xAPITester for macOS

Setup and Use

Version 4.0.184

Introduction

xAPITester was written by Douglas Adams (K3TZR, douglas.adams@me.com) to allow a Mac user to explore the TCP API of the FlexRadio (TM) 6000 series. It runs on macOS 10.10. and higher.

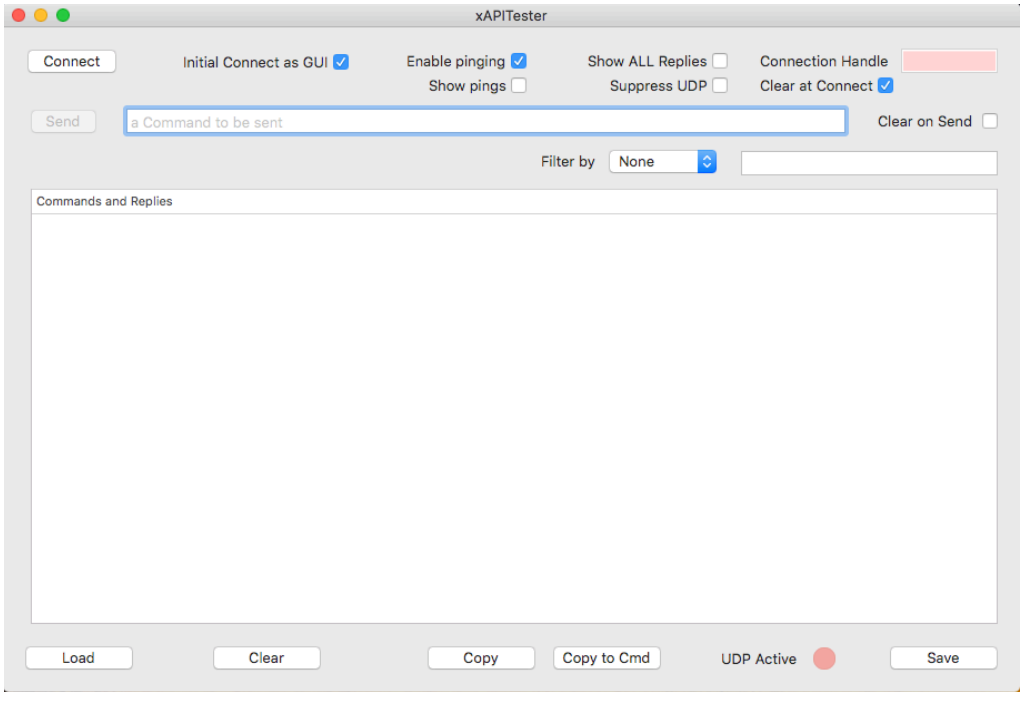
Installation

Install xAPITester by simply copying the application bundle to a place of your choice (typically the “Applications” folder). Nothing else to install.

