



Application Note

AN_241

FTDI_AOA_HyperTerm_User_Manual

Version 1.0

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Android Honeycomb (3.1) and later versions support Android Open Accessory Protocol, which can receive and send data from an Android accessory without additional drivers. The utility is for FT311D/FT312D (USB Android Host chip) which is configured to be a USB to UART device.

Use of FTDI devices in life support and/or safety applications is entirely at the user's risk, and the user agrees to defend, indemnify and hold FTDI harmless from any and all damages, claims, suits or expense resulting from such use.

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1 Introduction

This utility is for FT311D or FT312D (USB Android Host chips) which support the USB to UART bridge function. It is a convenient terminal application for use on an Android device. Android Honeycomb (3.1) and later versions support Android Open Accessory Protocol, which can receive and send data from an Android accessory without additional drivers.

1.1 Features

- The application will open automatically when you plug in the FT311D or FT312D Android Open Accessory devices.
- Suitable for use on any Android platform supporting Android Open Accessory Mode (Typically 3.1 onwards, however some platforms may port Open Accessory Mode to version 2.3.4).
- Basic UART interface with RXD, TXD, RTS, CTS pins option.
- Provide general terminal UART utility; easily adaptable to a console function.
- Support CTS/RTS Flow control.
- Support Baud from 300 to 921600 with CTS/RTS flow control.
- Support Baud from 300 to 115200 without flow control.
- Save file and Send file functions support XModem, YModem and ZModem file transfer protocols.
- FT312D enlarges the UART RX buffer size to 5512 bytes for enhanced UART data streaming performance. FT311D RX buffer is 512Byte.
- USB Plug and Play.
- Provide power source to the Android device via the Y-cable configuration.
- USB 2.0 Full Speed compatible.
- USB error and over current indicator.
- Suitable for TTL, RS232, RS422 or RS485 depending on the transceiver used in conjunction with the FT311D or FT312D.

1.2 Install Application

Find this application in play store by searching "[ftdi aoa](#)" and then install it.

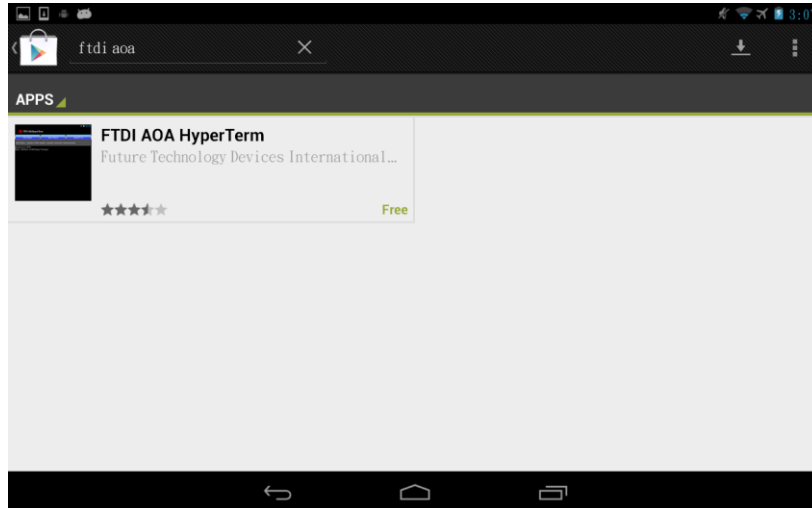


Figure 1 The Application in Play Store

1.3 Launch and Exit Application

When your android device is attached with FT311D/FT312D AOA device, it will ask you to execute this application.

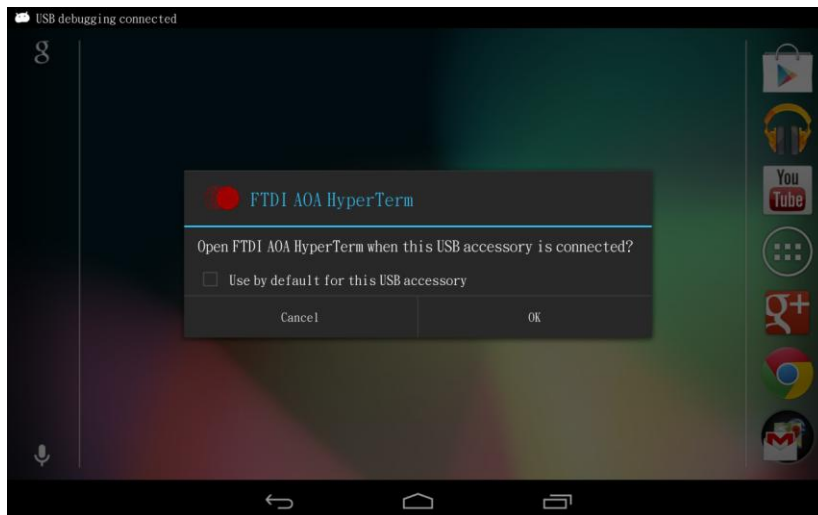


Figure 2 Launch Application

To exit this application, you should tap the back button and it will show a notification message. Then tap the back button again to exit before the notification message disappears.

Note that you have to reset or re-plug the FT311D/FT312D AOA device if you want to use it again.

2 Functions

This section describes how to use this utility.

