HT42B536-x UsbCANBusTool User Guide

Revision: V1.00 Date: April 11, 2024

www.holtek.com

Table of Contents

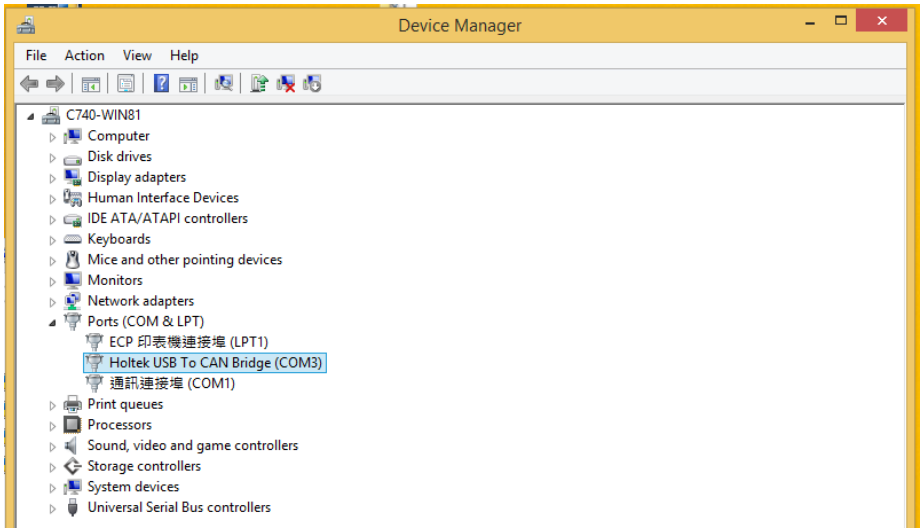
1. Introduction

The UsbCANBusTool is a test tool for the HT42B536-x device. It is a Windows application software that can view, send and record CAN messages.

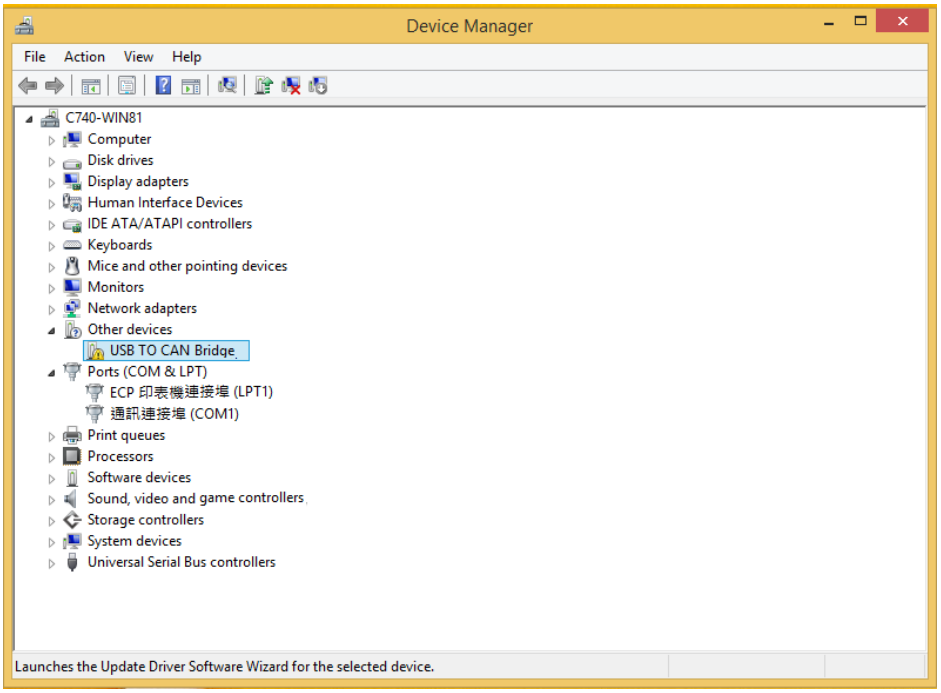
The UsbCANBusTool & DLL instructions can be downloaded from the Holtek website https://www.holtek.com.

2. Installation

For Windows 10 or later operating systems, users can directly connect the HT42B536-x to the computer via an USB cable, and the Device Manager will display the device name, as shown below.

