

# WHAT TO LOOK FOR IN INTERFACE BOXES



There are some points in a sound system where a signal has to be sent to more than one place.

## Direct Boxes

We need direct boxes to send a signal from a guitar rig to the P.A. system while still allowing the guitarist the freedom to control his/her own tone and volume on stage. A direct box also allows the guitar signal to be properly split to a Lo-Z balanced line so that the soundman or woman can have control over the guitar sound for the audience.

There are 100's of different direct boxes to choose from, from single-use models to rack-mounted 4-unit models.

## Let's talk technical about transformers

Transformers are held responsible for being cure-alls for all P.A. diseases. All a transformer does is split a signal into two parts (3 or 4), a primary and a secondary (or two secondaries or three secondaries), while (hopefully) allowing each part of the transformer to be isolated from the others to get rid of "hum" in the system or to match mismatched impedances in two different pieces of equipment.

There is an art to developing effective, sweet sounding transformers with full range and good isolation. If you plan to buy a cheap direct box (under \$50), do not waste your time. It's a toy and will not work for audio.

Good transformers are expensive. You cannot sleaze a transformer's quality and expect that you will be satisfied with the sound that comes out of it.

## Microphone Combiners

We need microphone combiners to help us "cheat" a little when we need extra channels. One scenario would be that we have two bass drums to mic and only one channel left on the mixer. We can combine the two bass drum mics into a mic combiner with a balanced Lo-Z output and get the solution we need.

Yes, this can also be done with microphone Y-cables, but this way affects the tone and output of the mics significantly.

Mic combiners are generally designed for single-use applications.

## Microphone Splitters

We need microphone splitters to separate the feed from one microphone to two, three or four different systems (FOH, monitor, recording, uplink). All these signals must be properly isolated from each other to prevent problems within one of the feeds from affecting the purity of the feed to the others.

Mic splitters are almost always used in large quantities — 16, 24, 32 or 40 channels of split (usually to the monitor system) is common. Rack-mounted versions are common, in order to obtain enough channels to

get the job done. Lot's of mic cables, or snakes with multipin disconnects are used to be able to hook this all together to the rest of the system.

## Isolators

We need isolators on stage to break pesky ground loops between pieces of equipment connected with unbalanced lines. Also, there are times when an act has to perform in an area of high RFI concentration (dirty). The isolation provided by the mixing console(s) may just not be enough to filter out unwanted noise and the system needs a little extra help.

These fast-fixers can be as simple as inline units, designed to be a quick solution to an individual problem. There include ground lifts, phase reversers, isolation transformers, Lo-Z to Hi-Z adapter transformers, line output transformers and microphone pads.

Isolators can be simple inline units or be found in 4- and 8-channel versions suitable for rack-mounting.