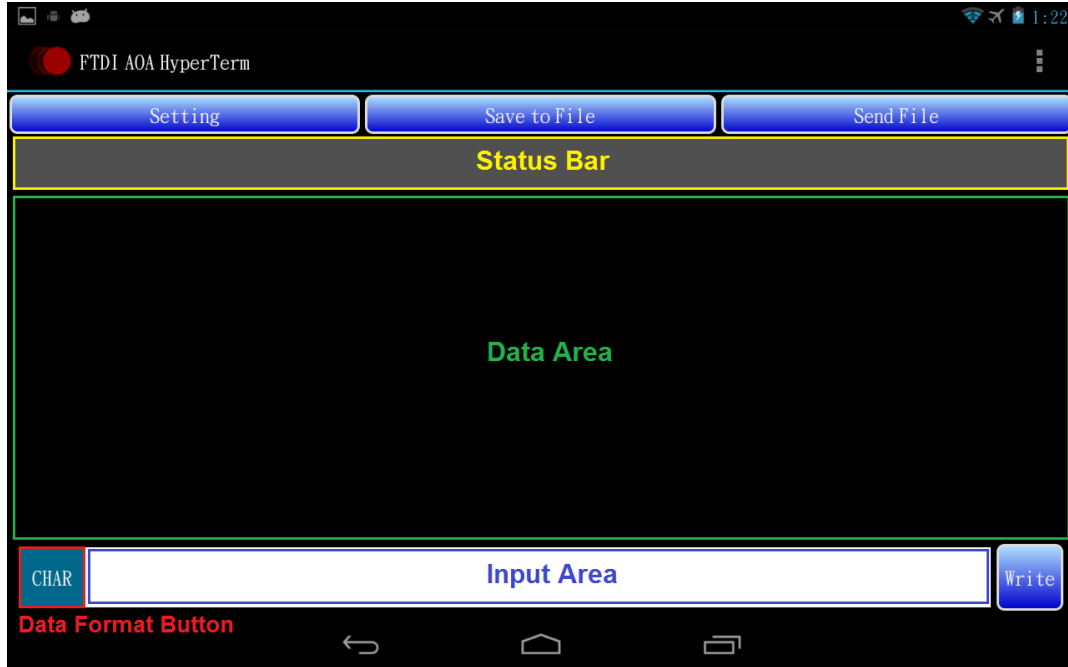


Figure 3 Main Screen

2.1 Serial Settings

Tap the "Setting" button and it shows a row with several setting items for serial settings.

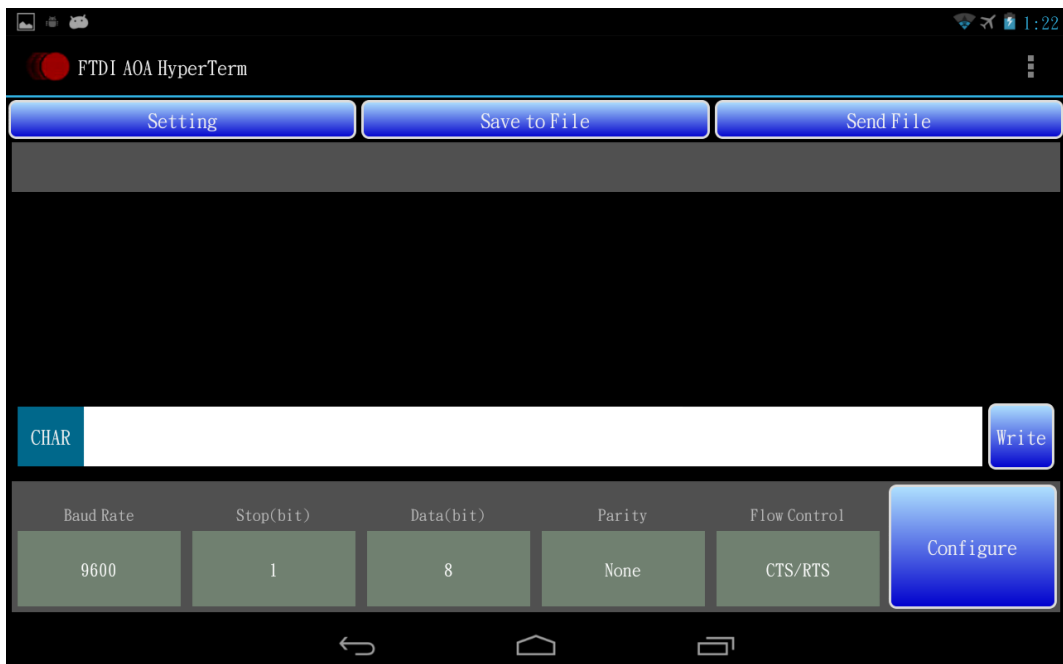


Figure 4 Serial Settings

The configuration settings allow the baud rate to be set at standard values between 300 and 921600 baud with CTS/RTS flow control and the values between 300 and 115200 baud without flow control.

Stop bits may be set for 1 or 2.

Data bits may be set for 7 or 8

Parity may be set for None, ODD, EVEN, Mark or Space.

Flow allows for no flow control or RTS/CTS flow control. It will show a warning message when "none" flow control is selected.

After you select the required setting for each item, tap the "Configure" button to set it. "Setting" button becomes "Key Code" button and setting information will be shown on status bar: content format and UART setting.

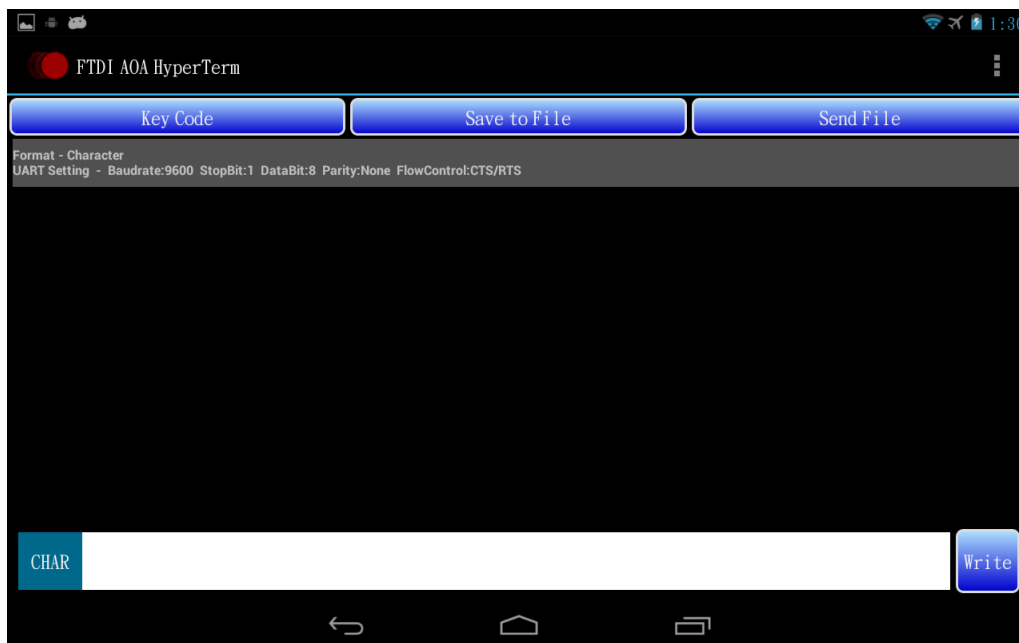


Figure 5 Information on Status Bar

Note you can only do this once. To change settings a second time, the accessory has to be unplugged from the Android system and then re-inserted.

