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# **Broadcasters' Desktop Resource**

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... edited by Barry Mishkind – the Eclectic Engineer

## **Broadcast Operations**

### **When the Listeners Call with Problems**

*by Steven Lapinkas*

*[May 2011] Listeners usually call a radio station for one of three reasons: to win a contest, to talk on the air or complain about what someone else said, and to report a technical issue. Usually the first two categories are transferred to Programming. The last one involves the technical side – and folks that may rarely do interact with listeners. Steven Lapinkas shares some techniques to help make these contacts more positive occasions for both the station and the listener.*

During your engineering career you may never hear from anyone who is experiencing difficulties while listening to your station. If you find yourself in this group, then you have certainly been diligent and neither Murphy's Law nor gremlins have affected your operations.

But consider this when a listener gets in touch: While everyone has opinions, usually there are only a few who make the effort to find out where to call, write, or e-mail and express their view. In fact, it is a Rule of Thumb in politics that the opinion of one person actually represents what is on the minds of hundreds or thousands of other people.

Applying this to broadcasting means that for each person who makes the effort to get in touch with you there may well be many other people wondering why they are hearing something unusual.

#### **LISTEN TO YOUR LISTENERS**

Your station may already have an organized system to get information about technical

questions from the listener to you, the engineer. If there is not such a system in place then consider establishing one.

While some might view such calls as an annoyance, questions from listeners about the technical aspects of your broadcast operation can be an opportunity to learn something that you have not picked up while doing regular testing and monitoring. Indeed, it is a good idea to avoid blaming someone else or give reasons the problem without being confident about the reason.

An easy-to-use contact system along with a response to inquiries will demonstrate your concern with station operations and a professional commitment to the listeners. While some of the following issues are specific to AM broadcast, others are universal and apply to FM broadcast as well.

#### **ENABLING THE DIALOG**

The first thing to do is make it easy for listeners to reach out to you. It need not be complicated. And it does *not* mean you constantly have to stop what you are doing to speak with callers.

Station staffers who answer the phone during business hours should know how to recognize and when to direct technical questions to you. Listing some of the more common issues and answers – including up-dating the receptionist during outages – may well dispatch the majority of calls. This FAQ (Frequently Asked Questions) list can even be posted on your station's website along with contact information

such as an email address or web form (to reduce automatically generated spam) that lets the listener get in touch when it is convenient for them.

For those questions and/or complaints that are not covered by your FAQ, provide instructions on what information to collect from the caller – detailed information can be a big help when you start your investigation. In fact, you might want to look into what has been reported first rather than taking a call directly, even if you are available.

### **“WHY DID YOUR STATION SUDDENLY DISAPPEAR?”**

Poor signal reception at night is likely to be at the top of the list for AM listeners, especially when it is caused by fading, or interference from a station on the same or an adjacent channel.

AM broadcast is unique with license requirements that can include power reduction and antenna pattern changes, the concept of protected area, and propagation effects. Listeners may not understand the protected broadcast area concept, so you may need to explain things a bit – perhaps using a couple of coverage maps posted on-line to demonstrate how the station is setup to operate serving a specific geo-graphic area. Such a graphic might help them understand that anything beyond that range is “up in the air” as to whether they can receive the station.

A listener outside the coverage area may be able to hear the station most of the time, but also may hear things that can be symptoms of problems you want to know about. It can also be a great opportunity to interact with the station’s listeners, depending upon how the station handles it.

Here is a short list of the common comments that come from callers:

- ***“It sounds like someone else is on your frequency”***

An example experienced firsthand was with

two stations on the same channel, but in adjacent time zones, with and sunset arriving earlier each day in September.

In my case this confusion started at dusk when I had expected to hear the large metropolitan station because of night propagation. Even though they would reduce power and change pattern, they were still close enough to be heard where I lived with night propagation. But instead another Midwestern station would roar in early each evening in late September.

What was going on in this situation? Even though I understood the power reduction and pattern change concept, I did not realize station changeover time is fixed for the month. So, while it was getting dark out at an earlier time where I was located during September, it was not yet time for the Midwest station to perform their changeover. Favorable propagation and antenna pattern in my direction made this Midwest station stronger.

- ***“I lose your signal late at night.”***

You might hear from a listener out on the edges of your coverage saying there is interference from another station on the same channel but this occurs at a later time – like at 11 P.M – during December or another winter month.

This could be a case where propagation is really unusual. It could also be something wrong with the antenna changeover at your station or the other station that is interfering. It also could be a new metal object in the vicinity of your antennas changing the pattern.

For example, while cell tower construction near AM antennas is supposed to be coordinated, there may be instances when this does not go according to plan. A day is all that is needed for a tower to go up. The same for tall construction cranes which can appear suddenly for tree removal or placing heavy equipment on buildings. New tall

building construction in the area of your antenna can also have effects.

When you are remotely located from the transmitter and antenna facility you are less likely to see changes in the area that affect operation. A trip out to the site may be worthwhile to see what has changed since the last time you were there.

If you are satisfied with what you measure and see around you, then a call over to the engineer at the other (“interfering”) station might be a good idea to alert them of a possible problem of which they are unaware.

## **SOME MORE PUZZLING PROBLEMS**

- ***“The audio level keeps changing”***

This is the annoying (at least to some listeners) difference in what is perceived to be louder (or much softer) audio for a program segment. Ask when the change occurs. Does it happen at times when using local audio feeds, or during un-attended automation with or without network program feeds such as the news or other programs?

