

Everything You Ever Wanted to Know About Switching to Rechargeable Batteries

By John Curvan, WICKED

The question often comes up if rechargeable batteries will work in wireless microphones. The simple answer is yes. WICKED, the Broadway musical, switched to re-chargeables eight years ago. They work great. As a result, there is a huge reduction of batteries thrown away and, best of all, it saves the production thousands of dollars. WICKED was one of the first shows to make the change, but in the ensuing years many other productions have followed. Because it works. A greener change that also saves green.

Will It Work for You? Some advice:

Every theatre is different, every production is different. The technology of batteries has evolved rapidly in the last decade and today modern rechargeables are as reliable and have as much power as standard alkaline batteries. There is a rechargeable battery made for every application where an alkaline battery would have been used in the past. Try starting small. Buy a few rechargeables and try them on a transmitter used in smaller roles. Pick a character that comes off stage, where you can change batteries if necessary. If the production is extremely long, you may need to change batteries at intermission. On WICKED, we use Sennheiser SK2012 transmitters. They use one AA battery. We currently use Ansmann 2800mAh rechargeables. We power up at 6:30 and they are still running strong after the curtain call at 10:45.

Plan for success – and charging time:

When we were planning on using rechargeables on our show, we knew we had to deal with five show weekends. Rechargeables need time to recharge, usually five to six hours. We knew we would need two sets of batteries. At any given time, one set is being used and the other is being recharged. Since we have 40 transmitters, we have 80 batteries. We color them to keep from getting the two sets confused. You can use nail polish or model paint to mark them.

Conditioning and replacement:

Every battery has an output, often measured in milliamps per hour, or mAh. The AAs we use have a 2800 mAh rating. Every time you recharge a cell, it loses a bit of that capacity. You can minimize this loss by regularly conditioning them. Every twenty charging cycles -- which works out to be every five weeks -- we condition the cells. Conditioning takes 24 hours. The chargers will fully charge, fully drain, allow a cooling period and finally, recharge the batteries. Even with regular conditioning, the capacity of rechargeables will fail. We know from experience that we need at least 1600 mAh to complete the show. When cells fall below that capacity, they will begin failing on stage. So, time to replace those and recycle the old one. Luckily, the Broadway Green Alliance pays for rechargeable battery recycling a few times a year. That way, WICKED will always be a very green show. Encourage your show to make the change!
