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The operator control unit attached to the Cubic GFI Odyssey model Universal Fare System (UFS) fare box allows bus operators to acknowledge receipt of proper fare, classifies the types of passes used or purchased, or note if a rider is short on the fare. Most importantly, it allows riders to use their Transit Access Passes (TAP) to validate their fares.

Process for Collecting Fares is No Simple Matter

- Maintainers, operators appreciate errrrrrns, beeeeps and chiiirrrps.

By JIMMY STROUP



Electronic Communications Technician Leader John Sheridan vaults a cash box from the UFS fare box into the receiver vault at Central City Division 1. The cash box is taken out of the bus, emptied into the vault and returned to the bus – all within a

(May 1, 2008) Errrrrrn! Beeeeeeep! Chiiirrrrp! These noises may be just noise to most people, but to the maintainers and operators who repair and use the Cubic GFI Odyssey model Universal Fare System (UFS) fare box they know exactly what each sound means – and what to do about it.

All 2,700 coaches in Metro's fleet are equipped with these fare boxes, not including the Orange Line fleet.

Operating like light rail, the Orange Line cash rider purchases a ticket from stationary ticket vending machines at each station as proof of payment, or validates their TAP card at the validation device installed at the curb so customers can board quickly, without use of an on-board fare box.

"The bus fare boxes provide the interface for the operator to acknowledge full fare or short fare when a rider inserts the

minute. money," said John Sheridan, the Gateway Cities Sector electronic communications technician leader who oversees the fare boxes at Central City Division 1.

The Odyssey models have been around since 2004 – the last of the buses were outfitted with the all-electronic UFS devices in 2006.

"They're very reliable," he said. "There are some coin jam issues when the reject coin cup fills up with foreign currency – which happens a lot. But it's a simple thing to fix that. It's not even worth complaining about."

The daily grind

The average UFS fare box will collect money and validate TAPs all day and cruise into the yard sometime after 5 p.m. At the end of the work day, the cash is "vaulted" in the vault house, which has safes to hold that day's revenues.

Service attendants ("vaulters") probe the UFS device with an infrared (IR) sensor that opens the cash box section at the bottom of the device. Once the door opens it goes into alarm mode and gives the vaulters about a minute to empty the cash box into the onsite vault and return it to the fare box. If they don't: EEEERRRRRRN!!

As this happens, a radio frequency local area network (RFLAN) is activated by the probe, allowing the UFS to communicate and transmit detailed transaction records with one or more remote data collection sites. The IR and RF sensors capture each transaction on each fare box, and transmit the records to an integrated central data collection system at Gateway. Everything. All wirelessly and with high speed communication systems connecting all Metro operating divisions.

Buzzzzzzzz!

All in all, Sheridan finds this device superior to the fare boxes Metro used before. Its capacity has been increased and, most notably, the interface with the operator has been vastly improved.

"This fare box will only validate legitimate U.S. currency," he said. "When you put in foreign or fake money, it will make a little warble or buzzing noise to let the operator know the bill isn't being accepted."

The greatest benefit to the UFS, though, is its ability to accept TAP (transit access pass) as fare payment. Jane Matsumoto, deputy executive officer in charge of the TAP program, said TAP payments make it easy on the operators.

"The more people who use TAP, the more convenient it is for the operator who doesn't have to deal with cash or inspect passes," she said.

Sheridan and his group of eight technicians service the hundreds of buses at divisions 1 and 2 in the Gateway Cities Sector. Sheridan's team performs quarterly inspections of the UFS boxes, although he finds that beyond a little cleaning, the boxes generally need only routine upkeep.

"I'd say they're more user-friendly for maintainers, as well as reliable, and have a more streamlined operation, which helps the operators, too," he said. "Plus, it takes TAP cards, which are becoming more prominent all the time."

