

## Customer SUCCESS STORY

# Signal Hound

BROADCAST INTERFERENCE CASE STUDY

## How a Spectrum Analyzer Resolved Broadcast Interference Near Critical Airspace

### BACKGROUND

Firehouse Productions was producing a live broadcast in Bethpage, NY. Due to the proximity of the film studio to critical defense and aviation facilities, the FCC required that the production company monitor their signal transmissions to verify that all transmissions were operating within the designated frequency range. In addition, the agency requested that the transmissions be recorded for future analysis.

### OBJECTIVE

Find a cost-effective and reliable solution to enable a production studio to easily monitor and record broadcast signals. Time constraints for the production required a solution that disrupted the production process as little as possible.

### SOLUTION

Employing Signal Hound's BB60C spectrum analyzer and recorder with I/Q capture enabled the production studio team to monitor and record their signal transmissions and verify their signals were operating within the designated frequency range.



## RESOLUTION

In the small hamlet of Bethpage, NY you will find multiple film studios within a two-mile radius of mission-critical aerospace and defense technologies facilities. Firehouse Productions was using one of these studios to produce a live-broadcast event. While the proximity of the aerospace and defense facility has no relevance for filming, a live broadcast transmits signals that can interfere with FAA frequency ranges. Due to prior issues with live broadcasts at the studios, the FCC contacted Firehouse Productions and requested that the production company monitor and record their transmission signals to verify that the signals were operating within the designated frequency range. They also wanted the recording of the transmissions so they could analyze any signal anomalies.

Firehouse Productions needed equipment that could monitor and record broadcast signals, so they selected a Signal Hound BB60C real-time spectrum analyzer (RTSA) and recorder. With a frequency range of 9 kHz to 6 GHz and sweep speeds of 24 GHz/second, the BB60C was well-equipped to monitor the broadcast frequencies. The USB power source and small form factor (less than 9 inches long) allowed the production team to Velcro the unit directly to their equipment or laptop and connect to an antenna grid with little disruption to their production process.

To address the FCC's request to record transmissions, the production team was able to easily connect the BB60C to a computer and use Signal Hound's free Spike™ spectrum analyzer software to analyze and record the data. Variable I/Q sample rates allowed precise control over how much spectrum should be recorded, with selectable data rates enabling flexibility during signal capture (from 312.5k to 40M samples/second I/Q with configurable band pass filters). The software features a 2-D waterfall and color persistence display, so the production team was able to easily see normally undetectable events in this mode.

At the end of the day, the show must go on, and Signal Hound's innovative and reliable products ensured that the broadcast went off without a hitch, while protecting the FAA's bandwidth from interfering signals.

“What we're doing with television, with broadcast, with tours and stuff like that ... we're setting up systems that are put up and taken down in a matter of days, not like permanent installs where we have endless amounts of time to take measurements and do tweaking – it's like, we're so on the run that it's just gotta be fast and quick, and then monitor it, tear it down, and get it out. So, [the Signal Hound] design works really well for what we do, which is pretty fast paced.”

-Vinnie Siniscal, Firehouse Productions

“The software features that [Signal Hound has] are way further ahead than a lot of [other] handheld spectrum analyzers – they're great because they're portable, but their software, when you try and hook it up to a computer, the software is an afterthought. You know, whereas this [Signal Hound] relies on the software to really be the interface, so I think that's an advantage.”

-Vinnie Siniscal, Firehouse Productions