2.2 Send Data

The sent data is also shown in the data area when the content format is character format, otherwise it will show a warning message three times when you tap the "Write" button. You may also tap the data format button to toggle CHAR or HEX format for sending data.

2.2.1 Send Plain Text Data

Input data in the input area and tap "Write" button to send data when the data format button shows "CHAR".

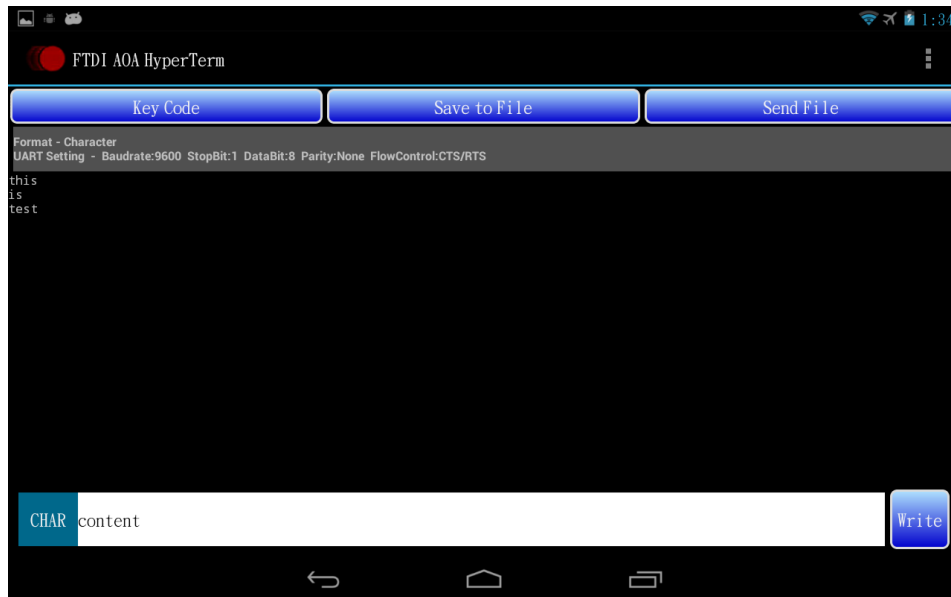


Figure 6 Send Plain Text Data

2.2.2 Send Hexadecimal Format Data

Input data in the input area and tap the "Write" button to send data when the data format button shows "HEX".

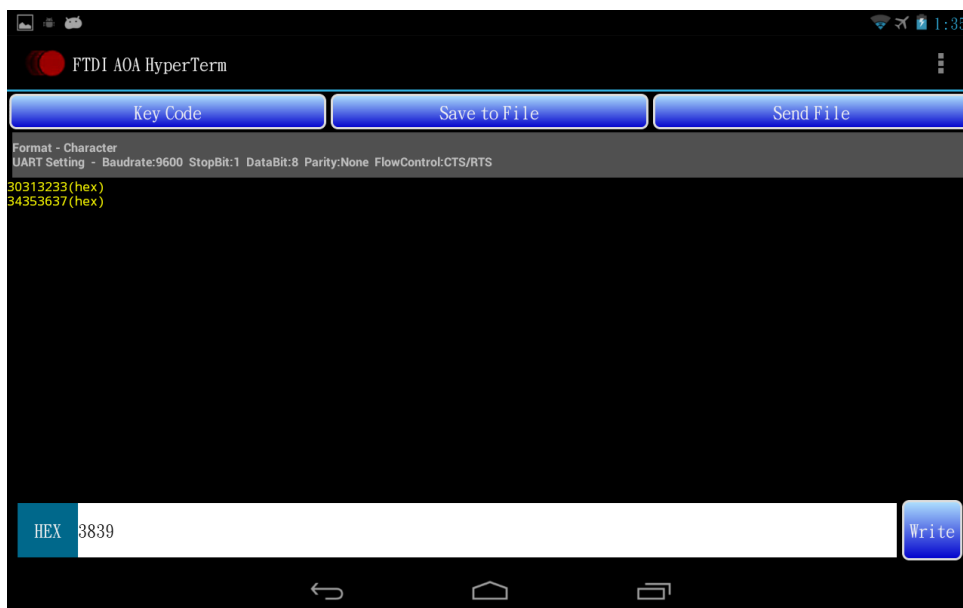


Figure 7 Send Hexadecimal Format Data

Note you need to input 2 characters for hexadecimal data and both character should be from '0' to '9' or from 'a' to 'f', otherwise the application will show a warning message when you tap the "Write" button.

2.2.3 Send Special Key Code Data

Tap "Key Code" button and it will show a row with two buttons: Ctrl-C and ESC.

Tap "Ctrl-C" or "ESC" button to send its corresponding key code data.

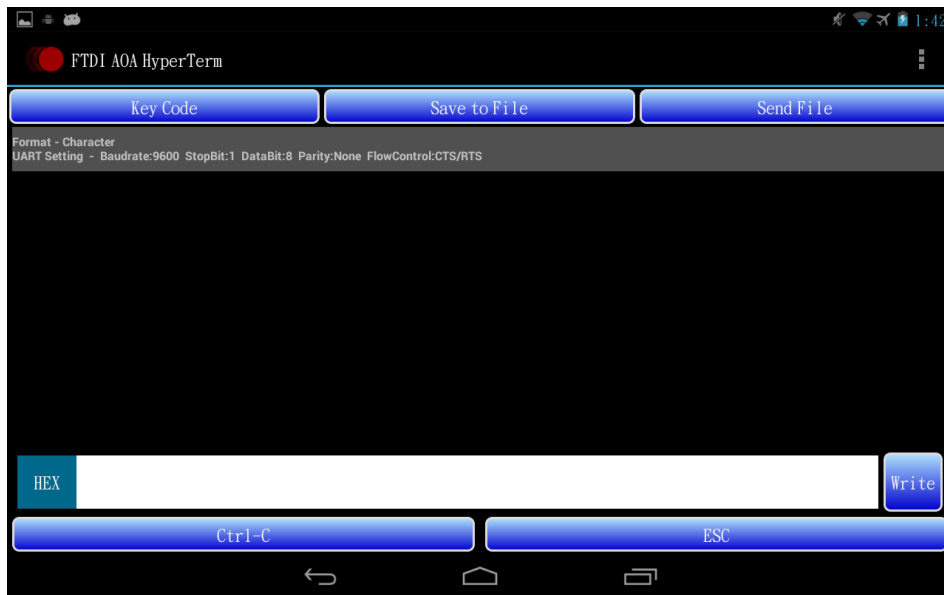


Figure 8 Send Special Key Code Data

2.3 File Transfer

File transfer functions are allowed after the UART is configured and when content format is set to character format, otherwise it will show a warning message when you tap the "Save to File" button or "Send File" button.

