

# In a Box Innovations

Issue 15 – September 2014

## MONTHLY NEWSLETTER

### News

#### MACRA Extends Malawi Rollout Period



Clara Mulonya

Malawi Communications Regulatory Authority (MACRA) officials have extended for one year the rollout period for 42 prospective broadcasters who have failed to meet the deadline for going on air.

Out of 50 applicants who obtained their broadcasting licenses in September 2013, 22 radio stations and 20 television stations have yet to start operating.

MACRA has given eight months to the prospective radio stations to rollout their services and 12 months to the television stations from the day the license was published, failing which the authority can revoke the license.

MACRA's spokesperson Clara Mulonya says the decision to grant an extension comes after the authority's board members accepted requests from the operators to extend the period due to technical and financial challenges they are experiencing related to the rollout.

"Most of the broadcasters in their request for an extension are citing internal delays to procure equipment and lack of funds due to donor fatigue for donor sponsored stations," she said.

Nevertheless, she commented that it appears astonishing for applicants who have been awarded broadcasting licenses to say they have no funds to finance such a project, when they had shown all the proof that they had financial muscle to run such a broadcasting station.

Mulonya says the broadcasters who are awarded licenses and fail to carry through, misuse an opportunity that some applicants who are not lucky in the bidding process could gladly use.

"The bottom line therefore is that applicants have to be honest with themselves on their source of funds to run a radio or television station," she said. "It is advisable that if an individual is not financially or technically ready to open a broadcasting station, they should not apply for such services until they have sufficient financing."

Mulonya has dismissed fears from new applicants that the extension would delay the issuing of new licenses. "The extension cannot affect issuance of new licenses. We will go ahead and issue them as long as there is demand on the market," she concluded. (*Radio World*)

#### China's pirate radio stations threaten passenger jet safety: Xinhua



Photo: EPA

A pilot for Okay Airways complained to authorities in Tianjin of radio interference from a pirate transmitter.

Law enforcement agencies have uncovered pirate radio stations operating in big cities and provinces using equipment that could disrupt communications between pilots and air traffic controllers, according to a state media report.

A lack of regulations controlling the sale and use of radio transmitters meant the devices were easily available on the market, unnamed legal experts told Xinhua.

The authorities said they had found high-powered radio transmitters in private hands in Beijing and Tianjin and in Hainan , Yunnan and Guangdong provinces.

Okay Airways, based in Beijing, complained to radio administration officials in Tianjin in March that its radio frequency was severely disrupted by a pirate radio station, Xinhua said.

The Beijing Municipal Bureau of Radio and Television recently uncovered a pirate radio station operating on top of a residential block in the capital's Chaoyang district. The station transmitted advertisements on a frequency usually used by licensed stations, the report said.

Pirate stations try to sell ads for escort agencies, medical products and other services, according to Xinhua.

The bureau has recently seized a 2,000-watt transmitter whose signal can reach most places in the capital.

*(South China Morning Post)*

## **Technology**

### ***Making Sure Aesthetics Don't Impact Loudspeaker Selection & Placement (Part 3)***

#### **Sound Problems**

Many of the typical sound system ailments - lack of definition, muddiness, dullness and poor localization can be caused by reflected sound. Many of these detrimental reflections result from efforts made to disguise the loudspeaker.

Reflected sound is a part of life. We expect it, we use it, we need it. But not all reflections are good. The two types of reflections that sound designers try to avoid are those that come from objects very near the loudspeaker, and those that come from objects very distant from it.

The former produce colorations of the sound, the latter produce echoes that can garble the clarity of music and speech. Any attempt to disguise a loudspeaker invariably produces early reflections that change the loudspeaker's response. This includes grills, fabric coverings, and cavities that were carefully designed to be aesthetically pleasing. In short, what makes a loudspeaker look better potentially makes it sound worse.

A careful and thoughtful design process is required to allow loudspeakers to be covered yet still perform acceptably. Unlike light waves, sound waves can cancel each other if the timing is appropriate. This is not always a bad thing.

Sound system designers use constructive and destructive interference to achieve the desired radiation pattern from a loudspeaker array. Good sound designers understand interference and how to use it to enhance the performance of a system.

Let's look at some methods used to reduce the visual impact of loudspeakers.

Coverings—Grills always obstruct sound. The only questions are "How much?" and "Will it be audible?" I have seen system designers go to great expense to extend the frequency response of the sound system to beyond 20 kHz, only to hide the whole thing behind a grill that is acoustically opaque to this part of the spectrum. But even without the grill, there is little chance of sound energy above 16 kHz making it to anyone in the audience due to air absorption alone, so we can live with some fabric in front of the loudspeaker.

The fabric, of course, will require a frame. The frame is potentially more obstructive than the fabric that it supports. Frame members should be made as small as possible, and ideally not placed in the main path of the system's high frequency drivers.

Cavity Placement—The worst place to put a loudspeaker is in a cavity. The loudspeaker itself is a carefully tuned resonant system. It's size, volume, and openings are carefully selected to produce a desired response. A cavity is essentially a "box around a box" and it will produce gross modifications of the loudspeaker's response. Given the care and engineering that likely went into the design of the loudspeaker, placement in a randomly-sized cavity will usually destroy the response intended by the designer.

Grill Cloth—never paint grill cloth, not even a light coat. Paint blocks the pores that the sound wave must pass through. If the grill is the wrong color, replace it.

Before you run out to your favorite fabric store to acquire a fashionable grill cloth, keep two things in mind. The grill cloth must be acoustically transparent, and it must meet fire safety codes. Unfortunately these criteria will rule out many of your first choices. It's quite easy to test the audible effects of grill cloth.

Simply listen to some music and speech through a decent quality loudspeaker, and then drape it with a sample of the fabric. What you hear is what you get. If the cloth changes the sound, don't use it. You will find that fabrics that are easy to blow air through produce little attenuation of sound and become good candidates for hiding loudspeakers.

Serviceability—Sooner or later it will be necessary to repair the loudspeaker. Keep this in mind when constructing the grill. It should be removable as a unit or in modular panels.

(Continued)

(Pat & Brenda Brown, <http://www.prosoundweb.com/>)

### **News about Our Products**



This photo shows the latest version of Proteus (Radio-in-a-Box) that is built for a customer in the Pacific. Since the application is as a portable radio station, the system includes a Pelican case to carry sensitive peripherals such as microphones, monitor speakers etc.



The antenna cable is transported in a broadcast quality portable cable reel.



A portable telescopic mast to be mounted on a vehicle will also be supplied.

A more detailed report will be published in a future Newsletter.