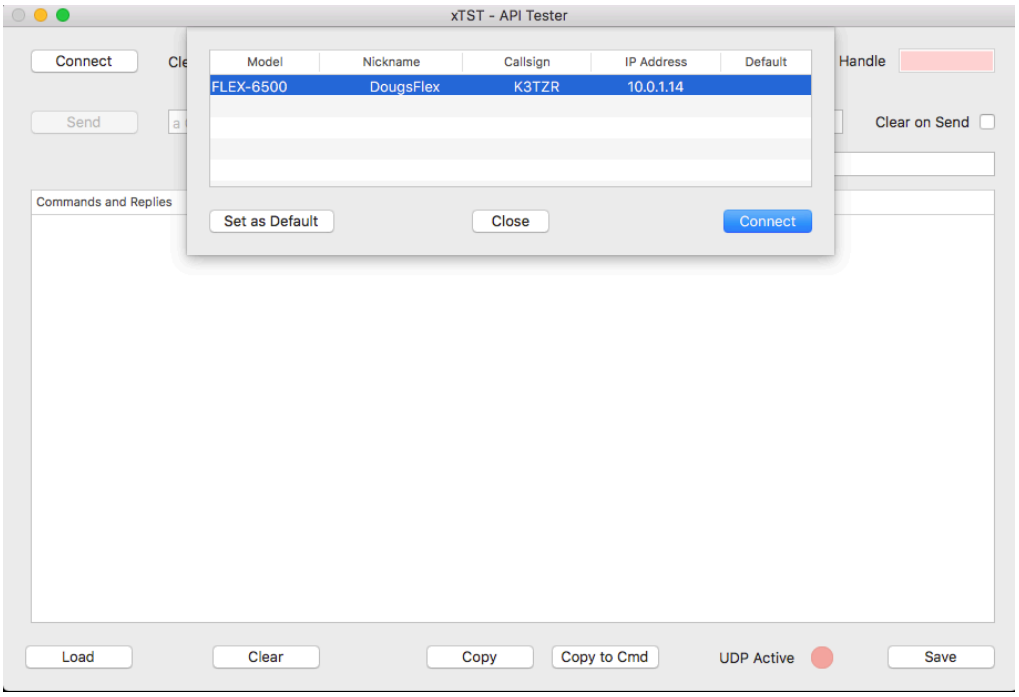
Using xAPITester

Connecting to the Radio

When you start xAPITester the main window is displayed:

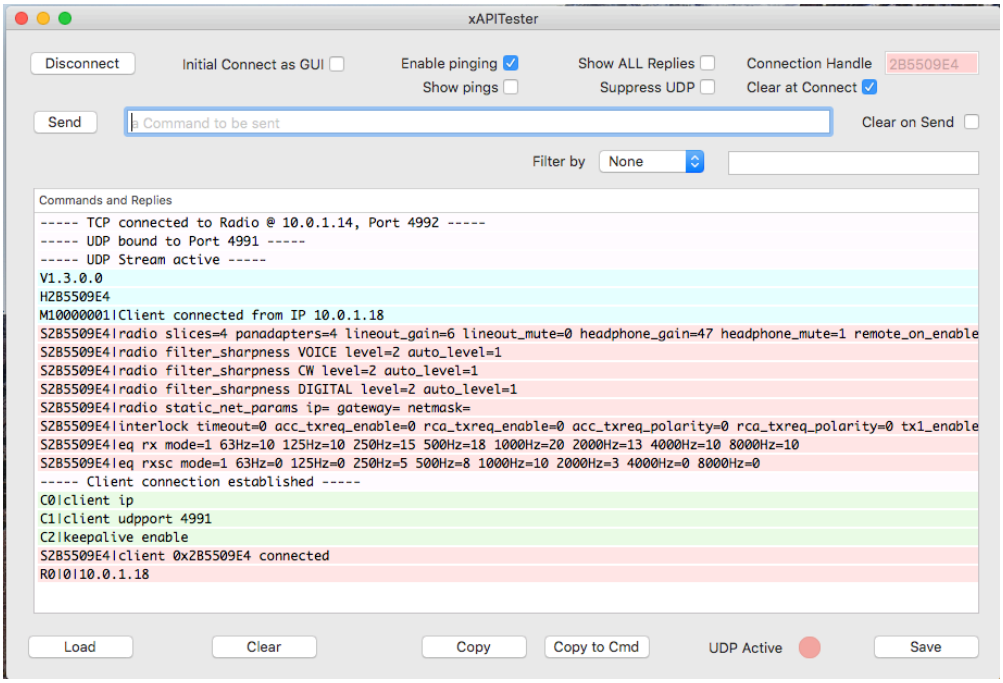


Clicking the CONNECT button for the first time opens the Radio Picker sheet.