2.3.1 Receive File

Step 1: Tap "Save to File" button to prepare receiving file.

Step 2: Select protocol.



Figure 9 Select Protocol

Step 3: Select file destination.

- I. For "ASCII", "XModem-Checksum", "XModem-CRC" and "XModem-1KCRC" protocol, you could create a new file or select an exist file for saving.

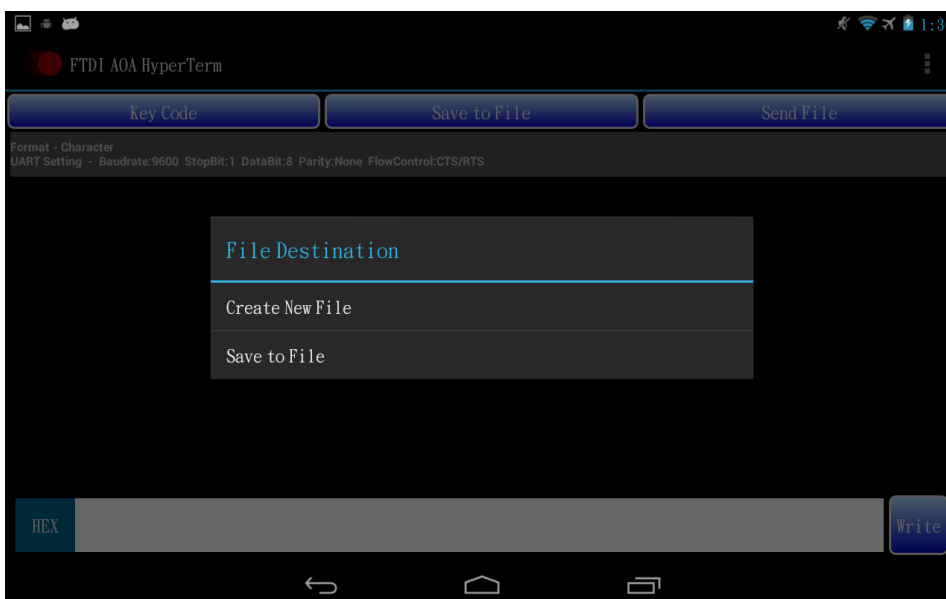


Figure 10 Select File Destination

(1) Create New File

Tap "Select Directory" to select a directory for new file when it is in the folder you want.

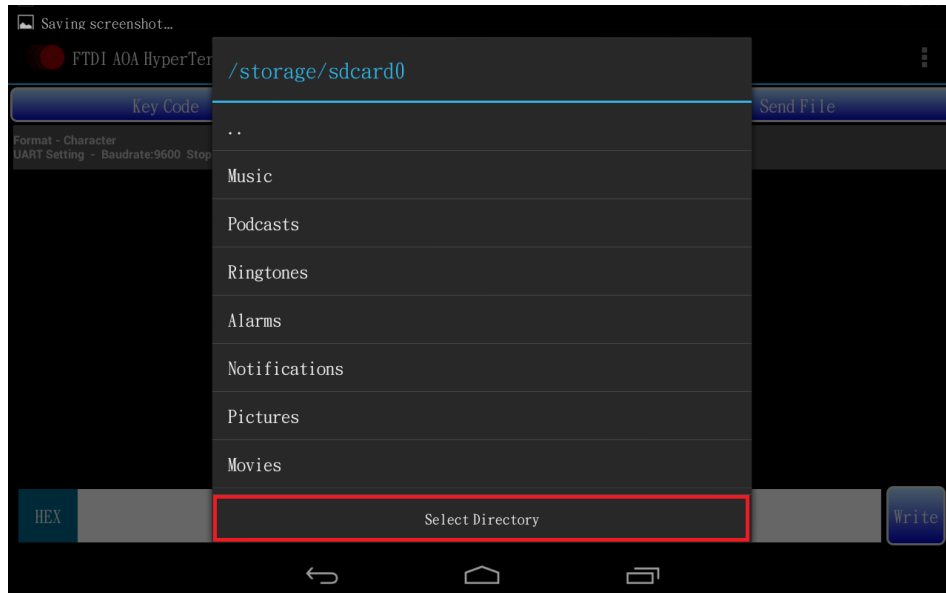


Figure 11 Select Directory

Then input file name and tap "OK" to create a new file.

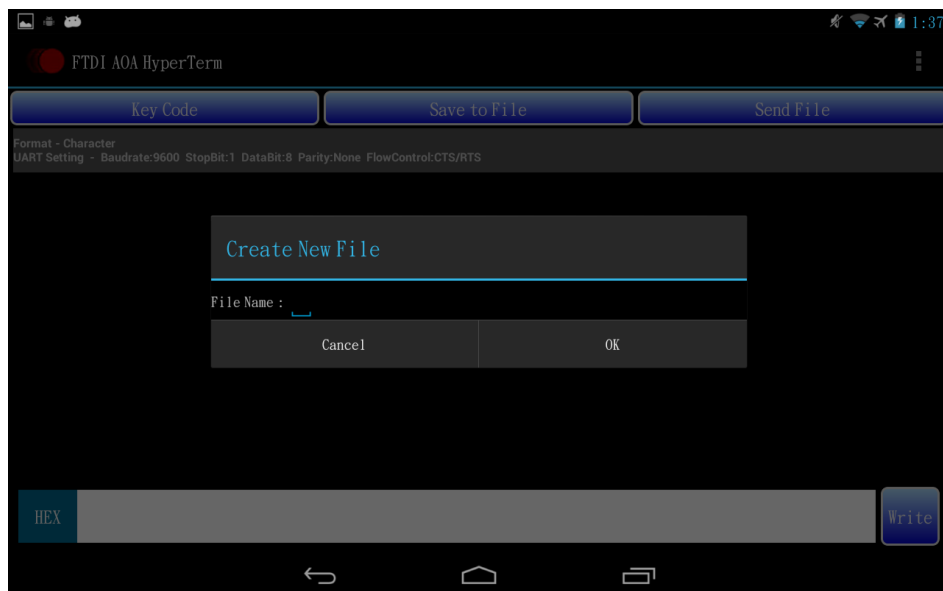


Figure 12 Create New File

- (2) Save to File
Select an exist file.

