

Ready2Talk

Microphones 101

A brief explanation about a big topic: the differences of microphone types in layman's terms

In basic terms there are two main types of microphones, Dynamic and Condenser, also three common mic plug types, the 4 pin XLR (large smile shaped) used in North American motorcoaches, 4 pin Din (small smile shaped) used in Euro Motorcoaches and 4 Pin GX 16 (pins in a square pattern) used in most mini busses. The next variable is the plug gender, male or female. The third variable is the "Pinout" or how the mic's wires are connected to the pins on the mic plugs.

The PA circuitry design determines the use of either a dynamic or condenser mic and commonly the bus manufacturer determines the type and gender of the mic plug. So unfortunately, there isn't one magic mic that can be used on all vehicles and you can't mix and match mics with different PA systems due to these variables.

Dynamic: Dynamic mics were the first microphone design, they are mechanical and work like a speaker in reverse. The mic diaphragm vibrates then sends electrical pulses down the mic cord (wire) where the pulses are amplified and turned into sound at the speaker.

Remember the old crooners like Frank Sinatra and their big metal hand mics, those are the old dynamic mics. The problem is, you can only make them so small before they lose sound quality and mic sensitivity. Because of the size and performance limitations, the world left dynamic mics behind years ago except for recording industry and unfortunately the bus industry.

Condenser: Condenser mics are electronic, they're better sounding for their smaller size, therefore are used in almost everything today, like Bluetooth and computer headsets and cell phones. A positive by product of being today's standard, is there are many more mic designs to choose from and at a much lower cost.

Condenser mics follow the basic concept for all mics, they pick up sound, but being electronic they require a power source to make them work. Often a small battery is required as phantom power, but with *Ready2Talk* condenser mics our PAs give power up the mic cable, so no secondary battery is needed. Since *Ready2Talk* PA systems are designed for condenser mics, we offer great value mic types from hand mics to headsets, wired and wireless.

Headsets vs. handheld microphones: You most likely have an idea which mic style is best for the need. When possible, we suggest headsets as they allow you to keep both hands on the wheel, not to mention in some areas, it's the law. Also with headsets, when a driver moves their head microphone stays with them so everyone will always hear the commentary evenly.

For shuttles or transit where the driver is constantly in and out of the vehicle, or when the PA is used for announcements only while stopped, then a hand mic can still be the best option. Another solution is a gooseneck mic, which is fixed to the vehicle and the driver can lean slightly forward to use it with the touch of one button so it meets Distracted Driving Laws (DDL) requirements.

How many mics do you need? This topic has changed dramatically since Covid. In the past, one shared mic per vehicle was normal, however today when each driver has their own mic, we see less mic damage and (even Pre- Covid) companies reported a big reduction in sick days!

As a low cost alternative, we do offer replacement foam covers in bags of 20, for our headsets and keep in mind, you must have a foam sock covering a condenser mic or it will sound awful.

Spare are a must! Whether you have a couple of spare mics in your office or a replacement mic in every vehicle, spares are your friend. It will bail you out if there is a problem and will help diagnose an issue, if one ever arises.

Serviceability and life expectancy:

All *Ready2Talk* microphones are designed for daily commercial use and we offer a 1 year warranty to cover defects. However, sometimes mic cables get pulled, stepped on, or who knows what else? Since we service all our products, please reach out and we'd be happy to send you the repair return instructions. How long should they last? Well, that depends on the environment, caring or extreme, on average 1 – 3 years. Think of mic replacement as proper maintenance, just like you do to your vehicle.

PA Systems: Since you're looking at a PA system website, let's talk a bit about PA differences. Almost all mini busses and motorcoaches worldwide are sold with old school PA systems that still use dynamic hand mics. The main reason seems to be... "It's always been done that way", even though the customer's needs have changed!

Technically there is nothing wrong with a dynamic PA if all you want to use is a hand mic. However, if you want to upgrade to a headset or you have to upgrade because of Distracted Driving Laws, the dynamic headset options are VERY limited and expensive.

Because there are so many vehicles manufactured with dynamic PA systems, we make our MB 6 series microphone adaptor boxes that allow our mics to function seamlessly with factory installed motorcoach and minibus PA systems. Importantly, in order for the MB 6 to function correctly, the factory PA system **MUST** be fully functioning. We also offer our dynamic wired headset upgrade kits for Jensen or REI, but they are recommended only as a stop gap option not a long term headset solution.

However, although it may seem wasteful, but changing out your older dynamic PA to a *Ready2Talk* PA will add huge cost saving benefits for the life of your vehicle. Now all future mics purchases will be at a lower cost and you'll be supported for years to come. Microphone options for your older dynamic systems will just keep getting harder to find and more expensive.

Recapping is a good idea: The make of your PA determines if you need a dynamic or condenser mic and the vehicle manufacturer generally dictates the mic plug style.

Dynamic and condenser mics are not interchangeable, so if you need to change from a hand mic to a headset and your current PA uses a dynamic mic, now is a good time to "stop the bus" and look at your current vs. ongoing costs. Your decision will set you down a path for all mics that you'll buy for the life of that vehicle and for your ever growing fleet.

Unlike any other company, *Ready2Talk* is here to support you anyway you decide. Whether your fleet is 2 or 102 vehicles, with *Ready2Talk* you can use one mic type throughout so everything is interchangeable, offering easy staff training, all at a lower ongoing cost.

When buying a new vehicle, you choose your PA once, but you'll be buying many replacement microphones over the years, so ask your dealer about supplying *Ready2Talk*. Then you'll be on a positive new path.

We hope this information sheet helps explain the mic differences and why it's important to take a deep look into what may seem to be a simple topic?