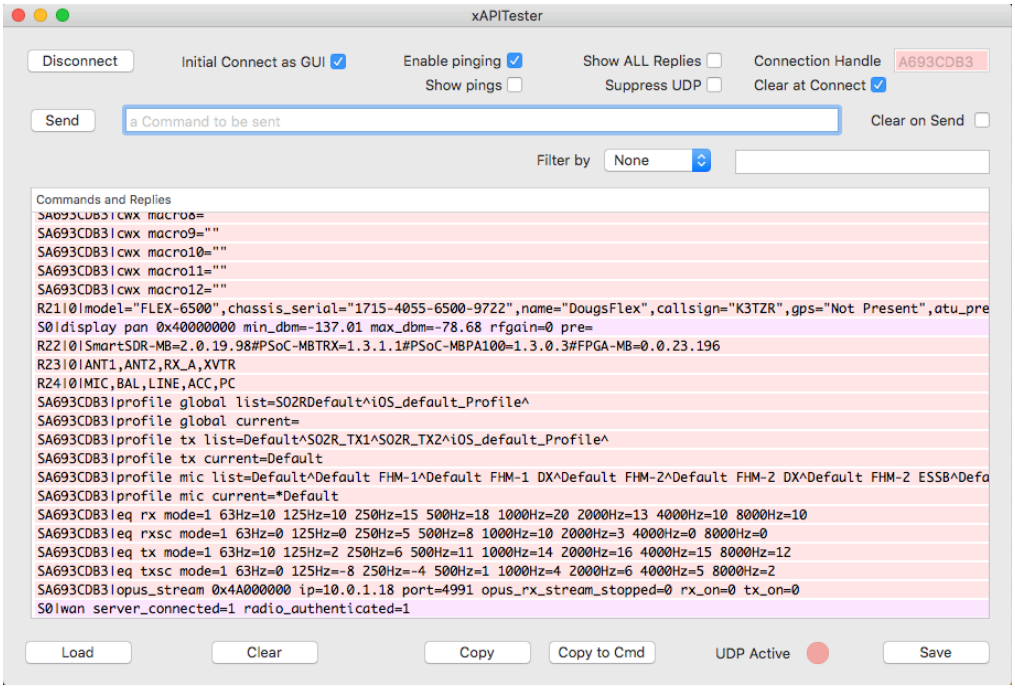


If more than one Radio is shown, select the desired Radio in the table. Clicking ENTER or clicking CONNECT will close the sheet and attempt to connect to the selected Radio.

If the “INITIAL CONNECT AS GUI” checkbox is NOT checked, the initial connection to the Radio is a very minimal connection and will cause the Radio to respond with a number of Radio parameters as shown below.



If the “INITIAL CONNECT AS GUI” checkbox is checked, the app will automatically send a group of commands to query the Radio for its current status. The commands and their replies will be displayed as shown below.



At this point you can enter any command you wish to send to the Radio in the entry field next to the SEND button. Clicking the SEND button will send the command you have entered.

Before being sent, your entry will be formatted as follows:

C<SequenceNumber>|<your command>

Your command will appear in the Commands and Replies table along with any response received.

Entries in the table are colored as follows:

WHITE:	informational messages generated by xTST
GREEN:	commands sent
AQUA:	replies received
PINK:	status messages sent to your connection handle
PURPLE:	status messages sent to some other connection handle

Clicking DISCONNECT disconnects from the Radio and returns you to the original screen.

Usage

If the radio picker dialog is not open, click RADIO SELECTION in the xAPITester menu. This menu item will display a sheet over the Tester window. The sheet will contain a list of all of the Radios currently broadcasting a Discovery packet. Select one and click CONNECT or double-click one to connect. The Radio Picker sheet will close and xAPITester will attempt to connect, the button will change to DISCONNECT, the connection handle will be shown in the Connection Handle field. The color of this field matches the color of the messages directed to the connection handle.

Clicking DISCONNECT (while connected) will disconnect the app from the Radio.