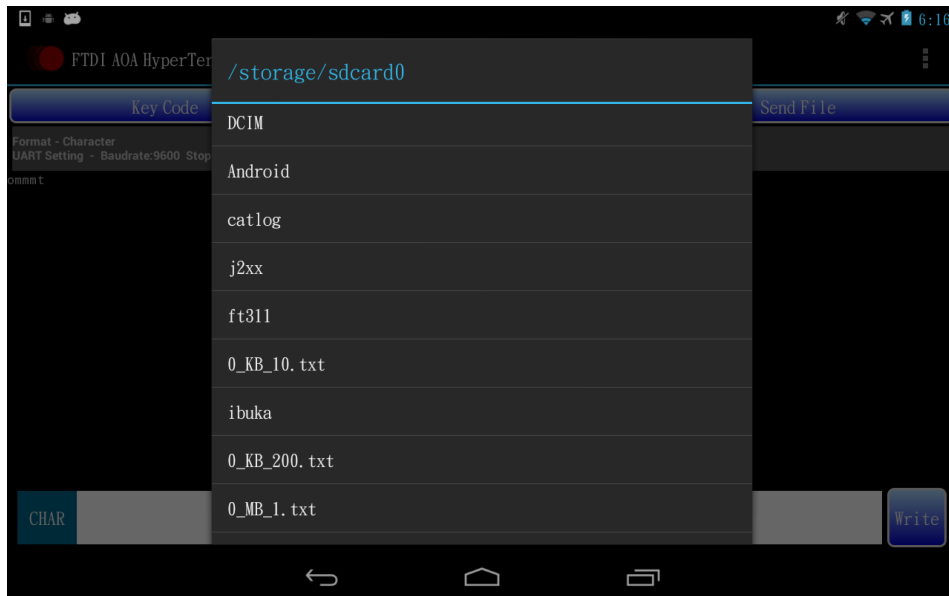


Figure 13 Select a File

- II. For "YModem" and "ZModem" protocol, you need to select a folder for file saving. The file name will be created automatically depending on the content information.

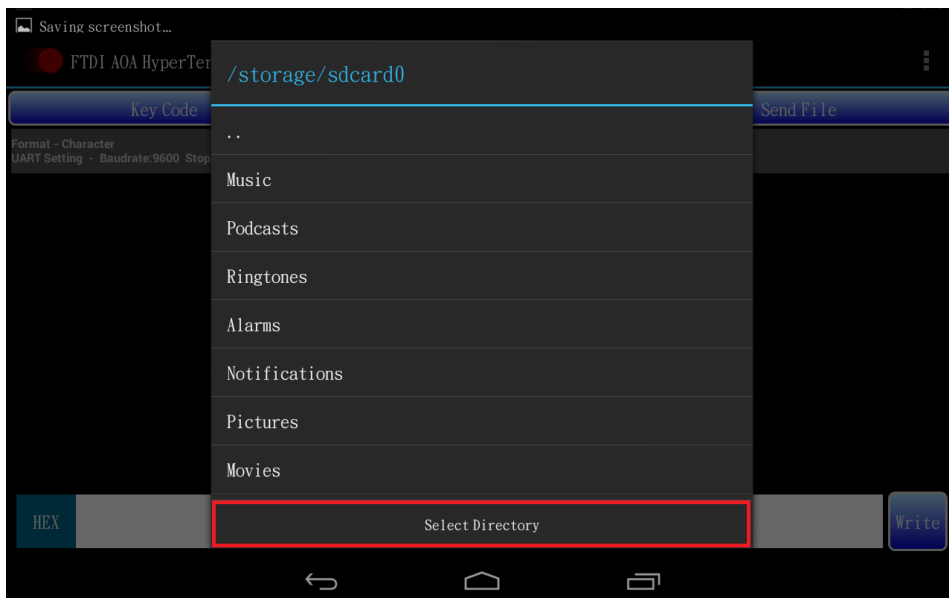


Figure 14 Select Directory

Status bar will show the name of saving file and the saving progress.

2.3.2 Send File

Step 1: Tap "Send File" button to sending file.

Step 2: Select protocol.

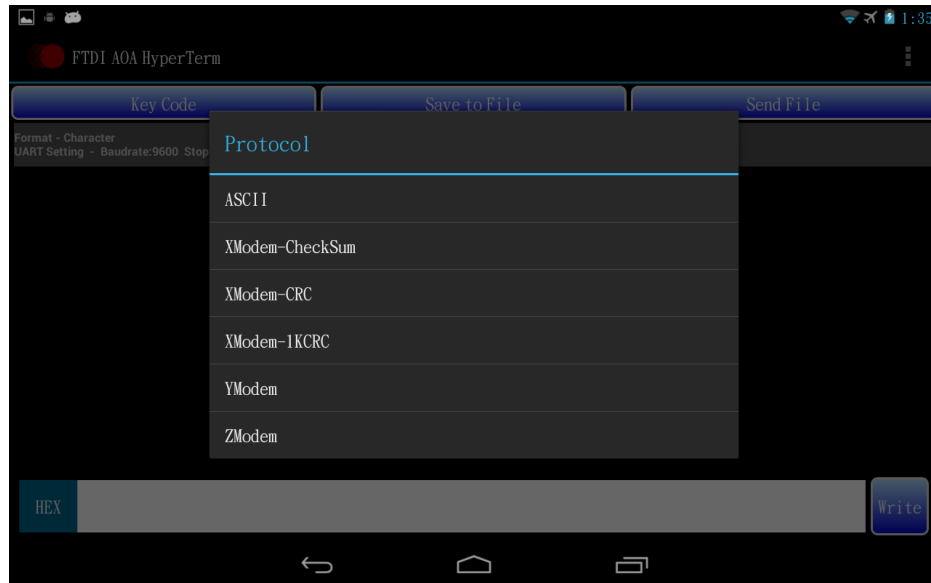


Figure 15 Select Protocol

Step 3: Select a file.