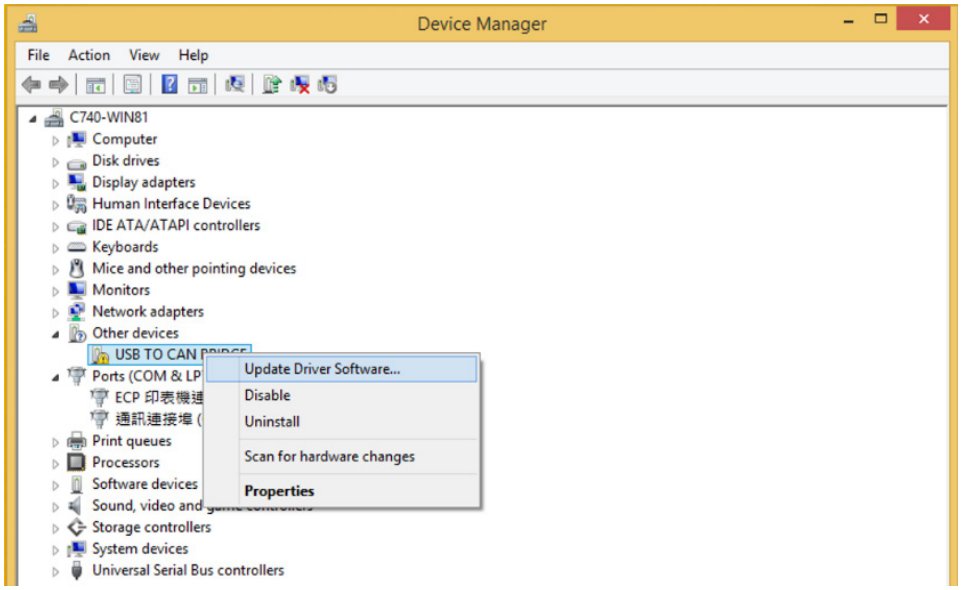


If the operating system does not support automatic installation for serial port drivers, the following diagram will be displayed.

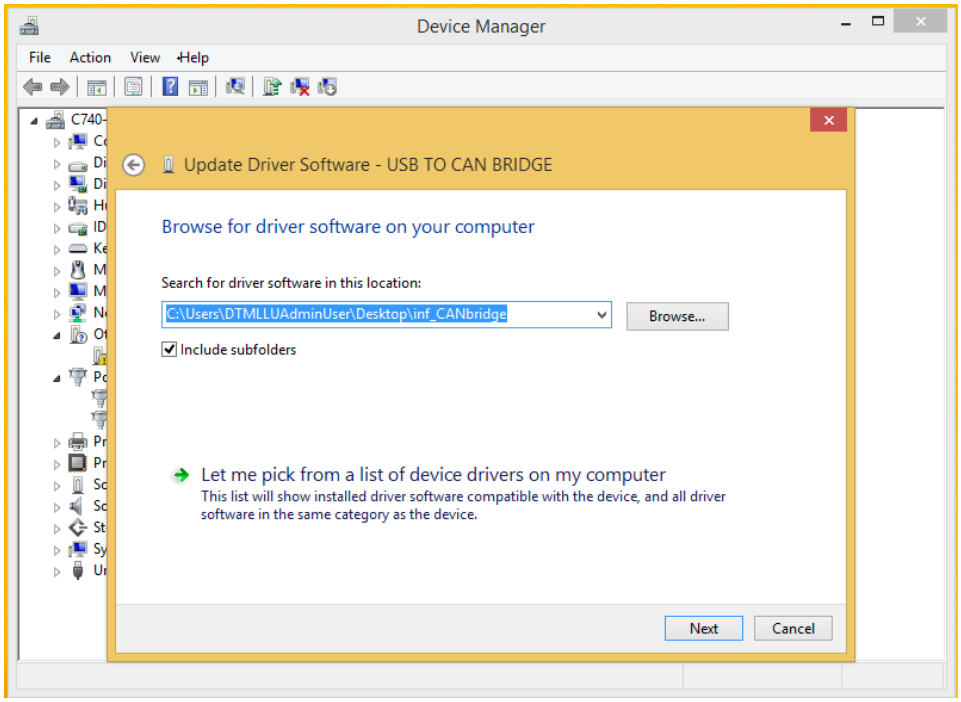


At this point, install it manually according to the following steps.

