

## **Getting sorted through the headset maze...**

(updated on 24 April 2010)

As a pilot on the 737-800, I have become acutely aware of the benefits of noise canceling, with respect to my aircraft - fortunately, not all aircraft are as deafening to fly! We'll take you through the headset choices and try to explain what you are getting for your money. One thing you must keep in mind about headsets for airline use is the requirement by many airlines to use only "TSO-approved" headsets. Let's look at that, and then we can review the headsets we offer that meet TSO standards.

### **TSO APPROVAL**

#### **TSO Headsets – what's the fuss?**

All TSO'd noise canceling headsets must meet a number of FAA approval criteria, including the ability to continue to perform as a basic headset when the power source is removed. That assures you the headset will work just fine without battery power or on that occasional ship where the phantom power is not working properly. Without battery power, the headset must receive and transmit normally, but will offer no noise reduction other than that provided by the ear foam and fit.

TSO headsets are also designed to meet federal standards that assure compatibility with aircraft intercoms, and protect against flame propagation.

## **NOISE CANCELING HEADSETS**

### **Telex 850 ANR and the Sennheiser HMEC26, 46 headsets**

There are basically three mainstream players in the airline ANR headset world: The Telex 850, and the Sennheiser HMEC26 and 46 series headsets. The Telex 850 ANR noise canceling headset is a great all-around option. It needs no battery (uses ships power available from mic jack), and works great. It is also very lightweight and comfortable as well. If you like a bit more noise reduction, and don't mind the additional few ounces of weight, Sennheiser offers two headsets. The HMEC26 and 46 are new, yet solid designs. Very reliable, built like tanks, these top echelon headsets offer excellent noise cancelling. Let's look at them further:

#### **Telex Airman 850 ANR**



The 850 has been around for awhile now, and the good folks at Telex have sorted through the initial design flaws and now have a fairly robust product at a reasonable price. The unit is very lightweight, and requires no batteries to operate. It comes with a nice carry case that is “firm sided” (i.e. it has a hard cardboard inside the woven material) that should protect the unit well. Since the earpieces roll sideways for storage, the unit has a

very small footprint in your flight kit – a real plus for Captains and pilots with lots of “stuff”. The cord is the standard 57” cord length, which can come up short in some aircraft when reaching across the forward panel for something – you may want to check that out.

The unit has a 3 year warranty, but after the warranty runs out, you are faced with only one option for repairs – the Telex Flat Rate repair of \$200. This is fairly steep, considering the initial price of around \$400.

### **Sennheiser HMEC46**

This headset appeared on the market in Fall 2007, and we were excited to obtain some of the first in stock. I was able to use this headset in the B737-800, on a leg from Atlanta, GA to Sacramento, CA, then on a leg from Atlanta to Mexico City. The headset itself is very lightweight. The battery pack is part of the cable, approximately 8 to 10 inches from the jack plugs. This is an improvement over past designs, which had the battery pack dangling by a third cord (which used to hit me in the head, waking me up!). The unit uses two AA batteries which will last at least 72 hours – that’s how long they lasted in our lab. Our customers are now reporting around 100 hours use. The batteries are placed end to end in the battery box, which explains why the box is around 6 inches long and only 1 inch wide.

The battery box contains the controls for the unit. On the front panel are controls for volume, power, stereo/mono operation, and boom mike orientation (left ear/right ear). Inside the battery box is an APO (Auto Power On) On/Off switch. This switch is a life saver; it detects whether the unit is plugged into the aircraft or not, preventing the battery power from being drained while the power is on. Having this function switched

is a great idea when you look at the biggest functional change – the MP3 player and cellphone inputs.

The MP3 player input requires a standard 1/8” stereo plug, so you go to the electronics store and buy a cord with the plug on BOTH ends! Music quality through the headset is excellent, as would be expected from Sennheiser’s musical experience. The music audio is fully muted whenever ANY signal comes in on your headset – ATC, VHF Guard, interphone, or whatever you are monitoring on your comm. Panel. The music resumes around 2 seconds after the audio interruption goes away.

With the APO switch, you can switch on your HMEC46 in the back of the aircraft while deadheading/commuting, and, using the MP3 player adapter cord with an adapter for airline movies, watch the movie or be entertained – all while enjoying the ANR function. We were not able to evaluate the cellphone function, as there are only 3 cellphones supported at this time; mine is not one of them!

Now, to brass tacks – comfort level. I found the unit very comfortable; the ear cushions are 3” wide – wider than my ears, and covered with a very soft cloth-like foam material. My ears were “cradled” into the cushions, and opposed to “pressed” to my head. Fit around my sunglasses and “cheaters” was very good as well.

Normally at cruise, I like to remove my headset and use the speaker. I forced myself to wear the headset for the 4:30 flight to Sacramento. I found at times I forgot I had it on; the light weight and comfort was very acceptable. Cross cockpit speaking required me to move the speaker off of my ear on the side of the other pilot at times to hear him better, but that is pretty standard with ANR headsets. I found it comfortable with the one ear piece not centered on my ear in that situation. There is a slight white

noise “hiss” in the headset due to ANR circuit processing; this has been improved in the HMEC46-1 series now being sold.

Overall, this is a great unit – the low points are still the size of the unit in your flight kit. Unlike Telex headsets, Sennheiser does not allow for the earpieces to be turned sideways on the headset bar, which means a larger footprint in the flight kit. At our low sales price, the unit is still more than \$150 over the Telex unit (Airman 850 ANR), and requires you to keep a second set of batteries handy. You have to ask yourself if having the “bang” of the MP3 function is worth the extra money or not.

The unit comes with a soft case, and the standard clothing clip. I thought the cord was a bit long, and should have a second clip on it, but you can always make one yourself, or buy a second clip. Sennheiser offers a 5 year warranty on this unit, and after it runs out, you can come see us for repairs, or send it to Sennheiser for their \$99.95 Flat Rate Repair.

### **Sennheiser HMEC 26 Headset**

This headset takes over the slot formerly held by the HMEC25 series headset. It looks much the same, only it is lighter and the ANR quality is excellent! It combines the features of the HMEC46 headset (reviewed above) with a closed-back design headset. Battery life is excellent (around 75-90 hours) and the white noise hiss associated with the ANR processing in the -46 series headset is NOT present as the ANR circuits do not have to work as hard with the closed back design.

I used this headset in a beta test when it first came out and was greatly impressed with the comfort and weight. This design has been executed very well.

Sennheiser also offers a “Talk-Through” function on the HMEC26T version of this headset. What this function does is use the external microphones on the speaker cups to hear the other person in the cockpit talking. These microphones are normally used to detect and cancel cockpit noise. When you depress the switch on the headset (or on the cord), these microphones now let you hear the other person speaking (and the cockpit noise). Reviews have been mixed on this function; some love this feature, others find hearing the noise with the person’s voice is disappointing. We have not yet evaluated this headset at our facility, nor on an aircraft.