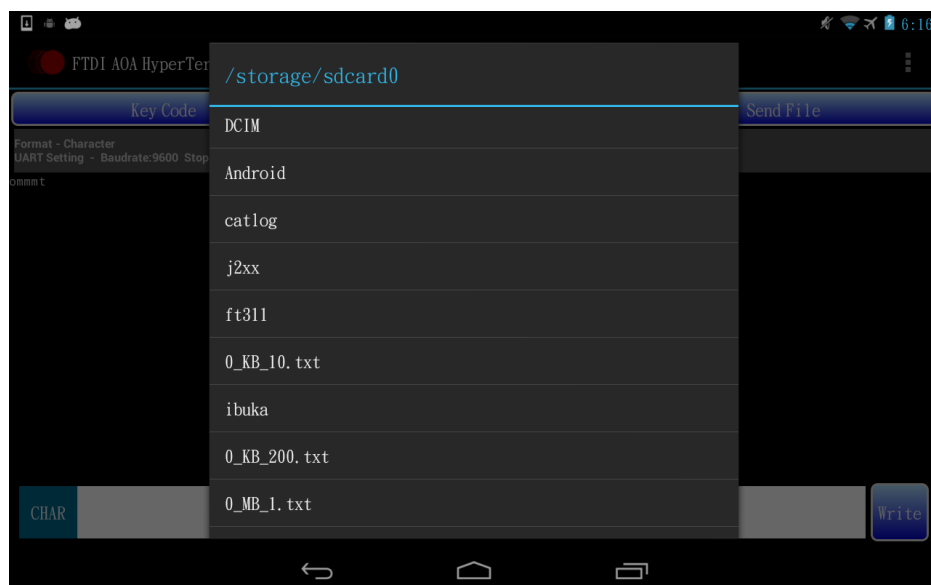


Figure 16 Select a File

Status bar will show the name of sending file and the sending progress.

Note:

1. When the file list is not updated, tap ".." to go to its parent folder and enter this folder again, and the file list will be refreshed.

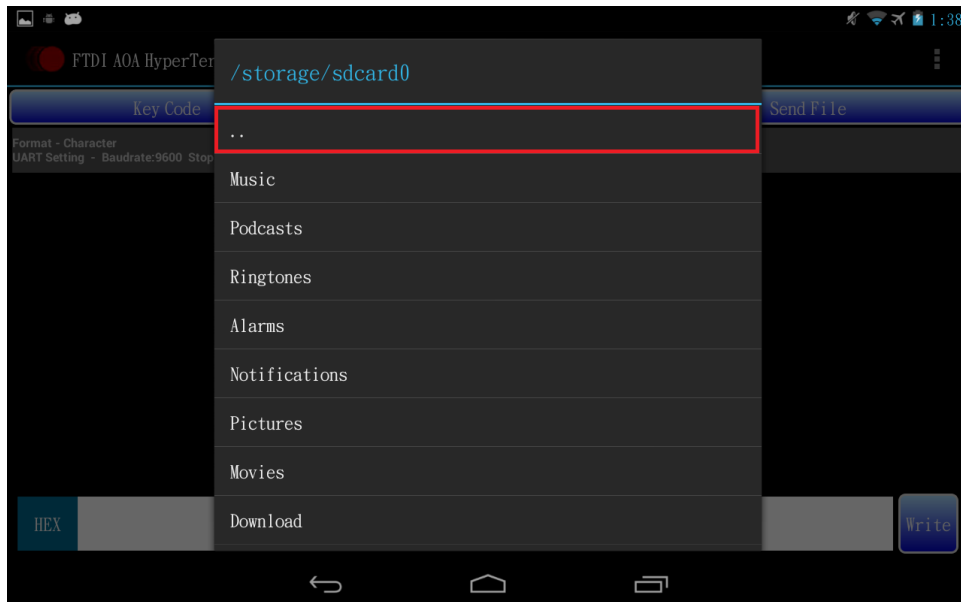


Figure 17 Refresh File List

2. ZModem protocol of FTDI AOA HyperTerm is a simple file transfer protocol. It is implemented and verified with Microsoft XP hyper terminal and Moxa PComm terminal.

2.4 Menu Functions

For tablet devices, tap the menu icon to launch menu:

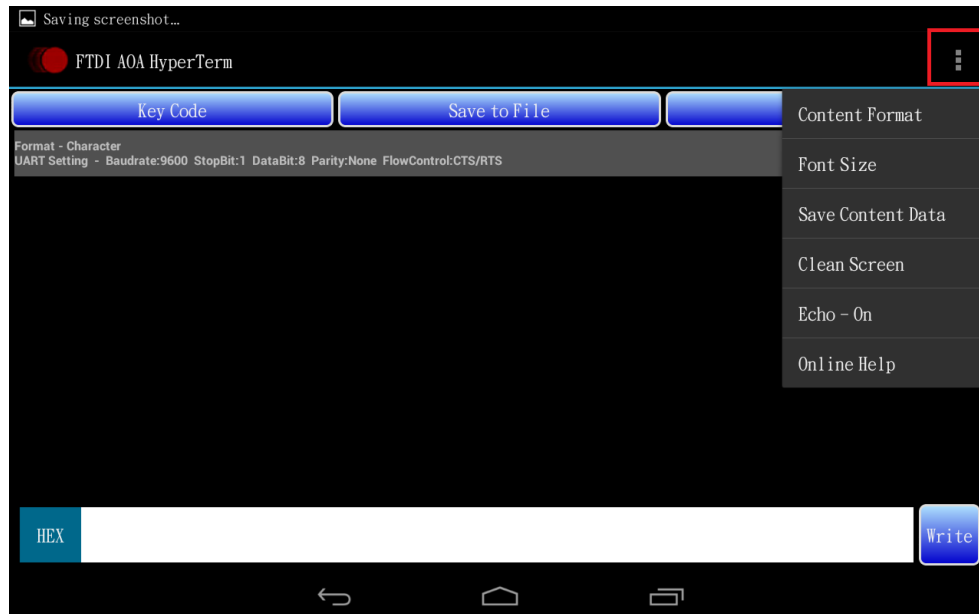


Figure 18 Menu Icon on Tablet Device

For phone devices, press menu key to launch menu.

2.4.1 Content Format

Select the data format of the content showed in data area. Default content format is character format.