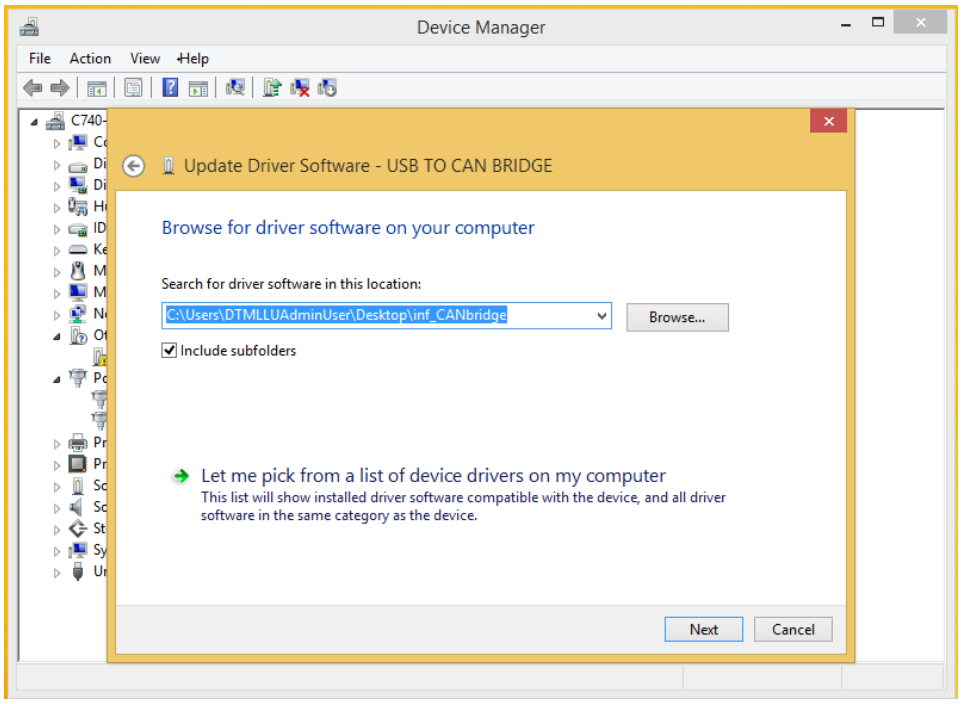
Step 1. Right-click on the device and select “Update Driver Software”



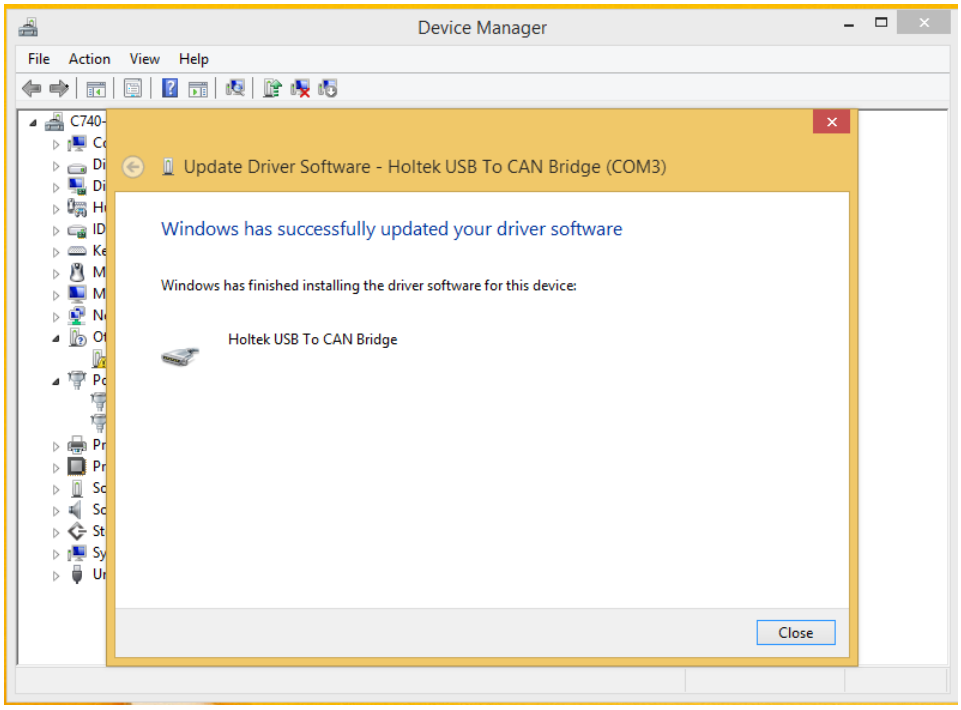
Step 2. In the appeared window select “Browse for driver software on your computer”