- ***“The station sounds very tinny today.”***

Flat or distorted speech sound can be something a listener will ask about especially if the program content normally has been heard with more fidelity. If it is an IP audio feed from a network or from a remote studio, then network connection speed changes could be the reason.

- ***“The audio sounded real choppy.”***

This could refer to interrupted or missing speech, for example, or other sounds that originate with an IP/digital audio feed.

As with most of these poor audio complains, you probably want to ask *when* this occurs, so you can isolate where it originates – from at the station end or a program supplier.

- ***“I’m always hearing this hum or buzz in the audio.”***

This type of complaint – hum or buzz – is usually a low-level sound that can be heard on the station when there are pauses between speech or other sounds.

While you may have been careful to setup the program chain equipment and cabling to prevent this from happening, it is possible that some unique combination of equipment and conditions you did not expect could create a ground loop or other distortion as the root of this problem.

You may want to make sure this occurs only with your station and is not something that occurs because of overall 60 Hz based interference at the listener’s location. If it is something that is happen-ing across the band, then it is a separate issue that requires the listener check for causes where they live and work with the power company or others to indentify the interference source.

- ***“I can’t hear any audio at all.”***

Here you want to be sure there is not an interruption in the signal output from the station (no RF). If the listener tunes to other stations, they should be able to tell whether the station carrier is on or off the air, or if there is just no audio.

This could be a case of something not switching when it should, one of the pots for the automation not being “on” and “up”, or an intermittent loss of a network audio feed.

Some questions you might want to ask are: When during programming does the audio loss occur? Is it the same program each time? (During network feeds for news or other programming?)

- ***“There is this constant ‘Waterfall’ or ‘Rushing’ noise.”***

Just as the listener says there are the sounds like what you would hear at a waterfall.

This could well be related to digital operation - yours or someone else on an adjacent channel with a strong signal from propagation conditions.

- *“I hear your station all over the dial” or “... on my phone/television/toaster.”*

This does not need to cause a cardiac event, especially if the listener is hearing your station on a multiple of your assigned frequency in the shortwave band. “All over” can be a very relative term.

You might want to find out where they are located in relation to your antenna and what type of receiver they are using. If the listener is located within a half mile to a mile of the station antenna, their receiver will be in a high field strength area.

I was surprised once to see that a modern Radio Shack DX-392 model would overload even though a local station was putting out only about a hundred Watts power. Only after checking through a web search did the reason become clear; the receiver had the reputation for overloading with random long wire antennas over 30 feet long. So, a quick look at what is said about the receiver your listener is using may present a solution.

With that information in hand, and if you are satisfied that the issue has nothing to do with harmon-ics, or other related problems, you may want to explain there is an overload condition and suggest the listener adjust the antenna length or use a rejection filter to attenuate your station signal entering the receiver. Several sources sell broadcast band filters, and there is a design from the ARRL Hand-book available for those listeners who want to build something on their own.

Sometimes the station is liable to do something for the listener under the FCC Rules. At other times, for the public relations benefit – or to quickly resolve a complaint from a known problem area – you might consider providing filters to callers

just like the phone company does for DSL. However, either way, there should be a careful consideration about how to proceed, lest liability issues raise their ugly head (for example, during a visit, entering a house or touching their possessions).

## **DO TALK BACK TO YOUR LISTENERS**

After gathering enough information and/or troubleshooting the problem from the station end, it is a good idea to reply with what you think/know is happening and what could be done (if anything) on the listeners end.

If you have a directional signal pattern, something like an FCC contour map is useful to demonstrate real coverage to a listener outside your broadcast area. Preparing your own material as long as it does not contradict anything about the station license or operation makes your explanation easier to understand and can help.

If you have found something intermittent at your station or a difficulty caused by another station on the same channel, and solved it through your listener’s report, let them know. Make the explanation as simple as possible for someone who does not have a technical background to understand. They will feel really good when you take the time to give them a little “pat on the head.” You will have created a friend and loyal listener because, in their mind, you cared about them.

In some cases it just may be a combination of listener location to your station and other factors, such as propagation, that you have no control over. Nevertheless, the fact that you took the time to listen and respond to the listener will calm down the large majority of callers – and might even turn them into good neighbors, willing to report real problems at a transmitter site, for example, before you even know about them. This could be especially helpful in dealing with intruders and vandals.

On the other hand, sometimes the only way to satisfy a caller or diffuse a complaint is to direct the caller to the FCC site for their explanation of

certain legal or technical matters. But handled with courtesy, even this solution may keep the listener from turning against the station.

### **WHEN YOU CANNOT WIN**

Of course, there always will be those times when no matter what you say or do, the listener just will not be satisfied.

At this point – and especially if it involves a client – you may want to “run it up the food chain” to the General Manager’s office, and let it be handled there. You certainly do not want to be the reason for a lot of money walking out the door.

But that should be the very rare exception.

### **THE BOTTOM LINE**

When a listener gets in touch you have the opportunity to accomplish two major things. First of all, their report may help you to learn something about the station operation of which you were unaware.

And secondly, a careful and professional approach to responding to the listener, especially where you can help solve their problems, will help reflect positively on you and station operation.

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