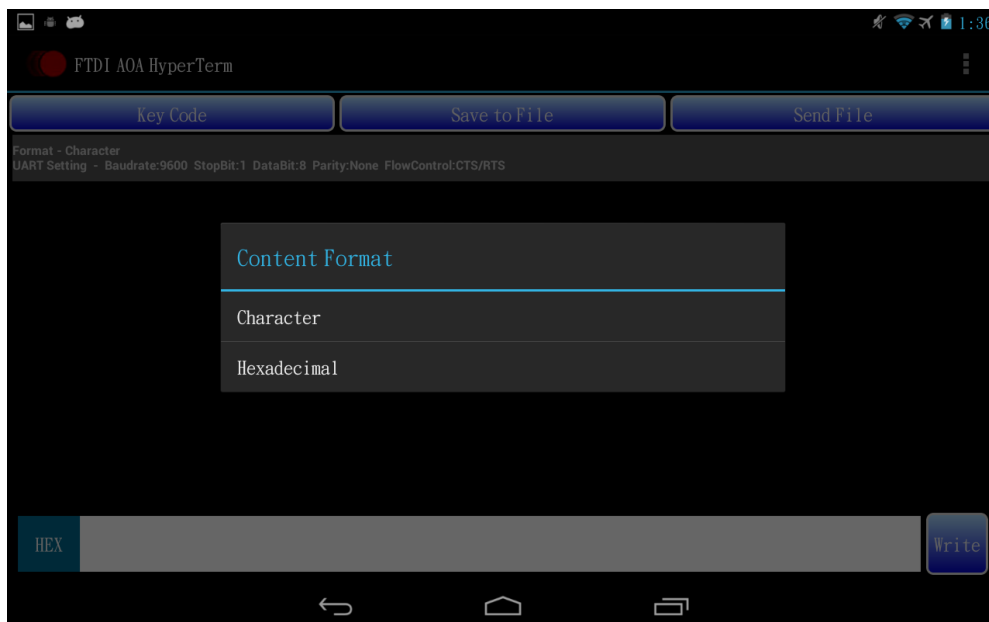


Figure 19 Select Content Format

I. Character

Here is the data shown in character format:

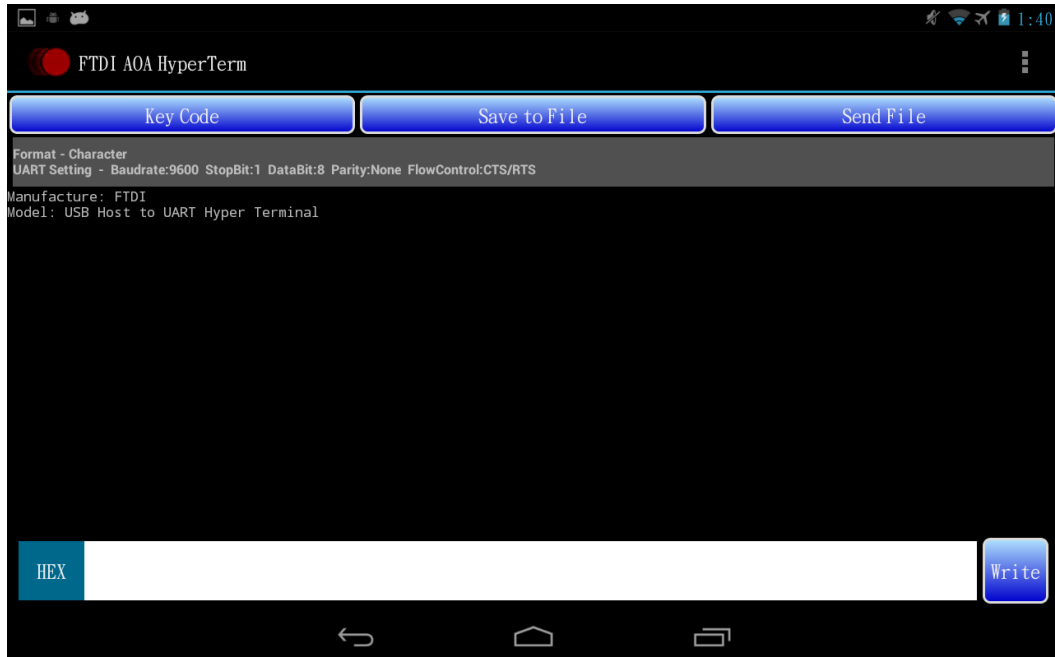


Figure 20 Character Format

II. Hexadecimal

Here is the data showed in hexadecimal format:

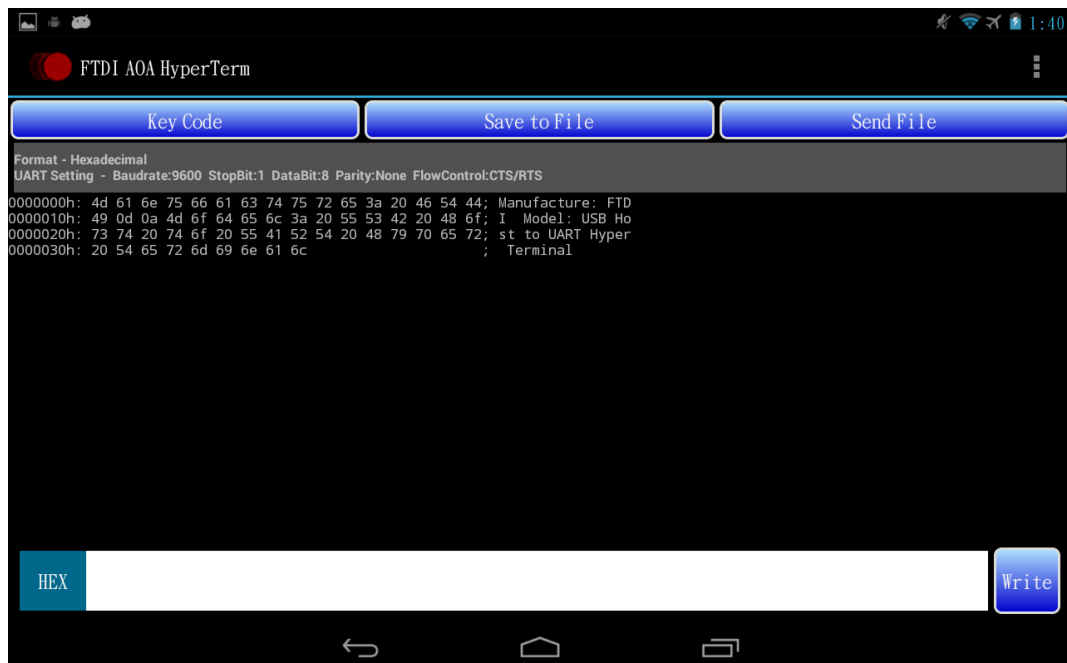


Figure 21 Hexadecimal Format

Note that when content format is hexadecimal format, the new incoming data sent to Android device is not shown.

