

SOUND SYSTEM RECOMMENDATIONS

I frequently get requests for recommendations on purchasing a mobile sound system for social tango dance events. The advice here will apply to just about any social dance group needing a mobile sound system setup.

First off, you want professional sound equipment, not home sound equipment. Home equipment is not engineered to withstand all the bumps, stress, and grind of moving frequently, and does not have the proper type of connections. Second, with professional sound equipment, you pretty much get what you pay for, period. There is no way to skimp if you are looking for good, full-range, distortion-free sound.

My best advice when considering sound equipment is to purchase by specification, rather than emotion, speculation, or whim. Sounds funny, but it's amazing what kinds of reasons people give me for purchasing equipment, which often turns out to be less than ideal for their situation.

Very, very few social tango events, even at major festivals with hundreds of people in attendance, require really high-powered equipment, because we don't require the high volume levels of clubs, rock concerts, etc. What we need is equipment that can reproduce sound from at least 60 – 16,000 Hz +/- 3db. This is a spec you'll want to be come very comfortable with.

Speakers: If you can afford it, you get a fuller, more satisfying bass response from speakers that can perform down around 40 Hz, but this is not absolutely necessary and adds considerably to the cost and weight of the speakers. Similarly, you get a more "airy" satisfying high-end response from speakers that can perform around 18,000 Hz or higher, if you can afford it.

The next thing you need to know is what "sound pressure level" (SPL) the speakers can perform at. If you have a large room packed with people, you need equipment specified to perform at a minimum of 110 db SPL continuous. This is not how loud I expect you to play the music, but remember it is never wise to operate equipment at its absolute limits for long periods of time. You want to run the equipment at between 50-75% of its specified maximum to avoid distortion, strain, and to ensure long life for your equipment. If you're using a small room for a small group, you can get away with lower SPL specifications, but remember, this is an investment, and speakers are the most important component in a sound system, so don't skimp here!

For large rooms with groups of, say, 100 people or more, you'll want to consider the use of a sub-woofer. A single subwoofer matched with 2 full-range speakers can be a great setup for larger events. You'll want one that can go down to 40 Hz or below at a minimum of 110 SPL. IF properly set up, this setup can offer a cleaner sound because the difficult-to-reproduce low frequencies are removed from the full-range speakers, and therefore the full-range speakers are only required to reproduce midrange and high frequencies, which is exactly what most full-range speakers excel at.

Next, get a couple of speaker stands capable of going up to 9'. When you set the full-range speakers on the stands, get the horn of the speaker at least 9' above the floor. Generally, the higher the better. The high frequencies that come out of the horn are the ones that hurt your ears, so you DO NOT want the horns at or near ear-level. The higher, the better, right??

Finally, I highly recommend speaker bags for the full-range speakers to allow for easy handling and protection of your equipment.

The following speakers have served many well and come highly recommended:

JBL Eon15G2 are the ultimate mobile powered speakers, with beautiful full-range sound and legendary quality/durability. <http://www.jblpro.com/eong2/index.htm>

Mackie SRM450 are equally legendary powered speakers. Some report that the speakers "cut out" on them, but in all cases I've read about, the speakers were being pushed very hard, well past anything they'd experience at a social dance. <http://www.mackie.com/products/speakers/index.html>

A sweet 2-speaker with subwoofer setup would be 2 ea JBL Eon10G2 speakers with a Mackie SWA-1501 subwoofer. Or, add this subwoofer to either of the above for a really powerful setup! The Eon10G2s are not able to reproduce full-range sound on their own, although some would argue with that. Look at the specs, period.

For non-powered speakers to use with a separate amplifier, I highly recommend the Mackie C300 speakers. I've had 7 years of reliable service from these speakers and they're still going strong.

Finally, for large rooms, consider setting up 4 speakers to better cover the room.

Amplification:

Many speakers are available with amplifiers built-in. I recommend these speakers if you can afford it because the amp is perfectly matched to the speaker and the result is excellent sound quality and one less component to worry about setting up.

However, this also means that you need to run both power and audio signal cables to the speakers. In addition, the amplifiers make the speakers noticeably heavier. For me, all this is a hassle, and I prefer un-powered speakers. Without hesitation, the only amplifier I recommend for most applications with 2 speakers is the QSC PLX1104. This is a sweet little amp, very light, with power to drive just about any speaker I can imagine being used for a mobile social dance setup. <http://www.planetdj.com/i--PLX1104> This thing only weighs 13 pounds!!

If you'd like to search for your own amplifier, get one with a frequency response from 20-20,000 Hz at less than 0.1% total harmonic distortion (THD) with the required power to drive your chosen speakers without strain. Usually, this means it must be able to put out at least 200 watts per channel continuously at 8 ohms.

Other equipment:

If you use CDs, get a dual CD player – the simplest, lowest model made. Most of the bells and whistles on dual CD players will never be used for social dance events.

If you use CDs, or any other 2 devices, you'll need a mixer. Again, get a professional DJ mixer, but one without all the bells and whistles. Be sure it is a "DJ" mixer – other mixers are a hassle to deal with when DJing.

Equalizers can be handy, but only in the hands of an experienced sound technician. Otherwise, don't bother.

Cables: If you have purchased professional audio equipment, you'll need cables to match. Balanced types of cables are best – XLR being the standard, or ¼" tip/ring/sleeve (TRS). Many amplifiers and mixers have "Speakon" speaker cable connectors, which are excellent and highly recommended.

Some things to avoid:

My pet peeve is to listen to music from cheap, under-powered speakers that are not capable of producing full-range sound and systems that are driven beyond their specifications to distortion. I have been known to leave if this is the case.

To that end, I am extremely frustrated with the popularity of a type of "PA system" that has been somehow sold to many people wanting a mobile DJ outfit. PA means public address, i.e. this type of system is specifically for speeches, talks, etc. and is NOT engineered to re-produce music, much less music as dynamic as tango. Case in point: The Peavey "Passport" systems. To me, they don't even sound good when used for speeches. Again, go back to the specifications.....which in the case of the Passport systems, are EXTREMELY misleading. From the owner's manual of the Passport PD250, we have: Frequency response 20 Hz to 40 KHz at send output. OK, this tells me that the unit's CD player or whatever SENDS a signal of this frequency....but this is NOT what the SYSTEM is capable of reproducing. We read on to find: Frequency response 30 Hz to 30KHz "at speaker output, with processor threshold exceeded". ????? Yikes! Who would want to be operating beyond the processor threshold?? We still do not know what the speakers themselves, and therefore the system as a whole, is capable of producing, and we never shall, because indeed they do not include the speaker specs, nor the true system specs. My educated guess is that the speakers are not capable of reproducing frequencies lower than 100 Hz, nor at very high SPL. This is advertising at its most misleading, and completely disgusting to me. Beware!

Armed with the above information, you could go to a good, well-established pro audio shop (with a tango CD in hand!) and get set up with the appropriate equipment. The advice of a knowledgeable sound technician is invaluable in matching the equipment to your particular needs. Otherwise, there are many on-line shops. I've had good luck with Planet DJ.

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