Step 3. Select inf_CANbridge in the Project directory



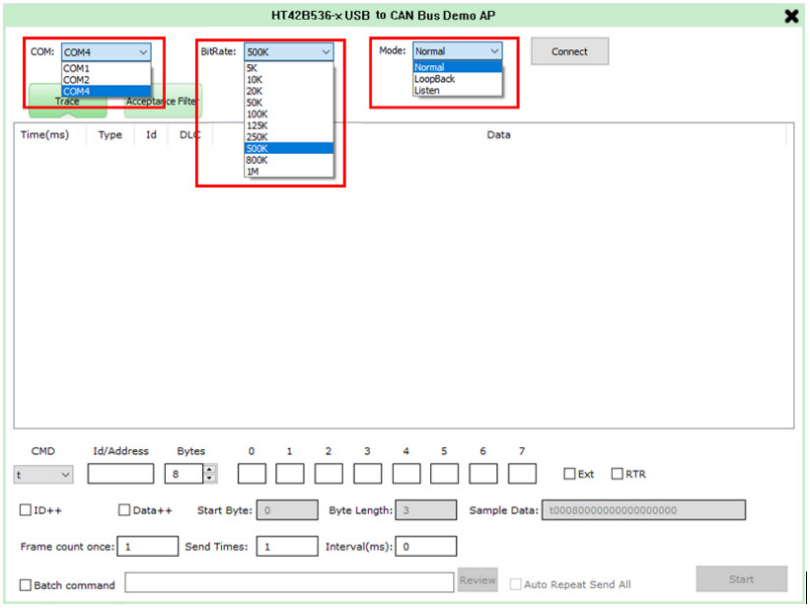
Step 4. Complete the Installation



3. Functional Description

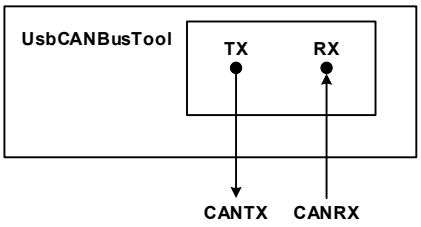
3.1 Initialise CAN interface

Start the UsbCANBusTool.exe software and select the corresponding device name from the COM option menu.

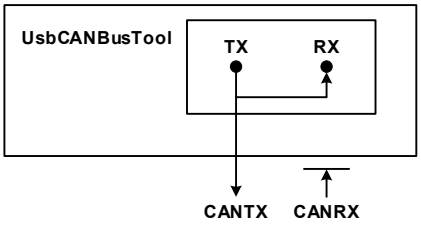


The BitRate option menu is used to select the transmission rate and set the CAN communication mode. The transmission rate provides ten selectable frequencies of 5K~1MHz. The mode provides three communication modes, known as Normal, Loopback and Listen. The Normal mode is the main operating mode, which can implement bidirectional communication. The Loopback mode is an output only state where the output data is stored back to the RX side. The Listen mode is an input only state where even the successfully received ACK cannot be sent out.

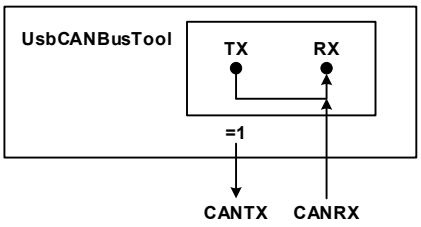
Normal mode for bidirectional communication:



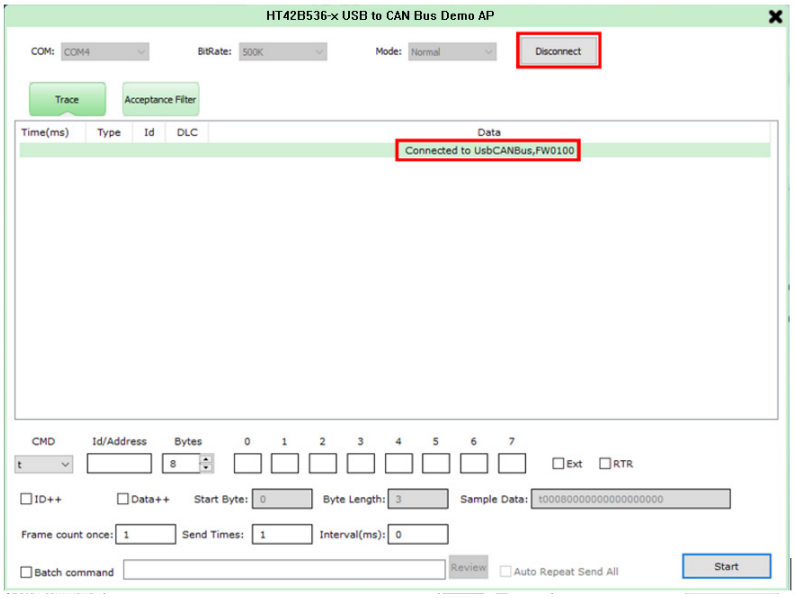
Loopback mode for input only:

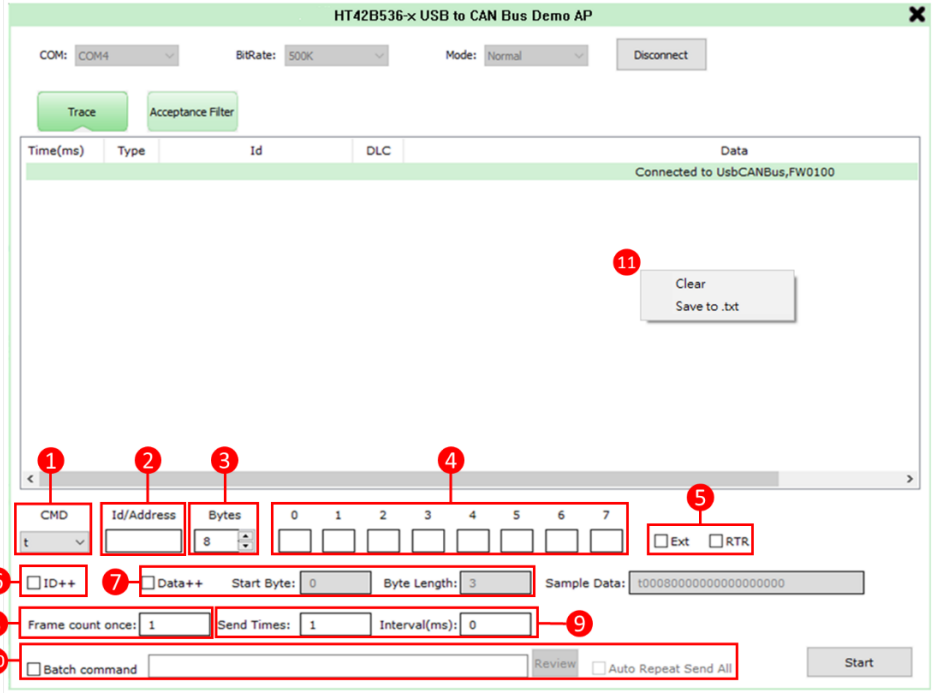


Listen mode for output only:



After the Connect button is pressed, a message such as "Connected to UsbCANBus,(Firmware version)" appears, and the Connect button becomes the Disconnect button.

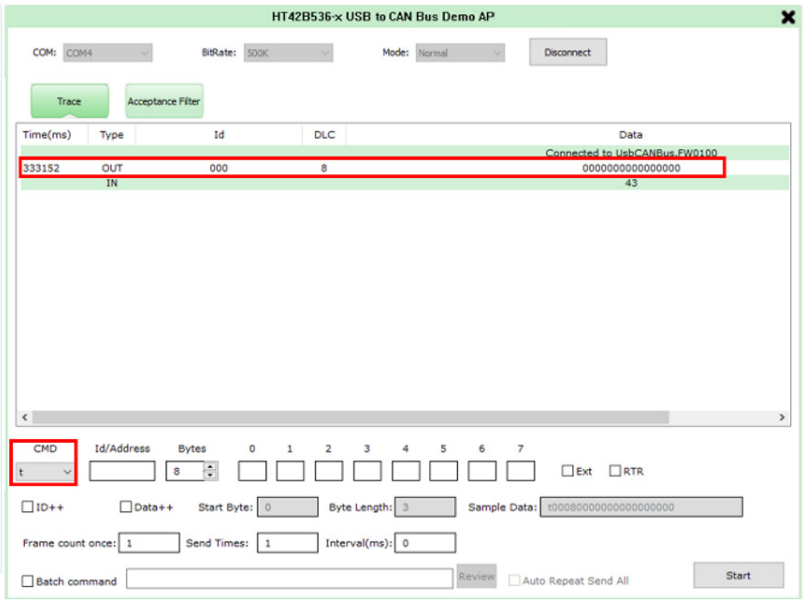




1. Select the CAN transmission information format
2. Set the start frame identifier
3. Set the data length
4. Set the start data
5. Extend/Remote function
6. Frame identifier increment function
7. Data increment: After the data increment function is enabled, the data increment start position and length should be set at the same time
8. Number of data sent at a time
9. Send times/interval: Set the number of send times to -1, this indicates unlimited sending
10. Load the transmission data file
11. Right-clicking the mouse button can clear/save data on the window