2.4.2 Font Size

Select the font size of the content shown in the data area. Default font size is 12.

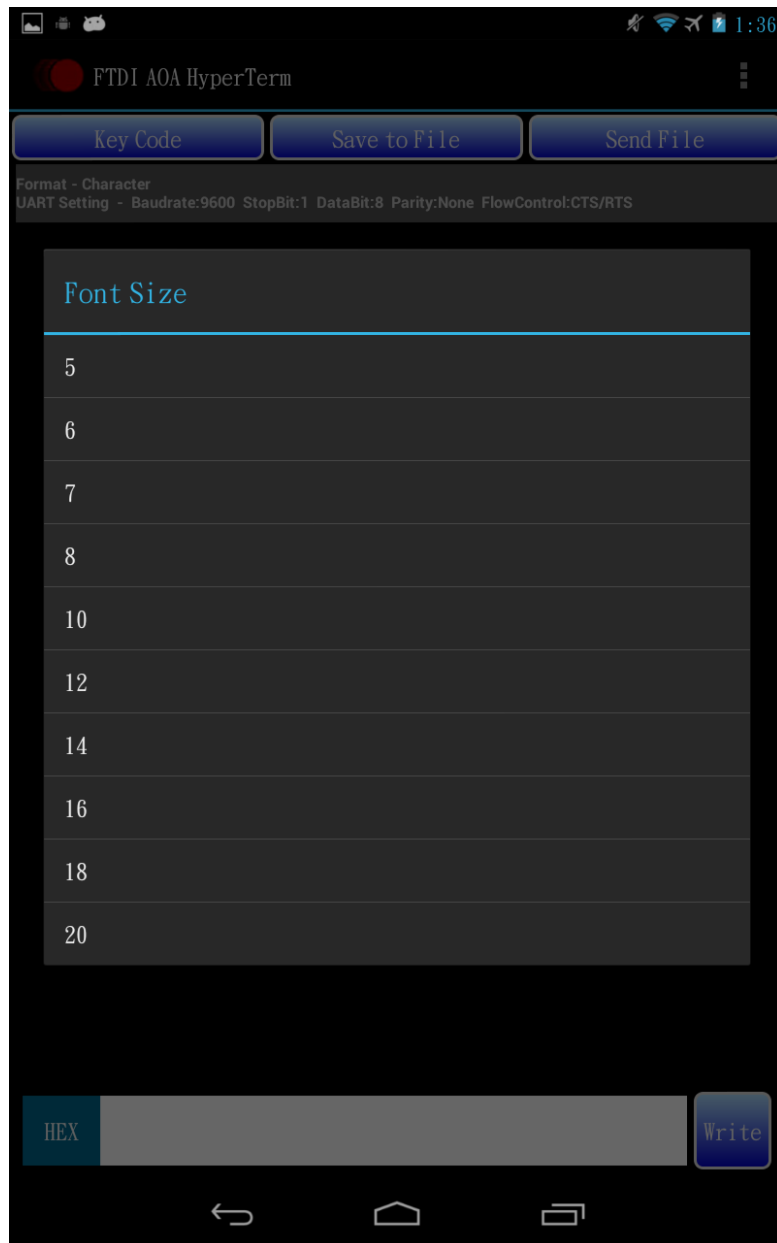


Figure 22 Select Font Size

2.4.3 Save Content Data

Save the data currently shown in the data area into a new file or an exist file. The process is the same with 2.3.1 Receive File - Step 3: Select file destination - I.

2.4.4 Clean Screen

Clean all content in data area.

2.4.5 Echo

Select the echo function to be on or off. Default echo setting is on.

The data sent by tapping the "Write" button is shown in the data area when echo function is on.

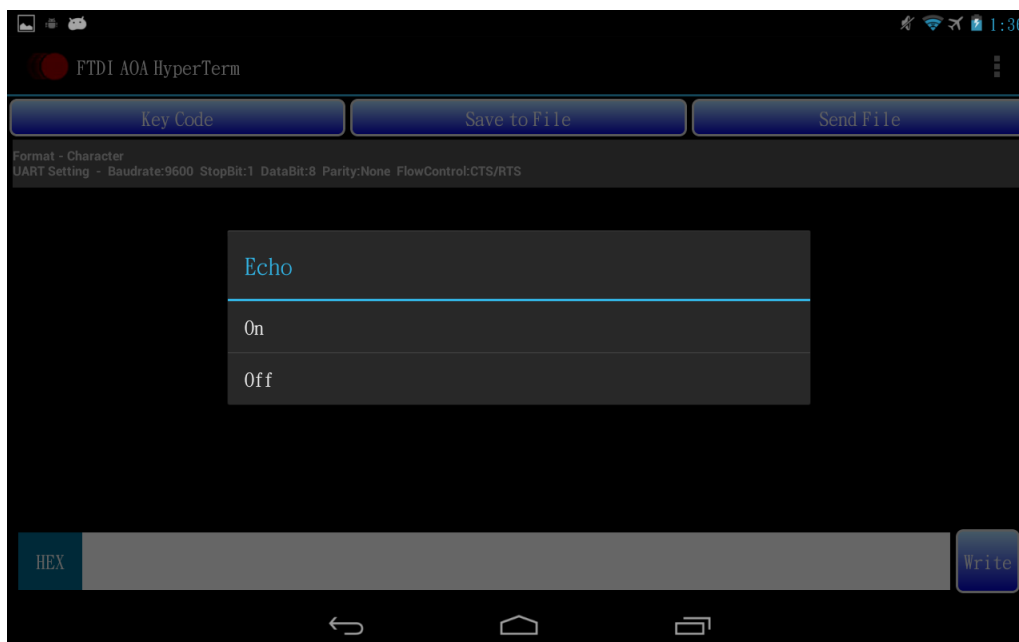


Figure 23 Select Echo Function

2.4.6 Online Help

Get this user manual from FTDI website.

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Appendix A – References

Document References

[FT311D Data Sheet](#)

[FT312D Data Sheet](#)

Acronyms and Abbreviations

Terms	Description
AOA	Android Open Accessory
CTS	Clear To Send
HEX	Hexadecimal
RTS	Request To Send
RXD	Received Data
TTL	Transistor-Transistor Logic
TXD	Transmitted Data
UART	Universal Asynchronous Receiver Transmitter
USB	Universal Serial Bus

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Appendix C– Revision History

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