB S/N direct signal to room noise.

## • DIFFUSION

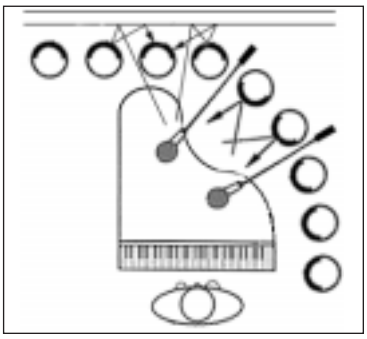
When laying down vocal tracks, the QSF provides a simple solution for eliminating the sound to the room by *pre-diffusing* it as it leaves the gobo. Arrange the Studio Traps in a horseshoe pattern (spaced with 6-8" gaps) with the reflective sides facing inward to form a bright, "live" acoustic space. Along with external sources, noise in a room also originates with the talent. Sound does leak out between the Studio Traps. Some of this is attenuated by the absorptive half of the trap and the remainder expands laterally due to edge diffraction effects.



The sound that is leaked to the room has been pre-diffused which eliminates the need for studio poly's or other types of diffusers. The important feature is that a sound originating from the QSF and hitting parallel walls produces no flutter effect at the mic. The QSF can also be set up near walls with minimal impact.

## • DIALING AMBIENCE

Versatility, in the form of controlled multi-directional sound, has made the QSF a standard in acoustic equipment used in professional and home recording studios. By rotating the reflective surfaces of the Studio Traps, the engineer or talent can distribute the sound they need conforming to how the room and equipment are setup. Studio Traps enable minimalist recording. The QSF can be used to increase the presence reflections at the mic from one direction while reducing the intrusion of signals from another.

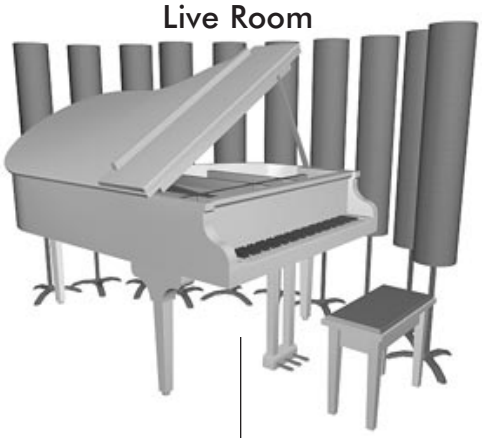


For example, with some of the Studio Traps arranged with the reflective sides facing inward, it will increase the isolation and add brightness to the sound. When placed between the talent and a wall, reflective sides to the wall, the sound is multiply reflected off the wall. This is not reverberation, but it adds a short time delay diffusion tail to the direct signal. The hard wall bounce is removed from one direction, the open space is backfilled in the other.

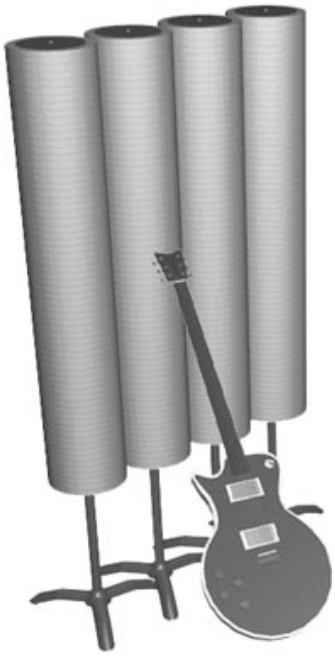
The Quick Sound Field raises the standard of excellence for microphone work in today's studio. It is an essential accessory in downtown studios and the only acoustic tool needed in a small studio. When you are working inside the QSF, you almost forget about room acoustics. Even better is what you are thinking about: You can finally sculpt and shape your own acoustic space.

# QUICK SOUND FIELD •APPLICATIONS

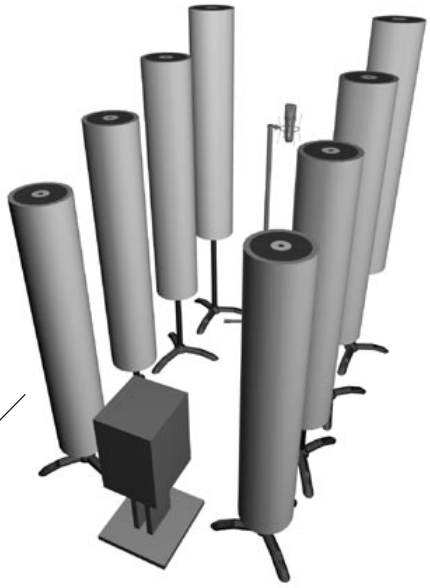
Live Room



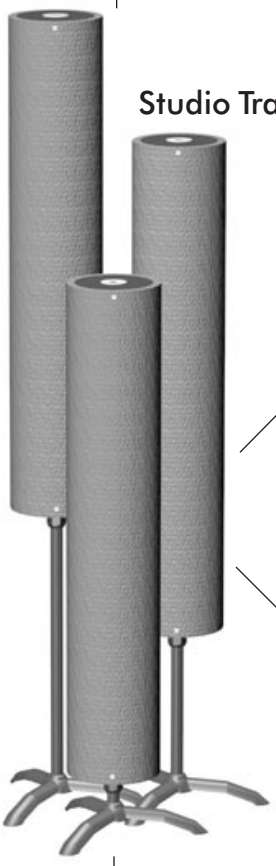
Gobo



Re-Mic

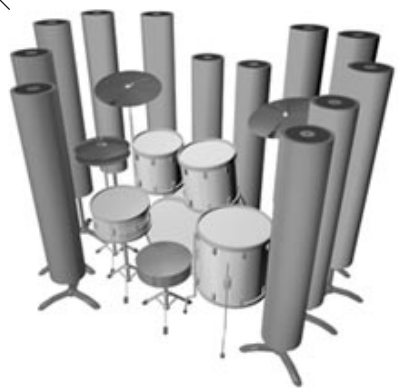


Studio Traps™

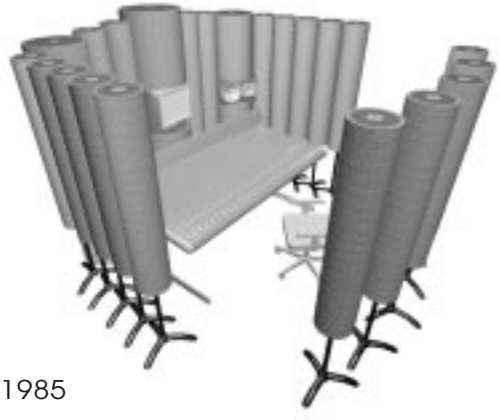


Vocal Booth

Drum Room



Control Room



QSF™ was developed by Art Noxon in1985

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