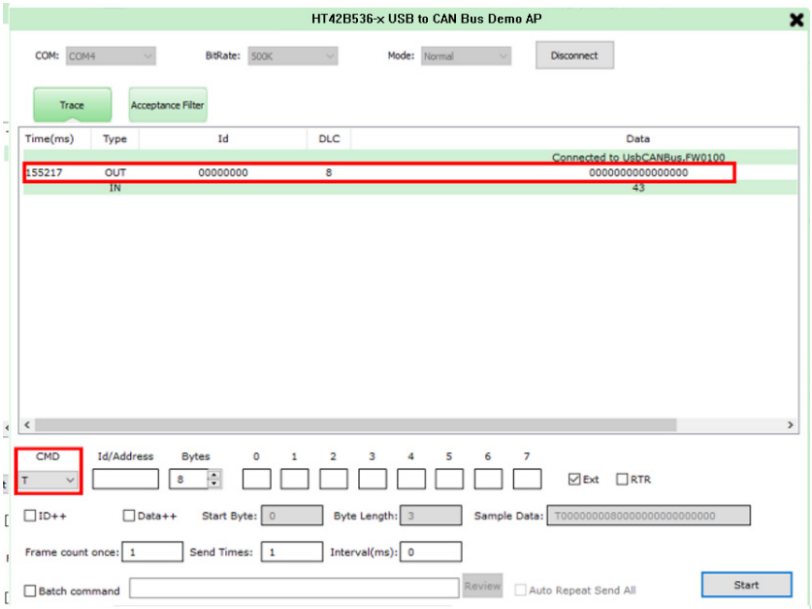
3.2 Transmit CAN Message

Set the CAN send signal format, using the CMD option menu with Ext (Extend) and RTR (Remote) check boxes, the software transmission signal can be divided into (t, T, r, R, m, M, F, G, W, v) modes.



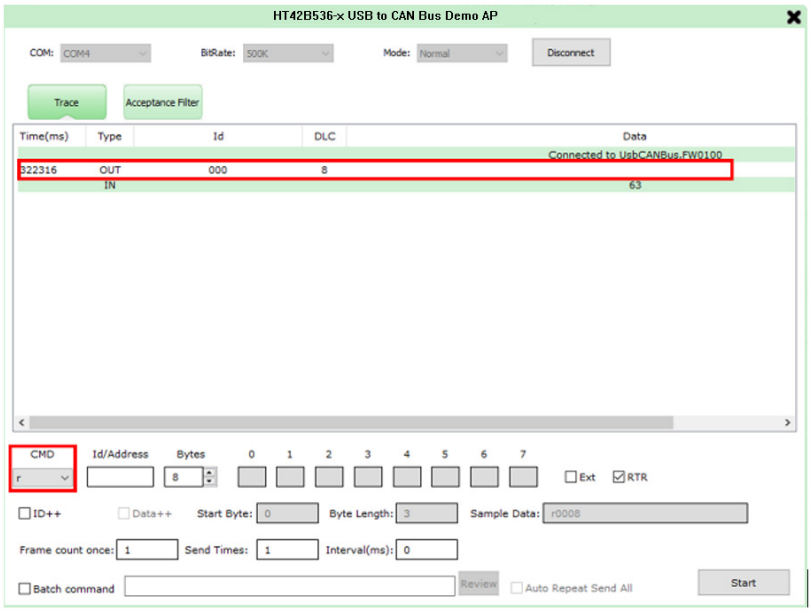
When the Ext/RTR are both disabled, the t mode can be selected.

Transmits a standard CAN frame (11-bit) over the CAN bus.