Selecting a "Filter By" value from the dropdown will filter the messages:

NONE	show all messages
PREFIX	show all messages with the prefix in the adjacent textbox
CONTAINS	show all messages containing the string in the adjacent textbox
MY HANDLE	show all messages sent to this app's connection handle

NOTE: Messages are NOT deleted by these actions and will reappear when the appropriate criteria is selected

Clicking SAVE brings up a Save dialog which allows you to save the currently displayed messages (as determined by the state of the "Filter By")

Clicking LOAD brings up an Open dialog which allows you to select a previously saved file and reenter it into the table of messages. It will be entered in its entirety but will be displayed subject to the state of the "Filter By".

Clicking COPY will copy any selected line(s) in the table to the clipboard. If no lines are selected the entire table will be copied.

Checking CONNECT SIMPLE causes the app to make a minimal connection to the Radio the next time a connection is initiated. It does not affect an existing connection. If it is not checked, the app will automatically send a group of commands to query the Radio for its current status. The commands and their reply will be displayed.

Checking CONNECT AS GUI causes the app to inform the Radio that it is a GUI client the next time a connection is initiated. It does not affect an existing connection. There can only be one GUI connection to a Radio.

Checking ENABLE PINGING causes the app to ping the Radio (when connected) once a second. If a response is not received within 4 seconds the Radio is disconnected.

Checking SHOW PINGS causes the app to display the sent ping commands in the table. Ping responses are not shown (see SHOW ALL REPLIES).

Checking SHOW ALL REPLIES will cause all replies to be displayed in the table.

Checking CLEAR AT CONNECT causes the app to clear the table every time the CONNECT button is pressed, otherwise the results of multiple CONNECT / DISCONNECT cycles are displayed.

Checking SUPPRESS UDP causes the app to ignore error messages generated by UDP traffic. Useful sometimes when testing UDP streams.

Pressing CLEAR clears the table immediately.

Holding down the OPTION key will change the SEND button to SEND GUI. Clicking it while the OPTION key is depressed will put the API into GUI mode and send the commands associated with starting a GUI connection.

Enter a command to be sent into the field adjacent to the SEND button. pressing the SEND button sends the command to the Radio and displays it in the table. Optionally you can press the RETURN key to send the command. Any response from the Radio will be displayed below the command.

You can cycle through all previously sent commands by placing the cursor in the field adjacent to the SEND button and pressing the UP and DOWN arrow keys.

The Red/Green circle next to the SAVE button indicates whether a UDP connection exists:

RED	no connection
GREEN	connection.

It is constantly updated and will change back to RED if the UDP streams stop.

When the Radio Picker sheet is open you can select a Radio in the list and click the SET AS DEFAULT button to make that Radio the default radio. When a default Radio has been designated its Default column in the table will contain YES. After selecting the default radio in the table the button title will change to CLEAR DEFAULT. Clicking the button will make the Radio no longer the default.

If a default Radio has been designated, xAPITester will automatically connect to it when the CONNECT button (on the main window) is clicked.

In ~/Library/Preferences there is a preferences plist named net.k3tzr.xAPITester.plist. It can be edited to modify any of the preferences stored there.

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Known Issues:

If you use the Load or Save buttons you may see an error related to "iCloud Drive is not configured". This error appears to be a bug in macOS Sierra related to use of the OpenPanel & SavePanel.

Credits

Thanks to Mario Illgen (DL3LSM) for many hours of testing and for writing portions of the xLib6000 framework related to DAX streams. Please see his DAX and CAT apps (http://dl3lsm.blogspot.de).

Thanks to Robbie Hanson, Deusty LLC and the Apple development community for the CocoaAsyncSocket framework (https://github.com/robbiehanson/CocoaAsyncSocket).

Thanks to Radek Pietruszewski for SwiftyUserDefaults (https://github.com/radex)

Thanks to FlexRadio for the hardware and opening up the API and the FlexLib sources for 3rd party developers (http://www.flexradio.com).

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