

## FUNCTIONALITY

---

### 1.1 CHAT

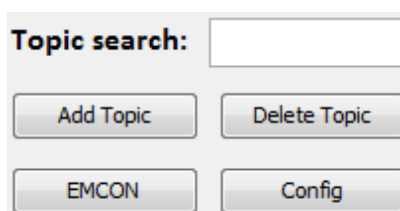
To the left of the screen, you have the "Chat" that shows conversations between you and other users. Bellow, there is a comment field that you use to write your comment. For the comment field you have two options: Clear and Send. The Clear button clears all text from the comment field. The Send button sends your comment into the Chat.

### 1.2 TOPICS

To the right side, is a list of "Topics" that are possible to choose by clicking.

### 1.3 OPTIONS

The bottom right corner, are various of functionalities for Topic and Protocol settings.



Topic search:	<input type="text"/>
Add Topic	Delete Topic
EMCON	Config

Figure 1: Chat Applications functionalities

**Topic search** - You write what you want to search for and press the enter button. After pressing enter, there is a search through the Topics that are listed. When the Topic is found you automatically join this topic. You will see a join message in the chat.

**Add Topic** - adds a new topic to the topic list if there was none topics with that name exact name. If there is a already an existing topic, you will get an error message displayed in the chat.

Delete Topic - deletes the marked topic from the topics.

EMCON - Stands for Emission Control. This is a toggle button that is only true or false. If true you will be in EMCON mode, otherwise not.

Config - This is the configuration button that opens a new window which makes it possible to edit settings to the P\_Mul protocol.

#### 1.4 CONFIGURATION

All configuration to the protocol and chat that you can edit can be found in the configuration view.

The screenshot shows a software window titled 'File' with two tabs: 'Configuration' (selected) and 'Chat Configuration'. The 'Configuration' tab contains two sections of settings:

- Protocol Parameters**
  - Wait for reject time: 10
  - Announce delay: 10
  - Announce CT: 40
  - Ack retransmission time: 10
  - Backoff factor: 1.5
  - Emcon RTC: 4
  - MM: 20
  - Ack PDU time: 10
- Multicast Group and Port Numbers**
  - GG: 239.1.1.1
  - T port: 2751
  - R port: 2752

Each setting is represented by a text label followed by a text input field containing the current value. A vertical scrollbar is visible on the right side of the configuration area.

Figure 2: Configuration panel, part 1

The screenshot shows a software window titled 'File' with a tabbed interface. The 'Configuration' tab is active, and within it, the 'Chat Configuration' sub-tab is selected. The panel contains several input fields for network settings:

- T port: 2751
- R port: 2752
- D port: 2753
- A port: 2754
- Multicast range start: 224.0.2.0
- Multicast range end: 224.0.255.255

Below these is a section titled 'Other Useful Parameters' with the following fields:

- PDU max size: 3840
- PDU expiry time: 1800
- Node id: 1916903089
- Default priority: 0
- Ack delay upper bound: 5000

At the bottom right of the panel are two buttons: 'Clear' and 'Apply'.

Figure 3: Configuration panel, part 2

The screenshot shows the same software window as Figure 3, but with the 'Chat Configuration' sub-tab selected. The panel displays the following settings:

- Broadcast group: 239.1.1.117
- Broadcast port: 27812
- Max wait for response on delayed send: 1000
- Default time to live: 60
- Wait for in use response: 20

At the bottom right are 'Clear' and 'Apply' buttons.

Figure 4: Chat Configuration panel

Both panels have two buttons, Clear and Apply, at the bottom of the panel. The clear button clears all modifications that has been changed. This can only be done before the Apply button has been pressed.

As for the Apply button, its function is to apply all changes to the protocol.

In addition, the configuration panel has a file menu that allows you to "Load from file", "Write to file" and "Quit".

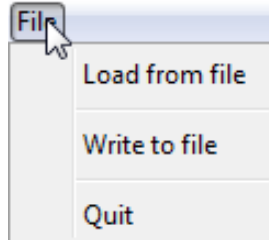


Figure 5: Configuration's file menu

Load from file - allows you to choose a configuration file that is for the P\_Mul.

Write to file - makes it possible to save all settings for the protocol as a file.

Quit - Closes the Configuration window.

## 1.5 COMMANDS

A limited set of commands are available to the user. These are typed and executed the same way messages are sent in topics, and an exhaustive list is presented upon giving the command `"/help"`. The primary function given by these commands is the ability to change the username displayed in the chat if dynamic multicast is in use. In this case, the username will propagate to the topic only when the user joins it.

Additionally, the message display area accepts a limited number of HTML tags to allow for styling in messages.