

**FCC ID: QUTTX4313RS**

## **System's Operation**

TX4313RS (Fixed Code, labeled in XX format, X=0, 1, ..., E, F) transmitters are the common transmitters which are available for all those dealers. Dealer AA owns all the transmitters with the same label AA and dealer BB owns all the transmitters with the same label BB. All the transmitters labeled AA have the same fixed code, so that one transmitter learning with transmitter "AA" can make all the other transmitters labeled AA work with the very receiver.

- 1) Smallest size is desired.
- 2) Basic function of passive arming starter kill device with on-board relay:  
Automatically arms up 30 seconds after ignition is turned off and the NO (Normally Open relay becomes off) so that the starter can't be started.  
Before starting the ignition and starter, transmitter button #1 has to be pressed so that the relay will be activated and complete the starter circuit. Within 30 seconds, the ignition has to be started, else the relay will be disabled again.  
After the ignition and the starter have been started, the relay will remain activated until 30 seconds after the ignition power is turned off.

Notes:

- (1) There are two buttons on the transmitter, the first button (bigger one) and the 2<sup>nd</sup> button (smaller one).
- (2) The 30-second count down will be effective only if the EEPROM content is not empty. Empty EEPROM means that no transmitter has been learned yet. This means that if the EEPROM content is blank, then system will not enter armed mode forever.
- 3) One way for valet parking:  
Valet function is to disable the circuit temporarily so that the valet parking people can park and start the car engine freely.  
If the valet function is not disabled, then this device is equivalent to being not installed at all.  
Turn the ignition ON/OFF/ON/OFF/ON within 5 seconds, then system will respond with one beep. Within 5 seconds, press button #2 (any learned transmitter) for 5

seconds and system will respond with 2 beeps to indicate that the device has been in valet mode. During the valet mode, the relay will always be engaged.

How to exit from the valet mode?

Turn the ignition ON/OFF/ON/OFF/ON within 5 seconds, then system will respond with one beep. Within 5 seconds, press button #2 (of transmitter learned) for 5 seconds and system will respond with 1 beep to indicate that the device has been out of the valet mode and the system has been in the operating mode.

- 4) This device has to be constantly powered on. This means that a constant power +12V has to be applied. Relay (NO) will be activated whenever ignition is ON and deactivated 30 seconds whenever ignition is OFF.
- 5) Pin #7 (of RX-3302D2) (LA) is for code learning and it is active LOW. Thus one NPN transistor may be needed for noise suppressing and circuit protection. This pin is to be connected to the ignition of the car's key.
- 6) There are two kinds of transmitters involved:

Type 1: Those transmitters used by dealers:

Dealer AA: All transmitters have the same fixed code and labeled AA.

Dealer BB: All transmitters have the same fixed code and labeled BB.

Note that BB is different from AA.

Dealer XX: All transmitters have the same fixed code and labeled XX.

Type 2: Those rolling code transmitters used by users.

Note that fixed code combination is 16 million codes, while for rolling code it is in billions.

You can learn up to 15 transmitters in one or several learning cycles.

If more than 15 transmitters are learned, then FIFO happens.

Note:

FIFO means first-in-first-out which means that 16<sup>th</sup> learning will push out the first learned transmitter from system's memory.

7) Code learning process:

7.1) For the dealers' demo transmitter:

When the EEPROM content is blank:

Switching ignition ON/OFF/ON/OFF/ON within 5 seconds and hearing one beep response, then press button #1 of any demo transmitter within 5 seconds, then the fixed dealer code is learned into the system and system's response will be 1 beep.

After the beep sound, there is another 5 seconds of learning period. You can learn as many fixed code transmitters in the above learning chain. If no transmitter is pressed 5 seconds after the last beep, then the learning cycle is completed.

As soon as this learning process is completed, then all the dealer's same-fixed-code transmitters can work on the device.

If you want to learn more fixed code transmitters into the system, then you can follow the same procedures to do so. Note that for this type of code learning, the EEPROM is not blank before code learning.

For programming purpose, a flag (tc : transmitter category) should be set up. If this flag is 0 (not set), then only fixed code can be learned into system's memory.

Notes:

- 1) For each dealer, you may sell them 1 to 3 different-labeled transmitters. Basically they can learn up to 15 different labeled transmitters into their car. For each labeled transmitter such as "AA", learning once for each receiver is enough. If you try to learn the same labeled transmitter twice, the system will give no further beep.
- 2) Code learning can be done at any mode, disarmed mode, armed mode and valet mode. It is suggested to be done at disarmed mode. For emergency purpose and to the buyer's request, code learning can also be done in armed mode. If so, then after code learning system will return to armed mode.

#### 7.2) For the user's transmitters:

At this time, the EEPROM of the device is not blank: (tc = 0)

Switching ignition ON/OFF/ON/OFF/ON within 5 seconds and hearing 1 beep response, then press both button of the learned demo transmitter for 4 seconds and hearing 2 beeps response, then press the target transmitters one by one within 5 seconds and hearing 1 beep response each, then the new transmitter is successfully learned.

Note that all the fixed code demo transmitters will be deleted from the system before the 1<sup>st</sup> user transmitter is successfully learned.

How to learn more user code transmitters by the user? Only the earlier learned user code transmitter can be used to replace the demo transmitter. Under this circumstance, tc flag is 1.

You can learn up to 15 user transmitters in one or several learning cycles. If more than 15 transmitters are learned, then FIFO happens.

Notes:

- 1) In response to buyer's request, at user mode, the dealer transmitter can still be learned and operated. If so, both learned user transmitters and learned dealer transmitters can be operated. But it still follows the following learning rules:
  - A. Can use learned user transmitter to learn new user transmitters and all learned transmitters can operate.
  - B. Can learn new dealer transmitter and all dealer transmitters with the same code can operate on the car.
  - C. Can use learned dealer transmitter to learn new user transmitters and all the dealer transmitters learned earlier will be erased, only the newly learned user transmitters and the other learned user transmitters (if any) can be operated.
- 2) Code learning can be done at any mode, disarmed mode, armed mode and valet mode. It is supposed to be done at disarmed mode, but buyer asks for this special feature.

After code learning, system will return to the mode before it enters the code learning mode. For example, if the code learning is done in armed mode, then after exit from the code learning mode, then system will return to armed mode.

### 7.3) Code Deletion:

**Device learned with dealer's fixed code:**

Switch ignition key ON/OFF/ON/OFF/ON within 5 seconds and hearing 1 beep of system's response, press both button of demo transmitter for 8 seconds with response of 2 beeps, then system's memory is evacuated.

**Device learned with user's rolling code:**

Only the learned user's transmitter can do this.

Switch ignition key ON/OFF/ON/OFF/ON within 5 seconds and hearing 1 beep of response, press both button of learned user transmitter for 8 seconds with response 2 beeps, then system's memory is evacuated. This is not suggested to be done by the users. This should be kept as a secret to the users.

**7.4) Emergency Overriding**

If you happen to lose your transmitter or if the transmitter becomes defective while the system is in armed mode, then you can operate in the following way to disarm the system:

Use your key to switch the ignition from OFF to ON and stays for 10 to 20 seconds (more than 10 seconds but less than 20 seconds). Then switch to OFF for 10 to 20 seconds. And then switch to ON for 10 to 20 seconds. Then switch to OFF for 10 to 20 seconds. And then switch to ON and this disarms the system for 30 seconds, same as operated by using transmitter. But there is no disarming chirp in emergency overriding.