



3,000 taxis in Spanish capital get Contacta loops

Three thousand taxis in the Spanish capital, Madrid, are now hearing accessible thanks to a major installation programme of Contacta hearing loops.

Legislation took effect in Spain in 2020 which stated that every new taxi in the city must have a loop system fitted. Hearing loop technology was specified as it is the most common and universally accepted, that would work best for the user.

It is also the only technology currently that has a globally accepted installation standard.

Our Spanish distributor, Aimas, contacted us to discuss the possible options. We looked at the sound sources, passenger location within the taxi, signage and other important aspects.

Following the initial consultation, a number of components were supplied to the Aimas installation team, including several types of loop drivers, wires and microphones, to carry out initial tests on a number of taxis.

The challenges

Contacta have extensive experience in looping vehicles having first introduced hearing loops into black cabs in London in the 1990s. So, we were prepared for the challenges installing loops in cars presents.

The first to overcome were EMI and background noise levels caused by the engine, the alternator and ambient noise from the surrounding environment, especially while a taxi is in motion.

Aimas' engineers worked with our Tech Design team who ran current and voltage calculations based on the measurements recorded in the taxis. Together, they found that a perimeter loop layout in the ceiling above the passenger seats gave the best performance.

The Tech Design team recommended using a vehicle-approved HLD2 driver with a bespoke loop wire. The wire had a calculated number of turns to deliver a signal strength to meet the IEC60118-4 standard. Further tests were then carried out to determine the best type of microphone to use, and its optimal location, in order to pick up the driver's voice with as little background noise as possible.

The chosen components were compiled into a kit that we could manufacture at the required volumes.

With the system decided on, Aimas then had to get certification from the UCA (Unidad de Certificación del Automóvil). The R10 stamp approves the use of the HLD2 in vehicles in the EU.

Installation was carried out along with precise adjustments to make sure each system meets the IEC standard and delivers a clear sound for passengers.

Signage was something that was given a lot of attention. Special stickers were printed in Spanish and positioned on the side windows of each taxi.

High performing results

“Working with Contacta on this project has meant we have a fantastic result that the client is very happy with,” said Guillermo Chicote from Aimas. “Their experience, plus the range of components available for us to use, made the job much simpler than it could have been with so many factors to consider.”

During a visit to Madrid in November 2023, Contacta engineers tested the loops installed in some of the taxis at the Sociedad Cooperativa Madrileña del Autotaxi (SCAT) premises. They recorded a decibel reading of under 1dB. As the IEC60118-4 standard allows a range of between -3dB and +3dB, this result was excellent, and the sound quality from the loop system was clear and noise-free. The unique design of the loop system in the taxi ceiling delivers the magnetic signal across the taxi, covering the back seat row and the passenger seat as well.

Ongoing installation

The new law means every new taxi in Madrid is obliged to have a hearing loop installed. So far, around a fifth of the 15,000 taxis in the capital have them in place and Aimas currently supply and fit between 150-200 systems each month.

Because each taxi in Madrid must be replaced after a maximum of 10 years, Aimas has an ongoing programme of work as new vehicles join the fleet.

The company is currently in discussions with taxi associations in other major cities in Spain, as the legislation of hearing accessibility is being rolled into other municipalities.

“Madrid has very much been a role model,” added Ran Meyrav, Contacta’s Head of New Business Development. “This project is a great example that we hope we will see replicated elsewhere in Spain – and beyond.”