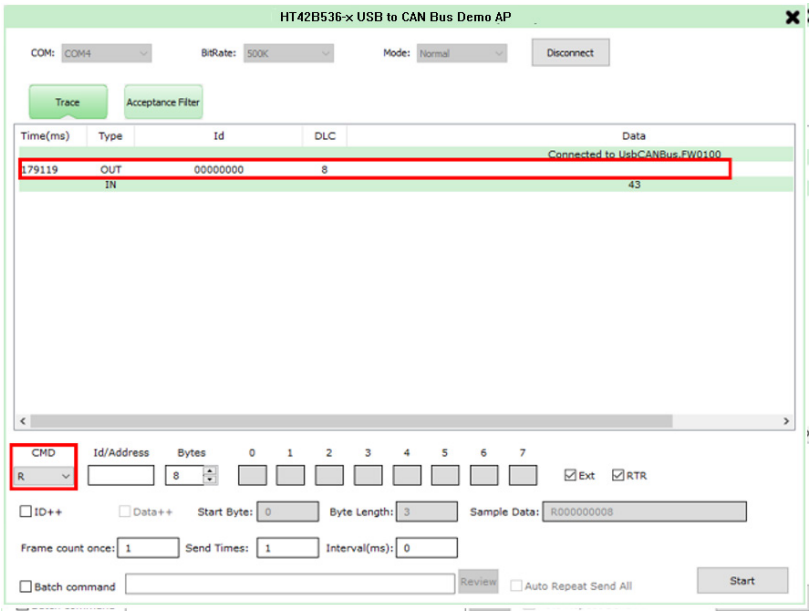
When the Ext is enabled and the RTR is disabled, the T mode can be selected.

Transmits an extended CAN frame (29-bit) over the CAN bus.



When the Ext is disabled and the RTR is enabled, the r mode can be selected.

Transmits a standard remote request (11-bit) over the CAN bus.



When the Ext/RTR are both enabled, the R mode can be selected.

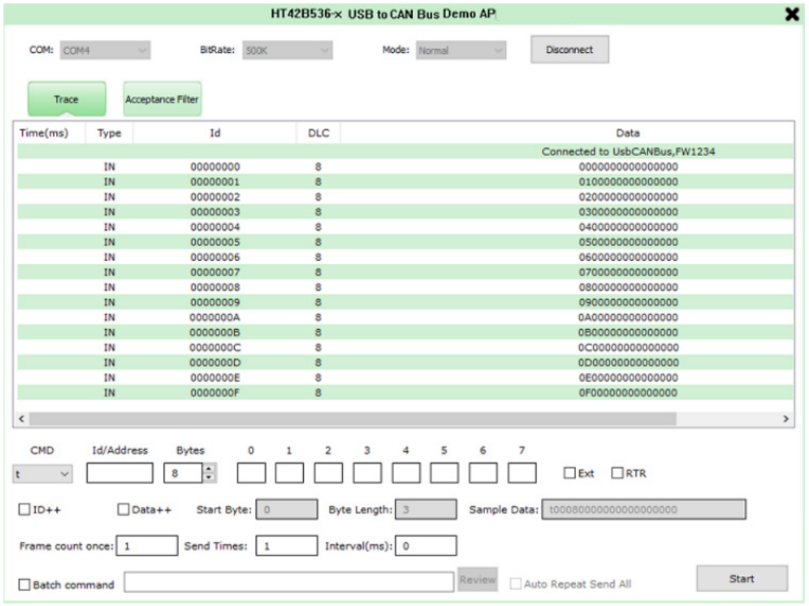
Transmits an extended remote request (29-bit) over the CAN bus.

For the CMD menu the mode code is listed as follows:

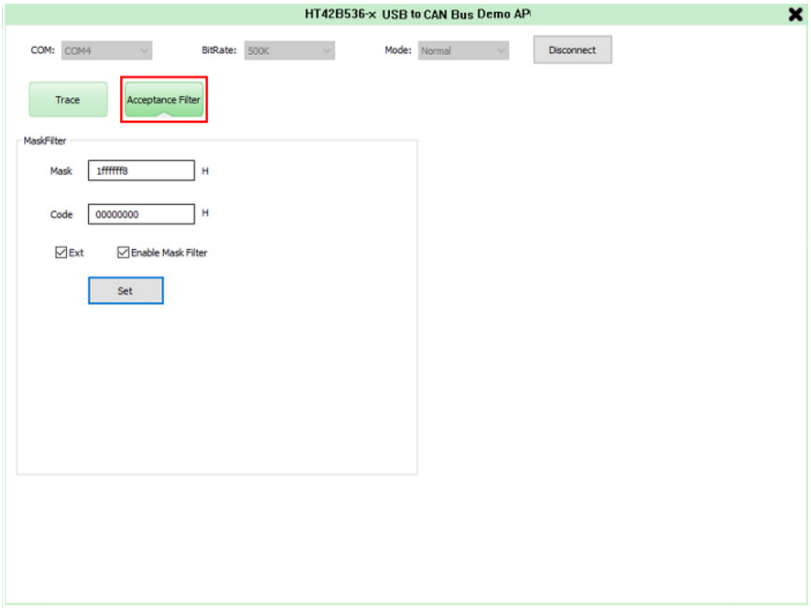
Transmitting a CAN Frame	
t	Transmits a standard CAN frame (11-bit) over the CAN bus
T	Transmits an extended CAN frame (29-bit) over the CAN bus
Transmitting a Remote Request CAN Frame	
r	Transmits a standard remote request (11-bit) over the CAN bus
R	Transmits an extended remote request (29-bit) over the CAN bus
Setting Acceptance Mask	
m	Set acceptance filter mask for standard CAN frame (11-bit) identifier
m	Set acceptance filter mask for extended CAN frame (29-bit) identifier
Setting Acceptance Code	
M	Set acceptance filter code for standard CAN frame (11-bit) identifier
M	Set acceptance filter code for extended CAN frame (29-bit) identifier
Getting Status Flags	
F	Get CAN bus status
Getting Version Information	
v	Get the current firmware version

3.3 Receive CAN Message

When a CAN message is received, the UsbCANBusTool will display all CAN information, including ID, DLC, Data, Time and other information. The following diagram shows the 16 CAN messages received.

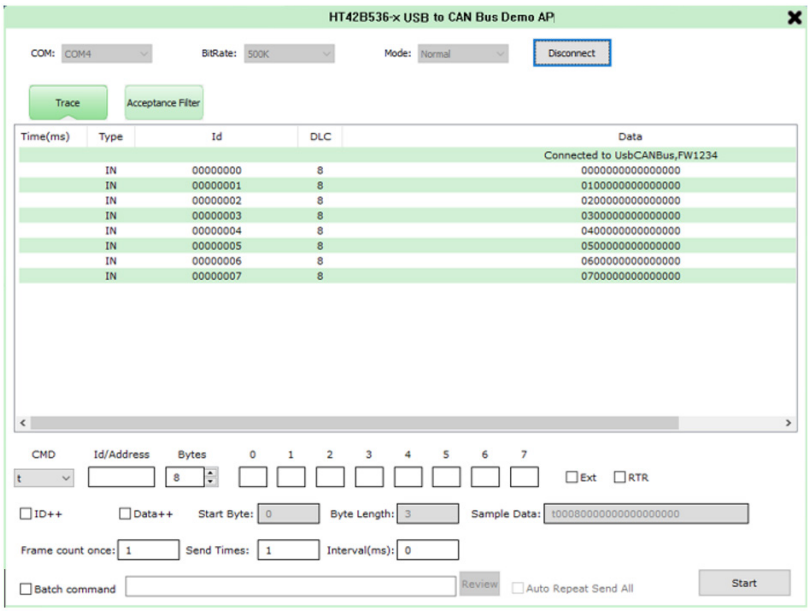


The CAN Acceptance Filter function is provided, which can be used to filter unwanted CAN messages.



In the case of receiving the same 16 CAN messages as in the diagram above, because the filter has been set, only the first 8 CAN messages that are not filtered is received.

Note: Changing the CAN receive filter takes effect only after the Reconnect (Disconnect → Connect) setting.


HT42B536-x USB to CAN Bus Demo AP
COM: COM4
BitRate: 500K
Mode: Normal
Disconnect
Trace
Acceptance Filter
Time(ms) Type Id DLC Data
Connected to UsbCANBus,FW1234
IN 00000000 8 0000000000000000
IN 00000001 8 0100000000000000
IN 00000002 8 0200000000000000
IN 00000003 8 0300000000000000
IN 00000004 8 0400000000000000
IN 00000005 8 0500000000000000
IN 00000006 8 0600000000000000
IN 00000007 8 0700000000000000
CMD Id/Address Bytes 0 1 2 3 4 5 6 7
Ext RTR
ID++ Data++ Start Byte: 0 Byte Length: 3 Sample Data:
Frame count once: 1 Send Times: 1 Interval(ms): 0
Batch command Review Auto Repeat Send All Start